TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.

4. Title and Subtitle	5. Report Date
Moisture Movement Under the Pavement Structure	November 1989
	6. Performing Organization Code

7. Author(s)	8. Performing Organization Report No.
Mohd Asri Bin Abd Rahim and Miguel Picornell	1165-1

9. Performing Organization Name and Address	10. Work Unit No.
Center for Geotechnical & Highway Materials Research University of Texas at El Paso El Paso, Texas 79968-0516	11. Contract or Grant No. 10-8-88-1165

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
State Department of Highways & Public Transportation P.O. Box 5051 Austin, Texas 78763	Final September 1988 August 1989
	14. Sponsoring Agency Code

15. Supplementary Notes

Volume 2 of 2

16. Abstract

One of the measures being tried in Texas to stabilize the development of roughness of pavements on expansive soils is the installation of vertical moisture barriers. The purpose of the barrier is to prevent subsurface water from accessing into the crack fabric within the subgrade soils. Several sites throughout Texas have been already monitored and some conflicting results have been observed. In some cases, the moisture barrier seems to reduce considerably the rate at which roughness develops but, in other cases, the barrier has somewhat increased the rate of roughness development.

The moisture barrier can prevent the horizontal flow of rain water from the side to the soils underneath the pavement. The pavement surface is normally considered an impermeable surface; however, there is evidence that cracks in the pavement result in large flows of the rain water through the pavement surface especially during low-intensity, long duration rainfall events. This vertical flow of rain water can explain some of the conflicting field behaviors observed.

The main purpose of this study was to assemble a computer program that would predict the behavior of different barrier alternatives. These predictions could then allow a reduction in the number of trial sections to be monitored. Furthermore, it would help explain observed field behavior and to identify controlling parameters. Expansive soils have extremely low permeabilities, and thus the absorption of water by soil clods is a very slow process. By way of contrast, water flow within the crack fabric is a much faster process, by several order of magnitude. The main

(continued on back of page)

17. Key Words	18. Distribution Statement
Expansive Clay Soils Shrinkage Cracking Pavement Roughness Water Flow	No Restrictions. This document is available to the public through National Technical Information Service, Springfield, Virginia 22161

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	494	

Form DOT F 1700.7 (8-69)

feature of this program is to consider the subsurface soil divided into parallelepipeds of different sizes. The water is considered to move through the cracks under positive pressures and from there is absorbed by the soil blocks. A master curve is developed for every day that the block is submerged under water.

The program performs a water balance for the unpaved soils on the side of the pavement and a second water balance for the soils underneath the pavement. The transfer of moisture between the two soil regions is through the cracks underneath the barrier. The period of each water balance ranges from a miximum of one day to a minimum of one minute. The length of the period is selected based on the head difference between the water in the crack fabric within the soils on the side of the pavement and the water in the crack fabric of the subbase soils.

At every time step, the volume of water absorbed by the blocks is used to reconsider the block and crack fabric geometry. From this point of view, three different regions are included. The first region corresponds to the soil on the side of the pavement, the second region includes the soil underneath the barrier and the edge of the pavement, and the third region are the subbase soils beyond the edge of the pavement.

The evapotranspiration removes soil water from the cracks within the soil on the side of the pavement. The actual evapotranspiration is estimated with a publiched simplified method developed for the climatic conditions of Texas.

The computer model predicts a steady closing of the crack fabric under the pavement structure. The rate of this phenomena is dependent of the water availability. The cracks under the edge of the pavement or those within the soil on the side of the pavement, close during wet periods and reopen under persistent dry conditions.

MOISTURE MOVEMENT UNDER THE PAVEMENT STRUCTURE

by

Mohd Asri B. Abd Rahim and Miguel Picornell

Research Report 1165-1

Volume II

Research Study 10-8-88-1165

for

The Texas State Department of Highways and Public Transportation

in cooperation with

The U.S. Department of Transportation Federal Highway Administration

Center for Geotechnical & Highway Materials Research

November 1989

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

APPENDIX G

USER'S GUIDE

The program uses the free format to input all the data. The free format eliminates the problem of specifing the data to be in certain columns in the data card. Nevertheless, the data file arranged in free format may appear to be less orderly and confusing. This guide is intended to help the user to input the data and at the same time arrange the data in an orderly manner so that the data file may appear less confusing.

The input data is divided into two separate sets of data files:

1) Data set of simulation parameters

2) Set of meteorological data

The data set of meteorological data is required only when the distribution is needed to be formed from raw meteorological data.

The data are arranged in separate cards. When the data cards contain more than one parameter, the parameters need to be separated from each other either by commas or blank spaces. The free format as used in VAX - FORTRAN does not require that the user inputs integers or real numbers any differently. Nevertheless, to help the users that might compile this program with other compilers the type of number of each input quantity is also specified in every card title.

DATA SET OF SIMULATION PARAMETERS

CARD 1: **CONTROL PARAMETERS TO CHOOSE THE DISTRIBUTIONS**

(1 VARIABLE - INTEGER)

1st entry DIST — The program enables the user to provide the distribution when the distribution is already available.

= 0, when using the default distributions.

= 1, when the distribution parameters have to be input by the user.

= 2, when the distribution is not available and has to be developed from raw meteorological data.

(Card 2 thru 5 must be omitted when DIST = 0 OR 2)

CARD 2: **PARAMETERS OF GAMMA DISTRIBUTION OF RAINFALL**

(2 VARIABLES - REAL)

1st entry NEPPR — Neta of the gamma distribution.

2nd entry LMBPR — Lambda of the gamma distribution.

(Card 2 must be repeated 12 times to input the rainfall distributions for twelve months)

CARD 3: **PARAMETERS OF THE BETA DISTRIBUTION OF POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS** (3 VARIABLES - REAL)

1st entry	MAXD	Upper limit of the beta distribution.
2nd entry	ALD	Alfa of the beta distribution.
3rd entry	BED	Beta of the beta distribution.

(Card 3 must be repeated 12 times to input the parameters of the beta distribution of potential evapotranspiration on dry days from January to December)

CARD 4: **PARAMETERS OF THE BETA DISTRIBUTION OF POTENTIAL EVAPOTRANSPIRATION ON WET DAYS** (3 VARIABLES - REAL)

1st entry	MAXW	Upper limit of the beta distribution.
2nd entry	ALW	Alfa of the beta distribution.
3rd entry	BEW	Beta of the beta distribution.

(Card 4 must be repeated 12 times to input the parameters of the beta distributions of potential evapotranspiration on wet days from January to December)

CARD 5: **TRANSITION PROBABILITIES** (3 VARIABLES - REAL)

1st entry	TPDRY	Dry-dry transition probability.
2nd entry	TPWW	Wet-wet transition probability.
3rd entry	TRACE	Probability of trace amount in wet days.

(Card 5 must be repeated 12 times to input the transition probabilities for 12 months from January to December)

(Card 6 must be omitted when DIST = 1 or 2)

CARD 6: **CONTROL PARAMETERS TO CHOOSE THE DEFAULT DISTRIBUTIONS**
(1 VARIABLE - INTEGER)

1st entry DISTC — The program provides default distributions to be used when in the first card it has been specified DIST = 0.
= 1, for the default distributions from Houston.
= 2, for the default distributions from Dallas - Fort Worth.
= 3, for the default distributions from San Antonio.
= 4, for the default distributions from El Paso.

(Card 7 thru 11 must be omitted when DIST = 0 or 1)

CARD 7: **DATA OF THE WEATHER STATION** (1 VARIABLE - REAL)

1st entry LATT — Lattitude of the station.

CARD 8: **DATA ON CHANGES OF THE WEATHER STATION** (1 VARIABLE - INTEGER)

1st entry NUM — Number of the station's height changes (up to 10).

CARD 9: **DATA OF THE WEATHER STATION** (4 VARIABLES - REAL,3 INTEGERS)

1st entry HEIG1 — Height of the station (ft).

2nd entry MONT1 — Month of the height change.

3rd entry DAY1 — Day of the height change.

4th entry YEAR1 — Year of the height change.

(Card 9 must be repeated NUM times specified in card 8)

CARD 10: **CONTROL PARAMETERS TO SPECIFY THE TYPE OF DATA TO CALCULATE THE POTENTIAL EVAPOTRANSPIRATION** (1 VARIABLE - INTEGER)

1st entry DTYPE — = 0, when the data are meteorological data.
= 1, when the data are the pan evaporation data.

(Card 11 must be omitted when DTYPE = 0)

CARD 11: **PAN COEFFICIENT TÓ CALCULATE THE POTENTIAL EVAPOTRANSPIRATION** (1 VARIABLE - REAL)

1st entry PANCO — When the potential evapotranspiration is to be calculated from pan evaporation data i.e. DTYPE

= 1, the pan coefficient is required. To use the default pan coefficient enter PANCO = 0.0. In such a case, the pan coefficient used is 0.80.

CARD 12: **CONSTANTS OF THE INTENSITY-DEPTH-DURATION EQUATION FOR EVENTS OF 120 MINUTES OR LESS DURATION** (2 VARIABLES - REAL)

The intensity-depth-duration equation for events of 120 minutes or less is given by:

$i = a / (t + b)$

where i is the intensity (in / hour), and a and b are the constants which are dependent on the locality. The values of a and b for 1, 2, 5, 10, 25 year of return period for the state of Texas can be selected from Figures 1 through 10.

1st entry CA — Constant a of the intensity-depth-duration equation.

2nd entry CB — Constant b of the intensity-depth-duration equation.

(Card 12 must be repeated 5 times for 1, 2, 5, 10, and 25 year return periods)

CARD 13: **CONSTANTS OF THE INTENSITY-DEPTH-DURATION EQUATION FOR EVENTS OF DURATION GREATER THAN 120 MINUTES** (3 VARIABLES - REAL)

The intensity-depth-duration equation for events with duration greater than 120 minutes is given by:

$i = K F^x / t^n$

where: i is intensity (in/hour), t is the duration of rain (minutes), and K, x, and n are coefficients whose values are dependent on locality. The values of K, x, and n for the state of Texas can be selected from Figures 11 , 12 ,and 13; respectively.

1st entry	CK	Constant K of the intensity-depth-duration equation.
2nd entry	CF	Constant x of the intensity-depth-duration equation.
3rd entry	CN	Constant n of the intensity-depth-duration equation.

CARD 14: **PAVEMENT DIMENSIONS AND CONDITION** (3 VARIABLES - REAL)

1st entry	LNGTH	Length (in meters) along side the centerline of the pavement section.
2nd entry	WIDTH	Half-width (in meters) of the pavement section.
3rd entry	CRACK	Length (in meters) of cracks and/or joints within the pavement section. The crack length

is used to calculate the amount of infiltration through the pavement surface. When the crack information is not available, enter CRACK = 0.0. In this case the program calculates the infiltration using an empirical equation.

(Card 15 must be omitted when CRACK = 0.0)

CARD 15: **TYPE OF PAVEMENT** (1 VARIABLE - INTEGER)

1st entry PAVTP — When the crack length is known, the infiltration is calculated according to the infiltration rates obtained by Ridgeway's laboratory test.
= 1, for Portland Cement Concrete (PCC) pavement.
= 2, for Bituminus Concrete (BCP) pavement.

CARD 16: **SLOPES OF THE PAVEMENT** (2 VARIABLES - REAL)

1st entry SLOP1 — Longitudinal slope (in fraction) of the pavement.

2nd entry SLOP2 — Transversal slope (in fraction) of the pavement.

(Entries for card 17 to 21 are made with reference to Figure G.1)

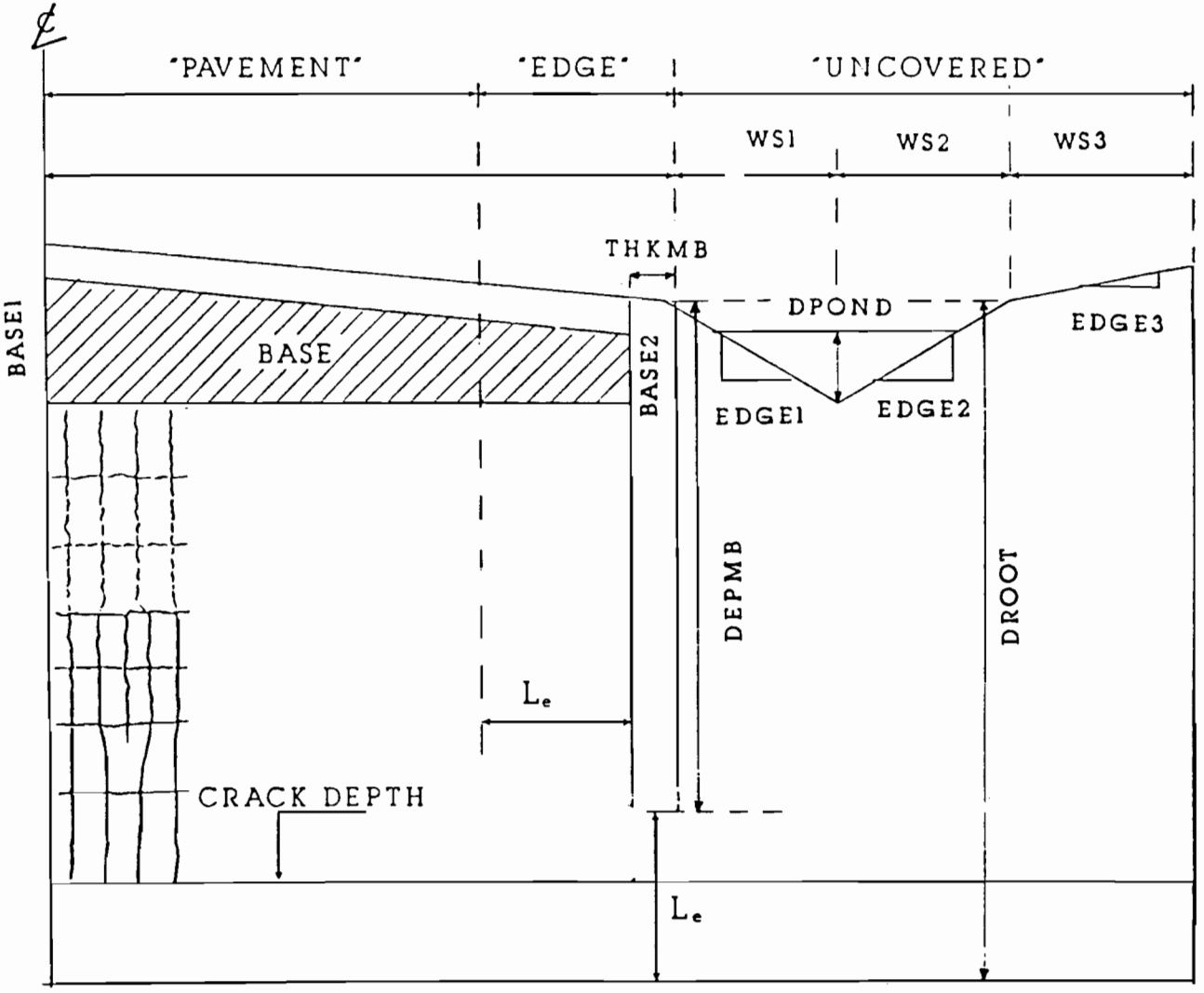

FIGURE G.1 CROSS SECTION IDENTIFYING THE GEOMETRIC INPUT VARIABLES

CARD 17: **DIMENSIONS OF THE BASE** (2 VARIABLES - REAL)

1st entry	BASE1	Thickness (in meters) of the base at the centerline of the pavement.
2nd entry	BASE2	Thickness (in meters) of the base at the edge of the pavement.

CARD 18: **CHARACTERISTICS OF THE MOISTURE BARRIER**
(4 VARIABLES - INTEGER, 3 REAL)

1st entry	IPERM	Control parameters for the type of moisture barrier. = 1, for a permeable barrier. = 2, for an impermeable barrier.
2nd entry	DEPMB	Depth (in meters) of the moisture barrier below the edge of the pavement.
3rd entry	THKMB	Thickness (in meters) of the trench of the moisture barrier.
4th entry	DROOT	Rooting depth (in meters) of the roadside vegetation below the edge of the pavement.

CARD 19: **DIMENSIONS OF THE UNPAVED AREA ON THE SIDE OF THE PAVEMENT**
(7 VARIABLES - REAL)

1st entry	EDGE1	Slope (in fraction) of the left side of the drainage ditch.
2nd entry	EDGE2	Slope (in fraction) of the right side of the drainage ditch.

3rd entry	EDGE3	Slope of the unpaved area beyond the drainage ditch.
4th entry	WS1	Horizontal dimension (in meters) of the left side of the drainage ditch (under the left side slope).
5th entry	WS2	Horizontal dimension (in meters) of the right side of the drainage ditch (under the right side slope).
6th entry	WS3	Horizontal dimension (in meters) of the unpaved area beyond the drainage ditch.
7th entry	DPOND	The maximum water depth (in centimeters) allowed to pond inside the trench.

CARS 20: **CONTROL PARAMETER TO INPUT THE TYPE OF CRACK FABRIC**

(1 VARIABLE - INTEGER)

1st entry	BLOCK	The program allows the user to provide a set of soil blocks to be used in the simulation or to choose one of the default sets of blocks. = 0, for the program to use a default set of soil blocks. = 1, for the user to provide the set of blocks

(Card 21 must be omitted when BLOCK = 1)

CARD 21: **CONTROL PARAMETER TO CHOOSE A DEFAULT SET OF BLOCKS**

(1 VARIABLE - INTEGER)

1st entry ISOIL — The program provides 4 different sets of block sizes and the user can choose any one of them.

= 1, To use the set of soil blocks shown in Figure 25 (a).

= 2, to use the set of soil blocks shown in Figure 25 (b).

= 3, to use the set of soil blocks shown in Figure 25 (c).

= 4, to use the set of soil blocks shown in Figure 25 (d)

(Card 22 and 23 must be omitted when BLOCK = 0)

CARD 22: **NUMBER OF THE SOIL BLOCKS COUNTED VERTICALLY FROM THE LOWEST TO THE HIGHEST** (1 VARIABLE - INTEGER)

1st entry NB — Number of soil blocks to be included in the set of soil blocks

CARD 23: **DIMENSIONS OF THE BLOCKS** (2 VARIABLES - REAL)

1st entry BLOKL — Height (vertical dimension) of the block (in centimeters)

2nd entry BLOKW — Width (horizontal dimension) of the block (in centimeters)

The dimensions of the blocks (BLOKL and BLOKW) are considered as the dimensions of the block when the cracks are closed. The program calculates the number of soil blocks in each region with these block sizes. Later on, these dimensions are shrunk to the initial block size by means of the linear shrinkage curve.

(Card 23 must be repeated NB times, starting from the lowest block and proceeding upward)

CARD 24: **CONTROL PARAMETER TO SELECT THE LINEAR SHRINKAGE CURVE**

(1 VARIABLE - INTEGER)

1st entry LSHRN — The program allows the user to provide the linear shrinkage curve or to use one of the default linear shrinkage curves.

= 0, for the program to use one of the default linear shrinkage curves.

= 1, for the user to provide the linear shrinkage curve.

= 2, for the program to calculate the linear shrinkage curve from the soil suction profile.

(Card 25 must be omitted when LSHRN = 1 or 2)

CARD 25: **CONTROL PARAMETER TO CHOOSE A DEFAULT LINEAR SHRINKAGE CURVE**

(1 VARIABLE - INTEGER)

1st entry LSHRC — The program provides 3 different linear shrinkage curves that can be used in the simulation.

= 1, for the linear shrinkage curve in Figure G.2 (a)

= 2, for the linear shrinkage curve in Figure G.2 (b)

= 3, for the linear shrinkage curve in Figure G.2 (c)

(Card 26 and 27 must be omitted when LSHRN = 0 or 2)

CARD 26: **SHRINKAGE AT THE SURFACE OF THE SOIL PROFILE**

(1 VARIABLE - REAL)

1st entry SLMAX — The maximum linear shrinkage (in percent) at the surface of the soil profile.

CARD 27: **PARAMETERS TO INPUT THE LINEAR SHRINKAGE CURVE**

(2 VARIABLES - REAL)

1st entry CDEPTH — Elevations (in centimeters) measured from the initial position of the tip of the shrinkage cracks.

2nd entry CSIZE — Linear shrinkage at the depth indicated by the

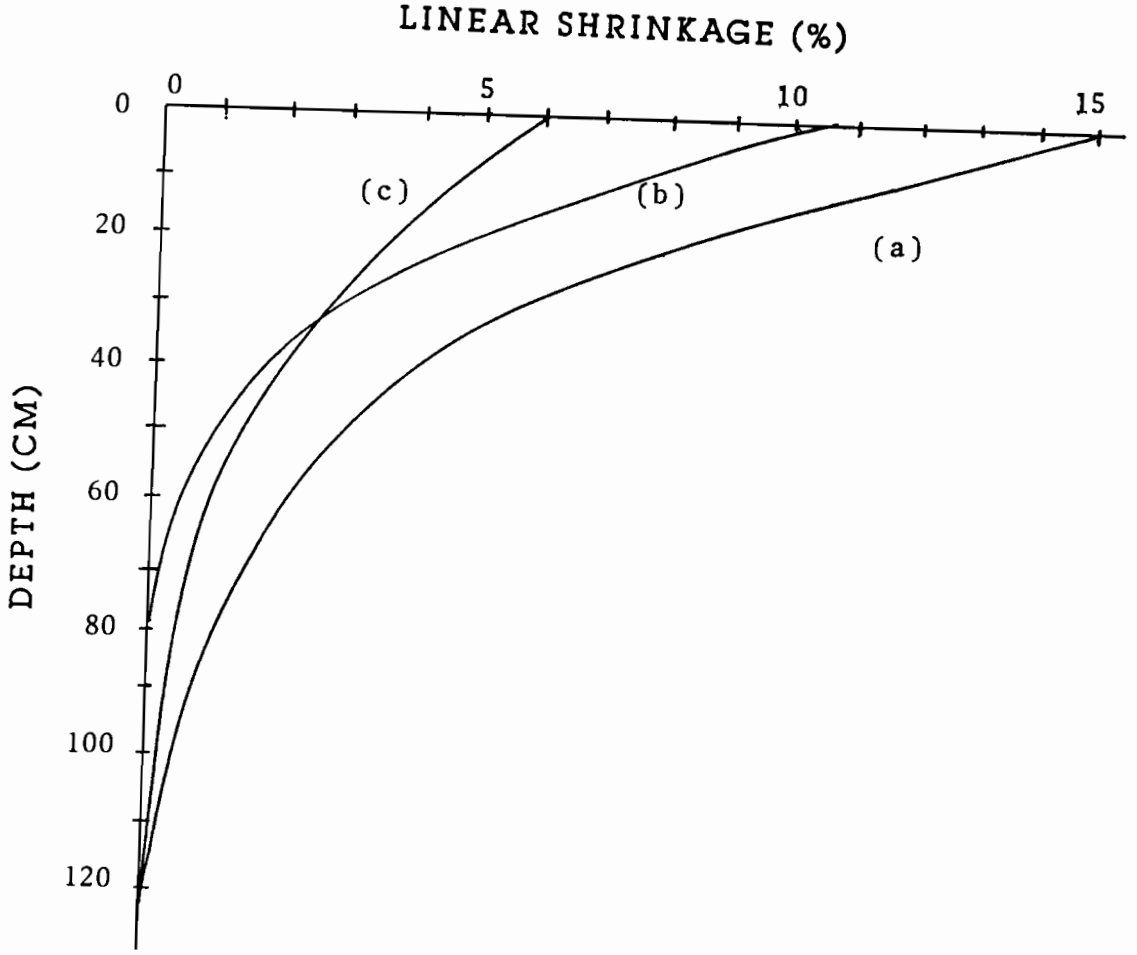

FIGURE G.2 FIELD SURVEYED LINEAR SHRINKAGE CURVE (REDRAWN FROM REFERENCE [9])

first entry.(The linear shrinkage is given as a percentage of SLMAX).

(Card 27 must be repeated 15 times starting from the initial position of the tip of the shrinkage crack and proceeding to the soil surface)

(Card 28 must be omitted when LSHRN = 0 or 1)

CARD 28: **SOIL PROPERTIES TO CALCULATE THE LINEAR SHRINKAGE CURVE**

(3 VARIABLES - REAL)

1st entry	GC	Unit weight of the soil (in grams / cm^3)
2nd entry	GS	Compressibility coefficient "γ_σ" (dimensionless)
3rd entry	GH	Swelling coefficient "γ_h" (dimensionless)

(Card 28 must be repeated NB times starting with the lowest block and proceeding to the soil surface)

Note: When the program is using a set of default blocks; i.e. when BLOCK = 0, the value of NB depends on the value of ISOIL:

NB = 5 when ISOIL = 1,

NB = 7 when ISOIL = 2,

NB = 7 when ISOIL = 3,

NB = 7 when ISOIL = 4.

CARD 29: **CONTROL PARAMETER TO SELECT THE MASTER BLOCK CURVE**

(1 VARIABLE - INTEGER)

1st entry BCURV — The program enables the user to reuse the master block curves if they have been developed in a previous run. The master block curve is a set of 100 pairs of values of block volume versus time.

=1, when the block curves is already available.

= 0, when the block curves is not available and has to be developed.

(Card 30 must be omitted when BCURV = 0)

CARD 30: **MASTER BLOCK CURVES** (3 VARIABLES - INTEGER, 2 REAL)

1st entry IX — Counter of the readings (1 - 100).

2nd entry VBLK — Volume of the block (cm^3).

3rd entry TBLK — Wetting time (days).

(Card 30 must be repeated 100 times for each block. The first entry "IX = 1" correspond to the driest condition and proceeds to the wettest condition "IX = 100").

(The file should include NB * 100 cards. The first block to input is the lowest block of the set and then should proceed to the soil surface)

(Card 31 thru 34 must be omitted when BCURV = 1)

CARD 31: **CONTROL PARAMETER TO SELECT THE FORM OF INPUT FOR THE FLOW PROPERTIES OF THE SOIL**(1 VARIABLE - INTEGER)

1st entry CPROP — The soil properties (permeability, and moisture capacity) depend on the soil suction. The program allows the user to define this dependance in table form or through an analytical expression:

= 1, the dependance on suction is established in equation form.

= 2, the dependance on suction is established in table form.

(Card 32 and 33 must be omitted when CPROP = 2)

CARD 32: **PERMEABILITY COEFFICIENT AS A FUNCTION OF SOIL SUCTION**

(3 VARIABLE - REAL)

The permeability is assumed to be related to soil suction in the following form:

$k = k1 / (1 + k_2 h) + k_3$

where, k is the permeability coefficient (cm/s), h is the soil suction (cm of water), and k_1, k_2, k_3 are coefficients.

1st entry K1 — The coefficient k_1.

2nd entry K2 — The coefficient k_2.

3rd entry K3 The coefficient k_3.

(Card 32 must repeated NB times i.e. for all soil blocks starting with the lowest block and proceeding to the surface)

CARD 33: **MOISTURE CHARACTERISTIC CURVE** (2 VARIABLES - REAL)

The soil moisture characteristic curve is input as the moisture capacity as a function of soil suction as follows:

$C = c_1 + c_2 h$

where C is the slope of the moisture characteristic curve ($dh/d\theta$), and c_1 and c_2 are coefficients.

1st entry C1 The coefficient c_1.

2nd entry C2 The coefficient c_2.

(Card 33 must repeated NB times i.e. for all soil blocks starting with the lowest block and proceeding to the surface)

(Card 34 must be omitted when CPROP = 1)

CARD 34: **PROPERTIES OF THE SOIL BLOCKS IN TABLE FORM**

(3 VARIABLES - REAL)

1st entry HH Soil suction (cm of water).

2nd entry KK Permeability (cm/s).

3rd entry CC — Slope of the moisture characteristic curve ($dh/d\theta$)

(Card 34 must be repeated 20 times for each block starting with the highest soil suction (at least 15,000 cm) and proceeding to the lowest soil suction (at the most 0.0 cm))
(The file should include NB * 20 cards. The first block to input is the lowest block of the set and then should proceed to the soil surface)

(Card 35 must be omitted unless LSHRN = 2 and/or BCURV =0)

CARD 35: **THE INITIAL BLOCK SUCTION** (1 VARIABLE - REAL)

1st entry HINN — The soil suction at the mid-point of the block (cm of water).

(Card 35 must be repeated NB times starting with the lowest block of the set and then proceed upwards)

CARD 36: **CONTROL PARAMETER TO SELECT THE SEQUENCE OF LEAF AREA INDEX** (1 VARIABLE - INTEGER)

1st entry LAIDX — The program enables the user to input a sequence of leaf area index (LAI) or to use the default sequence. (The LAI is one of the parameter affecting the actual evapotranspiration).
= 0, for default sequence of LAI.

= 1, for user input of LAI sequence.

(Card 37 must be omitted when LAIDX = 1)

CARD 37: **INPUT LEAF AREA INDEX SEQUENCE** (2 VARIABLES - REAL)

1st entry	TMLAI	Sequential day number (day of the year).
2nd entry	LAISG	The leaf area index on the corresponding sequential day.

(Card 37 must be repeated 24 times, starting at the "day 1" and finishing "day 365")

CARD 38: **CONTROL PARAMETERS TO SELECT THE SOURCE OF THE PROPERTIES TO CALCULATE ACTUAL EVAPOTRANSPIRATION**
(1 VARIABLE - INTEGER)

The program enables the user to input the soil properties to calculate actual ET or to use one of the default properties.

1st entry STYPE
= 0, to use default properties
= 1, when the user provides the soil properties.

(Card 39 must be omitted when STYPE = 1)

CARD 39: **SELECTION OF DEFAULT PROPERTIES FOR SOIL EVAPORATION**

(1 VARIABLE - INTEGER)

1st entry IMAT = 1, for the properties of Adelanto clay loam.
= 2, for the properties of Yolo loam.
= 3, for the properties of Houston black clay.
= 4, for the properties of Plainfield sand.

(Card 40 must be omitted when STYPE = 0)

CARD 40: **INPUT PARAMETERS FOR SOIL EVAPORATION** (5 PARAMETERS -REAL)

1st entry ALFA — Soil evaporation parameter in the stage II drying ($mm/day^{-1/2}$). (Soil evaporation is considered to occur in two drying stages: stage I, where the actual evaporation is equal to the potential evaporation; and stage II, where the actual evaporation lags behind the potential evaporation.

2nd entry U — Upper limit of cumulative evaporation from the soil surface in the stage I drying (water depth mm).

3rd entry UL — Upper limit of water depth storage in the soil profile (mm).

4th entry LLENT — Lower limit of soil water depth below which transpiration cannot take place (mm).

5th entry LL — Water depth stored in the profile at the lower limit of water availability (mm).

(Card 41 must be omitted when the DIST = 0)

CARD 41: **MONTHLY WEIGHTED AVERAGE PET** (1 VARIABLE - REAL)

1st entry ENBAR — Monthly weighted average potential evapotranspiration that is calculated from:

ENBAR=((MDA*ND) + (MWA*NW))/(ND+NW)

where MDA is the monthly average PET on dry days, ND is the number of dry days, MWA is the monthly average PET on wet days, and NW is the number of wet days.

(Card 41 must be repeated 12 times to input 12 monthly averages from January to December)

CARD 42: **INITIAL CONDITIONS AND OTHER RELATED PARAMETERS**

(6 VARIABLES - 3 INTEGER, 3 REAL)

1st entry PER — Period of simulation (number of years).

2nd entry SEED — Seed number for the pseudo random number generator (should be a large odd integer, e.g. 1234567).

3rd entry DEC31 — The state of the day prior to the day the simulation starts.

= 0, for dry day.

= 1, for wet day.

4th entry VBASE — Initial volume of water stored in the crack fabric under the pavement (cm^3).

5th entry VSIDE — Initial volume of water stored in the crack fabric of the unpaved area (cm^3).

6th entry FRACT — Multiplier of the run-off from the pavement that flows into the side drainage ditch.

(Card 43 is only required when DIST = 2)

CARD 43: **NAMES OF THE INPUT AND OUTPUT FILES FOR THE WEATHER ANALYSIS**

(2 VARIABLES - CHARACTER)

1st entry RAWDATA — Input file name of the raw meteorological data.

2nd entry WEATHER — Name of the Output file.

(Card 44 must be omitted when BCURV = 1)

CARD 44: **NAME OF THE OUTPUT FILE FOR THE MASTER CURVES**

(1 VARIABLE - CHARACTER)

1st entry BLKCURV — Output file name of the block curves. (The program will write the block curves in this file starting after the lower block and proceeding upwards).

CARD 45: **CONTROL PARAMETERS FOR DESIRED OUTPUT OF BLOCK COORDINATES, BLOCK SIZES, AND LINEAR SHRINKAGE CURVE**

(2 VARIABLES - INTEGER)

1st entry IPCOOR — Control parameter for block geometric conditions.
= 0, when no output is desired
= 1, for the program to output the coordinates and block sizes at the beginning of the simulation and at the end of each year.

2nd entry IPLS — Control parameter for the linear shrinkage curve.
= 0, when no output desired.
= 1, to output the linear shrinkage curve at the end of each of year.

(Card 46 must be omitted when IPCOOR = 0)

CARD 46: **FILE NAME TO OUTPUT THE BLOCK GEOMETRIC CONDITIONS**

(2 VARIABLES - CHARACTER)

1st entry BCOOR — Output file name for the block coordinates.

2nd entry BCONN — Output file name for the block sizes.

(Card 46 must be repeated PER + 1 times)

(Card 47 must be omitted when IPLS = 0)

CARD 47: **FILE NAME TO OUTPUT THE LINEAR SHRINKAGE CURVE**

(1 VARIABLE - CHARACTER)

1st entry LINESH — Output file name for the linear shrinkage curve.

CARD 48: **CONTROL PARAMETER FOR DESIRED OUTPUT OF THE SIMULATION**

(1 VARIABLE - INTEGER)

1st entry ISTEP — The program stores the results of the run on a daily basis for each year of the simulation. The user is allowed to output these records in a file on a daily basis or at any chosen interval; i.e. ISTEP = 1, to output the records every day; = 7, to output the records every seven days; ect.

CARD 49: **NAMES OF THE OUTPUT FILES OF THE SIMULATION**

(2 VARIABLES - CHARACTER)

The program writes all of the simulation into two separate files, for each year of simulation.

1st entry OUT1 — Name of the first output file.

2nd entry OUT2 — Name of the second output file.

(Card 49 must be repeated PER times)

(All entries for input and output files names must be placed between single quotation marks (' '), and must not be longer than 20 characters)

SET OF METEOROLOGICAL DATA

This data set is only required when the distributions need to be developed from raw meteorological data. It consists of only one data card for daily averages that must be repeated to include all of the historical record available.

CARD: **METEOROLOGICAL DATA**

(9 VARIABLES - 7 INTEGER, REAL, INTEGER)

1st entry	TYPE	Control parameter to specify the type of meteorological data. = 0, for pan evaporation data. = 1, for meteorological data.
2nd entry	YEAR	Year of the record.
3rd entry	MONTH	Month of the record.
4th entry	DAY	Day of the record.
5th entry	PRECP	Rainfall depth (in inches times 1000)
6th entry	POSUN	= Percent of possible sunshine hours(%) when TYPE = 1, and = Pan evaporation when TYPE = 0.
7th entry	MTEMP	= Mean daily temperature (^{O}F) when TYPE = 1, and = 0 when TYPE = 0.

8th entry MWIND = Mean wind speed (mph) when TYPE = 1, and
= 0.0 when TYPE = 0.

9th entry MNRH = Mean relative humidity (%) when TYPE = 1, and
= 0 when TYPE = 0.

APPENDIX H

SAMPLE OF INPUT DATA FOR THE ANALYSIS OF THE CLIMATIC CONDITIONS OF EL PASO

TABLE H.1

CLIMATIC DATA OF EL PASO FOR 1969 - 1982

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)	YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
69	1	1	0.000	59	42	4.9	45	69	2	11	0.000	100	49	4.8	28
69	1	2	0.000	100	41	2.9	48	69	2	12	0.005	86	50	6.0	33
69	1	3	0.000	71	40	6.8	52	69	2	13	0.020	53	55	8.9	56
69	1	4	0.000	99	35	2.6	60	69	2	14	0.010	87	53	11.9	52
69	1	5	0.000	100	38	4.9	54	69	2	15	0.000	82	51	5.0	48
69	1	6	0.000	96	46	4.2	43	69	2	16	0.000	100	52	9.4	43
69	1	7	0.000	100	46	5.8	49	69	2	17	0.000	90	46	9.4	40
69	1	8	0.000	100	60	14.2	27	69	2	18	0.000	64	47	10.9	49
69	1	9	0.000	81	51	5.9	32	69	2	19	0.010	90	47	7.9	53
69	1	10	0.005	6	36	4.5	51	69	2	20	0.000	97	45	6.5	43
69	1	11	0.000	94	41	1.6	56	69	2	21	0.000	81	47	8.3	44
69	1	12	0.000	91	48	4.2	47	69	2	22	0.000	100	44	9.9	38
69	1	13	0.000	50	50	0.3	50	69	2	23	0.000	100	46	12.7	34
69	1	14	0.030	58	53	6.8	50	69	2	24	0.000	100	45	4.9	30
69	1	15	0.020	31	54	10.2	68	69	2	25	0.000	95	48	6.0	25
69	1	16	0.000	75	49	6.6	64	69	2	26	0.000	100	50	10.1	25
69	1	17	0.000	74	49	6.6	64	69	2	27	0.000	91	53	6.6	37
69	1	18	0.000	100	50	5.5	56	69	2	28	0.000	67	54	5.5	32
69	1	19	0.000	50	49	4.0	58	69	3	1	0.000	100	55	11.9	29
69	1	20	0.000	93	56	9.4	52	69	3	2	0.000	100	49	14.0	29
69	1	21	0.000	94	56	9.9	51	69	3	3	0.000	100	44	7.2	38
69	1	22	0.000	94	54	17.7	45	69	3	4	0.000	95	44	8.5	41
69	1	23	0.000	83	52	14.7	40	69	3	5	0.005	96	38	11.8	52
69	1	24	0.000	96	50	6.6	44	69	3	6	0.000	100	50	11.1	28
69	1	25	0.000	75	52	8.1	48	69	3	7	0.020	68	43	15.2	41
69	1	26	0.000	100	58	6.3	49	69	3	8	0.000	73	44	8.5	37
69	1	27	0.000	94	64	15.1	36	69	3	9	0.000	100	43	7.6	35
69	1	28	0.000	67	54	9.2	43	69	3	10	0.000	97	43	11.4	37
69	1	29	0.000	78	52	14.7	40	69	3	11	0.000	98	41	12.4	36
69	1	30	0.000	76	41	5.8	28	69	3	12	0.000	100	46	8.3	29
69	1	31	0.000	100	45	4.9	24	69	3	13	0.000	100	46	8.9	23
69	2	1	0.000	100	40	5.9	26	69	3	14	0.000	86	47	11.7	34
69	2	2	0.000	100	47	10.2	24	69	3	15	0.050	29	35	6.3	65
69	2	3	0.000	100	45	9.5	25	69	3	16	0.000	95	41	4.5	61
69	2	4	0.000	58	45	7.3	31	69	3	17	0.000	100	48	7.6	44
69	2	5	0.040	53	53	11.9	48	69	3	18	0.000	100	55	5.9	28
69	2	6	0.000	91	52	10.1	41	69	3	19	0.000	99	65	8.9	18
69	2	7	0.000	96	50	15.1	31	69	3	20	0.000	74	55	6.6	30
69	2	8	0.000	90	45	6.2	31	69	3	21	0.000	85	59	5.6	30
69	2	9	0.000	91	50	5.2	31	69	3	22	0.100	50	54	10.9	47
69	2	10	0.000	100	47	2.5	32	69	3	23	0.005	100	55	20.7	37

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
69	3	24	0.000	100	50	9.9	24
69	3	25	0.000	100	45	5.3	37
69	3	26	0.000	100	50	3.7	27
69	3	27	0.000	100	52	3.5	26
69	3	28	0.000	100	56	4.6	22
69	3	29	0.000	100	59	5.8	23
69	3	30	0.000	100	61	4.0	30
69	3	31	0.000	94	66	6.9	32
69	4	1	0.000	93	73	9.8	17
69	4	2	0.000	79	69	6.6	25
69	4	3	0.000	83	69	10.6	25
69	4	4	0.000	100	62	6.8	23
69	4	5	0.005	100	63	6.3	31
69	4	6	0.005	100	68	8.2	27
69	4	7	0.000	100	69	12.4	19
69	4	8	0.000	91	69	10.9	18
69	4	9	0.000	86	67	8.9	19
69	4	10	0.005	75	65	7.6	32
69	4	11	0.000	97	64	10.4	34
69	4	12	0.000	98	59	6.8	36
69	4	13	0.000	100	66	7.5	25
69	4	14	0.000	98	65	8.2	22
69	4	15	0.000	100	73	15.2	19
69	4	16	0.000	100	63	16.0	23
69	4	17	0.000	99	56	5.8	37
69	4	18	0.000	100	60	6.6	28
69	4	19	0.000	99	67	12.5	19
69	4	20	0.000	100	62	4.5	33
69	4	21	0.000	95	66	4.9	22
69	4	22	0.000	100	71	7.8	17
69	4	23	0.000	100	70	8.6	14
69	4	24	0.000	100	72	10.4	14
69	4	25	0.000	100	70	11.9	14
69	4	26	0.000	100	66	17.4	14
69	4	27	0.000	100	56	6.2	21
69	4	28	0.000	100	62	6.0	28
69	4	29	0.000	100	66	8.5	31
69	4	30	0.000	93	70	8.3	22
69	5	1	0.000	100	66	6.6	21
69	5	2	0.000	72	67	8.1	21
69	5	3	0.000	92	67	9.1	9
69	5	4	0.000	92	72	10.6	22
69	5	5	0.020	79	63	8.3	43
69	5	6	0.010	76	56	9.1	49
69	5	7	0.000	92	56	6.9	42
69	5	8	0.000	100	62	8.3	35
69	5	9	0.000	100	64	4.9	30
69	5	10	0.000	79	68	8.1	23
69	5	11	0.000	99	69	7.8	29
69	5	12	0.000	95	70	7.2	28
69	5	13	0.000	98	[illegible]	8	27
69	5	14	0.005	83	[illegible]	1	27
69	5	15	0.005	99	[illegible]	2	28
69	5	16	0.000	100	71	8.6	23
69	5	17	0.000	100	68	5.6	35
69	5	18	0.000	88	72	6.0	25
69	5	19	0.000	100	75	6.0	16
69	5	20	0.000	100	76	4.9	17
69	5	21	0.000	94	79	6.5	18
69	5	22	0.250	51	77	12.5	34
69	5	23	0.000	99	74	5.8	43
69	5	24	0.000	99	80	6.2	22
69	5	25	0.000	100	77	5.0	24
69	5	26	0.000	100	77	6.5	23
69	5	27	0.000	94	81	6.9	27
69	5	28	0.000	91	83	7.3	28
69	5	29	0.000	88	82	6.9	27
69	5	30	0.000	83	81	8.8	27
69	5	31	0.000	77	88	10.6	17
69	6	1	0.005	67	83	8.3	22
69	6	2	0.005	65	79	10.1	38
69	6	3	0.005	76	77	9.8	38
69	6	4	0.000	100	74	5.6	40
69	6	5	0.000	100	77	6.2	28
69	6	6	0.000	90	81	5.9	29
69	6	7	0.000	100	84	9.1	22
69	6	8	0.000	100	84	7.3	18
69	6	9	0.005	91	83	14.5	36
69	6	10	0.000	100	79	11.9	26
69	6	11	0.000	100	78	15.4	19
69	6	12	0.000	100	78	7.5	22
69	6	13	0.000	100	79	8.3	27

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
69	6	14	0.000	100	75	9.1	45
69	6	15	0.005	39	79	11.2	47
69	6	16	0.000	95	80	9.4	40
69	6	17	0.000	100	82	9.9	22
69	6	18	0.000	100	81	8.8	22
69	6	19	0.000	100	80	8.8	21
69	6	20	0.000	100	81	4.0	21
69	6	21	0.000	100	84	9.2	18
69	6	22	0.000	100	86	9.9	12
69	6	23	0.000	100	85	11.2	16
69	6	24	0.000	100	88	17.0	19
69	6	25	0.000	100	84	15.4	23
69	6	26	0.000	100	84	9.2	20
69	6	27	0.000	100	81	4.9	21
69	6	28	0.000	96	86	8.3	26
69	6	29	0.000	100	89	10.6	29
69	6	30	0.005	87	90	7.6	31
69	7	1	0.000	99	89	9.1	29
69	7	2	0.000	100	87	9.4	28
69	7	3	0.000	100	86	7.5	30
69	7	4	0.000	79	91	8.6	27
69	7	5	0.005	88	91	8.8	28
69	7	6	0.005	49	86	11.9	41
69	7	7	0.005	60	84	10.2	43
69	7	8	0.100	63	83	9.9	49
69	7	9	0.560	31	77	6.9	66
69	7	10	0.020	35	77	9.4	64
69	7	11	0.000	91	82	5.6	51
69	7	12	0.000	100	84	6.8	46
69	7	13	0.005	79	87	5.9	42
69	7	14	0.020	70	88	6.3	37
69	7	15	0.000	95	85	6.8	42
69	7	16	0.000	65	90	5.5	36
69	7	17	0.005	83	83	9.1	45
69	7	18	0.000	75	84	6.3	41
69	7	19	0.400	66	83	7.8	45
69	7	20	0.005	75	81	8.6	51
69	7	21	0.005	88	85	8.1	47
69	7	22	0.020	83	86	8.5	42
69	7	23	0.005	61	86	11.1	44
69	7	24	0.000	91	85	7.2	47
69	7	25	0.000	94	89	7.6	39
69	7	26	0.000	75	88	11.9	41
69	7	27	0.020	39	83	9.1	55
69	7	28	0.005	71	83	6.6	49
69	7	29	0.000	99	86	6.0	33
69	7	30	0.000	96	86	4.9	33
69	7	31	0.005	69	87	7.8	31
69	8	1	0.000	93	89	6.8	34
69	8	2	0.005	86	89	6.3	33
69	8	3	0.000	86	87	7.9	32
69	8	4	0.000	69	91	9.5	28
69	8	5	0.000	86	89	6.6	33
69	8	6	0.100	96	87	7.3	35
69	8	7	0.010	91	86	2.7	41
69	8	8	0.000	99	85	4.3	35
69	8	9	0.000	100	87	4.6	32
69	8	10	0.000	100	88	8.6	36
69	8	11	0.000	100	87	4.2	38
69	8	12	0.000	96	88	5.3	35
69	8	13	0.000	100	87	8.5	31
69	8	14	0.000	100	87	6.5	24
69	8	15	0.000	100	87	5.6	26
69	8	16	0.000	100	88	5.8	23
69	8	17	0.000	99	89	7.1	25
69	8	18	0.005	98	90	9.2	27
69	8	19	0.005	80	92	6.3	25
69	8	20	0.005	88	87	7.5	35
69	8	21	0.000	96	86	11.1	34
69	8	22	0.000	91	86	10.9	38
69	8	23	0.000	98	84	5.8	37
69	8	24	0.005	92	85	6.2	35
69	8	25	0.005	62	85	6.6	41
69	8	26	0.005	82	82	7.1	49
69	8	27	0.000	95	81	7.5	46
69	8	28	0.000	53	82	8.1	48
69	8	29	0.050	41	79	7.3	58
69	8	30	0.110	48	74	7.5	72
69	8	31	0.010	61	78	7.3	66
69	9	1	0.170	19	76	8.5	68
69	9	2	0.005	12	77	7.8	59
69	9	3	0.005	97	77	4.6	54

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
69	9	4	0.000	91	82	8.1	40
69	9	5	0.000	68	82	6.2	42
69	9	6	0.005	91	85	4.9	37
69	9	7	0.000	85	84	8.2	43
69	9	8	0.005	94	81	10.5	44
69	9	9	0.000	75	81	6.3	48
69	9	10	0.000	85	79	6.6	49
69	9	11	0.000	58	79	7.2	49
69	9	12	0.220	40	76	6.6	57
69	9	13	0.040	37	74	6.0	68
69	9	14	0.000	74	76	11.4	50
69	9	15	0.000	94	77	11.9	44
69	9	16	0.000	100	78	6.9	40
69	9	17	0.000	85	76	5.6	42
69	9	18	0.000	89	77	7.6	49
69	9	19	0.000	89	76	7.6	54
69	9	20	0.000	66	77	10.9	52
69	9	21	0.000	84	78	5.9	47
69	9	22	0.000	100	75	6.3	40
69	9	23	0.000	100	74	6.8	42
69	9	24	0.000	99	76	2.9	42
69	9	25	0.000	100	77	7.2	32
69	9	26	0.000	100	78	5.2	28
69	9	27	0.000	100	77	8.5	33
69	9	28	0.000	100	73	7.6	40
69	9	29	0.000	100	72	5.3	39
69	9	30	0.000	100	72	5.2	32
69	10	1	0.000	87	76	4.5	25
69	10	2	0.000	94	79	11.8	27
69	10	3	0.000	99	79	12.5	33
69	10	4	0.000	75	78	12.2	34
69	10	5	0.000	97	74	6.0	34
69	10	6	0.000	100	71	10.2	30
69	10	7	0.000	26	70	8.6	51
69	10	8	0.110	64	74	10.1	48
69	10	9	0.000	100	77	11.4	34
69	10	10	0.000	100	78	13.7	28
69	10	11	0.000	97	76	10.2	32
69	10	12	0.000	98	67	10.4	31
69	10	13	0.000	87	61	8.5	34
69	10	14	0.000	95	63	4.8	38
69	10	15	0.000	100	72	10.2	22
69	10	16	0.000	100	67	6.3	29
69	10	17	0.000	100	71	8.3	26
69	10	18	0.000	100	73	12.2	29
69	10	19	0.050	73	71	6.3	44
69	10	20	0.290	36	68	8.5	52
69	10	21	0.120	25	67	8.8	67
69	10	22	0.020	76	62	3.9	55
69	10	23	0.000	66	60	5.5	59
69	10	24	0.000	60	61	3.9	61
69	10	25	0.000	100	65	6.2	47
69	10	26	0.000	60	67	10.2	49
69	10	27	0.000	0	57	11.1	55
69	10	28	0.000	29	57	5.9	55
69	10	29	0.000	100	61	9.4	40
69	10	30	0.000	100	54	7.1	33
69	10	31	0.000	100	52	4.2	37
69	11	1	0.000	100	55	8.3	36
69	11	2	0.000	94	49	4.9	44
69	11	3	0.000	100	51	2.9	38
69	11	4	0.000	100	53	4.2	31
69	11	5	0.000	99	56	5.5	31
69	11	6	0.000	97	63	5.2	28
69	11	7	0.000	100	60	3.7	38
69	11	8	0.000	92	60	1.7	37
69	11	9	0.000	66	66	2.6	32
69	11	10	0.005	86	65	2.5	40
69	11	11	0.000	96	63	5.0	48
69	11	12	0.000	80	66	8.8	44
69	11	13	0.000	78	63	5.5	41
69	11	14	0.000	100	51	4.2	48
69	11	15	0.005	90	50	0.4	50
69	11	16	0.110	53	61	11.5	51
69	11	17	0.000	88	58	12.1	44
69	11	18	0.000	100	40	10.5	27
69	11	19	0.000	100	40	3.3	34
69	11	20	0.000	100	40	2.5	30
69	11	21	0.000	62	42	2.9	32
69	11	22	0.000	[illegible]		[illegible]	32
69	11	23	0.005	[illegible]		[illegible]	32
69	11	24	0.000	[illegible]		[illegible]	38

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
69	11	25	0.000	91	52	6.9	43
69	11	26	0.005	22	52	3.9	56
69	11	27	0.200	0	42	8.9	52
69	11	28	0.320	0	36	3.0	71
69	11	29	0.005	37	44	3.2	59
69	11	30	0.000	46	47	2.5	60
69	12	1	0.000	100	47	2.5	60
69	12	2	0.000	63	48	5.8	51
69	12	3	0.420	1	52	5.9	60
69	12	4	0.005	52	52	6.2	65
69	12	5	0.080	42	48	14.0	60
69	12	6	0.005	99	43	6.6	52
69	12	7	0.000	59	41	3.7	63
69	12	8	0.000	89	45	6.3	49
69	12	9	0.005	53	50	10.8	44
69	12	10	0.005	55	49	9.1	51
69	12	11	0.000	100	44	0.6	55
69	12	12	0.000	100	47	0.4	49
69	12	13	0.000	100	50	2.2	44
69	12	14	0.000	100	51	1.4	44
69	12	15	0.000	100	50	0.9	46
69	12	16	0.000	100	53	2.3	38
69	12	17	0.000	73	53	2.7	41
69	12	18	0.000	64	54	1.0	42
69	12	19	0.000	100	52	1.0	44
69	12	20	0.000	98	53	7.9	40
69	12	21	0.000	100	55	2.6	37
69	12	22	0.000	100	57	10.4	39
69	12	23	0.000	75	54	5.9	43
69	12	24	0.000	99	63	14.7	29
69	12	25	0.000	100	54	6.8	38
69	12	26	0.000	100	55	9.5	30
69	12	27	0.000	92	51	10.1	34
69	12	28	0.100	30	40	6.6	50
69	12	29	0.090	11	33	5.3	62
69	12	30	0.000	81	34	3.5	58
69	12	31	0.000	100	33	2.9	49
70	1	1	0.020	100	38	9.5	40
70	1	2	0.010	100	33	1.7	55
70	1	3	0.000	91	31	1.3	48
70	1	4	0.000	26	37	4.6	42
70	1	5	0.000	100	41	6.8	44
70	1	6	0.000	100	30	2.3	44
70	1	7	0.000	96	29	1.9	44
70	1	8	0.000	95	37	1.6	42
70	1	9	0.000	70	40	2.0	50
70	1	10	0.000	100	50	12.9	44
70	1	11	0.000	100	48	5.2	44
70	1	12	0.000	83	54	5.6	42
70	1	13	0.000	55	50	3.3	52
70	1	14	0.000	98	46	4.5	57
70	1	15	0.005	45	52	10.1	44
70	1	16	0.000	100	49	5.0	44
70	1	17	0.000	89	58	8.1	35
70	1	18	0.000	99	51	7.6	38
70	1	19	0.000	100	47	6.9	40
70	1	20	0.000	100	46	1.9	36
70	1	21	0.000	100	50	2.0	33
70	1	22	0.000	95	62	10.1	23
70	1	23	0.000	94	59	1.6	32
70	1	24	0.000	94	58	3.7	31
70	1	25	0.000	83	64	7.2	20
70	1	26	0.000	99	56	3.7	27
70	1	27	0.000	94	58	9.9	26
70	1	28	0.000	87	57	16.3	24
70	1	29	0.000	100	38	9.5	18
70	1	30	0.000	100	38	3.9	18
70	1	31	0.000	95	50	11.5	20
70	2	1	0.005	59	47	16.8	21
70	2	2	0.005	76	43	8.5	41
70	2	3	0.000	100	39	4.0	33
70	2	4	0.000	86	46	4.3	25
70	2	5	0.000	56	56	2.2	22
70	2	6	0.000	100	52	2.2	30
70	2	7	0.000	100	53	1.6	29
70	2	8	0.000	100	53	6.6	35
70	2	9	0.000	90	50	3.9	48
70	2	10	0.000	85	57	3.2	42
70	2	11	0.010	47	59	5.2	49
70	2	12	0.000	100	55	2.5	42
70	2	13	0.000	95	62	6.8	34
70	2	14	0.000	76	63	12.5	23

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
70	2	15	0.000	100	54	6.6	34
70	2	16	0.000	100	51	0.9	31
70	2	17	0.000	100	55	6.8	25
70	2	18	0.000	100	61	7.9	20
70	2	19	0.000	88	51	13.4	20
70	2	20	0.200	0	41	10.6	54
70	2	21	0.050	0	42	5.2	66
70	2	22	0.000	28	49	2.9	62
70	2	23	0.150	22	47	4.0	69
70	2	24	0.130	73	54	4.3	58
70	2	25	0.000	100	53	3.7	54
70	2	26	0.000	80	56	2.6	49
70	2	27	0.010	56	61	7.2	40
70	2	28	0.000	91	62	7.5	27
70	3	1	0.000	98	64	6.5	31
70	3	2	0.040	84	60	13.1	43
70	3	3	0.005	98	58	7.8	35
70	3	4	0.000	95	55	5.0	33
70	3	5	0.000	97	57	6.8	31
70	3	6	0.005	87	54	6.5	40
70	3	7	0.000	100	52	2.0	38
70	3	8	0.000	100	62	8.5	27
70	3	9	0.000	97	63	11.4	22
70	3	10	0.005	66	61	14.1	25
70	3	11	0.170	31	47	12.1	60
70	3	12	0.000	77	47	6.8	49
70	3	13	0.000	100	48	3.9	42
70	3	14	0.000	100	53	1.0	35
70	3	15	0.000	100	60	9.4	26
70	3	16	0.000	89	56	8.8	31
70	3	17	0.000	100	56	14.1	31
70	3	18	0.000	99	59	14.7	24
70	3	19	0.005	78	48	11.9	39
70	3	20	0.260	34	40	6.9	71
70	3	21	0.000	89	49	5.8	49
70	3	22	0.000	93	56	6.6	27
70	3	23	0.000	100	54	3.6	33
70	3	24	0.000	100	59	13.5	23
70	3	25	0.000	100	62	12.1	19
70	3	26	0.000	100	57	10.8	25
70	3	27	0.000	97	60	17.4	23
70	3	28	0.000	100	50	7.2	31
70	3	29	0.000	94	53	15.4	24
70	3	30	0.000	100	64	18.4	21
70	3	31	0.000	100	67	19.6	19
70	4	1	0.000	95	55	15.1	24
70	4	2	0.000	100	51	4.0	21
70	4	3	0.000	98	58	9.4	21
70	4	4	0.000	100	56	7.1	24
70	4	5	0.000	100	58	1.4	23
70	4	6	0.000	99	57	3.0	22
70	4	7	0.000	100	62	12.5	21
70	4	8	0.000	94	62	4.9	24
70	4	9	0.000	81	66	6.8	21
70	4	10	0.000	100	63	6.6	32
70	4	11	0.000	90	71	16.7	15
70	4	12	0.000	100	70	10.4	14
70	4	13	0.000	98	67	7.6	18
70	4	14	0.000	93	71	15.7	17
70	4	15	0.000	96	66	8.6	15
70	4	16	0.000	48	66	3.2	17
70	4	17	0.000	96	66	9.1	23
70	4	18	0.005	62	56	16.7	37
70	4	19	0.000	96	60	16.4	28
70	4	20	0.000	98	67	10.5	19
70	4	21	0.000	83	67	15.7	19
70	4	22	0.000	100	69	14.2	18
70	4	23	0.000	99	68	8.5	15
70	4	24	0.005	60	67	8.1	16
70	4	25	0.000	100	67	5.9	17
70	4	26	0.000	96	69	12.5	11
70	4	27	0.000	100	71	17.4	12
70	4	28	0.000	93	72	17.5	12
70	4	29	0.000	100	57	12.1	20
70	4	30	0.000	100	56	13.4	19
70	5	1	0.000	100	55	4.0	23
70	5	2	0.005	49	54	10.1	42
70	5	3	0.000	100	55	6.3	32
70	5	4	0.000	100	63	4.8	22
70	5	5	0.000	59	69	6.2	20
70	5	6	0.000	93	74	6.5	17
70	5	7	0.000	100	77	16.3	14

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
70	5	8	0.000	100	71	12.2	14
70	5	9	0.000	100	71	10.6	16
70	5	10	0.000	100	74	8.8	16
70	5	11	0.000	100	75	7.8	16
70	5	12	0.000	100	79	8.5	14
70	5	13	0.000	100	75	8.2	15
70	5	14	0.000	100	73	7.2	19
70	5	15	0.000	64	66	12.2	32
70	5	16	0.000	100	68	4.5	25
70	5	17	0.000	100	72	5.2	20
70	5	18	0.000	100	76	3.0	17
70	5	19	0.000	68	79	5.5	17
70	5	20	0.000	38	77	4.5	18
70	5	21	0.100	65	80	8.6	24
70	5	22	0.580	47	76	5.8	35
70	5	23	0.000	94	74	4.9	38
70	5	24	0.000	95	79	9.5	20
70	5	25	0.000	18	77	9.5	25
70	5	26	0.030	59	75	8.3	38
70	5	27	0.005	77	72	9.8	31
70	5	28	0.000	100	75	7.8	26
70	5	29	0.000	100	78	6.5	17
70	5	30	0.000	100	78	4.8	18
70	5	31	0.000	100	78	7.1	19
70	6	1	0.000	100	70	11.5	27
70	6	2	0.000	100	69	7.6	26
70	6	3	0.000	100	72	7.6	25
70	6	4	0.005	87	74	10.6	30
70	6	5	0.005	79	73	5.8	33
70	6	6	0.590	79	76	6.0	34
70	6	7	0.000	60	75	9.6	43
70	6	8	0.000	100	74	6.8	32
70	6	9	0.000	81	78	13.2	17
70	6	10	0.000	100	82	17.5	15
70	6	11	0.000	94	79	16.8	18
70	6	12	0.000	95	80	10.2	18
70	6	13	0.000	96	84	9.5	20
70	6	14	0.000	99	86	7.2	24
70	6	15	0.000	99	90	8.2	17
70	6	16	0.000	100	85	7.3	17
70	6	17	0.000	100	83	6.3	17
70	6	18	0.005	96	86	5.0	19
70	6	19	0.000	81	88	6.2	25
70	6	20	0.005	54	86	8.3	27
70	6	21	0.005	90	77	7.5	39
70	6	22	0.005	57	74	6.8	52
70	6	23	0.000	80	79	4.9	43
70	6	24	0.005	94	84	6.0	31
70	6	25	0.000	100	84	7.5	31
70	6	26	0.000	70	89	7.2	24
70	6	27	0.005	85	85	7.2	27
70	6	28	0.005	23	77	7.2	44
70	6	29	0.040	92	81	7.3	43
70	6	30	0.100	11	78	6.5	56
70	7	1	0.230	47	77	7.3	61
70	7	2	0.000	99	81	5.6	40
70	7	3	0.000	98	82	10.5	35
70	7	4	0.000	97	82	8.3	29
70	7	5	0.000	99	82	5.8	26
70	7	6	0.000	100	81	5.2	24
70	7	7	0.005	100	86	5.9	24
70	7	8	0.050	96	87	6.2	30
70	7	9	0.000	88	85	6.0	28
70	7	10	0.000	94	88	7.9	25
70	7	11	0.000	95	87	4.5	25
70	7	12	0.070	71	90	5.3	22
70	7	13	0.005	78	87	5.8	35
70	7	14	0.000	87	85	7.1	35
70	7	15	0.000	91	85	11.1	32
70	7	16	0.000	87	83	10.9	36
70	7	17	0.000	94	82	8.3	42
70	7	18	0.000	100	83	5.8	36
70	7	19	0.005	79	88	9.4	32
70	7	20	0.000	52	85	10.2	34
70	7	21	0.000	82	85	9.9	33
70	7	22	0.100	69	84	8.6	39
70	7	23	0.400	68	81	5.8	51
70	7	24	0.005	68	79	6.5	56
70	7	25	0.360	29	75	9.4	68
70	7	26	0.000	84	79	8.2	58
70	7	27	0.000	67	80	7.6	56
70	7	28	0.060	33	79	7.5	58

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
70	7	29	0.140	86	79	5.6	60
70	7	30	0.000	66	82	6.3	51
70	7	31	0.000	66	85	7.2	45
70	8	1	0.000	77	84	8.5	41
70	8	2	0.000	81	85	6.9	39
70	8	3	0.005	90	84	8.6	38
70	8	4	0.300	1	82	11.5	43
70	8	6	0.000	100	81	5.8	58
70	8	7	0.010	100	83	4.5	49
70	8	8	0.005	83	85	8.5	45
70	8	9	0.000	96	85	7.8	41
70	8	10	0.070	39	81	9.5	49
70	8	11	0.000	48	80	6.3	54
70	8	12	0.000	100	80	6.2	44
70	8	13	0.000	100	81	8.8	37
70	8	14	0.000	100	82	6.8	37
70	8	15	0.000	81	84	7.8	35
70	8	16	0.000	95	82	9.1	39
70	8	17	0.030	89	83	6.8	39
70	8	18	0.000	83	86	10.4	36
70	8	19	0.000	95	86	12.5	34
70	8	20	0.000	98	86	8.6	31
70	8	21	0.000	99	82	8.5	35
70	8	22	0.000	92	87	12.1	35
70	8	23	0.000	91	82	6.0	34
70	8	24	0.000	100	77	8.1	27
70	8	25	0.000	100	78	8.3	28
70	8	26	0.000	99	79	7.8	29
70	8	27	0.000	100	78	6.6	28
70	8	28	0.000	100	78	5.0	24
70	8	29	0.000	100	76	5.0	24
70	8	30	0.000	89	80	6.2	25
70	8	31	0.005	37	80	8.5	38
70	9	1	0.000	72	79	5.9	40
70	9	2	0.000	99	82	5.8	36
70	9	3	0.010	28	87	5.9	29
70	9	4	0.480	70	81	8.6	40
70	9	5	0.030	76	78	9.4	52
70	9	6	0.000	92	80	9.8	49
70	9	7	0.000	100	78	7.2	49
70	9	8	0.000	91	81	6.9	46
70	9	9	0.020	53	86	8.6	37
70	9	10	0.000	71	75	12.1	42
70	9	11	0.030	100	77	5.9	42
70	9	12	0.000	94	82	11.2	37
70	9	13	0.000	62	80	8.3	41
70	9	14	0.000	98	79	7.8	36
70	9	15	0.001	45	[illegible]	4	48
70	9	16	0.080	70	[illegible]	5	53
70	9	17	0.005	53	[illegible]	7.6	59
70	9	18	0.005	37	76	7.1	59
70	9	19	0.000	92	78	9.2	52
70	9	20	0.000	89	80	8.2	43
70	9	21	0.000	100	80	11.9	32
70	9	22	0.000	94	71	13.5	33
70	9	23	0.000	100	65	4.6	36
70	9	24	0.000	100	72	5.9	31
70	9	25	0.000	100	74	11.2	29
70	9	26	0.310	63	62	13.4	29
70	9	27	0.050	0	53	9.1	50
70	9	28	0.000	1	49	10.1	75
70	9	29	0.000	37	59	5.8	59
70	9	30	0.000	71	63	4.8	64
70	10	1	0.020	24	67	6.5	60
70	10	2	0.051	41	68	11.5	52
70	10	3	0.020	47	66	4.6	64
70	10	4	0.130	27	65	7.6	69
70	10	5	0.000	100	67	9.6	42
70	10	6	0.000	100	70	11.1	33
70	10	7	0.000	100	68	18.3	29
70	10	8	0.000	100	55	12.2	28
70	10	9	0.000	100	54	4.5	36
70	10	10	0.000	79	63	11.8	28
70	10	11	0.000	100	61	12.4	26
70	10	12	0.000	100	59	6.6	32
70	10	13	0.000	85	66	7.6	27
70	10	14	0.000	100	64	5.8	34
70	10	15	0.000	0	54	14.8	54
70	10	16	0.005	0	46	9.5	72
70	10	17	0.000	43	55	6.0	54
70	10	18	0.000	58	55	4.9	56
70	10	19	0.000	88	58	4.9	53

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
70	10	20	0.000	94	62	6.3	41
70	10	21	0.000	100	67	10.5	31
70	10	22	0.000	71	65	10.4	32
70	10	23	0.000	96	61	9.6	30
70	10	24	0.000	100	61	10.5	30
70	10	25	0.000	100	65	11.9	30
70	10	26	0.000	100	64	15.1	23
70	10	27	0.000	100	50	8.6	26
70	10	28	0.000	100	44	4.2	34
70	10	29	0.000	100	47	4.2	26
70	10	30	0.000	100	50	5.2	22
70	10	31	0.000	81	57	7.6	20
70	11	1	0.000	100	61	8.5	20
70	11	2	0.000	100	48	7.9	47
70	11	3	0.000	100	49	6.8	39
70	11	4	0.000	100	46	7.8	39
70	11	5	0.000	100	46	5.5	42
70	11	6	0.000	100	54	5.5	38
70	11	7	0.000	79	63	14.0	32
70	11	8	0.000	100	56	13.1	28
70	11	9	0.000	100	52	7.5	29
70	11	10	0.000	66	53	7.1	27
70	11	11	0.000	100	54	4.5	26
70	11	12	0.000	100	57	14.4	24
70	11	13	0.005	86	52	15.5	38
70	11	14	0.000	96	46	7.2	39
70	11	15	0.000	100	42	4.2	43
70	11	16	0.000	100	40	5.3	34
70	11	17	0.000	100	49	5.2	25
70	11	18	0.000	98	50	12.5	22
70	11	19	0.000	100	60	13.1	16
70	11	20	0.000	99	49	7.2	29
70	11	21	0.000	100	53	7.6	31
70	11	22	0.000	100	56	7.3	25
70	11	23	0.000	100	42	7.9	23
70	11	24	0.000	100	41	5.3	24
70	11	25	0.000	100	51	5.3	23
70	11	26	0.000	100	62	17.4	32
70	11	27	0.000	70	58	10.6	45
70	11	28	0.000	99	56	4.2	36
70	11	29	0.000	86	56	5.0	32
70	11	30	0.000	100	60	10.4	34
70	12	1	0.000	100	53	6.6	43
70	12	2	0.000	94	51	4.8	39
70	12	3	0.000	100	55	4.9	23
70	12	4	0.000	93	54	3.6	20
70	12	5	0.000	100	55	10.4	21
70	12	6	0.000	100	50	6.6	26
70	12	7	0.000	100	55	6.2	26
70	12	8	0.000	87	53	4.5	28
70	12	9	0.000	93	52	8.1	29
70	12	10	0.000	100	54	10.2	32
70	12	11	0.000	100	41	7.3	36
70	12	12	0.000	79	40	4.6	34
70	12	13	0.000	100	42	5.3	36
70	12	14	0.060	84	44	8.8	57
70	12	15	0.000	68	44	16.8	45
70	12	16	0.000	100	39	4.3	42
70	12	17	0.000	100	45	6.5	33
70	12	18	0.000	77	57	10.4	26
70	12	19	0.000	48	47	3.5	44
70	12	20	0.000	89	50	7.9	48
70	12	21	0.000	65	49	11.2	48
70	12	22	0.000	100	45	8.8	51
70	12	23	0.000	100	39	5.2	50
70	12	24	0.000	98	40	5.9	42
70	12	25	0.000	94	47	6.3	30
70	12	26	0.000	82	48	5.8	27
70	12	27	0.000	81	54	8.9	43
70	12	28	0.005	46	54	5.3	58
70	12	29	0.000	22	49	8.1	35
70	12	30	0.000	100	48	7.3	28
70	12	31	0.000	93	42	3.6	33
71	1	1	0.000	91	45	7.3	31
71	1	2	0.000	45	56	17.3	25
71	1	3	0.030	18	37	17.8	58
71	1	4	0.070	52	17	8.6	84
71	1	5	0.005	73	19	9.2	78
71	1	6	0.010	82	20	11.5	63
71	1	7	0.060	79	19	6.0	81
71	1	8	0.000	100	22	6.3	63
71	1	9	0.000	100	33	7.2	47

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
71	1	10	0.000	100	47	9.1	27
71	1	11	0.000	91	44	6.8	40
71	1	12	0.005	7	48	7.6	42
71	1	13	0.000	100	53	12.1	41
71	1	14	0.000	100	45	8.1	43
71	1	15	0.000	100	48	8.6	27
71	1	16	0.000	98	46	5.3	28
71	1	17	0.000	100	51	2.6	26
71	1	18	0.000	100	56	4.8	34
71	1	19	0.000	100	50	3.2	41
71	1	20	0.000	100	52	6.0	38
71	1	21	0.000	84	60	9.4	33
71	1	22	0.000	79	61	9.8	33
71	1	23	0.000	75	58	10.8	35
71	1	24	0.000	98	48	6.2	34
71	1	25	0.000	100	53	7.2	22
71	1	26	0.000	100	48	4.9	25
71	1	27	0.000	100	48	3.2	26
71	1	28	0.000	100	50	6.8	28
71	1	29	0.000	100	48	5.2	27
71	1	30	0.000	100	52	9.9	22
71	1	31	0.000	95	56	5.2	21
71	2	1	0.000	78	50	6.9	30
71	2	2	0.000	83	47	6.9	32
71	2	3	0.000	66	57	20.4	18
71	2	4	0.000	100	43	15.8	21
71	2	5	0.000	100	52	12.1	19
71	2	6	0.000	79	53	15.4	25
71	2	7	0.000	100	43	18.4	28
71	2	8	0.000	97	34	6.3	33
71	2	9	0.000	100	41	5.0	31
71	2	10	0.000	100	41	7.1	27
71	2	11	0.000	100	53	9.6	22
71	2	12	0.000	100	50	4.9	32
71	2	13	0.000	100	48	5.9	29
71	2	14	0.000	100	56	7.2	21
71	2	15	0.000	100	57	10.4	22
71	2	16	0.000	98	60	7.5	18
71	2	17	0.000	100	58	8.3	19
71	2	18	0.030	94	52	20.4	46
71	2	19	0.000	100	52	9.1	35
71	2	20	0.010	94	50	12.8	31
71	2	21	0.000	87	41	11.4	44
71	2	22	0.000	99	39	5.6	33
71	2	23	0.000	96	43	6.2	31
71	2	24	0.000	91	49	6.8	33
71	2	25	0.000	100	48	12.1	46
71	2	26	0.000	96	53	11.1	33
71	2	27	0.000	92	44	8.2	25
71	2	28	0.000	100	49	16.5	15
71	3	1	0.000	100	45	13.8	24
71	3	2	0.000	95	36	14.0	34
71	3	3	0.000	100	34	3.9	32
71	3	4	0.000	97	45	7.5	20
71	3	5	0.000	97	64	26.6	13
71	3	6	0.000	100	42	11.1	20
71	3	7	0.000	100	44	6.5	17
71	3	8	0.000	100	52	9.1	17
71	3	9	0.000	100	58	11.1	17
71	3	10	0.000	100	55	8.2	18
71	3	11	0.000	95	60	10.6	16
71	3	12	0.000	100	62	13.2	20
71	3	13	0.000	100	67	19.4	19
71	3	14	0.000	100	57	14.4	21
71	3	15	0.000	100	55	8.6	18
71	3	16	0.000	100	57	8.3	16
71	3	17	0.000	97	59	14.0	16
71	3	18	0.000	100	58	12.8	15
71	3	19	0.000	100	48	9.4	15
71	3	20	0.000	91	57	8.6	17
71	3	21	0.000	100	61	14.8	17
71	3	22	0.000	100	63	11.2	15
71	3	23	0.000	100	68	11.2	12
71	3	24	0.000	95	70	16.0	13
71	3	25	0.000	97	69	11.5	15
71	3	26	0.000	1		3	15
71	3	27	0.000	1		8	14
71	3	28	0.000	1		5	23
71	3	29	0.000	100	64	9	39
71	3	30	0.000	98	65	8	29
71	3	31	0.000	98	73	17.8	14
71	4	1	0.000	100	60	8.8	12

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
71	4	2	0.000	100	57	5.0	17
71	4	3	0.000	100	59	5.3	17
71	4	4	0.000	100	58	13.2	20
71	4	5	0.000	100	55	7.9	28
71	4	6	0.000	100	53	9.1	31
71	4	7	0.000	94	58	9.1	27
71	4	8	0.000	100	67	11.2	14
71	4	9	0.000	100	63	9.8	21
71	4	10	0.000	100	70	8.8	27
71	4	11	0.000	98	72	6.3	21
71	4	12	0.000	93	73	10.2	14
71	4	13	0.000	92	64	16.4	20
71	4	14	0.340	89	64	12.9	40
71	4	15	0.000	72	64	9.5	42
71	4	16	0.000	96	60	10.2	38
71	4	17	0.000	97	71	16.5	24
71	4	18	0.040	76	61	15.7	35
71	4	19	0.040	77	48	16.3	40
71	4	20	0.000	97	54	10.2	30
71	4	21	0.000	95	60	14.2	21
71	4	22	0.000	100	62	17.4	20
71	4	23	0.000	100	61	5.2	25
71	4	24	0.000	85	69	14.4	19
71	4	25	0.000	100	72	18.1	18
71	4	26	0.000	98	68	15.1	23
71	4	27	0.000	100	65	8.1	20
71	4	28	0.000	95	68	13.4	17
71	4	29	0.000	100	64	8.8	18
71	4	30	0.000	98	65	6.2	17
71	5	1	0.000	91	74	7.6	22
71	5	2	0.000	100	73	5.0	21
71	5	3	0.000	87	76	11.8	15
71	5	4	0.000	76	80	19.4	13
71	5	5	0.000	96	69	16.4	15
71	5	6	0.000	87	70	13.2	16
71	5	7	0.000	96	67	6.3	22
71	5	8	0.000	100	73	11.2	16
71	5	9	0.000	100	71	14.4	19
71	5	10	0.000	100	66	5.8	17
71	5	11	0.005	80	68	11.1	31
71	5	12	0.000	61	62	8.9	41
71	5	13	0.000	100	62	4.6	33
71	5	14	0.000	99	72	10.8	21
71	5	15	0.000	99	78	9.6	17
71	5	16	0.000	100	80	15.7	15
71	5	17	0.000	100	79	18.8	15
71	5	18	0.000	100	65	14.5	13
71	5	19	0.000	100	65	7.9	18
71	5	20	0.000	100	72	5.8	24
71	5	21	0.000	94	[illegible]	[illegible].5	12
71	5	22	0.000	100	[illegible]	4	12
71	5	23	0.000	100	[illegible]	[illegible].4	12
71	5	24	0.000	100	68	[illegible].9	19
71	5	25	0.000	91	72	7.2	17
71	5	26	0.000	95	78	10.9	17
71	5	27	0.000	82	79	8.2	14
71	5	28	0.000	93	77	10.6	24
71	5	29	0.000	100	74	14.8	17
71	5	30	0.000	100	73	12.8	17
71	5	31	0.000	100	75	10.9	16
71	6	1	0.000	97	72	7.2	14
71	6	2	0.000	72	79	5.6	14
71	6	3	0.000	77	81	15.7	13
71	6	4	0.000	100	73	7.5	15
71	6	5	0.000	90	74	11.7	16
71	6	6	0.000	100	78	10.9	13
71	6	7	0.000	89	80	9.8	14
71	6	8	0.000	85	82	8.5	14
71	6	9	0.000	92	81	10.5	13
71	6	10	0.000	93	79	8.2	14
71	6	11	0.000	97	75	8.3	16
71	6	12	0.000	94	79	11.2	18
71	6	13	0.000	97	80	7.1	18
71	6	14	0.000	100	83	7.9	19
71	6	15	0.005	100	82	5.9	25
71	6	16	0.005	100	84	7.8	25
71	6	17	0.000	100	83	5.2	28
71	6	18	0.005	89	85	7.2	31
71	6	19	0.000	97	82	4.6	30
71	6	20	0.010	82	84	11.5	35
71	6	21	0.000	76	81	7.3	35
71	6	22	0.000	100	81	6.3	29

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
71	6	23	0.000	100	83	7.3	32
71	6	24	0.000	100	85	5.0	31
71	6	25	0.000	100	86	4.9	31
71	6	26	0.000	95	85	8.5	29
71	6	27	0.000	93	84	6.6	32
71	6	28	0.000	100	87	9.8	22
71	6	29	0.000	100	89	12.9	18
71	6	30	0.000	100	85	12.7	29
71	7	1	0.000	94	79	13.1	47
71	7	2	1.650	55	69	8.2	79
71	7	3	0.005	99	78	5.8	54
71	7	4	0.000	100	86	4.0	33
71	7	5	0.005	97	85	4.5	30
71	7	6	0.010	95	86	12.2	32
71	7	7	0.000	89	86	7.6	31
71	7	8	0.000	91	87	10.1	32
71	7	9	0.000	100	83	8.8	34
71	7	10	0.000	100	85	7.8	30
71	7	11	0.000	100	85	5.9	30
71	7	12	0.000	100	87	6.0	31
71	7	13	0.000	99	87	7.3	31
71	7	14	0.000	100	84	5.8	27
71	7	15	0.000	82	84	6.2	33
71	7	16	0.005	76	83	7.8	35
71	7	17	0.000	100	84	6.9	27
71	7	18	0.000	99	85	6.2	31
71	7	19	0.000	100	85	10.8	27
71	7	20	0.000	81	86	9.8	31
71	7	21	0.010	73	81	7.8	41
71	7	22	0.300	66	85	11.2	47
71	7	23	0.160	71	79	10.4	56
71	7	24	0.070	86	76	7.9	63
71	7	25	0.000	93	80	5.8	52
71	7	26	0.005	43	83	6.0	46
71	7	27	0.000	91	80	7.3	46
71	7	28	0.000	91	82	8.5	43
71	7	29	0.000	100	82	5.9	40
71	7	30	0.110	80	78	14.2	52
71	7	31	0.030	85	78	5.3	52
71	8	1	0.000	93	74	7.2	55
71	8	2	0.000	98	74	6.6	48
71	8	3	0.000	97	79	5.0	38
71	8	4	0.000	90	78	6.0	36
71	8	5	0.050	52	78	8.8	41
71	8	6	0.005	74	74	7.5	50
71	8	7	0.000	81	74	6.8	45
71	8	8	0.005	79	78	11.9	44
71	8	9	0.620	88	77	6.5	47
71	8	10	0.260	79	77	6.2	54
71	8	11	0.005	75	74	6.0	59
71	8	12	0.005	82	75	5.8	57
71	8	13	0.005	69	78	6.0	54
71	8	14	0.005	79	75	7.2	61
71	8	15	0.070	71	74	7.6	63
71	8	16	0.005	93	77	10.5	58
71	8	17	0.030	82	78	6.5	60
71	8	18	0.310	67	77	8.3	61
71	8	19	0.000	100	75	8.8	59
71	8	20	0.000	95	76	9.1	54
71	8	21	0.000	66	79	7.6	52
71	8	22	0.000	98	81	8.6	43
71	8	23	0.150	88	81	9.8	43
71	8	24	0.020	85	78	8.2	58
71	8	25	0.080	80	76	8.2	63
71	8	26	0.000	95	76	6.3	59
71	8	27	0.000	92	79	7.1	51
71	8	28	0.000	88	80	6.6	46
71	8	29	0.000	84	80	5.0	47
71	8	30	0.000	93	78	5.6	44
71	8	31	0.000	97	80	5.8	36
71	9	1	0.005	95	83	7.2	36
71	9	2	0.030	89	83	7.8	38
71	9	3	0.005	84	81	8.6	44
71	9	4	0.000	99	81	6.6	43
71	9	5	0.005	98	81	11.4	39
71	9	6	0.000	100	80	5.8	46
71	9	7	0.000	96	81	4.6	41
71	9	8	0.010	60	82	9.6	45
71	9	9	0.005	78	78	6.6	50
71	9	10	0.005	84	77	6.6	47
71	9	11	0.000	99	77	7.8	35
71	9	12	0.000	91	75	7.9	33

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
71	9	13	0.000	100	77	7.3	32
71	9	14	0.000	100	76	7.1	28
71	9	15	0.000	99	80	7.2	25
71	9	16	0.000	90	79	8.6	29
71	9	17	0.005	67	74	9.9	36
71	9	18	0.030	60	55	12.9	70
71	9	19	0.000	77	57	5.3	59
71	9	20	0.000	100	62	6.2	53
71	9	21	0.000	100	67	6.3	36
71	9	22	0.000	98	69	8.9	37
71	9	23	0.780	1	58	12.8	73
71	9	25	0.000	97	68	5.6	51
71	9	26	0.000	100	73	11.1	33
71	9	27	0.000	100	74	8.9	32
71	9	28	0.000	100	74	6.6	32
71	9	29	0.100	61	75	7.1	53
71	9	30	0.010	63	73	8.1	51
71	10	1	0.005	76	75	14.0	42
71	10	2	0.000	64	69	6.9	44
71	10	3	0.000	28	69	8.8	32
71	10	4	0.030	31	62	8.3	64
71	10	5	0.000	72	64	8.8	60
71	10	6	0.030	37	63	8.1	60
71	10	7	0.000	27	64	6.8	64
71	10	8	0.000	94	63	3.2	60
71	10	9	0.310	86	64	7.1	58
71	10	10	0.000	79	63	5.3	60
71	10	11	0.040	34	67	4.5	58
71	10	12	0.020	77	67	5.6	56
71	10	13	0.000	92	66	5.9	45
71	10	14	0.000	100	70	11.5	37
71	10	15	0.000	96	73	9.8	35
71	10	16	0.005	96	69	9.1	46
71	10	17	0.020	54	66	13.1	47
71	10	18	0.005	83	56	8.9	51
71	10	19	0.080	73	50	7.6	70
71	10	20	0.000	100	52	5.8	56
71	10	21	0.000	100	62	6.8	43
71	10	22	0.000	100	61	5.5	38
71	10	23	0.000	96	58	5.3	45
71	10	24	0.005	67	66	4.0	40
71	10	25	0.540	7	62	10.6	71
71	10	26	0.005	98	56	14.8	42
71	10	27	0.000	100	52	9.1	50
71	10	28	0.005	75	59	9.6	51
71	10	29	0.005	68	66	13.5	45
71	10	30	0.000	90	54	6.6	24
71	10	31	0.000	71	58	6.3	36
71	11	1	0.000	100	55	8.2	32
71	11	2	0.000	100	52	4.5	35
71	11	3	0.000	100	54	6.5	38
71	11	4	0.000	96	53	3.2	43
71	11	5	0.000	90	59	6.6	44
71	11	6	0.000	57	56	8.6	43
71	11	7	0.000	30	47	9.5	64
71	11	8	0.000	98	51	6.0	58
71	11	9	0.000	99	57	6.5	42
71	11	10	0.000	95	56	5.9	34
71	11	11	0.000	98	58	4.9	38
71	11	12	0.000	92	60	5.3	41
71	11	13	0.000	83	63	8.8	34
71	11	14	0.000	98	55	4.5	40
71	11	15	0.130	18	53	5.3	75
71	11	16	0.010	46	55	10.2	58
71	11	17	0.000	39	45	8.8	62
71	11	18	0.000	100	44	4.0	53
71	11	19	0.000	94	43	6.6	59
71	11	20	0.000	74	45	3.9	53
71	11	21	0.000	93	52	5.9	50
71	11	22	0.000	84	51	10.6	43
71	11	23	0.000	100	46	5.5	49
71	11	24	0.000	100	47	5.6	47
71	11	25	0.000	97	50	8.5	41
71	11	26	0.000	100	51	6.0	36
71	11	27	0.000	86	52	13.5	30
71	11	28	0.000	77	55	8.6	26
71	11	29	0.005	54	51	9.6	38
71	11	30	0.005	44	[illegible]	6	67
71	12	1	0.150	93	42	10.5	64
71	12	2	0.010	11	39	5.9	79
71	12	3	0.000	55	45	5.8	69
71	12	4	0.010	0	43	8.1	71

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
71	12	5	0.010	81	42	9.8	66
71	12	6	0.000	100	41	6.6	63
71	12	7	0.000	66	51	9.9	36
71	12	8	0.080	74	49	11.4	48
71	12	9	0.130	26	39	8.1	74
71	12	10	0.000	100	41	8.8	54
71	12	11	0.000	100	45	9.8	53
71	12	12	0.000	96	42	7.2	38
71	12	13	0.000	88	45	4.9	45
71	12	14	0.030	67	45	16.0	45
71	12	15	0.000	93	40	6.5	54
71	12	16	0.000	52	41	9.5	46
71	12	17	0.000	86	37	8.3	37
71	12	18	0.060	0	36	7.1	68
71	12	19	0.000	61	38	6.8	86
71	12	20	0.000	100	46	9.4	55
71	12	21	0.000	79	44	3.9	57
71	12	22	0.000	90	48	5.2	53
71	12	23	0.000	90	50	4.0	56
71	12	24	0.000	92	54	6.0	54
71	12	25	0.000	100	54	4.8	54
71	12	26	0.000	86	54	6.2	52
71	12	27	0.000	92	57	6.0	51
71	12	28	0.005	29	56	6.9	51
71	12	29	0.005	50	43	6.8	66
71	12	30	0.000	84	39	6.5	61
71	12	31	0.020	0	45	11.1	47
72	1	1	0.010	66	42	5.5	74
72	1	2	0.000	65	40	9.2	71
72	1	3	0.140	36	46	9.9	72
72	1	4	0.070	73	26	7.6	67
72	1	5	0.000	100	24	3.9	66
72	1	6	0.000	100	33	1.6	60
72	1	7	0.000	93	36	2.5	63
72	1	8	0.000	78	45	4.6	57
72	1	9	0.000	89	50	7.5	38
72	1	10	0.000	100	42	6.0	39
72	1	11	0.000	100	43	6.8	38
72	1	12	0.000	100	53	15.0	23
72	1	13	0.000	95	55	9.9	22
72	1	14	0.000	100	50	8.6	36
72	1	15	0.000	100	51	5.0	40
72	1	16	0.000	100	41	5	46
72	1	17	0.000	97	42	8	48
72	1	18	0.000	100	51	8.9	32
72	1	19	0.000	100	48	9.6	34
72	1	20	0.000	100	52	10.5	30
72	1	21	0.000	100	48	10.1	36
72	1	22	0.000	100	53	8.3	30
72	1	23	0.000	100	53	9.4	27
72	1	24	0.000	100	56	9.8	20
72	1	25	0.000	100	54	6.8	19
72	1	26	0.005	91	55	7.9	32
72	1	27	0.005	62	54	14.5	48
72	1	28	0.000	94	49	7.9	36
72	1	29	0.000	86	50	7.2	22
72	1	30	0.000	77	43	9.2	28
72	1	31	0.220	37	31	8.5	76
72	2	1	0.000	19	38	11.4	58
72	2	2	0.000	97	40	15.8	33
72	2	3	0.000	100	34	3.3	35
72	2	4	0.000	69	38	6.9	31
72	2	5	0.005	56	48	10.9	36
72	2	6	0.000	95	49	9.2	35
72	2	7	0.000	100	44	3.6	43
72	2	8	0.000	100	45	5.5	38
72	2	9	0.000	39	48	4.3	33
72	2	10	0.000	56	52	7.9	38
72	2	11	0.000	100	46	6.9	40
72	2	12	0.000	98	44	2.5	31
72	2	13	0.000	100	50	6.8	22
72	2	14	0.000	100	54	11.4	19
72	2	15	0.000	61	56	11.4	22
72	2	16	0.000	93	54	13.2	28
72	2	17	0.000	100	56	6.8	24
72	2	18	0.000	93	55	5.8	25
72	2	19	0.000	93	58	6.5	22
72	2	20	0.000	99	63	4.3	19
72	2	21	0.000	73	63	5.6	21
72	2	22	0.000	87	60	6.0	30
72	2	23	0.000	97	62	7.1	25
72	2	24	0.000	99	66	8.8	14

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID (%)
72	2	25	0.000	100	68	11.8	15
72	2	26	0.000	97	58	6.9	32
72	2	27	0.000	100	59	6.2	23
72	2	28	0.000	100	58	5.5	21
72	2	29	0.000	90	59	12.4	18
72	3	1	0.000	100	56	16.7	19
72	3	2	0.000	100	53	9.4	27
72	3	3	0.000	97	65	18.8	21
72	3	4	0.000	100	70	9.9	21
72	3	5	0.000	100	58	5.6	32
72	3	6	0.000	100	59	5.2	31
72	3	7	0.000	100	69	12.4	21
72	3	8	0.000	100	61	7.2	28
72	3	9	0.000	100	59	3.6	32
72	3	10	0.000	100	62	4.5	30
72	3	11	0.000	100	64	5.9	28
72	3	12	0.000	100	65	5.6	20
72	3	13	0.000	100	64	4.6	19
72	3	14	0.000	92	66	8.9	26
72	3	15	0.000	98	64	9.8	21
72	3	16	0.000	100	60	6.8	17
72	3	17	0.000	100	61	6.6	17
72	3	18	0.000	100	61	8.2	19
72	3	19	0.000	65	60	9.1	33
72	3	20	0.000	100	65	10.8	24
72	3	21	0.000	96	63	8.2	20
72	3	22	0.005	85	65	5.5	29
72	3	23	0.000	95	67	10.8	30
72	3	24	0.000	98	65	9.1	24
72	3	25	0.005	59	63	9.2	31
72	3	26	0.005	97	67	18.4	30
72	3	27	0.000	89	66	19.6	24
72	3	28	0.000	100	58	18.6	17
72	3	29	0.000	100	48	6.8	23
72	3	30	0.000	96	51	10.1	25
72	3	31	0.000	100	49	7.9	25
72	4	1	0.000	100	51	6.9	20
72	4	2	0.000	100	57	9.1	19
72	4	3	0.000	98	68	10.4	18
72	4	4	0.000	92	61	5.5	28
72	4	5	0.000	94	65	4.8	22
72	4	6	0.000	95	70	14.2	16
72	4	7	0.000	87	66	8.2	18
72	4	8	0.000	99	64	5.8	17
72	4	9	0.000	99	65	7.2	16
72	4	10	0.000	75	69	5.9	15
72	4	11	0.000	70	76	10.2	15
72	4	12	0.000	78	72	13.8	23
72	4	13	0.000	53	68	17.7	21
72	4	14	0.000	100	62	16.0	18
72	4	15	0.000	100	58	11.1	18
72	4	16	0.000	93	59	5.2	19
72	4	17	0.000	82	66	13.5	16
72	4	18	0.000	46	69	14.2	18
72	4	19	0.000	98	69	10.9	21
72	4	20	0.000	100	64	15.7	18
72	4	21	0.000	100	60	6.3	16
72	4	22	0.000	100	60	5.0	16
72	4	23	0.000	100	63	5.2	14
72	4	24	0.000	100	69	6.2	21
72	4	25	0.000	100	73	15.5	20
72	4	26	0.000	100	72	14.4	15
72	4	27	0.000	100	65	9.6	14
72	4	28	0.000	100	65	5.6	18
72	4	29	0.000	100	68	6.8	14
72	4	30	0.000	95	70	11.4	14
72	5	1	0.000	25	65	7.2	13
72	5	2	0.000	100	67	6.6	15
72	5	3	0.000	84	69	6.2	21
72	5	4	0.010	36	71	11.8	33
72	5	5	0.000	81	68	9.8	30
72	5	6	0.000	77	72	10.5	17
72	5	7	0.000	99	67	6.6	32
72	5	8	0.000	100	68	5.5	27
72	5	9	0.000	100	70	6.2	16
72	5	10	0.000	97	70	7.1	20
72	5	11	0.000	100	70	9.4	15
72	5	12	0.000	100	66	9.1	15
72	5	13	0.000	100	67	9.9	18
72	5	14	0.005	38	66	12.4	42
72	5	15	0.000	100	64	5.9	36
72	5	16	0.000	100	66	6.0	25

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
72	5	17	0.005	67	71	7.1	26
72	5	18	0.000	80	73	8.3	26
72	5	19	0.000	42	78	11.2	33
72	5	20	0.000	29	74	6.6	21
72	5	21	0.000	96	77	12.7	17
72	5	22	0.000	100	74	14.4	13
72	5	23	0.000	100	68	7.9	17
72	5	24	0.000	100	70	7.5	16
72	5	25	0.000	100	77	12.8	15
72	5	26	0.000	100	77	10.8	15
72	5	27	0.000	84	72	7.2	18
72	5	28	0.005	27	74	10.1	45
72	5	29	0.005	67	72	9.2	51
72	5	30	0.030	52	64	12.5	64
72	5	31	0.000	65	64	7.9	64
72	6	1	0.000	100	69	4.8	42
72	6	2	0.000	97	75	8.8	33
72	6	3	0.000	78	81	8.8	25
72	6	4	0.000	84	76	11.2	29
72	6	5	0.440	52	72	7.3	59
72	6	6	0.100	60	68	8.1	72
72	6	7	0.120	39	66	8.5	79
72	6	8	0.220	82	72	8.6	59
72	6	9	0.000	100	74	4.9	52
72	6	10	0.000	97	80	8.1	36
72	6	11	0.460	87	78	10.4	47
72	6	12	0.070	77	70	7.9	72
72	6	13	0.000	90	76	6.8	45
72	6	14	0.005	89	80	7.3	36
72	6	15	0.000	94	80	7.5	41
72	6	16	0.190	94	77	12.5	56
72	6	17	0.020	85	78	7.6	50
72	6	18	0.005	92	80	7.8	40
72	6	19	0.000	100	82	10.2	26
72	6	20	0.000	95	87	11.8	22
72	6	21	0.005	88	87	11.1	25
72	6	22	0.005	92	85	8.6	32
72	6	23	0.005	81	83	10.8	38
72	6	24	0.000	100	82	8.9	30
72	6	25	0.000	100	84	10.2	18
72	6	26	0.000	100	83	7.2	15
72	6	27	0.000	100	84	8.1	17
72	6	28	0.000	100	82	6.8	15
72	6	29	0.000	96	81	9.6	19
72	6	30	0.000	96	82	7.2	28
72	7	1	0.000	96	86	6.5	23
72	7	2	0.000	96	87	8.3	27
72	7	3	0.000	96	88	8.8	25
72	7	4	0.005	95	83	15.0	43
72	7	5	0.005	42	78	8.2	47
72	7	6	0.005	77	80	9.1	44
72	7	7	0.000	89	82	8.5	37
72	7	8	0.005	70	84	7.6	37
72	7	9	0.005	48	83	8.8	40
72	7	10	0.005	89	82	8.1	42
72	7	11	0.230	79	84	6.3	42
72	7	12	0.150	88	80	9.6	47
72	7	13	0.000	70	76	6.8	52
72	7	14	0.000	100	82	8.3	42
72	7	15	0.000	89	84	12.5	41
72	7	16	0.000	89	83	8.9	43
72	7	17	0.000	98	81	13.1	40
72	7	18	0.005	71	81	10.2	48
72	7	19	0.330	31	78	6.3	58
72	7	20	0.000	91	78	9.6	58
72	7	21	0.000	91	80	9.6	51
72	7	22	0.000	88	81	8.1	46
72	7	23	0.005	90	81	8.6	43
72	7	24	0.005	90	82	8.6	45
72	7	25	0.000	88	81	8.3	42
72	7	26	0.000	[illegible]	[illegible]	9	35
72	7	27	0.000	[illegible]	[illegible]	9	34
72	7	28	0.005	[illegible]	[illegible]	9	35
72	7	29	0.000	84	81	11	32
72	7	30	0.000	100	84	9.9	31
72	7	31	0.000	92	89	9.9	22
72	8	1	0.080	54	85	8.3	31
72	8	2	0.005	67	85	8.3	39
72	8	3	0.000	95	82	10.8	39
72	8	4	0.120	32	77	8.8	54
72	8	5	0.000	70	76	5.8	57
72	8	6	0.005	74	77	7.3	45

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
72	8	7	0.000	87	79	8.3	49
72	8	8	0.030	88	77	7.2	52
72	8	9	0.070	45	75	7.3	59
72	8	10	0.000	79	75	7.8	53
72	8	11	0.000	96	76	7.5	55
72	8	12	0.030	83	79	9.6	52
72	8	13	0.005	67	76	6.2	57
72	8	14	0.050	94	79	7.6	51
72	8	15	0.005	79	78	7.1	50
72	8	16	0.010	89	76	7.2	54
72	8	17	0.050	63	78	6.8	54
72	8	18	0.170	53	75	5.6	68
72	8	19	0.005	64	77	7.2	66
72	8	20	0.050	80	80	5.8	60
72	8	21	0.005	95	81	6.9	54
72	8	22	0.005	86	82	7.1	49
72	8	23	0.000	97	80	8.8	51
72	8	24	0.000	92	84	11.9	38
72	8	25	0.220	96	78	11.8	49
72	8	26	1.550	39	69	11.4	79
72	8	27	0.140	18	71	7.5	79
72	8	28	0.020	68	74	5.8	70
72	8	29	0.000	98	77	6.0	64
72	8	30	0.000	96	79	7.1	58
72	8	31	0.000	100	79	4.9	56
72	9	1	0.040	90	77	9.6	61
72	9	2	0.800	84	73	8.2	74
72	9	3	0.070	84	75	7.8	75
72	9	4	0.000	96	76	5.6	72
72	9	5	0.000	96	79	4.9	62
72	9	6	0.005	71	79	7.8	64
72	9	7	0.210	69	77	9.8	66
72	9	8	0.140	85	75	6.5	72
72	9	9	0.040	60	74	8.3	72
72	9	10	0.010	67	75	5.5	75
72	9	11	0.005	60	78	7.2	66
72	9	12	0.000	66	74	4.9	70
72	9	13	0.090	59	72	8.2	79
72	9	14	0.020	34	73	4.9	77
72	9	15	0.170	41	72	4.5	79
72	9	16	0.000	100	72	3.9	74
72	9	17	0.000	96	77	5.8	58
72	9	18	0.000	100	74	5.2	65
72	9	19	0.010	82	77	8.5	66
72	9	20	0.000	100	[illegible]	[illegible]6	52
72	9	21	0.000	[illegible]	[illegible]	[illegible]8	45
72	9	22	0.000	100	[illegible]	[illegible]2	46
72	9	23	0.000	100	[illegible]	5.9	60
72	9	24	0.000	86	73	9.9	45
72	9	25	0.000	63	72	10.5	49
72	9	26	0.000	100	69	6.2	51
72	9	27	0.000	83	71	5.5	55
72	9	28	0.000	99	74	5.8	43
72	9	29	0.000	100	69	4.3	35
72	9	30	0.000	100	67	3.9	45
72	10	1	0.000	100	70	5.0	43
72	10	2	0.000	100	71	4.0	38
72	10	3	0.000	87	73	7.2	43
72	10	4	0.005	60	74	6.2	45
72	10	5	0.000	84	72	6.6	57
72	10	6	0.000	97	71	12.9	51
72	10	7	0.000	100	68	5.0	51
72	10	8	0.000	88	69	5.2	49
72	10	9	0.000	79	68	4.6	45
72	10	10	0.000	76	72	5.9	43
72	10	11	0.000	91	77	7.1	45
72	10	12	0.000	88	75	7.2	52
72	10	13	0.000	100	75	4.8	48
72	10	14	0.000	100	73	5.0	46
72	10	15	0.000	100	71	6.6	51
72	10	16	0.000	94	71	6.5	49
72	10	17	0.090	73	71	8.1	51
72	10	18	0.260	68	69	7.6	69
72	10	19	0.040	8	56	9.6	73
72	10	20	0.430	4	56	5.8	87
72	10	21	0.090	59	59	7.9	61
72	10	22	0.000	100	56	5.6	57
72	10	23	0.000	100	56	3.9	59
72	10	24	0.000	53	58	6.8	70
72	10	25	0.020	23	62	7.2	64
72	10	26	0.000	100	58	10.8	51
72	10	27	0.020	14	62	10.4	44

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
72	10	28	0.005	91	59	7.2	61
72	10	29	0.000	96	59	4.8	66
72	10	30	0.000	91	65	10.1	48
72	10	31	0.300	53	52	12.4	46
72	11	1	0.000	98	46	14.0	45
72	11	2	0.000	100	47	2.7	57
72	11	3	0.000	100	52	6.5	58
72	11	4	0.000	99	55	5.8	54
72	11	5	0.000	100	58	10.9	51
72	11	6	0.000	100	56	8.8	42
72	11	7	0.000	96	54	8.3	45
72	11	8	0.000	42	58	11.1	42
72	11	9	0.000	100	53	10.6	38
72	11	10	0.000	82	52	4.5	41
72	11	11	0.000	94	54	6.2	37
72	11	12	0.060	30	51	12.9	52
72	11	13	0.000	100	47	4.2	51
72	11	14	0.000	99	49	5.3	48
72	11	15	0.000	70	51	8.8	48
72	11	16	0.000	97	49	4.5	53
72	11	17	0.005	40	51	9.1	58
72	11	18	0.000	96	52	9.8	50
72	11	19	0.000	100	46	3.7	57
72	11	20	0.000	99	47	6.5	51
72	11	21	0.000	97	44	4.3	43
72	11	22	0.000	100	41	5.9	56
72	11	23	0.190	0	35	7.6	79
72	11	24	0.060	52	46	12.9	69
72	11	25	0.000	100	45	5.3	62
72	11	26	0.000	100	46	8.2	51
72	11	27	0.000	100	58	11.9	33
72	11	28	0.020	97	43	5.5	64
72	11	29	0.005	100	42	5.8	61
72	11	30	0.000	100	42	1.4	46
72	12	1	0.000	100	44	3.9	47
72	12	2	0.000	100	46	5.9	45
72	12	3	0.000	100	53	9.4	30
72	12	4	0.000	100	59	11.4	23
72	12	5	0.000	92	54	17.3	37
72	12	6	0.000	100	45	6.2	49
72	12	7	0.005	85	53	10.2	46
72	12	8	0.005	89	58	12.1	47
72	12	9	0.000	87	58	15.0	41
72	12	10	0.000	85	49	5.6	49
72	12	11	0.005	50	43	9.8	55
72	12	12	0.000	100	38	7.9	44
72	12	13	0.005	82	41	7.3	44
72	12	14	0.090	66	41	7.9	66
72	12	15	0.000	100	38	10.5	40
72	12	16	0.000	91	34	6.8	41
72	12	17	0.000	100	39	5.2	42
72	12	18	0.000	92	40	7.9	48
72	12	19	0.000	96	45	7.8	47
72	12	20	0.020	97	54	8.3	45
72	12	21	0.000	100	46	5.9	49
72	12	22	0.000	100	46	5.6	45
72	12	23	0.000	100	53	7.5	30
72	12	24	0.000	95	48	6.9	36
72	12	25	0.000	71	47	7.8	40
72	12	26	0.000	100	44	6.8	43
72	12	27	0.005	73	48	7.9	40
72	12	28	0.050	5	57	10.1	61
72	12	29	0.260	25	50	18.0	50
72	12	30	0.000	100	44	14.1	43
72	12	31	0.000	100	37	5.8	56
73	1	1	0.010	39	40	18.4	56
73	1	2	0.210	0	32	11.5	82
73	1	3	0.000	94	38	15.4	66
73	1	4	0.000	87	38	1.3	68
73	1	5	0.000	70	44	5.9	57
73	1	6	0.510	11	42	5.8	80
73	1	7	0.020	82	48	6.5	69
73	1	8	0.000	92	45	5.6	69
73	1	9	0.000	9	40	7.6	77
73	1	10	0.210	32	39	5.8	83
73	1	11	0.000	94	37	3.2	68
73	1	12	0.000	99	38	2.9	63
73	1	13	0.000	100	44	3.5	55
73	1	14	0.000	100	47	3.6	55
73	1	15	0.000	89	47	6.2	55
73	1	16	0.000	96	51	6.5	48
73	1	17	0.000	86	58	16.3	33

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)	YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
73	1	18	0.000	100	52	10.6	31	73	2	28	0.000	90	60	12.1	34
73	1	19	0.000	100	52	10.5	32	73	3	1	0.000	100	59	9.5	34
73	1	20	0.170	63	44	15.0	57	73	3	2	0.000	98	58	8.6	32
73	1	21	0.000	90	44	13.2	41	73	3	3	0.000	100	57	10.9	33
73	1	22	0.030	60	38	7.9	71	73	3	4	0.000	97	54	12.1	33
73	1	23	0.000	97	39	6.8	44	73	3	5	0.010	72	54	13.1	38
73	1	24	0.000	100	38	5.3	46	73	3	6	0.000	99	50	9.2	41
73	1	25	0.000	100	43	6.8	43	73	3	7	0.000	100	51	9.1	43
73	1	26	0.000	98	51	20.3	34	73	3	8	0.000	100	54	7.1	42
73	1	27	0.000	100	47	15.0	39	73	3	9	0.090	36	53	11.2	52
73	1	28	0.000	100	38	4.2	40	73	3	10	0.350	58	47	18.0	60
73	1	29	0.000	92	35	3.2	51	73	3	11	0.000	92	52	10.9	46
73	1	30	0.000	8	40	5.0	52	73	3	12	0.000	88	55	6.5	37
73	1	31	0.070	67	47	24.0	51	73	3	13	0.060	74	48	22.3	49
73	2	1	0.000	93	42	9.6	50	73	3	14	0.005	90	51	15.4	39
73	2	2	0.000	100	41	5.6	41	73	3	15	0.005	66	44	5.8	59
73	2	3	0.000	95	47	6.3	37	73	3	16	0.000	100	46	4.3	51
73	2	4	0.000	100	53	6.9	40	73	3	17	0.000	68	52	5.3	35
73	2	5	0.005	80	60	11.4	39	73	3	18	0.000	30	62	13.1	29
73	2	6	0.005	69	57	8.2	51	73	3	19	0.005	69	57	8.3	56
73	2	7	0.440	1	55	6.5	78	73	3	20	0.005	55	57	9.8	47
73	2	8	0.180	11	36	15.8	56	73	3	21	0.000	84	60	13.1	38
73	2	9	0.000	80	32	6.3	57	73	3	22	0.000	87	55	9.9	39
73	2	10	0.000	83	32	5.5	79	73	3	23	0.080	35	49	16.1	49
73	2	11	0.000	23	42	7.1	71	73	3	24	0.005	50	49	15.4	46
73	2	12	0.005	92	56	19.7	42	73	3	25	0.000	100	48	7.3	34
73	2	13	0.020	79	52	10.1	48	73	3	26	0.000	98	52	7.2	32
73	2	14	0.130	52	47	4.9	64	73	3	27	0.000	49	53	19.3	35
73	2	15	0.000	83	47	9.4	60	73	3	28	0.000	90	53	12.8	37
73	2	16	0.020	69	48	9.8	57	73	3	29	0.010	55	47	12.7	42
73	2	17	0.010	42	45	6.3	66	73	3	30	0.000	44	48	13.2	42
73	2	18	0.000	92	43	4.5	59	73	3	31	0.000	100	[illegible]	[illegible].5	29
73	2	19	0.000	92	45	7.6	51	73	4	1	0.000	100	[illegible]	[illegible].0	52
73	2	20	0.210	1	46	7.2	64	73	4	2	0.100	100	[illegible]	5.7	30
73	2	21	0.260	0	38	12.7	86	73	4	3	0.001	76	44	11.1	43
73	2	22	0.420	0	36	2.7	92	73	4	4	0.000	93	45	11.5	33
73	2	23	0.000	62	47	6.9	62	73	4	5	0.000	80	48	9.2	33
73	2	24	0.000	100	48	4.2	57	73	4	6	0.000	100	49	14.8	35
73	2	25	0.000	100	52	5.3	46	73	4	7	0.000	100	60	20.6	25
73	2	26	0.000	100	57	7.2	36	73	4	8	0.000	95	43	7.8	34
73	2	27	0.000	98	57	4.0	42	73	4	9	0.000	100	46	6.0	27

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
73	4	10	0.000	100	55	3.9	24
73	4	11	0.000	86	61	7.2	26
73	4	12	0.000	99	59	6.3	28
73	4	13	0.000	100	61	5.3	25
73	4	14	0.000	100	67	12.5	22
73	4	15	0.000	100	61	16.3	20
73	4	16	0.000	39	58	7.1	27
73	4	17	0.000	100	58	7.2	32
73	4	18	0.000	89	65	18.4	23
73	4	19	0.000	100	62	20.9	23
73	4	20	0.000	100	59	10.6	31
73	4	21	0.000	100	58	9.9	36
73	4	22	0.000	100	64	8.5	22
73	4	23	0.000	100	62	11.7	26
73	4	24	0.000	100	66	13.2	22
73	4	25	0.000	100	63	10.5	28
73	4	26	0.000	100	63	11.5	31
73	4	27	0.000	100	58	5.2	39
73	4	28	0.000	100	66	8.9	30
73	4	29	0.000	93	68	9.8	26
73	4	30	0.000	90	65	18.1	25
73	5	1	0.000	100	62	14.5	30
73	5	2	0.000	100	58	7.5	31
73	5	3	0.000	100	65	10.4	32
73	5	4	0.005	88	67	12.1	29
73	5	5	0.070	81	65	18.6	50
73	5	6	0.000	96	61	21.7	33
73	5	7	0.000	100	67	12.2	30
73	5	8	0.000	100	64	7.1	31
73	5	9	0.000	100	67	7.6	29
73	5	10	0.000	100	69	6.0	25
73	5	11	0.000	100	73	7.1	24
73	5	12	0.010	88	69	14.2	49
73	5	13	0.190	75	67	14.4	50
73	5	14	0.005	0	54	11.7	73
73	5	15	0.000	57	60	6.8	55
73	5	16	0.000	95	65	5.3	45
73	5	17	0.000	99	68	8.5	33
73	5	18	0.000	88	74	9.9	28
73	5	19	0.000	56	75	7.3	26
73	5	20	0.005	56	76	5.2	28

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
73	5	21	0.005	94	77	9.4	25
73	5	22	0.000	100	72	9.9	25
73	5	23	0.000	100	73	7.9	23
73	5	24	0.000	96	73	12.5	22
73	5	25	0.000	94	79	15.4	17
73	5	26	0.000	100	78	18.0	24
73	5	27	0.000	100	74	13.7	22
73	5	28	0.000	96	66	7.8	23
73	5	29	0.000	94	70	6.5	23
73	5	30	0.000	76	74	8.9	24
73	5	31	0.020	100	74	10.5	35
73	6	1	0.000	96	70	10.2	40
73	6	2	0.000	100	71	11.9	27
73	6	3	0.000	100	71	8.9	27
73	6	4	0.000	100	73	7.5	22
73	6	5	0.000	97	74	8.5	26
73	6	6	0.000	97	75	5.2	29
73	6	7	0.000	96	78	5.6	24
73	6	8	0.000	98	76	6.9	26
73	6	9	0.000	100	76	7.8	26
73	6	10	0.005	94	79	7.1	29
73	6	11	0.005	92	84	9.9	23
73	6	12	0.210	90	80	11.8	33
73	6	13	0.500	62	73	6.9	61
73	6	14	0.000	100	72	9.4	46
73	6	15	0.000	100	78	12.2	25
73	6	16	0.000	100	75	8.3	25
73	6	17	0.000	100	75	10.4	24
73	6	18	0.000	100	76	8.5	21
73	6	19	0.000	100	74	7.8	23
73	6	20	0.000	100	73	9.5	25
73	6	21	0.000	100	74	11.5	28
73	6	22	0.000	100	73	10.9	32
73	6	23	0.000	100	72	7.3	35
73	6	24	0.000	100	74	4.0	45
73	6	25	0.000	100	78	5.0	34
73	6	26	0.000	100	82	4.9	28
73	6	27	0.000	100	84	5.8	27
73	6	28	0.000	97	85	7.1	27
73	6	29	0.000	100	92	10.6	19
73	6	30	0.000	98	88	9.9	21

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
73	7	1	0.000	97	88	7.1	30
73	7	2	0.000	96	86	8.9	32
73	7	3	0.000	100	83	7.8	32
73	7	4	0.000	100	82	8.1	35
73	7	5	0.000	100	88	6.3	30
73	7	6	0.005	96	85	3.7	27
73	7	7	0.000	95	83	6.0	28
73	7	8	0.000	96	84	8.5	27
73	7	9	0.005	89	83	11.2	35
73	7	10	0.080	20	71	10.1	74
73	7	11	0.000	78	79	12.7	47
73	7	12	0.000	94	76	8.5	52
73	7	13	0.080	77	80	11.5	47
73	7	14	1.530	31	75	10.1	61
73	7	15	0.140	24	69	5.5	79
73	7	16	0.005	60	75	7.1	65
73	7	17	0.110	39	74	6.0	72
73	7	18	0.005	39	77	7.8	61
73	7	19	0.000	91	79	5.3	51
73	7	20	0.000	97	81	4.6	44
73	7	21	0.020	94	82	7.9	39
73	7	22	0.005	91	81	6.0	46
73	7	23	0.000	100	82	3.5	43
73	7	24	0.000	88	84	6.8	46
73	7	25	0.005	86	81	8.3	44
73	7	26	0.000	93	80	12.1	44
73	7	27	0.005	53	77	8.5	54
73	7	28	0.020	46	77	6.6	59
73	7	29	0.130	40	77	7.2	61
73	7	30	0.010	89	78	6.6	56
73	7	31	0.005	49	77	7.3	58
73	8	1	0.330	52	74	8.2	68
73	8	2	0.010	67	76	6.0	61
73	8	3	0.000	91	76	5.2	52
73	8	4	0.000	97	76	5.3	42
73	8	5	0.000	100	76	6.3	45
73	8	6	0.000	100	81	8.2	41
73	8	7	0.000	99	85	6.9	31
73	8	8	0.000	98	83	6.3	29
73	8	9	0.005	84	83	7.3	39
73	8	10	0.000	84	79	7.2	46
73	8	11	0.000	92	81	6.8	41
73	8	12	0.000	90	80	6.0	44
73	8	13	0.000	96	81	6.2	39
73	8	14	0.000	95	80	5.6	38
73	8	15	0.000	63	81	5.3	39
73	8	16	0.005	90	84	7.3	34
73	8	17	0.000	100	81	6.3	30
73	8	18	0.000	95	80	5.0	36
73	8	19	0.000	100	77	7.9	38
73	8	20	0.000	7	80	4.3	54
73	8	21	0.110	1	78	4.6	47
73	8	23	0.000	100	79	5.9	30
73	8	24	0.000	96	82	8.1	23
73	8	25	0.000	98	79	6.5	23
73	8	26	0.000	100	78	8.6	29
73	8	27	0.000	85	78	6.5	42
73	8	28	0.250	46	78	7.5	54
73	8	29	0.030	75	77	6.5	59
73	8	30	0.005	67	78	6.0	58
73	8	31	0.000	98	82	8.2	42
73	9	1	0.000	89	79	6.2	43
73	9	2	0.000	98	79	6.6	38
73	9	3	0.000	100	77	5.3	31
73	9	4	0.000	100	80	5.6	33
73	9	5	0.000	100	78	9.5	32
73	9	6	0.000	100	72	7.3	37
73	9	7	0.005	79	74	7.9	50
73	9	8	0.000	100	75	6.8	53
73	9	9	0.000	77	81	7.3	40
73	9	10	0.005	69	79	7.9	54
73	9	11	0.000	93	79	6.8	54
73	9	12	0.000	100	78	9.1	31
73	9	13	0.000	97	78	6.2	28
73	9	14	0.000	92	79	6.6	33
73	9	15	0.000	93	76	4.6	47
73	9	16	0.000	91	77	5.9	41
73	9	17	0.000	89	77	5.2	44
73	9	18	0.005	81	81	7.5	43
73	9	19	0.010	92	79	5.0	43
73	9	20	0.000	89	80	7.9	33
73	9	21	0.005	87	79	8.3	41

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
73	9	22	0.000	98	79	6.2	38
73	9	23	0.000	93	79	9.8	41
73	9	24	0.000	100	80	9.5	27
73	9	25	0.000	95	79	12.9	33
73	9	26	0.000	65	68	11.2	28
73	9	27	0.000	100	60	7.1	43
73	9	28	0.000	100	63	6.0	37
73	9	29	0.000	100	69	8.1	25
73	9	30	0.000	100	69	5.8	29
73	10	1	0.000	95	70	4.6	27
73	10	2	0.000	100	72	6.3	26
73	10	3	0.000	100	70	6.6	28
73	10	4	0.050	86	67	11.5	49
73	10	5	0.020	41	66	6.2	69
73	10	6	0.000	80	68	6.2	58
73	10	7	0.000	98	71	7.2	44
73	10	8	0.000	100	72	11.7	30
73	10	9	0.000	100	73	14.4	20
73	10	10	0.005	74	58	7.6	41
73	10	11	0.000	100	54	5.6	36
73	10	12	0.000	100	59	5.3	31
73	10	13	0.000	100	65	9.9	24
73	10	14	0.000	70	65	8.2	50
73	10	15	0.000	100	63	3.7	45
73	10	16	0.000	99	65	7.8	39
73	10	17	0.000	100	64	5.5	43
73	10	18	0.000	96	62	3.0	37
73	10	19	0.000	100	62	5.0	30
73	10	20	0.000	98	62	4.6	28
73	10	21	0.000	100	64	3.9	24
73	10	22	0.000	100	64	3.2	26
73	10	23	0.000	100	62	5.5	25
73	10	24	0.000	100	62	6.5	26
73	10	25	0.000	100	63	4.3	26
73	10	26	0.000	100	62	5.2	29
73	10	27	0.000	86	59	6.8	44
73	10	28	0.000	100	55	4.3	43
73	10	29	0.000	95	59	7.9	31
73	10	30	0.000	100	57	11.1	20
73	10	31	0.000	100	54	8.1	29
73	11	1	0.000	88	68	11.1	20
73	11	2	0.000	88	68	12.7	26
73	11	3	0.000	58	64	9.6	23
73	11	4	0.000	81	64	9.9	30
73	11	5	0.000	99	57	6.5	35
73	11	6	0.000	98	58	6.8	30
73	11	7	0.000	96	59	6.9	27
73	11	8	0.000	100	57	4.8	24
73	11	9	0.000	99	59	6.5	30
73	11	10	0.000	78	54	6.3	65
73	11	11	0.000	100	61	5.5	43
73	11	12	0.000	100	58	4.9	33
73	11	13	0.000	83	59	5.9	29
73	11	14	0.000	72	66	15.0	23
73	11	15	0.000	100	53	7.3	19
73	11	16	0.000	100	53	6.2	23
73	11	17	0.000	100	55	8.2	25
73	11	18	0.000	53	52	6.6	28
73	11	19	0.020	66	51	19.3	36
73	11	20	0.000	91	49	18.6	39
73	11	21	0.000	97	51	10.8	29
73	11	22	0.000	100	48	4.8	27
73	11	23	0.000	75	54	5.9	34
73	11	24	0.005	98	45	8.5	47
73	11	25	0.000	36	41	7.8	43
73	11	26	0.060	54	50	14.4	46
73	11	27	0.005	[illegible]	[illegible]	4	36
73	11	28	0.000	[illegible]	[illegible]	3	32
73	11	29	0.000	[illegible]	[illegible]	7	35
73	11	30	0.000	[illegible]	[illegible]	9	29
73	12	1	0.000	100	52	1.9	26
73	12	2	0.000	95	55	13.2	26
73	12	3	0.000	94	47	16.8	34
73	12	4	0.000	93	47	9.6	29
73	12	5	0.000	96	45	7.2	24
73	12	6	0.000	100	44	6.5	23
73	12	7	0.000	100	41	4.6	27
73	12	8	0.000	89	41	4.5	27
73	12	9	0.000	100	46	7.2	42
73	12	10	0.000	100	42	4.9	43
73	12	11	0.000	100	44	7.1	34
73	12	12	0.000	98	53	11.4	27

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)	YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
73	12	13	0.000	100	60	13.4	22	74	1	[illegible]	[illegible]	4	[illegible]	[illegible]	48
73	12	14	0.000	72	59	10.4	21	74	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
73	12	15	0.000	100	49	8.5	33	74	1	[illegible]	[illegible]	[illegible]	41	[illegible]	[illegible]
73	12	16	0.000	95	40	2.9	34	74	1	[illegible]	0.000	99	42	[illegible]	30
73	12	17	0.000	56	45	6.5	28	74	1	[illegible]	0.005	63	[illegible]	[illegible]	35
73	12	18	0.000	88	53	13.8	26	74	1	28	0.000	100	34	6.8	36
73	12	19	0.000	100	37	8.1	34	74	1	29	0.000	100	40	4.5	32
73	12	20	0.000	100	30	2.3	29	74	1	30	0.000	72	37	4.2	34
73	12	21	0.000	100	33	2.3	23	74	1	31	0.000	100	43	7.8	27
73	12	22	0.000	99	37	7.6	25	74	2	1	0.000	100	45	8.5	24
73	12	23	0.005	95	46	24.4	42	74	2	2	0.000	100	49	11.1	26
73	12	24	0.000	96	39	12.7	46	74	2	3	0.000	100	43	7.9	27
73	12	25	0.000	100	37	8.2	37	74	2	4	0.000	100	40	5.2	29
73	12	26	0.000	98	41	12.2	29	74	2	5	0.000	99	48	9.6	25
73	12	27	0.000	98	39	6.5	33	74	2	6	0.000	75	46	7.2	22
73	12	28	0.000	96	56	22.1	31	74	2	7	0.005	95	41	8.5	32
73	12	29	0.000	99	59	14.5	35	74	2	8	0.000	99	32	4.3	41
73	12	30	0.000	95	61	18.0	33	74	2	9	0.000	96	33	2.6	29
73	12	31	0.000	100	45	10.8	29	74	2	10	0.000	83	43	4.6	22
74	1	1	0.000	95	45	9.9	42	74	2	11	0.000	100	43	4.2	20
74	1	2	0.000	100	49	9.6	39	74	2	12	0.000	77	48	5.9	23
74	1	3	0.005	43	28	9.6	50	74	2	13	0.000	95	51	9.6	36
74	1	4	0.000	96	31	5.6	53	74	2	14	0.000	100	49	11.5	27
74	1	5	0.000	2	38	8.9	56	74	2	15	0.000	100	46	3.5	30
74	1	6	0.000	82	45	8.8	55	74	2	16	0.000	100	47	5.0	26
74	1	7	0.000	90	42	6.0	50	74	2	17	0.000	50	50	10.4	26
74	1	8	0.010	2	53	15.0	48	74	2	18	0.005	85	49	20.7	35
74	1	9	0.200	11	50	12.2	80	74	2	19	0.000	100	53	14.5	26
74	1	10	0.050	89	46	9.4	64	74	2	20	0.005	61	49	21.3	31
74	1	11	0.000	98	44	6.8	55	74	2	21	0.000	100	38	6.9	40
74	1	12	0.000	100	43	5.5	55	74	2	22	0.000	95	41	5.5	29
74	1	13	0.000	87	44	4.5	53	74	2	23	0.000	100	48	8.5	20
74	1	14	0.000	100	49	5.3	46	74	2	24	0.000	100	40	8.8	20
74	1	15	0.000	100	47	3.3	44	74	2	25	0.000	100	38	5.8	23
74	1	16	0.000	100	47	2.2	44	74	2	26	0.000	85	46	4.9	19
74	1	17	0.005	93	51	9.2	41	74	2	27	0.000	100	46	9.1	22
74	1	18	0.000	88	50	14.4	54	74	2	28	0.000	100	55	4.6	17
74	1	19	0.000	100	47	7.2	51	74	3	1	0.000	98	58	5.8	19
74	1	20	0.000	96	52	5.9	40	74	3	2	0.005	88	55	9.4	30
74	1	21	0.000	100	57	15.1	44	74	3	3	0.000	96	68	17.4	21
74	1	22	0.000	41	54	11.9	28	74	3	4	0.000	100	60	10.8	23

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
74	3	5	0.000	100	51	6.5	21
74	3	6	0.000	92	51	5.8	14
74	3	7	0.000	93	60	7.2	20
74	3	8	0.000	97	58	8.1	25
74	3	9	0.000	100	57	8.6	28
74	3	10	0.000	100	51	11.1	27
74	3	11	0.000	100	49	3.9	25
74	3	12	0.000	98	57	6.9	17
74	3	13	0.000	97	61	5.3	35
74	3	14	0.000	98	60	6.2	33
74	3	15	0.000	100	64	4.0	21
74	3	16	0.000	98	50	4.6	44
74	3	17	0.000	100	61	8.5	22
74	3	18	0.000	100	64	8.1	23
74	3	19	0.000	96	69	13.5	27
74	3	20	0.005	59	57	10.2	57
74	3	21	0.360	82	57	11.2	42
74	3	22	0.000	96	57	13.4	36
74	3	23	0.000	53	58	10.8	30
74	3	24	0.000	88	56	8.6	32
74	3	25	0.000	100	58	4.3	27
74	3	26	0.000	94	58	5.8	25
74	3	27	0.000	75	59	8.5	28
74	3	28	0.000	100	65	11.5	22
74	3	29	0.000	100	70	9.1	23
74	3	30	0.000	90	67	12.5	25
74	3	31	0.000	96	70	19.4	20
74	4	1	0.000	90	63	15.4	19
74	4	2	0.000	68	64	22.3	26
74	4	3	0.000	85	59	21.0	35
74	4	4	0.000	99	54	5.5	24
74	4	5	0.000	100	54	5.6	24
74	4	6	0.000	100	62	12.1	21
74	4	7	0.000	99	68	11.2	17
74	4	8	0.000	100	60	5.5	23
74	4	9	0.000	90	69	14.5	19
74	4	10	0.000	92	65	22.7	18
74	4	11	0.000	100	58	14.8	27
74	4	12	0.000	100	64	11.2	25
74	4	13	0.000	100	66	14.5	19
74	4	14	0.000	100	55	9.8	27
74	4	15	0.000	100	59	5.8	30
74	4	16	0.000	100	62	8.5	29
74	4	17	0.000	100	68	4.6	21
74	4	18	0.000	95	68	10.8	19
74	4	19	0.000	85	69	15.5	21
74	4	20	0.000	100	64	10.9	21
74	4	21	0.000	100	59	12.1	23
74	4	22	0.000	100	63	10.1	27
74	4	23	0.000	63	71	9.2	29
74	4	24	0.000	83	79	7.1	32
74	4	25	0.000	92	78	10.1	34
74	4	26	0.000	82	77	12.9	28
74	4	27	0.000	94	74	12.8	18
74	4	28	0.005	55	73	11.2	19
74	4	29	0.000	97	69	7.9	18
74	4	30	0.120	90	61	9.8	46
74	5	1	0.000	100	63	7.1	40
74	5	2	0.000	100	71	8.3	20
74	5	3	0.000	100	58	5.9	42
74	5	4	0.000	100	69	7.6	30
74	5	5	0.000	95	69	14.5	47
74	5	6	0.050	57	67	13.7	67
74	5	7	0.000	96	64	7.5	58
74	5	8	0.000	95	71	9.2	37
74	5	9	0.000	85	76	12.9	32
74	5	10	0.000	100	84	19.6	22
74	5	11	0.000	100	82	10.5	20
74	5	12	0.000	100	78	10.9	25
74	5	13	0.000	67	81	17.0	20
74	5	14	0.000	97	78	13.1	20
74	5	15	0.000	100	79	16.5	18
74	5	16	0.000	100	81	16.8	22
74	5	17	0.000	87	82	12.1	21
74	5	18	0.000	100	75	7.8	29
74	5	19	0.000	88	80	14.2	21
74	5	20	0.000	100	65	11.1	22
74	5	21	0.000	100	63	6.6	21
74	5	22	0.000	96	70	3.0	21
74	5	23	0.000	96	82	8.2	26
74	5	24	0.000	95	83	11.7	14
74	5	25	0.000	92	79	4.6	22

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
74	5	26	0.000	100	78	7.9	32
74	5	27	0.000	90	80	8.1	33
74	5	28	0.000	74	85	10.4	28
74	5	29	0.000	21	85	12.5	23
74	5	30	0.000	90	82	12.5	19
74	5	31	0.000	100	78	11.1	20
74	6	1	0.000	100	73	7.1	21
74	6	2	0.000	87	75	6.0	27
74	6	3	0.000	98	81	11.2	22
74	6	4	0.000	100	83	10.8	11
74	6	5	0.000	94	85	14.4	10
74	6	6	0.000	97	85	18.6	13
74	6	7	0.000	98	84	21.4	15
74	6	8	0.000	100	80	17.0	16
74	6	9	0.000	100	73	6.8	14
74	6	10	0.000	100	76	4.9	18
74	6	11	0.000	100	83	4.6	17
74	6	12	0.000	91	86	7.1	22
74	6	13	0.000	93	81	8.2	24
74	6	14	0.005	89	83	7.8	25
74	6	15	0.000	100	81	9.4	20
74	6	16	0.000	100	83	8.6	20
74	6	17	0.000	100	82	4.6	19
74	6	18	0.000	100	83	6.5	15
74	6	19	0.000	100	86	7.8	19
74	6	20	0.000	100	85	7.3	23
74	6	21	0.000	100	86	4.2	24
74	6	22	0.005	76	89	6.0	18
74	6	23	0.000	96	86	9.5	22
74	6	24	0.000	96	85	7.6	31
74	6	25	0.360	91	85	11.5	32
74	6	26	0.000	97	84	6.8	33
74	6	27	0.000	94	85	5.6	25
74	6	28	0.005	74	88	8.2	20
74	6	29	0.005	70	89	10.5	23
74	6	30	0.005	69	85	7.9	27
74	7	1	0.000	80	86	9.4	27
74	7	2	0.030	87	84	12.4	32
74	7	3	0.005	72	85	10.1	32
74	7	4	0.000	80	84	12.5	35
74	7	5	0.060	23	75	8.1	52
74	7	6	0.005	44	81	8.6	44
74	7	7	0.020	15	75	8.8	59
74	7	8	0.120	54	74	9.5	65
74	7	9	0.005	35	77	6.2	61
74	7	10	0.500	77	79	9.1	52
74	7	11	0.000	78	80	8.6	44
74	7	12	0.010	77	82	10.8	40
74	7	13	0.005	57	78	9.8	47
74	7	14	0.170	54	78	10.6	52
74	7	15	0.080	61	76	10.6	57
74	7	16	0.040	74	80	8.1	41
74	7	17	0.005	68	81	7.1	43
74	7	18	0.100	68	80	6.6	44
74	7	19	0.370	71	77	8.6	52
74	7	20	0.005	45	83	8.2	59
74	7	21	0.000	100	77	5.8	44
74	7	22	0.000	96	80	8.5	30
74	7	23	0.000	99	81	6.2	25
74	7	24	0.000	100	82	6.2	26
74	7	25	0.000	100	83	4.5	24
74	7	26	0.000	63	89	9.1	25
74	7	27	0.170	91	83	6.0	38
74	7	28	0.005	55	84	5.8	37
74	7	29	0.360	67	78	10.5	45
74	7	30	0.180	86	73	10.4	48
74	7	31	0.000	97	78	3.8	49
74	8	1	0.005	36	81	10.8	43
74	8	2	0.000	4	[illegible]	[illegible].5	43
74	8	3	0.000	[illegible]	[illegible]	[illegible].9	40
74	8	4	0.005	1	[illegible]	[illegible].3	59
74	8	5	0.020	12	[illegible]4	[illegible].8	68
74	8	6	0.005	76	78	[illegible].9	49
74	8	7	0.000	93	78	[illegible].0	45
74	8	8	0.005	54	79	9.8	43
74	8	9	0.000	73	81	7.9	43
74	8	10	0.000	87	79	10.1	36
74	8	11	0.000	87	79	7.2	31
74	8	12	0.000	96	80	4.8	38
74	8	13	0.005	88	85	9.5	32
74	8	14	0.000	84	81	7.5	37
74	8	15	0.000	84	83	7.9	39

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
74	8	16	0.000	85	81	8.6	41
74	8	17	0.000	100	79	5.5	37
74	8	18	0.005	68	81	5.5	35
74	8	19	0.005	83	82	7.6	34
74	8	20	0.000	28	82	8.9	40
74	8	21	0.070	27	75	9.1	55
74	8	22	0.005	37	73	7.1	55
74	8	23	0.005	21	59	9.6	90
74	8	24	0.470	37	68	5.8	74
74	8	25	0.005	48	68	6.0	72
74	8	26	0.040	51	73	5.5	61
74	8	27	0.010	38	71	6.3	69
74	8	28	0.000	83	71	6.0	61
74	8	29	0.020	96	75	5.9	53
74	8	30	0.000	100	75	4.6	47
74	8	31	0.000	100	78	5.6	38
74	9	1	0.000	76	81	5.5	32
74	9	2	0.000	81	78	13.4	41
74	9	3	0.000	53	69	8.3	49
74	9	4	0.000	83	72	4.9	46
74	9	5	0.000	90	78	8.1	38
74	9	6	0.030	85	82	7.5	28
74	9	7	0.005	76	80	6.8	35
74	9	8	0.250	84	77	4.9	42
74	9	9	0.000	100	77	4.2	31
74	9	10	0.000	100	80	4.9	26
74	9	11	0.000	100	83	8.1	21
74	9	12	0.000	100	78	13.5	28
74	9	13	0.005	51	68	11.2	52
74	9	14	0.005	75	65	9.4	60
74	9	15	0.010	80	69	5.6	58
74	9	16	0.730	79	68	7.2	69
74	9	17	0.060	52	68	10.4	67
74	9	18	0.240	33	64	10.1	79
74	9	19	1.050	50	64	5.6	81
74	9	20	0.160	72	68	8.8	67
74	9	21	0.510	18	62	11.4	79
74	9	22	2.260	20	53	8.8	93
74	9	23	1.060	0	52	7.3	96
74	9	24	0.320	31	57	4.5	87
74	9	25	0.005	26	62	4.2	76
74	9	26	0.000	96	65	5.5	64
74	9	27	0.000	99	71	15.5	44
74	9	28	0.000	100	67	7.8	29
74	9	29	0.000	100	66	8.2	44
74	9	30	0.000	93	66	6.0	54
74	10	1	0.000	100	68	4.3	39
74	10	2	0.000	100	64	5.9	36
74	10	3	0.000	89	66	6.9	52
74	10	4	0.000	81	74	9.5	52
74	10	5	0.010	54	73	6.5	57
74	10	6	0.010	33	73	8.3	59
74	10	7	0.000	78	67	7.6	60
74	10	8	0.000	92	70	7.1	57
74	10	9	0.000	93	72	5.6	53
74	10	10	0.000	54	74	6.2	48
74	10	11	0.500	17	67	7.3	64
74	10	12	0.420	31	62	7.5	79
74	10	13	0.210	29	58	5.9	84
74	10	14	0.000	87	56	9.5	68
74	10	15	0.000	100	52	5.0	60
74	10	16	0.000	100	56	2.0	61
74	10	17	0.000	100	61	5.0	57
74	10	18	0.000	100	63	7.8	50
74	10	19	0.000	100	63	7.8	52
74	10	20	0.000	100	62	5.8	57
74	10	21	0.000	97	61	6.5	57
74	10	22	0.020	29	65	9.1	66
74	10	23	0.450	52	60	9.4	76
74	10	24	0.000	91	61	5.9	66
74	10	25	0.000	93	62	8.9	59
74	10	26	0.005	52	63	8.9	62
74	10	27	0.000	61	63	7.2	48
74	10	28	0.000	73	60	9.2	44
74	10	29	0.005	51	62	11.9	43
74	10	30	0.280	87	52	6.8	63
74	10	31	0.000	96	52	7.8	56
74	11	1	0.000	100	54	3.9	56
74	11	2	0.000	99	56	7.6	47
74	11	3	0.005	90	50	7.2	58
74	11	4	0.000	100	46	4.6	59
74	11	5	0.000	100	50	7.2	52

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
74	11	6	0.000	77	51	8.3	65
74	11	7	0.005	9	54	6.9	65
74	11	8	0.310	0	54	4.9	87
74	11	9	0.190	2	55	5.8	90
74	11	10	0.000	100	52	4.8	58
74	11	11	0.000	100	50	6.3	56
74	11	12	0.000	100	50	4.2	60
74	11	13	0.000	97	51	5.8	60
74	11	14	0.000	95	48	5.9	57
74	11	15	0.000	100	52	6.5	58
74	11	16	0.000	50	54	6.6	38
74	11	17	0.000	8	50	3.2	60
74	11	18	0.000	56	57	7.1	51
74	11	19	0.000	100	57	9.1	51
74	11	20	0.000	71	52	8.1	46
74	11	21	0.000	100	54	6.0	52
74	11	22	0.005	26	53	7.6	78
74	11	23	0.000	85	53	11.9	46
74	11	24	0.000	100	46	4.8	47
74	11	25	0.000	100	44	5.0	40
74	11	26	0.000	100	43	3.3	43
74	11	27	0.000	100	47	2.6	40
74	11	28	0.000	100	48	5.3	39
74	11	29	0.000	100	37	6.6	42
74	11	30	0.000	100	37	2.3	49
74	12	1	0.000	74	41	4.2	48
74	12	2	0.000	45	46	2.7	49
74	12	3	0.000	100	50	3.0	44
74	12	4	0.000	79	53	6.0	50
74	12	5	0.005	73	55	15.0	50
74	12	6	0.000	100	48	9.2	51
74	12	7	0.000	100	42	2.7	57
74	12	8	0.005	0	39	15.8	63
74	12	9	0.040	0	34	9.2	85
74	12	10	0.005	91	40	9.1	63
74	12	11	0.000	95	40	4.3	46
74	12	12	0.000	85	45	5.0	37
74	12	13	0.000	100	45	6.2	43
74	12	14	0.000	96	44	9.2	29
74	12	15	0.000	100	38	6.3	36
74	12	16	0.000	100	42	4.9	36
74	12	17	0.000	93	41	5.2	41
74	12	18	0.000	95	44	7.5	32
74	12	19	0.000	77	43	7.5	38
74	12	20	0.000	100	42	2.5	38
74	12	21	0.000	100	44	4.3	41
74	12	22	0.000	98	54	11.5	29
74	12	23	0.000	100	52	11.5	29
74	12	24	0.000	90	36	9.8	32
74	12	25	0.460	0	32	8.8	55
74	12	26	0.310	62	28	4.5	96
74	12	27	0.005	0	25	3.6	96
74	12	28	0.005	81	28	7.2	88
74	12	29	0.005	88	38	5.6	79
74	12	30	0.060	42	42	8.5	80
74	12	31	0.000	94	36	10.1	73
75	1	1	0.050	0	33	11.5	76
75	1	2	0.000	95	38	8.9	71
75	1	3	0.000	100	35	6.8	60
75	1	4	0.000	100	32	4.3	62
75	1	5	0.000	100	36	6.5	53
75	1	6	0.000	100	40	6.8	52
75	1	7	0.000	84	49	12.2	41
75	1	8	0.000	100	45	7.5	55
75	1	9	0.140	39	43	25.0	57
75	1	10	0.000	84	43	22.1	38
75	1	11	0.005	71	39	14.7	50
75	1	12	0.000	100	29	10.2	42
75	1	13	0.000	100	33	2.6	47
75	1	14	0.000	100	41	3.0	43
75	1	15	0.000	100	43	3.9	43
75	1	16	0.000	93	40	6.2	56
75	1	17	0.000	100	47	6.0	45
75	1	18	0.000	100	43	6.0	48
75	1	19	0.000	100	43	7.0	47
75	1	20	0.000	100	41	5.2	46
75	1	21	0.000	94	46	12.7	42
75	1	22	0.080	10	33	10.6	82
75	1	23	0.000	81	39	6.5	68
75	1	24	0.000	100	49	10.4	51
75	1	25	0.000	100	51	9.5	46
75	1	26	0.000	100	60	9.2	28

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
75	1	27	0.010	13	53	10.4	52
75	1	28	0.000	82	54	12.1	43
75	1	29	0.040	0	52	4.2	60
75	1	30	0.170	41	58	9.9	68
75	1	31	0.210	0	50	5.2	83
75	2	1	0.005	5	51	4.8	83
75	2	2	0.380	30	51	4.8	83
75	2	3	0.200	65	53	6.3	63
75	2	4	0.000	100	47	12.8	44
75	2	5	0.000	90	48	9.2	51
75	2	6	0.000	99	44	9.4	34
75	2	7	0.000	93	45	4.5	45
75	2	8	0.000	99	59	10.5	30
75	2	9	0.000	99	54	7.6	38
75	2	10	0.000	84	59	11.9	32
75	2	11	0.000	100	50	9.5	38
75	2	12	0.000	100	49	6.8	36
75	2	13	0.000	96	51	5.2	38
75	2	14	0.000	15	56	11.1	33
75	2	15	0.000	82	59	17.7	29
75	2	16	0.000	100	48	12.2	39
75	2	17	0.000	100	45	13.7	40
75	2	18	0.000	74	43	6.9	37
75	2	19	0.000	100	41	8.6	36
75	2	20	0.000	94	54	10.4	25
75	2	21	0.010	8	44	9.4	45
75	2	22	0.005	55	33	10.4	62
75	2	23	0.000	95	36	5.2	42
75	2	24	0.000	100	42	6.8	38
75	2	25	0.000	93	50	4.2	32
75	2	26	0.000	98	52	6.3	31
75	2	27	0.000	100	54	5.9	36
75	2	28	0.000	100	57	5.5	32
75	3	1	0.000	100	57	5.0	33
75	3	2	0.000	100	59	8.2	28
75	3	3	0.000	96	54	11.5	25
75	3	4	0.000	92	53	6.3	33
75	3	5	0.000	90	58	8.5	31
75	3	6	0.005	100	64	14.0	22
75	3	7	0.000	91	60	5.0	27
75	3	8	0.000	62	60	6.9	39
75	3	9	0.000	100	55	20.9	42
75	3	10	0.000	92	54	7.2	34
75	3	11	0.000	97	56	16.4	29
75	3	12	0.070	47	47	11.4	64
75	3	13	0.000	100	46	7.9	57
75	3	14	0.000	90	51	8.3	43
75	3	15	0.000	100	48	19.8	44
75	3	16	0.000	100	50	7.9	38
75	3	17	0.000	98	53	18.0	26
75	3	18	0.000	100	53	5.3	27
75	3	19	0.000	96	57	6.3	31
75	3	20	0.000	96	65	10.2	22
75	3	21	0.000	80	71	15.7	18
75	3	22	0.000	93	66	17.5	19
75	3	23	0.000	100	55	25.2	28
75	3	24	0.000	100	57	8.5	22
75	3	25	0.000	100	63	11.4	20
75	3	26	0.005	90	59	22.4	23
75	3	27	0.000	90	49	16.1	36
75	3	28	0.005	75	46	13.1	49
75	3	29	0.100	19	72	7.9	71
75	3	30	0.000	98	47	6.0	51
75	3	31	0.000	100	54	14.7	37
75	4	1	0.000	100	57	16.7	27
75	4	2	0.000	100	51	9.8	25
75	4	3	0.000	98	54	5.9	26
75	4	4	0.000	100	60	8.3	21
75	4	5	0.000	79	59	4.9	20
75	4	6	0.000	3	60	9.8	31
75	4	7	0.005	77	49	19.8	41
75	4	8	0.000	80	48	13.5	34
75	4	9	0.000	6	52	6.0	32
75	4	10	0.005	95	53	11.1	38
75	4	11	0.000	100	55	12.2	52
75	4	12	0.000	67	62	12.4	37
75	4	13	0.000	99	56	11.4	33
75	4	14	0.000	100	57	8.1	28
75	4	15	0.000	100	62	4.8	22
75	4	16	0.000	73	74	13.5	23
75	4	17	0.000	92	69	17.4	22
75	4	18	0.000	99	54	22.1	32

TABLE H 1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
75	4	19	0.000	100	53	4.3	30
75	4	20	0.000	100	59	5.5	20
75	4	21	0.000	96	65	5.5	22
75	4	22	0.000	87	73	8.3	19
75	4	23	0.000	100	66	7.6	16
75	4	24	0.000	100	63	7.9	20
75	4	25	0.000	89	69	7.1	18
75	4	26	0.000	56	74	10.4	18
75	4	27	0.000	100	61	15.4	19
75	4	28	0.000	100	56	7.3	20
75	4	29	0.000	100	64	10.2	15
75	4	30	0.000	100	62	5.5	18
75	5	1	0.000	100	65	8.5	20
75	5	2	0.000	96	65	6.2	17
75	5	3	0.000	100	68	4.3	16
75	5	4	0.000	100	69	13.7	15
75	5	5	0.000	100	71	20.1	15
75	5	6	0.000	100	62	8.6	18
75	5	7	0.000	100	61	6.2	16
75	5	8	0.000	100	62	2.6	17
75	5	9	0.000	100	66	4.5	19
75	5	10	0.010	68	72	7.9	43
75	5	11	0.000	100	66	4.5	50
75	5	12	0.000	100	75	8.6	33
75	5	13	0.000	100	73	9.5	20
75	5	14	0.000	100	72	5.3	26
75	5	15	0.000	100	73	9.9	26
75	5	16	0.020	70	74	7.9	31
75	5	17	0.000	98	74	7.8	40
75	5	18	0.000	96	75	8.6	28
75	5	19	0.005	93	72	6.9	26
75	5	20	0.000	100	76	18.1	15
75	5	21	0.000	98	76	14.0	15
75	5	22	0.000	96	70	8.2	21
75	5	23	0.000	95	64	4.8	20
75	5	24	0.000	100	67	4.2	19
75	5	25	0.000	100	71	4.5	20
75	5	26	0.000	100	72	5.3	23
75	5	27	0.000	100	76	11.4	33
75	5	28	0.000	99	78	15.0	15
75	5	29	0.005	87	70	9.4	32

YR	MO	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. F	MEAN WIND SPEED mph	REL. HUMID. (%)
75	5	30	0.000	95	63	7.9	46
75	5	31	0.000	100	69	5.6	32
75	6	1	0.000	100	77	6.6	21
75	6	2	0.000	100	79	6.8	20
75	6	3	0.000	96	87	11.5	19
75	6	4	0.000	100	82	8.8	16
75	6	5	0.000	100	77	5.2	15
75	6	6	0.000	100	80	10.5	18
75	6	7	0.005	90	82	8.8	28
75	6	8	0.000	98	77	7.8	28
75	6	9	0.000	99	77	7.6	25
75	6	10	0.000	100	82	11.5	23
75	6	11	0.000	100	74	8.2	32
75	6	12	0.000	98	78	5.8	33
75	6	13	0.000	98	83	5.0	27
75	6	14	0.000	100	83	12.2	17
75	6	15	0.000	100	88	10.4	13
75	6	16	0.000	100	89	17.4	9
75	6	17	0.000	100	89	18.8	12
75	6	18	0.000	100	85	17.3	18
75	6	19	0.000	100	80	8.8	28
75	6	20	0.000	100	78	9.8	28
75	6	21	0.000	98	79	8.8	25
75	6	22	0.000	100	75	5.8	24
75	6	23	0.000	100	81	8.5	37
75	6	24	0.000	99	83	8.6	43
75	6	25	0.000	100	85	8.2	23
75	6	26	0.000	100	75	7.1	18
75	6	27	0.000	100	81	4.0	25
75	6	28	0.000	99	82	7.1	29
75	6	29	0.000	100	80	7.6	40
75	6	30	0.000	99	81	8.2	44
75	7	1	0.000	100	80	8.1	46
75	7	2	0.000	98	80	8.3	40
75	7	3	0.005	81	79	7.3	49
75	7	4	0.080	87	80	9.6	54
75	7	5	0.000	96	79	7.3	51
75	7	6	0.040	85	80	7.6	58
75	7	7	0.050	86	77	5.3	61
75	7	8	0.720	89	78	8.9	62
75	7	9	0.000	100	80	6.0	44

TABLE H 1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
75	7	10	0.005	80	85	7.2	41
75	7	11	0.110	38	79	6.8	47
75	7	12	0.005	47	74	8.3	75
75	7	13	0.000	95	76	6.2	55
75	7	14	0.005	96	78	5.3	50
75	7	15	0.000	96	81	7.1	39
75	7	16	0.000	100	80	9.9	47
75	7	17	0.050	84	77	6.0	41
75	7	18	0.000	46	81	6.2	49
75	7	19	0.000	84	84	9.8	39
75	7	20	0.005	89	83	8.3	45
75	7	21	0.005	40	81	6.6	54
75	7	22	0.000	63	83	8.6	49
75	7	23	0.050	83	85	8.5	44
75	7	24	0.005	89	81	6.6	49
75	7	25	0.000	99	78	8.2	44
75	7	26	0.010	84	77	6.2	54
75	7	27	0.005	94	79	5.3	49
75	7	28	0.005	100	81	5.8	44
75	7	29	0.005	71	78	7.3	52
75	7	30	0.000	98	84	6.2	38
75	7	31	0.000	100	85	6.6	31
75	8	1	0.000	98	86	5.9	33
75	8	2	0.030	83	84	8.1	42
75	8	3	0.005	82	82	6.8	49
75	8	4	0.005	90	81	7.6	46
75	8	5	0.000	100	81	8.3	36
75	8	6	0.000	100	79	8.1	31
75	8	7	0.000	100	77	5.5	32
75	8	8	0.000	97	80	5.6	30
75	8	9	0.005	100	82	8.5	26
75	8	10	0.000	100	76	7.1	28
75	8	11	0.000	96	77	6.3	34
75	8	12	0.040	41	78	7.1	44
75	8	13	0.000	79	81	8.5	43
75	8	14	0.010	39	81	7.8	44
75	8	15	0.260	70	83	5.5	48
75	8	16	0.000	91	80	5.8	51
75	8	17	0.000	95	82	6.6	45
75	8	18	0.000	94	82	6.0	40
75	8	19	0.060	63	82	7.5	42
75	8	20	0.020	44	76	5.9	63
75	8	21	0.010	63	81	5.2	49
75	8	22	0.020	88	80	9.8	37
75	8	23	0.000	87	82	5.6	40
75	8	24	0.000	88	83	5.9	38
75	8	25	0.000	66	89	6.8	26
75	8	26	0.000	91	85	9.5	37
75	8	27	0.005	95	78	10.1	56
75	8	28	0.000	96	81	6.6	53
75	8	29	0.000	98	82	5.5	43
75	8	30	0.000	100	83	6.0	34
75	8	31	0.000	100	81	5.2	37
75	9	1	0.005	98	80	4.9	40
75	9	2	0.000	100	81	6.9	41
75	9	3	0.040	87	80	10.1	54
75	9	4	0.000	96	78	9.2	54
75	9	5	0.005	58	76	7.9	52
75	9	6	0.080	13	77	9.9	54
75	9	7	0.000	66	80	9.8	46
75	9	8	0.005	57	78	6.3	52
75	9	9	0.005	78	82	5.8	46
75	9	10	0.000	100	81	7.1	49
75	9	11	0.320	68	80	9.9	52
75	9	12	1.590	31	61	11.7	76
75	9	13	0.030	8	60	6.6	76
75	9	14	0.010	43	67	4.0	76
75	9	15	0.000	99	72	3.7	65
75	9	16	0.000	100	75	5.0	50
75	9	17	0.000	99	76	9.2	44
75	9	18	0.000	100	80	10.4	44
75	9	19	0.005	100	76	4.3	54
75	9	20	0.010	96	76	5.3	57
75	9	21	0.005	50	66	13.4	62
75	9	22	0.000	100	62	6.9	44
75	9	23	0.000	100	60	5.2	44
75	9	24	0.000	100	63	6.2	36
75	9	25	0.000	100	64	5.6	40
75	9	26	0.000	100	64	5.0	34
75	9	27	0.000	100	68	6.8	28
75	9	28	0.000	100	68	5.2	30
75	9	29	0.000	93	70	5.5	28

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
75	9	30	0.000	75	68	7.3	31
75	10	1	0.000	94	66	10.6	44
75	10	2	0.000	100	63	7.2	45
75	10	3	0.000	100	62	2.9	38
75	10	4	0.000	100	64	5.5	37
75	10	5	0.000	100	68	5.6	30
75	10	6	0.000	100	68	4.3	29
75	10	7	0.000	100	67	12.4	31
75	10	8	0.000	100	68	7.3	38
75	10	9	0.000	100	65	4.2	42
75	10	10	0.000	100	69	5.3	32
75	10	11	0.000	100	70	4.0	31
75	10	12	0.000	100	73	9.5	28
75	10	13	0.000	97	69	9.5	32
75	10	14	0.000	100	61	6.3	31
75	10	15	0.000	100	60	8.8	26
75	10	16	0.000	100	59	5.6	31
75	10	17	0.000	100	60	5.8	29
75	10	18	0.000	100	63	4.0	29
75	10	19	0.000	90	65	4.5	29
75	10	20	0.020	64	68	8.3	33
75	10	21	0.230	31	63	7.8	66
75	10	22	0.000	98	62	10.4	57
75	10	23	0.000	100	68	14.1	34
75	10	24	0.005	100	62	8.3	38
75	10	25	0.000	100	57	7.8	40
75	10	26	0.000	100	61	6.3	40
75	10	27	0.000	100	60	6.5	29
75	10	28	0.000	100	60	4.6	33
75	10	29	0.000	100	61	7.3	44
75	10	30	0.000	100	61	7.3	44
75	10	31	0.000	100	57	10.4	44
75	11	1	0.005	73	58	8.5	36
75	11	2	0.000	100	58	5.8	36
75	11	3	0.000	100	56	2.6	39
75	11	4	0.000	100	59	4.5	32
75	11	5	0.000	100	60	3.5	31
75	11	6	0.000	100	60	8.2	28
75	11	7	0.000	100	66	7.9	21
75	11	8	0.000	100	63	9.8	25
75	11	9	0.000	100	62	9.9	25
75	11	10	0.000	100	58	6.5	31
75	11	11	0.000	100	61	7.2	20
75	11	12	0.000	100	49	9.2	22
75	11	13	0.000	100	44	5.3	29
75	11	14	0.000	100	52	5.3	23
75	11	15	0.000	88	52	3.3	24
75	11	16	0.000	100	53	3.2	22
75	11	17	0.000	100	54	3.7	21
75	11	18	0.005	85	59	10.1	31
75	11	19	0.005	91	50	13.5	35
75	11	20	0.000	100	42	1.9	45
75	11	21	0.000	100	45	5.6	35
75	11	22	0.000	100	38	4.8	36
75	11	23	0.000	46	41	3.7	38
75	11	24	0.000	100	40	4.5	38
75	11	25	0.000	85	49	14.5	27
75	11	26	0.000	96	36	4.6	32
75	11	27	0.000	100	49	10.1	24
75	11	28	0.005	20	54	10.6	36
75	11	29	0.000	66	47	19.7	51
75	11	30	0.000	100	37	6.2	33
75	12	1	0.000	100	[illegible]	[illegible].2	33
75	12	2	0.000	100	[illegible]	[illegible].5	32
75	12	3	0.000	100	[illegible]	[illegible].5	36
75	12	4	0.000	100	49	[illegible].5	31
75	12	5	0.000	100	52	[illegible].3	28
75	12	6	0.000	99	46	[illegible].7	40
75	12	7	0.000	100	45	4.8	40
75	12	8	0.000	100	46	3.7	34
75	12	9	0.000	100	48	2.5	37
75	12	10	0.000	100	48	2.9	32
75	12	11	0.000	92	51	3.9	25
75	12	12	0.000	100	48	3.9	26
75	12	13	0.000	86	52	16.1	25
75	12	14	0.000	96	50	9.9	30
75	12	15	0.000	94	39	6.5	32
75	12	16	0.000	97	38	3.7	29
75	12	17	0.000	100	44	4.2	29
75	12	18	0.000	86	38	6.9	40
75	12	19	0.000	97	41	3.9	39
75	12	20	0.000	52	45	5.8	31

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
75	12	21	0.200	0	46	4.2	64
75	12	22	0.020	61	50	5.0	70
75	12	23	0.490	0	41	6.5	83
75	12	24	0.005	40	42	5.2	69
75	12	25	0.000	91	39	4.2	63
75	12	26	0.000	97	42	5.8	54
75	12	27	0.000	65	43	4.8	59
75	12	28	0.000	44	42	9.6	52
75	12	29	0.000	95	36	5.0	47
75	12	30	0.000	100	36	7.2	47
75	12	31	0.005	100	49	19.3	31
76	1	1	0.030	1	36	6.8	63
76	1	2	0.100	61	31	4.0	73
76	1	3	0.000	100	30	2.3	62
76	1	4	0.000	85	35	6.0	55
76	1	5	0.000	100	37	5.6	54
76	1	6	0.000	93	48	18.8	36
76	1	7	0.000	100	38	8.1	33
76	1	8	0.000	100	36	3.2	42
76	1	9	0.000	94	40	3.5	38
76	1	10	0.000	87	48	8.6	33
76	1	11	0.000	100	44	4.8	35
76	1	12	0.000	100	44	5.3	37
76	1	13	0.000	100	52	9.5	23
76	1	14	0.000	100	45	4.9	38
76	1	15	0.000	100	45	4.2	38
76	1	16	0.000	100	46	6.2	40
76	1	17	0.000	100	46	2.9	42
76	1	18	0.000	96	47	5.2	40
76	1	19	0.000	58	42	11.4	48
76	1	20	0.000	59	41	5.8	39
76	1	21	0.000	73	41	5.6	48
76	1	22	0.000	97	46	4.6	47
76	1	23	0.120	44	48	5.8	64
76	1	24	0.010	83	53	15.1	63
76	1	25	0.005	100	47	8.8	42
76	1	26	0.005	100	37	6.6	39
76	1	27	0.000	97	36	4.2	45
76	1	28	0.000	100	40	3.6	38
76	1	29	0.000	100	46	3.5	33
76	1	30	0.000	100	47	6.3	33
76	1	31	0.000	100	46	5.9	34
76	2	1	0.000	100	45	3.0	34
76	2	2	0.000	100	46	6.0	31
76	2	3	0.000	96	53	13.1	27
76	2	4	0.280	34	52	10.4	52
76	2	5	0.000	84	51	7.6	62
76	2	6	0.000	95	52	2.6	56
76	2	7	0.000	100	53	3.3	48
76	2	8	0.000	96	56	4.8	45
76	2	9	0.005	21	60	9.4	41
76	2	10	0.005	0	58	9.9	49
76	2	11	0.210	60	56	9.5	45
76	2	12	0.030	76	57	4.5	70
76	2	13	0.000	94	64	9.2	50
76	2	14	0.000	100	56	8.6	31
76	2	15	0.000	100	53	10.8	31
76	2	16	0.000	100	48	7.9	37
76	2	17	0.000	100	54	14.4	30
76	2	18	0.000	100	53	7.8	29
76	2	19	0.000	100	55	10.9	27
76	2	20	0.000	100	54	22.9	18
76	2	21	0.000	100	40	6.5	28
76	2	22	0.000	100	38	5.2	25
76	2	23	0.000	96	43	7.2	18
76	2	24	0.000	94	54	6.6	16
76	2	25	0.000	100	52	7.3	18
76	2	26	0.000	100	50	5.2	21
76	2	27	0.000	83	55	5.8	18
76	2	28	0.000	92	59	7.1	19
76	2	29	0.000	100	65	11.4	14
76	3	1	0.000	100	65	15.4	18
76	3	2	0.000	60	65	16.7	21
76	3	3	0.000	95	65	21.0	20
76	3	4	0.005	100	47	20.0	28
76	3	5	0.000	95	44	7.1	25
76	3	6	0.000	79	56	9.5	20
76	3	7	0.000	93	53	9.9	31
76	3	8	0.000	94	52	9.9	32
76	3	9	0.000	96	51	3.7	29
76	3	10	0.005	63	56	8.5	31
76	3	11	0.000	93	56	16.3	33

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
76	3	12	0.000	100	51	6.2	36
76	3	13	0.000	95	45	6.5	31
76	3	14	0.000	100	49	4.5	29
76	3	15	0.000	89	51	13.5	22
76	3	16	0.000	100	51	5.6	27
76	3	17	0.000	64	55	5.5	22
76	3	18	0.000	97	51	9.8	23
76	3	19	0.000	98	69	18.8	11
76	3	20	0.000	98	61	10.2	14
76	3	21	0.000	100	57	9.4	13
76	3	22	0.000	100	62	11.8	12
76	3	23	0.000	89	61	6.3	30
76	3	24	0.000	100	61	6.9	18
76	3	25	0.000	97	62	16.3	17
76	3	26	0.000	100	56	15.4	14
76	3	27	0.000	80	58	6.6	21
76	3	28	0.005	91	60	21.0	30
76	3	29	0.005	97	55	21.8	40
76	3	30	0.005	93	46	9.1	39
76	3	31	0.000	100	50	4.8	24
76	4	1	0.000	95	57	5.5	17
76	4	2	0.000	65	62	4.0	19
76	4	3	0.000	88	61	5.0	23
76	4	4	0.010	81	65	5.9	36
76	4	5	0.000	97	63	10.6	40
76	4	6	0.000	86	61	9.6	24
76	4	7	0.000	100	62	9.1	21
76	4	8	0.000	78	61	8.9	27
76	4	9	0.000	58	65	7.2	40
76	4	10	0.000	98	67	5.9	32
76	4	11	0.000	90	69	7.1	24
76	4	12	0.000	97	70	11.4	33
76	4	13	0.000	99	68	6.5	27
76	4	14	0.020	32	69	12.7	30
76	4	15	0.370	37	52	17.7	60
76	4	16	0.005	88	53	14.0	46
76	4	17	0.005	76	47	13.1	49
76	4	18	0.000	97	53	6.9	41
76	4	19	0.000	100	62	14.4	29
76	4	20	0.000	100	60	5.8	27
76	4	21	0.000	94	65	6.6	24
76	4	22	0.000	91	73	8.5	18
76	4	23	0.000	58	74	13.5	19
76	4	24	0.000	100	65	5.3	28
76	4	25	0.000	77	70	7.8	23
76	4	26	0.000	100	75	14.4	15
76	4	27	0.000	66	75	12.8	24
76	4	28	0.000	89	71	7.2	22
76	4	29	0.005	87	69	9.2	49
76	4	30	0.005	96	66	8.6	45
76	5	1	0.005	100	59	7.3	38
76	5	2	0.000	100	63	8.5	25
76	5	3	0.005	52	68	9.1	30
76	5	4	0.410	1	68	10.1	56
76	5	6	0.240	74	65	10.0	58
76	5	7	0.000	90	58	14.5	70
76	5	8	0.000	57	59	13.5	63
76	5	9	0.000	85	64	4.6	56
76	5	10	0.000	100	68	6.6	39
76	5	11	0.005	65	75	7.3	35
76	5	12	0.000	90	77	10.2	29
76	5	13	0.000	100	67	4.8	26
76	5	14	0.000	100	72	6.8	20
76	5	15	0.000	100	79	14.5	16
76	5	16	0.000	96	72	11.1	37
76	5	17	0.000	79	70	14.1	47
76	5	18	0.000	78	64	9.5	66
76	5	19	0.080	45	65	6.5	74
76	5	20	0.005	81	70	9.6	55
76	5	21	0.005	94	72	8.8	37
76	5	22	0.000	100	72	9.2	22
76	5	23	0.000	100	71	8.8	18
76	5	24	0.000	82	75	12.8	15
76	5	25	0.000	88	76	15.2	12
76	5	26	0.000	100	78	12.1	15
76	5	27	0.000	100	71	6.9	33
76	5	28	0.000	100	76	9.5	19
76	5	29	0.000	100	75	15.8	14
76	5	30	0.000	100	73	12.1	17
76	5	31	0.000	100	73	8.5	15
76	6	1	0.000	100	73	4.6	20
76	6	2	0.000	96	79	6.3	25

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
76	6	3	0.180	90	80	13.5	36
76	6	4	0.140	90	76	7.5	45
76	6	5	0.070	86	77	9.4	44
76	6	6	0.080	88	75	14.0	47
76	6	7	0.000	90	74	11.8	53
76	6	8	0.000	97	76	5.9	44
76	6	9	0.000	100	79	6.6	37
76	6	10	0.000	100	82	10.8	23
76	6	11	0.000	96	84	15.7	14
76	6	12	0.000	100	76	8.2	16
76	6	13	0.000	84	76	7.8	27
76	6	14	0.000	97	80	11.8	18
76	6	15	0.000	97	80	8.8	12
76	6	16	0.000	100	78	6.6	25
76	6	17	0.000	98	86	14.8	19
76	6	18	0.000	100	83	8.5	20
76	6	19	0.000	100	80	7.1	41
76	6	20	0.000	97	84	6.8	37
76	6	21	0.000	90	88	12.4	22
76	6	22	0.030	82	89	14.2	25
76	6	23	0.000	100	84	14.8	23
76	6	24	0.000	100	77	8.8	15
76	6	25	0.000	100	77	11.1	25
76	6	26	0.000	100	78	6.9	33
76	6	27	0.000	92	78	7.9	45
76	6	28	0.000	100	78	6.9	44
76	6	29	0.005	92	81	7.6	36
76	6	30	0.005	80	81	9.5	43
76	7	1	0.120	79	82	6.5	49
76	7	2	0.000	82	81	5.5	48
76	7	3	0.000	100	84	8.1	38
76	7	4	0.600	88	82	8.3	40
76	7	5	0.020	72	79	8.2	41
76	7	6	0.370	80	77	7.6	50
76	7	7	0.000	96	77	7.6	42
76	7	8	0.000	100	78	8.3	37
76	7	9	0.000	100	81	6.9	40
76	7	10	0.000	95	83	7.8	42
76	7	11	0.070	77	81	7.5	53
76	7	12	0.190	45	75	4.5	70
76	7	13	0.010	50	79	8.3	58
76	7	14	0.000	46	81	6.8	54
76	7	15	1.510	43	73	6.2	82
76	7	16	0.040	57	79	10.2	62
76	7	17	0.000	78	78	7.1	60
76	7	18	0.000	96	78	5.8	60
76	7	19	0.000	53	81	7.8	41
76	7	20	0.005	43	79	9.9	62
76	7	21	0.240	38	75	6.9	68
76	7	22	0.000	91	74	6.0	61
76	7	23	0.005	78	76	8.2	59
76	7	24	0.000	50	74	8.2	65
76	7	25	0.000	91	78	6.9	54
76	7	26	0.005	80	75	6.2	57
76	7	27	0.000	83	78	4.6	54
76	7	28	0.005	97	[illegible]	[illegible].9	54
76	7	29	0.005	99	[illegible]	[illegible].8	54
76	7	30	0.005	94	[illegible]	[illegible].2	54
76	7	31	0.000	87	81	10.9	44
76	8	1	0.005	3	76	9.1	50
76	8	2	0.000	83	78	6.8	52
76	8	3	0.000	98	78	6.8	50
76	8	4	0.005	84	81	5.8	48
76	8	5	0.000	100	84	5.2	31
76	8	6	0.000	89	80	5.8	33
76	8	7	0.000	87	81	7.3	30
76	8	8	0.010	95	80	7.3	38
76	8	9	0.010	95	78	5.0	44
76	8	10	0.020	78	82	6.8	40
76	8	11	0.000	100	81	5.2	40
76	8	12	0.000	82	81	7.5	32
76	8	13	0.005	73	81	6.8	34
76	8	14	0.000	87	85	5.6	26
76	8	15	0.000	81	84	8.6	30
76	8	16	0.080	88	78	9.1	42
76	8	17	0.010	70	77	4.8	59
76	8	18	0.000	56	74	7.5	65
76	8	19	0.005	56	75	8.5	59
76	8	20	0.000	84	77	6.8	47
76	8	21	0.000	77	78	4.9	41
76	8	22	0.000	85	80	7.3	37
76	8	23	0.000	84	77	3.7	33

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
76	8	24	0.000	84	80	5.3	35
76	8	25	0.005	80	78	7.5	34
76	8	26	0.000	88	78	4.9	37
76	8	27	0.005	57	78	5.6	37
76	8	28	0.005	85	78	8.5	45
76	8	29	0.000	86	74	10.1	53
76	8	30	0.000	78	74	6.8	52
76	8	31	0.010	74	76	8.9	54
76	9	1	0.010	37	73	7.2	55
76	9	2	0.000	28	71	8.1	61
76	9	3	0.000	100	72	2.6	61
76	9	4	0.000	55	77	5.0	52
76	9	5	0.570	20	68	6.3	82
76	9	6	0.005	56	72	6.5	72
76	9	7	0.000	100	73	4.0	63
76	9	8	0.480	67	78	6.8	58
76	9	9	0.040	12	64	12.1	81
76	9	10	0.000	52	67	7.1	71
76	9	11	0.000	96	73	3.5	63
76	9	12	0.000	100	74	6.6	43
76	9	13	0.000	98	73	3.7	46
76	9	14	0.420	35	74	7.2	50
76	9	15	0.000	91	72	6.8	67
76	9	16	0.000	81	73	5.6	65
76	9	17	0.000	38	75	7.6	57
76	9	18	0.000	96	71	3.5	57
76	9	19	0.000	100	73	4.3	46
76	9	20	0.000	88	72	8.6	53
76	9	21	0.000	94	59	5.5	81
76	9	22	0.000	100	58	3.9	76
76	9	23	0.000	72	72	8.3	53
76	9	24	0.050	25	73	8.5	65
76	9	25	0.000	61	70	10.5	63
76	9	26	0.120	79	68	8.3	56
76	9	27	0.005	89	65	8.2	60
76	9	28	0.000	93	60	6.3	64
76	9	29	0.000	100	64	5.8	52
76	9	30	0.000	94	68	6.8	37
76	10	1	0.400	33	67	8.1	50
76	10	2	0.040	84	68	10.5	69
76	10	3	0.000	97	71	10.4	46
76	10	4	0.000	99	67	8.5	41
76	10	5	0.000	100	64	6.2	50
76	10	6	0.000	95	68	6.2	41
76	10	7	0.000	86	54	13.1	40
76	10	8	0.000	100	50	3.2	46
76	10	9	0.000	100	58	5.3	35
76	10	10	0.000	100	59	2.7	35
76	10	11	0.000	100	60	4.2	34
76	10	12	0.000	100	62	3.0	30
76	10	13	0.005	28	67	8.9	39
76	10	14	0.190	57	62	6.2	66
76	10	15	0.000	87	62	8.5	53
76	10	16	0.000	100	58	3.6	49
76	10	17	0.000	97	61	4.6	46
76	10	18	0.000	90	63	7.5	37
76	10	19	0.000	100	53	5.9	34
76	10	20	0.000	66	53	5.5	33
76	10	21	0.020	40	60	3.6	41
76	10	22	0.000	89	60	6.9	59
76	10	23	0.000	84	61	5.9	48
76	10	24	0.050	16	59	9.2	51
76	10	25	0.000	100	56	6.5	51
76	10	26	0.000	95	62	7.8	33
76	10	27	0.040	0	47	16.3	49
76	10	28	0.450	0	38	9.6	89
76	10	29	0.010	82	46	5.5	69
76	10	30	0.000	100	49	2.2	64
76	10	31	0.000	100	54	5.3	54
76	11	1	0.000	99	54	3.9	56
76	11	2	0.000	100	55	4.6	49
76	11	3	0.000	97	56	5.9	43
76	11	4	0.000	100	54	5.0	52
76	11	5	0.000	100	51	4.3	56
76	11	6	0.000	100	55	4.0	43
76	11	7	0.000	100	54	9.5	42
76	11	8	0.000	100	52	3.0	48
76	11	9	0.000	100	54	2.9	45
76	11	10	0.000	100	55	5.5	39
76	11	11	0.000	99	55	6.0	36
76	11	12	0.290	0	34	11.9	76
76	11	13	0.410	1	23	5.6	88

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
76	11	14	0.005	38	25	2.9	82
76	11	15	0.000	30	37	4.8	73
76	11	16	0.000	53	41	6.0	66
76	11	17	0.005	15	42	8.1	61
76	11	18	0.005	21	47	6.0	75
76	11	19	0.000	52	50	5.9	75
76	11	20	0.000	100	51	3.5	62
76	11	21	0.000	100	47	6.8	60
76	11	22	0.000	100	47	4.5	62
76	11	23	0.000	97	53	7.9	52
76	11	24	0.000	74	48	3.8	60
76	11	25	0.000	94	53	8.8	54
76	11	26	0.000	100	57	13.7	37
76	11	27	0.320	48	37	12.4	60
76	11	28	0.180	74	16	8.2	77
76	11	29	0.005	100	17	3.5	71
76	11	30	0.000	100	26	3.0	69
76	12	1	0.000	96	32	6.8	67
76	12	2	0.000	100	36	3.0	60
76	12	3	0.000	100	37	1.6	63
76	12	4	0.000	100	41	2.3	56
76	12	5	0.000	98	45	4.5	55
76	12	6	0.005	94	42	5.5	57
76	12	7	0.000	100	38	4.2	50
76	12	8	0.000	100	42	1.2	46
76	12	9	0.000	63	44	1.3	47
76	12	10	0.000	80	49	3.3	41
76	12	11	0.170	39	39	2.7	80
76	12	12	0.005	83	47	6.3	57
76	12	13	0.000	72	42	7.6	59
76	12	14	0.000	88	41	3.7	66
76	12	15	0.000	87	42	3.7	59
76	12	16	0.000	100	44	5.3	40
76	12	17	0.130	4	37	3.9	73
76	12	18	0.000	49	44	4.2	77
76	12	19	0.010	45	45	5.2	74
76	12	20	0.000	91	45	9.4	35
76	12	21	0.000	83	40	2.5	42
76	12	22	0.000	100	41	5.6	43
76	12	23	0.000	97	41	2.6	43
76	12	24	0.000	89	44	7.5	45
76	12	25	0.000	94	41	7.5	33
76	12	26	0.000	45	36	3.3	42
76	12	27	0.000	91	40	6.3	38
76	12	28	0.000	81	46	5.0	28
76	12	29	0.010	14	46	6.2	34
76	12	30	0.005	45	52	7.3	58
76	12	31	0.000	97	48	6.6	51
77	1	1	0.005	34	50	7.6	52
77	1	2	0.000	100	48	8.9	47
77	1	3	0.000	83	48	14.6	51
77	1	4	0.000	87	51	9.6	48
77	1	5	0.000	2	42	6.0	54
77	1	6	0.000	96	38	4.5	56
77	1	7	0.000	75	42	5.3	48
77	1	8	0.050	61	47	14.1	51
77	1	9	0.050	80	36	12.8	53
77	1	10	0.000	100	34	3.3	45
77	1	11	0.000	91	38	6.5	40
77	1	12	0.070	62	42	6.2	61
77	1	13	0.005	62	43	6.2	69
77	1	14	0.000	97	42	6.5	57
77	1	15	0.000	100	42	5.2	39
77	1	16	0.000	91	38	5.9	52
77	1	17	0.000	94	42	5.8	38
77	1	18	0.000	100	43	5.5	43
77	1	19	0.000	81	44	4.9	43
77	1	20	0.005	47	46	4.8	49
77	1	21	0.310	3	51	7.3	54
77	1	22	0.010	28	49	4.0	75
77	1	23	0.060	96	52	8.2	63
77	1	24	0.000	94	48	5.2	53
77	1	25	0.000	78	45	3.3	59
77	1	26	0.000	85	57	12.4	44
77	1	27	0.000	45	56	12.7	42
77	1	28	0.000	96	48	5.9	44
77	1	29	0.005	27	48	5.0	46
77	1	30	0.020	2	42	6.1	66
77	1	31	0.000	100	39	4.6	58
77	2	1	0.000	100	45	4.2	51
77	2	2	0.005	32	50	10.4	50
77	2	3	0.000	92	44	7.3	53

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
77	2	4	0.000	100	44	5.5	45
77	2	5	0.005	45	42	7.8	52
77	2	6	0.000	91	45	5.9	53
77	2	7	0.005	42	46	5.6	51
77	2	8	0.000	100	43	4.2	48
77	2	9	0.000	95	45	5.8	47
77	2	10	0.005	90	47	8.3	45
77	2	11	0.000	100	48	8.5	44
77	2	12	0.000	99	48	8.8	32
77	2	13	0.000	100	46	5.8	34
77	2	14	0.000	100	44	8.9	41
77	2	15	0.000	99	43	5.9	47
77	2	16	0.000	100	48	6.5	34
77	2	17	0.000	100	51	8.6	27
77	2	18	0.000	100	53	5.9	24
77	2	19	0.000	100	51	6.8	25
77	2	20	0.000	97	50	2.5	28
77	2	21	0.000	92	50	7.6	23
77	2	22	0.000	89	65	28.0	16
77	2	23	0.000	100	50	19.1	21
77	2	24	0.000	83	61	17.8	21
77	2	25	0.005	75	47	17.7	32
77	2	26	0.000	100	39	9.9	25
77	2	27	0.000	100	41	7.8	21
77	2	28	0.000	100	42	7.1	19
77	3	1	0.000	74	48	11.4	20
77	3	2	0.000	100	46	16.0	20
77	3	3	0.000	96	40	9.9	22
77	3	4	0.000	95	39	7.3	23
77	3	5	0.000	95	36	10.9	47
77	3	6	0.000	100	36	3.9	44
77	3	7	0.000	97	42	3.9	26
77	3	8	0.000	91	46	2.7	23
77	3	9	0.000	54	58	11.5	23
77	3	10	0.000	93	53	26.9	19
77	3	11	0.000	100	46	13.2	23
77	3	12	0.000	100	46	7.3	23
77	3	13	0.000	100	50	8.8	21
77	3	14	0.000	100	57	11.9	14
77	3	15	0.000	82	50	3.3	20
77	3	16	0.005	49	57	5.6	26
77	3	17	0.000	95	60	21.7	16
77	3	18	0.000	80	45	9.5	28
77	3	19	0.000	100	49	7.9	19
77	3	20	0.000	97	50	11.7	16
77	3	21	0.000	100	57	7.3	17
77	3	22	0.000	100	54	7.1	23
77	3	23	0.000	96	56	10.4	23
77	3	24	0.000	100	60	11.9	17
77	3	25	0.000	70	57	12.2	20
77	3	26	0.170	54	50	14.4	54
77	3	27	0.005	89	42	15.0	61
77	3	28	0.000	99	52	15.7	38
77	3	29	0.000	100	53	14.8	28
77	3	30	0.000	100	51	5.0	29
77	3	31	0.000	99	60	11.7	24
77	4	1	0.000	98	57	17.1	24
77	4	2	0.000	100	[illegible]	[illegible].0	24
77	4	3	0.005	100	[illegible]	[illegible].1	31
77	4	4	0.000	100	[illegible]	[illegible].2	25
77	4	5	0.000	100	[illegible]	[illegible].3	22
77	4	6	0.000	100	56	5.6	21
77	4	7	0.000	100	61	4.8	21
77	4	8	0.000	100	68	3.6	18
77	4	9	0.000	79	70	10.9	22
77	4	10	0.000	98	70	11.4	22
77	4	11	0.000	100	64	10.2	16
77	4	12	0.000	100	58	6.8	20
77	4	13	0.010	78	57	6.9	55
77	4	14	0.070	20	56	8.6	63
77	4	15	0.005	89	58	12.1	36
77	4	16	0.000	96	59	6.6	38
77	4	17	0.000	100	65	9.2	24
77	4	18	0.000	96	69	9.2	21
77	4	19	0.010	87	64	12.8	40
77	4	20	0.005	80	59	11.4	36
77	4	21	0.000	100	54	5.6	38
77	4	22	0.000	94	61	4.8	29
77	4	23	0.000	24	66	9.2	27
77	4	24	0.005	53	63	9.1	56
77	4	25	0.005	73	65	8.8	43
77	4	26	0.005	83	68	8.8	42

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
77	4	27	0.005	68	66	4.6	47
77	4	28	0.000	87	70	7.6	29
77	4	29	0.000	100	69	7.3	27
77	4	30	0.000	94	71	8.9	22
77	5	1	0.000	91	76	9.4	19
77	5	2	0.000	82	69	4.5	22
77	5	3	0.005	46	71	11.2	29
77	5	4	0.005	63	72	10.2	44
77	5	5	0.020	71	85	13.8	27
77	5	6	0.000	100	71	9.2	24
77	5	7	0.000	100	68	6.5	20
77	5	8	0.005	72	74	7.5	26
77	5	9	0.000	100	74	9.9	23
77	5	10	0.000	100	66	9.2	25
77	5	11	0.000	96	67	7.6	30
77	5	12	0.040	92	69	12.4	58
77	5	13	0.000	100	70	11.1	34
77	5	14	0.000	100	63	15.2	28
77	5	15	0.000	99	65	7.8	25
77	5	16	0.000	100	70	11.4	17
77	5	17	0.000	100	67	9.6	19
77	5	18	0.000	100	69	10.4	16
77	5	19	0.000	100	64	7.5	18
77	5	20	0.000	100	65	15.8	19
77	5	21	0.000	100	68	7.5	17
77	5	22	0.000	100	65	4.6	19
77	5	23	0.000	97	73	4.9	24
77	5	24	0.000	86	75	10.4	27
77	5	25	0.000	71	75	12.5	21
77	5	26	0.000	93	77	12.7	24
77	5	27	0.000	100	74	10.4	26
77	5	28	0.000	100	79	11.9	20
77	5	29	0.000	100	79	9.1	19
77	5	30	0.000	81	78	6.5	32
77	5	31	0.005	88	80	10.2	32
77	6	1	0.000	96	79	7.5	34
77	6	2	0.000	97	80	6.2	30
77	6	3	0.020	76	80	9.5	36
77	6	4	0.000	65	77	9.2	52
77	6	5	0.005	79	76	8.1	55
77	6	6	0.000	84	75	7.5	35
77	6	7	0.005	96	78	12.7	37
77	6	8	0.000	70	75	9.9	47
77	6	9	0.000	97	82	7.3	30
77	6	10	0.000	96	64	7.3	46
77	6	11	0.000	96	83	6.6	22
77	6	12	0.000	95	82	6.9	28
77	6	13	0.000	96	80	8.1	31
77	6	14	0.000	99	87	10.5	28
77	6	15	0.000	100	86	5.3	27
77	6	16	0.000	100	83	6.9	24
77	6	17	0.000	100	86	6.2	15
77	6	18	0.000	100	83	5.9	14
77	6	19	0.000	100	85	6.9	20
77	6	20	0.000	83	85	12.2	23
77	6	21	0.005	41	85	12.5	31
77	6	22	0.005	75	85	8.4	32
77	6	23	0.000	94	78	9.1	36
77	6	24	0.010	96	78	6.8	38
77	6	25	0.005	92	78	7.1	42
77	6	26	0.000	91	81	8.1	32
77	6	27	0.005	90	83	8.1	28
77	6	28	0.005	76	87	5.5	30
77	6	29	0.010	55	82	11.2	35
77	6	30	0.005	86	83	9.4	46
77	7	1	0.120	80	82	7.6	51
77	7	2	0.000	95	81	6.2	49
77	7	3	0.005	87	84	9.2	48
77	7	4	0.020	46	81	10.6	60
77	7	5	0.005	51	78	6.0	49
77	7	6	0.140	67	81	8.3	43
77	7	7	0.000	90	80	4.8	43
77	7	8	0.220	69	82	6.9	42
77	7	9	0.000	99	79	6.0	46
77	7	10	0.000	96	84	5.3	33
77	7	11	0.020	72	85	9.2	30
77	7	12	0.160	75	83	6.2	35
77	7	13	0.070	60	84	11.5	39
77	7	14	0.000	71	82	9.1	40
77	7	15	0.100	50	83	10.8	40
77	7	16	0.000	93	83	6.5	32
77	7	17	0.000	93	85	6.3	30

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
77	7	18	0.005	57	86	9.2	31
77	7	19	0.005	91	85	10.1	37
77	7	20	0.005	53	85	9.4	39
77	7	21	0.030	28	84	8.8	43
77	7	22	0.060	51	78	8.8	56
77	7	23	0.005	33	77	6.2	56
77	7	24	0.130	86	78	4.9	56
77	7	25	0.000	93	79	8.1	52
77	7	26	0.000	100	83	6.5	38
77	7	27	0.000	97	86	6.9	30
77	7	28	0.000	86	85	9.4	35
77	7	29	0.005	95	83	9.6	40
77	7	30	0.000	96	84	7.1	35
77	7	31	0.000	97	86	9.2	32
77	8	1	0.000	93	86	8.3	33
77	8	2	0.005	96	86	10.4	32
77	8	3	0.000	92	86	6.5	30
77	8	4	0.005	95	88	9.9	24
77	8	5	0.000	94	87	6.8	26
77	8	6	0.000	95	84	6.3	27
77	8	7	0.000	93	85	6.8	30
77	8	8	0.000	96	84	7.5	30
77	8	9	0.000	96	89	10.2	28
77	8	10	0.210	78	79	8.8	52
77	8	11	0.005	40	75	10.4	61
77	8	12	0.005	85	79	9.5	52
77	8	13	0.005	94	79	5.6	49
77	8	14	0.190	87	80	6.5	52
77	8	15	0.005	91	80	8.5	49
77	8	16	0.000	90	84	9.6	42
77	8	17	0.005	89	82	5.2	43
77	8	18	0.005	86	85	7.8	38
77	8	19	0.030	86	84	6.2	43
77	8	20	0.005	77	83	6.6	49
77	8	21	0.800	88	81	9.4	51
77	8	22	0.005	91	80	6.8	54
77	8	23	0.000	98	83	8.2	43
77	8	24	0.040	82	84	9.6	42
77	8	25	0.005	95	82	8.5	46
77	8	26	0.000	96	85	10.9	38
77	8	27	0.000	97	83	12.1	32
77	8	28	0.000	100	83	6.1	33
77	8	29	0.000	95	81	8.9	44
77	8	30	0.000	97	79	7.2	44
77	8	31	0.090	89	80	6.8	49
77	9	1	0.005	83	79	10.4	51
77	9	2	0.005	85	80	7.3	51
77	9	3	0.000	99	78	6.2	47
77	9	4	0.005	92	78	5.0	42
77	9	5	0.005	86	77	10.2	49
77	9	6	0.000	100	75	7.1	45
77	9	7	0.000	100	74	5.6	40
77	9	8	0.000	100	76	6.3	35
77	9	9	0.000	100	77	5.9	31
77	9	10	0.000	96	78	9.5	36
77	9	11	0.150	85	74	7.6	52
77	9	12	0.000	98	74	13.1	43
77	9	13	0.000	95	74	5.3	36
77	9	14	0.000	100	72	5.2	40
77	9	15	0.000	93	77	7.3	33
77	9	16	0.000	83	79	10.5	31
77	9	17	0.000	100	78	9.5	29
77	9	18	0.000	100	73	4.3	31
77	9	19	0.000	99	76	7.5	33
77	9	20	0.000	100	81	9.5	26
77	9	21	0.000	97	79	4.3	27
77	9	22	0.005	64	75	2.2	34
77	9	23	0.000	92	79	8.1	40
77	9	24	0.000	100	80	9.2	35
77	9	25	0.000	100	79	5.9	26
77	9	26	0.000	92	84	9.2	27
77	9	27	0.010	97	80	5.3	38
77	9	28	0.000	98	80	7.8	43
77	9	29	0.000	100	80	8.8	33
77	9	30	0.000	100	82	11.5	24
77	10	1	0.000	100	73	4.5	26
77	10	2	0.005	88	72	10.6	44
77	10	3	0.660	47	61	5.9	76
77	10	4	0.410	31	62	2.2	90
77	10	5	0.005	64	72	5.3	72
77	10	6	0.020	65	72	5.5	67
77	10	7	0.080	41	68	8.6	69

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
77	10	8	0.010	70	64	8.6	81
77	10	9	0.210	14	61	6.3	90
77	10	10	0.000	83	68	7.3	52
77	10	11	0.000	100	59	8.3	34
77	10	12	0.000	97	57	8.6	33
77	10	13	0.000	97	59	3.9	41
77	10	14	0.000	100	66	4.0	40
77	10	15	0.000	100	62	8.9	35
77	10	16	0.000	100	59	3.7	47
77	10	17	0.000	94	64	3.8	39
77	10	18	0.000	93	66	3.3	36
77	10	19	0.000	99	65	1.4	42
77	10	20	0.000	99	66	5.8	35
77	10	21	0.000	87	63	2.7	38
77	10	22	0.000	54	63	4.8	46
77	10	23	0.005	35	64	5.8	56
77	10	24	0.000	100	63	4.6	46
77	10	25	0.000	100	62	3.5	38
77	10	26	0.000	87	62	3.6	40
77	10	27	0.000	74	65	6.2	45
77	10	28	0.000	100	64	5.2	46
77	10	29	0.120	23	67	6.0	58
77	10	30	0.140	59	66	6.9	71
77	10	31	0.000	85	67	7.2	50
77	11	1	0.000	89	54	9.5	33
77	11	2	0.000	100	52	2.9	32
77	11	3	0.000	100	58	4.8	36
77	11	4	0.000	99	58	4.6	36
77	11	5	0.000	100	59	2.0	44
77	11	6	0.040	77	63	13.1	43
77	11	7	0.010	67	47	10.5	64
77	11	8	0.000	65	50	15.2	54
77	11	9	0.000	100	42	5.2	35
77	11	10	0.000	100	46	5.3	28
77	11	11	0.000	75	49	4.9	33
77	11	12	0.000	70	51	3.3	35
77	11	13	0.000	100	54	3.2	33
77	11	14	0.000	71	53	3.2	37
77	11	15	0.000	94	53	3.9	37
77	11	16	0.000	100	55	4.5	29
77	11	17	0.000	100	52	3.0	35
77	11	18	0.000	77	57	8.2	35
77	11	19	0.000	91	62	15.0	43
77	11	20	0.000	97	63	9.2	40
77	11	21	0.000	96	55	5.2	47
77	11	22	0.000	100	56	4.9	36
77	11	23	0.000	96	54	7.6	29
77	11	24	0.000	44	49	3.9	28
77	11	25	0.000	100	53	3.3	31
77	11	26	0.000	100	55	7.9	34
77	11	27	0.000	76	61	7.6	27
77	11	28	0.000	86	61	1	29
77	11	29	0.005	1	[illegible]	0	32
77	12	1	0.000	100	47	6.6	25
77	12	2	0.000	38	55	6.3	20
77	12	3	0.000	97	54	6.8	29
77	12	4	0.000	100	63	15.8	22
77	12	5	0.000	100	62	17.4	23
77	12	6	0.000	100	48	5.5	46
77	12	7	0.000	100	51	7.3	34
77	12	8	0.000	100	64	10.9	17
77	12	9	0.000	99	49	6.5	29
77	12	10	0.000	52	43	3.2	34
77	12	11	0.000	82	47	3.7	34
77	12	12	0.000	100	51	7.3	36
77	12	13	0.000	99	48	5.6	33
77	12	14	0.000	100	47	2.6	32
77	12	15	0.000	100	51	9.2	34
77	12	16	0.000	90	56	24.4	20
77	12	17	0.000	98	46	3.8	25
77	12	18	0.000	97	49	9.6	26
77	12	19	0.000	82	50	10.5	32
77	12	20	0.000	95	34	9.4	31
77	12	21	0.000	61	33	2.5	21
77	12	22	0.000	42	42	3.2	19
77	12	23	0.000	3	54	7.6	25
77	12	24	0.005	86	56	6.6	49
77	12	25	0.000	64	47	2.6	49
77	12	26	0.005	15	49	2.6	39
77	12	27	0.020	0	47	3.3	80
77	12	28	0.240	24	48	1.3	93
77	12	29	0.000	88	53	7.9	75

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
77	12	30	0.000	88	51	7.8	67
77	12	31	0.000	78	52	7.5	67
78	1	1	0.005	59	41	8.1	68
78	1	2	0.000	100	37	2.3	51
78	1	3	0.000	94	41	1.3	68
78	1	4	0.000	89	48	4.3	62
78	1	5	0.000	100	49	6.6	53
78	1	6	0.000	100	48	7.9	55
78	1	7	0.000	100	48	9.6	37
78	1	8	0.000	100	43	2.3	32
78	1	9	0.000	97	44	2.6	32
78	1	10	0.005	14	49	6.5	39
78	1	11	0.000	83	50	11.9	62
78	1	12	0.000	100	51	11.9	46
78	1	13	0.000	100	47	2.9	34
78	1	14	0.030	71	41	0.2	39
78	1	15	0.070	6	44	11.9	66
78	1	16	0.200	61	52	11.7	65
78	1	17	0.000	42	49	7.8	83
78	1	18	0.005	75	46	8.1	67
78	1	19	0.020	64	33	5.5	65
78	1	20	0.000	54	34	3.3	82
78	1	21	0.000	89	38	1.6	76
78	1	22	0.000	100	42	0.9	69
78	1	23	0.020	92	50	9.6	54
78	1	24	0.000	43	42	8.6	57
78	1	25	0.000	100	40	4.5	42
78	1	26	0.000	100	42	5.3	46
78	1	27	0.000	88	45	4.0	49
78	1	28	0.000	71	52	3.8	41
78	1	29	0.000	87	54	3.7	40
78	1	30	0.010	21	57	5.8	47
78	1	31	0.090	94	54	7.5	75
78	2	1	0.000	98	53	5.6	60
78	2	2	0.005	89	48	5.2	62
78	2	3	0.000	100	51	4.2	50
78	2	4	0.000	97	53	8.3	35
78	2	5	0.000	69	49	4.2	44
78	2	6	0.270	6	49	7.1	77
78	2	7	0.000	84	54	10.2	58
78	2	8	0.030	51	54	13.5	50
78	2	9	0.000	97	50	6.6	48
78	2	10	0.000	90	56	4.5	36
78	2	11	0.040	9	50	8.3	52
78	2	12	0.000	65	45	11.5	51
78	2	13	0.000	90	46	11.1	51
78	2	14	0.020	55	47	9.1	51
78	2	15	0.000	89	44	6.2	53
78	2	16	0.000	70	45	14.7	43
78	2	17	0.000	71	35	3.5	58
78	2	18	0.000	96	38	3.7	48
78	2	19	0.000	83	37	8.2	44
78	2	20	0.000	100	43	6.6	35
78	2	21	0.000	100	43	4.2	37
78	2	22	0.000	96	46	2.9	33
78	2	23	0.000	96	50	3.0	30
78	2	24	0.000	100	52	5.6	28
78	2	25	0.000	100	54	5.5	27
78	2	26	0.005	0	59	8.8	22
78	2	27	0.060	34	58	9.1	55
78	2	28	0.050	45	62	10.5	64
78	3	1	0.070	22	60	11.9	68
78	3	2	0.005	48	61	12.8	48
78	3	3	0.000	87	61	18.8	40
78	3	4	0.000	96	50	7.1	48
78	3	5	0.005	76	63	13.8	36
78	3	6	0.005	68	56	13.4	49
78	3	7	0.005	41	45	4.8	69
78	3	8	0.000	100	50	6.6	46
78	3	9	0.000	97	57	5.9	30
78	3	10	0.000	94	58	18.4	29
78	3	11	0.000	100	55	11.7	34
78	3	12	0.005	96	50	12.1	39
78	3	13	0.000	76	51	18.7	44
78	3	14	0.000	100	53	14.7	37
78	3	15	0.000	100	53	10.1	20
78	3	16	0.000	100	53	9.8	15
78	3	17	0.000	100	53	4.2	17
78	3	18	0.000	94	58	5.0	17
78	3	19	0.000	10	54	10.1	33
78	3	20	0.000	83	62	7.2	35
78	3	21	0.000	7	65	5.3	28

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
78	3	22	0.000	96	64	11.8	32
78	3	23	0.000	95	64	14.5	30
78	3	24	0.000	100	62	10.2	27
78	3	25	0.000	100	65	9.8	20
78	3	26	0.000	100	68	4.0	20
78	3	27	0.000	12	64	4.3	22
78	3	28	0.000	63	67	8.1	19
78	3	29	0.000	90	65	5.9	29
78	3	30	0.000	52	65	6.6	33
78	3	31	0.000	98	71	8.3	38
78	4	1	0.000	89	72	15.0	29
78	4	2	0.000	100	62	7.8	38
78	4	3	0.000	100	62	9.2	30
78	4	4	0.000	77	63	7.3	25
78	4	5	0.000	95	65	14.1	26
78	4	6	0.000	100	61	6.6	27
78	4	7	0.000	69	67	9.4	16
78	4	8	0.000	62	68	15.7	31
78	4	9	0.000	43	51	8.9	48
78	4	10	0.000	89	49	6.3	51
78	4	11	0.000	100	54	3.2	38
78	4	12	0.000	100	67	11.7	22
78	4	13	0.000	56	68	9.1	27
78	4	14	0.000	93	68	11.8	18
78	4	15	0.000	80	68	9.1	20
78	4	16	0.000	100	73	15.0	19
78	4	17	0.000	100	65	17.1	23
78	4	18	0.000	100	61	5.5	12
78	4	19	0.000	97	65	10.2	15
78	4	20	0.000	98	67	9.4	13
78	4	21	0.000	100	67	13.4	15
78	4	22	0.000	100	69	12.8	15
78	4	23	0.000	100	69	6.5	15
78	4	24	0.000	95	73	6.3	12
78	4	25	0.000	28	71	8.9	44
78	4	26	0.000	97	72	7.8	44
78	4	27	0.000	100	74	13.7	25
78	4	28	0.000	100	75	13.8	17
78	4	29	0.000	97	73	15.0	15
78	4	30	0.000	58	72	16.5	14
78	5	1	0.000	61	73	13.7	16
78	5	2	0.330	49	56	12.5	63
78	5	3	0.070	80	57	9.2	55
78	5	4	0.000	99	73	18.6	23
78	5	5	0.000	95	74	21.3	22
78	5	6	0.005	95	65	17.8	33
78	5	7	0.005	73	60	12.4	30
78	5	8	0.000	100	68	6.0	20
78	5	9	0.000	94	70	8.3	18
78	5	10	0.000	8	75	9.6	19
78	5	11	0.000	98	74	8.9	16
78	5	12	0.000	100	80	7.3	13
78	5	13	0.000	100	77	10.5	20
78	5	14	0.000	88	79	6.2	25
78	5	15	0.000	73	87	14.0	10
78	5	16	0.000	88	82	12.1	10
78	5	17	0.000	100	80	12.9	11
78	5	18	0.000	55	73	6.2	13
78	5	19	0.005	49	76	10.5	25
78	5	20	0.100	74	72	11.1	51
78	5	21	0.070	65	72	4.8	51
78	5	22	0.000	94	78	5.5	37
78	5	23	0.000	90	84	12.5	19
78	5	24	0.000	88	79	9.8	12
78	5	25	0.000	98	76	10.2	15
78	5	26	0.000	97	72	6.5	23
78	5	27	0.000	100	72	10.6	24
78	5	28	0.000	100	71	6.2	24
78	5	29	0.000	97	74	7.9	38
78	5	30	0.000	98	80	8.2	27
78	5	31	0.000	85	81	6.9	23
78	6	1	0.000	97	78	6.9	38
78	6	2	0.005	77	78	9.6	49
78	6	3	0.000	100	74	8.8	48
78	6	4	0.000	98	82	12.2	36
78	6	5	0.000	100	83	6.5	14
78	6	6	0.000	76	78	11.4	29
78	6	7	0.000	100	74	6.9	23
78	6	8	0.000	93	77	10.2	28
78	6	9	0.000	98	[illegible]	[illegible].9	29
78	6	10	0.000	90	[illegible]	[illegible].2	22
78	6	11	0.000	100	81	9.8	15

TABLE H 1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)	YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
78	6	12	0.000	85	84	11.1	20	78	7	23	0.005	41	79	11.7	52
78	6	13	0.000	90	84	9.1	34	78	7	24	0.005	75	76	9.5	55
78	6	14	0.000	79	87	7.1	30	78	7	25	0.000	96	79	4.9	46
78	6	15	0.000	80	92	8.5	18	78	7	26	0.005	91	82	12.4	43
78	6	16	0.000	77	88	9.4	17	78	7	27	0.040	91	87	8.6	36
78	6	17	0.000	94	87	7.1	13	78	7	28	0.000	99	79	6.0	40
78	6	18	0.000	97	84	9.2	20	78	7	29	0.000	97	80	7.5	40
78	6	19	0.000	96	87	9.4	24	78	7	30	0.000	72	85	9.5	44
78	6	20	0.000	100	86	6.3	18	78	7	31	0.005	49	77	13.4	54
78	6	21	0.000	96	89	6.0	18	78	8	1	0.000	97	80	5.5	46
78	6	22	0.000	95	89	6.0	14	78	8	2	0.005	78	86	8.9	36
78	6	23	0.000	94	92	4.0	15	78	8	3	0.000	79	81	9.2	44
78	6	24	0.000	84	93	6.3	16	78	8	4	0.000	78	[illegible]	[illegible].1	49
78	6	25	0.000	100	90	12.4	15	78	8	5	0.000	75	[illegible]	[illegible].1	59
78	6	26	0.000	75	93	16.8	17	78	8	6	0.000	98	[illegible]	[illegible].1	50
78	6	27	0.005	55	88	12.2	25	78	8	7	0.000	100	75	[illegible].2	40
78	6	28	0.050	30	76	9.1	66	78	8	8	0.005	61	80	[illegible].9	44
78	6	29	0.600	32	70	6.8	79	78	8	9	0.000	57	75	6.1	52
78	6	30	0.010	65	74	6.3	57	78	8	10	0.000	93	79	6.2	44
78	7	1	0.000	97	82	6.2	39	78	8	11	0.000	97	82	6.2	37
78	7	2	0.000	98	83	5.6	34	78	8	12	0.000	100	88	6.2	28
78	7	3	0.000	78	86	8.5	33	78	8	13	0.000	81	88	9.4	30
78	7	4	0.000	95	85	6.0	35	78	8	14	0.000	95	87	9.8	26
78	7	5	0.000	89	88	10.1	31	78	8	15	0.000	91	85	5.8	24
78	7	6	0.000	78	90	6.2	29	78	8	16	0.000	98	86	6.1	27
78	7	7	0.000	84	88	7.8	28	78	8	17	0.000	89	89	11.1	28
78	7	8	0.000	100	87	8.2	27	78	8	18	0.000	86	87	10.6	35
78	7	9	0.000	100	85	7.1	29	78	8	19	0.630	82	80	12.5	51
78	7	10	0.005	100	83	6.6	29	78	8	20	0.720	84	74	7.1	65
78	7	11	0.000	99	85	7.3	31	78	8	21	0.000	100	80	5.5	46
78	7	12	0.000	86	89	6.6	29	78	8	22	0.000	92	83	7.5	40
78	7	13	0.000	77	88	4.9	30	78	8	23	0.005	76	83	6.0	42
78	7	14	0.000	86	87	10.4	31	78	8	24	0.200	33	78	4.9	54
78	7	15	0.000	100	87	8.8	28	78	8	25	0.410	37	73	6.0	67
78	7	16	0.000	91	87	5.6	23	78	8	26	0.000	100	78	3.5	54
78	7	17	0.000	100	87	6.2	24	78	8	27	0.000	98	83	6.8	35
78	7	18	0.000	92	90	6.1	25	78	8	28	0.000	80	81	7.3	31
78	7	19	0.000	95	91	6.2	22	78	8	29	0.220	38	71	5.9	61
78	7	20	0.000	97	87	8.1	32	78	8	30	0.005	87	73	7.1	55
78	7	21	0.005	80	88	9.9	35	78	8	31	0.000	78	73	9.8	53
78	7	22	0.005	18	86	9.6	44	78	9	1	0.005	53	76	6.2	57

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
78	9	2	1.370	59	74	7.8	68
78	9	3	0.050	48	72	5.0	72
78	9	4	0.000	87	77	4.0	59
78	9	5	0.000	75	77	8.2	56
78	9	6	0.000	100	73	10.6	45
78	9	7	0.000	75	71	9.4	49
78	9	8	0.000	81	72	3.3	53
78	9	9	0.000	96	76	3.3	45
78	9	10	0.000	100	80	4.0	40
78	9	11	0.000	96	82	8.5	36
78	9	12	0.000	92	82	9.4	24
78	9	13	0.000	86	77	5.8	45
78	9	14	0.005	67	79	6.0	46
78	9	15	0.005	83	78	6.2	49
78	9	16	0.030	70	79	7.8	49
78	9	17	0.000	95	78	9.1	36
78	9	18	0.000	96	74	9.2	31
78	9	19	0.000	92	75	6.2	35
78	9	20	0.000	97	74	4.8	43
78	9	21	0.080	7	62	11.2	71
78	9	22	0.120	0	59	6.6	84
78	9	23	0.310	19	64	5.6	79
78	9	24	1.330	0	63	7.6	90
78	9	25	0.820	0	63	8.3	87
78	9	26	0.030	7	63	8.9	81
78	9	27	0.005	60	65	3.7	79
78	9	28	0.000	61	66	3.2	69
78	9	29	0.000	100	70	5.6	61
78	9	30	0.000	98	71	5.8	59
78	10	1	0.000	100	71	6.2	51
78	10	2	0.000	100	74	4.2	45
78	10	3	0.000	100	71	9.4	55
78	10	4	0.000	100	71	4.2	53
78	10	5	0.000	97	69	8.2	53
78	10	6	0.000	87	67	6.8	64
78	10	7	0.000	79	68	3.6	62
78	10	8	0.000	81	72	6.5	55
78	10	9	0.000	97	73	6.8	45
78	10	10	0.000	92	69	5.9	42
78	10	11	0.000	100	71	3.7	34
78	10	12	0.000	100	69	6.3	35
78	10	13	0.000	100	60	11.9	51
78	10	14	0.000	100	60	3.6	57
78	10	15	0.000	100	64	3.0	56
78	10	16	0.000	100	64	5.9	52
78	10	17	0.000	100	64	4.2	54
78	10	18	0.000	100	65	4.5	47
78	10	19	0.000	97	65	7.2	47
78	10	20	0.000	93	65	7.2	54
78	10	21	0.250	85	70	7.3	67
78	10	22	0.470	85	63	6.5	73
78	10	23	0.970	0	49	12.9	89
78	10	24	0.120	10	51	5.9	81
78	10	25	0.000	89	56	7.6	63
78	10	26	0.110	16	52	7.8	72
78	10	27	0.000	100	52	4.0	67
78	10	28	0.000	98	54	2.7	63
78	10	29	0.000	84	56	4.2	63
78	10	30	0.000	91	60	4.6	57
78	10	31	0.360	64	64	8.5	62
78	11	1	0.050	8	62	7.1	71
78	11	2	0.000	74	67	6.6	58
78	11	3	0.005	36	62	7.6	46
78	11	4	0.010	77	58	8.6	63
78	11	5	0.000	62	59	5.3	63
78	11	6	0.000	86	57	5.5	73
78	11	7	0.000	62	58	5.0	70
78	11	8	0.000	100	58	5.2	68
78	11	9	0.000	100	65	12.4	43
78	11	10	0.160	51	64	10.6	52
78	11	11	0.180	24	58	6.3	81
78	11	12	0.000	100	61	11.4	59
78	11	13	0.000	100	55	3.0	75
78	11	14	0.000	89	57	4.6	63
78	11	15	0.030	64	53	6.8	75
78	11	16	0.005	68	51	4.2	65
78	11	17	0.000	100	49	4.0	64
78	11	18	0.000	100	55	8.3	58
78	11	19	0.000	82	53	5.8	58
78	11	20	0.000	82	56	6.0	63
78	11	21	0.010	61	55	7.5	81
78	11	22	0.000	38	59	5.9	73

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
78	11	23	0.000	25	55	2.8	68
78	11	24	0.000	27	58	4.3	68
78	11	25	0.010	14	56	6.8	65
78	11	26	0.000	87	48	7.2	55
78	11	27	0.005	23	44	7.5	69
78	11	28	0.000	62	43	7.3	71
78	11	29	0.000	100	50	10.2	54
78	11	30	0.000	100	54	10.9	48
78	12	1	0.000	100	59	11.4	42
78	12	2	0.000	96	60	15.4	34
78	12	3	0.000	96	45	12.8	40
78	12	4	0.000	100	42	7.9	45
78	12	5	0.000	95	48	12.1	46
78	12	6	0.000	87	52	14.4	43
78	12	7	0.040	0	35	9.6	73
78	12	8	0.005	62	28	9.5	64
78	12	9	0.000	100	25	4.9	59
78	12	10	0.000	82	31	3.5	48
78	12	11	0.000	100	36	6.0	60
78	12	12	0.000	91	41	5.9	54
78	12	13	0.000	84	41	10.8	63
78	12	14	0.000	94	43	5.6	64
78	12	15	0.000	92	45	5.5	66
78	12	16	0.000	89	50	10.4	52
78	12	17	0.100	73	44	7.1	77
78	12	18	0.005	48	55	6.9	68
78	12	19	0.040	0	59	10.2	68
78	12	20	0.000	73	42	11.2	64
78	12	21	0.000	100	40	4.9	59
78	12	22	0.000	81	42	3.7	61
78	12	23	0.000	100	52	16.3	41
78	12	24	0.000	100	43	6.0	52
78	12	25	0.000	84	44	6.9	51
78	12	26	0.000	100	43	5.3	57
78	12	27	0.000	100	41	5.0	61
78	12	28	0.000	76	47	6.3	62
78	12	29	0.010	72	51	6.2	60
78	12	30	0.090	46	55	6.8	58
78	12	31	0.190	43	51	8.5	67
79	1	1	0.000	100	38	9.5	63
79	1	2	0.000	84	26	3.6	61
79	1	3	0.000	64	33	3.2	57
79	1	4	0.000	100	44	4.9	59
79	1	5	0.000	73	46	3.7	64
79	1	6	0.170	36	46	6.6	72
79	1	7	0.000	62	48	10.6	67
79	1	8	0.000	18	39	4.3	74
79	1	9	0.000	55	39	4.8	77
79	1	10	0.005	30	44	7.2	71
79	1	11	0.000	50	44	6.8	66
79	1	12	0.000	62	46	14.8	64
79	1	13	0.000	100	45	12.7	45
79	1	14	0.000	94	38	4.2	56
79	1	15	0.005	71	45	5.5	55
79	1	16	0.000	27	44	4.9	61
79	1	17	0.140	16	45	6.5	69
79	1	18	0.110	59	50	10.4	60
79	1	19	0.000	60	47	13.2	55
79	1	20	0.000	100	42	9.2	50
79	1	21	0.000	77	40	4.2	61
79	1	22	0.000	47	47	19.7	47
79	1	23	0.005	60	40	10.4	41
79	1	24	0.005	51	37	6.5	51
79	1	25	0.300	42	46	11.7	74
79	1	26	0.010	38	42	17.0	54
79	1	27	0.000	45	36	10.6	56
79	1	28	0.000	100	38	4.5	54
79	1	29	0.040	33	37	14.4	65
79	1	30	0.000	63	33	7.3	47
79	1	31	0.000	72	33	4.6	55
79	2	1	0.000	66	40	10.8	56
79	2	2	0.000	72	44	7.9	61
79	2	3	0.005	17	42	4.3	77
79	2	4	0.000	74	44	4.8	69
79	2	5	0.150	0	37	7.9	82
79	2	6	0.000	90	40	10.8	54
79	2	7	0.000	100	39	9.1	54
79	2	8	0.000	100	46	6.9	42
79	2	9	0.000	100	44	3.7	57
79	2	10	0.000	100	47	5.6	44
79	2	11	0.000	100	47	6.5	42
79	2	12	0.000	99	50	4.9	35

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
79	2	13	0.000	100	52	5.5	32
79	2	14	0.000	100	57	6.8	31
79	2	15	0.040	61	58	8.1	42
79	2	16	0.480	63	46	7.8	74
79	2	17	0.000	90	45	4.6	62
79	2	18	0.000	100	48	6.5	46
79	2	19	0.000	89	52	9.2	44
79	2	20	0.000	72	53	12.5	37
79	2	21	0.005	34	52	11.7	43
79	2	22	0.000	52	51	14.5	41
79	2	23	0.000	92	45	11.2	43
79	2	24	0.000	93	47	12.1	36
79	2	25	0.000	100	49	8.5	32
79	2	26	0.000	92	50	7.8	36
79	2	27	0.000	100	54	17.4	29
79	2	28	0.000	100	47	5.5	39
79	3	1	0.000	68	49	6.3	33
79	3	2	0.005	49	47	19.3	44
79	3	3	0.000	99	48	14.0	44
79	3	4	0.000	100	45	5.9	35
79	3	5	0.000	100	44	4.9	34
79	3	6	0.000	100	48	5.2	30
79	3	7	0.000	100	52	6.2	31
79	3	8	0.000	100	58	9.1	27
79	3	9	0.000	36	64	9.4	24
79	3	10	0.005	96	51	11.5	44
79	3	11	0.000	97	44	5.6	45
79	3	12	0.000	100	53	5.9	43
79	3	13	0.000	98	58	7.6	32
79	3	14	0.000	95	57	11.8	36
79	3	15	0.000	100	53	7.2	52
79	3	16	0.000	91	59	8.9	38
79	3	17	0.000	94	54	13.2	28
79	3	18	0.000	94	50	9.8	39
79	3	19	0.000	98	52	5.8	31
79	3	20	0.000	97	58	6.3	38
79	3	21	0.000	78	53	11.1	50
79	3	22	0.000	87	49	15.6	42
79	3	23	0.000	96	50	6.9	35
79	3	24	0.000	100	53	7.1	27
79	3	25	0.000	97	54	8.8	26
79	3	26	0.000	100	62	10.1	22
79	3	27	0.000	100	59	7.2	24
79	3	28	0.000	95	65	10.8	24
79	3	29	0.000	100	59	16.8	30
79	3	30	0.000	100	51	5.3	29
79	3	31	0.000	100	54	12.5	29
79	4	1	0.000	93	[illegible]	8	23
79	4	2	0.000	71	[illegible]	6	21
79	4	3	0.000	100	49	11.9	31
79	4	4	0.000	100	49	5.2	26
79	4	5	0.000	100	56	6.8	22
79	4	6	0.000	100	63	7.3	19
79	4	7	0.000	100	61	7.9	19
79	4	8	0.000	100	61	8.2	20
79	4	9	0.000	100	63	14.7	23
79	4	10	0.000	100	54	26.6	34
79	4	11	0.000	100	53	24.6	27
79	4	12	0.000	100	58	16.1	26
79	4	13	0.000	100	56	6.3	25
79	4	14	0.000	100	60	4.2	26
79	4	15	0.000	93	68	5.2	23
79	4	16	0.000	67	69	8.3	26
79	4	17	0.000	100	68	8.8	22
79	4	18	0.000	100	69	10.8	21
79	4	19	0.000	100	68	9.6	25
79	4	20	0.000	100	66	8.3	23
79	4	21	0.280	71	68	12.5	28
79	4	22	0.000	100	67	5.6	45
79	4	23	0.000	96	67	4.6	31
79	4	24	0.000	6	71	11.1	19
79	4	25	0.000	89	76	13.7	17
79	4	26	0.000	92	79	12.1	19
79	4	27	0.000	100	76	8.9	23
79	4	28	0.000	100	72	8.5	29
79	4	29	0.000	100	71	7.2	37
79	4	30	0.000	84	69	7.3	38
79	5	1	0.000	90	79	12.7	16
79	5	2	0.000	91	77	14.8	20
79	5	3	0.000	94	63	10.1	31
79	5	4	0.000	100	57	8.2	47
79	5	5	0.000	100	65	4.9	30

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)	YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
79	5	6	0.000	100	74	14.7	19	79	6	16	0.000	100	84	9.9	20
79	5	7	0.000	98	80	17.0	16	79	6	17	0.000	100	86	12.9	21
79	5	8	0.000	95	78	16.4	22	79	6	18	0.000	100	83	13.5	20
79	5	9	0.000	97	66	9.9	32	79	6	19	0.000	100	78	11.4	15
79	5	10	0.000	40	62	10.8	21	79	6	20	0.000	100	76	5.3	21
79	5	11	0.000	100	62	7.8	25	79	6	21	0.000	89	85	7.8	33
79	5	12	0.000	100	63	6.8	31	79	6	22	0.005	49	90	7.6	27
79	5	13	0.000	100	64	6.2	27	79	6	23	0.000	100	85	4.0	28
79	5	14	0.000	97	69	7.8	30	79	6	24	0.005	78	85	8.6	37
79	5	15	0.000	92	74	7.6	29	79	6	25	0.000	87	84	7.6	33
79	5	16	0.110	78	72	7.9	48	79	6	26	0.000	100	85	7.2	28
79	5	17	0.000	100	69	5.0	53	79	6	27	0.000	100	86	5.2	27
79	5	18	0.000	77	70	9.9	46	79	6	28	0.000	87	86	5.5	27
79	5	19	0.005	86	70	6.9	47	79	6	29	0.000	95	86	9.1	26
79	5	20	0.030	71	63	10.9	46	79	6	30	0.000	97	87	8.3	24
79	5	21	0.000	83	60	9.4	46	79	7	1	0.080	95	88	9.2	30
79	5	22	0.000	100	71	7.6	37	79	7	2	0.005	94	84	5.9	43
79	5	23	0.000	83	74	8.5	36	79	7	3	0.005	38	83	5.9	40
79	5	24	0.070	66	77	10.6	37	79	7	4	0.000	18	78	8.6	40
79	5	25	0.020	62	72	8.5	55	79	7	5	0.000	100	78	7.1	40
79	5	26	0.010	56	70	8.2	57	79	7	6	0.000	100	87	6.9	37
79	5	27	0.000	64	69	8.6	51	79	7	7	0.000	97	86	6.9	39
79	5	28	0.000	99	71	11.7	41	79	7	8	0.000	100	86	5.2	32
79	5	29	0.000	100	79	12.5	29	79	7	9	0.000	100	91	6.2	22
79	5	30	0.000	100	80	7.1	25	79	7	10	0.000	100	90	6.2	21
79	5	31	0.000	100	79	9.5	32	79	7	11	0.000	100	88	7.1	17
79	6	1	0.005	73	70	10.2	61	79	7	12	0.000	100	90	8.8	12
79	6	2	0.005	69	70	10.5	61	79	7	13	0.000	100	87	10.2	18
79	6	3	0.010	23	73	8.9	59	79	7	14	0.000	95	94	8.2	20
79	6	4	0.020	30	64	7.9	81	79	7	15	0.005	100	91	9.1	30
79	6	5	0.000	64	67	9.8	62	79	7	16	0.070	74	86	9.9	41
79	6	6	0.000	62	75	12.7	47	79	7	17	0.060	75	82	10.2	51
79	6	7	0.000	100	62	12.4	57	79	7	18	0.005	35	80	7.1	56
79	6	8	0.005	88	78	8.5	41	79	7	19	0.070	29	74	9.6	72
79	6	9	0.000	100	72	10.5	26	79	7	20	0.020	34	75	7.3	72
79	6	10	0.000	100	71	11.4	31	79	7	21	0.410	61	79	5.0	64
79	6	11	0.000	100	68	9.5	30	79	7	22	0.000	86	83	5.8	58
79	6	12	0.000	100	71	6.3	24	79	7	23	0.000	97	89	8.3	28
79	6	13	0.000	100	77	5.6	19	79	7	24	0.000	100	90	8.6	32
79	6	14	0.000	100	79	7.1	19	79	7	25	0.005	90	88	9.6	35
79	6	15	0.000	94	80	8.8	21	79	7	26	0.000	100	85	6.5	42

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
79	7	27	0.000	96	88	6.2	36
79	7	28	0.000	96	86	7.3	33
79	7	29	0.005	93	86	6.6	39
79	7	30	0.000	96	86	6.2	41
79	7	31	0.270	91	84	9.4	46
79	8	1	0.000	100	80	7.3	54
79	8	2	0.540	80	83	9.2	53
79	8	3	0.000	100	78	5.5	42
79	8	4	0.000	92	80	8.3	51
79	8	5	0.000	82	81	7.6	54
79	8	6	0.000	100	79	6.2	47
79	8	7	0.000	90	83	9.4	46
79	8	8	0.040	83	80	4.3	40
79	8	9	0.000	96	80	6.3	49
79	8	10	0.005	95	80	5.3	47
79	8	11	0.000	95	82	10.5	46
79	8	12	0.005	94	77	9.6	56
79	8	13	0.300	76	78	8.2	66
79	8	14	0.050	87	74	5.2	72
79	8	15	0.450	7	69	6.0	87
79	8	16	0.010	32	71	8.1	82
79	8	17	0.750	98	71	8.1	74
79	8	18	0.010	67	73	6.5	65
79	8	19	0.000	100	75	6.0	57
79	8	20	0.000	96	78	6.8	50
79	8	21	0.000	96	81	5.8	46
79	8	22	0.000	100	82	5.3	40
79	8	23	0.000	100	78	5.6	33
79	8	24	0.000	100	82	5.5	37
79	8	25	0.000	100	78	7.1	40
79	8	26	0.000	100	83	8.3	39
79	8	27	0.000	97	83	6.6	40
79	8	28	0.005	96	82	5.2	36
79	8	29	0.000	100	81	7.2	35
79	8	30	0.000	100	81	6.0	43
79	8	31	0.000	100	83	4.6	42
79	9	1	0.000	98	84	3.3	43
79	9	2	0.000	98	85	3.9	34
79	9	3	0.005	95	83	4.9	35
79	9	4	0.000	96	81	5.3	43
79	9	5	0.000	100	84	5.5	34
79	9	6	0.000	100	83	6.3	34
79	9	7	0.000	98	81	9.1	37
79	9	8	0.000	100	80	10.9	38
79	9	9	0.000	100	76	8.8	44
79	9	10	0.000	100	76	6.6	38
79	9	11	0.000	100	75	4.9	34
79	9	12	0.000	100	76	5.9	33
79	9	13	0.000	97	76	6.5	35
79	9	14	0.000	77	71	11.7	46
79	9	15	0.260	0	56	9.4	75
79	9	16	0.070	0	56	8.2	84
79	9	17	0.080	8	59	7.2	87
79	9	18	0.000	87	67	8.5	60
79	9	19	0.000	100	71	6.5	53
79	9	20	0.000	100	72	4.9	49
79	9	21	0.000	95	75	11.1	45
79	9	22	0.000	100	75	6.3	47
79	9	23	0.000	100	75	3.2	39
79	9	24	0.000	100	74	4.8	36
79	9	25	0.000	100	73	7.5	33
79	9	26	0.000	100	72	6.2	31
79	9	27	0.000	100	73	5.5	30
79	9	28	0.000	98	75	4.5	29
79	9	29	0.000	100	75	4.9	29
79	9	30	0.000	100	75	6.9	27
79	10	1	0.000	100	75	6.8	27
79	10	2	0.000	100	73	5.0	30
79	10	3	0.000	97	72	5.0	31
79	10	4	0.000	100	67	4.9	38
79	10	5	0.000	100	71	5.0	30
79	10	6	0.000	100	70	6.3	27
79	10	7	0.000	100	73	5.2	25
79	10	8	0.000	100	74	5.9	24
79	10	9	0.000	97	65	6.2	31
79	10	10	0.000	100	[illegible]	4.5	33
79	10	11	0.000	100	[illegible]	.6	25
79	10	12	0.000	100	[illegible]	3.2	23
79	10	13	0.000	98	66	5.3	33
79	10	14	0.000	100	71	7.5	32
79	10	15	0.000	100	67	6.2	26
79	10	16	0.000	100	69	4.9	25

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
79	10	17	0.000	100	65	6.8	35
79	10	18	0.000	100	66	6.2	35
79	10	19	0.000	100	69	11.5	29
79	10	20	0.000	100	75	13.8	28
79	10	21	0.000	100	63	14.0	32
79	10	22	0.000	100	56	6.5	29
79	10	23	0.000	100	58	5.0	29
79	10	24	0.000	100	64	5.8	27
79	10	25	0.000	100	63	3.9	29
79	10	26	0.000	100	65	6.5	26
79	10	27	0.000	100	64	4.8	23
79	10	28	0.000	100	62	6.0	33
79	10	29	0.005	78	65	12.8	23
79	10	30	0.000	54	52	9.6	38
79	10	31	0.000	100	47	5.2	36
79	11	1	0.000	100	50	4.2	32
79	11	2	0.000	100	48	6.3	32
79	11	3	0.000	100	50	5.3	38
79	11	4	0.000	86	58	8.9	31
79	11	5	0.000	100	57	6.3	24
79	11	6	0.000	82	54	9.8	47
79	11	7	0.040	86	57	5.6	59
79	11	8	0.000	63	59	13.4	55
79	11	9	0.005	100	53	9.2	48
79	11	10	0.000	80	48	5.9	53
79	11	11	0.000	100	49	9.6	38
79	11	12	0.000	100	45	6.0	37
79	11	13	0.000	100	43	6.5	32
79	11	14	0.000	95	48	7.9	37
79	11	15	0.000	91	48	6.9	44
79	11	16	0.000	64	50	6.8	56
79	11	17	0.000	85	51	6.3	75
79	11	18	0.000	92	56	8.2	57
79	11	19	0.000	81	53	8.9	50
79	11	20	0.000	85	47	10.1	23
79	11	21	0.000	100	37	5.9	31
79	11	22	0.000	100	32	5.8	41
79	11	23	0.000	27	35	8.2	38
79	11	24	0.000	100	39	7.5	39
79	11	25	0.000	100	46	8.1	36
79	11	26	0.000	90	57	9.6	27
79	11	27	0.000	100	59	9.2	27
79	11	28	0.000	100	46	11.9	36
79	11	29	0.000	89	36	7.2	38
79	11	30	0.000	100	34	5.6	36
79	12	1	0.000	100	35	5.9	30
79	12	2	0.000	100	37	6.3	25
79	12	3	0.000	100	43	3.9	22
79	12	4	0.000	100	51	5.5	23
79	12	5	0.000	92	54	9.8	24
79	12	6	0.000	100	44	4.8	35
79	12	7	0.000	100	43	4.2	29
79	12	8	0.000	100	44	4.3	29
79	12	9	0.000	100	51	5.8	30
79	12	10	0.000	100	50	5.9	36
79	12	11	0.000	85	58	6.5	35
79	12	12	0.040	60	44	6.3	71
79	12	13	0.090	70	42	9.4	86
79	12	14	0.000	78	38	3.5	74
79	12	15	0.000	87	36	4.6	76
79	12	16	0.000	69	37	6.5	65
79	12	17	0.000	100	33	5.3	57
79	12	18	0.000	91	36	5.8	60
79	12	19	0.000	55	50	5.0	52
79	12	20	0.000	57	43	5.2	64
79	12	21	0.010	38	54	12.1	56
79	12	22	0.005	81	50	9.6	50
79	12	23	0.005	100	39	11.2	58
79	12	24	0.000	100	36	3.6	47
79	12	25	0.000	100	40	4.5	46
79	12	26	0.110	4	48	8.1	64
79	12	27	0.000	93	44	5.2	61
79	12	28	0.000	68	41	7.8	66
79	12	29	0.000	85	35	5.6	68
79	12	30	0.000	100	39	3.5	56
79	12	31	0.000	100	41	5.2	50
80	1	1	0.000	88	38	5.0	56
80	1	2	0.000	100	43	7.3	55
80	1	3	0.000	100	39	7.2	54
80	1	4	0.000	93	39	5.0	48
80	1	5	0.000	100	40	4.6	46
80	1	6	0.000	58	53	9.5	27

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
80	1	7	0.000	72	51	7.8	26
80	1	8	0.000	100	49	8.1	38
80	1	9	0.000	23	45	4.0	43
80	1	10	0.000	28	52	13.1	48
80	1	11	0.040	0	47	8.9	77
80	1	12	0.000	49	48	8.3	75
80	1	13	0.000	91	53	5.8	65
80	1	14	0.000	97	53	8.3	65
80	1	15	0.005	81	57	12.8	49
80	1	16	0.000	93	47	5.8	55
80	1	17	0.000	87	46	7.1	53
80	1	18	0.005	66	51	7.2	46
80	1	19	0.000	86	54	8.9	45
80	1	20	0.000	0	42	9.2	71
80	1	21	0.190	30	49	5.9	60
80	1	22	0.040	14	37	8.1	71
80	1	23	0.000	100	35	4.8	65
80	1	24	0.000	71	36	4.8	60
80	1	25	0.000	82	44	7.5	43
80	1	26	0.000	100	52	11.4	37
80	1	27	0.000	73	52	9.2	41
80	1	28	0.000	83	53	9.1	41
80	1	29	0.000	73	52	7.9	50
80	1	30	0.020	32	58	6.0	55
80	1	31	0.250	0	45	6.3	83
80	2	1	0.040	54	44	4.9	80
80	2	2	0.000	53	48	4.6	69
80	2	3	0.000	84	50	5.0	56
80	2	4	0.000	100	55	6.8	42
80	2	5	0.000	100	52	5.5	46
80	2	6	0.000	90	49	3.9	51
80	2	7	0.000	94	56	8.6	31
80	2	8	0.220	17	34	10.4	55
80	2	9	0.020	80	25	2.7	85
80	2	10	0.000	79	32	3.0	76
80	2	11	0.000	75	37	3.9	68
80	2	12	0.000	100	42	5.9	61
80	2	13	0.005	41	50	3.2	58
80	2	14	0.150	79	58	10.1	68
80	2	15	0.000	72	57	12.9	59
80	2	16	0.000	86	53	10.5	50
80	2	17	0.210	66	51	13.1	62
80	2	18	0.000	86	59	13.7	57
80	2	19	0.005	30	62	8.1	57
80	2	20	0.090	72	55	18.1	47
80	2	21	0.000	95	55	9.8	45
80	2	22	0.000	96	56	7.9	42
80	2	23	0.000	100	52	6.5	41
80	2	24	0.000	100	54	8.5	29
80	2	25	0.000	96	54	8.2	29
80	2	26	0.000	96	55	5.6	28
80	2	27	0.000	100	57	6.2	28
80	2	28	0.000	100	58	8.5	27
80	2	29	0.000	100	65	15.4	24
80	3	1	0.000	100	43	13.1	37
80	3	2	0.000	92	40	4.5	34
80	3	3	0.000	88	58	8.9	29
80	3	4	0.000	96	59	15.4	36
80	3	5	0.000	100	54	5.8	37
80	3	6	0.000	97	58	10.1	25
80	3	7	0.000	96	63	14.7	25
80	3	8	0.000	72	56	8.5	32
80	3	9	0.000	40	58	6.9	23
80	3	10	0.050	1	58	5.8	31
80	3	11	0.190	71	56	14.2	63
80	3	12	0.000	89	58	11.4	39
80	3	13	0.000	91	54	7.2	30
80	3	14	0.000	100	57	4.6	30
80	3	15	0.000	85	58	10.9	27
80	3	16	0.000	100	58	9.9	25
80	3	17	0.000	57	48	6.6	27
80	3	18	0.000	100	51	18.1	29
80	3	19	0.000	100	56	9.8	26
80	3	20	0.000	100	55	6.8	30
80	3	21	0.000	25	55	13.7	24
80	3	22	0.000	83	60	15.8	20
80	3	23	0.000	32	52	5.5	35
80	3	24	0.000	100	48	10.2	40
80	3	25	0.000	100	55	10.2	33
80	3	26	0.000	58	57	15.2	26
80	3	27	0.010	100	51	11.4	43
80	3	28	0.000	100	52	7.2	40

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
80	3	29	0.000	58	48	15.2	29
80	3	30	0.000	100	50	5.0	23
80	3	31	0.000	91	58	16.7	15
80	4	1	0.000	100	55	10.6	19
80	4	2	0.000	100	58	11.5	21
80	4	3	0.000	100	52	6.2	21
80	4	4	0.000	100	58	7.1	21
80	4	5	0.000	100	62	8.6	19
80	4	6	0.000	100	67	8.9	15
80	4	7	0.000	100	67	11.7	16
80	4	8	0.000	100	60	6.3	14
80	4	9	0.000	100	59	3.7	18
80	4	10	0.000	100	65	9.4	16
80	4	11	0.000	89	67	13.1	19
80	4	12	0.290	8	40	13.4	63
80	4	13	0.000	96	41	4.3	44
80	4	14	0.000	100	52	7.8	28
80	4	15	0.000	100	59	4.9	22
80	4	16	0.000	100	63	5.3	21
80	4	17	0.000	100	66	7.6	19
80	4	18	0.000	100	62	5.9	18
80	4	19	0.000	100	65	5.8	16
80	4	20	0.000	93	73	7.1	15
80	4	21	0.000	59	69	5.6	25
80	4	22	0.020	66	72	9.5	28
80	4	23	0.000	78	68	13.4	24
80	4	24	0.000	91	54	18.3	36
80	4	25	0.000	82	55	7.5	42
80	4	26	0.000	100	59	4.9	35
80	4	27	0.000	85	62	9.5	30
80	4	28	0.000	100	67	6.2	26
80	4	29	0.000	40	68	11.2	26
80	4	30	0.000	14	62	13.7	33
80	5	1	0.000	70	63	8.3	33
80	5	2	0.050	90	64	9.4	33
80	5	3	0.030	38	59	9.0	55
80	5	4	0.000	100	60	4.5	51
80	5	5	0.005	88	67	6.2	38
80	5	6	0.000	100	71	6.0	27
80	5	7	0.005	78	70	10 2	27
80	5	8	0.000	100	73	10.8	24
80	5	9	0.000	100	73	14.2	20
80	5	10	0.000	69	78	16.5	14
80	5	11	0.000	84	73	12.7	20
80	5	12	0.000	100	68	13.5	26
80	5	13	0.000	100	63	4.9	23
80	5	14	0.000	76	71	7.1	24
80	5	15	0.000	100	65	11.9	30
80	5	16	0.000	91	62	7.5	35
80	5	17	0.000	100	67	8.5	29
80	5	18	0.000	90	71	7.6	27
80	5	19	0.000	100	70	4.3	29
80	5	20	0.000	96	77	3.3	24
80	5	21	0.000	100	77	7.3	24
80	5	22	0.000	100	78	8.1	22
80	5	23	0.000	100	78	16.1	17
80	5	24	0.000	100	76	15.4	19
80	5	25	0.000	97	71	8.8	18
80	5	26	0.000	92	75	8.5	13
80	5	27	0.000	92	78	6.9	19
80	5	28	0.000	93	73	6.6	21
80	5	29	0.000	100	73	7.3	15
80	5	30	0.000	100	71	4.0	16
80	5	31	0.000	96	79	11.7	12
80	6	1	0.000	71	84	13.2	11
80	6	2	0.000	94	74	8.1	16
80	6	3	0.000	93	82	5.3	21
80	6	4	0.000	100	84	4.3	18
80	6	5	0.000	100	83	7.8	14
80	6	6	0.000	100	84	7.5	10
80	6	7	0.000	93	83	5.2	13
80	6	8	0.005	71	82	10.1	23
80	6	9	0.000	53	78	8.9	42
80	6	10	0.005	74	83	9.9	43
80	6	11	0.000	100	84	6.3	27
80	6	12	0.000	100	84	6.9	15
80	6	13	0.000	100	84	6.0	15
80	6	14	0.000	100	80	3	16
80	6	15	0.000	100	-	0	14
80	6	16	0.000	100	9	4.9	15
80	6	17	0.000	100	-	7.5	15
80	6	18	0.000	100	90	4.9	16

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
80	6	19	0.000	91	93	11.5	16
80	6	20	0.005	89	91	4.6	18
80	6	21	0.000	93	87	6.3	21
80	6	22	0.000	100	89	4.6	18
80	6	23	0.000	100	89	6.3	19
80	6	24	0.000	100	94	11.4	16
80	6	25	0.000	100	90	7.8	16
80	6	26	0.000	100	89	6.0	20
80	6	27	0.000	100	91	5.2	17
80	6	28	0.000	100	91	7.8	17
80	6	29	0.000	94	94	12.5	13
80	6	30	0.000	95	87	9.6	19
80	7	1	0.000	100	84	11.4	24
80	7	2	0.000	100	90	7.5	19
80	7	3	0.000	100	91	5.8	19
80	7	4	0.000	82	94	9.6	18
80	7	5	0.000	81	87	5.0	22
80	7	6	0.000	94	87	7.6	28
80	7	7	0.000	92	88	5.6	28
80	7	8	0.160	92	88	5.3	31
80	7	9	0.030	92	85	4.3	42
80	7	10	0.000	100	87	8.3	29
80	7	11	0.000	100	87	3.6	27
80	7	12	0.020	96	86	9.2	32
80	7	13	0.005	96	85	8.1	37
80	7	14	0.000	96	86	5.3	32
80	7	15	0.000	89	89	3.2	27
80	7	16	0.005	54	90	7.2	27
80	7	17	0.000	80	90	6.3	27
80	7	18	0.000	94	88	6.6	26
80	7	19	0.000	95	90	7.1	21
80	7	20	0.000	88	87	5.0	22
80	7	21	0.000	93	86	9.8	28
80	7	22	0.000	94	86	9.6	31
80	7	23	0.000	90	83	6.3	36
80	7	24	0.000	100	84	3.9	27
80	7	25	0.000	100	86	2.5	25
80	7	26	0.000	97	89	4.2	23
80	7	27	0.005	71	89	10.6	25
80	7	28	0.005	98	86	7.3	34
80	7	29	0.000	85	88	6.2	25
80	7	30	0.000	100	86	3.9	22
80	7	31	0.000	100	86	9.1	20
80	8	1	0.000	[illegible]	[illegible]	[illegible]	21
80	8	2	0.000	[illegible]4	[illegible]	[illegible].9	21
80	8	3	0.000	[illegible]8	[illegible]	[illegible].6	24
80	8	4	0.000	91	91	[illegible].5	29
80	8	5	0.000	98	90	9.2	29
80	8	6	0.160	83	88	8.6	32
80	8	7	0.000	100	87	8.3	33
80	8	8	0.000	100	85	6.5	34
80	8	9	0.005	94	85	5.8	37
80	8	10	0.005	89	83	6.6	39
80	8	11	0.040	88	77	11.7	47
80	8	12	0.340	50	71	7.5	67
80	8	13	1.060	55	76	4.5	61
80	8	14	0.020	68	80	8.1	51
80	8	15	0.000	100	83	9.5	38
80	8	16	0.000	100	83	5.9	34
80	8	17	0.005	64	86	6.3	33
80	8	18	0.010	90	82	6.0	45
80	8	19	0.000	93	82	8.2	39
80	8	20	0.000	94	81	3.7	34
80	8	21	0.060	82	79	2.7	46
80	8	22	0.000	96	80	5.3	41
80	8	23	0.000	84	82	7.8	36
80	8	24	0.000	100	82	4.9	39
80	8	25	0.000	84	81	4.5	40
80	8	26	0.070	62	81	3.6	44
80	8	27	0.005	90	77	4.2	50
80	8	28	0.000	94	79	1.2	40
80	8	29	0.000	100	82	4.6	33
80	8	30	0.000	88	82	5.8	30
80	8	31	0.005	85	81	5.0	32
80	9	1	0.000	78	81	4.8	31
80	9	2	0.005	93	80	2.9	37
80	9	3	0.005	79	80	6.0	41
80	9	4	0.005	81	79	5.6	46
80	9	5	0.130	72	71	5.3	65
80	9	6	0.250	57	73	9.4	63
80	9	7	0.005	88	76	4.2	55
80	9	8	0.000	58	80	4.2	47

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)	YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
80	9	9	0.190	64	74	6.0	61	80	10	20	0.020	35	50	5.6	75
80	9	10	0.000	53	75	4.5	55	80	10	21	0.000	100	52	3.5	63
80	9	11	0.000	88	76	2.2	54	80	10	22	0.000	100	55	4.3	49
80	9	12	0.000	100	81	4.3	43	80	10	23	0.000	100	58	4.3	41
80	9	13	0.350	59	79	6.9	49	80	10	24	0.000	100	53	5.3	41
80	9	14	0.040	66	73	3.9	65	80	10	25	0.000	81	55	2.2	47
80	9	15	0.000	88	77	4.5	52	80	10	26	0.005	68	62	13.1	34
80	9	16	0.000	95	81	6.2	35	80	10	27	0.005	100	58	16.0	36
80	9	17	0.000	100	79	4.8	29	80	10	28	0.540	29	40	9.2	77
80	9	18	0.000	100	79	5.3	25	80	10	29	0.000	100	41	1.3	71
80	9	19	0.000	100	78	2.9	29	80	10	30	0.000	100	47	2.2	60
80	9	20	0.000	100	80	7.1	30	80	10	31	0.000	100	51	4.3	54
80	9	21	0.000	97	80	9.5	24	80	11	1	0.000	100	56	4.0	45
80	9	22	0.005	63	75	5.2	26	80	11	2	0.000	100	56	3.2	45
80	9	23	0.000	86	74	5.9	42	80	11	3	0.000	100	59	3.9	38
80	9	24	0.005	95	73	4.6	51	80	11	4	0.000	100	58	3.2	42
80	9	25	0.650	6	72	9.2	57	80	11	5	0.000	100	59	3.5	42
80	9	26	0.230	9	63	10.6	76	80	11	6	0.000	100	59	7.2	41
80	9	27	0.060	0	67	5.0	69	80	11	7	0.000	100	61	3.6	34
80	9	28	0.005	30	71	3.6	61	80	11	8	0.000	100	60	3.5	34
80	9	29	0.000	89	75	3.9	52	80	11	9	0.000	100	59	2.6	38
80	9	30	0.000	100	75	5.0	45	80	11	10	0.000	89	60	2.0	38
80	10	1	0.000	100	75	2.5	40	80	11	11	0.000	100	61	3.0	38
80	10	2	0.000	100	70	7.1	46	80	11	12	0.000	86	62	4.0	38
80	10	3	0.000	100	70	4.2	47	80	11	13	0.000	69	61	3.5	41
80	10	4	0.000	100	74	4.5	45	80	11	14	0.000	100	54	6.6	50
80	10	5	0.000	100	74	2.9	40	80	11	15	0.340	19	39	9.2	83
80	10	6	0.000	51	70	7.8	43	80	11	16	0.190	0	32	6.9	92
80	10	7	0.000	89	71	5.0	43	80	11	17	0.005	62	34	4.3	79
80	10	8	0.000	91	68	2.3	45	80	11	18	0.000	100	33	1.6	85
80	10	9	0.000	100	66	2.0	45	80	11	19	0.000	100	37	2.6	76
80	10	10	0.000	100	67	7.3	45	80	11	20	0.000	87	43	6.5	59
80	10	11	0.000	100	64	6.3	50	80	11	21	0.010	16	44	5.3	66
80	10	12	0.000	100	65	4.0	56	80	11	22	0.000	50	48	12.2	62
80	10	13	0.005	82	68	6.5	51	80	11	23	0.000	100	47	4.5	57
80	10	14	0.110	87	68	6.5	47	80	11	24	0.000	83	52	8.5	46
80	10	15	0.000	97	67	14.8	36	80	11	25	0.005	72	36	12.7	71
80	10	16	0.000	91	54	5.2	47	80	11	26	0.000	100	34	3.2	70
80	10	17	0.000	85	53	3.7	45	80	11	27	0.000	100	36	2.3	68
80	10	18	0.000	91	56	6.3	39	80	11	28	0.000	100	43	2.9	52
80	10	19	0.280	47	53	10.4	52	80	11	29	0.000	100	48	3.6	49

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
80	11	30	0.000	88	52	6.3	44
80	12	1	0.000	100	58	7.6	35
80	12	2	0.000	100	51	4.9	46
80	12	3	0.000	100	51	1.7	50
80	12	4	0.000	100	52	4.3	44
80	12	5	0.000	98	53	5.3	45
80	12	6	0.000	68	57	3.6	42
80	12	7	0.005	6	50	5.9	65
80	12	8	0.000	73	43	7.8	59
80	12	9	0.000	100	37	4.5	68
80	12	10	0.000	100	38	4.6	61
80	12	11	0.000	50	38	3.6	56
80	12	12	0.000	72	46	4.2	53
80	12	13	0.040	69	54	7.2	70
80	12	14	0.000	68	49	5.5	77
80	12	15	0.000	82	49	3.0	55
80	12	16	0.000	100	51	2.5	50
80	12	17	0.000	100	52	5.5	52
80	12	18	0.000	94	58	6.2	47
80	12	19	0.000	89	41	7.3	77
80	12	20	0.000	82	38	5.6	74
80	12	21	0.000	57	40	4.0	83
80	12	22	0.000	77	44	5.0	66
80	12	23	0.000	82	50	5.6	54
80	12	24	0.000	100	53	5.9	43
80	12	25	0.000	100	49	5.3	49
80	12	26	0.000	100	55	3.9	40
80	12	27	0.000	100	55	1.7	43
80	12	28	0.000	86	55	4.5	47
80	12	29	0.000	59	51	7.5	52
80	12	30	0.000	100	46	4.5	47
80	12	31	0.000	100	48	4.5	39
81	1	1	0.000	92	51	8.5	39
81	1	2	0.005	96	49	4.6	48
81	1	3	0.000	100	51	3.7	44
81	1	4	0.000	53	48	6.3	49
81	1	5	0.000	57	56	6.0	42
81	1	6	0.020	44	52	9.6	44
81	1	7	0.150	4	44	5.8	86
81	1	8	0.700	15	48	6.9	83
81	1	9	0.000	43	46	2.9	80
81	1	10	0.005	11	45	5.0	86
81	1	11	0.010	0	46	8.8	55
81	1	12	0.200	0	43	5.5	86
81	1	13	0.110	24	47	3.9	86
81	1	14	0.000	73	47	4.8	57
81	1	15	0.000	93	44	3.0	61
81	1	16	0.080	6	44	9.8	71
81	1	17	0.350	0	33	10.8	85
81	1	18	0.110	17	31	3.9	85
81	1	19	0.000	11	34	3.2	82
81	1	20	0.000	0	32	3.5	92
81	1	21	0.000	90	42	6.2	61
81	1	22	0.000	100	40	3.5	56
81	1	23	0.000	100	44	6.0	53
81	1	24	0.000	94	52	9.4	38
81	1	25	0.000	0	51	6.6	44
81	1	26	0.000	79	50	8.3	48
81	1	27	0.000	100	49	7.1	36
81	1	28	0.000	95	49	6.0	41
81	1	29	0.000	95	48	8.6	42
81	1	30	0.000	94	47	7.2	51
81	1	31	0.000	71	45	19.0	37
81	2	1	0.000	100	40	8.6	38
81	2	2	0.000	92	30	3.7	55
81	2	3	0.000	91	42	5.2	39
81	2	4	0.000	100	44	6.0	45
81	2	5	0.000	100	44	4.3	45
81	2	6	0.000	94	42	4.9	39
81	2	7	0.000	95	51	10.5	27
81	2	8	0.000	92	58	12.2	21
81	2	9	0.190	77	[illegible]	8	63
81	2	10	0.000	93	[illegible]	4	52
81	2	11	0.000	93	[illegible]	[illegible]	42
81	2	12	0.000	92	43	6.8	36
81	2	13	0.000	94	49	6.2	33
81	2	14	0.000	100	47	2.9	33
81	2	15	0.000	99	49	4.3	33
81	2	16	0.000	100	53	5.5	30
81	2	17	0.000	100	56	5.3	34
81	2	18	0.000	100	59	4.0	31
81	2	19	0.000	100	56	4.6	31

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
81	2	20	0.000	90	60	9.9	31
81	2	21	0.000	93	50	14.1	25
81	2	22	0.000	100	45	4.3	25
81	2	23	0.000	100	47	3.7	25
81	2	24	0.000	100	53	6.0	26
81	2	25	0.000	91	58	8.5	31
81	2	26	0.000	73	67	8.3	35
81	2	27	0.120	5	60	2.6	66
81	2	28	0.050	10	59	1.9	76
81	3	1	0.000	65	59	5.3	55
81	3	2	0.000	51	58	7.2	55
81	3	3	0.120	46	57	10.9	53
81	3	4	0.020	88	55	20.1	45
81	3	5	0.000	67	52	4.6	50
81	3	6	0.140	45	49	8.2	62
81	3	7	0.000	96	53	10.5	43
81	3	8	0.000	87	52	8.1	44
81	3	9	0.000	93	51	8.3	54
81	3	10	0.000	19	49	8.5	69
81	3	11	0.010	31	58	8.3	59
81	3	12	0.080	25	58	5.0	55
81	3	13	0.000	58	57	6.6	49
81	3	14	0.000	57	57	14.4	30
81	3	15	0.000	41	54	3.0	32
81	3	16	0.000	82	59	7.2	39
81	3	17	0.000	100	63	16.8	22
81	3	18	0.000	100	60	5.6	20
81	3	19	0.000	100	59	4.2	25
81	3	20	0.000	49	63	18.4	32
81	3	21	0.000	94	60	21.6	29
81	3	22	0.000	100	57	5.3	27
81	3	23	0.000	100	59	4.3	28
81	3	24	0.000	89	65	10.3	25
81	3	25	0.000	100	65	8.2	20
81	3	26	0.000	100	67	9.2	23
81	3	27	0.000	93	65	15.0	24
81	3	28	0.020	88	49	17.1	38
81	3	29	0.000	91	55	14.8	36
81	3	30	0.000	100	60	13.4	29
81	3	31	0.000	100	59	8.5	29
81	4	1	0.000	100	58	6.2	24
81	4	2	0.000	77	62	8.6	24
81	4	3	0.000	88	56	22.3	32
81	4	4	0.000	100	56	12.9	29
81	4	5	0.000	95	[illegible]	[illegible] 8	23
81	4	6	[illegible]	[illegible]	[illegible]	[illegible] .3	26
81	4	7	[illegible]	[illegible]	[illegible]	1.9	29
81	4	8	0.000	[illegible]	[illegible]	14.0	20
81	4	9	0.000	100	63	5.6	21
81	4	10	0.000	95	70	9.5	21
81	4	11	0.000	92	72	10.8	23
81	4	12	0.000	86	70	8.6	22
81	4	13	0.000	85	77	6.5	25
81	4	14	0.170	14	57	12.5	68
81	4	15	0.000	46	57	8.8	63
81	4	16	0.005	63	66	6.0	54
81	4	17	0.070	1	63	6.8	79
81	4	18	0.005	61	68	9.9	45
81	4	19	0.000	100	68	7.6	24
81	4	20	0.000	100	64	4.8	34
81	4	21	0.005	44	66	8.6	42
81	4	22	0.000	27	57	5.9	70
81	4	23	0.410	36	57	8.2	73
81	4	24	0.000	71	58	5.8	53
81	4	25	0.000	100	66	7.9	49
81	4	26	0.000	90	71	7.5	38
81	4	27	0.000	84	71	6.6	37
81	4	28	0.005	93	73	7.3	50
81	4	29	0.000	96	76	8.9	47
81	4	30	0.000	80	75	9.4	47
81	5	1	0.710	80	71	12.1	59
81	5	2	0.005	85	66	8.3	76
81	5	3	0.000	84	70	9.8	47
81	5	4	0.000	100	72	8.5	33
81	5	5	0.000	88	69	9.8	58
81	5	6	0.000	100	71	5.8	43
81	5	7	0.000	89	72	10.4	24
81	5	8	0.000	98	72	16.3	20
81	5	9	0.000	100	65	12.5	19
81	5	10	0.000	98	63	8.8	31
81	5	11	0.000	100	70	10.1	24
81	5	12	0.000	100	79	13.5	20

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
81	5	13	0.000	100	76	10.6	23
81	5	14	0.010	93	71	9.9	40
81	5	15	0.000	88	72	13.1	30
81	5	16	0.000	100	73	18.6	29
81	5	17	0.000	100	71	15.7	32
81	5	18	0.000	100	72	5.8	24
81	5	19	0.000	91	71	12.4	34
81	5	20	0.000	93	77	13.7	28
81	5	21	0.000	100	76	14.1	18
81	5	22	0.000	93	74	13.4	20
81	5	23	0.000	88	77	9.5	18
81	5	24	0.000	92	75	9.4	21
81	5	25	0.000	96	81	8.5	21
81	5	26	0.000	98	83	10.8	23
81	5	27	0.000	90	86	7.2	25
81	5	28	0.005	90	83	6.5	25
81	5	29	0.000	81	77	7.5	34
81	5	30	0.005	80	77	7.1	37
81	5	31	0.000	89	76	5.0	41
81	6	1	0.000	99	77	7.3	34
81	6	2	0.000	100	79	4.8	29
81	6	3	0.000	97	81	7.9	25
81	6	4	0.430	71	79	8.8	44
81	6	5	0.005	74	79	5.5	47
81	6	6	0.000	78	83	5.3	39
81	6	7	0.000	100	87	5.9	27
81	6	8	0.000	100	86	6.9	22
81	6	9	0.000	100	88	7.9	18
81	6	10	0.000	100	91	7.1	18
81	6	11	0.000	100	86	4.8	23
81	6	12	0.000	100	85	6.0	32
81	6	13	0.000	98	90	10.9	22
81	6	14	0.000	100	86	10.8	27
81	6	15	0.000	98	80	10.9	18
81	6	16	0.000	98	72	9.9	28
81	6	17	0.000	100	71	3.7	20
81	6	18	0.000	100	77	5.5	22
81	6	19	0.000	100	84	6.3	24
81	6	20	0.000	100	86	7.8	14
81	6	21	0.000	100	89	8.6	16
81	6	22	0.000	85	92	4.6	17
81	6	23	0.005	82	87	11.7	36
81	6	24	0.005	74	86	9.5	37
81	6	25	0.000	86	83	9.6	42
81	6	26	0.000	91	81	9.9	51
81	6	27	0.000	87	81	7.8	54
81	6	28	0.005	73	79	7.6	60
81	6	29	0.180	65	79	5.2	68
81	6	30	0.030	73	80	8.8	66
81	7	1	0.000	70	79	6.0	64
81	7	2	0.000	80	84	7.6	50
81	7	3	0.000	86	85	5.6	44
81	7	4	0.000	96	86	5.0	42
81	7	5	0.000	96	86	7.2	37
81	7	6	0.000	93	84	5.2	33
81	7	7	0.000	92	86	7.2	34
81	7	8	0.000	91	84	5.9	42
81	7	9	0.010	43	76	7.9	72
81	7	10	0.000	94	79	8.8	58
81	7	11	0.000	90	83	7.6	46
81	7	12	0.080	89	82	6.8	53
81	7	13	0.000	83	81	3.9	49
81	7	14	0.000	92	83	6.6	42
81	7	15	0.000	90	85	7.2	37
81	7	16	0.680	78	83	7.9	48
81	7	17	0.005	73	81	2.7	64
81	7	18	0.000	96	84	2.5	51
81	7	19	0.005	53	87	8.1	38
81	7	20	0.000	74	87	5.0	37
81	7	21	0.000	100	87	4.8	33
81	7	22	0.000	100	86	4.8	29
81	7	23	0.000	100	87	6.9	32
81	7	24	0.000	88	89	5.9	31
81	7	25	0.000	100	87	7.3	32
81	7	26	0.000	100	87	6.6	38
81	7	27	0.270	86	86	9.2	48
81	7	28	0.120	75	82	4.8	62
81	7	29	0.540	70	81	1.4	68
81	7	30	0.380	46	80	5.5	68
81	7	31	0.000	87	82	7.6	60
81	8	1	0.000	89	85	6.5	50
81	8	2	0.000	86	87	10.4	47

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
81	8	3	0.090	67	85	8.6	55
81	8	4	0.000	76	83	7.2	56
81	8	5	0.000	87	86	4.3	45
81	8	6	0.320	57	87	5.2	47
81	8	7	1.230	28	74	8.9	77
81	8	8	0.040	64	73	3.7	80
81	8	9	0.000	96	76	5.5	63
81	8	10	1.540	86	80	4.5	60
81	8	11	0.420	25	74	5.5	80
81	8	12	0.020	90	77	4.6	66
81	8	13	0.005	73	76	8.2	66
81	8	14	0.090	86	79	4.0	60
81	8	15	0.070	71	81	5.9	66
81	8	16	0.540	69	80	7.2	62
81	8	17	0.260	87	77	5.5	66
81	8	18	0.640	88	77	3.7	66
81	8	19	0.005	86	78	6.6	62
81	8	20	0.000	89	77	8.1	52
81	8	21	0.000	100	76	5.5	48
81	8	22	0.000	100	79	3.2	38
81	8	23	0.000	89	82	4.3	46
81	8	24	0.000	94	80	6.9	44
81	8	25	0.000	100	78	4.5	44
81	8	26	0.000	93	79	5.9	46
81	8	27	0.000	93	78	9.1	47
81	8	28	0.000	91	80	8.1	49
81	8	29	0.000	100	80	2.6	46
81	8	30	0.000	100	81	3.0	43
81	8	31	0.000	93	85	8.1	38
81	9	1	0.005	65	78	5.6	54
81	9	2	0.000	100	79	2.2	49
81	9	3	0.000	78	81	4.3	43
81	9	4	0.005	73	82	9.9	53
81	9	5	0.005	10	74	6.6	77
81	9	6	0.005	37	75	3.0	68
81	9	7	0.070	14	74	6.3	77
81	9	8	0.320	0	65	8.1	87
81	9	9	0.050	0	67	3.6	84
81	9	10	0.000	61	75	3.2	68
81	9	11	0.000	80	79	4.3	64
81	9	12	0.000	94	80	4.6	58
81	9	13	0.000	67	81	4.2	54
81	9	14	0.000	85	78	3.2	52
81	9	15	0.005	50	80	5.6	47
81	9	16	0.000	99	76	8.6	47
81	9	17	0.000	77	72	8.9	55
81	9	18	0.000	99	68	5.8	51
81	9	19	0.000	100	70	4.2	53
81	9	20	0.000	100	74	3.3	42
81	9	21	0.000	95	77	5.8	38
81	9	22	0.080	51	77	6.3	59
81	9	23	0.000	87	76	4.2	63
81	9	24	0.005	90	79	4.8	47
81	9	25	0.000	93	77	5.0	42
81	9	26	0.000	100	77	3.6	32
81	9	27	0.000	100	76	6.0	38
81	9	28	0.000	91	80	4.0	37
81	9	29	0.000	100	77	3.9	39
81	9	30	0.000	90	79	4.3	40
81	10	1	0.005	46	75	9.5	59
81	10	2	0.010	44	76	4.5	63
81	10	3	0.000	91	74	8.5	53
81	10	4	0.005	95	71	5.3	55
81	10	5	0.030	47	73	4.5	63
81	10	6	0.010	62	67	6.5	82
81	10	7	0.000	74	68	4.0	69
81	10	8	0.000	72	74	9.4	57
81	10	9	0.000	100	71	11.1	38
81	10	10	0.030	91	68	6.2	58
81	10	11	0.320	90	71	9.6	61
81	10	12	0.000	76	68	8.1	62
81	10	13	0.000	77	68	8.8	60
81	10	14	0.000	100	[illegible]	[illegible].8	49
81	10	15	0.000	100	[illegible]	.8	41
81	10	16	0.000	1[illegible]	[illegible]	[illegible].5	39
81	10	17	0.000	99	61	[illegible].9	33
81	10	18	0.000	91	54	12.9	48
81	10	19	0.000	26	64	5.0	48
81	10	20	0.000	82	63	4.5	60
81	10	21	0.120	70	65	7.8	60
81	10	22	0.010	54	65	3.5	54
81	10	23	0.000	10	51	8.5	62

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID (%)
81	10	24	0.000	97	53	7.8	56
81	10	25	0.000	96	61	11.9	30
81	10	26	0.000	100	55	4.3	43
81	10	27	0.000	95	58	3.7	41
81	10	28	0.000	93	62	3.2	43
81	10	29	0.000	97	66	10.1	38
81	10	30	0.000	100	61	6.6	37
81	10	31	0.000	100	54	9.8	32
81	11	1	0.000	100	50	2.5	46
81	11	2	0.000	100	61	3.0	24
81	11	3	0.000	100	53	3.0	31
81	11	4	0.000	97	56	3.6	37
81	11	5	0.000	95	59	4.8	34
81	11	6	0.000	91	64	7.3	45
81	11	7	0.000	94	59	10.5	47
81	11	8	0.000	91	56	7.2	42
81	11	9	0.000	100	51	7.2	34
81	11	10	0.000	100	48	3.6	34
81	11	11	0.000	100	51	2.6	34
81	11	12	0.000	100	54	3.6	38
81	11	13	0.000	100	58	5.2	32
81	11	14	0.000	97	57	4.2	31
81	11	15	0.000	100	61	4.3	28
81	11	16	0.000	100	59	4.0	31
81	11	17	0.000	100	59	7.5	29
81	11	18	0.000	100	63	10.2	21
81	11	19	0.000	95	51	8.1	25
81	11	20	0.000	100	46	3.2	39
81	11	21	0.000	100	52	3.3	28
81	11	22	0.000	94	53	8.6	27
81	11	23	0.000	96	57	4.0	23
81	11	24	0.000	100	55	5.9	29
81	11	25	0.000	96	59	13.8	27
81	11	26	0.000	97	51	6.8	34
81	11	27	0.060	2	52	8.8	63
81	11	28	0.170	0	49	6.3	93
81	11	29	0.070	40	55	11.7	65
81	11	30	0.000	99	48	11.1	55
81	12	1	0.000	100	42	5.9	41
81	12	2	0.000	100	43	5.2	48
81	12	3	0.000	100	47	4.6	51
81	12	4	0.000	42	43	3.6	49
81	12	5	0.005	0	47	4.2	64
81	12	6	0.000	88	50	3.6	60
81	12	7	0.000	100	51	2.7	48
81	12	8	0.000	100	52	5.3	40
81	12	9	0.000	100	50	5.2	46
81	12	10	0.000	100	50	6.9	48
81	12	11	0.000	87	52	4.5	46
81	12	12	0.030	59	55	3.9	49
81	12	13	0.050	88	57	9.9	51
81	12	14	0.000	98	46	4.9	55
81	12	15	0.000	100	45	4.5	51
81	12	16	0.000	97	55	8.8	32
81	12	17	0.000	100	45	6.3	45
81	12	18	0.000	100	40	3.2	46
81	12	19	0.000	88	44	6.3	41
81	12	20	0.000	86	64	17.1	27
81	12	21	0.000	100	67	17.5	26
81	12	22	0.000	100	48	12.9	34
81	12	23	0.000	99	39	5.9	48
81	12	24	0.000	100	36	3.5	47
81	12	25	0.000	83	40	9.4	38
81	12	26	0.000	70	52	8.1	26
81	12	27	0.000	100	57	5.9	22
81	12	28	0.000	100	48	5.8	34
81	12	29	0.000	83	48	3.3	34
81	12	30	0.000	97	49	8.2	39
81	12	31	0.000	89	51	8.3	44
82	1	1	0.005	69	54	13.2	38
82	1	2	0.000	80	50	18.1	52
82	1	3	0.020	81	34	15.7	60
82	1	4	0.000	91	29	3.2	62
82	1	5	0.005	62	41	7.9	48
82	1	6	0.005	82	54	10.2	47
82	1	7	0.000	70	39	4.8	52
82	1	8	0.000	72	33	0.4	51
82	1	9	0.000	60	37	2.2	34
82	1	10	0.000	75	38	6.8	34
82	1	11	0.050	3	27	5.5	75
82	1	12	0.120	58	43	12.7	80
82	1	13	0.140	83	34	6.6	76

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
82	1	14	0.000	92	35	5.6	63
82	1	15	0.000	100	39	5.8	58
82	1	16	0.000	91	41	3.0	52
82	1	17	0.000	97	42	6.8	52
82	1	18	0.000	89	49	8.2	38
82	1	19	0.005	0	52	9.6	43
82	1	20	0.010	58	52	11.5	65
82	1	21	0.000	92	50	7.2	44
82	1	22	0.000	96	42	16.7	39
82	1	23	0.000	100	36	9.9	44
82	1	24	0.000	100	45	3.2	43
82	1	25	0.000	100	48	6.3	42
82	1	26	0.000	100	47	4.2	45
82	1	27	0.000	100	54	9.8	30
82	1	28	0.000	81	48	4.2	33
82	1	29	0.000	91	46	12.2	42
82	1	30	0.005	93	40	5.3	61
82	1	31	0.000	78	39	4.3	54
82	2	1	0.000	89	42	10.2	36
82	2	2	0.000	100	31	2.3	53
82	2	3	0.000	100	36	2.0	40
82	2	4	0.000	82	41	5.8	38
82	2	5	0.000	56	44	4.5	40
82	2	6	0.000	49	35	4.2	47
82	2	7	0.000	41	38	0.0	52
82	2	8	0.010	50	49	15.5	53
82	2	9	0.000	92	45	6.0	49
82	2	10	0.000	61	51	7.5	44
82	2	11	0.005	72	55	14.2	49
82	2	12	0.000	94	48	5.0	36
82	2	13	0.000	93	51	1.9	27
82	2	14	0.005	87	50	6.3	41
82	2	15	0.000	95	60	11.1	37
82	2	16	0.000	86	56	4.2	42
82	2	17	0.000	90	57	4.2	33
82	2	18	0.020	70	54	13.4	43
82	2	19	0.000	85	56	9.6	47
82	2	20	0.000	100	56	5.0	39
82	2	21	0.000	100	56	2.2	42
82	2	22	0.000	92	57	2.7	42
82	2	23	0.000	87	62	6.8	32
82	2	24	0.040	60	60	7.5	34
82	2	25	0.480	0	42	9.6	74
82	2	26	0.000	26	41	4.8	68
82	2	27	0.000	64	45	1.7	66
82	2	28	0.000	95	53	2.9	54
82	3	1	0.000	84	56	5.8	39
82	3	2	0.000	70	60	9.6	37
82	3	3	0.000	100	62	18.0	33
82	3	4	0.000	100	58	11.4	27
82	3	5	0.000	93	50	12.2	32
82	3	6	0.000	100	41	4.6	39
82	3	7	0.000	100	45	7.1	28
82	3	8	0.000	98	53	5.0	23
82	3	9	0.000	97	65	6.6	23
82	3	10	0.000	99	69	11.7	20
82	3	11	0.000	99	71	8.5	29
82	3	12	0.000	95	66	10.1	34
82	3	13	0.005	86	64	10.6	36
82	3	14	0.000	48	53	5.2	48
82	3	15	0.000	82	56	14.5	37
82	3	16	0.000	97	56	4.8	36
82	3	17	0.000	73	57	1.0	28
82	3	18	0.000	71	68	11.9	22
82	3	19	0.000	100	57	8.8	30
82	3	20	0.000	100	53	3.2	27
82	3	21	0.000	100	54	4.6	21
82	3	22	0.000	100	54	3.6	34
82	3	23	0.000	81	57	8.2	27
82	3	24	0.000	86	60	8.3	16
82	3	25	0.000	88	53	9.9	29
82	3	26	0.005	11	55	7.9	45
82	3	27	0.000	92	61	5.6	34
82	3	28	0.000	100	61	5.6	40
82	3	29	0.000	92	58	18.8	31
82	3	30	0.000	100	59	7.2	27
82	3	31	0.000	86	60	4.3	25
82	4	1	0.000	58	70	11.4	24
82	4	2	0.000	100	62	15.5	24
82	4	3	0.000	76	56	5.0	24
82	4	4	0.000	100	66	12.4	16
82	4	5	0.000	100	67	8.5	16

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID (%)
82	4	6	0.000	87	70	11.1	19
82	4	7	0.000	85	69	15.8	30
82	4	8	0.000	89	64	11.2	20
82	4	9	0.000	84	67	11.9	20
82	4	10	0.000	90	65	8.6	25
82	4	11	0.000	92	66	11.7	26
82	4	12	0.000	93	79	13.8	22
82	4	13	0.000	93	72	7.1	26
82	4	14	0.000	92	68	8.1	24
82	4	15	0.000	100	70	8.2	16
82	4	16	0.000	100	66	6.8	17
82	4	17	0.000	81	60	10.4	37
82	4	18	0.000	100	61	8.5	28
82	4	19	0.000	95	65	7.1	20
82	4	20	0.000	94	58	10.9	25
82	4	21	0.000	74	52	14.1	31
82	4	22	0.005	25	47	10.9	62
82	4	23	0.010	33	50	6.6	65
82	4	24	0.040	91	58	9.9	42
82	4	25	0.000	100	68	8.2	20
82	4	26	0.000	96	68	6.6	20
82	4	27	0.000	67	68	6.0	24
82	4	28	0.000	94	70	4.5	24
82	4	29	0.000	16	69	7.1	35
82	4	30	0.005	52	67	6.2	52
82	5	1	0.000	54	61	7.5	64
82	5	2	0.005	40	68	5.8	54
82	5	3	0.000	76	68	5.0	47
82	5	4	0.130	21	63	5.8	73
82	5	5	0.010	75	61	10.5	46
82	5	6	0.005	86	61	5.9	48
82	5	7	0.000	100	62	4.0	34
82	5	8	0.000	100	67	5.2	24
82	5	9	0.000	100	68	8.6	25
82	5	10	0.000	93	74	10.4	18
82	5	11	0.000	100	67	8.6	21
82	5	12	0.000	100	66	15.0	21
82	5	13	0.000	100	65	14.4	24
82	5	14	0.000	100	66	6.8	24
82	5	15	0.000	100	68	6.8	21
82	5	16	0.000	96	72	8.1	17
82	5	17	0.000	100	70	1.4	21
82	5	18	0.000	95	74	5.0	29
82	5	19	0.000	100	72	6.9	22
82	5	20	0.000	100	73	6.3	19
82	5	21	0.000	100	74	5.5	19
82	5	22	0.005	15	69	6.3	47
82	5	23	0.000	91	71	5.3	41
82	5	24	0.000	85	73	6.6	33
82	5	25	0.000	89	77	5.8	28
82	5	26	0.000	100	76	5.5	21
82	5	27	0.050	70	72	9.4	37
82	5	28	0.000	100	75	9.5	27
82	5	29	0.000	100	75	7.1	23
82	5	30	0.000	100	81	9.2	15
82	5	31	0.000	100	76	5.2	20
82	6	1	0.000	95	80	10.6	24
82	6	2	0.000	100	80	8.9	13
82	6	3	0.000	100	79	7.3	14
82	6	4	0.000	89	79	5.6	14
82	6	5	0.000	82	78	8.8	19
82	6	6	0.000	86	83	5.9	18
82	6	7	0.005	87	81	6.5	26
82	6	8	0.000	75	85	8.6	23
82	6	9	0.000	100	79	6.0	16
82	6	10	0.000	[illegible]	[illegible]	[illegible]	39
82	6	11	0.000	[illegible]	[illegible]	[illegible]	27
82	6	12	0.000	[illegible]	[illegible]	[illegible]	28
82	6	13	0.000	100	93	[illegible]	[illegible]
82	6	14	0.000	95	80	[illegible]	26
82	6	15	0.000	95	80	[illegible]	16
82	6	16	0.000	100	80	4.3	28
82	6	17	0.000	80	81	4.5	40
82	6	18	0.000	97	81	3.7	24
82	6	19	0.000	100	80	6.8	40
82	6	20	0.010	71	75	5.9	55
82	6	21	0.000	96	76	4.5	41
82	6	22	0.000	92	80	5.0	33
82	6	23	0.000	96	83	3.7	28
82	6	24	0.000	100	81	4.6	25
82	6	25	0.000	100	82	3.2	19
82	6	26	0.000	100	85	5.0	21

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
82	6	27	0.000	100	85	4.9	24
82	6	28	0.000	94	88	6.2	28
82	6	29	0.000	94	87	6.5	22
82	6	30	0.170	74	81	5.8	41
82	7	1	0.000	88	80	5.0	46
82	7	2	0.000	100	84	5.9	29
82	7	3	0.000	100	86	4.9	28
82	7	4	0.005	90	87	12.5	22
82	7	5	0.000	59	80	9.6	37
82	7	6	0.000	87	83	5.5	33
82	7	7	0.005	83	84	7.8	34
82	7	8	0.070	82	85	7.1	44
82	7	9	0.000	92	84	3.2	42
82	7	10	0.000	100	84	5.8	31
82	7	11	0.000	70	86	7.5	38
82	7	12	0.710	93	79	4.5	52
82	7	13	0.005	87	86	5.5	39
82	7	14	0.000	100	85	6.5	33
82	7	15	0.000	91	87	5.5	29
82	7	16	0.010	92	87	4.5	30
82	7	17	0.010	93	87	6.0	32
82	7	18	0.030	91	85	6.3	39
82	7	19	0.000	94	85	4.3	35
82	7	20	0.005	81	87	5.8	35
82	7	21	0.060	77	85	4.0	39
82	7	22	0.000	100	86	6.8	33
82	7	23	0.000	96	84	8.8	37
82	7	24	0.000	86	82	4.5	46
82	7	25	0.040	97	84	5.3	42
82	7	26	0.000	97	88	4.8	34
82	7	27	0.000	78	85	5.5	39
82	7	28	0.000	92	84	5.6	39
82	7	29	0.005	86	85	5.9	41
82	7	30	0.070	87	82	6.2	49
82	7	31	0.005	93	81	4.5	51
82	8	1	0.060	90	84	5.5	48
82	8	2	0.060	89	83	6.9	46
82	8	3	0.000	51	85	7.8	41
82	8	4	0.005	92	83	5.0	46
82	8	5	0.005	93	83	4.8	46
82	8	6	0.040	98	85	5.9	38
82	8	7	0.000	[illegible]	[illegible]	[illegible]	31
82	8	8	0.000	[illegible]	83	[illegible]	42
82	8	9	0.000	93	79	4.2	56
82	8	10	0.000	100	82	5.3	46
82	8	11	0.000	95	84	6.3	45
82	8	12	0.005	82	82	7.1	48
82	8	13	0.030	97	81	8.1	53
82	8	14	0.000	97	85	7.2	41
82	8	15	0.000	98	88	4.8	34
82	8	16	0.000	94	88	7.1	29
82	8	17	0.000	97	86	9.1	33
82	8	18	0.000	87	85	6.8	44
82	8	19	0.000	74	85	5.5	44
82	8	20	0.005	88	89	7.3	35
82	8	21	0.000	85	84	8.6	34
82	8	22	0.000	86	82	3.3	36
82	8	23	0.000	80	82	5.6	35
82	8	24	0.000	24	86	6.2	38
82	8	25	0.060	50	82	6.9	55
82	8	26	0.000	69	81	4.3	46
82	8	27	0.005	62	84	5.3	39
82	8	28	0.100	53	85	4.5	44
82	8	29	0.130	75	82	6.3	48
82	8	30	0.000	51	81	3.0	53
82	8	31	0.000	36	84	6.3	43
82	9	1	0.000	43	86	6.3	34
82	9	2	0.110	54	82	5.6	45
82	9	3	0.000	97	82	8.8	36
82	9	4	0.000	100	81	5.0	36
82	9	5	0.000	100	81	3.9	35
82	9	6	0.000	100	81	4.2	27
82	9	7	0.000	100	80	9.9	33
82	9	8	0.000	93	79	5.0	43
82	9	9	0.000	79	82	6.3	46
82	9	10	0.530	84	73	6.8	72
82	9	11	0.005	90	73	8.1	57
82	9	12	0.010	85	71	7.1	57
82	9	13	0.000	100	74	6.9	46
82	9	14	0.000	100	75	4.2	39
82	9	15	0.030	80	77	9.5	47
82	9	16	0.000	95	79	7.2	47

TABLE H.1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP. (F)	MEAN WIND SPEED (mph)	REL. HUMID. (%)
82	9	17	0.000	84	81	5.3	44
82	9	18	0.240	78	74	11.8	65
82	9	19	0.010	98	73	5.6	65
82	9	20	2.200	72	78	7.8	58
82	9	21	0.010	62	71	7.9	57
82	9	22	0.000	100	73	4.3	48
82	9	23	0.000	100	79	4.0	43
82	9	24	0.000	100	79	4.2	37
82	9	25	0.000	98	78	3.9	41
82	9	26	0.000	100	79	6.8	33
82	9	27	0.000	78	80	11.2	30
82	9	28	0.000	74	76	8.1	35
82	9	29	0.000	78	75	8.1	34
82	9	30	2.140	0	69	7.9	77
82	10	1	0.000	79	71	4.5	61
82	10	2	0.000	100	69	5.6	37
82	10	3	0.000	100	70	6.6	46
82	10	4	0.000	93	76	5.0	47
82	10	5	0.000	100	76	5.5	34
82	10	6	0.000	100	73	6.3	26
82	10	7	0.000	100	74	6.9	31
82	10	8	0.000	100	70	10.1	19
82	10	9	0.000	100	58	7.5	22
82	10	10	0.000	100	58	9.9	27
82	10	11	0.000	100	62	5.5	33
82	10	12	0.000	78	57	6.3	59
82	10	13	0.000	100	55	4.9	54
82	10	14	0.000	100	59	5.0	47
82	10	15	0.000	91	62	6.8	38
82	10	16	0.005	56	65	7.1	50
82	10	17	0.000	100	66	4.9	49
82	10	18	0.000	100	68	6.0	31
82	10	19	0.000	100	66	5.5	24
82	10	20	0.000	60	59	5.5	35
82	10	21	0.000	100	59	4.8	38
82	10	22	0.000	97	62	4.5	40
82	10	23	0.000	90	64	3.5	42
82	10	24	0.000	100	66	3.3	36
82	10	25	0.000	82	73	3.3	27
82	10	26	0.000	88	69	5.8	30
82	10	27	0.000	34	70	9.4	29
82	10	28	0.000	100	56	7.5	24
82	10	29	0.000	100	53	4.3	29
82	10	30	0.000	100	61	5.3	31
82	10	31	0.000	95	62	5.9	30
82	11	1	0.000	91	62	5.8	37
82	11	2	0.005	87	59	6.2	38
82	11	3	0.000	100	48	4.5	47
82	11	4	0.000	100	49	2.0	39
82	11	5	0.000	91	52	2.2	34
82	11	6	0.000	97	54	5.0	30
82	11	7	0.000	93	59	3.0	31
82	11	8	0.000	64	63	3.3	33
82	11	9	0.000	90	61	5.9	43
82	11	10	0.060	5	62	6.6	73
82	11	11	0.000	78	53	12.1	41
82	11	12	0.000	78	48	6.5	39
82	11	13	0.000	92	51	5.2	39
82	11	14	0.000	75	52	9.1	31
82	11	15	0.000	92	48	2.9	34
82	11	16	0.005	38	52	3.3	40
82	11	17	0.020	45	60	2.7	61
82	11	18	0.000	65	60	6.3	59
82	11	19	0.000	72	59	9.1	55
82	11	20	0.000	70	59	5.8	49
82	11	21	0.000	86	56	4.8	47
82	11	22	0.000	68	57	6.9	39
82	11	23	0.000	73	58	9.2	33
82	11	24	0.020	0	39	10.8	56
82	11	25	0.030	0	36	5.2	79
82	11	26	0.160	0	43	9.1	77
82	11	27	0.005	54	45	6.0	69
82	11	28	0.000	100	53	12.5	54
82	11	29	0.000	74	54	8.2	50
82	11	30	0.000	78	54	7.5	52
82	12	1	0.690	0	47	7.3	60
82	12	2	0.000	54	41	7.1	71
82	12	3	0.000	100	43	6.5	55
82	12	4	0.000	100	42	5.5	64
82	12	5	0.000	100	45	4.2	55
82	12	6	0.000	100	45	4.8	59
82	12	7	0.000	98	49	5.8	53

TABLE H 1 (continue)

YR.	MO.	DAY	RAIN (in)	POSSIBLE SUNSHINE (%)	MEAN TEMP (F)	MEAN WIND SPEED (mph)	REL. HUMID (%)
82	12	8	0.210	0	42	12.8	74
82	12	9	0.540	0	41	7.3	80
82	12	10	0.030	14	48	6.3	80
82	12	11	0.000	6	43	4.9	77
82	12	12	0.000	54	41	5.0	71
82	12	13	0.000	25	45	8.1	77
82	12	14	0.000	52	48	9.1	47
82	12	15	0.000	24	43	3.7	48
82	12	16	0.000	100	46	5.0	47
82	12	17	0.000	100	47	7.3	55
82	12	18	0.000	92	51	4.9	52
82	12	19	0.000	100	50	5.3	39
82	12	20	0.000	100	49	7.1	48
82	12	21	0.000	93	49	8.5	46
82	12	22	0.000	37	56	11.8	51
82	12	23	0.390	52	55	15.5	52
82	12	24	0.005	83	41	18.3	46
82	12	25	0.240	0	36	11.9	60
82	12	26	0.030	0	35	7.5	70
82	12	27	0.000	83	38	10.9	66
82	12	28	0.000	81	39	7.5	63
82	12	29	0.000	10	29	4.3	82
82	12	30	0.170	17	32	6.6	92
82	12	31	0.310	6	31	7.9	85

APPENDIX I

SAMPLE OF OUTPUT DISTRIBUTIONS OF CLIMATIC CONDITIONS OF EL PASO

TABLE I.1 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN JANUARY

PRECIPITATION IN INCHES (JAN)

TOTAL NUMBER OF DAYS COUNTED : 434
DAYS WITH ONLY TRACE OF RAIN : 34
PROBABILITY OF TRACE AMOUNT IN WET DAYS :31.4815
TRANSITION PROBABILITY DRY-DRY :81.9572
TRANSITION PROBABILITY WET-DRY :53.7736
ARITHMETIC AVERAGE : 0.1019
STANDARD DEVIATION : 0.1190
COEFFICIENT OF SKEW : 2.5801
BETA - GAMMA DISTRIBUTION : 0.9619946

NUMBER OF WET DAYS : 108
DAYS WITH MORE THAN TRACE OF RAIN : 74
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0178
TRANSITION PROBABILITY DRY-WET :18.0428
TRANSITION PROBABILITY WET-WET :46.2264
GEOMETRIC AVERAGE : 0.0558
COEFFICIENT OF VARIATION : 1.1677
KURTOSIS : 12.1563
LAMBDA - GAMMA DISTRIBUTION : 9.441326

EVAPOTRANSPIRATION IN CM DRY DAYS (JAN)

TOTAL NUMBER OF WET & DRY DAYS : 434

ARITHMETIC AVERAGE : 0.2015337
VARIANCE : 0.1217122E-01
COEFFICIENT OF SKEW : 1.163670
ALFA - BETA DISTRIBUTION : 2.416976
UPPER LIMIT - BETA DIST : 0.9749998

GEOMETRIC AVERAGE : 0.1747138
COEFFICIENT OF VARIATION : 0.5474184
KURTOSIS : 4.245621
BETA - BETA DISTRIBUTION : 8.976290
EXPECTED VALUE - BETA DIST : 0.2068372

VARIENCE - BETA DISTRIBUTION : 0.1282024E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (JAN)

TOTAL NUMBER OF WET & DRY DAYS : 434

ARITHMETIC AVERAGE : 0.1827778
VARIANCE : 0.9405296E-02
COEFFICIENT OF SKEW : 0.9035858
ALFA - BETA DISTRIBUTION 2.512002
UPPER LIMIT - BETA DIST : 0.8249998

GEOMETRIC AVERAGE : 0.1579871
COEFFICIENT OF VARIATION : 0.5305946
KURTOSIS : 1.248001
BETA - BETA DISTRIBUTION : 8.482778
EXPECTED VALUE - BETA DIST : 0.1884896

VARIENCE - BETA DISTRIBUTION : 0.1000231E-01

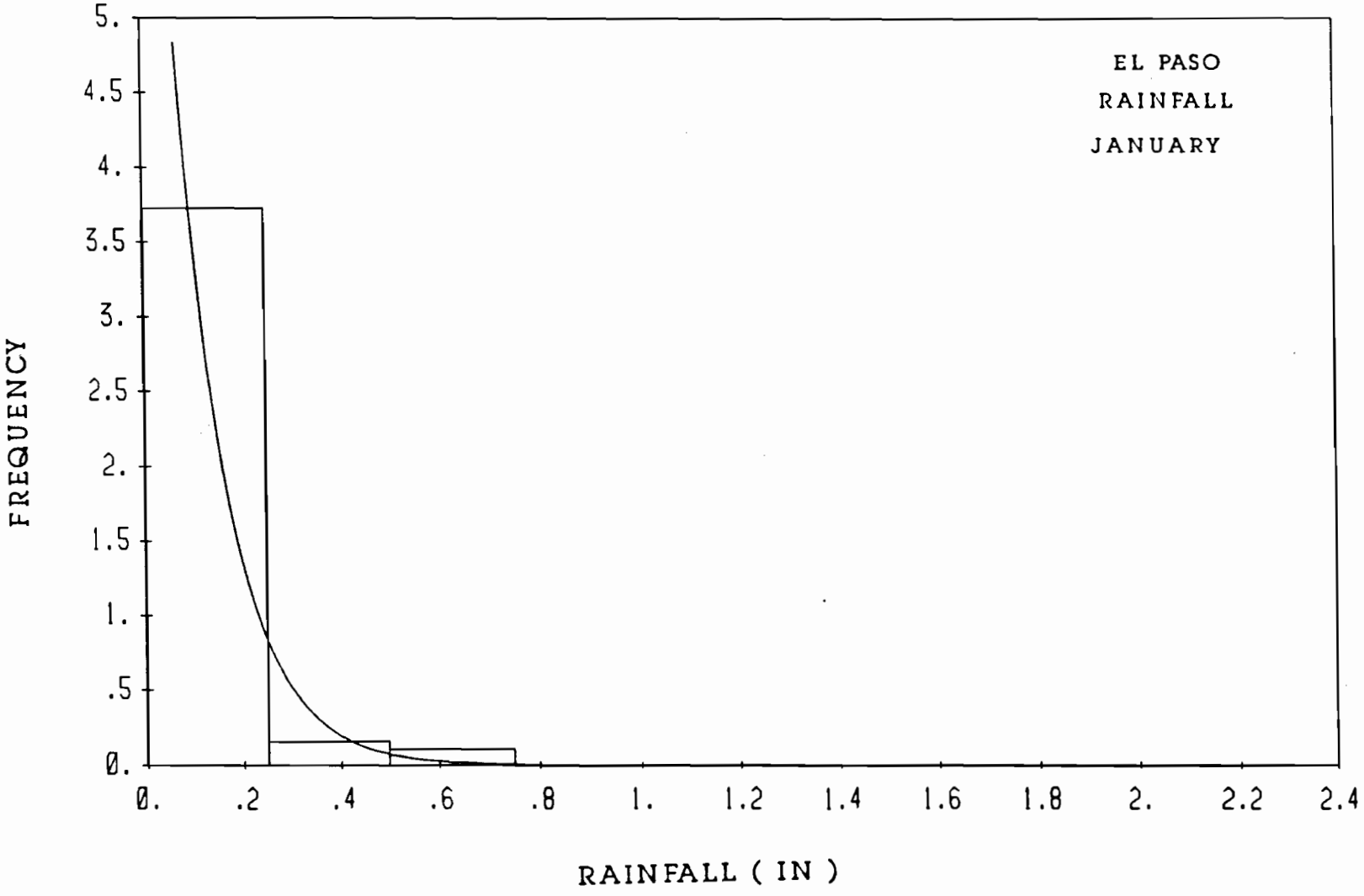

FIGURE I1.1 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN JANUARY

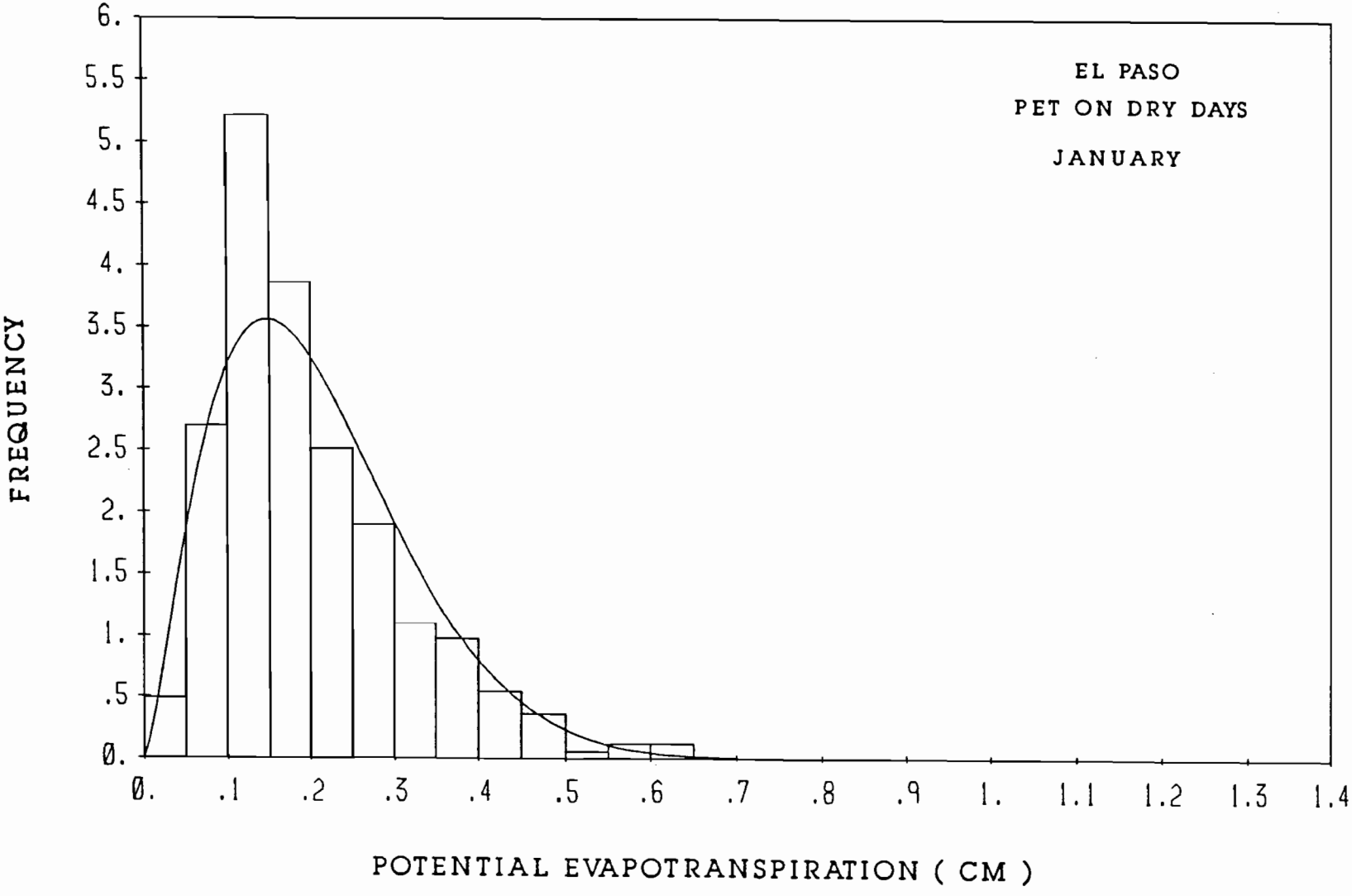

FIGURE I2.1 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN JANUARY

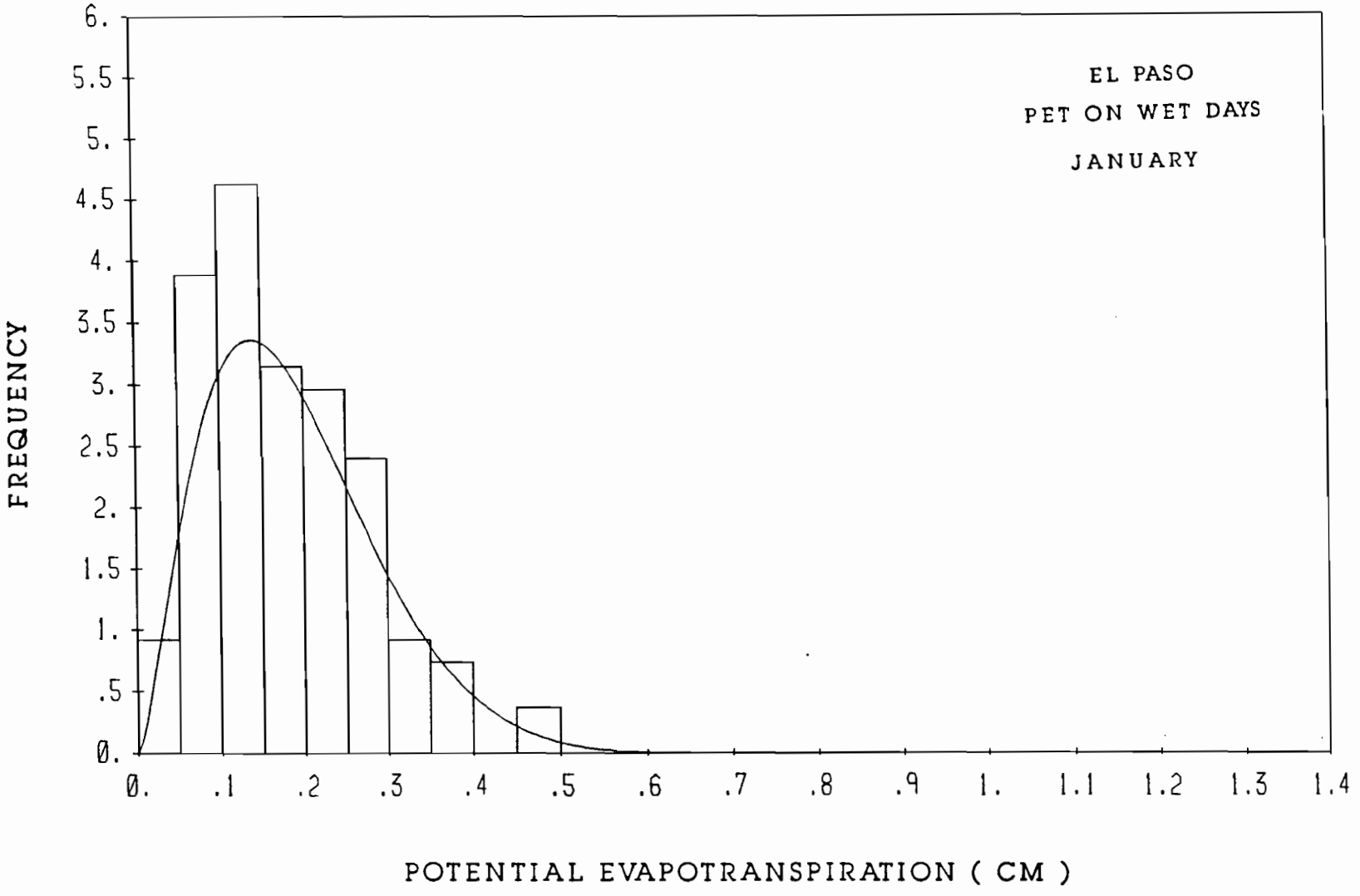

FIGURE I3.1 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN JANUARY

TABLE I.2 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN FEBRUARY

PRECIPITATION IN INCHES (FEB)

TOTAL NUMBER OF DAYS COUNTED : 395
DAYS WITH ONLY TRACE OF RAIN : 27
PROBABILITY OF TRACE AMOUNT IN WET DAYS :35.5263
TRANSITION PROBABILITY DRY-DRY :85.1266
TRANSITION PROBABILITY WET-DRY :63.2911
ARITHMETIC AVERAGE : 0.1276
STANDARD DEVIATION : 0.1350
COEFFICIENT OF SKEW : 1.2641
NETA - GAMMA DISTRIBUTION : 0.8722807

NUMBER OF WET DAYS : 76
DAYS WITH MORE THAN TRACE OF RAIN : 49
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0162
TRANSITION PROBABILITY DRY-WET :14.8734
TRANSITION PROBABILITY WET-WET :36.7089
GEOMETRIC AVERAGE : 0.0651
COEFFICIENT OF VARIATION : 1.0585
KURTOSIS : 3.9239
LAMBDA - GAMMA DISTRIBUTION : 6.838680

EVAPOTRANSPIRATION IN CM -DRY DAYS (FEB)

TOTAL NUMBER OF WET & DRY DAYS : 395

ARITHMETIC AVERAGE : 0.3234169
VARIANCE : 0.1812761E-01
COEFFICIENT OF SKEW : 1.921401
ALFA - BETA DISTRIBUTION : 3.945477
UPPER LIMIT - BETA DIST : 1.225000

GEOMETRIC AVERAGE : 0.3000404
COEFFICIENT OF VARIATION : 0.4163011
KURTOSIS : 10.97352
BETA - BETA DISTRIBUTION : 10.69375
EXPECTED VALUE - BETA DIST : 0.3301547

VARIENCE - BETA DISTRIBUTION : 0.1889079E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (FEB)

TOTAL NUMBER OF WET & DRY DAYS : 395

ARITHMETIC AVERAGE : 0.2938159
VARIANCE : 0.1871989E-01
COEFFICIENT OF SKEW : 0.5946904
ALFA - BETA DISTRIBUTION : 2.876012
UPPER LIMIT - BETA DIST : 0.9749998

GEOMETRIC AVERAGE : 0.2608258
COEFFICIENT OF VARIATION : 0.4656680
KURTOSIS : 0.7158328
BETA - BETA DISTRIBUTION
EXPECTED VALUE - BETA DIST

VARIENCE - BETA DISTRIBUTION : 0.1971811E-01

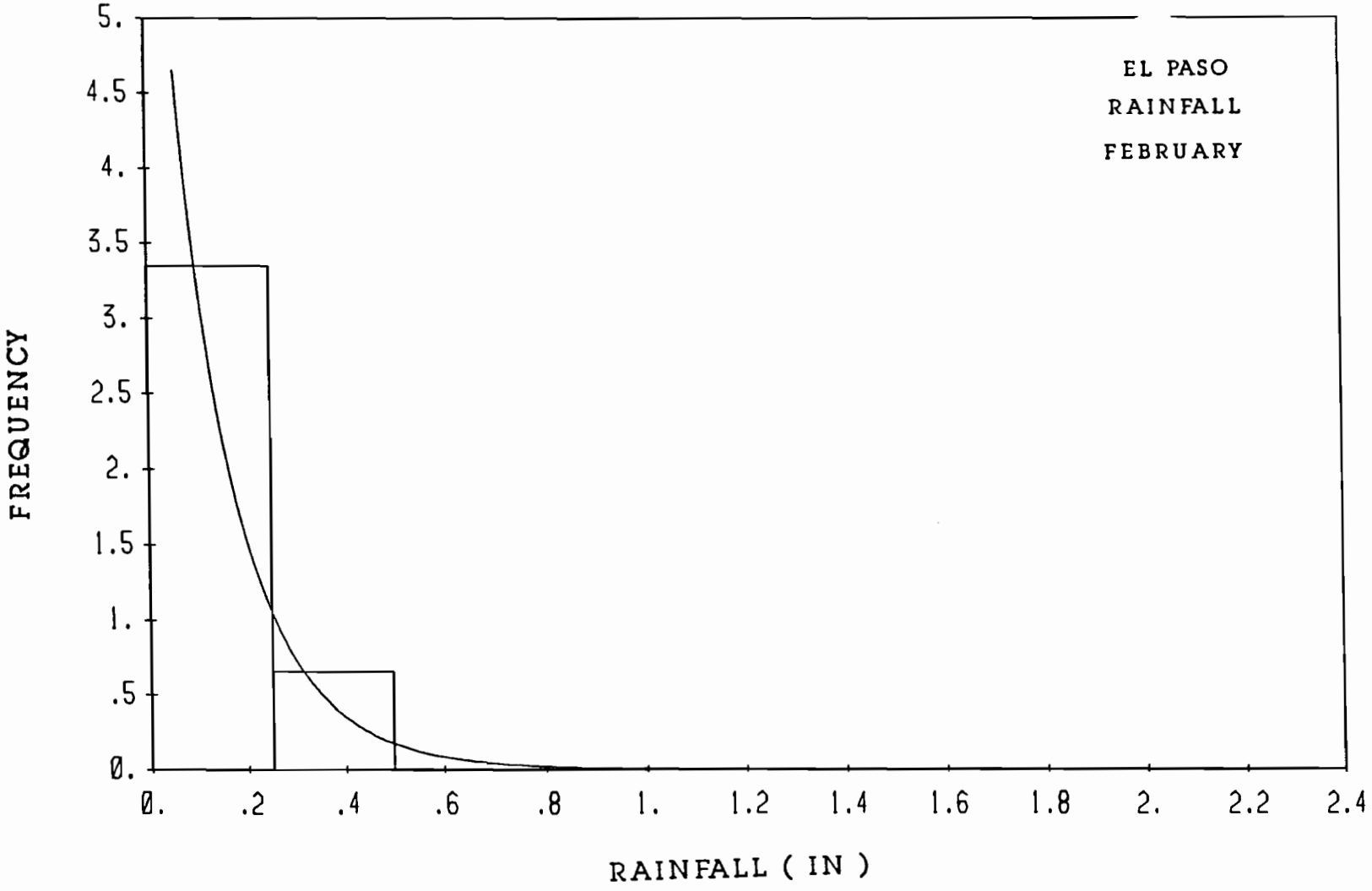

FIGURE I1.2 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN FEBRUARY

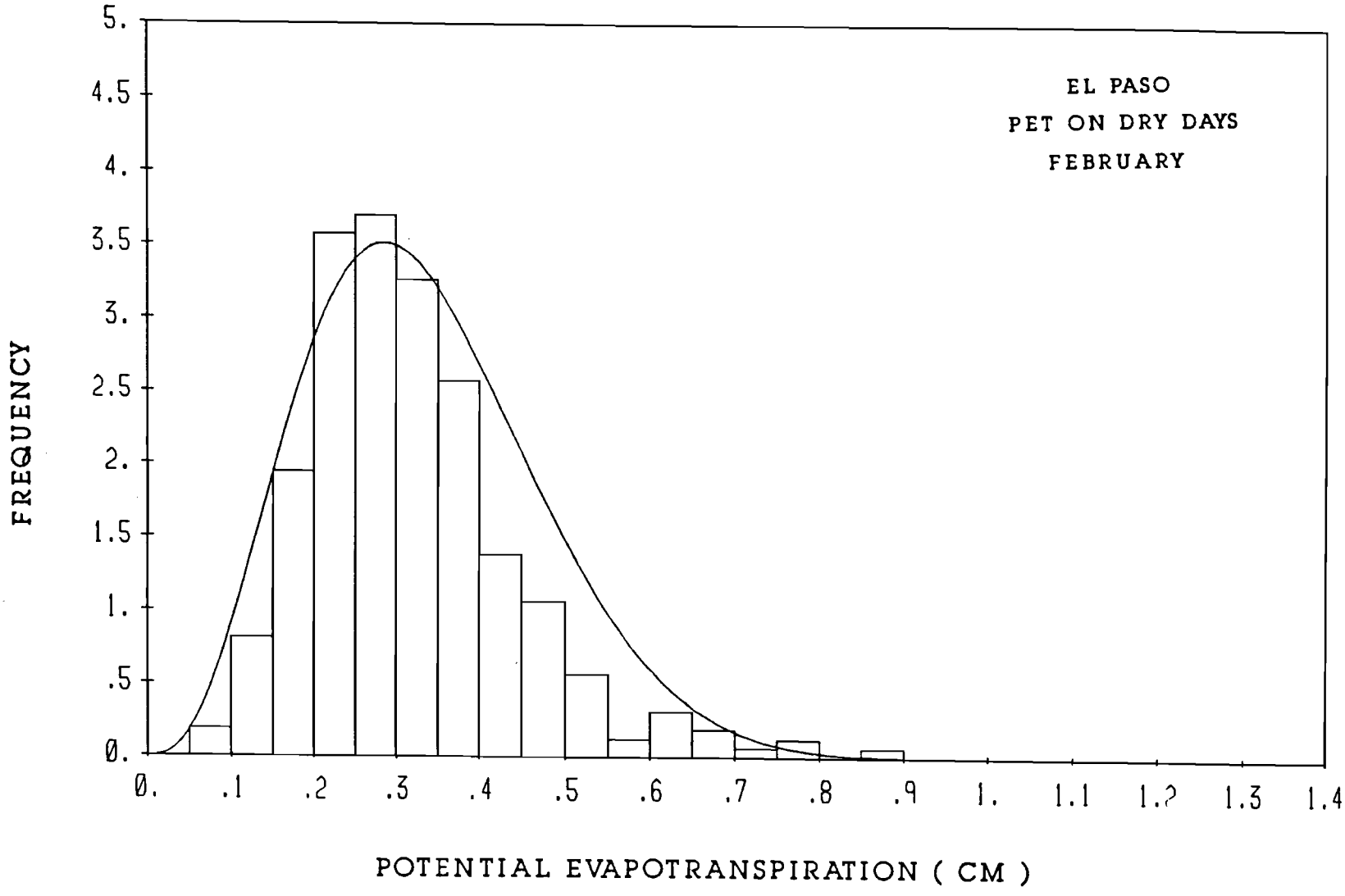

FIGURE I2.2 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN FEBRUARY

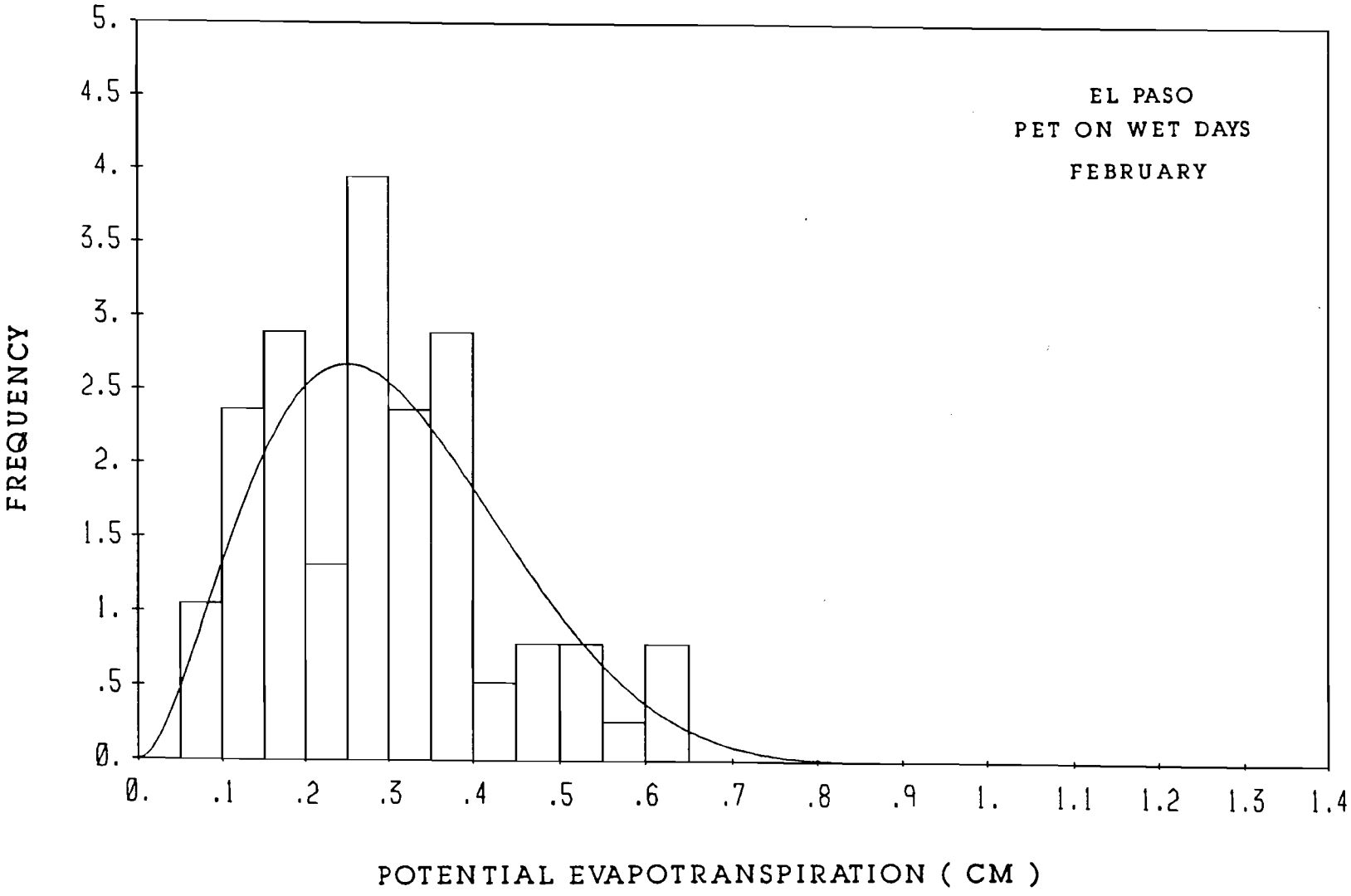

FIGURE I3.2 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN FEBRUARY

TABLE I.3 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN MARCH

PRECIPITATION IN INCHES (MAR)

TOTAL NUMBER OF DAYS COUNTED : 434
DAYS WITH ONLY TRACE OF RAIN : 35
PROBABILITY OF TRACE AMOUNT IN WET DAYS :57.3770
TRANSITION PROBABILITY DRY-DRY :89.4879
TRANSITION PROBABILITY WET-DRY :65.0794
ARITHMETIC AVERAGE : 0.1027
STANDARD DEVIATION : 0.0980
COEFFICIENT OF SKEW : 1.4621
NETA - GAMMA DISTRIBUTION : 1.144658

NUMBER OF WET DAYS : 61
DAYS WITH MORE THAN TRACE OF RAIN : 26
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0066
TRANSITION PROBABILITY DRY-WET :10.5121
TRANSITION PROBABILITY WET-WET :34.9206
GEOMETRIC AVERAGE : 0.0625
COEFFICIENT OF VARIATION : 0.9547
KURTOSIS : 4.9358
LAMBDA - GAMMA DISTRIBUTION : 11.14648

EVAPOTRANSPIRATION IN CM -DRY DAYS (MAR)

TOTAL NUMBER OF WET & DRY DAYS : 434
ARITHMETIC AVERAGE : 0.5024934
VARIANCE : 0.3049194E-01
COEFFICIENT OF SKEW : 1.039718
ALFA - BETA DISTRIBUTION : 4.949739
UPPER LIMIT - BETA DIST : 1.425000
GEOMETRIC AVERAGE : 0.4751095
COEFFICIENT OF VARIATION : 0.3475059
KURTOSIS : 4.206422
BETA - BETA DISTRIBUTION : 8.840759
EXPECTED VALUE - BETA DIST : 0.5114664
VARIENCE - BETA DISTRIBUTION : 0.3159066E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (MAR)

TOTAL NUMBER OF WET & DRY DAYS : 434
ARITHMETIC AVERAGE : 0.4521311
VARIANCE : 0.2843707E-01
COEFFICIENT OF SKEW : 0.8865091
ALFA - BETA DISTRIBUTION : 4.226738
UPPER LIMIT - BETA DIST : 1.275000
GEOMETRIC AVERAGE : 0.4219856
COEFFICIENT OF VARIATION : 0.3729736
KURTOSIS : 0.6795175
BETA - BETA DISTRIBUTION : 7.458859
EXPECTED VALUE - BETA DIST : 0.4611737
VARIENCE - BETA DISTRIBUTION : 0.2958593E-01

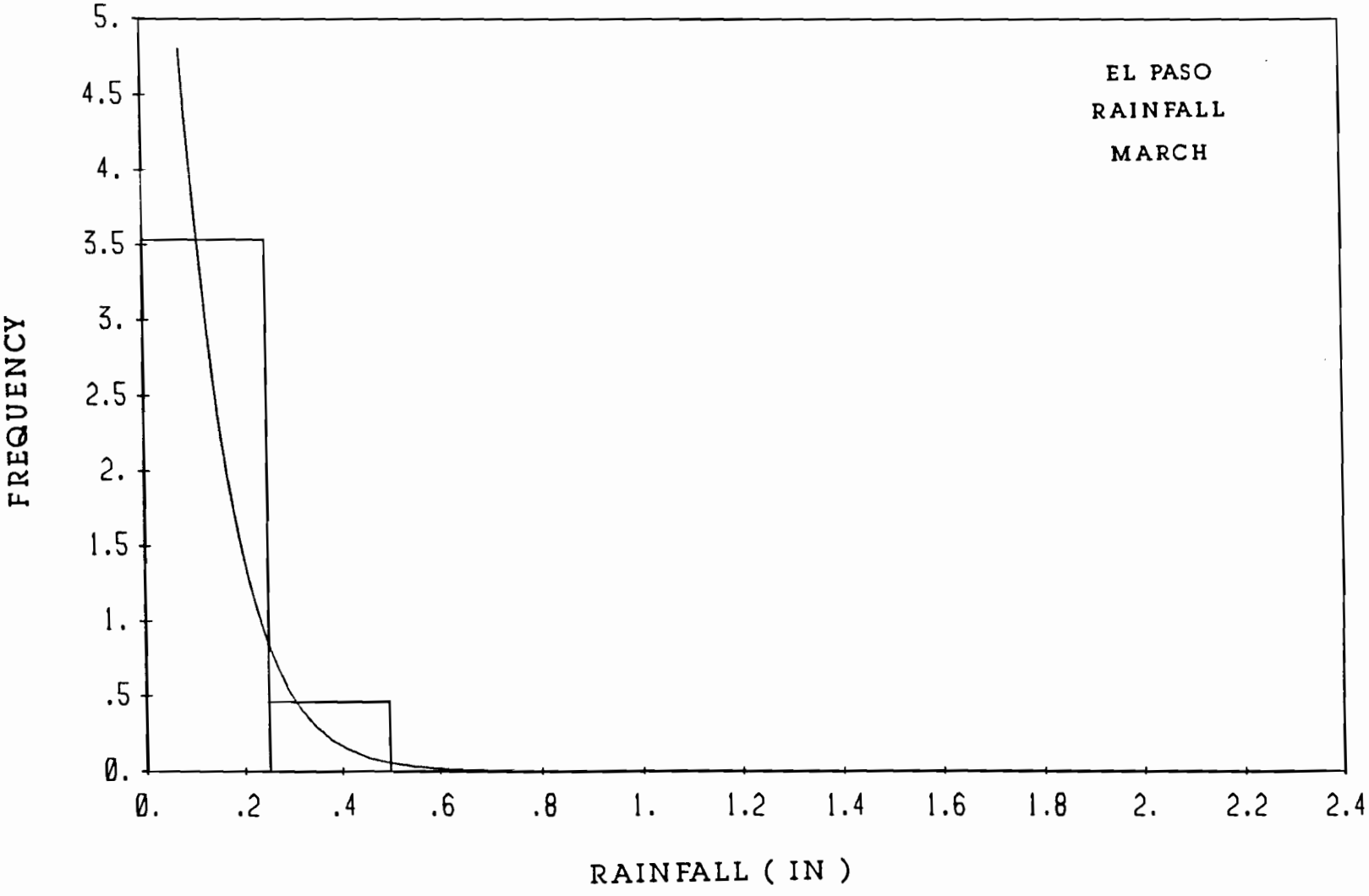

FIGURE I1.3 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN MARCH

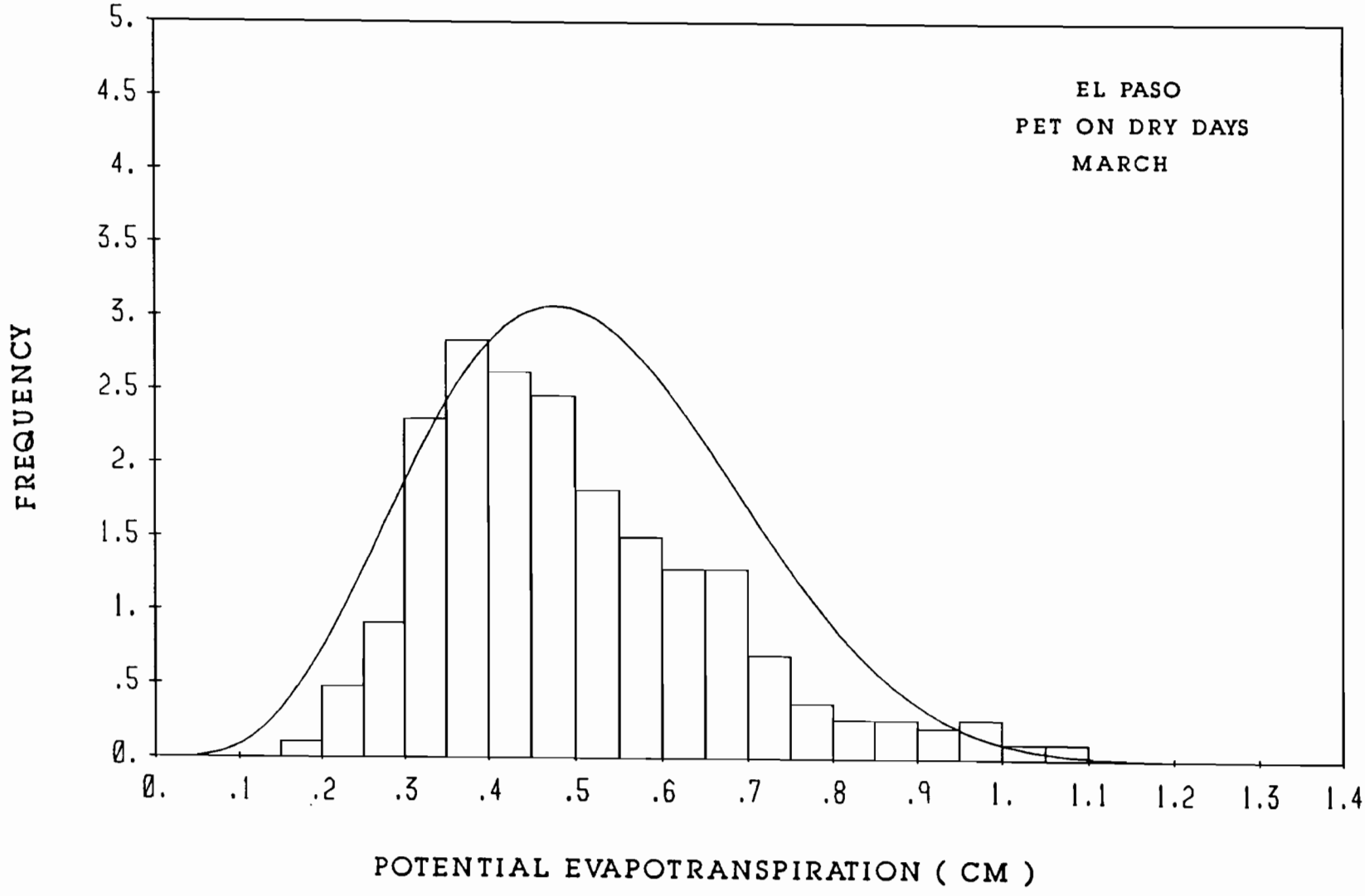

FIGURE I2.3 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN MARCH

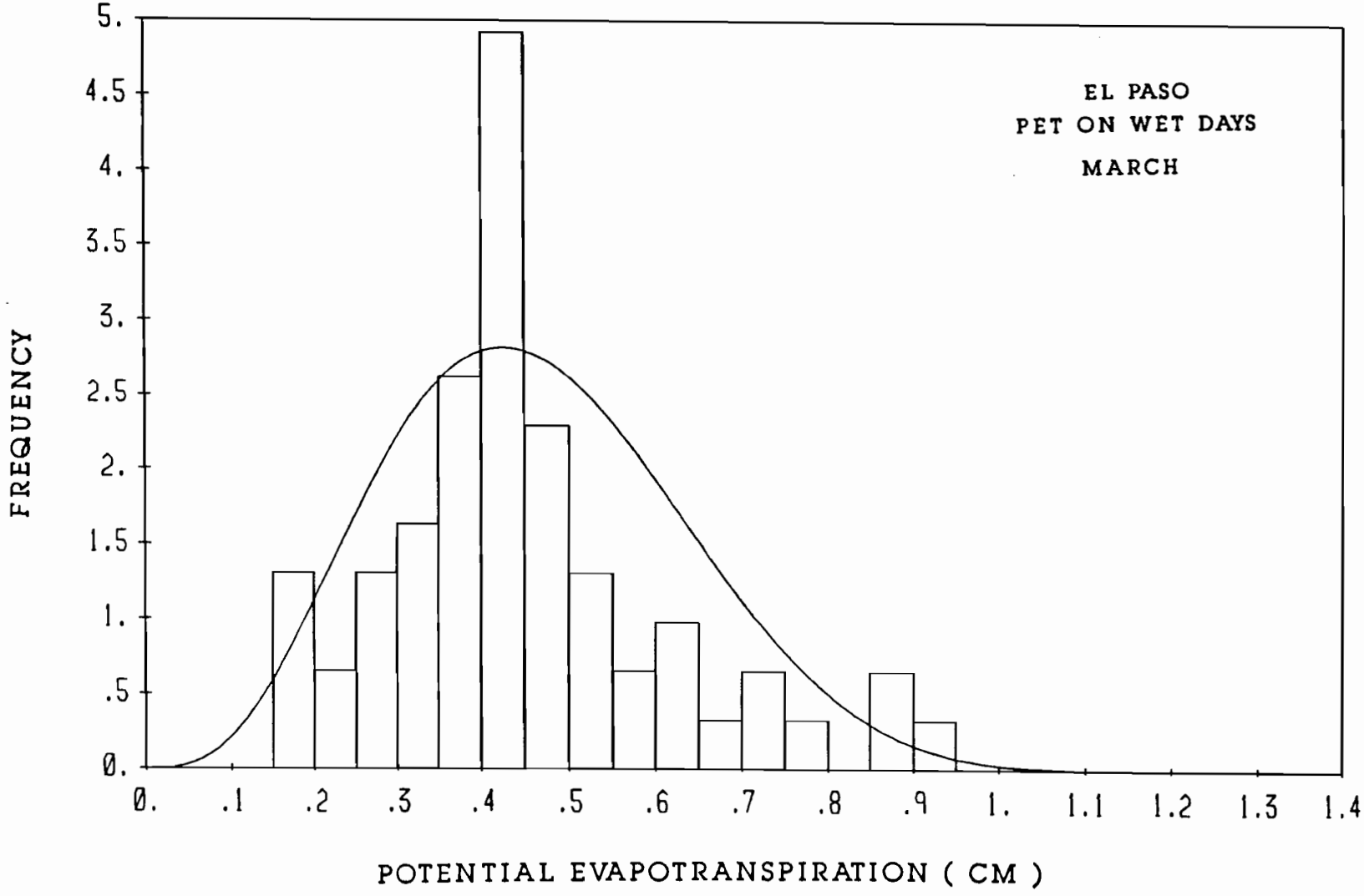

FIGURE I3.3 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN MARCH

TABLE I.4 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN APRIL

PRECIPITATION IN INCHES (APR)

TOTAL NUMBER OF DAYS COUNTED : 420
DAYS WITH ONLY TRACE OF RAIN : 25
PROBABILITY OF TRACE AMOUNT IN WET DAYS :58.1395
TRANSITION PROBABILITY DRY-DRY :92.8947
TRANSITION PROBABILITY WET-DRY :60.0000
ARITHMETIC AVERAGE : 0.1289
STANDARD DEVIATION : 0.1421
COEFFICIENT OF SKEW : 0.9580
NETA - GAMMA DISTRIBUTION : 0.7816136

NUMBER OF WET DAYS : 43
DAYS WITH MORE THAN TRACE OF RAIN : 18
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0058
TRANSITION PROBABILITY DRY-WET : 7.1053
TRANSITION PROBABILITY WET-WET :40.0000
GEOMETRIC AVERAGE : 0.0602
COEFFICIENT OF VARIATION : 1.1024
KURTOSIS : 2.7477
LAMBDA - GAMMA DISTRIBUTION : 6.064243

EVAPOTRANSPIRATION IN CM -DRY DAYS (APR)

TOTAL NUMBER OF WET & DRY DAYS : 420

ARITHMETIC AVERAGE : 0.6550132
VARIANCE : 0.2897514E-01
COEFFICIENT OF SKEW : 0.4720056
ALFA - BETA DISTRIBUTION : 7.666590
UPPER LIMIT - BETA DIST : 1.475000

GEOMETRIC AVERAGE : 0.6332677
COEFFICIENT OF VARIATION : 0.2598740
KURTOSIS : 2.717796
BETA - BETA DISTRIBUTION : 9.304906
EXPECTED VALUE - BETA DIST : 0.6663064

VARIENCE - BETA DISTRIBUTION : 0.2998290E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (APR)

TOTAL NUMBER OF WET & DRY DAYS : 420

ARITHMETIC AVERAGE : 0.5379071
VARIANCE : 0.2100740E-01
COEFFICIENT OF SKEW :-0.5452750
ALFA - BETA DISTRIBUTION : 4.691451
UPPER LIMIT - BETA DIST : 0.8750001

GEOMETRIC AVERAGE : 0.5150068
COEFFICIENT OF VARIATION : 0.2694505
KURTOSIS : 0.3032035
BETA - BETA DISTRIBUTION : 2.940016
EXPECTED VALUE - BETA DIST : 0.5379071

VARIENCE - BETA DISTRIBUTION : 0.2100740E-01

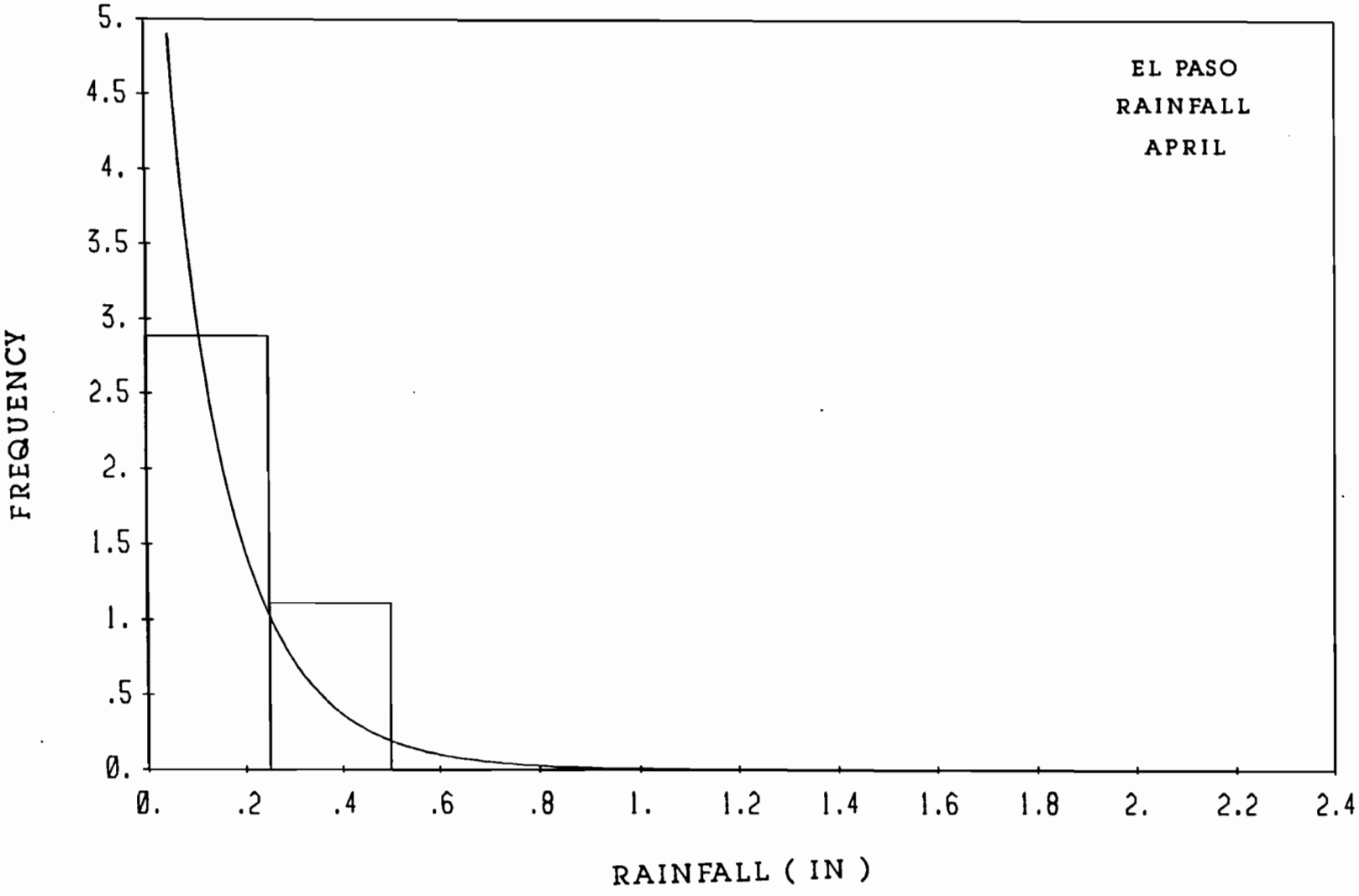

FIGURE I1.4 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN APRIL

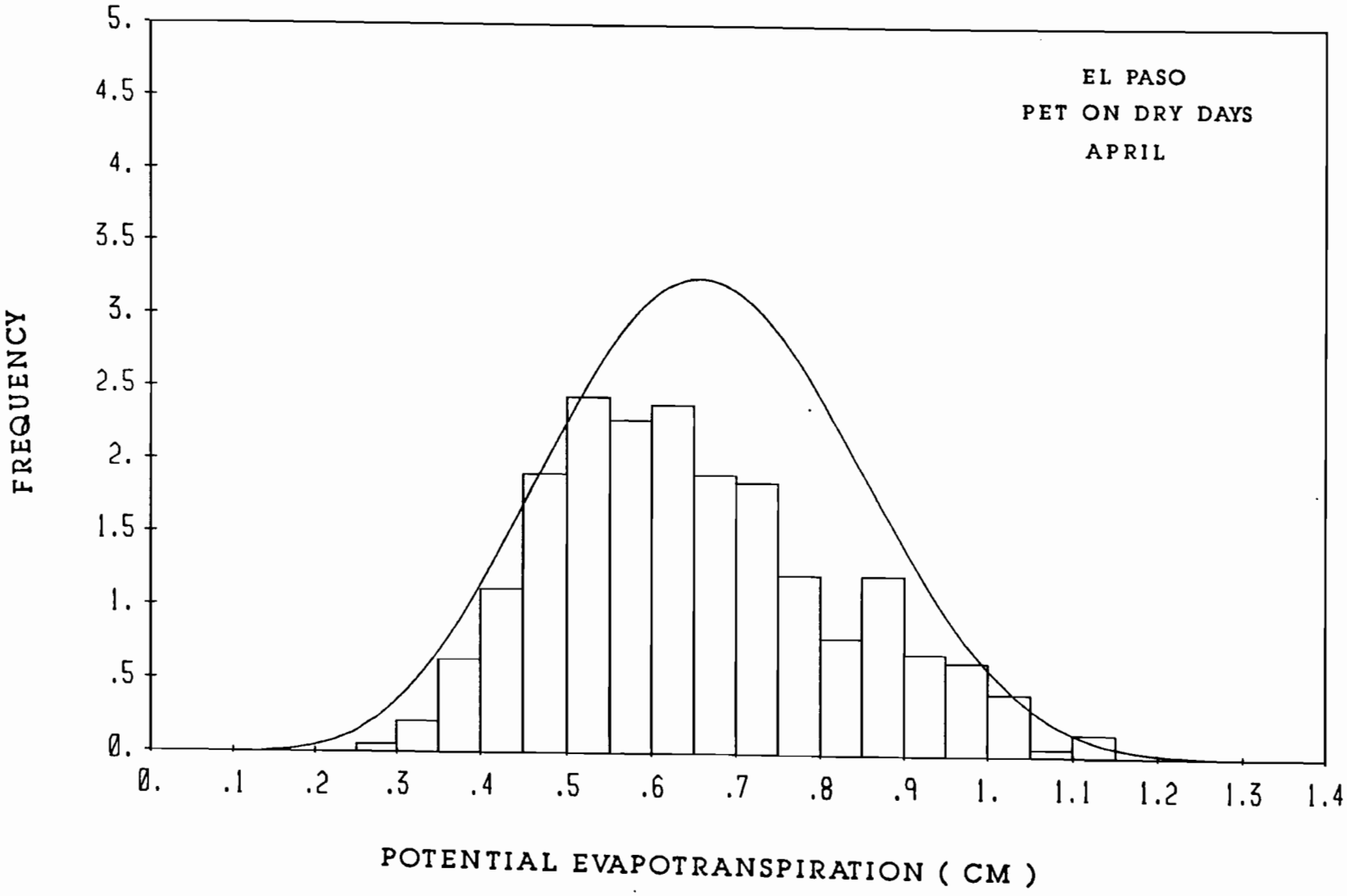

FIGURE I2.4 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN APRIL

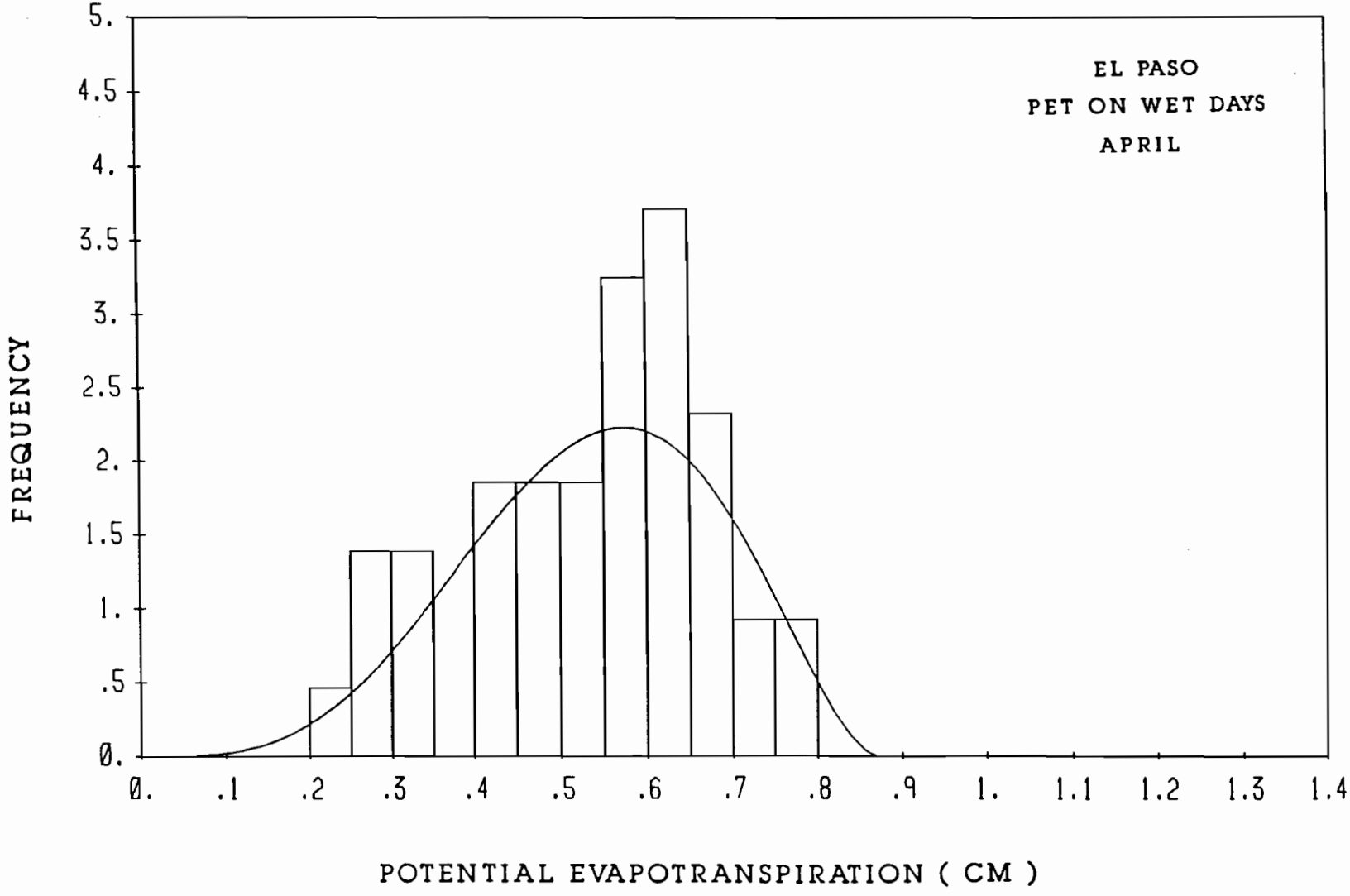

FIGURE I3.4 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN APRIL

TABLE I.5 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN MAY

PRECIPITATION IN INCHES (MAY)

TOTAL NUMBER OF DAYS COUNTED : 433
DAYS WITH ONLY TRACE OF RAIN : 36
PROBABILITY OF TRACE AMOUNT IN WET DAYS :50.0000
TRANSITION PROBABILITY DRY-DRY :87.7778
TRANSITION PROBABILITY WET-DRY :61.6438
ARITHMETIC AVERAGE : 0.1108
STANDARD DEVIATION : 0.1623
COEFFICIENT OF SKEW : 2.4533
NETA - GAMMA DISTRIBUTION : 0.7620961

NUMBER OF WET DAYS : 72
DAYS WITH MORE THAN TRACE OF RAIN : 36
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0096
TRANSITION PROBABILITY DRY-WET :12.2222
TRANSITION PROBABILITY WET-WET :38.3562
GEOMETRIC AVERAGE : 0.0506
COEFFICIENT OF VARIATION : 1.4643
KURTOSIS : 9.0220
LAMBDA - GAMMA DISTRIBUTION : 6.876056

EVAPOTRANSPIRATION IN CM -DRY DAYS (MAY)

TOTAL NUMBER OF WET & DRY DAYS : 433

ARITHMETIC AVERAGE : 0.7600831
VARIANCE : 0.3416215E-01
COEFFICIENT OF SKEW : 0.7183160
ALFA - BETA DISTRIBUTION : 7.835248
UPPER LIMIT - BETA DIST : 1.525000

GEOMETRIC AVERAGE : 0.7388963
COEFFICIENT OF VARIATION : 0.2431708
KURTOSIS : 3.105293
BETA - BETA DISTRIBUTION : 7.627364
EXPECTED VALUE - BETA DIST : 0.7727512

VARIENCE - BETA DISTRIBUTION : 0.3531037E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (MAY)

TOTAL NUMBER OF WET & DRY DAYS : 433

ARITHMETIC AVERAGE : 0.6266665
VARIANCE : 0.1978050E-01
COEFFICIENT OF SKEW :-0.1864196
ALFA - BETA DISTRIBUTION : 10.17333
UPPER LIMIT - BETA DIST : 1.375000

GEOMETRIC AVERAGE : 0.6092890
COEFFICIENT OF VARIATION : 0.2244306
KURTOSIS : 0.6907846
BETA - BETA DISTRIBUTION : 11.74262
EXPECTED VALUE - BETA DIST : 0.6382715

VARIENCE - BETA DISTRIBUTION : 0.2051988E-01

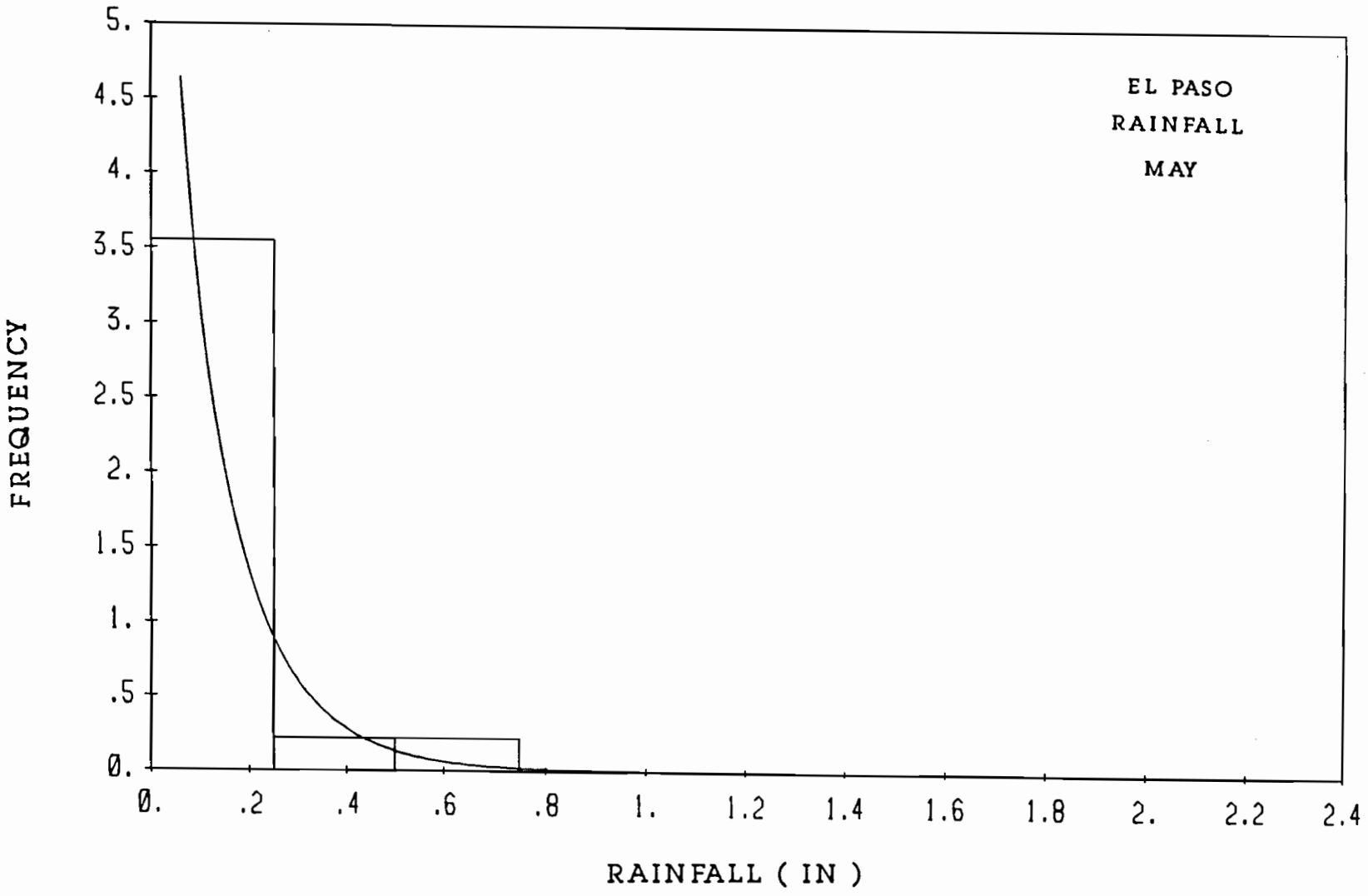

FIGURE I1.5 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN MAY

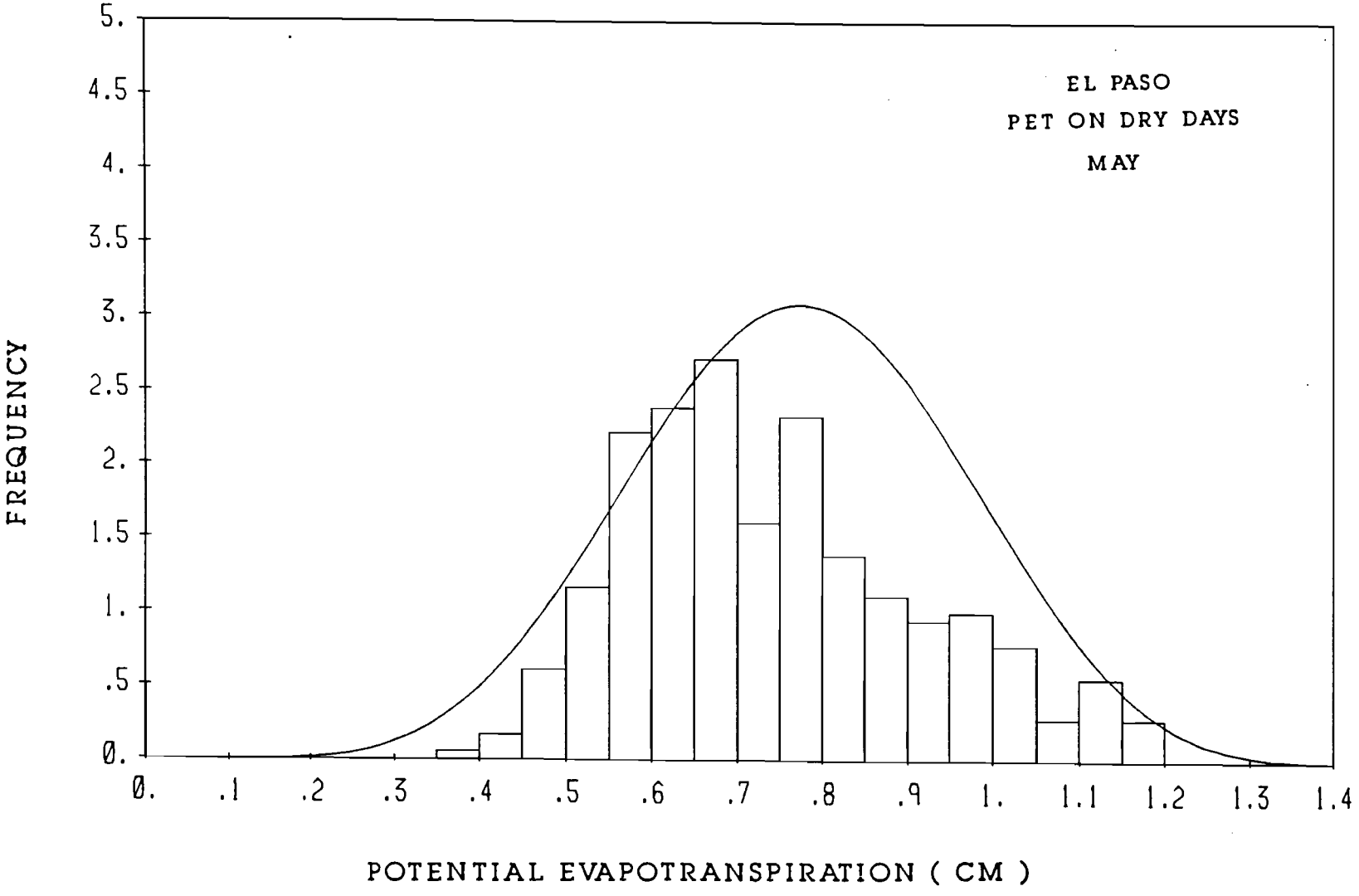

FIGURE I2.5 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN MAY

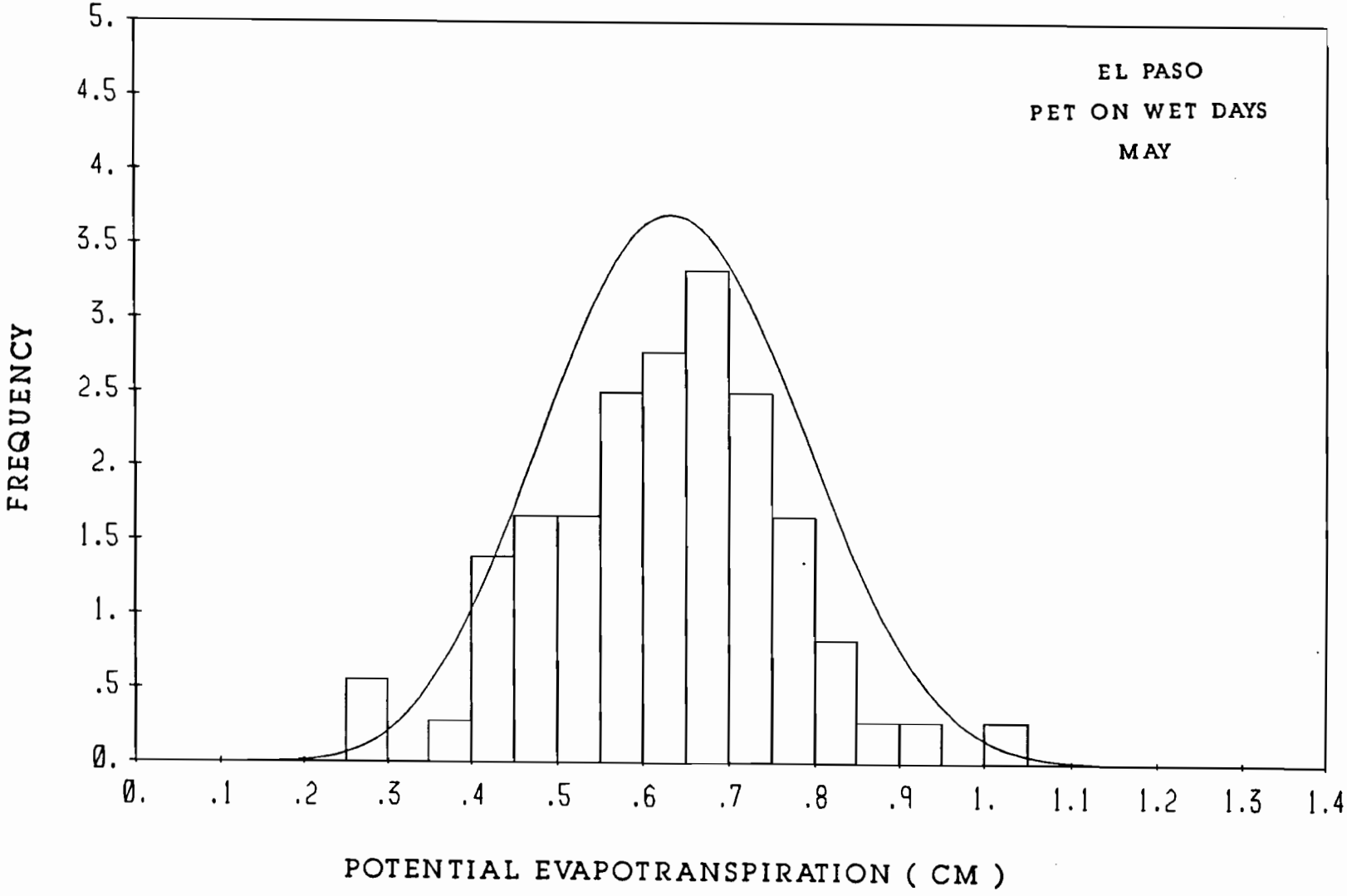

FIGURE I3.5 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN MAY

TABLE I.6 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN JUNE

PRECIPITATION IN INCHES (JUN)

TOTAL NUMBER OF DAYS COUNTED : 420
DAYS WITH ONLY TRACE OF RAIN : 56
PROBABILITY OF TRACE AMOUNT IN WET DAYS :62.9214
TRANSITION PROBABILITY DRY-DRY :86.0534
TRANSITION PROBABILITY WET-DRY :49.3976
ARITHMETIC AVERAGE : 0.1661
STANDARD DEVIATION : 0.1827
COEFFICIENT OF SKEW : 1.2177
NETA - GAMMA DISTRIBUTION : 0.7849019

NUMBER OF WET DAYS : 89
DAYS WITH MORE THAN TRACE OF RAIN : 33
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0137
TRANSITION PROBABILITY DRY-WET :13.9466
TRANSITION PROBABILITY WET-WET :50.6024
GEOMETRIC AVERAGE : 0.0778
COEFFICIENT OF VARIATION : 1.1001
KURTOSIS : 3.4785
LAMBDA - GAMMA DISTRIBUTION : 4.726598

EVAPOTRANSPIRATION IN CM -DRY DAYS (JUN)

TOTAL NUMBER OF WET & DRY DAYS : 420

ARITHMETIC AVERAGE : 0.8438670
VARIANCE : 0.2400374E-01
COEFFICIENT OF SKEW : 1.483195
ALFA - BETA DISTRIBUTION : 12.41428
UPPER LIMIT - BETA DIST : 1.525000

GEOMETRIC AVERAGE : 0.8313274
COEFFICIENT OF VARIATION : 0.1835970
KURTOSIS : 6.053570
BETA - BETA DISTRIBUTION : 9.652488
EXPECTED VALUE - BETA DIST : 0.8578314
VARIENCE - BETA DISTRIBUTION : 0.2481053E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (JUN)

TOTAL NUMBER OF WET & DRY DAYS : 420

ARITHMETIC AVERAGE : 0.7510114
VARIANCE : 0.2663187E-01
COEFFICIENT OF SKEW :-0.4476035
ALFA - BETA DISTRIBUTION : 9.064737
UPPER LIMIT - BETA DIST : 1.375000

GEOMETRIC AVERAGE : 0.7308035
COEFFICIENT OF VARIATION : 0.2172973
KURTOSIS : 0.9062170
BETA - BETA DISTRIBUTION : 7.531566
EXPECTED VALUE - BETA DIST : 0.7510114
VARIENCE - BETA DISTRIBUTION : 0.2663187E-01

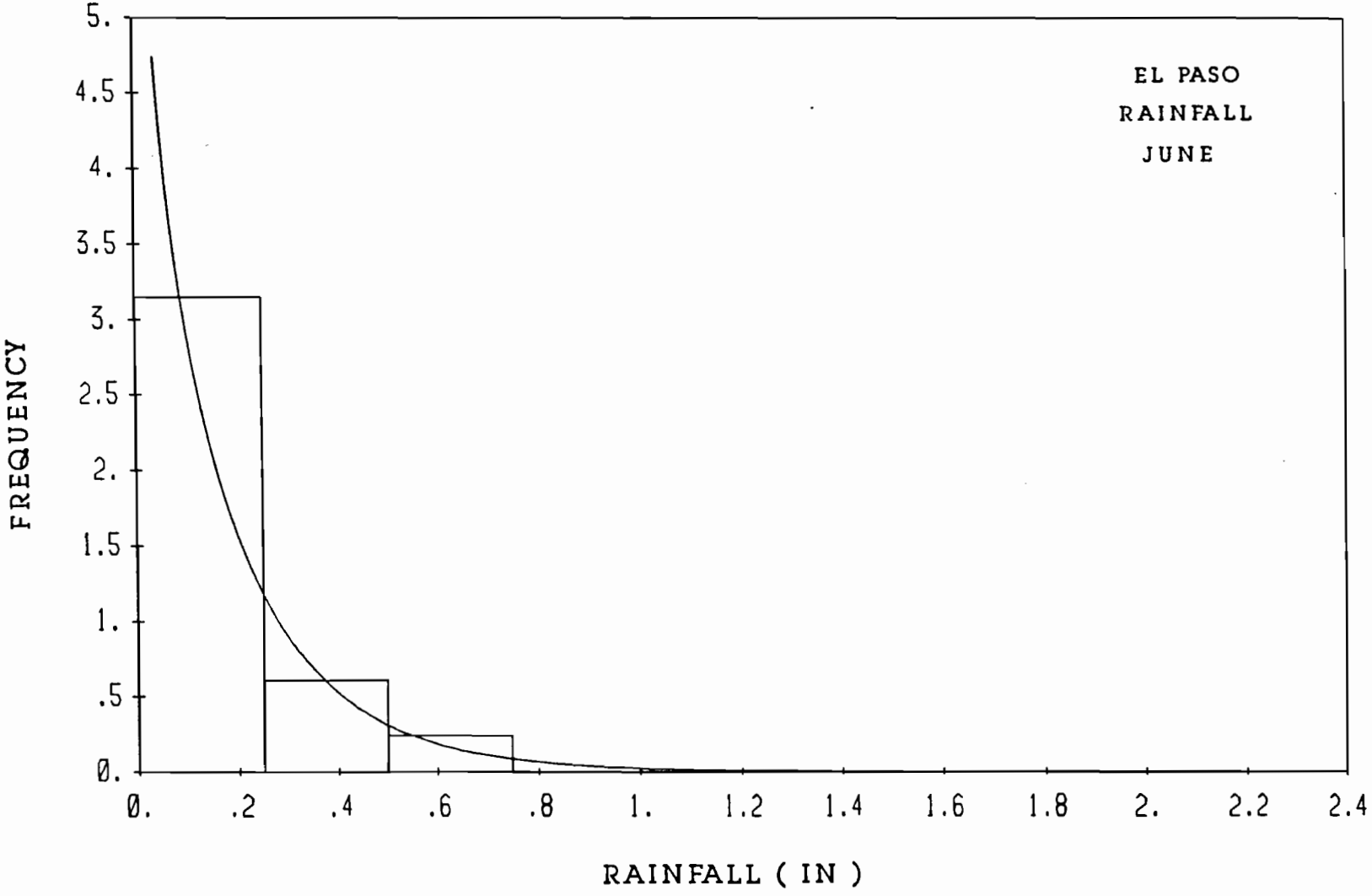

FIGURE I1.6 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN JUNE

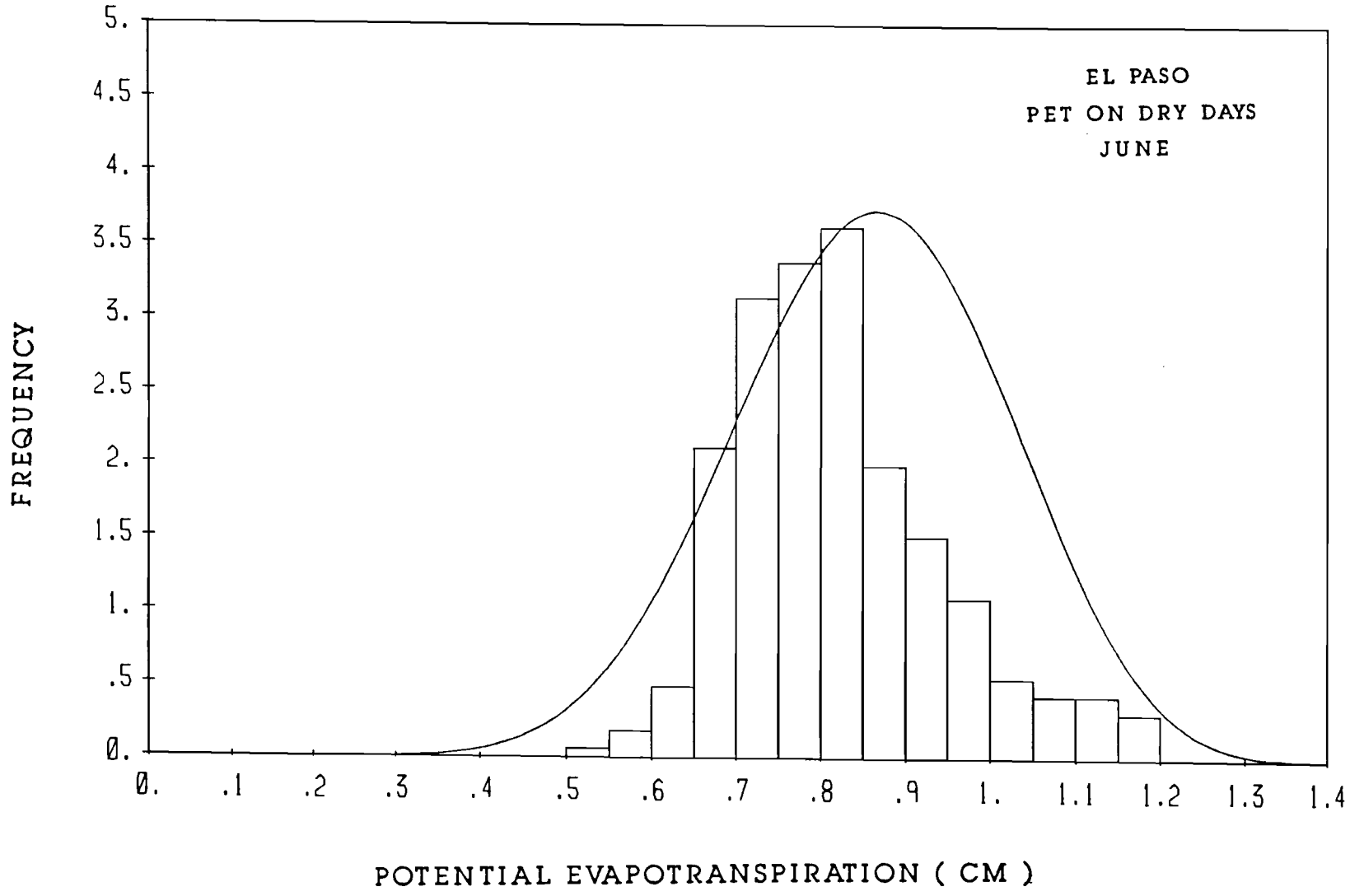

FIGURE I2.6 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN JUNE

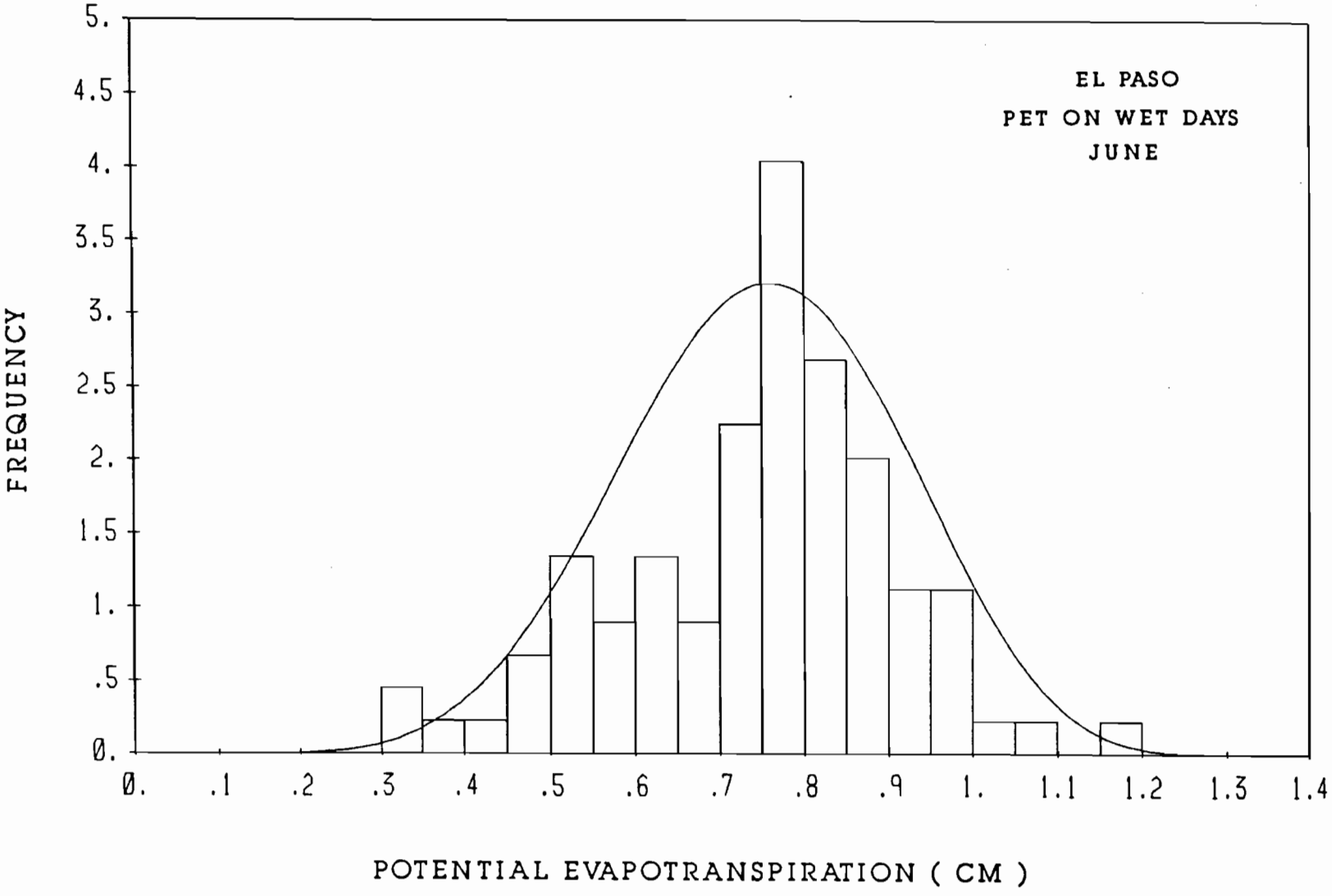

FIGURE I3.6 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN JUNE

TABLE I.7 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN JULY

PRECIPITATION IN INCHES (JUL)

TOTAL NUMBER OF DAYS COUNTED : 434
DAYS WITH ONLY TRACE OF RAIN : 91
PROBABILITY OF TRACE AMOUNT IN WET DAYS :46.6667
TRANSITION PROBABILITY DRY-DRY :67.0886
TRANSITION PROBABILITY WET-DRY :40.6091
ARITHMETIC AVERAGE : 0.1884
STANDARD DEVIATION : 0.2898
COEFFICIENT OF SKEW : 3.3848
NETA - GAMMA DISTRIBUTION : 0.7735701

NUMBER OF WET DAYS : 195
DAYS WITH MORE THAN TRACE OF RAIN : 104
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0462
TRANSITION PROBABILITY DRY-WET :32.9114
TRANSITION PROBABILITY WET-WET :59.3909
GEOMETRIC AVERAGE : 0.0872
COEFFICIENT OF VARIATION : 1.5386
KURTOSIS : 16.1562
LAMBDA - GAMMA DISTRIBUTION : 4.106751

EVAPOTRANSPIRATION IN CM -DRY DAYS (JUL)

TOTAL NUMBER OF WET & DRY DAYS : 434

ARITHMETIC AVERAGE : 0.7696655
VARIANCE : 0.9198613E-02
COEFFICIENT OF SKEW : 0.2220505E-01
ALFA - BETA DISTRIBUTION : 27.11371
UPPER LIMIT - BETA DIST : 1.375000

GEOMETRIC AVERAGE : 0.7636085
COEFFICIENT OF VARIATION : 0.1246118
KURTOSIS : 2.899849
BETA - BETA DISTRIBUTION : 20.44397
EXPECTED VALUE - BETA DIST : 0.7839185

VARIENCE - BETA DISTRIBUTION : 0.9542458E-02

EVAPOTRANSPIRATION IN CM -WET DAYS .(JUL)

TOTAL NUMBER OF WET & DRY DAYS : 434

ARITHMETIC AVERAGE : 0.6808719
VARIANCE : 0.1950663E-01
COEFFICIENT OF SKEW :-0.8562574E-01
ALFA - BETA DISTRIBUTION : 11.27507
UPPER LIMIT - BETA DIST : 1.350000

GEOMETRIC AVERAGE : 0.6656144
COEFFICIENT OF VARIATION : 0.2051284
KURTOSIS : 2.485488
BETA BETA DISTRIBUTION : 11.08060
EXPECTED VALUE - BETA DIST : 0.6808719

VARIENCE - BETA DISTRIBUTION : 0.1950663E-01

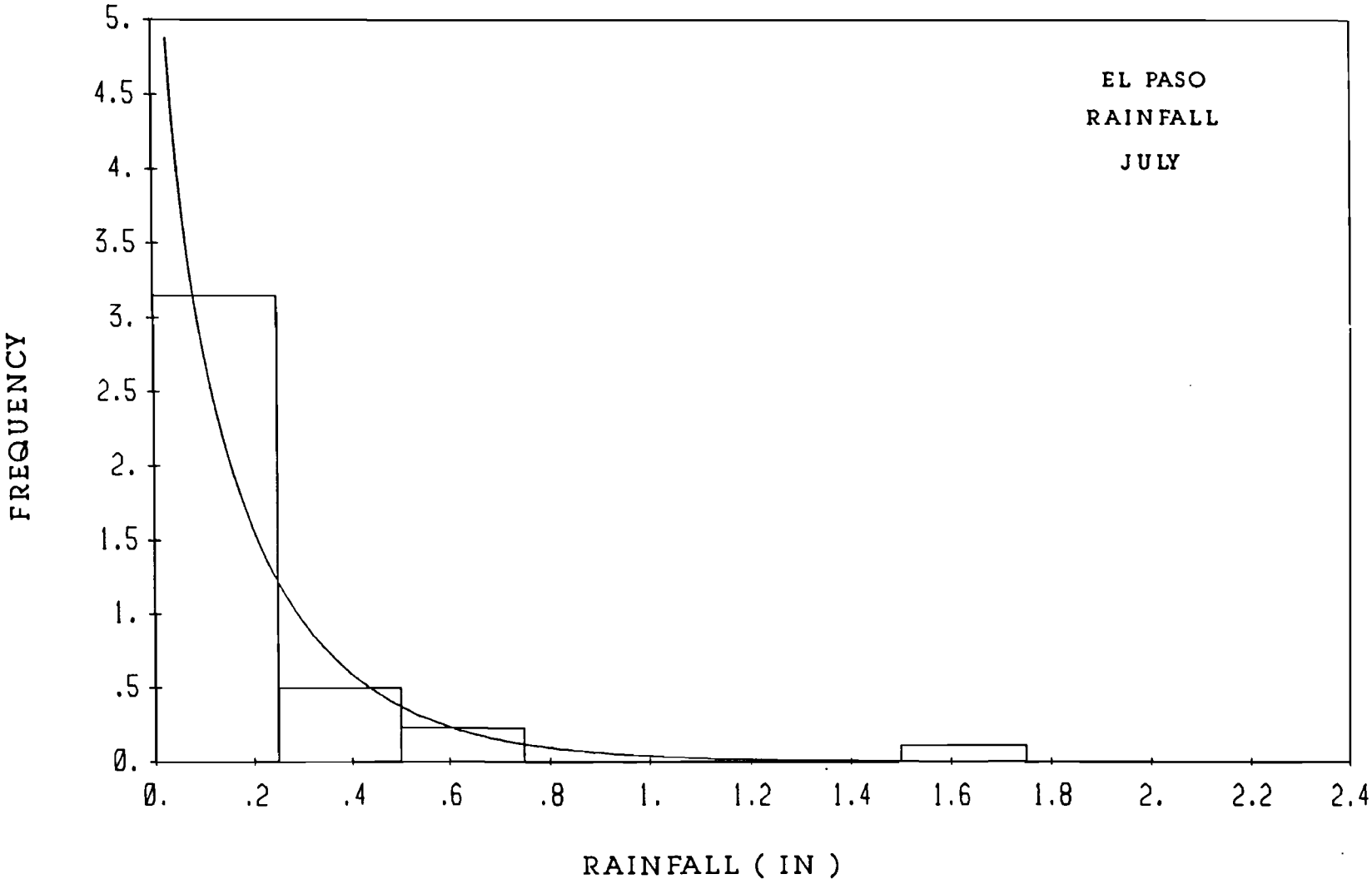

FIGURE I1.7 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN JULY

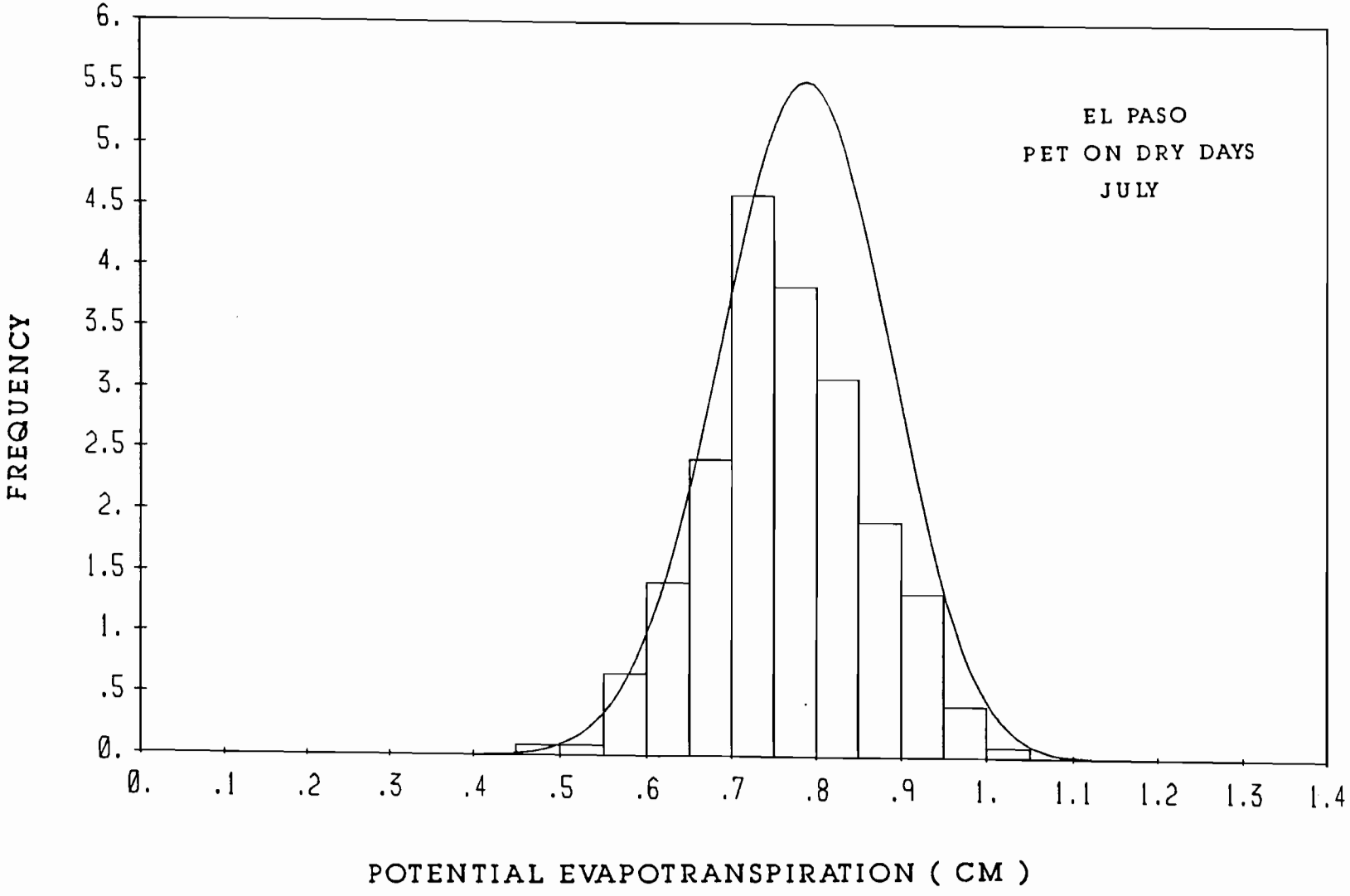

FIGURE I2.7 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN JULY

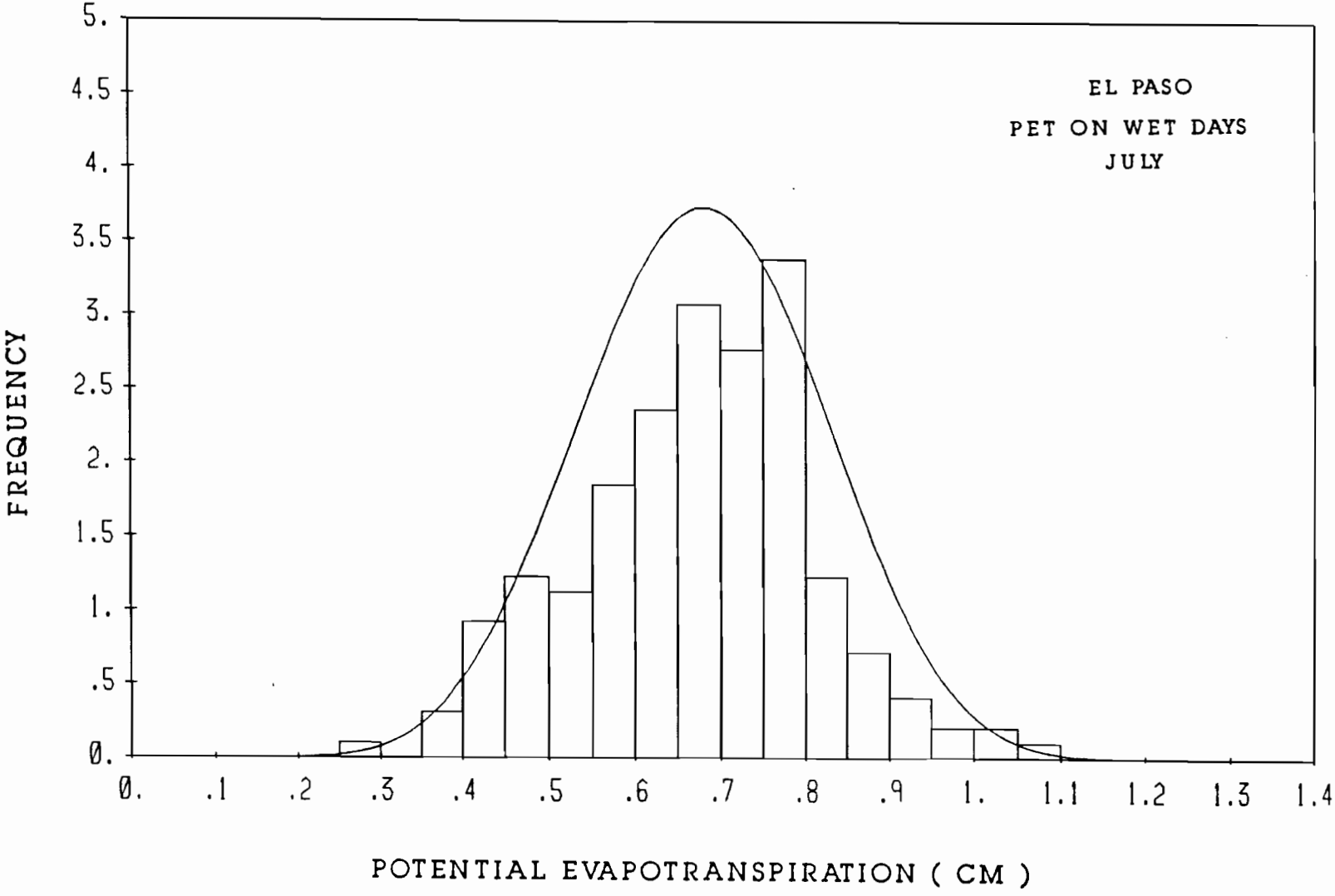

FIGURE I3.7 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN JULY

TABLE I 8 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN AUGUST

PRECIPITATION IN INCHES (AUG)

TOTAL NUMBER OF DAYS COUNTED : 432
DAYS WITH ONLY TRACE OF RAIN : 78
PROBABILITY OF TRACE AMOUNT IN WET DAYS :43.0939
TRANSITION PROBABILITY DRY-DRY :70.0000
TRANSITION PROBABILITY WET-DRY :41.7582
ARITHMETIC AVERAGE : 0.1943
STANDARD DEVIATION : 0.2999
COEFFICIENT OF SKEW : 2.7341
NETA - GAMMA DISTRIBUTION : 0.6582583

NUMBER OF WET DAYS : 181
DAYS WITH MORE THAN TRACE OF RAIN : 103
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0472
TRANSITION PROBABILITY DRY-WET :30.0000
TRANSITION PROBABILITY WET-WET :58.2418
GEOMETRIC AVERAGE : 0.0770
COEFFICIENT OF VARIATION : 1.5436
KURTOSIS : 11.2973
LAMBDA - GAMMA DISTRIBUTION : 3.388335

EVAPOTRANSPIRATION IN CM -DRY DAYS (AUG)

TOTAL NUMBER OF WET & DRY DAYS : 432

ARITHMETIC AVERAGE : 0.6788049
VARIANCE : 0.1020459E-01
COEFFICIENT OF SKEW : 0.4468275
ALFA - BETA DISTRIBUTION : 21.05425
UPPER LIMIT - BETA DIST : 1.325000

GEOMETRIC AVERAGE : 0.6713945
COEFFICIENT OF VARIATION : 0.1488171
KURTOSIS : 3.630176
BETA - BETA DISTRIBUTION : 19.26738
EXPECTED VALUE - BETA DIST : 0.6918589

VARIENCE - BETA DISTRIBUTION : 0.1060084E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (AUG)

TOTAL NUMBER OF WET & DRY DAYS : 432

ARITHMETIC AVERAGE : 0.5944199
VARIANCE : 0.1701266E-01
COEFFICIENT OF SKEW :-0.3642629
ALFA - BETA DISTRIBUTION : 8.144658
UPPER LIMIT - BETA DIST : 1.025000

GEOMETRIC AVERAGE : 0.5780216
COEFFICIENT OF VARIATION : 0.2194284
KURTOSIS : 2.430767
BETA - BETA DISTRIBUTION : 5.899750
EXPECTED VALUE - BETA DIST : 0.5944198

VARIENCE - BETA DISTRIBUTION : 0.1701266E-01

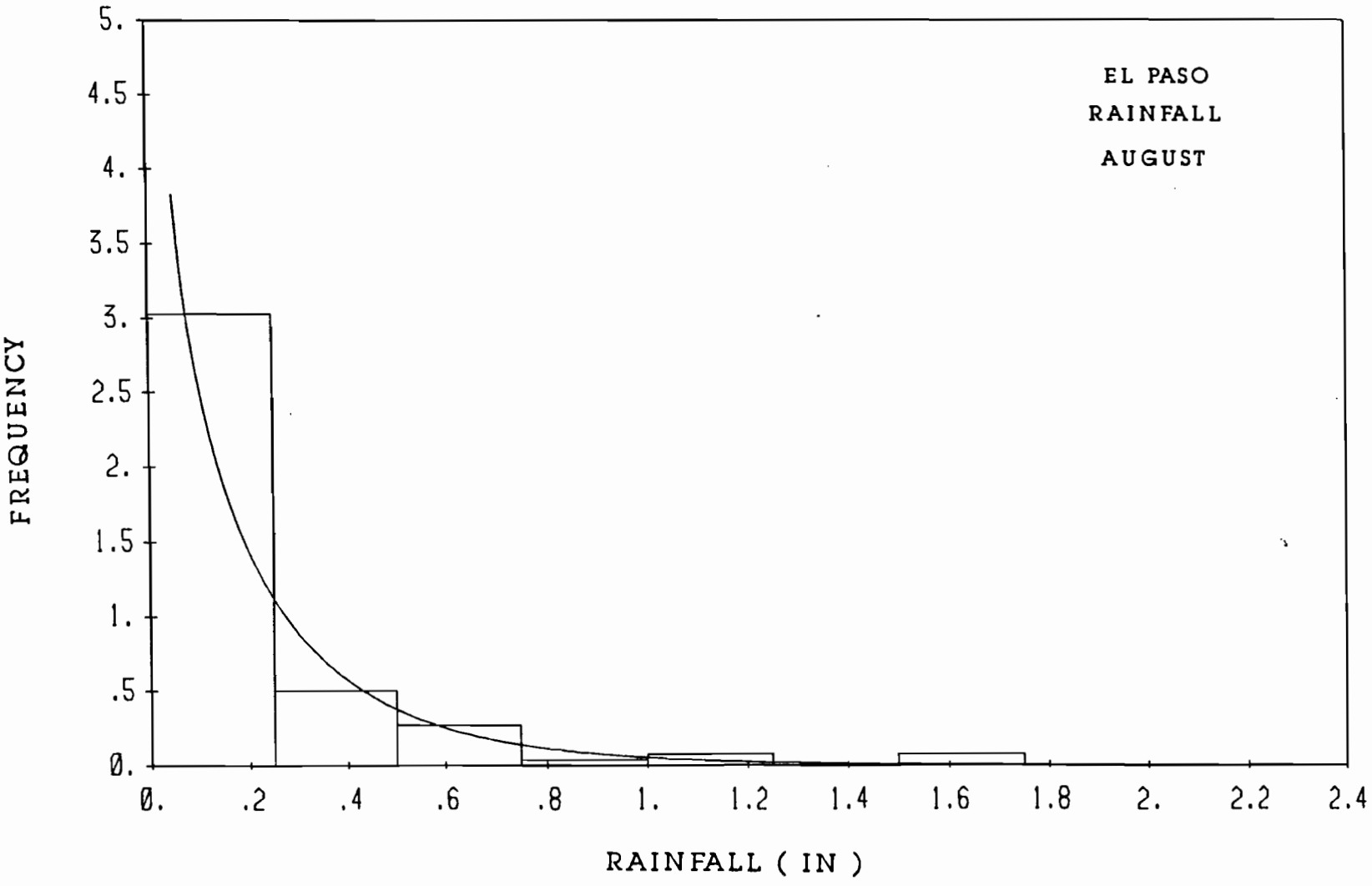

FIGURE I1.8 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN AUGUST

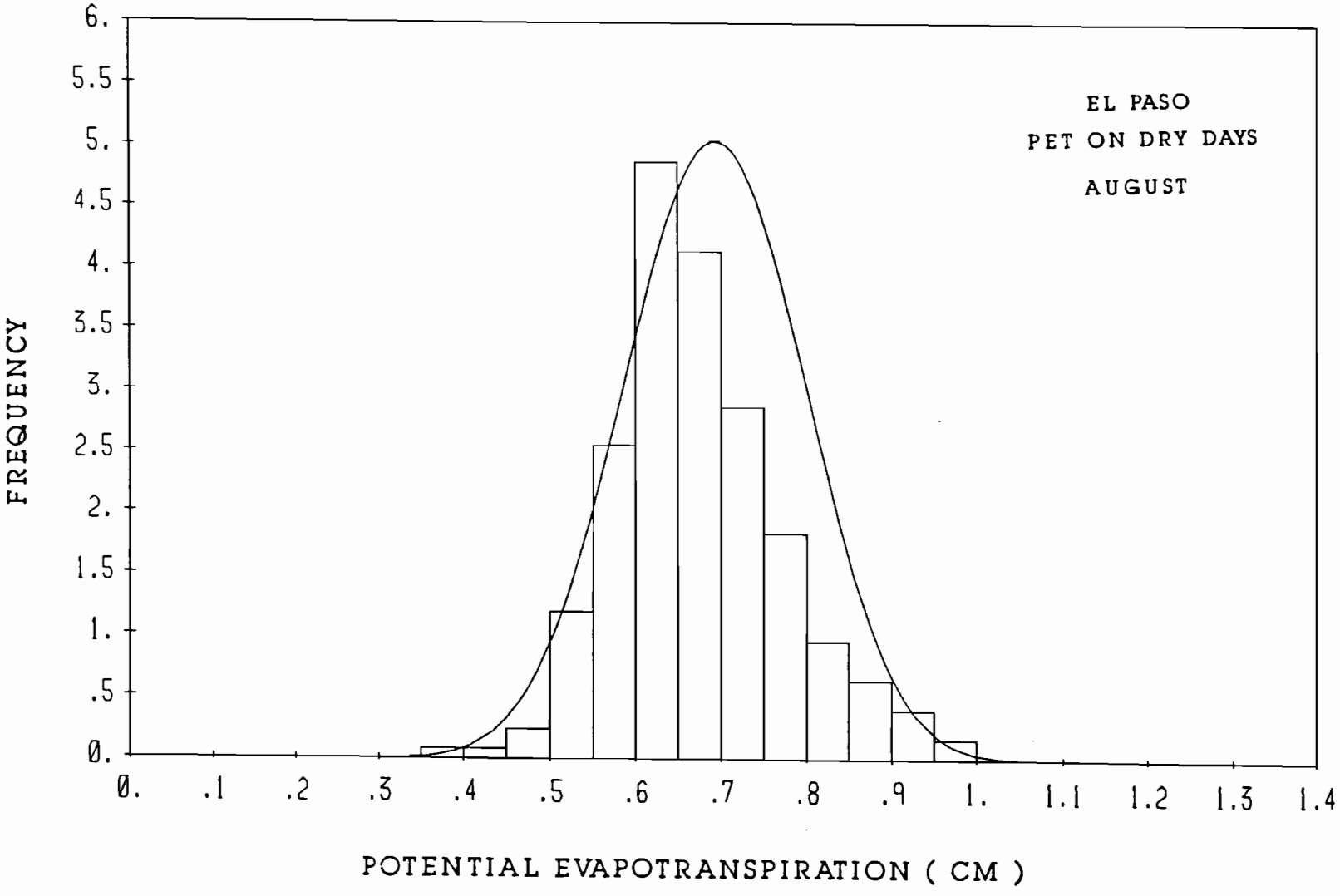

FIGURE I2.8 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN AUGUST

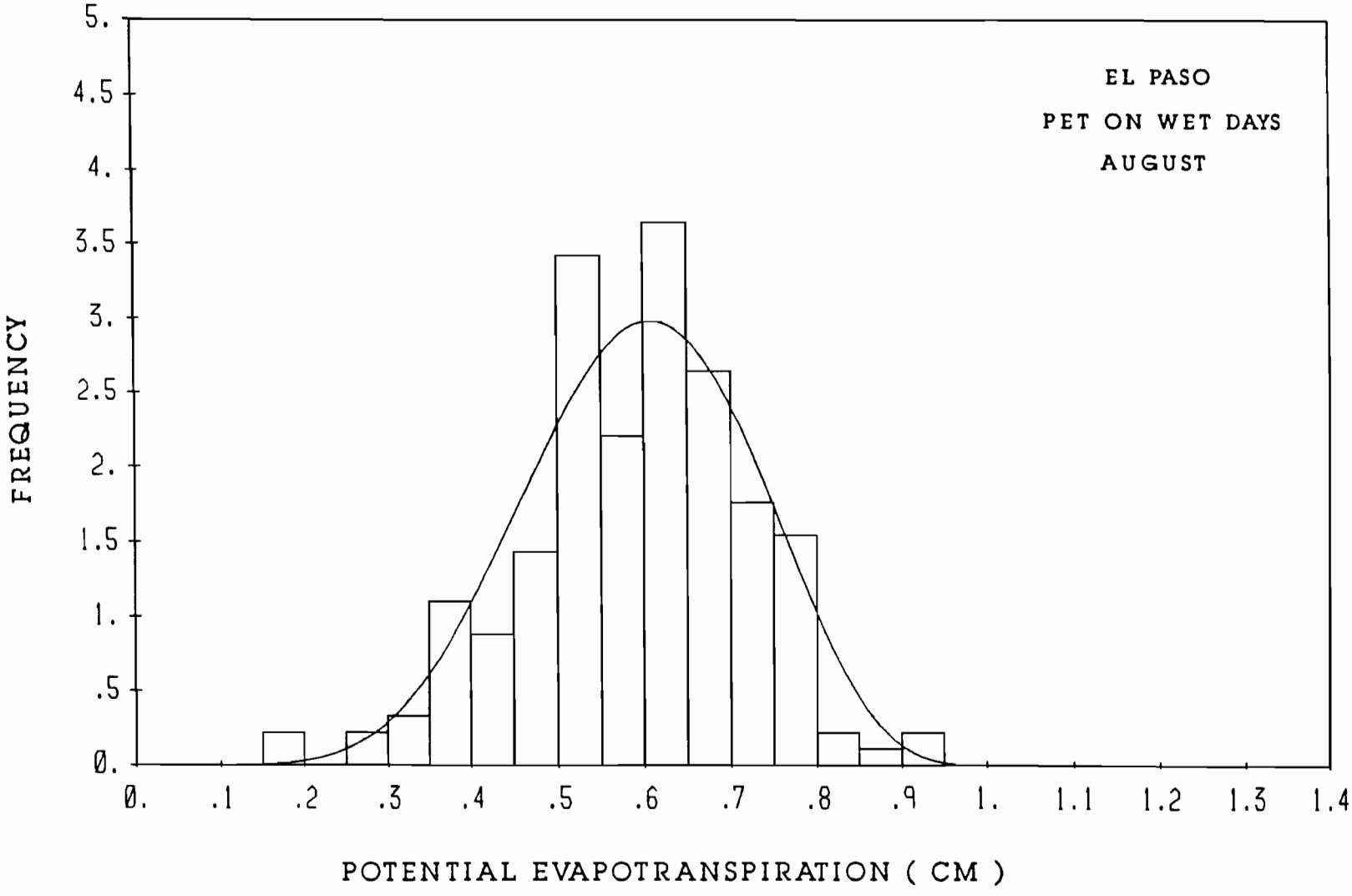

FIGURE I3.8 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN AUGUST

TABLE I.9 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN SEPTEMBER

PRECIPITATION IN INCHES (SEP)

TOTAL NUMBER OF DAYS COUNTED : 419
DAYS WITH ONLY TRACE OF RAIN : 54
PROBABILITY OF TRACE AMOUNT IN WET DAYS :37.5000
TRANSITION PROBABILITY DRY-DRY :78.3088
TRANSITION PROBABILITY WET-DRY :42.1769
ARITHMETIC AVERAGE : 0.2986
STANDARD DEVIATION : 0.4820
COEFFICIENT OF SKEW : 2.6345
NETA - GAMMA DISTRIBUTION : 0.5760731

NUMBER OF WET DAYS : 144
DAYS WITH MORE THAN TRACE OF RAIN : 90
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0648
TRANSITION PROBABILITY DRY-WET :21.6912
TRANSITION PROBABILITY WET-WET :57.8231
GEOMETRIC AVERAGE : 0.1015
COEFFICIENT OF VARIATION : 1.6146
KURTOSIS : 10.0714
LAMBDA - GAMMA DISTRIBUTION : 1.929534

EVAPOTRANSPIRATION IN CM -DRY DAYS (SEP)

TOTAL NUMBER OF WET & DRY DAYS : 419

ARITHMETIC AVERAGE : 0.5433819
VARIANCE : 0.1270116E-01
COEFFICIENT OF SKEW : 0.8630601E-01
ALFA - BETA DISTRIBUTION : 10.69902
UPPER LIMIT - BETA DIST : 1.050000

GEOMETRIC AVERAGE : 0.5311319
COEFFICIENT OF VARIATION : 0.2074037
KURTOSIS : 3.038257
BETA - BETA DISTRIBUTION : 9.975152
EXPECTED VALUE - BETA DIST : 0.5433819

VARIENCE - BETA DISTRIBUTION : 0.1270116E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (SEP)

TOTAL NUMBER OF WET & DRY DAYS : 419

ARITHMETIC AVERAGE : 0.4462500
VARIANCE : 0.2327118E-01
COEFFICIENT OF SKEW :-0.3069771
ALFA - BETA DISTRIBUTION : 3.946563
UPPER LIMIT - BETA DIST : 0.9250001

GEOMETRIC AVERAGE : 0.4139892
COEFFICIENT OF VARIATION : 0.3418463
KURTOSIS : 1.296644
BETA - BETA DISTRIBUTION : 4.233988
EXPECTED VALUE - BETA DIST : 0.4462500

VARIENCE - BETA DISTRIBUTION : 0.2327118E-01

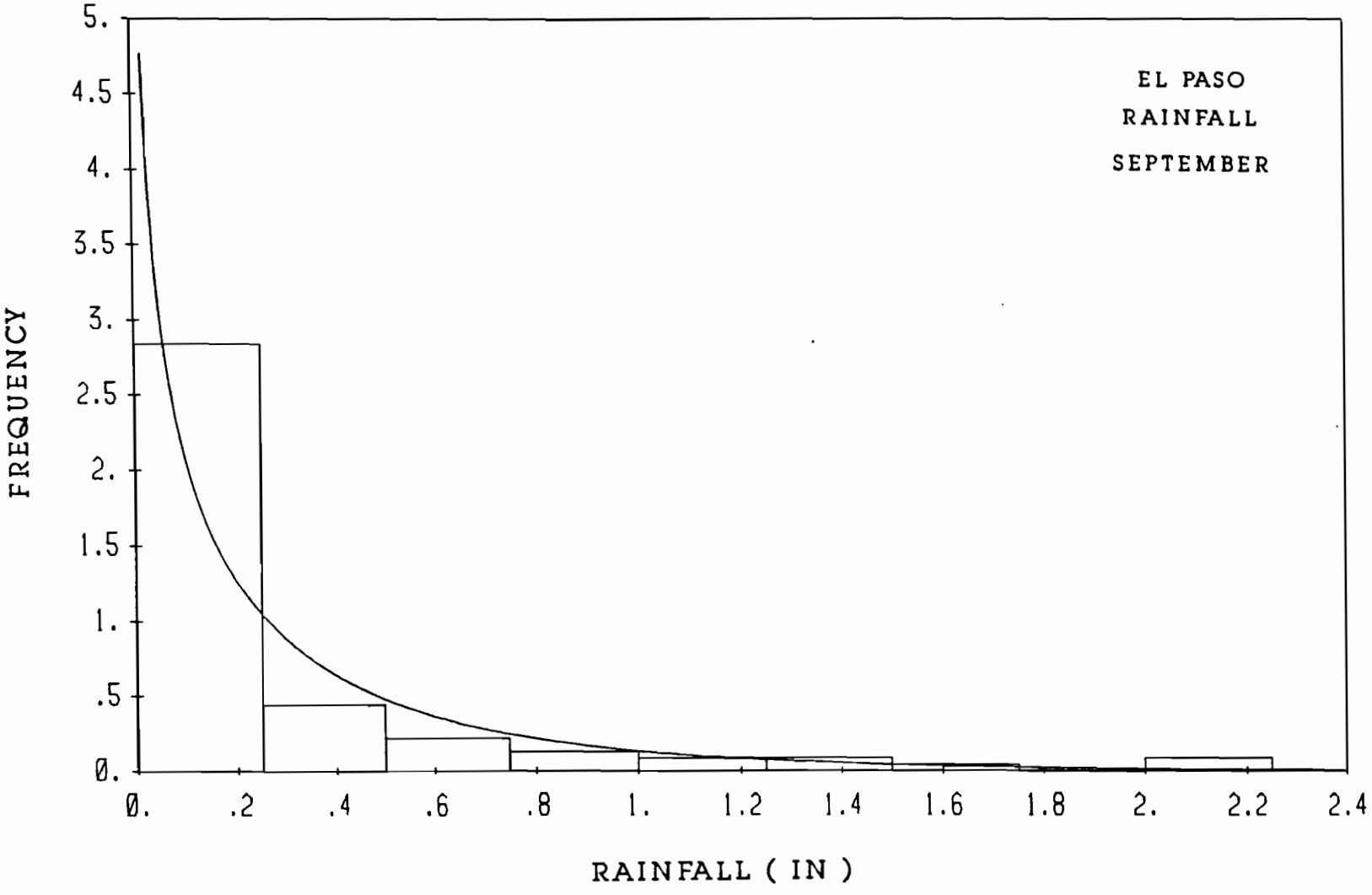

FIGURE I1.9 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN SEPTEMBER

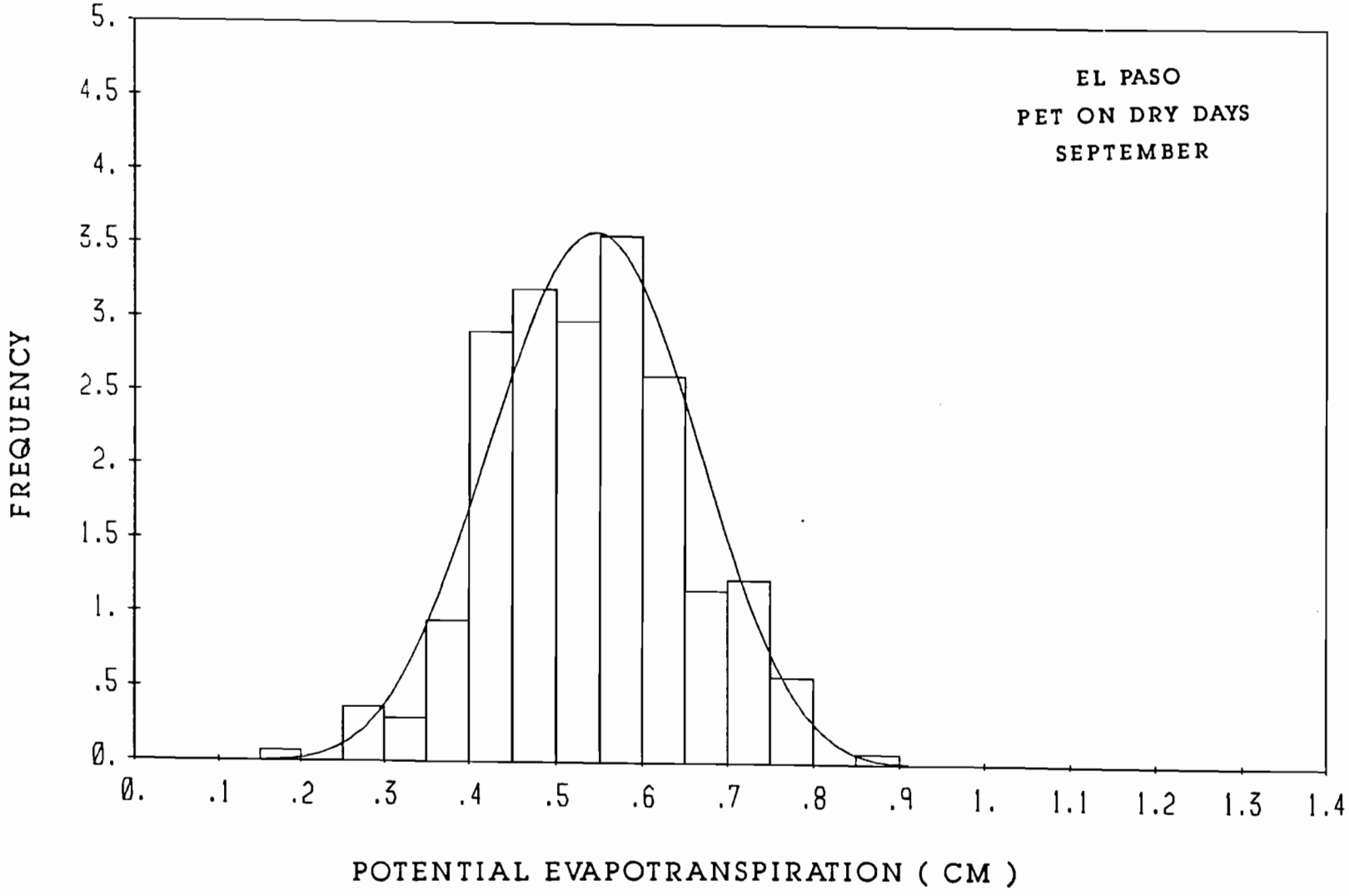

FIGURE I2.9 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN SEPTEMBER

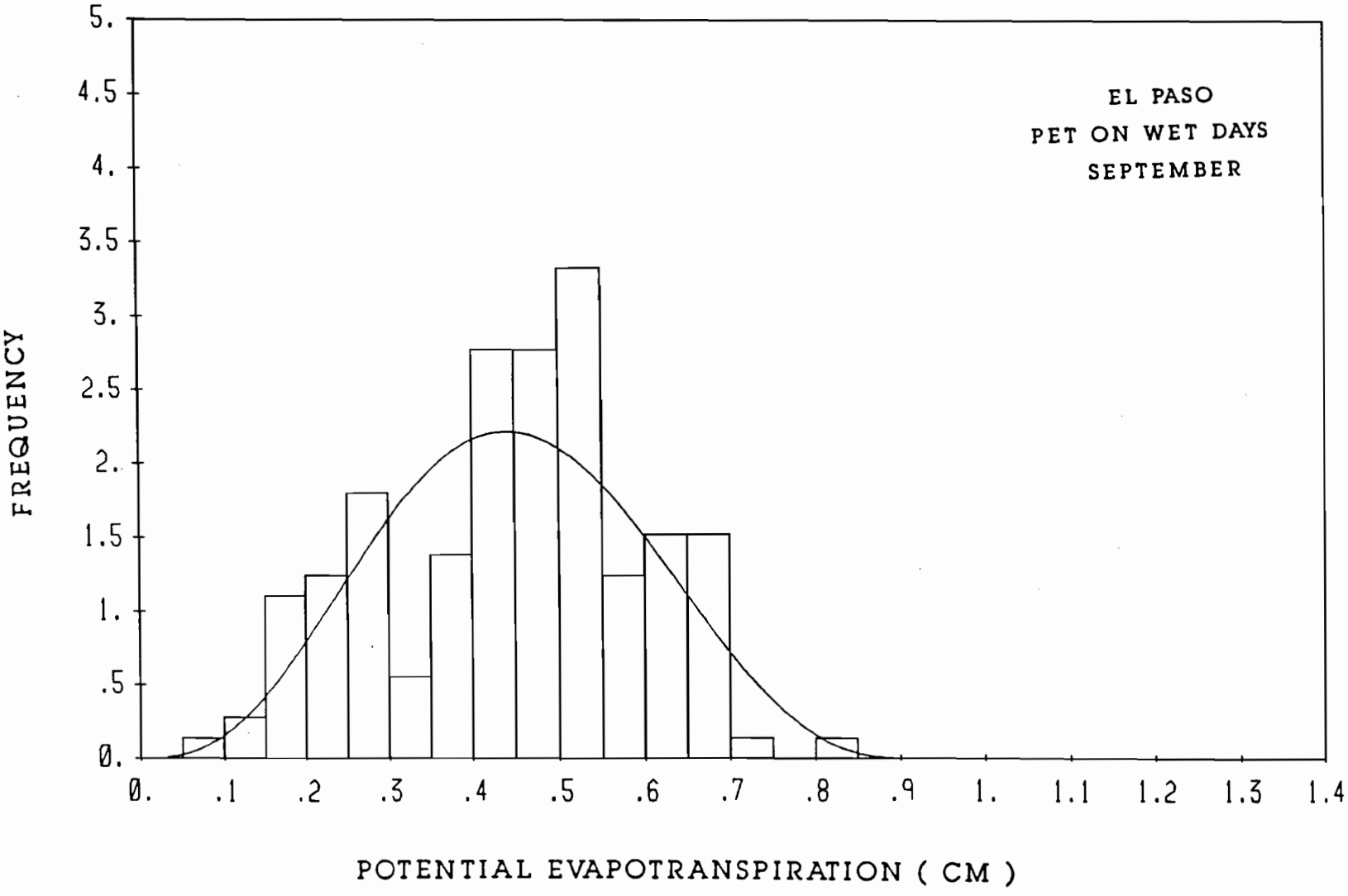

FIGURE I3.9 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN SEPTEMBER

TABLE I.10 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN OCTOBER

PRECIPITATION IN INCHES (OCT)

TOTAL NUMBER OF DAYS COUNTED : 434
DAYS WITH ONLY TRACE OF RAIN : 25
PROBABILITY OF TRACE AMOUNT IN WET DAYS :26.3158
TRANSITION PROBABILITY DRY-DRY :86.7257
TRANSITION PROBABILITY WET-DRY :47.3684
ARITHMETIC AVERAGE : 0.1709
STANDARD DEVIATION : 0.1953
COEFFICIENT OF SKEW : 1.6180
NETA - GAMMA DISTRIBUTION : 0.7882810

NUMBER OF WET DAYS : 95
DAYS WITH MORE THAN TRACE OF RAIN : 70
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0278
TRANSITION PROBABILITY DRY-WET :13.2743
TRANSITION PROBABILITY WET-WET :52.6316
GEOMETRIC AVERAGE : 0.0804
COEFFICIENT OF VARIATION : 1.1432
KURTOSIS : 6.0676
LAMBDA - GAMMA DISTRIBUTION : 4.613299

EVAPOTRANSPIRATION IN CM -DRY DAYS (OCT)

TOTAL NUMBER OF WET & DRY DAYS : 434

ARITHMETIC AVERAGE : 0.3707671
VARIANCE : 0.1380164E-01
COEFFICIENT OF SKEW : 1.000749
ALFA - BETA DISTRIBUTION : 6.426621
UPPER LIMIT - BETA DIST : 1.175000

GEOMETRIC AVERAGE : 0.3534699
COEFFICIENT OF VARIATION : 0.3168576
KURTOSIS : 4.540643
BETA - BETA DISTRIBUTION : 13.50668
EXPECTED VALUE - BETA DIST : 0.3788273

VARIENCE - BETA DISTRIBUTION : 0.1440823E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (OCT)

TOTAL NUMBER OF WET & DRY DAYS : 434

ARITHMETIC AVERAGE : 0.3222105
VARIANCE : 0.1367060E-01
COEFFICIENT OF SKEW : 0.4656185
ALFA - BETA DISTRIBUTION : 4.825174
UPPER LIMIT - BETA DIST : 1.025000

GEOMETRIC AVERAGE : 0.2997135
COEFFICIENT OF VARIATION : 0.3628725
KURTOSIS : 0.9727329
BETA - BETA DISTRIBUTION : 10.15005
EXPECTED VALUE - BETA DIST : 0.3302657

VARIENCE - BETA DISTRIBUTION : 0.1436267E-01

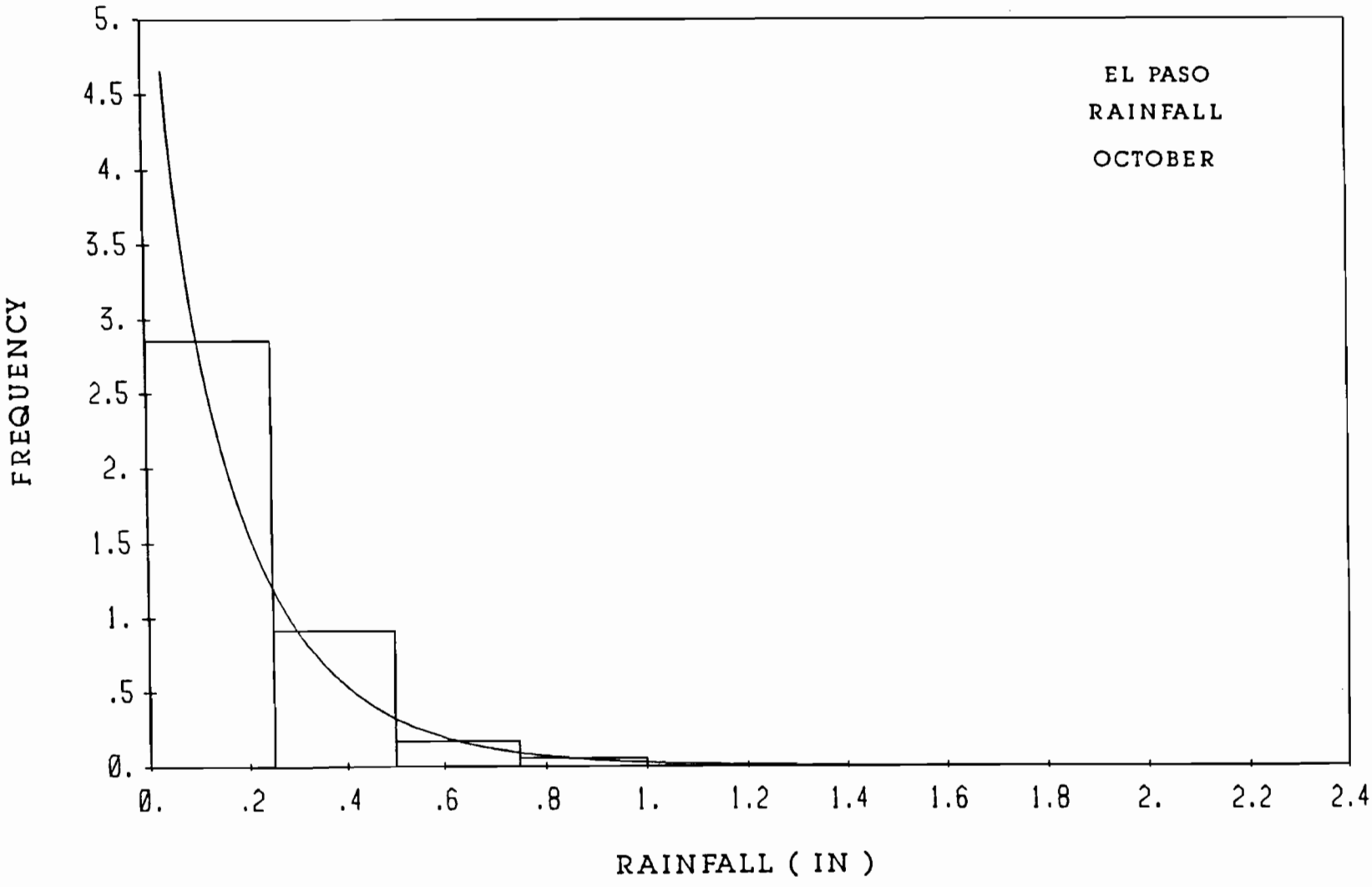

FIGURE I1.10 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN OCTOBER

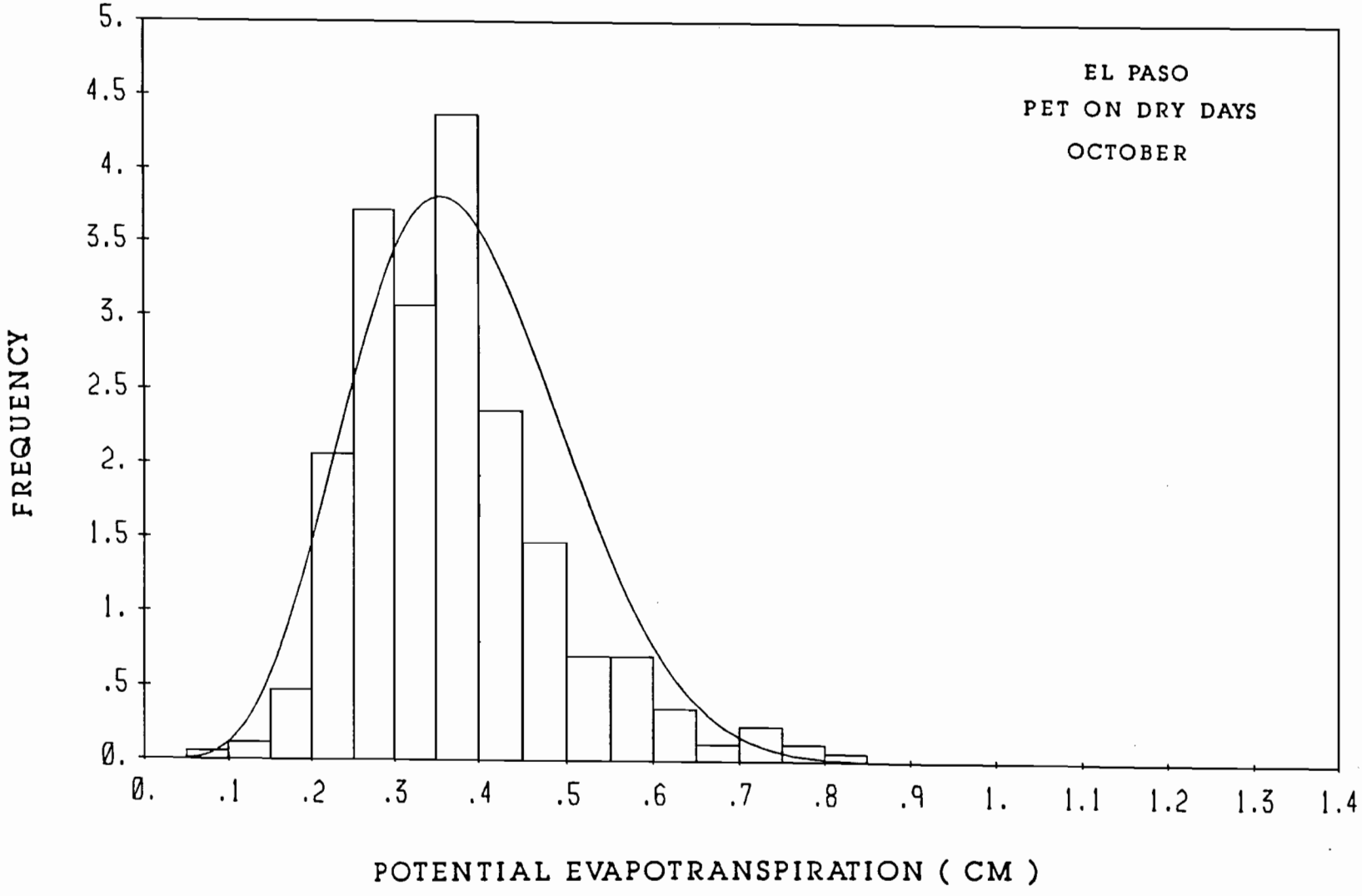

FIGURE I2.10 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN OCTOBER

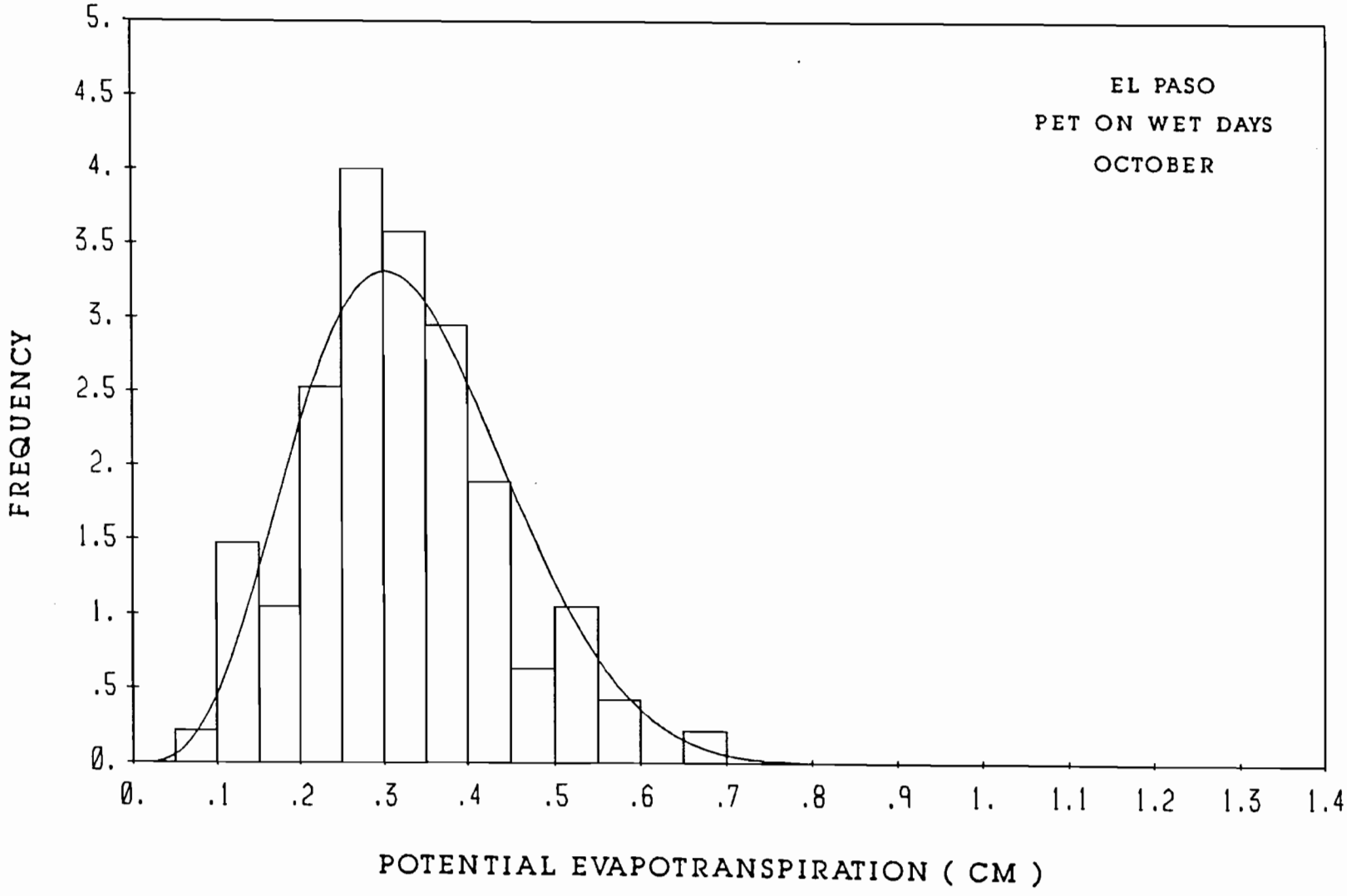

FIGURE I3.10 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN OCTOBER

TABLE I.11 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN JANUARY

PRECIPITATION IN INCHES (NOV)

TOTAL NUMBER OF DAYS COUNTED : 419
DAYS WITH ONLY TRACE OF RAIN : 33
PROBABILITY OF TRACE AMOUNT IN WET DAYS :46.4789
TRANSITION PROBABILITY DRY-DRY :88.2184
TRANSITION PROBABILITY WET-DRY :57.7465
ARITHMETIC AVERAGE : 0.1197
STANDARD DEVIATION : 0.1137
COEFFICIENT OF SKEW : 0.9576
NETA GAMMA DISTRIBUTION : 0.9908519

NUMBER OF WET DAYS : 71
DAYS WITH MORE THAN TRACE OF RAIN : 38
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0113
TRANSITION PROBABILITY DRY-WET :11.7816
TRANSITION PROBABILITY WET-WET :42.2535
GEOMETRIC AVERAGE : 0.0668
COEFFICIENT OF VARIATION : 0.9500
KURTOSIS : 3.0611
LAMBDA - GAMMA DISTRIBUTION : 8.275247

EVAPOTRANSPIRATION IN CM -DRY DAYS (NOV)

TOTAL NUMBER OF WET & DRY DAYS : 419

ARITHMETIC AVERAGE : 0.2392241
VARIANCE : 0.9491989E-02
COEFFICIENT OF SKEW : 1.232623
ALFA - BETA DISTRIBUTION : 4.259068
UPPER LIMIT - BETA DIST : 0.9749998

GEOMETRIC AVERAGE : 0.2212476
COEFFICIENT OF VARIATION : 0.4072618
KURTOSIS : 5.181021
BETA - BETA DISTRIBUTION : 12.65442
EXPECTED VALUE - BETA DIST : 0.2455194

VARIENCE - BETA DISTRIBUTION : 0.9998141E-02

EVAPOTRANSPIRATION IN CM -WET DAYS (NOV)

TOTAL NUMBER OF WET & DRY DAYS : 419

ARITHMETIC AVERAGE : 0.2338029
VARIANCE : 0.9868388E-01
COEFFICIENT OF SKEW : 6.849457
ALFA - BETA DISTRIBUTION : 2.252191

GEOMETRIC AVERAGE : 0.1742923
COEFFICIENT OF VARIATION : 1.343619
KURTOSIS : 11.08027
BETA - BETA DISTRIBUTION : 3.768349

NOTE : THE PARAMETERS ALFA AND BETA OF THE FITTED BETA DISTRIBUTION
ARE DETERMINED BY REDUCING THE STANDARD DEVIATION FROM 0.3141399 TO 0.1141399

UPPER LIMIT - BETA DIST : 0.6250000
EXPECTED VALUE - BETA DIST : 0.2338028

VARIENCE - BETA DISTRIBUTION : 0.1302792E-01

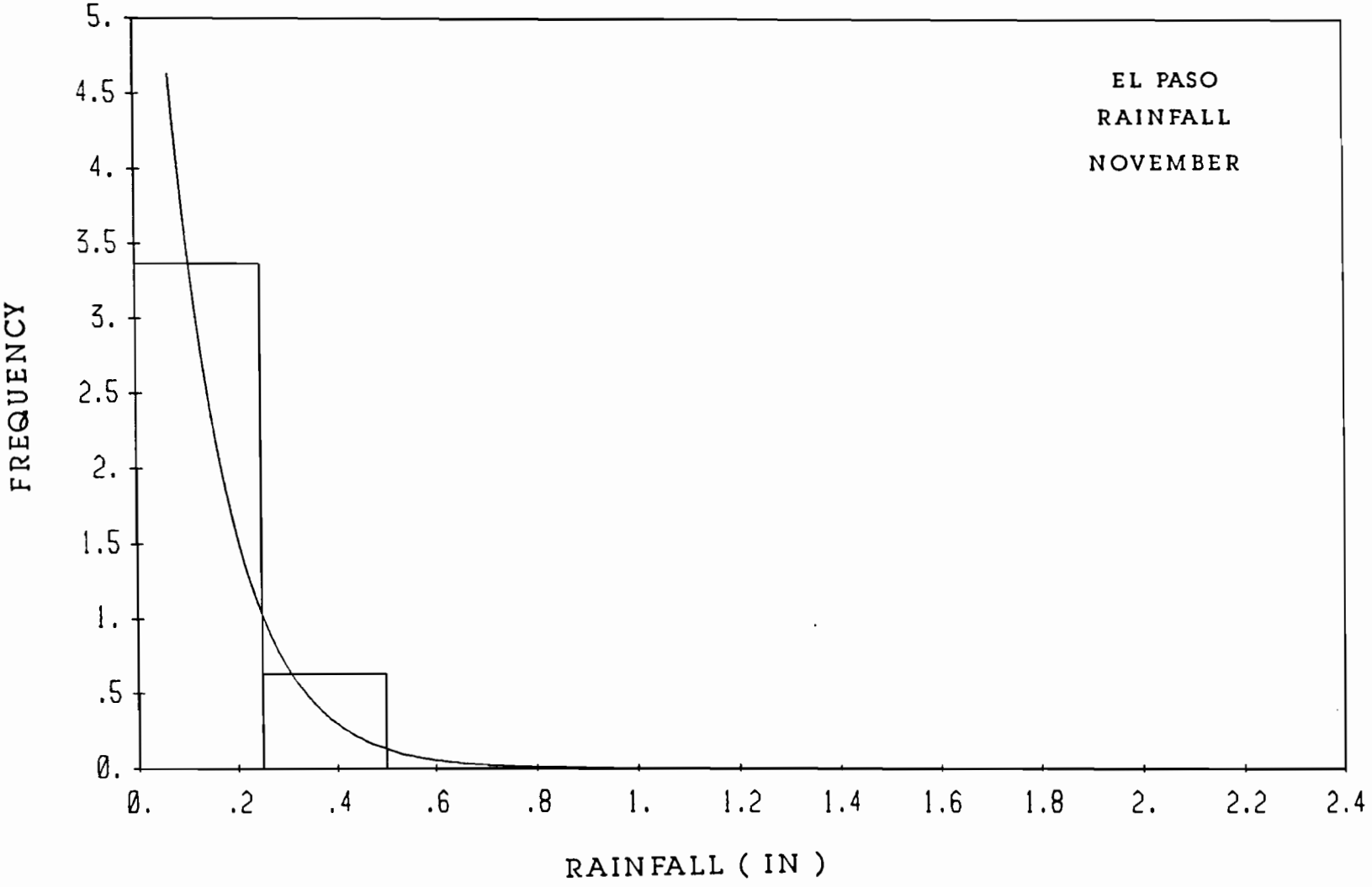

FIGURE I1.11 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN NOVEMBER

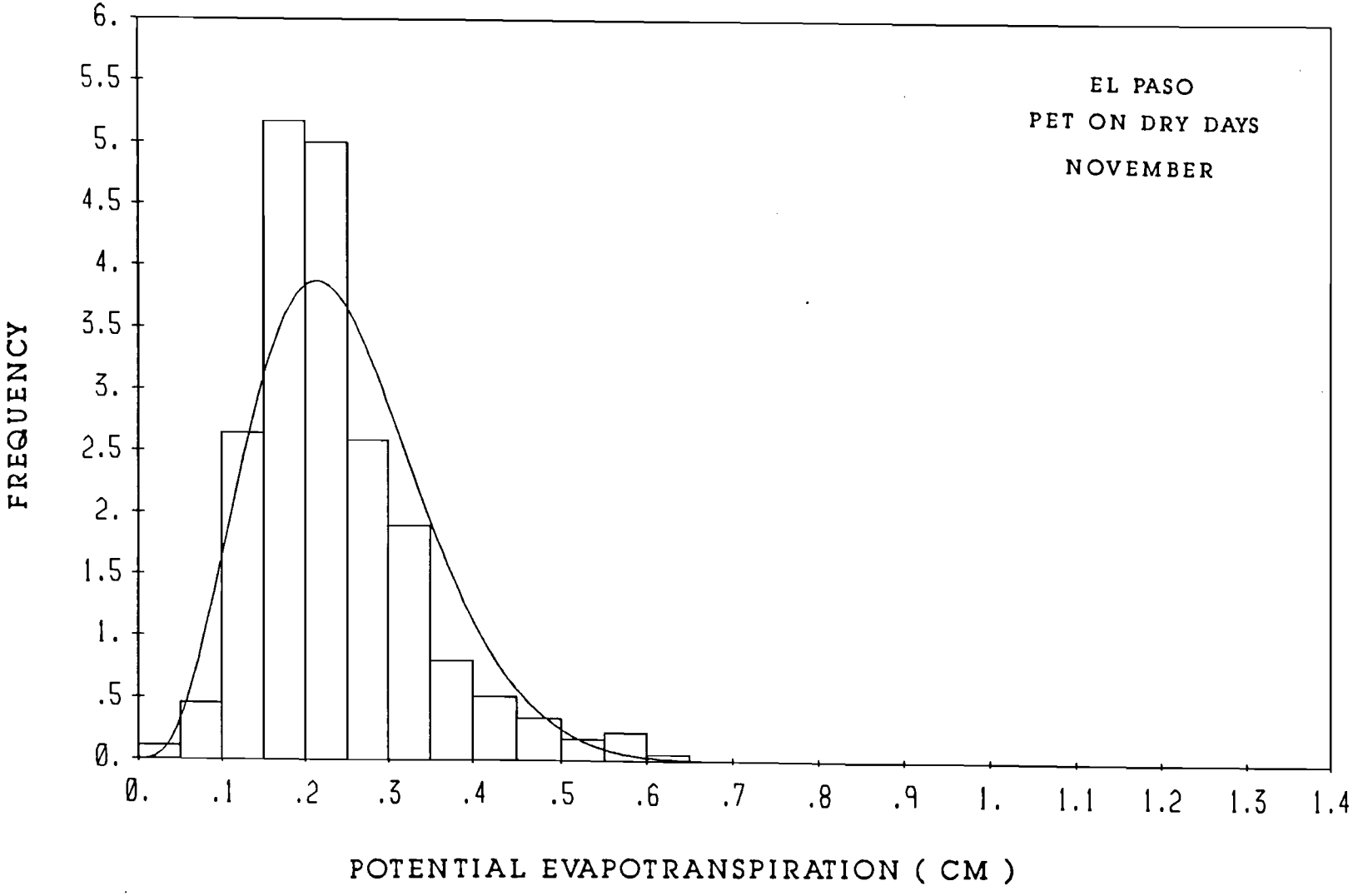

FIGURE I2.11 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN NOVEMBER

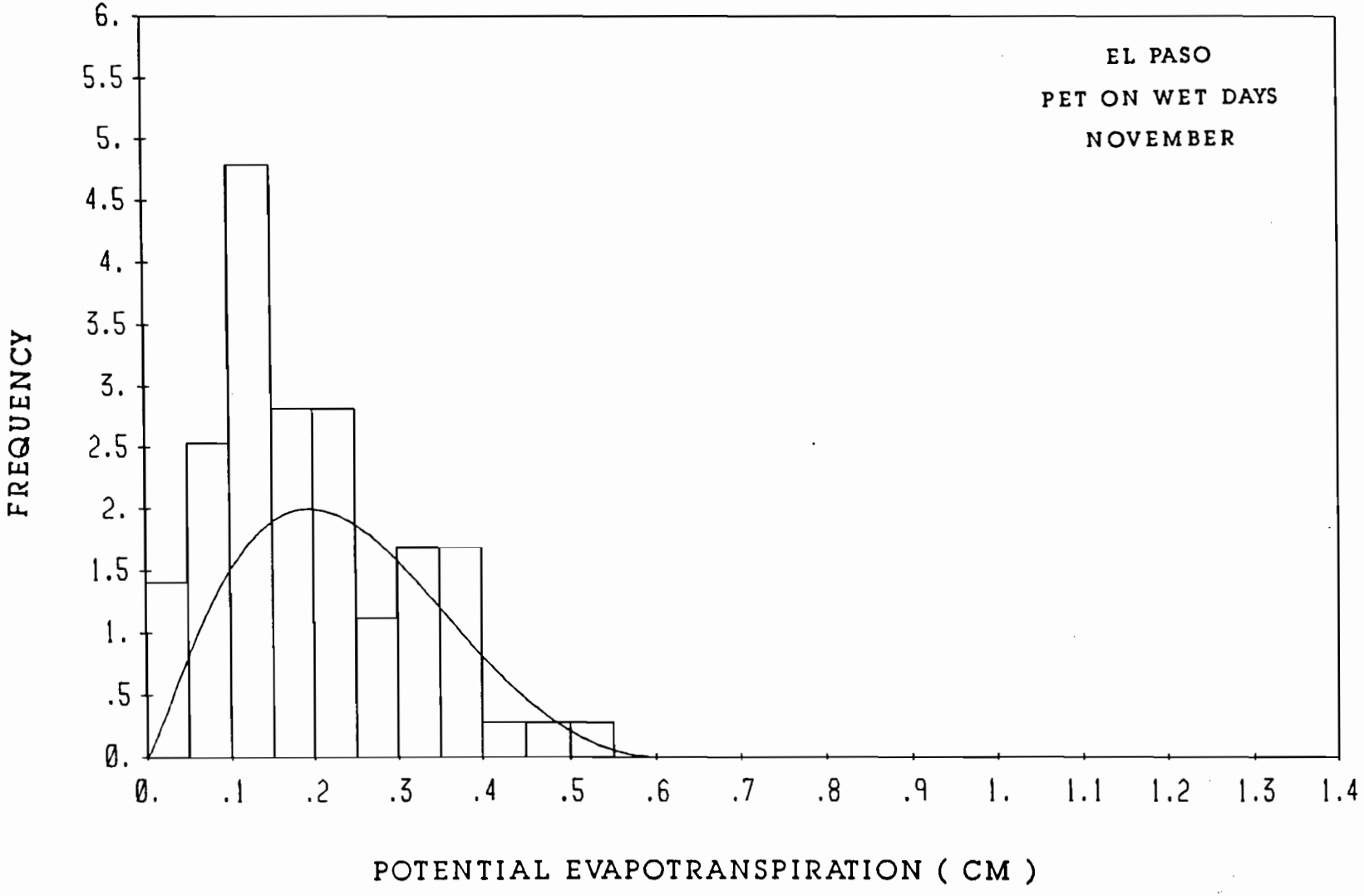

FIGURE I3.11 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN NOVEMBER

TABLE I.12 OUTPUT OF WEATHER ANALYSIS FOR EL PASO IN DECEMBER

PRECIPITATION IN INCHES (DEC)

TOTAL NUMBER OF DAYS COUNTED : 434
DAYS WITH ONLY TRACE OF RAIN : 33
PROBABILITY OF TRACE AMOUNT IN WET DAYS :38.3721
TRANSITION PROBABILITY DRY-DRY :87.7143
TRANSITION PROBABILITY WET-DRY :48.8095
ARITHMETIC AVERAGE : 0.1374
STANDARD DEVIATION : 0.1559
COEFFICIENT OF SKEW : 1.7461
NETA - GAMMA DISTRIBUTION : 0.9124440

NUMBER OF WET DAYS : 86
DAYS WITH MORE THAN TRACE OF RAIN : 53
GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS : 0.0172
TRANSITION PROBABILITY DRY-WET :12.2857
TRANSITION PROBABILITY WET-WET :51.1905
GEOMETRIC AVERAGE : 0.0725
COEFFICIENT OF VARIATION : 1.1352
KURTOSIS : 5.8220
LAMBDA - GAMMA DISTRIBUTION : 6.642792

EVAPOTRANSPIRATION IN CM -DRY DAYS (DEC)

TOTAL NUMBER OF WET & DRY DAYS : 434

ARITHMETIC AVERAGE : 0.1809196
VARIANCE : 0.1263602E-01
COEFFICIENT OF SKEW : 2.200692
ALFA - BETA DISTRIBUTION : 2.025525
UPPER LIMIT - BETA DIST : 1.175000

GEOMETRIC AVERAGE : 0.1565733
COEFFICIENT OF VARIATION : 0.6213259
KURTOSIS : 9.245955
BETA - BETA DISTRIBUTION : 10.84955
EXPECTED VALUE - BETA DIST : 0.1848527

VARIENCE - BETA DISTRIBUTION : 0.1319138E-01

EVAPOTRANSPIRATION IN CM -WET DAYS (DEC)

TOTAL NUMBER OF WET & DRY DAYS : 434

ARITHMETIC AVERAGE : 0.1701162
VARIANCE : 0.9485873E-02
COEFFICIENT OF SKEW : 1.227186
ALFA - BETA DISTRIBUTION : 2.189419
UPPER LIMIT - BETA DIST : 0.8249998

GEOMETRIC AVERAGE : 0.1437313
COEFFICIENT OF VARIATION : 0.5725229
KURTOSIS : 1.202639
BETA - BETA DISTRIBUTION : 8.106687
EXPECTED VALUE - BETA DIST : 0.1754324

VARIENCE - BETA DISTRIBUTION : 0.1008800E-01

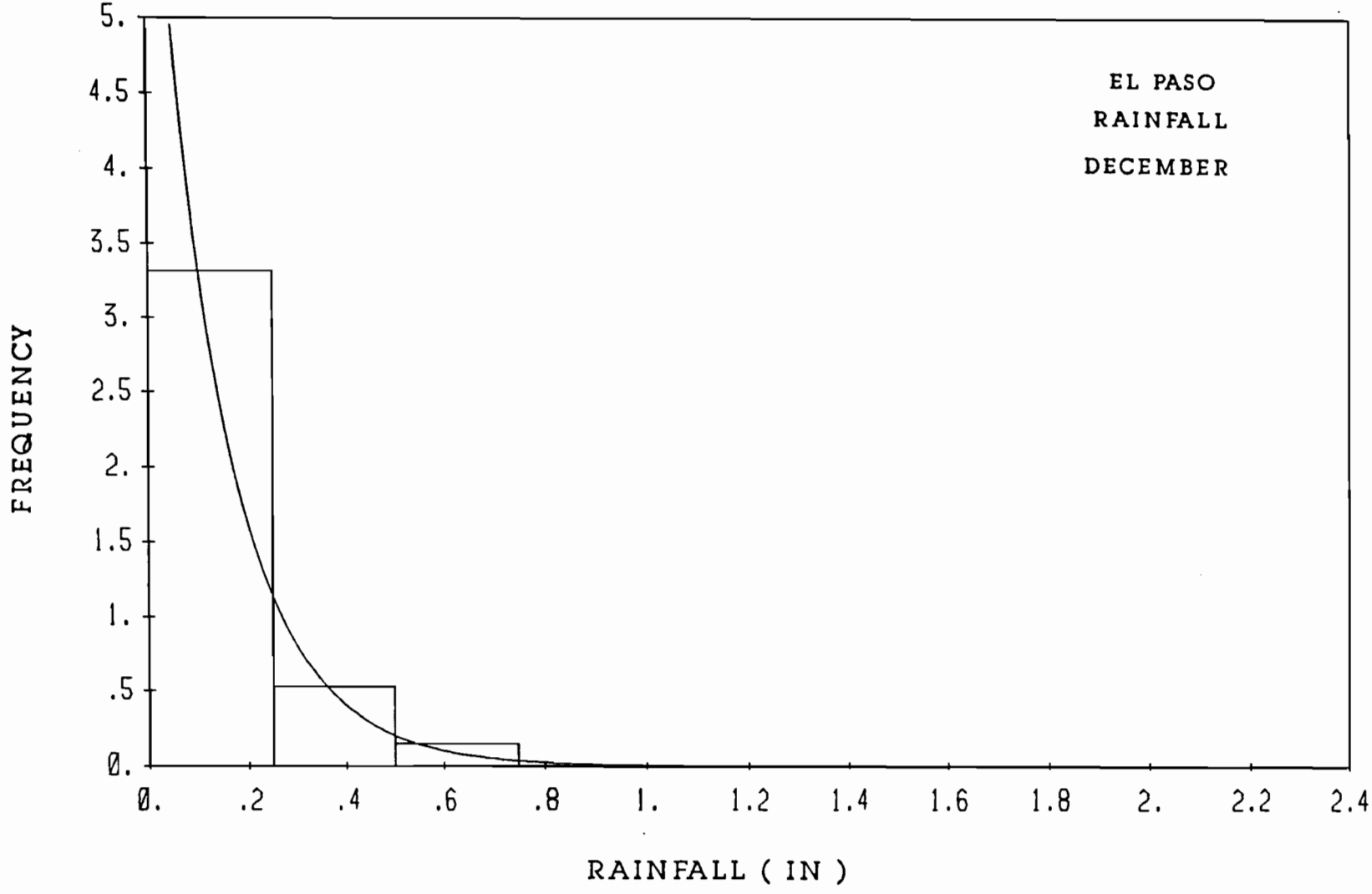

FIGURE I1.12 HISTORICAL DATA HISTOGRAM AND FITTED GAMMA DISTRIBUTION TO THE RAINFALL DEPTH IN DECEMBER

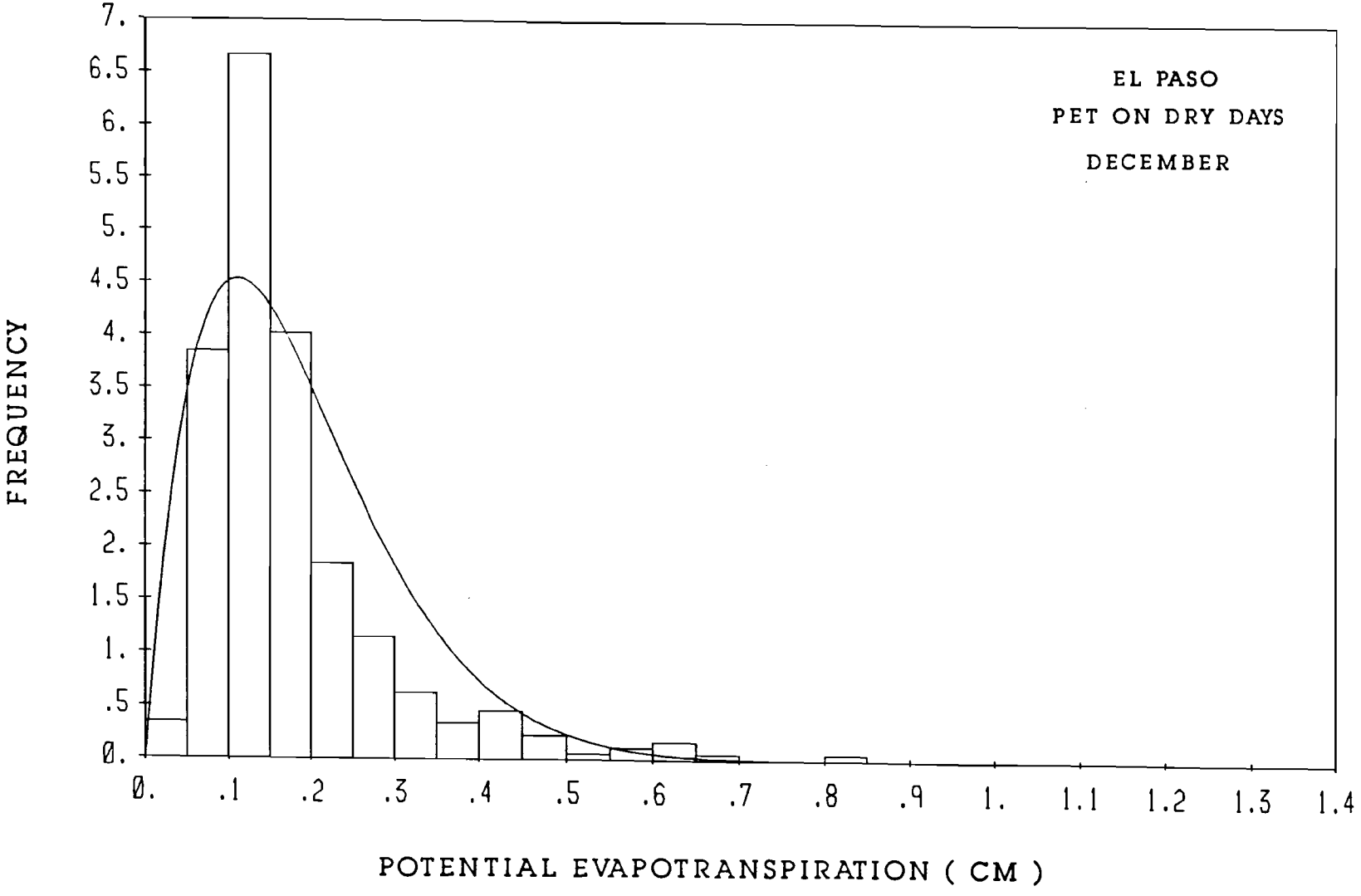

FIGURE I2.12 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON DRY DAYS IN DECEMBER

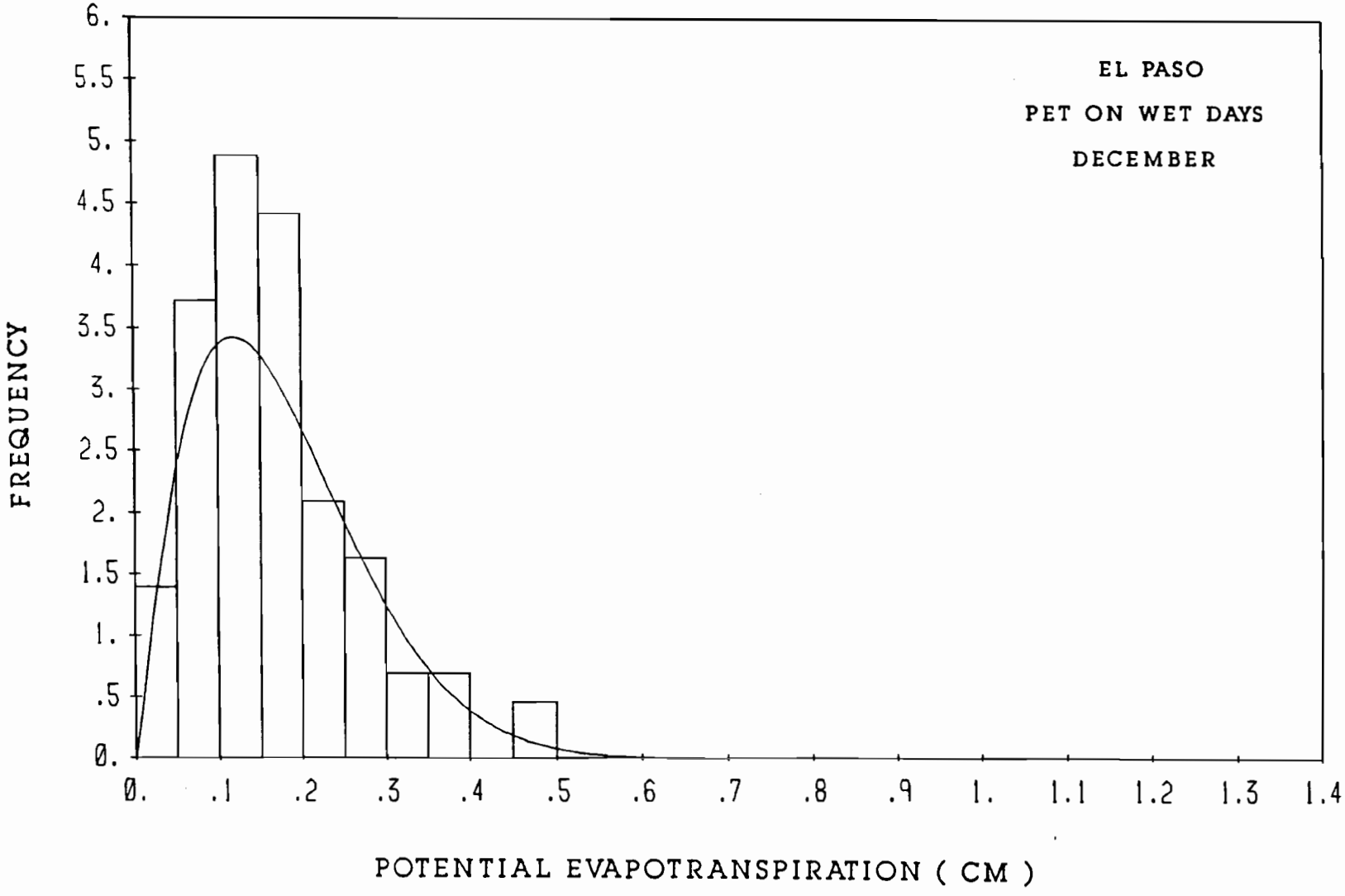

FIGURE I3.12 HISTORICAL DATA HISTOGRAM AND FITTED BETA DISTRIBUTION TO THE POTENTIAL EVAPOTRANSPIRATION ON WET DAYS IN DECEMBER

APPENDIX J

SAMPLE OF INPUT DATA OF A SIMULATION FOR EL PASO

```
2
31.8
10
6.56      1         10        67
6.56      9         9         78
6.56      8         8         79
6.56      7         7         80
6.56      6         6         81
6.56      5         5         82
6.56      4         4         83
6.56      3         3         84
6.56      2         2         85
6.56      1         1         86
0
70.0      20.0
70.0      15.0
80.0      20.0
100.0     25.0
110.0     20.0
10.0      0.5       0.725
10.0      5.0       20.0
2
0.3       0.3
0.5       0.5
2         1.0       0.25      0.0       0.0
0.3       0.5       0.2       1.0       1.0       4.0     15.0
0
2
0
1
0
1
1.0E-9    3.0E-3    1.0E-12
1.0E-9    3.0E-3    1.0E-12
1.0E-9    3.0E-3    1.0E-12
1.0E-9    3.0E-3    1.0E-12
1.0E-9    3.0E-3    1.0E-12
1.0E-9    3.0E-3    1.0E-12
1.0E-9    3.0E-3    1.0E-12
4.0       0.1
4.0       0.1
4.0       0.1
4.0       0.1
4.0       0.1
4.0       0.1
4.0       0.1
1500.0
2000.0
2500.0
3000.0
3500.0
4000.0
4500.0
0
0
```

```
1
1          111111111 0          0.0        0.0        0.5      0.0
'TRANS.OUT'          'EPWEATHER.OUT'
'BLOCKCRV.OUT'
0          1
'LS1.OUT'
1
'EPP1.OUT'           'EPP2.OUT'
```

APPENDIX K

SAMPLE OF OUTPUT OF A SIMULATION FOR EL PASO

BLOCK CURVE FOR BLOCK NO : 1

	VOLUME (CM^3)	TIME (DAYS)
1	738.1721	0.0000000E+00
2	742.4651	9.983692
3	746.7581	16.44296
4	751.0512	21.23605
5	755.3442	25.05032
6	759.6373	28.21378
7	763.9304	30.92769
8	768.2234	33.28921
9	772.5164	35.39212
10	776.8095	37.28516
11	781.1025	39.00977
12	785.3956	40.58375
13	789.6887	42.04341
14	793.9817	43.39289
15	798.2747	44.65775
16	802.5677	45.84563
17	806.8608	46.96127
18	811.1539	48.01274
19	815.4469	49.00934
20	819.7400	49.95609
21	824.0330	50.85402
22	828.3260	51.70607
23	832.6191	52.51821
24	836.9122	53.29416
25	841.2052	54.03779
26	845.4983	54.74111
27	849.7913	55.40736
28	854.0844	56.04979
29	858.3774	56.65160
30	862.6705	57.22276
31	866.9635	57.76933
32	871.2565	58.27232
33	875.5496	58.75881
34	879.8427	59.20088
35	884.1357	59.62107
36	888.4288	60.02028
37	892.7218	60.36811
38	897.0148	60.71595
39	901.3079	61.03426
40	905.6010	61.31095
41	909.8940	61.58765
42	914.1871	61.86434
43	918.4801	62.02209
44	922.7731	62.15028
45	927.0662	62.27847
46	931.3593	62.40666
47	935.6523	62.53485
48	939.9453	62.66304
49	944.2384	62.79123

50	948.5314	62.91941
51	954.9731	63.15189
52	961.4148	63.38436
53	967.8565	63.61683
54	974.2982	63.84930
55	980.7399	64.23047
56	987.1815	64.67584
57	993.6232	65.18137
58	1000.065	65.75951
59	1006.507	66.41582
60	1012.948	67.12729
61	1019.390	67.90835
62	1025.832	68.77422
63	1032.273	69.70695
64	1038.715	70.71033
65	1045.157	71.78621
66	1051.598	72.93633
67	1058.040	74.17074
68	1064.482	75.48124
69	1070.923	76.86817
70	1077.365	78.34885
71	1083.807	79.91117
72	1090.248	81.57716
73	1096.690	83.34121
74	1103.132	85.21375
75	1109.573	87.20509
76	1116.015	89.32560
77	1122.457	91.58573
78	1128.899	93.99818
79	1135.340	96.58461
80	1141.782	99.35718
81	1148.224	102.3382
82	1154.665	105.5519
83	1161.107	109.0249
84	1167.549	112.7930
85	1173.990	116.8914
86	1180.432	121.3693
87	1186.874	126.2748
88	1193.315	131.6745
89	1199.757	137.6473
90	1206.199	144.2886
91	1212.641	151.7167
92	1219.082	160.0836
93	1225.524	169.5837
94	1231.965	180.4713
95	1238.407	193.0911
96	1244.849	207.9258
97	1251.291	225.6783
98	1257.732	247.4218
99	1264.174	274.9280
100	1270.616	311.4416

BLOCK CURVE FOR BLOCK NO : 2

	VOLUME (CM^3)	TIME (DAYS)
1	825.1349	0.0000000E+00
2	829.1890	10.42807
3	833.2432	17.25731
4	837.2973	22.34426
5	841.3514	26.40214
6	845.4055	29.78207
7	849.4597	32.67340
8	853.5138	35.20431
9	857.5679	37.45305
10	861.6221	39.47884
11	865.6762	41.32156
12	869.7303	43.01541
13	873.7844	44.57209
14	877.8386	46.02571
15	881.8927	47.37540
16	885.9468	48.64589
17	890.0010	49.84373
18	894.0551	50.97326
19	898.1092	52.03979
20	902.1633	53.05276
21	906.2175	54.01653
22	910.2716	54.93477
23	914.3257	55.80472
24	918.3799	56.63378
25	922.4340	57.42516
26	926.4881	58.18227
27	930.5422	58.90681
28	934.5964	59.58333
29	938.6505	60.23264
30	942.7047	60.85393
31	946.7588	61.42658
32	950.8129	61.98581
33	954.8670	62.48901
34	958.9211	62.98524
35	962.9753	63.42046
36	967.0294	63.85567
37	971.0836	64.23095
38	975.1377	64.59169
39	979.1918	64.95000
40	983.2459	65.23628
41	987.3000	65.52257
42	991.3542	65.80885
43	995.4083	66.01224
44	999.4625	66.14487
45	1003.517	66.27750
46	1007.571	66.41014
47	1011.625	66.54278
48	1015.679	66.67542
49	1019.733	66.80804
50	1023.787	66.94068
51	1031.301	67.17725

52	1038.815	67.41381
53	1046.329	67.65038
54	1053.843	67.88694
55	1061.357	68.28889
56	1068.871	68.73946
57	1076.385	69.26522
58	1083.899	69.85166
59	1091.413	70.53093
60	1098.927	71.26623
61	1106.440	72.07084
62	1113.954	72.95023
63	1121.468	73.90902
64	1128.982	74.93977
65	1136.496	76.04990
66	1144.010	77.23709
67	1151.524	78.50111
68	1159.038	79.84200
69	1166.552	81.27346
70	1174.066	82.78849
71	1181.580	84.40005
72	1189.094	86.10587
73	1196.607	87.91702
74	1204.121	89.84432
75	1211.635	91.89266
76	1219.149	94.07637
77	1226.663	96.40735
78	1234.177	98.89482
79	1241.691	101.5657
80	1249.205	104.4317
81	1256.719	107.5175
82	1264.233	110.8477
83	1271.747	114.4580
84	1279.261	118.3784
85	1286.775	122.6519
86	1294.288	127.3291
87	1301.802	132.4680
88	1309.316	138.1386
89	1316.830	144.4301
90	1324.344	151.4462
91	1331.858	159.3204
92	1339.372	168.2213
93	1346.886	178.3673
94	1354.400	190.0450
95	1361.914	203.6487
96	1369.428	219.7266
97	1376.942	239.0872
98	1384.456	262.9827
99	1391.969	293.5112
100	1399.483	334.5871

BLOCK CURVE FOR BLOCK NO : 3

	VOLUME (CM^3)	TIME (DAYS)
1	1007.663	0.0000000E+00
2	1011.933	11.87412
3	1016.204	19.75375
4	1020.475	25.66353
5	1024.745	30.39656
6	1029.016	34.34526
7	1033.287	37.73276
8	1037.557	40.70094
9	1041.828	43.34361
10	1046.099	45.72300
11	1050.369	47.89079
12	1054.640	49.87852
13	1058.911	51.71391
14	1063.181	53.42127
15	1067.452	55.01900
16	1071.723	56.51101
17	1075.993	57.92134
18	1080.264	59.25131
19	1084.535	60.50830
20	1088.805	61.70348
21	1093.076	62.84066
22	1097.347	63.92326
23	1101.617	64.95432
24	1105.888	65.93653
25	1110.158	66.87230
26	1114.429	67.76382
27	1118.700	68.61327
28	1122.970	69.42303
29	1127.241	70.19612
30	1131.512	70.92394
31	1135.782	71.60858
32	1140.053	72.26332
33	1144.324	72.87466
34	1148.594	73.44337
35	1152.865	73.98867
36	1157.136	74.47467
37	1161.406	74.94692
38	1165.677	75.36341
39	1169.948	75.75535
40	1174.218	76.13564
41	1178.489	76.44603
42	1182.760	76.75642
43	1187.030	77.06680
44	1191.301	77.22440
45	1195.572	77.36889
46	1199.842	77.51337
47	1204.113	77.65786
48	1208.384	77.80235
49	1212.654	77.94684
50	1216.925	78.09132
51	1226.360	78.34903

52	1235.795	78.60674
53	1245.230	78.86445
54	1254.665	79.14886
55	1264.100	79.62989
56	1273.535	80.11684
57	1282.970	80.74358
58	1292.405	81.42242
59	1301.840	82.17652
60	1311.275	83.02258
61	1320.710	83.95363
62	1330.145	84.96500
63	1339.580	86.05875
64	1349.015	87.24323
65	1358.450	88.51435
66	1367.885	89.86899
67	1377.320	91.31558
68	1386.755	92.85552
69	1396.190	94.49252
70	1405.625	96.22705
71	1415.059	98.06834
72	1424.495	100.0244
73	1433.929	102.0996
74	1443.364	104.3080
75	1452.799	106.6564
76	1462.234	109.1555
77	1471.669	111.8280
78	1481.104	114.6859
79	1490.539	117.7496
80	1499.974	121.0412
81	1509.409	124.5934
82	1518.844	128.4304
83	1528.279	132.5915
84	1537.714	137.1160
85	1547.149	142.0583
86	1556.584	147.4770
87	1566.019	153.4393
88	1575.454	160.0312
89	1584.889	167.3604
90	1594.324	175.5525
91	1603.759	184.7685
92	1613.194	195.2133
93	1622.629	207.1535
94	1632.064	220.9417
95	1641.499	237.0575
96	1650.934	256.1814
97	1660.369	279.3158
98	1669.804	308.0258
99	1679.239	344.9618
100	1688.674	395.1483

BLOCK CURVE FOR BLOCK NO : 4

	VOLUME (CM^3)	TIME (DAYS)
1	539.3054	0.0000000E+00
2	541.3334	7.253414
3	543.3615	12.20715
4	545.3895	15.97169
5	547.4175	19.01680
6	549.4456	21.56938
7	551.4736	23.76909
8	553.5016	25.70239
9	555.5296	27.42953
10	557.5577	28.98462
11	559.5857	30.40417
12	561.6137	31.70318
13	563.6417	32.90839
14	565.6697	34.03000
15	567.6978	35.07724
16	569.7258	36.05848
17	571.7538	36.98126
18	573.7819	37.85238
19	575.8099	38.67800
20	577.8380	39.46380
21	579.8660	40.21338
22	581.8940	40.91481
23	583.9221	41.58829
24	585.9501	42.23911
25	587.9781	42.84111
26	590.0061	43.42643
27	592.0342	43.97891
28	594.0622	44.50423
29	596.0902	45.00515
30	598.1182	45.47686
31	600.1463	45.92273
32	602.1743	46.35129
33	604.2023	46.73704
34	606.2303	47.12279
35	608.2584	47.46279
36	610.2864	47.78276
37	612.3145	48.10273
38	614.3425	48.38461
39	616.3705	48.63777
40	618.3986	48.89093
41	620.4266	49.14408
42	622.4546	49.31219
43	624.4826	49.42820
44	626.5107	49.54421
45	628.5387	49.66022
46	630.5667	49.77623
47	632.5947	49.89223
48	634.6228	50.00824
49	636.6508	50.12425
50	638.6788	50.24026
51	643.8502	50.43626

52	649.0215	50.63225
53	654.1927	50.82824
54	659.3641	51.02423
55	664.5354	51.22023
56	669.7067	51.58500
57	674.8781	51.96898
58	680.0493	52.38800
59	685.2206	52.89137
60	690.3920	53.42341
61	695.5633	54.02023
62	700.7346	54.66861
63	705.9059	55.35882
64	711.0772	56.11175
65	716.2485	56.92143
66	721.4199	57.78264
67	726.5912	58.69954
68	731.7625	59.67514
69	736.9338	60.71188
70	742.1051	61.81204
71	747.2764	62.97798
72	752.4478	64.21223
73	757.6191	65.53026
74	762.7903	66.92602
75	767.9617	68.40813
76	773.1330	69.98917
77	778.3043	71.67556
78	783.4756	73.47562
79	788.6469	75.40451
80	793.8182	77.47746
81	798.9896	79.70976
82	804.1609	82.11678
83	809.3322	84.72866
84	814.5035	87.56437
85	819.6748	90.65818
86	824.8461	94.04417
87	830.0175	97.76964
88	835.1888	101.8832
89	840.3601	106.4495
90	845.5314	111.5487
91	850.7027	117.2749
92	855.8740	123.7579
93	861.0453	131.1495
94	866.2167	139.6660
95	871.3879	149.5863
96	876.5593	161.3061
97	881.7306	175.4018
98	886.9019	192.7490
99	892.0732	214.7841
100	897.2445	244.1116

BLOCK CURVE FOR BLOCK NO : 5

	VOLUME (CM^3)	TIME (DAYS)
1	314.1792	0.0000000E+00
2	315.2446	4.353472
3	316.3101	7.380333
4	317.3755	9.700022
5	318.4409	11.57996
6	319.5064	13.16932
7	320.5718	14.52800
8	321.6372	15.73113
9	322.7027	16.80510
10	323.7681	17.77262
11	324.8336	18.65324
12	325.8990	19.46374
13	326.9644	20.21849
14	328.0298	20.91723
15	329.0953	21.56127
16	330.1607	22.17861
17	331.2262	22.74842
18	332.2916	23.29138
19	333.3571	23.80445
20	334.4225	24.28974
21	335.4879	24.74981
22	336.5533	25.19215
23	337.6188	25.60163
24	338.6842	26.01112
25	339.7497	26.37532
26	340.8151	26.73496
27	341.8806	27.08806
28	342.9460	27.39664
29	344.0114	27.70523
30	345.0768	28.01381
31	346.1423	28.27472
32	347.2077	28.52959
33	348.2732	28.78446
34	349.3386	29.03932
35	350.4040	29.24246
36	351.4695	29.44366
37	352.5349	29.64487
38	353.6003	29.84607
39	354.6658	30.04796
40	355.7312	30.13892
41	356.7967	30.22989
42	357.8621	30.32085
43	358.9275	30.41181
44	359.9930	30.50277
45	361.0584	30.59373
46	362.1238	30.68469
47	363.1893	30.77565
48	364.2547	30.86661
49	365.3202	30.95757
50	366.3856	31.04854
51	369.4867	31.19537

52	372.5877	31.34221
53	375.6888	31.48905
54	378.7899	31.63588
55	381.8910	31.78272
56	384.9920	31.92955
57	388.0931	32.10569
58	391.1942	32.40696
59	394.2953	32.70823
60	397.3963	33.00949
61	400.4974	33.39415
62	403.5985	33.79121
63	406.6996	34.21374
64	409.8006	34.68314
65	412.9017	35.16694
66	416.0027	35.70131
67	419.1038	36.25725
68	422.2049	36.85319
69	425.3060	37.48913
70	428.4070	38.15317
71	431.5081	38.86726
72	434.6092	39.62514
73	437.7103	40.42475
74	440.8113	41.27206
75	443.9124	42.17283
76	447.0135	43.13287
77	450.1146	44.15806
78	453.2156	45.25443
79	456.3167	46.42809
80	459.4178	47.68528
81	462.5189	49.03226
82	465.6199	50.49854
83	468.7210	52.07363
84	471.8221	53.79507
85	474.9232	55.66847
86	478.0242	57.71772
87	481.1253	59.96788
88	484.2264	62.46020
89	487.3275	65.22152
90	490.4285	68.30785
91	493.5296	71.77509
92	496.6307	75.69963
93	499.7318	80.17606
94	502.8328	85.33740
95	505.9339	91.35162
96	509.0349	98.46036
97	512.1360	107.0085
98	515.2371	117.5330
99	518.3382	130.8914
100	521.4393	148.6460

BLOCK CURVE FOR BLOCK NO : 6

	VOLUME (CM^3)	TIME (DAYS)
1	329.2864	0.0000000E+00
2	330.2874	4.125387
3	331.2884	6.998158
4	332.2895	9.204411
5	333.2905	10.99537
6	334.2915	12.51235
7	335.2925	13.80964
8	336.2935	14.95274
9	337.2946	15.97592
10	338.2956	16.90152
11	339.2966	17.74864
12	340.2977	18.52688
13	341.2987	19.23419
14	342.2997	19.90063
15	343.3008	20.53098
16	344.3018	21.10388
17	345.3028	21.66253
18	346.3038	22.17063
19	347.3049	22.66972
20	348.3059	23.12371
21	349.3069	23.57770
22	350.3080	23.98240
23	351.3090	24.38526
24	352.3100	24.76411
25	353.3110	25.11713
26	354.3121	25.47015
27	355.3131	25.79039
28	356.3141	26.09291
29	357.3152	26.39542
30	358.3162	26.67982
31	359.3172	26.92955
32	360.3182	27.17928
33	361.3192	27.42901
34	362.3203	27.66081
35	363.3213	27.85765
36	364.3223	28.05448
37	365.3234	28.25131
38	366.3244	28.44815
39	367.3254	28.61705
40	368.3264	28.70588
41	369.3275	28.79470
42	370.3285	28.88352
43	371.3295	28.97234
44	372.3306	29.06116
45	373.3316	29.14998
46	374.3326	29.23880
47	375.3336	29.32762
48	376.3347	29.41644
49	377.3357	29.50527
50	378.3367	29.59409
51	381.6556	29.73639

52	384.9745	29.87870
53	388.2934	30.02101
54	391.6123	30.16331
55	394.9312	30.30562
56	398.2501	30.44793
57	401.5689	30.59023
58	404.8878	30.87949
59	408.2067	31.17284
60	411.5256	31.46619
61	414.8445	31.81263
62	418.1634	32.20011
63	421.4823	32.58759
64	424.8011	33.04431
65	428.1201	33.50222
66	431.4389	34.01092
67	434.7578	34.53236
68	438.0767	35.10728
69	441.3956	35.69904
70	444.7145	36.34018
71	448.0334	37.01673
72	451.3523	37.72681
73	454.6711	38.48562
74	457.9900	39.29594
75	461.3089	40.15405
76	464.6278	41.06633
77	467.9467	42.03918
78	471.2656	43.07909
79	474.5845	44.19266
80	477.9034	45.38659
81	481.2223	46.67202
82	484.5411	48.06863
83	487.8600	49.57062
84	491.1789	51.21645
85	494.4978	53.00724
86	497.8167	54.97017
87	501.1356	57.13237
88	504.4545	59.52092
89	507.7733	62.18630
90	511.0922	65.16539
91	514.4111	68.51875
92	517.7300	72.33134
93	521.0489	76.69289
94	524.3678	81.74077
95	527.6866	87.64950
96	531.0056	94.67285
97	534.3245	103.1790
98	537.6433	113.7324
99	540.9622	127.2892
100	544.2811	145.6100

BLOCK CURVE FOR BLOCK NO : 7

	VOLUME (CM^3)	TIME (DAYS)
1	476.1800	0.0000000E+00
2	477.4898	4.349607
3	478.7996	7.289671
4	480.1094	9.527306
5	481.4192	11.31114
6	482.7290	12.81027
7	484.0388	14.09891
8	485.3487	15.23327
9	486.6585	16.24198
10	487.9683	17.14935
11	489.2781	17.97605
12	490.5879	18.73954
13	491.8977	19.44567
14	493.2076	20.08767
15	494.5174	20.70102
16	495.8272	21.26790
17	497.1370	21.80270
18	498.4468	22.30942
19	499.7566	22.78515
20	501.0664	23.23651
21	502.3763	23.67001
22	503.6861	24.06947
23	504.9959	24.46893
24	506.3057	24.82625
25	507.6155	25.17558
26	508.9253	25.52492
27	510.2351	25.82503
28	511.5450	26.12403
29	512.8548	26.42304
30	514.1646	26.68891
31	515.4744	26.93563
32	516.7842	27.18234
33	518.0941	27.42906
34	519.4039	27.64528
35	520.7137	27.83945
36	522.0235	28.03362
37	523.3333	28.22780
38	524.6431	28.42197
39	525.9529	28.57022
40	527.2628	28.65770
41	528.5726	28.74519
42	529.8824	28.83267
43	531.1922	28.92016
44	532.5020	29.00764
45	533.8118	29.09513
46	535.1216	29.18261
47	536.4315	29.27010
48	537.7413	29.35758
49	539.0511	29.44507
50	540.3609	29.53255
51	545.2922	29.67248

52	550.2236	29.81241
53	555.1549	29.95235
54	560.0862	30.09228
55	565.0175	30.23221
56	569.9489	30.37214
57	574.8802	30.51207
58	579.8115	30.77972
59	584.7429	31.06927
60	589.6742	31.35883
61	594.6055	31.68586
62	599.5368	32.06909
63	604.4681	32.45232
64	609.3995	32.89052
65	614.3308	33.34328
66	619.2621	33.83268
67	624.1935	34.34840
68	629.1248	34.90304
69	634.0561	35.47928
70	638.9874	36.10934
71	643.9188	36.76467
72	648.8501	37.45943
73	653.7814	38.20789
74	658.7128	38.99763
75	663.6440	39.83557
76	668.5754	40.72847
77	673.5067	41.68317
78	678.4380	42.70667
79	683.3694	43.80608
80	688.3007	44.98863
81	693.2321	46.26167
82	698.1633	47.63853
83	703.0947	49.14217
84	708.0260	50.77612
85	712.9573	52.56359
86	717.8887	54.53380
87	722.8200	56.71618
88	727.7513	59.13970
89	732.6826	61.84620
90	737.6140	64.89266
91	742.5453	68.34432
92	747.4766	72.29208
93	752.4080	76.84876
94	757.3393	82.16912
95	762.2706	88.46627
96	767.2019	96.05917
97	772.1332	105.4122
98	777.0646	117.3015
99	781.9959	133.0987
100	786.9272	155.6426

SIMULATION YEAR NO: 1

DAY	RAINFALL		INFILTRATION		EVAPOTRANSPIRATION	
	DEPTH (CM)	DURATION (MIN)	PAVEMENT (CM)	OUTSIDE (CM)	ACTUAL (CM)	POTENTIAL (CM)
1	0.170	2.0	0.008	0.305	0.190	0.190
2	0.030	1.0	0.001	0.054	0.160	0.160
3	0.540	5.0	0.030	0.965	0.160	0.160
4	0.000	0.0	0.000	0.000	0.170	0.170
5	0.000	0.0	0.000	0.000	0.070	0.070
6	0.000	0.0	0.000	0.000	0.150	0.150
7	0.000	0.0	0.000	0.000	0.170	0.170
8	0.000	0.0	0.000	0.000	0.120	0.120
9	0.430	3.0	0.020	0.772	0.290	0.290
10	0.060	1.0	0.002	0.109	0.210	0.210
11	0.000	0.0	0.000	0.000	0.120	0.120
12	0.000	0.0	0.000	0.000	0.080	0.080
13	0.000	0.0	0.000	0.000	0.070	0.070
14	0.000	0.0	0.000	0.000	0.340	0.340
15	0.000	0.0	0.000	0.000	0.350	0.350
16	0.000	0.0	0.000	0.000	0.170	0.170
17	0.000	0.0	0.000	0.000	0.130	0.130
18	0.000	0.0	0.000	0.000	0.320	0.320
19	0.000	0.0	0.000	0.000	0.240	0.240
20	0.000	0.0	0.000	0.000	0.500	0.500
21	0.000	0.0	0.000	0.000	0.120	0.120
22	0.000	0.0	0.000	0.000	0.100	0.100
23	0.250	2.0	0.011	0.449	0.430	0.430
24	0.000	0.0	0.000	0.000	0.340	0.340
25	0.000	0.0	0.000	0.000	0.250	0.250
26	0.000	0.0	0.000	0.000	0.170	0.170
27	0.000	0.0	0.000	0.000	0.390	0.312
28	0.000	0.0	0.000	0.000	0.140	0.140
29	0.000	0.0	0.000	0.000	0.220	0.209
30	0.000	0.0	0.000	0.000	0.320	0.251
31	0.140	1.0	0.007	0.251	0.090	0.090
32	0.000	0.0	0.000	0.000	0.560	0.386
33	0.000	0.0	0.000	0.000	0.410	0.295
34	0.000	0.0	0.000	0.000	0.560	0.363
35	0.000	0.0	0.000	0.000	0.180	0.172
36	0.000	0.0	0.000	0.000	0.500	0.324
37	0.000	0.0	0.000	0.000	0.170	0.169
38	0.000	0.0	0.000	0.000	0.290	0.225
39	0.000	0.0	0.000	0.000	0.210	0.173
40	0.000	0.0	0.000	0.000	0.280	0.204
41	0.000	0.0	0.000	0.000	0.290	0.207
42	0.000	0.0	0.000	0.000	0.240	0.181
43	0.000	0.0	0.000	0.000	0.310	0.213
44	0.000	0.0	0.000	0.000	0.390	0.250
45	0.000	0.0	0.000	0.000	0.200	0.136
46	0.000	0.0	0.000	0.000	0.170	0.140
47	0.000	0.0	0.000	0.000	0.260	0.182
48	0.000	0.0	0.000	0.000	0.360	0.230

49	0.000	0.0	0.000	0.000	0.420	0.258
50	0.000	0.0	0.000	0.000	0.520	0.306
51	0.000	0.0	0.000	0.000	0.340	0.217
52	0.000	0.0	0.000	0.000	0.250	0.172
53	0.000	0.0	0.000	0.000	0.420	0.254
54	0.000	0.0	0.000	0.000	0.360	0.224
55	0.000	0.0	0.000	0.000	0.260	0.174
56	0.000	0.0	0.000	0.000	0.190	0.139
57	0.000	0.0	0.000	0.000	0.250	0.168
58	0.000	0.0	0.000	0.000	0.230	0.157
59	0.000	0.0	0.000	0.000	0.420	0.250
60	0.000	0.0	0.000	0.000	0.650	0.362
61	0.000	0.0	0.000	0.000	0.630	0.351
62	0.000	0.0	0.000	0.000	0.280	0.179
63	0.000	0.0	0.000	0.000	0.540	0.306
64	0.000	0.0	0.000	0.000	0.750	0.409
65	0.000	0.0	0.000	0.000	0.440	0.256
66	0.000	0.0	0.000	0.000	0.260	0.167
67	0.440	3.0	0.020	0.790	0.550	0.550
68	0.000	0.0	0.000	0.000	0.470	0.276
69	0.000	0.0	0.000	0.000	0.440	0.260
70	0.000	0.0	0.000	0.000	0.560	0.318
71	0.000	0.0	0.000	0.000	0.270	0.176
72	0.000	0.0	0.000	0.000	0.260	0.170
73	0.000	0.0	0.000	0.000	0.860	0.464
74	0.000	0.0	0.000	0.000	0.910	0.487
75	0.000	0.0	0.000	0.000	0.500	0.286
76	0.000	0.0	0.000	0.000	0.190	0.134
77	0.000	0.0	0.000	0.000	0.910	0.486
78	0.000	0.0	0.000	0.000	0.700	0.382
79	0.000	0.0	0.000	0.000	0.490	0.279
80	0.000	0.0	0.000	0.000	0.670	0.367
81	0.000	0.0	0.000	0.000	0.490	0.278
82	0.000	0.0	0.000	0.000	0.540	0.302
83	0.000	0.0	0.000	0.000	0.630	0.346
84	0.000	0.0	0.000	0.000	0.590	0.326
85	0.000	0.0	0.000	0.000	0.640	0.350
86	0.000	0.0	0.000	0.000	0.420	0.242
87	0.000	0.0	0.000	0.000	0.490	0.276
88	0.000	0.0	0.000	0.000	0.340	0.202
89	0.000	0.0	0.000	0.000	0.340	0.202
90	0.000	0.0	0.000	0.000	0.590	0.324
91	0.000	0.0	0.000	0.000	0.620	0.338
92	0.460	4.0	0.021	0.826	0.570	0.570
93	0.000	0.0	0.000	0.000	0.540	0.313
94	0.000	0.0	0.000	0.000	0.810	0.435
95	0.000	0.0	0.000	0.000	0.590	0.327
96	0.000	0.0	0.000	0.000	0.590	0.326
97	0.000	0.0	0.000	0.000	0.440	0.253
98	0.000	0.0	0.000	0.000	0.810	0.433
99	0.000	0.0	0.000	0.000	1.030	0.675
100	0.000	0.0	0.000	0.000	0.960	0.036
101	0.000	0.0	0.000	0.000	0.950	0.035
102	0.000	0.0	0.000	0.000	0.750	0.035
103	0.000	0.0	0.000	0.000	0.930	0.035

104	0.000	0.0	0.000	0.000	0.740	0.034
105	0.000	0.0	0.000	0.000	0.690	0.034
106	0.000	0.0	0.000	0.000	0.810	0.034
107	0.000	0.0	0.000	0.000	0.560	0.034
108	0.000	0.0	0.000	0.000	0.680	0.033
109	0.000	0.0	0.000	0.000	0.840	0.033
110	0.000	0.0	0.000	0.000	0.650	0.033
111	0.000	0.0	0.000	0.000	0.900	0.032
112	0.000	0.0	0.000	0.000	0.550	0.032
113	0.000	0.0	0.000	0.000	0.620	0.032
114	0.000	0.0	0.000	0.000	0.800	0.032
115	0.000	0.0	0.000	0.000	0.500	0.031
116	0.000	0.0	0.000	0.000	0.550	0.031
117	0.000	0.0	0.000	0.000	0.900	0.031
118	0.000	0.0	0.000	0.000	0.890	0.031
119	0.000	0.0	0.000	0.000	0.530	0.031
120	0.000	0.0	0.000	0.000	0.610	0.030
121	0.000	0.0	0.000	0.000	0.890	0.040
122	0.000	0.0	0.000	0.000	0.700	0.030
123	0.000	0.0	0.000	0.000	0.760	0.030
124	0.180	1.0	0.005	0.325	0.750	0.628
125	0.000	0.0	0.000	0.000	0.760	0.760
126	0.000	0.0	0.000	0.000	0.670	0.030
127	0.000	0.0	0.000	0.000	0.440	0.030
128	0.000	0.0	0.000	0.000	0.770	0.029
129	0.000	0.0	0.000	0.000	0.510	0.039
130	0.000	0.0	0.000	0.000	0.970	0.029
131	0.000	0.0	0.000	0.000	0.790	0.029
132	0.000	0.0	0.000	0.000	0.910	0.029
133	0.000	0.0	0.000	0.000	0.880	0.028
134	0.000	0.0	0.000	0.000	0.640	0.028
135	0.000	0.0	0.000	0.000	0.940	0.028
136	0.000	0.0	0.000	0.000	0.640	0.028
137	0.000	0.0	0.000	0.000	0.650	0.028
138	0.000	0.0	0.000	0.000	0.760	0.028
139	0.000	0.0	0.000	0.000	0.670	0.027
140	0.000	0.0	0.000	0.000	0.320	0.027
141	0.000	0.0	0.000	0.000	1.110	0.027
142	0.000	0.0	0.000	0.000	0.610	0.027
143	0.000	0.0	0.000	0.000	0.440	0.027
144	0.000	0.0	0.000	0.000	0.810	0.027
145	0.000	0.0	0.000	0.000	0.870	0.026
146	0.000	0.0	0.000	0.000	0.820	0.026
147	0.000	0.0	0.000	0.000	0.710	0.026
148	0.000	0.0	0.000	0.000	0.620	0.026
149	0.000	0.0	0.000	0.000	0.650	0.026
150	0.000	0.0	0.000	0.000	0.870	0.026
151	0.000	0.0	0.000	0.000	0.810	0.026
152	0.000	0.0	0.000	0.000	1.060	0.026
153	0.000	0.0	0.000	0.000	0.790	0.025
154	0.000	0.0	0.000	0.000	1.060	0.025
155	0.000	0.0	0.000	0.000	0.940	0.02
156	0.000	0.0	0.000	0.000	0.610	0.025
157	0.000	0.0	0.000	0.000	0.770	0.025
158	0.000	0.0	0.000	0.000	0.700	0.025

159	0.000	0.0	0.000	0.000	1.060	0.025
160	0.000	0.0	0.000	0.000	0.850	0.025
161	0.000	0.0	0.000	0.000	0.640	0.024
162	0.000	0.0	0.000	0.000	0.820	0.024
163	0.000	0.0	0.000	0.000	0.820	0.024
164	0.000	0.0	0.000	0.000	0.650	0.024
165	0.000	0.0	0.000	0.000	0.530	0.024
166	0.190	2.0	0.008	0.342	0.820	0.675
167	0.000	0.0	0.000	0.000	0.860	0.844
168	0.000	0.0	0.000	0.000	0.850	0.024
169	0.000	0.0	0.000	0.000	0.570	0.024
170	0.000	0.0	0.000	0.000	1.060	0.024
171	0.000	0.0	0.000	0.000	0.880	0.024
172	0.000	0.0	0.000	0.000	0.910	0.024
173	0.000	0.0	0.000	0.000	0.660	0.034
174	0.000	0.0	0.000	0.000	0.780	0.023
175	0.000	0.0	0.000	0.000	0.820	0.023
176	0.000	0.0	0.000	0.000	0.850	0.033
177	0.000	0.0	0.000	0.000	0.860	0.023
178	0.000	0.0	0.000	0.000	0.830	0.023
179	0.000	0.0	0.000	0.000	0.880	0.023
180	0.000	0.0	0.000	0.000	1.120	0.023
181	0.000	0.0	0.000	0.000	0.540	0.033
182	0.120	1.0	0.004	0.216	0.650	0.492
183	0.770	6.0	0.038	1.380	0.840	0.840
184	0.000	0.0	0.000	0.000	0.660	0.360
185	0.040	1.0	0.002	0.072	0.570	0.337
186	0.000	0.0	0.000	0.000	0.650	0.650
187	0.000	0.0	0.000	0.000	0.680	0.027
188	0.000	0.0	0.000	0.000	0.690	0.026
189	0.000	0.0	0.000	0.000	0.720	0.036
190	0.000	0.0	0.000	0.000	0.650	0.036
191	0.570	5.0	0.032	1.018	0.890	0.890
192	0.980	9.0	0.055	1.750	0.960	0.960
193	0.000	0.0	0.000	0.000	0.790	0.435
194	2.090	48.0	0.326	3.560	0.980	0.912
195	0.000	0.0	0.000	0.000	0.990	0.757
196	0.000	0.0	0.000	0.000	1.110	0.728
197	0.000	0.0	0.000	0.000	1.030	0.653
198	0.000	0.0	0.000	0.000	0.880	0.559
199	0.000	0.0	0.000	0.000	1.070	0.649
200	0.000	0.0	0.000	0.000	1.140	0.841
201	0.000	0.0	0.000	0.000	1.020	0.106
202	0.490	4.0	0.027	0.876	0.750	0.750
203	0.210	1.0	0.006	0.380	0.640	0.617
204	0.000	0.0	0.000	0.000	0.780	0.780
205	0.770	6.0	0.036	1.382	0.660	0.660
206	0.000	0.0	0.000	0.000	0.680	0.680
207	0.450	4.0	0.024	0.805	0.790	0.790
208	0.000	0.0	0.000	0.000	0.840	0.840
209	0.000	0.0	0.000	0.000	0.650	0.205
210	0.000	0.0	0.000	0.000	0.960	0.159
211	0.580	5.0	0.033	1.036	0.440	0.440
212	0.000	0.0	0.000	0.000	0.860	0.857
213	0.870	7.0	0.042	1.560	0.770	0.770

214	1.610	24.0	0.162	2.817	0.490	0.490
215	0.360	3.0	0.019	0.644	0.270	0.270
216	0.030	1.0	0.001	0.054	0.660	0.660
217	0.000	0.0	0.000	0.000	0.690	0.690
218	0.000	0.0	0.000	0.000	0.620	0.620
219	0.000	0.0	0.000	0.000	0.560	0.560
220	0.000	0.0	0.000	0.000	0.670	0.544
221	0.000	0.0	0.000	0.000	0.630	0.478
222	0.000	0.0	0.000	0.000	0.520	0.520
223	0.000	0.0	0.000	0.000	0.700	0.119
224	0.000	0.0	0.000	0.000	0.610	0.108
225	0.000	0.0	0.000	0.000	0.620	0.099
226	0.000	0.0	0.000	0.000	0.620	0.092
227	0.000	0.0	0.000	0.000	0.480	0.087
228	0.000	0.0	0.000	0.000	0.870	0.082
229	0.000	0.0	0.000	0.000	0.580	0.078
230	0.000	0.0	0.000	0.000	0.580	0.075
231	0.000	0.0	0.000	0.000	0.600	0.072
232	0.000	0.0	0.000	0.000	0.660	0.069
233	0.000	0.0	0.000	0.000	0.620	0.067
234	0.000	0.0	0.000	0.000	0.730	0.064
235	0.000	0.0	0.000	0.000	0.690	0.062
236	0.000	0.0	0.000	0.000	0.570	0.071
237	0.000	0.0	0.000	0.000	0.580	0.059
238	0.670	5.0	0.032	1.202	0.740	0.740
239	0.000	0.0	0.000	0.000	0.670	0.411
240	0.000	0.0	0.000	0.000	0.590	0.590
241	0.000	0.0	0.000	0.000	0.630	0.085
242	0.170	2.0	0.008	0.305	0.460	0.460
243	0.000	0.0	0.000	0.000	0.680	0.680
244	0.000	0.0	0.000	0.000	0.540	0.072
245	0.000	0.0	0.000	0.000	0.620	0.069
246	0.000	0.0	0.000	0.000	0.560	0.067
247	0.000	0.0	0.000	0.000	0.520	0.064
248	0.000	0.0	0.000	0.000	0.550	0.062
249	0.000	0.0	0.000	0.000	0.600	0.061
250	0.140	1.0	0.007	0.251	0.190	0.190
251	0.190	2.0	0.008	0.342	0.410	0.410
252	0.000	0.0	0.000	0.000	0.440	0.065
253	0.000	0.0	0.000	0.000	0.380	0.073
254	0.040	1.0	0.002	0.072	0.280	0.133
255	0.000	0.0	0.000	0.000	0.610	0.059
256	0.000	0.0	0.000	0.000	0.420	0.058
257	0.000	0.0	0.000	0.000	0.390	0.056
258	0.000	0.0	0.000	0.000	0.390	0.055
259	0.000	0.0	0.000	0.000	0.440	0.054
260	0.000	0.0	0.000	0.000	0.440	0.052
261	3.240	1440.0	3.240	3.240	0.600	0.600
262	1.370	18.0	0.117	2.414	0.610	0.610
263	0.000	0.0	0.000	0.000	0.200	0.200
264	0.000	0.0	0.000	0.000	0.540	0.540
265	0.000	0.0	0.000	0.000	0.510	0.510
266	0.000	0.0	0.000	0.000	0.520	0.520
267	0.000	0.0	0.000	0.000	0.760	0.631
268	0.000	0.0	0.000	0.000	0.560	0.454

269	0.000	0.0	0.000	0.000	0.930	0.602
270	0.000	0.0	0.000	0.000	0.520	0.392
271	0.000	0.0	0.000	0.000	0.580	0.408
272	0.000	0.0	0.000	0.000	0.500	0.359
273	1.140	11.0	0.069	2.032	0.350	0.350
274	0.360	3.0	0.019	0.644	0.350	0.350
275	0.000	0.0	0.000	0.000	0.300	0.300
276	0.000	0.0	0.000	0.000	0.460	0.460
277	0.000	0.0	0.000	0.000	0.530	0.530
278	0.000	0.0	0.000	0.000	0.220	0.214
279	0.000	0.0	0.000	0.000	0.230	0.230
280	0.000	0.0	0.000	0.000	0.420	0.420
281	0.000	0.0	0.000	0.000	0.360	0.360
282	0.000	0.0	0.000	0.000	0.480	0.163
283	0.000	0.0	0.000	0.000	0.660	0.137
284	0.000	0.0	0.000	0.000	0.350	0.120
285	0.000	0.0	0.000	0.000	0.490	0.109
286	0.000	0.0	0.000	0.000	0.540	0.100
287	0.000	0.0	0.000	0.000	0.330	0.093
288	0.000	0.0	0.000	0.000	0.200	0.087
289	0.000	0.0	0.000	0.000	0.350	0.083
290	0.000	0.0	0.000	0.000	0.350	0.079
291	0.000	0.0	0.000	0.000	0.460	0.075
292	0.180	2.0	0.009	0.323	0.340	0.340
293	0.000	0.0	0.000	0.000	0.240	0.240
294	0.000	0.0	0.000	0.000	0.420	0.073
295	0.000	0.0	0.000	0.000	0.310	0.070
296	0.000	0.0	0.000	0.000	0.470	0.067
297	0.000	0.0	0.000	0.000	0.290	0.075
298	0.060	1.0	0.003	0.108	0.380	0.272
299	0.000	0.0	0.000	0.000	0.510	0.422
300	0.000	0.0	0.000	0.000	0.240	0.062
301	0.000	0.0	0.000	0.000	0.300	0.060
302	0.000	0.0	0.000	0.000	0.140	0.058
303	0.000	0.0	0.000	0.000	0.410	0.057
304	0.030	1.0	0.001	0.054	0.100	0.067
305	0.000	0.0	0.000	0.000	0.380	0.055
306	0.000	0.0	0.000	0.000	0.310	0.054
307	0.000	0.0	0.000	0.000	0.380	0.053
308	0.000	0.0	0.000	0.000	0.280	0.052
309	0.000	0.0	0.000	0.000	0.170	0.051
310	0.000	0.0	0.000	0.000	0.460	0.050
311	0.000	0.0	0.000	0.000	0.210	0.049
312	0.000	0.0	0.000	0.000	0.170	0.048
313	0.000	0.0	0.000	0.000	0.260	0.047
314	0.000	0.0	0.000	0.000	0.270	0.046
315	0.000	0.0	0.000	0.000	0.300	0.046
316	0.000	0.0	0.000	0.000	0.290	0.045
317	0.000	0.0	0.000	0.000	0.440	0.044
318	0.000	0.0	0.000	0.000	0.210	0.043
319	0.000	0.0	0.000	0.000	0.390	0.043
320	0.000	0.0	0.000	0.000	0.240	0.042
321	0.000	0.0	0.000	0.000	0.290	0.042
322	0.000	0.0	0.000	0.000	0.420	0.041
323	0.000	0.0	0.000	0.000	0.290	0.041

324	0.000	0.0	0.000	0.000	0.240	0.040
325	0.210	2.0	0.010	0.376	0.170	0.170
326	0.000	0.0	0.000	0.000	0.140	0.122
327	0.210	2.0	0.010	0.376	0.250	0.250
328	0.000	0.0	0.000	0.000	0.290	0.188
329	0.000	0.0	0.000	0.000	0.200	0.071
330	0.000	0.0	0.000	0.000	0.190	0.071
331	0.000	0.0	0.000	0.000	0.210	0.044
332	0.000	0.0	0.000	0.000	0.300	0.043
333	0.000	0.0	0.000	0.000	0.230	0.042
334	0.000	0.0	0.000	0.000	0.230	0.042
335	0.000	0.0	0.000	0.000	0.080	0.041
336	0.000	0.0	0.000	0.000	0.120	0.041
337	0.000	0.0	0.000	0.000	0.270	0.040
338	0.000	0.0	0.000	0.000	0.470	0.050
339	0.380	3.0	0.020	0.680	0.240	0.240
340	0.000	0.0	0.000	0.000	0.030	0.030
341	0.000	0.0	0.000	0.000	0.370	0.227
342	0.000	0.0	0.000	0.000	0.130	0.109
343	0.000	0.0	0.000	0.000	0.070	0.070
344	0.000	0.0	0.000	0.000	0.290	0.085
345	0.000	0.0	0.000	0.000	0.040	0.027
346	0.000	0.0	0.000	0.000	0.070	0.043
347	0.000	0.0	0.000	0.000	0.040	0.027
348	0.000	0.0	0.000	0.000	0.120	0.042
349	0.000	0.0	0.000	0.000	0.200	0.041
350	0.000	0.0	0.000	0.000	0.180	0.041
351	0.000	0.0	0.000	0.000	0.070	0.047
352	0.500	5.0	0.028	0.894	0.080	0.080
353	0.360	3.0	0.019	0.644	0.270	0.270
354	0.060	1.0	0.002	0.108	0.120	0.120
355	0.000	0.0	0.000	0.000	0.260	0.205
356	0.000	0.0	0.000	0.000	0.190	0.158
357	0.000	0.0	0.000	0.000	0.110	0.110
358	0.000	0.0	0.000	0.000	0.330	0.223
359	0.000	0.0	0.000	0.000	0.100	0.100
360	0.200	2.0	0.010	0.358	0.230	0.230
361	0.000	0.0	0.000	0.000	0.170	0.147
362	0.000	0.0	0.000	0.000	0.150	0.135
363	0.000	0.0	0.000	0.000	0.120	0.119
364	0.000	0.0	0.000	0.000	0.040	0.040
365	0.000	0.0	0.000	0.000	0.090	0.090

SIMULATION YEAR NO: 1

DAY	WATER LEVEL UNDER PAVEMENT (CM)	WATER LEVEL OUTSIDE (CM)	CRACK TIP ELEVATION INSIDE (CM)	CRACK TIP ELEVATION EDGE (CM)	CRACK TIP ELEVATION OUTSIDE (CM)
1	0.000	0.000	0.000	0.000	0.000
2	1.068	2.952	0.000	0.000	0.000
3	0.000	0.000	17.210	17.239	17.165
4	17.210	17.165	17.210	17.239	17.165
5	17.210	17.165	17.210	17.239	17.165
6	17.210	17.165	17.210	17.239	17.165
7	17.210	17.165	17.210	17.239	17.165
8	17.210	17.165	17.210	17.239	17.165
9	19.021	19.178	17.210	17.239	17.165
10	18.013	17.165	17.210	17.239	17.165
11	17.605	17.165	17.210	17.239	17.165
12	17.402	17.165	17.210	17.239	17.165
13	17.304	17.165	17.210	17.239	17.165
14	17.257	17.165	17.210	17.239	17.165
15	17.235	17.165	17.210	17.239	17.165
16	17.224	17.165	17.210	17.239	17.165
17	17.218	17.165	17.210	17.239	17.165
18	17.215	17.165	17.210	17.239	17.165
19	17.213	17.165	17.210	17.239	17.165
20	17.212	17.165	17.210	17.239	17.165
21	17.211	17.165	17.210	17.239	17.165
22	17.211	17.165	17.210	17.239	17.165
23	18.061	17.165	17.210	17.239	17.165
24	17.643	17.165	17.210	17.239	17.165
25	17.424	17.165	17.210	17.239	17.165
26	17.316	17.165	17.210	17.239	17.165
27	17.263	17.165	17.210	17.239	17.165
28	17.238	17.165	17.210	17.239	17.165
29	17.227	17.165	17.210	17.239	17.165
30	17.220	17.165	17.210	17.239	17.165
31	17.517	18.543	17.210	17.239	17.165
32	17.356	17.165	17.210	17.239	17.165
33	17.280	17.165	17.210	17.239	17.165
34	17.246	17.165	17.210	17.239	17.165
35	17.231	17.165	17.210	17.239	17.165
36	17.223	17.165	17.210	17.239	17.165
37	17.218	17.165	17.210	17.239	17.165
38	17.215	17.165	17.210	17.239	17.165
39	17.213	17.165	17.210	17.239	0.000
40	17.212	0.000	17.210	17.239	0.000
41	17.211	0.000	17.210	17.239	0.000
42	17.211	0.000	17.210	17.239	0.000
43	17.211	0.000	17.210	17.239	0.000
44	17.211	0.000	17.210	17.239	0.000
45	17.210	0.000	17.210	17.239	0.000
46	17.210	0.000	17.210	17.239	0.000
47	17.210	0.000	17.210	17.239	0.000

48	17.210	0.000	17.210	17.239	0.000
49	17.210	0.000	17.210	0.000	0.000
50	0.000	0.000	17.210	0.000	0.000
51	0.000	0.000	17.210	0.000	0.000
52	0.000	0.000	17.210	0.000	0.000
53	0.000	0.000	17.210	0.000	0.000
54	0.000	0.000	17.210	0.000	0.000
55	0.000	0.000	17.210	0.000	0.000
56	0.000	0.000	17.210	0.000	0.000
57	0.000	0.000	17.210	0.000	0.000
58	0.000	0.000	17.210	0.000	0.000
59	0.000	0.000	17.210	0.000	0.000
60	0.000	0.000	17.210	0.000	0.000
61	0.000	0.000	17.210	0.000	0.000
62	0.000	0.000	17.210	0.000	0.000
63	0.000	0.000	17.210	0.000	0.000
64	0.000	0.000	17.210	0.000	0.000
65	0.000	0.000	17.210	0.000	0.000
66	0.000	0.000	17.210	0.000	0.000
67	1.670	2.288	17.210	0.000	0.000
68	0.000	0.000	17.210	0.000	0.000
69	0.000	0.000	17.210	0.000	0.000
70	0.000	0.000	17.210	0.000	0.000
71	0.000	0.000	17.210	0.000	0.000
72	0.000	0.000	17.210	0.000	0.000
73	0.000	0.000	17.210	0.000	0.000
74	0.000	0.000	17.210	0.000	0.000
75	0.000	0.000	17.210	0.000	0.000
76	0.000	0.000	17.210	0.000	0.000
77	0.000	0.000	17.210	0.000	0.000
78	0.000	0.000	17.210	0.000	0.000
79	0.000	0.000	17.210	0.000	0.000
80	0.000	0.000	17.210	0.000	0.000
81	0.000	0.000	17.210	0.000	0.000
82	0.000	0.000	17.210	0.000	0.000
83	0.000	0.000	17.210	0.000	0.000
84	0.000	0.000	17.210	0.000	0.000
85	0.000	0.000	17.210	0.000	0.000
86	0.000	0.000	17.210	0.000	0.000
87	0.000	0.000	17.210	0.000	0.000
88	0.000	0.000	17.210	0.000	0.000
89	0.000	0.000	17.210	0.000	0.000
90	0.000	0.000	17.210	0.000	0.000
91	0.000	0.000	17.210	0.000	0.000
92	4.199	4.205	17.210	0.000	0.000
93	2.340	0.917	17.210	0.000	0.000
94	0.000	0.000	17.210	0.000	0.000
95	0.000	0.000	17.210	0.000	0.000
96	0.000	0.000	17.210	0.000	0.000
97	0.000	0.000	17.210	0.000	0.000
98	0.000	0.000	17.210	0.000	0.000
99	0.000	0.000	17.210	0.000	0.000
100	0.000	0.000	17.210	0.000	0.000
101	0.000	0.000	17.210	0.000	0.000
102	0.000	0.000	17.210	0.000	0.000

103	0.000	0.000	17.210	0.000	0.000
104	0.000	0.000	17.210	0.000	0.000
105	0.000	0.000	17.210	0.000	0.000
106	0.000	0.000	17.210	0.000	0.000
107	0.000	0.000	17.210	0.000	0.000
108	0.000	0.000	17.210	0.000	0.000
109	0.000	0.000	17.210	0.000	0.000
110	0.000	0.000	17.210	0.000	0.000
111	0.000	0.000	17.210	0.000	0.000
112	0.000	0.000	17.210	0.000	0.000
113	0.000	0.000	17.210	0.000	0.000
114	0.000	0.000	17.210	0.000	0.000
115	0.000	0.000	17.210	0.000	0.000
116	0.000	0.000	17.210	0.000	0.000
117	0.000	0.000	17.210	0.000	0.000
118	0.000	0.000	17.210	0.000	0.000
119	0.000	0.000	17.210	0.000	0.000
120	0.000	0.000	17.210	0.000	0.000
121	0.000	0.000	17.210	0.000	0.000
122	0.000	0.000	17.210	0.000	0.000
123	0.000	0.000	17.210	0.000	0.000
124	0.807	1.462	17.210	0.000	0.000
125	0.000	0.000	17.210	0.000	0.000
126	0.000	0.000	17.210	0.000	0.000
127	0.000	0.000	17.210	0.000	0.000
128	0.000	0.000	17.210	0.000	0.000
129	0.000	0.000	17.210	0.000	0.000
130	0.000	0.000	17.210	0.000	0.000
131	0.000	0.000	17.210	0.000	0.000
132	0.000	0.000	17.210	0.000	0.000
133	0.000	0.000	17.210	0.000	0.000
134	0.000	0.000	17.210	0.000	0.000
135	0.000	0.000	17.210	0.000	0.000
136	0.000	0.000	17.210	0.000	0.000
137	0.000	0.000	17.210	0.000	0.000
138	0.000	0.000	17.210	0.000	0.000
139	0.000	0.000	17.210	0.000	0.000
140	0.000	0.000	17.210	0.000	0.000
141	0.000	0.000	17.210	0.000	0.000
142	0.000	0.000	17.210	0.000	0.000
143	0.000	0.000	17.210	0.000	0.000
144	0.000	0.000	17.210	0.000	0.000
145	0.000	0.000	17.210	0.000	0.000
146	0.000	0.000	17.210	0.000	0.000
147	0.000	0.000	17.210	0.000	0.000
148	0.000	0.000	17.210	0.000	0.000
149	0.000	0.000	17.210	0.000	0.000
150	0.000	0.000	17.210	0.000	0.000
151	0.000	0.000	17.210	0.000	0.000
152	0.000	0.000	17.210	0.000	0.000
153	0.000	0.000	17.210	0.000	0.000
154	0.000	0.000	17.210	0.000	0.000
155	0.000	0.000	17.210	0.000	0.000
156	0.000	0.000	17.210	0.000	0.000
157	0.000	0.000	17.210	0.000	0.000

158	0.000	0.000	17.210	0.000	0.000
159	0.000	0.000	17.210	0.000	0.000
160	0.000	0.000	17.210	0.000	0.000
161	0.000	0.000	17.210	0.000	0.000
162	0.000	0.000	17.210	0.000	0.000
163	0.000	0.000	17.210	0.000	0.000
164	0.000	0.000	17.210	0.000	0.000
165	0.000	0.000	17.210	0.000	0.000
166	1.248	1.588	17.210	0.000	0.000
167	0.000	0.000	17.210	0.000	0.000
168	0.000	0.000	17.210	0.000	0.000
169	0.000	0.000	17.210	0.000	0.000
170	0.000	0.000	17.210	0.000	0.000
171	0.000	0.000	17.210	0.000	0.000
172	0.000	0.000	17.210	0.000	0.000
173	0.000	0.000	17.210	0.000	0.000
174	0.000	0.000	17.210	0.000	0.000
175	0.000	0.000	17.210	0.000	0.000
176	0.000	0.000	17.210	0.000	0.000
177	0.000	0.000	17.210	0.000	0.000
178	0.000	0.000	17.210	0.000	0.000
179	0.000	0.000	17.210	0.000	0.000
180	0.000	0.000	17.210	0.000	0.000
181	0.000	0.000	17.210	0.000	0.000
182	0.000	0.000	17.210	0.000	0.000
183	5.435	4.045	17.210	0.000	0.000
184	2.700	0.600	17.210	0.000	0.000
185	0.000	0.000	17.210	0.000	0.000
186	0.000	0.000	17.210	0.000	0.000
187	0.000	0.000	17.210	0.000	0.000
188	0.000	0.000	17.210	0.000	0.000
189	0.000	0.000	17.210	0.000	0.000
190	0.000	0.000	17.210	0.000	0.000
191	4.677	4.720	17.210	0.000	0.000
192	8.078	3.228	17.210	0.000	0.000
193	0.886	0.000	17.210	0.000	0.000
194	20.005	27.478	17.210	0.000	0.000
195	15.315	10.904	17.210	0.000	0.000
196	11.084	5.914	17.210	0.000	0.000
197	5.877	1.333	17.210	0.000	0.000
198	0.000	0.000	17.210	0.000	0.000
199	0.000	0.000	17.210	0.000	0.000
200	0.000	0.000	17.210	0.000	0.000
201	0.000	0.000	17.210	0.000	0.000
202	2.127	1.563	17.210	0.000	0.000
203	0.754	1.362	17.210	0.000	0.000
204	0.000	0.000	17.210	0.000	0.000
205	4.919	5.122	17.210	0.000	0.000
206	2.881	2.360	17.210	0.000	0.000
207	1.942	3.018	17.210	0.000	0.000
208	0.000	0.000	17.210	0.000	0.000
209	0.000	0.000	17.210	0.000	0.000
210	0.000	0.000	17.210	0.000	0.000
211	0.000	3.036	17.210	0.000	0.000
212	0.000	0.000	17.210	0.000	0.000

213	0.000	6.150	17.210	0.000	0.000
214	9.120	15.719	17.210	0.000	0.000
215	19.564	15.772	17.210	0.000	0.000
216	0.000	14.150	17.210	17.280	0.000
217	17.210	11.181	17.210	17.280	0.000
218	17.210	8.454	17.210	17.280	0.000
219	17.210	5.957	17.210	17.280	0.000
220	17.210	3.009	17.210	17.280	0.000
221	17.210	0.276	17.210	17.280	0.000
222	17.210	0.000	17.210	17.280	0.000
223	17.210	0.000	17.210	17.280	0.000
224	17.210	0.000	17.210	17.280	0.000
225	17.210	0.000	17.210	17.280	0.000
226	17.210	0.000	17.210	17.280	0.000
227	17.210	0.000	17.210	17.280	0.000
228	17.210	0.000	17.210	17.280	0.000
229	17.210	0.000	17.210	17.280	0.000
230	17.210	0.000	17.210	17.280	0.000
231	17.210	0.000	17.210	0.000	0.000
232	0.000	0.000	17.210	0.000	0.000
233	0.000	0.000	17.210	0.000	0.000
234	0.000	0.000	17.210	0.000	0.000
235	0.000	0.000	17.210	0.000	0.000
236	0.000	0.000	17.210	0.000	0.000
237	0.000	0.000	17.210	0.000	0.000
238	0.000	5.292	17.210	0.000	0.000
239	0.000	2.158	17.210	0.000	0.000
240	0.000	0.000	17.210	0.000	0.000
241	0.000	0.000	17.210	0.000	0.000
242	0.000	0.130	17.210	0.000	0.000
243	0.000	0.000	17.210	0.000	0.000
244	0.000	0.000	17.210	0.000	0.000
245	0.000	0.000	17.210	0.000	0.000
246	0.000	0.000	17.210	0.000	0.000
247	0.000	0.000	17.210	0.000	0.000
248	0.000	0.000	17.210	0.000	0.000
249	0.000	0.000	17.210	0.000	0.000
250	0.000	0.875	17.210	0.000	0.000
251	0.000	1.314	17.210	0.000	0.000
252	0.000	0.000	17.210	0.000	0.000
253	0.000	0.000	17.210	0.000	0.000
254	0.000	0.314	17.210	0.000	0.000
255	0.000	0.000	17.210	0.000	0.000
256	0.000	0.000	17.210	0.000	0.000
257	0.000	0.000	17.210	0.000	0.000
258	0.000	0.000	17.210	0.000	0.000
259	0.000	0.000	17.210	0.000	0.000
260	0.000	0.000	17.210	0.000	0.000
261	40.084	30.559	17.210	0.000	0.000
262	43.774	45.031	17.210	17.370	0.000
263	42.377	30.609	17.210	17.370	0.000
264	36.125	32.284	17.210	17.370	0.000
265	31.258	31.393	17.210	17.370	0.000
266	30.350	28.668	17.210	17.370	0.000
267	26.919	12.654	17.210	17.370	0.000

268	18.975	11.486	17.210	17.370	0.000
269	18.398	6.090	17.210	17.370	0.000
270	17.864	2.940	17.210	17.370	0.000
271	17.352	0.000	17.210	17.370	0.000
272	17.326	0.000	17.210	17.370	0.000
273	19.166	10.534	17.210	17.370	0.000
274	19.076	11.713	17.210	17.370	0.000
275	18.377	9.343	17.210	17.370	0.000
276	17.740	6.044	17.210	17.370	0.000
277	17.356	2.359	17.210	17.370	0.000
278	17.328	0.787	17.210	17.370	0.000
279	17.304	0.000	17.210	17.370	0.000
280	17.284	0.000	17.210	17.370	0.000
281	17.266	0.000	17.210	17.370	0.000
282	17.254	0.000	17.210	17.370	0.000
283	17.245	0.000	17.210	0.000	0.000
284	0.000	0.000	17.210	0.000	0.000
285	0.000	0.000	17.210	0.000	0.000
286	0.000	0.000	17.210	0.000	0.000
287	0.000	0.000	17.210	0.000	0.000
288	0.000	0.000	17.210	0.000	0.000
289	0.000	0.000	17.210	0.000	0.000
290	0.000	0.000	17.210	0.000	0.000
291	0.000	0.000	17.210	0.000	0.000
292	0.000	2.110	17.210	0.000	0.000
293	0.000	0.225	17.210	0.000	0.000
294	0.000	0.000	17.210	0.000	0.000
295	0.000	0.000	17.210	0.000	0.000
296	0.000	0.000	17.210	0.000	0.000
297	0.000	0.000	17.210	0.000	0.000
298	0.000	0.724	17.210	0.000	0.000
299	0.000	0.000	17.210	0.000	0.000
300	0.000	0.000	17.210	0.000	0.000
301	0.000	0.000	17.210	0.000	0.000
302	0.000	0.000	17.210	0.000	0.000
303	0.000	0.000	17.210	0.000	0.000
304	0.000	0.315	17.210	0.000	0.000
305	0.000	0.000	17.210	0.000	0.000
306	0.000	0.000	17.210	0.000	0.000
307	0.000	0.000	17.210	0.000	0.000
308	0.000	0.000	17.210	0.000	0.000
309	0.000	0.000	17.210	0.000	0.000
310	0.000	0.000	17.210	0.000	0.000
311	0.000	0.000	17.210	0.000	0.000
312	0.000	0.000	17.210	0.000	0.000
313	0.000	0.000	17.210	0.000	0.000
314	0.000	0.000	17.210	0.000	0.000
315	0.000	0.000	17.210	0.000	0.000
316	0.000	0.000	17.210	0.000	0.000
317	0.000	0.000	17.210	0.000	0.000
318	0.000	0.000	17.210	0.000	0.000
319	0.000	0.000	17.210	0.000	0.000
320	0.000	0.000	17.210	0.000	0.000
321	0.000	0.000	17.210	0.000	0.000
322	0.000	0.000	17.210	0.000	0.000

323	0.000	0.000	17.210	0.000	0.000
324	0.000	0.000	17.210	0.000	0.000
325	0.000	1.833	17.210	0.000	0.000
326	0.000	0.963	17.210	0.000	0.000
327	0.000	1.329	17.210	0.000	0.000
328	0.000	0.000	17.210	0.000	0.000
329	0.000	0.000	17.210	0.000	0.000
330	0.000	0.000	17.210	0.000	0.000
331	0.000	0.000	17.210	0.000	0.000
332	0.000	0.000	17.210	0.000	0.000
333	0.000	0.000	17.210	0.000	0.000
334	0.000	0.000	17.210	0.000	0.000
335	0.000	0.000	17.210	0.000	0.000
336	0.000	0.000	17.210	0.000	0.000
337	0.000	0.000	17.210	0.000	0.000
338	0.000	0.000	17.210	0.000	0.000
339	0.000	3.008	17.210	0.000	0.000
340	0.000	2.542	17.210	0.000	0.000
341	0.000	0.763	17.210	0.000	0.000
342	0.000	0.168	17.210	0.000	0.000
343	0.000	0.000	17.210	0.000	0.000
344	0.000	0.000	17.210	0.000	0.000
345	0.000	0.000	17.210	0.000	0.000
346	0.000	0.000	17.210	0.000	0.000
347	0.000	0.000	17.210	0.000	0.000
348	0.000	0.000	17.210	0.000	0.000
349	0.000	0.000	17.210	0.000	0.000
350	0.000	0.000	17.210	0.000	0.000
351	0.000	0.000	17.210	0.000	0.000
352	0.000	3.706	17.210	0.000	0.000
353	2.545	4.972	17.210	0.000	0.000
354	0.000	4.439	17.210	0.000	0.000
355	0.000	3.223	17.210	0.000	0.000
356	0.000	2.332	17.210	0.000	0.000
357	0.000	1.798	17.210	0.000	0.000
358	0.000	0.356	17.210	0.000	0.000
359	0.000	0.000	17.210	0.000	0.000
360	0.000	0.576	17.210	0.000	0.000
361	0.000	0.000	17.210	0.000	0.000
362	0.000	0.000	17.210	0.000	0.000
363	0.000	0.000	17.210	0.000	0.000
364	0.000	0.000	17.210	0.000	0.000
365	0.000	0.000	17.210	0.000	0.000

LINEAR SHRINKAGE AT THE END OF YEAR : 1

INSIDE		EDGE		OUTSIDE	
ELEVATION (CM)	LINEAR SHRINKAGE (%)	ELEVATION (CM)	LINEAR SHRINKAGE (%)	ELEVATION (CM)	LINEAR SHRINKAGE (%)
8.605	0.000	7.991	6.930	8.622	0.726
25.966	0.080	23.979	8.798	25.202	9.251
43.305	5.108	40.044	10.863	41.186	11.335
58.638	8.332	54.563	12.400	55.570	13.668
71.638	9.846	67.023	13.378	67.880	14.201
84.638	11.863	79.539	15.043	80.206	16.799
101.388	13.475	95.748	16.091	96.231	16.534

APPENDIX L

FORTRAN LISTING OF COMPUTER PROGRAM

```
C*********************************************************************
C*********************************************************************
C*********************************************************************
C*                                                                   *
C*       CENTER FOR GEOTECHNICAL AND HIGHWAY MATERIAL RESEARCH       *
C*              THE UNIVERSITY OF TEXAS AT EL PASO                   *
C*                                                                   *
C*********************************************************************
C*********************************************************************
C*********************************************************************
C*                                                                   *
C*     PROGRAM TO MODEL THE WATER MOVEMENT UNDER THE PAVEMENT STRUCTURE*
C*     INTO A CRACKED SUBBASE                                        *
C*                                                                   *
C*     THE PROGRAM IS DIVIDED INTO 2 PARTS:                          *
C*                                                                   *
C*     PART 1: HANDLING OF REGIONAL METEOROLOGICAL DATA              *
C*     ------------------------------------------------              *
C*     IN PART 1, SEVERAL ALTERNATIVES ARE AVAILABLE:                *
C*           1. IF THE DISTRIBUTION OF THE REGIONAL METEOROLOGICAL DATA*
C*              IS AVAILABLE, THE DISTRIBUTION IS READ INTO THE PROGRAM*
C*              TO BE USED IN THE SIMULATION.                        *
C*           2. IF THE DISTRIBUTION IS NOT AVAILABLE, THE USER CAN   *
C*              SELECT ONE OF THE DEFAULTS DISTRIBUTIONS,OR          *
C*           3. THE DAILY LOCAL METEOROLOGICAL DATA ARE READ  INTO THE *
C*              PROGRAM. THE DATA WILL BE PROCESSED TO CALCULATE THE  *
C*              POTENTIAL EVAPOTRANSPIRATION AND THE DISTRIBUTION OF  *
C*              BOTH RAINFALL AND POTENTIAL EVAPOTRANSPIRATION WILL BE *
C*              FORMED.                                              *
C*                                                                   *
C*     PART 2: SIMULATION OF THE WATER MOVEMENT                      *
C*     ----------------------------------------                      *
C*     THE PROGRAM GENERATES A STOCHASTIC SERIES OF RAINFALL DEPTH AND *
C*     POTENTIAL EVAPOTRANSPIRATION WHICH ARE USED IN THE SIMULATION  *
C*     OF WATER MOVEMENT UNDER THE PAVEMENT. THE PROGRAM             *
C*     CONSIDER WATER LOSS DUE TO ABSORPTION, EVAPORATION AND FLOW FROM*
C*     UNDER THE BASE INTO THE SIDE AND VICE VERSA. DURING THE COURSE  *
C*     OF SIMULATION, THE PROGRAM KEEPS TRACK OF THE WATER DEPTH IN THE*
C*     CRACKS UNDER THE BASE AND IN THE SIDE, THE BLOCK SIZE, DEPTH OF *
C*     CRACKS AND THE WATER BALANCE.                                 *
C*********************************************************************
C*********************************************************************
C*********************************************************************
C*     PARAMETERS ASSOCIATED WITH THE DISTRIBUTION                   *
C*********************************************************************
      INTEGER DIST, DISTC
      REAL    NETPR (12), LMBPR (12), TPDRY (12), TPWET (12)
      REAL    MAXD (12), ALD (12), BED (12), TPWW (12)
      REAL    MAXW (12), ALW (12), BEW (12), TRACE (12)
C*********************************************************************
C*     PARAMETERS ASSOCIATED WITH THE LOCATION AND HEIGHT OF THE      *
C*     STATION                                                       *
C*********************************************************************
      REAL    LATT, HEIG1 (10)
      INTEGER MONT1(10),DAY1(10),YEAR1(10),NUM
```

```
C*************************************************************************
C*     PARAMETERS ASSOCIATED WITH THE INTENSITY-DEPTH-DURATION EQUATION*
C*************************************************************************
      REAL    CA (5), CB (5), PANCO
      REAL    CK, CX, CN
C*************************************************************************
C*     PARAMETERS ASSOCIATED WITH THE GEOMETRIC SECTION DEFINITION     *
C*************************************************************************
      REAL     LNGTH, WIDTH, CRACK, INFIL
      REAL     SLOP1, SLOP2, BASE1, BASE2
      REAL     DEPMB, THKMB, PERMB
      REAL     EDGE1, EDGE2, EDGE3, WS1, WS2, WS3, DPOND
C*************************************************************************
C*     PARAMETERS ASSOCIATED WITH THE BLOCK SIZE AND CRACK SIZE         *
C*************************************************************************
      REAL     BLOKL (15), BLOKW (15)
      REAL    LBLK(50), WBLK(50)
      REAL    WBBKS (50), WBMKS (50), WBSKS (50)
      REAL    TB (50)
      REAL    TM (50)
      REAL    TS (50)
      REAL    WBB (50), WBM (50), WBS (50), WBL (50)
      REAL    WBBS (50), WBMS (50), WBSS (50), WBLS (50)
      INTEGER NBB (50), NBM (50), NBS (50),NBL (50), BMS (50)
      REAL     SLMAX, CDEPH(15), CSIZE(15)
      REAL    DXB (50), DYB (50), DXS (50), DYS (50), DXM (50),DYM (50)
      REAL    DX1 (50), DY1 (50), DX2 (50), DY2 (50)
      REAL GC (15), GS (15), GH (15)
C*************************************************************************
C*     PARAMETERS ASSOCIATED WITH THE BLOCK CURVE AND SOIL PROPERTIES  *
C*************************************************************************
      INTEGER  BCURV, CPROP
      REAL     VBLK(50,100), TBLK (50,100)
      REAL     HH (10,20), KK (10,20),CC(10,20)
      REAL     K1 (10), K2 (10), K3 (10), C1 (10), C2 (10)
      REAL     HINN (15)
C*************************************************************************
C*     PARAMETERS ASSOCIATED WITH THE ACTUAL EVAPOTRANSPIRATION         *
C*************************************************************************
      REAL     TMLAI(24), LAISQ (24)
      REAL     ALFA, U, UL, LLENT, LL
      REAL     ENBAR (12)
C*************************************************************************
C*     PARAMETERS ASSOCIATED WITH THE SIMULATION PERIOD AND INITIAL     *
C*     CONDITION OF THE SIMULATION                                      *
C*************************************************************************
      INTEGER PER, SEED, DEC31
      REAL    VBASE, VSIDE, FRACT, WATER
      INTEGER FLAG
      REAL    SGES1, SGES2, TT, TSS, ZI
      INTEGER  EVENT(2,365)
      REAL     GANNA (12), BEDRY (12), BEWET (12)
```

```
C*********************************************************************
C*     PARAMETERS ASSOCIATED WITH OUTPUT                             *
C*********************************************************************
      REAL  DBASE (365), DSIDE (365)
      REAL  DAEP(365),RDUR(365),DRAIN(365)
      REAL  DINFL(365), CRAKDB(365),CRAKDM(365),CRAKDS(365)
      REAL  DRSHO (365), POET (365)
      REAL  DBB (50), LSB (50), DMM (50), LSM (50), DSS (50), LSS (50)
      CHARACTER*20 RAWDATA, WEATHER, BLKCOOR, BLKCONN, BLKCURV,LINESH
      CHARACTER*20 FILE1, FILE2
      CHARACTER*20 OUT1(15), OUT2(15), BCOOR(15),BCONN(15)
      COMMON /GAMA1/ NETPR, LMBPR
      COMMON /BETA1/ MAXD, ALD, BED
      COMMON /BETA2/ MAXW, ALW, BEW
      COMMON /STAT4/ TPDRY, TPWET
      COMMON /STAT5/ TPWW, TRACE
      COMMON /SEVE/ LATT
      COMMON /ONE1/ HEIG1,MONT1,DAY1,YEAR1,NUM
      COMMON /EIGH/ PANCO
      COMMON /RDDP1/ CA, CB
      COMMON /RDDP2/ CK, CX, CN
      COMMON /SECT1/ LNGTH, WIDTH, CRACK, INFIL
      COMMON /SECT2/ NL
      COMMON /SECT8/ BLOKL, BLOKW
      COMMON /INPTD/ DIST, DISTC,LSHRN
      COMMON /INPT1/ CDEPH, CSIZE
      COMMON /SECT3/ SLOP1, SLOP2, EDGE1, EDGE2, EDGE3
      COMMON /SECT4/ WS1, WS2, WS3, DPOND
      COMMON /SECT5/ IPERM, DEPMB, THKMB, PERMB, DROOT
      COMMON /SECT6/ BASE1, BASE2
      COMMON /SECT7/ SLMAX
      COMMON /INPLS/ GC, GS, GH
      COMMON /INPT2/ BCURV, CPROP
      COMMON /HEAVE/ VBLK, TBLK
      COMMON /INPT3/ K1, K2, K3
      COMMON /INPT4/ C1, C2
      COMMON /INPT5/ HH, KK, CC
      COMMON /INPT6/ HINN
      COMMON /INPT7/ TMLAI, LAISQ
      COMMON /INPT8/ ENBAR
      COMMON /INPT9/ ALFA, U, LLENT, LL
      COMMON /INPTI/ PER, DEC31, VBASE, VSIDE, FRACT
      COMMON /NBVMB/ NBVFLO
      COMMON /FBRC1/ WBB, WBBS, WBBKS, TB, NBB
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC5/ WSBM, WSBMS, TSBM, NSBM
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NVC
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC8/ DB, DMAX, CDBBX
      COMMON /EVAP1/ WATER, UL
      COMMON /EVAP2/ FLAG, TSS, TT, ZI, SGES1, SGES2
      COMMON /STOC5/ EVENT
      COMMON /STOC8/ GANNA
```

```
      COMMON /STOC9/ BEDRY
      COMMON /STOC10/BEWET
      COMMON /SEEDNUM/ SEED
      COMMON /DXDYB/ DXB, DYB
      COMMON /DXDYS/ DXS, DYS
      COMMON /DXDYM/ DXM, DYM
      COMMON /DXDYE/ DX1, DY1, DX2, DY2
      COMMON /OUTSTEP/ ISTEP, IPCOOR, IPLS
      COMMON /INFILE1/ RAWDATA
      COMMON /OUTFILE1/ WEATHER, BLKCURV, BCOOR, BCONN,LINESH
      COMMON /OUTFILE2/ OUT1, OUT2
C      EXTERNAL INPUT
      OPEN(UNIT=5,FILE='EP.DAT',STATUS='OLD')
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     INPUT ALL DATA                                                    *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      CALL INPUT
C*************************************************************************
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     PART 1 : HANDLING OF METEOROLOGICAL DATA                          *
C*                                                                       *
C*     1. FOR ALTENATIVE 1 AND ALTERNATIVE 2 OF PART 1, ALL NECESSARY    *
C*        DATA ARE READ THROUGH THE SUBROUTINE INPUT AND THE PROGRAM     *
C*        WILL DIRECTLY PROCEED TO PART 2.                               *
C*                                                                       *
C*     2. FOR ALTERNATIVE 3 OF PART 1, THE RELATED DATA ARE READ         *
C*        THROUGH SUBROUTINE INPUT AND SUBROUTINE FORMDIS IS CALLED TO   *
C*        PROCESS THE RAW DATA AND FORM THE DISTRIBUTION BEFORE PROCEED  *
C*        TO PART 2.                                                     *
C*                                                                       *
C*************************************************************************
C*************************************************************************
C*************************************************************************
      IF (DIST .EQ. 2) THEN
          OPEN(UNIT=3,FILE=RAWDATA,STATUS='OLD')
          OPEN(UNIT=6,FILE=WEATHER,STATUS='NEW')
          CALL FORMDIS
          END IF
C*************************************************************************
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     PART 2 : SIMULATION                                               *
C*                                                                       *
C*     1. GENERATE A ONE-YEAR SERIES OF RAINFALL DEPTH AND EVAPO-        *
C*        TRANSPIRATION BASED ON THE DISTRIBUTIONS                       *
C*     2. FOR A RAINFALL LARGER THAN TRACE, CALCULATE:                   *
C*        1) DURATION OF THE RAINFALL                                    *
C*        2) AMOUNT OF WATER THAT INFILTRATE THROUGH                     *
```

```
C*           THE PAVEMENT CRACKS                                          *
C*     AND 3) RUNOFF                                                      *
C*      3. CALCULATE THE DEPTH OF WATER IN THE CRACKS DUE TO THE          *
C*         RAINFALL LARGER THAN TRACE                                     *
C*      4. IF THE HEAD DIFFERENCE UNDER THE BASE AND IN THE SIDE IS       *
C*         GREATER 1.0 CM, THEN CALCULATE THE FOLLOWING IN EVERY          *
C*         MINUTES:                                                       *
C*         1. ADSORPTION OF WATER FROM THE CRACK INTO THE SOIL            *
C*         2. EVAPORATION OF WATER FROM THE CRACK                         *
C*         3. THE AMOUNT OF WATER THAT MOVES FROM ONE SIDE TO ANOTHER     *
C*            OF THE MOISTURE BARRIER                                     *
C*         IF THE HEAD DIFFERENCE IS LESS OR EQUAL TO 1.0 CM CALCULATE    *
C*         CALCULATE ADSORPTION AND EVAPORATION FOR THE WHOLE DAY.        *
C*         IF THE VOLUME OF WATER AVAILABLE FOR EVAPOTRANSPIRATION IN     *
C*         THE CRACK IS LESS THAN THE TOTAL VOLUME OF EVAPOTRANSPIRATION*
C*         THEN THE REMAINING VOLUME WILL BE TAKEN FROM THE SOIL MATRIX.*
C*                                                                        *
C************************************************************************
C************************************************************************
C************************************************************************
C*      GENERATE THE SOIL BLOCK (CRACK FABRIC) UNDER THE SECTION          *
C************************************************************************
      CALL FABRIC
      IF (IPCOOR .EQ. 1) THEN
          BLKCOOR = BCOOR (1)
          BLKCONN = BCONN (1)
          OPEN(UNIT=7,FILE=BLKCOOR,STATUS='NEW')
          OPEN(UNIT=8,FILE=BLKCONN,STATUS='NEW')
          WRITE(7,71)
71        FORMAT(4X,'BLOCK COORDINATES AT THE BEGINNING OF THE',
     *             ' SIMULATION',/,8X,'POINT',5X,'X',14X,'Y')
          WRITE(8,81)
81        FORMAT(4X,'BLOCK CONNECTIVITY AT THE BEGINNING OF THE',
     *             ' SIMULATION'/,
     *               /,5X,'BLOCK NUMBER',3X,'NODE 1',6X,'NODE 2',
     *                 6X,'NODE 3',6X,'NODE 4')
          CALL BLOCK
          CLOSE(8)
          CLOSE(7)
          END IF
C************************************************************************
C*      IF THE LINEAR SHRINKAGE CURVE NEED TO BE DEVELOPED FROM EQUATION*
C*      THE SUBROUTINE LSHRINKAGE IS CALLED                              *
C************************************************************************
      IF (LSHRN .EQ. 2) CALL LSHRINKAGE
C************************************************************************
C*      IF THE BLOCK CURVE IS NOT AVAILABLE, FORM THE BLOCK CURVES        *
C*      (BLOCK CURVES IS THE VOLUME OF SOIL BLOCK FROM THE DRIEST TO      *
C*      THE WETTEST CONDITION VERSUS THE WETTING TIME)                    *
C************************************************************************
      IF (BCURV .EQ. 0) THEN
          OPEN (UNIT=9,FILE=BLKCURV,STATUS='NEW')
          CALL CURVE (1)
          DO 105 I = 2 , NL
             IFLAG=0
```

```
            DO 110 J = 1 , I-1
               DIF1 = WBLK (I) - WBLK (J)
               DIF2 = LBLK (I) - LBLK (J)
               DIF3 = HINN (I) - HINN (J)
               IF (DIF1 .EQ. 0.0 .AND. DIF2 .EQ. 0.0 .AND.
     *             DIF3 .EQ. 0.0) THEN
                   IFLAG=J
                   END IF
  110          CONTINUE
               IF (IFLAG .NE. 0) THEN
                   DO 120 K = 1 , 100
                      VBLK (I,K) = VBLK (IFLAG,K)
                      TBLK (I,K) = TBLK (IFLAG,K)
  120                 CONTINUE
                   ELSE
                   CALL CURVE (I)
                   END IF
  105           CONTINUE
          END IF
C*************************************************************************
C*     CALCULATE THE INITIAL WATER IN THE SOIL PROFILE AND               *
C*     THE UPPER LIMIT OF THE WATER DEPTH STORED IN THE SOIL             *
C*************************************************************************
      CALL INITIAL
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*          BEGIN THE SIMULATION                                         *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      ISTAT = DEC31
      FR = FRACT
      DO 720 I = 1 , PER
          FILE1 = OUT1(I)
          FILE2 = OUT2(I)
          OPEN(UNIT=10,FILE=FILE1,STATUS='NEW')
          OPEN(UNIT=11,FILE=FILE2,STATUS='NEW')
          WRITE(10,100) I
          WRITE(10,101)
101       FORMAT(3X,'DAY',8X,'RAINFALL',9X,'INFILTRATION',6X,
     *           'EVAPOTRANSPIRATION',/,
     *           9X,'DEPTH',5X,'DURATION',2X,'PAVEMENT',
     *           2X,'OUTSIDE',2X, 'ACTUAL',4X,
     *            'POTENTIAL',/,9X,'(CM)',7X,'(MIN)',4X,'(CM)',6X,
     *            '(CM)',6X,'(CM)',6X,'(CM)',/)
          WRITE(11,100) I
          WRITE(11,102)
102       FORMAT(3X,'DAY',6X,'WATER LEVEL',10X,
     *           'CRACK TIP ELEVATION',/,
     *           10X,'UNDER',3X,'OUTSIDE',5X,'INSIDE',5X,
     *           'EDGE',5X,'OUTSIDE',/,8X,'PAVEMENT',/,
     *           10X,'(CM)',6X,'(CM)',8X,'(CM)',6X,'(CM)',6X,'(CM)',/)
100       FORMAT(20X,'SIMULATION YEAR NO: ',I2,//)
```

```
C*************************************************************************
C*      DETERMINE THE INITIAL WATER LEVEL                                *
C*************************************************************************
          CALL BDEPTH (VBM, VSIDE, FR, DB)
          CALL SDEPTH (VSIDE, DS)
          CALL MOISV (DB, VBM, VMOIS)
          VBASE = VBM - VMOIS
          DBI = DB
          DSI = DS
C*************************************************************************
C*************************************************************************
C*         GENERATE THE STOCHASTIC DATA OF DAILY RAINFALL AND            *
C*         POTENTIAL EVAPOTRANSPIRATION FOR ONE YEAR                     *
C*************************************************************************
C*************************************************************************
          CALL STOCHASTIC (ISTAT)
          DO 710 J = 1 , 365
              DO 50 II = 1 , NBVS
                  DXB (II) = 0.0
                  DYB (II) = 0.0
                  DXM (II) = 0.0
                  DYM (II) = 0.0
                  DXS (II) = 0.0
                  DYS (II) = 0.0
                  DX1 (II) = 0.0
                  DY1 (II) = 0.0
                  DX2 (II) = 0.0
                  DY2 (II) = 0.0
 50               CONTINUE
C*************************************************************************
C*************************************************************************
C*      SIMULATION ON DRY DAY                                            *
C*************************************************************************
C*************************************************************************
              IF (EVENT(1,J) .LE. 1) THEN
                  PRE = FLOAT (EVENT (1,J)) / 10.0
                  PET = FLOAT (EVENT (2,J)) / 10.0
                  CALL EVAPT (J, PRE, PET, EVAPR)
                  DAEP (J) = EVAPR/10.0
                  POET (J) = PET/10.0
                  VEVAP = (DAEP(J) * (WS1+WS2+WS3)*100.0
     *                    *WIDTH *100.0) / 720.0
                  PEVAP = ((PET/10.0) * (WS1+WS2+WS3)*100.0 *
     *                   WIDTH*100.0) / 720.0
                  DO 801 IT = 1 , 1440
                      DEP = DBI - DSI
                      IF (ABS(DEP) .GT. 1.0) THEN
                          CALL NEWBASE (DBI, 1, TVADB,VBASE)
                          CALL NEWSIDE (DSI, 1, TVADS,VSIDE)
                          CALL NEWMOIS (DBI, 1, TVADM, VMOIS)
                          IF (IT .LE. 720) THEN
                              IF (VSIDE + VMOIS .GT. VEVAP) THEN
                                  VSIDE = VSIDE - PEVAP
                                  IF (VSIDE .LT. 0.0) THEN
                                      VMOIS = VMOIS + VSIDE
```

```
                    VSIDE = 0.0
                    END IF
                IF (VMOIS .LT. 0.0) THEN
                    VMOIS = 0.0
                    END IF
                ELSE
                DVDRY = VEVAP - (VSIDE + VMOIS)
                VSIDE = 0.0
                VMOIS = 0.0
                CALL BSHRINK (DVDRY)
                END IF
            END IF
        VBM = VBASE + VMOIS
        CALL HYFLO (DBI, DSI, VBM, VSIDE, VFLOW)
        CALL BDEPTH (VBM, VSIDE, FR, DB)
        CALL SDEPTH (VSIDE, DS)
        DBI = DB
        DSI = DS
        CALL MOISV (DBI, VBM, VMOIS)
        VBASE = VBM - VMOIS
        ELSE
        ITR1 = 1440 - IT + 1
        ITR2 = 720 - IT + 1
        CALL NEWBASE (DBI, ITR1, TVADB,VBASE)
        CALL NEWSIDE (DSI, ITR1, TVADS,VSIDE)
        CALL NEWMOIS (DBI, ITR1, TVADM, VMOIS)
         IF (IT .LE. 720) THEN
            VEVAP1 = VEVAP * ITR2
            PEVAP1 = PEVAP * ITR2
            IF (VSIDE + VMOIS .GT. VEVAP1) THEN
                VSIDE = VSIDE - PEVAP1
                IF (VSIDE .LT. 0.0) THEN
                    VMOIS = VMOIS + VSIDE
                    VSIDE = 0.0
                    END IF
                IF (VMOIS .LT. 0.0) THEN
                    VMOIS = 0.0
                    END IF
                ELSE
                DVDRY = VEVAP1 - (VSIDE + VMOIS)
                VSIDE = 0.0
                VMOIS = 0.0
                CALL BSHRINK (DVDRY)
                END IF
            END IF
        VBM = VBASE + VMOIS
        CALL BDEPTH (VBM, VSIDE, FR, DB)
        CALL SDEPTH (VSIDE, DS)
        DBI = DB
        DSI = DS
        CALL MOISV (DBI, VBM, VMOIS)
        VBASE = VBM - VMOIS
        GO TO 933
        END IF
801             CONTINUE
```

```
  933             CONTINUE
                  ELSE
C*************************************************************************
C*************************************************************************
C*     SIMULATION ON WET DAY                                             *
C*************************************************************************
C*************************************************************************
C*     FOR DAY WITH RAIN LARGER THAN TRACE OF RAIN (WET DAY),            *
C*     CALCUALTE :                                                       *
C*        1. DURATION OF THE RAIN                                        *
C*        2. VOLUME OF WATER INFILTRATED THROUGH THE PAVEMENT CRACKS     *
C*        3. TIME THE RAIN BEGIN AND END                                 *
C*        4. RUNOFF                                                      *
C*        5. TOTAL VOLUME OF WATER IN THE SIDE OF THE PAVEMENT           *
C*************************************************************************
                  CALL INFLO (EVENT (1,J), TR1, PO)
                  DR = TR1
                  IDR = INT (DR)
                  REM = DR - IDR
                  IF (REM .GT. 0.0) THEN
                      NR = IDR + 1
                      ELSE
                      NR = IDR
                      END IF
                  RDUR (J) = NR
                  CALL RANDOM (YFL,IX)
                  IBR = YFL * 24 * 60
                  IER = IBR + NR
                  IF (IER .GT. 1440) THEN
                      IER = 1440
                      IBR = 1440 - NR
                      END IF
                  DP = FLOAT(EVENT (1,J)) / 100.0
                  DRAIN (J) = DP
                  DINFL (J) = PO
                  VOLB = PO * LNGTH * WIDTH * (100.0 **2)
                  VBR = VOLB / FLOAT(NR)
                  VOLR = (DP * LNGTH * WIDTH * (100.0 **2) - VOLB) *
     *                    FRACT
                  DEPR = VOLR / (((WS1 + WS2 + WS3)*100.0) *
     *                           WIDTH*100.0)
                  VOLS = VOLR + DP * ((WS1 + WS2 + WS3)*100.0) *
     *                    WIDTH * 100.0
                  VSR = VOLS / FLOAT(NR)
                  PRE = FLOAT (EVENT (1,J)) / 10.0 + DEPR*10.0
                  DRSHO (J) = DRAIN (J) + DEPR
                  PET = FLOAT (EVENT (2,J)) / 10.0
                  POET (J) = PET/10.0
                  CALL EVAPT (J, PRE, PET, EVAPR)
                  DAEP (J) = EVAPR/10.0
                  VEVAP = DAEP(J) * (WS1+WS2+WS3)*100.0
     *                    *WIDTH *100.0 / 720.0
                  PEVAP = ((PET/10.0) * (WS1+WS2+WS3)*100.0 *
     *                   WIDTH*100.0) / 720.0
```

```
C*************************************************************************
C*     SIMULATION FROM THE BEGINING OF THE DAY TO THE BEGINING OF RAIN *
C*************************************************************************
 802          DO 800 IT = 1 , IBR
                  VMOIS2 = 0.0
                  DEP = DBI - DSI
                  IF (ABS(DEP) .GT. 1.0) THEN
                      CALL NEWBASE (DBI, 1, TVADB,VBASE)
                      CALL NEWSIDE (DSI, 1, TVADS,VSIDE)
                      CALL NEWMOIS (DBI, 1, TVADM, VMOIS)
                      IF (IT .LE. 720) THEN
                          IF (VSIDE + VMOIS .GT. VEVAP) THEN
                              VSIDE = VSIDE - PEVAP
                              IF (VSIDE .LT. 0.0) THEN
                                  VMOIS = VMOIS + VSIDE
                                  VSIDE = 0.0
                                  END IF
                              IF (VMOIS .LT. 0.0) THEN
                                  VMOIS = 0.0
                                  END IF
                              ELSE
                              DVDRY = VEVAP - (VSIDE + VMOIS)
                              VSIDE = 0.0
                              VMOIS = 0.0
                              CALL BSHRINK (DVDRY)
                              END IF
                          END IF
                      VBM = VBASE + VMOIS
                      CALL HYFLO (DBI, DSI, VBM, VSIDE, VFLOW)
                      CALL BDEPTH (VBM, VSIDE, FR, DB)
                      CALL SDEPTH (VSIDE, DS)
                      DBI = DB
                      DSI = DS
                      CALL MOISV (DBI, VBM, VMOIS)
                      VBASE = VBM - VMOIS
                      ELSE
                      ITR1 = IBR - IT + 1
                      ITR2 = 720 - IT + 1
                      CALL NEWBASE (DBI, ITR1, TVADB,VBASE)
                      CALL NEWSIDE (DSI, ITR1, TVADS,VSIDE)
                      CALL NEWMOIS (DBI, ITR1, TVADM, VMOIS)
                      IF (IT .LE. 720) THEN
                          VEVAP1 = VEVAP * ITR2
                          PEVAP1 = PEVAP * ITR2
                          IF (VSIDE + VMOIS .GT. VEVAP1) THEN
                              VSIDE = VSIDE - PEVAP1
                              IF (VSIDE .LT. 0.0) THEN
                                  VMOIS = VMOIS + VSIDE
                                  VSIDE = 0.0
                                  END IF
                              IF (VMOIS .LT. 0.0) THEN
                                  VMOIS = 0.0
                                  END IF
                              ELSE
                              DVDRY = VEVAP1 - (VSIDE + VMOIS)
```

```
                            VSIDE = 0.0
                            VMOIS = 0.0
                            CALL BSHRINK (DVDRY)
                            END IF
                        END IF
                        VBM = VBASE + VMOIS
                        CALL BDEPTH (VBM, VSIDE, FR, DB)
                        CALL SDEPTH (VSIDE, DS)
                        DBI = DB
                        DSI = DS
                        CALL MOISV (DBI, VBM, VMOIS)
                        VBASE = VBM - VMOIS
                    GO TO 910
                    END IF
 800              CONTINUE
C*************************************************************************
C*          SIMULATION DURING THE RAIN PERIOD                            *
C*          (DURING THE RAIN PERIOD, ADD THE RAIN WATER VOLUME AT EVERY  *
C*          MINUTE)                                                      *
C*************************************************************************
 910          DO 810 IT = IBR + 1 , IER
                  VMOIS2 = 0.0
                  VBM = VBM + VBR
                  VSIDE = VSIDE + VSR
                  CALL BDEPTH (VBM, VSIDE, FR, DB)
                  CALL SDEPTH (VSIDE, DS)
                  DBI = DB
                  DSI = DS
                  CALL MOISV (DBI, VBM, VMOIS)
                  VBASE = VBM - VMOIS
                  DEP = DBI - DSI
                  CALL NEWBASE (DBI, 1, TVADB,VBASE)
                  CALL NEWSIDE (DSI, 1, TVADS,VSIDE)
                  CALL NEWMOIS (DBI, 1, TVADM, VMOIS)
                  IF (IT .LE. 720) THEN
                      IF (VSIDE + VMOIS .GT. VEVAP) THEN
                          VSIDE = VSIDE - PEVAP
                          IF (VSIDE .LT. 0.0) THEN
                              VMOIS = VMOIS + VSIDE
                              VSIDE = 0.0
                              END IF
                          IF (VMOIS .LT. 0.0) THEN
                              VMOIS = 0.0
                              END IF
                          ELSE
                          DVDRY = VEVAP - (VSIDE + VMOIS)
                          VSIDE = 0.0
                          VMOIS = 0.0
                          CALL BSHRINK (DVDRY)
                          END IF
                      END IF
                  VBM = VBASE + VMOIS
                  CALL HYFLO (DBI, DSI, VBM, VSIDE, VFLOW)
 810              CONTINUE
                  CALL BDEPTH (VBM, VSIDE, FR, DB)
```

```
                CALL SDEPTH (VSIDE, DS)
                DBI = DB
                DSI = DS
                CALL MOISV (DBI, VBM, VMOIS)
                VBASE = VBM - VMOIS
C*************************************************************************
C*        SIMULATION AFTER THE END OF RAIN TO THE END OF THE WET DAY    *
C*************************************************************************
 920          DO 820 IT = IER + 1 , 1440
                VMOIS2 = 0.0
                DEP = DBI -DSI
                IF (ABS (DEP) .GT. 1.0) THEN
                    CALL NEWBASE (DBI, 1, TVADB,VBASE)
                    CALL NEWSIDE (DSI, 1, TVADS,VSIDE)
                    CALL NEWMOIS (DBI, 1, TVADM, VMOIS)
                    IF (IT .LE. 720) THEN
                        IF (VSIDE + VMOIS .GT. VEVAP) THEN
                            VSIDE = VSIDE - PEVAP
                            IF (VSIDE .LT. 0.0) THEN
                                VMOIS = VMOIS + VSIDE
                                VSIDE = 0.0
                                END IF
                            IF (VMOIS .LT. 0.0) THEN
                                VMOIS = 0.0
                                END IF
                            ELSE
                            DVDRY = VEVAP - (VSIDE + VMOIS)
                            VSIDE = 0.0
                            VMOIS = 0.0
                            CALL BSHRINK (DVDRY)
                            END IF
                        END IF
                    VBM = VBASE + VMOIS
                    CALL HYFLO(DBI, DSI, VBM, VSIDE, VFLOW)
                    CALL BDEPTH (VBM, VSIDE, FR, DB)
                    CALL SDEPTH (VSIDE, DS)
                    DBI = DB
                    DSI = DS
                    CALL MOISV (DBI, VBM, VMOIS)
                    VBASE = VBM - VMOIS
                    ELSE
                    ITR1 = 1440 - IT + 1
                    ITR2 = 720 - IT + 1
                    CALL NEWBASE (DBI, ITR1, TVADB,VBASE)
                    CALL NEWSIDE (DSI, ITR1, TVADS,VSIDE)
                    CALL NEWMOIS (DBI, ITR1, TVADM,VMOIS)
                    IF (IT .LE. 720) THEN
                        VEVAP1 = VEVAP * ITR2
                        PEVAP1 = PEVAP * ITR2
                        IF (VSIDE + VMOIS .GT. VEVAP1) THEN
                            VSIDE = VSIDE - PEVAP1
                            IF (VSIDE .LT. 0.0) THEN
                                VMOIS = VMOIS + VSIDE
                                VSIDE = 0.0
                                END IF
```

```
                                IF (VMOIS .LT. 0.0) THEN
                                      VMOIS = 0.0
                                    END IF
                                ELSE
                                  DVDRY = VEVAP1 - (VSIDE + VMOIS)
                                  VSIDE = 0.0
                                VMOIS = 0.0
                                CALL BSHRINK (DVDRY)
                                END IF
                            END IF
                            VBM = VBASE + VMOIS
                            CALL BDEPTH (VBM, VSIDE, FR, DB)
                            CALL SDEPTH (VSIDE, DS)
                            DBI = DB
                            DSI = DS
                            CALL MOISV (DBI, VBM, VMOIS)
                            VBASE = VBM - VMOIS
                        GO TO 930
                        END IF
 820                CONTINUE
                  END IF
 930              CONTINUE
C*************************************************************************
C*      UPDATE THE BLOCK SIZE AFTER ONE DAY OF SIMULATION                *
C*************************************************************************
                  DO 70 II = 1 , NBVB
                      WBBKS (II) = WBBKS (II) + DXB (II)
                      IF (WBBKS (II) .GT. WBLK (II)) WBBKS (II) = WBLK (II)
                      TB (II) = TB (II) + DYB (II)
                      WBMKS (II) = WBMKS (II) + DXM (II) - DX2 (II)
                      IF (WBMKS (II) .GT. WBLK (II)) WBMKS (II) = WBLK (II)
                      TM (II) = TM (II) + DYM (II) - DY2 (II)
  70                  CONTINUE
                  DO 80 II = 1 , NBVS
                      WBSKS (II) = WBSKS (II) + DXS (II) - DX1 (II)
                      IF (WBSKS (II) .GT. WBLK (II)) WBSKS (II) = WBLK (II)
                      TS (II) = TS (II) + DYS (II) - DY1 (II)
  80                  CONTINUE
C*************************************************************************
C*     CALCULATE THE CRACK DEPTH AFTER ONE DAY OF SIMULATION             *
C*************************************************************************
                  DBASE (J) = DBI
                  DSIDE (J) = DSI
                  CALL CBDEPTH (CDB)
                  CALL CMDEPTH (CDM)
                  CALL CSDEPTH (CDS)
                  CRAKDB (J) = CDB
                  CRAKDM (J) = CDM
                  CRAKDS (J) = CDS
 710              CONTINUE
C*************************************************************************
C*     CALCULATE THE LINEAR SHRINKAGE AFTER ONE YEAR OF SIMULATION       *
C*************************************************************************
                  IF (IPLS .EQ. 1) THEN
                      CALL LINEBASE (DBB,LSB)
```

```
                CALL LINESIDE (DMM,LSM)
                CALL LINEMOIS (DSS,LSS)
                OPEN(12,FILE=LINESH,STATUS='NEW')
                WRITE(12,122) I
122             FORMAT(14X,'LINEAR SHRINKAGE AT THE END OF YEAR :',I3
     *               ,///,11X,'INSIDE',16X,'EDGE',17X,'OUTSIDE',/,
     *                4X,'ELEVATION',3X,'LINEAR',4X,'ELEVATION',3X,
     *                'LINEAR',
     *                4X,'ELEVATION',3X,'LINEAR',/,14X,'SHRINKAGE',
     *                13X,'SHRINKAGE',14X,'SHRINKAGE',/,7X,'(CM)',
     *                6X,'(%)',9X,'(CM)',6X,'(%)',9X,'(CM)',
     *                6X,'(%)',/)
                DO 150 IB = 1, NBVB
                   WRITE (12,1235)DBB(IB),LSB(IB),DMM(IB),LSM(IB),
     *                    DSS(IB),LSS(IB)
 150               CONTINUE
                END IF
              IF (IPCOOR .EQ. 1) THEN
                IYER = I + 1
                BLKCOOR = BCOOR (IYER)
                BLKCONN = BCONN (IYER)
                OPEN(8,FILE=BLKCOOR,STATUS='NEW')
                OPEN(7,FILE=BLKCONN,STATUS='NEW')
                WRITE(7,72) IYER
72              FORMAT(4X,'BLOCK COORDINATES AT THE END OF YEAR :',I3,
     *                  /,8X,'POINT',5X,'X',14X,'Y')
                WRITE(8,82) I
82              FORMAT(6X,'BLOCK CONNECTIVITY AT THE END OF YEAR:',I3,
     *                   /,5X,'BLOCK NUMBER',3X,'NODE 1',6X,'NODE 2',
     *                     6X,'NODE 3',6X,'NODE 4')
                CALL BLOCK
                CLOSE(8)
                CLOSE(7)
                END IF
              DO 160 JJ = 1 , 365 , ISTEP
                WRITE (10,123)JJ,DRAIN(JJ),RDUR(JJ),DINFL(JJ),
     *          DRSHO (JJ), POET(JJ) , DAEP (JJ)
                WRITE (11,1244)JJ,DBASE(JJ),DSIDE(JJ),CRAKDB(JJ),
     *                    CRAKDM(JJ),CRAKDS(JJ)
 160            CONTINUE
123           FORMAT(2X,I3,4X,F7.3,4X,F6.1,4(4X,F7.3))
1235          FORMAT(5X,F7.3,3X,F7.3,5X,F7.3,3X,F7.3,5X,
     *              F7.3,3X,F7.3)
1244          FORMAT(2X,I3,2(3X,F7.3),2X,3(3X,F7.3))
          CLOSE(10)
          CLOSE(11)
 720      CONTINUE
      STOP
      END
```

```
C*********************************************************************
C*********************************************************************
C*                                                                   *
C*    SUBROUTINE TO INPUT THE DATA                                   *
C*       THE SUBROUTINE WILL READ ALL CONTROL PARAMETERS, LOAD ALL OF *
C*       RELATED DATA, AND TRANSFER THEM TO THE MAIN PROGRAM          *
C*                                                                   *
C*********************************************************************
C*********************************************************************
      SUBROUTINE INPUT
      INTEGER DIST, DISTC
      REAL    NETPR (12), LMBPR (12), TPDRY (12), TPWET (12)
      REAL    MAXD (12), ALD (12), BED (12), TPWW (12)
      REAL    MAXW (12), ALW (12), BEW (12), TRACE (12)
      REAL    NETHS(12), LMBHS(12), TWWHS(12), TDDHS(12)
      REAL    ALDHS(12), BEDHS(12), PTRHS(12)
      REAL    MXDHS(12), ALWHS(12), BEWHS(12), MXWHS(12)
      REAL    NETDL(12), LMBDL(12), TWWDL(12)
      REAL    TDDDL(12), PTRDL(12), ALDDL(12), BEDDL(12)
      REAL    MXDDL(12), ALWDL(12), BEWDL(12)
      REAL    MXWDL(12), NETSA(12), LMBSA(12), TWWSA(12)
      REAL    TDDSA(12), PTRSA(12), ALDSA(12), MXWSA(12)
      REAL    BEDSA(12), MXDSA(12), ALWSA(12), BEWSA(12)
      REAL    NETEP(12), LMBEP(12), TWWEP(12), TDDEP(12)
      REAL    ALDEP(12), BEDEP(12), PTREP(12)
      REAL    MXDEP(12), ALWEP(12), BEWEP(12), MXWEP(12)
      REAL    LATT, HEIG1(10)
      INTEGER MONT1(10),DAY1(10),YEAR1(10),NUM
      INTEGER DTYPE
      REAL    CA (5), CB (5), PANCO
      REAL    CK, CX, CN
      REAL     LNGTH, WIDTH, CRACK, INFIL
      REAL     SLOP1, SLOP2, BASE1, BASE2
      REAL     DEPMB, THKMB, PERMB
      REAL     EDGE1, EDGE2, EDGE3, WS1, WS2, WS3, DPOND
      INTEGER  BLOCK, ISOIL
      REAL     BLOKL (15), BLOKW (15)
      REAL     BLKW1 (5), BLKL1 (5), BLKW2 (7), BLKL2 (7)
      REAL     BLKW3 (7), BLKL3 (7), BLKW4 (7), BLKL4 (7)
      INTEGER  LSHRN
      REAL     SLMAX
      REAL     CDEPH(15), CSIZE(15)
      REAL     CS1 (15), CD1 (15), CS2 (9), CD2 (9), CS3(11),CD3(11)
      INTEGER  BCURV, CPROP
      REAL     VBLK(50,100), TBLK (50,100)
      REAL     HH (10,20), KK (10,20),CC(10,20)
      REAL     K1 (10), K2 (10), K3 (10), C1 (10), C2 (10)
      REAL     HINN (15)
      INTEGER LAIDX
      REAL     TMLAI(24), LAISQ (24), DLAI (24), TLAI (24)
      REAL     ALFA, U, UL, LLENT, LL
      REAL ENBAR (12), EBRHO (12), EBRSA (12), EBRDL (12), EBREP (12)
      REAL GC (15), GS (15), GH (15)
      INTEGER PER, SEED, DEC31
      REAL    VBASE, VSIDE, FRACT, WATER
```

```
      CHARACTER*20 RAWDATA, WEATHER, BCOOR(15), BCONN(15), BLKCURV
      CHARACTER*20 OUT1(15), OUT2(15), LINESH
      COMMON /GAMA1/ NETPR, LMBPR
      COMMON /BETA1/ MAXD, ALD, BED
      COMMON /BETA2/ MAXW, ALW, BEW
      COMMON /STAT4/ TPDRY, TPWET
      COMMON /STAT5/ TPWW, TRACE
      COMMON /SEVE/ LATT
      COMMON /ONE1/ HEIG1,MONT1,DAY1,YEAR1,NUM
      COMMON /EIGH/ PANCO
      COMMON /RDDP1/ CA, CB
      COMMON /RDDP2/ CK, CX, CN
      COMMON /SECT1/ LNGTH, WIDTH, CRACK, INFIL
      COMMON /SECT2/ NB
      COMMON /SECT8/ BLOKL, BLOKW
      COMMON /INPTD/ DIST, DISTC, LSHRN
      COMMON /INPT1/ CDEPH, CSIZE
      COMMON /SECT3/ SLOP1, SLOP2, EDGE1, EDGE2, EDGE3
      COMMON /SECT4/ WS1, WS2, WS3, DPOND
      COMMON /SECT5/ IPERM, DEPMB, THKMB, PERMB, DROOT
      COMMON /SECT6/ BASE1, BASE2
      COMMON /SECT7/ SLMAX
      COMMON /INPT2/ BCURV, CPROP
      COMMON /HEAVE/ VBLK, TBLK
      COMMON /INPT3/ K1, K2, K3
      COMMON /INPT4/ C1, C2
      COMMON /INPT5/ HH, KK, CC
      COMMON /INPT6/ HINN
      COMMON /INPT7/ TMLAI, LAISQ
      COMMON /INPT8/ ENBAR
      COMMON /INPT9/ ALFA, U, LLENT, LL
      COMMON /INPTI/ PER, DEC31, VBASE, VSIDE, FRACT
      COMMON /INPLS/ GC, GS, GH
      COMMON /EVAP1/ WATER, UL
      COMMON /SEEDNUM/ SEED
      COMMON /OUTSTEP/ ISTEP, IPCOOR, IPLS
      COMMON /INFILE1/ RAWDATA
      COMMON /OUTFILE1/ WEATHER, BLKCURV, BCOOR, BCONN,LINESH
      COMMON /OUTFILE2/ OUT1, OUT2
C*************************************************************************
C*     PARAMETERS FOR WEATHER CONDITIONS DISTRIBUTIONS FOR HOUSTON       *
C*************************************************************************
      DATA NETHS / 0.786599 , 0.654995 , 0.526472 , 0.477682 ,
     *             0.644504 , 0.626186 , 0.677160 , 0.615541 ,
     *             0.579818 , 0.596596 , 0.613653 , 0.656046 /
      DATA LMBHS / 2.229656 , 2.091151 , 1.605873 , 0.881684 ,
     *             0.876321 , 1.093076 , 1.753781 , 1.45937  ,
     *             0.978196 , 0.924681 , 1.242048 , 1.669909 /
      DATA TWWHS / 0.610838 , 0.558621 , 0.625616 , 0.601227 ,
     *             0.566879 , 0.526316 , 0.587302 , 0.628415 ,
     *             0.629630 , 0.582734 , 0.592593 , 0.595092 /
      DATA TDDHS / 0.605    , 0.725225 , 0.61     , 0.709251 ,
     *             0.735772 , 0.776224 , 0.681633 , 0.7      ,
     *             0.74026  , 0.789830 , 0.748062 , 0.745387 /
      DATA PTRHS / 0.330049 , 0.345070 , 0.365853 , 0.420731 ,
```

```
     *             0.311688 , 0.246268 , 0.291005 , 0.294736 ,
     *             0.268156 , 0.286713 , 0.298136 , 0.265060 /
      DATA ALDHS / 4.969941 , 7.855193 , 9.060536 , 11.38095 ,
     *             12.56181 , 14.30426 , 13.49736 , 13.41735 ,
     *             10.31827 , 9.594151 , 8.216687 , 7.644534 /
      DATA BEDHS / 19.19571 , 20.43204 , 15.73008 , 10.99839 ,
     *             6.250904 , 7.663347 , 6.100935 , 7.376349 ,
     *             6.602291 , 13.49075 , 21.58047 , 28.15440 /
      DATA MXDHS / 0.75     , 0.85     , 0.9      , 0.825    ,
     *             0.75     , 0.95     , 0.9      , 0.85     ,
     *             0.725    , 0.7      , 0.675    , 0.65     /
      DATA ALWHS / 3.067917 , 2.572821 , 4.621425 , 4.494610 ,
     *             4.136384 , 4.374434 , 5.788846 , 8.633327 ,
     *             4.290316 , 3.942077 , 4.399501 , 3.377909 /
      DATA BEWHS / 13.38161 , 9.918962 , 10.93540 , 9.189711 ,
     *             3.636276 , 3.870018 , 4.089101 , 15.65410 ,
     *             4.096556 , 4.688134 , 9.288826 , 8.531876 /
      DATA MXWHS / 0.65     , 0.85     , 0.8      , 0.9      ,
     *             0.675    , 0.8      , 0.8      , 1.15     ,
     *             0.65     , 0.5      , 0.475    , 0.425    /
C*************************************************************************
C*     PARAMETERS FOR WEATHER CONDITIONS DISTRIBUTIONS FOR DALLAS      *
C*************************************************************************
      DATA NETDL / 0.745576 , 0.664160 , 0.697854 , 0.796198 ,
     *             0.743579 , 0.731450 , 0.687415 , 0.567343 ,
     *             0.623519 , 0.601915 , 0.753607 , 0.736334 /
      DATA LMBDL / 3.009301 , 2.289399 , 2.034993 , 1.680815 ,
     *             1.365625 , 1.616999 , 1.509829 , 1.323664 ,
     *             1.260198 , 0.967827 , 2.037132 , 2.508994 /
      DATA TWWDL / 0.590909 , 0.516014 , 0.518750 , 0.566298 ,
     *             0.568783 , 0.509294 , 0.480349 , 0.451328 ,
     *             0.538732 , 0.494164 , 0.526923 , 0.570922 /
      DATA TDDDL / 0.757469 , 0.756505 , 0.728843 , 0.681102 ,
     *             0.707804 , 0.805071 , 0.830242 , 0.815341 ,
     *             0.790584 , 0.806835 , 0.809375 , 0.808346 /
      DATA PTRDL / 0.369369 , 0.322463 , 0.356037 , 0.337874 ,
     *             0.303191 , 0.330769 , 0.340611 , 0.375    ,
     *             0.258865 , 0.334630 , 0.351351 , 0.375438 /
      DATA ALDDL / 3.944737 , 4.692136 , 6.326706 , 10.82467 ,
     *             12.51655 , 12.24967 , 18.82379 , 14.07652 ,
     *             9.958971 , 7.179526 , 5.370643 , 4.135074 /
      DATA BEDDL / 15.88484 , 13.28876 , 13.11872 , 14.09911 ,
     *             14.80095 , 11.64631 , 16.56305 , 13.64281 ,
     *             14.25866 , 14.39249 , 15.73337 , 19.27786 /
      DATA MXDDL / 0.8      , 1.0      , 1.15     , 1.15     ,
     *             1.25     , 1.4      , 1.4      , 1.3      ,
     *             1.25     , 1.0      , 0.85     , 0.9      /
      DATA ALWDL / 2.686552 , 2.996803 , 3.543938 , 7.101036 ,
     *             7.369941 , 7.660622 , 10.94261 , 9.437366 ,
     *             5.509793 , 4.095737 , 3.492208 , 2.721923 /
      DATA BEWDL / 14.53259 , 13.41478 , 9.296403 , 13.35515 ,
     *             11.39082 , 11.55543 , 14.43435 , 12.37936 ,
     *             12.48073 , 11.91959 , 12.87803 , 13.62492 /
      DATA MXWDL / 0.7      , 0.9      , 1.0      , 1.1      ,
     *             1.1      , 1.35     , 1.3      , 1.2      ,
```

```
     *             1.2      , 0.95     , 0.75     , 0.7      /
C*************************************************************************
C*     PARAMETERS FOR WEATHER CONDITIONS DISTRIBUTIONS FOR SAN ANTONIO *
C*************************************************************************
      DATA NETSA / 0.581126 , 0.613831 , 0.577631 , 0.547954 ,
     *             0.564885 , 0.576966 , 0.506980 , 0.558316 ,
     *             0.660082 , 0.627447 , 0.550296 , 0.655550 /
      DATA LMBSA / 3.084813 , 2.500666 , 2.954085 , 1.495825 ,
     *             1.248754 , 1.055981 , 1.201653 , 1.052350 ,
     *             1.413425 , 1.310809 , 1.548942 , 3.408955 /
      DATA TWWSA / 0.642242 , 0.621027 , 0.588358 , 0.645031 ,
     *             0.615071 , 0.608434 , 0.492248 , 0.506897 ,
     *             0.566234 , 0.581461 , 0.584451 , 0.603406 /
      DATA TDDSA / 0.713559 , 0.729583 , 0.649214 , 0.656546 ,
     *             0.685613 , 0.809593 , 0.843826 , 0.812578 ,
     *             0.756391 , 0.795610 , 0.768094 , 0.752225 /
      DATA PTRSA / 0.402569 , 0.369727 , 0.522727 , 0.464929 ,
     *             0.417536 , 0.393393 , 0.408560 , 0.385135 ,
     *             0.321052 , 0.362359 , 0.424    , 0.404819 /
      DATA ALDSA / 5.937753 , 7.681    , 9.584258 , 14.63740 ,
     *             11.05912 , 14.29950 , 18.98758 , 17.55455 ,
     *             16.79791 , 10.81332 , 7.956893 , 7.956893 /
      DATA BEDSA / 18.35832 , 17.24384 , 18.04846 , 19.13995 ,
     *             8.504112 , 8.069638 , 8.226781 , 9.612916 ,
     *             21.07227 , 20.11885 , 21.11647 , 21.11647 /
      DATA MXDSA / 0.8      , 0.95     , 1.15     , 1.125    ,
     *             0.975    , 1.05     , 1.0      , 1.0      ,
     *             1.15     , 1.0      , 0.85     , 0.85     /
      DATA ALWSA / 3.304755 , 3.088784 , 4.608128 , 5.651836 ,
     *             6.537223 , 5.002906 , 6.205060 , 5.427487 ,
     *             5.615209 , 5.577917 , 4.146464 , 3.571934 /
      DATA BEWSA / 14.62214 , 10.59889 , 9.577193 , 13.69716 ,
     *             10.90687 , 4.163194 , 4.395779 , 3.790380 ,
     *             6.365165 , 11.79997 , 13.68581 , 17.65092 /
      DATA MXWSA / 0.75     , 0.9      , 0.95     , 1.25     ,
     *             1.1      , 0.9      , 0.9      , 0.8      ,
     *             0.825    , 0.85     , 0.8      , 0.8      /
C*************************************************************************
C*     PARAMETERS FOR WEATHER CONDITIONS DISTRIBUTIONS FOR EL PASO     *
C*************************************************************************
      DATA MXDEP / .9749998, 1.255, 1.425, 1.475, 1.525, 1.525, 1.375,
     *           1.325, 1.05, 1.175, .9749998, 1.175 /
      DATA ALDEP / 2.416976, 3.945477, 4.949739, 7.66659, 7.835248,
     *           12.41428, 27.11371, 21.05425, 10.69902, 6.426621,
     *           4.259068, 2.025525 /
      DATA BEDEP / 8.97629, 10.69375, 8.840759, 9.304906, 7.627364,
     *           9.652488, 20.44397, 19.26738, 9.975152, 13.50668,
     *           12.65442, 10.84955 /
      DATA MXWEP / .8249998, .9749998, 1.275, .8750001, 1.375, 1.375,
     *           1.35, 1.025, .9250001, 1.025, .625, .8249998 /
      DATA ALWEP / 2.512002, 2.876012, 4.226738, 4.691451, 10.17333,
     *           9.064737, 11.27507, 8.144658, 3.946563, 4.825174,
     *           2.252191, 2.189419 /
      DATA BEWEP / 8.482778, 6.423047, 7.458859, 2.940016, 11.74262,
     *           7.531566, 11.0806, 5.89975, 4.233988, 10.15005,
```

```
     *             3.768349, 8.106687 /
      DATA TDDEP / 0.819572, 0.851266, 0.894879, 0.928947, 0.877778,
     *             0.860534, 0.670886, 0.7000, 0.783088, 0.867257,
     *             0.882184, 0.877143 /
      DATA TWWEP / 0.462264, 0.367089, 0.349206, 0.4, 0.383562,
     *             0.506024, 0.593909, 0.582418, 0.578231, 0.526316,
     *             0.422535, 0.511905 /
      DATA PTREP / 0.314815, 0.355263, 0.573770, 0.581395, 0.5000,
     *             0.629214, 0.466667, 0.430939, 0.375, 0.263158,
     *             0.464789, 0.383721 /
      DATA NETEP / .9619946, .8722807, 1.144658, .7816136, .7620961,
     *             .7849019, .7735701, .6582583, .5760731, .788281,
     *             .9908519, .912444 /
      DATA LMBEP / 9.441326, 6.83868, 11.14648, 6.064243, 6.876056,
     *             4.726598, 4.106751, 3.388335, 1.929534, 4.613299,
     *             8.275247,6.642792 /
C*********************************************************************
C*     PARAMETERS FOR DEFAULT SOIL BLOCK DIMENSIONS                  *
C*********************************************************************
      DATA BLKL1 /17.0 , 17.0 , 13.0 , 15.0 , 15.0 /
      DATA BLKW1 /7.5  , 7.5  , 6.5  , 8.0  , 8.0  /
      DATA BLKL2 /17.0 , 17.0 , 17.0 , 13.5 , 12.5 , 13.5 , 20.0 /
      DATA BLKW2 /7.5  , 8.0  , 9.0  , 7.5  , 6.0  , 6.0  , 6.0  /
      DATA BLKL3 /17.0 , 17.0 , 17.0 , 13.5 , 13.0 , 14.0 , 19.0 /
      DATA BLKW3 /7.0  , 7.0  , 4.5  , 4.5  , 7.0  , 6.0  , 6.0  /
      DATA BLKL4 /18.0 , 18.0 , 17.0 , 14.0 , 16.0 , 14.5 , 22.5 /
      DATA BLKW4 /6.5  , 7.0  , 7.0  , 7.0  , 7.5  , 7.5  , 7.5  /
C*********************************************************************
C*     PARAMETERS FOR DEFAULT LINEAR SHRINKAGE CURVES                *
C*********************************************************************
      DATA CS1   / 0.0, 0.007, 0.027, 0.053, 0.087, 0.153, 0.2, 0.293,
     *             0.4, 0.5, 0.6, 0.693, 0.8, 0.9, 1.0/
      DATA CD1   / 0.0, 0.038, 0.077, 0.115, 0.154,  0.192, 0.231,
     *             0.308, 0.385, 0.462, 0.577, 0.692, 0.769, 0.923,
     *             1.0/
      DATA CD2   / 0.0, 0.538, 0.615, 0.693, 0.731, 0.769, 0.846,
     *             0.923, 1.0 /
      DATA CS2   / 0.0, 0.0, 0.029, 0.059, 0.088, 0.176, 0.435, 0.706,
     *             1.0/
      DATA CD3   / 0.0, 0.077, 0.231, 0.385, 0.538, 0.615, 0.692, 769,
     *             0.846, 0.923, 1.0 /
      DATA CS3   / 0.0, 0.016, 0.04, 0.083, 0.167, 0.25, 0.333, 0.45,
     *             0.617, 0.8, 1.0 /
      DATA EBRHO / 1.374,2.124,2.827,3.679,4.467,5.568,5.542,
     *             4.870,3.955,2.702,1.734,1.321 /
      DATA EBRSA / 1.703,2.552,3.577,4.278,4.878,5.759,6.575,
     *             5.835,4.655,3.247,2.162,1.616 /
      DATA EBRDL / 1.405,2.283,3.388,4.496,5.160,6.660,6.997,
     *             6.248,4.683,3.081,1.999,1.461 /
      DATA EBREP / 1.969, 3.177, 4.954, 6.430, 7.379, 8.242,
     *             7.298, 6.434, 5.100, 3.601, 2.383, 1.788/
      DATA TLAI / 0 , 30 , 90 , 150 , 155 , 200 , 260 , 265 ,
     *           300 , 330 , 335 , 370 , 0 , 0, 0, 0, 0, 0, 0,
     *            0, 0, 0, 0, 0 /
```

```
C*********************************************************************
C*     DEFAULTS LEAF AREA INDEX (LAI)                                *
C*********************************************************************
      DATA DLAI / 1.0,1.0,2.5,2.5,1.0,2.5,2.5,1.0,2.5,2.5,1.0,
     *            1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,
     *            1.0,1.0 /
C*********************************************************************
C*     1. READ THE CONTROL PARAMETERS FOR DISTRIBUTION               *
C*           DIST = 0, WHEN THE DISTRIBUTION IS NOT AVAILABLE        *
C*           DIST = 1, WHEN THE DISTRIBUTION IS AVAILABLE            *
C*           DIST = 2, WHEN THE DISTRIBUTION IS NOT AVAILABLE AND NEED *
C*                     TO BE DEVELOPED FROM THE RAW DATA             *
C*           DISTC IS FOR CHOOSING ONE OF THE DEFAULT DISTRIBUTION   *
C*           WHEN THE DISTRIBUTION IS NOT AVAILABLE (I.E. DIST = 0). *
C*              DISTC = 1, FOR DISTRIBUTION OF HOUSTON               *
C*              DISTC = 2, FOR DISTRIBUTION OF DALLAS                *
C*              DISTC = 3, FOR DISTRIBUTION OF SAN ANTONIO           *
C*              DISTC = 4, FOR DISTRIBUTION OF EL PASO               *
C*********************************************************************
C*********************************************************************
      READ (5,*) DIST
C*********************************************************************
C*********************************************************************
C*     FOR THE CASE WHEN THE DISTRIBUTION IS AVAILABLE (I.E. DIST = 1) *
C*     READ THE DISTRIBUTION                                         *
C*********************************************************************
      IF (DIST .EQ. 1) THEN
          DO 250 I = 1 , 12
              READ (5,*) NETPR (I),LMBPR (I)
  250         CONTINUE
          DO 255 I = 1 , 12
              READ (5,*) MAXD (I), ALD (I), BED (I)
  255         CONTINUE
          DO 260 I = 1 , 12
              READ (5,*) MAXW (I), ALW (I), BEW (I)
  260         CONTINUE
          DO 265 I = 1 , 12
              READ (5,*) TPDRY (I), TPWW (I), TRACE (I)
  265         CONTINUE
          ELSE
C*********************************************************************
C*     FOR THE CASE WHEN THE DISTRIBUTION IS NOT AVAILABLE (I.E.DIST=0)*
C*     CHOOSE AND LOAD ONE OF THE DEFAULTS DISTRIBUTIONS BASED ON THE  *
C*     CONTROL PARAMETER DISTC                                       *
C*********************************************************************
          IF (DIST .EQ. 0) THEN
              READ (5,*) DISTC
              IF (DISTC .EQ. 1) THEN
                  DO 12 I = 1 , 12
                      NETPR (I) = NETHS (I)
                      LMBPR (I) = LMBHS (I)
                      MAXD (I) = MXDHS (I)
                      ALD (I) = ALDHS (I)
                      BED (I) = BEDHS (I)
                      MAXW (I) = MXWHS (I)
```

```
                ALW (I) = ALWHS (I)
                BEW (I) = BEWHS(I)
                TPDRY (I) = TDDHS (I) * 100.0
                TPWW (I) = TWWHS (I) * 100.0
                TRACE (I) = PTRHS (I) * 100.0
12              CONTINUE
            ELSE
            IF (DISTC .EQ. 2) THEN
                DO 13 I = 1 , 12
                    NETPR (I) = NETDL (I)
                    LMBPR (I) = LMBDL (I)
                    MAXD (I) = MXDDL (I)
                    ALD (I) = ALDDL (I)
                    BED (I) = BEDDL (I)
                    MAXW (I) = MXWDL (I)
                    ALW (I) = ALWDL (I)
                    BEW (I) = BEWDL(I)
                    TPDRY (I) = TDDDL (I) * 100.0
                    TPWW (I) = TWWDL (I) * 100.0
                    TRACE (I) = PTRDL (I) * 100.0
13                  CONTINUE
                ELSE
                IF (DISTC .EQ. 3) THEN
                    DO 14 I = 1 , 12
                        NETPR (I) = NETSA (I)
                        LMBPR (I) = LMBSA (I)
                        MAXD (I) = MXDSA (I)
                        ALD (I) = ALDSA (I)
                        BED (I) = BEDSA (I)
                        MAXW (I) = MXWSA (I)
                        ALW (I) = ALWSA (I)
                        BEW (I) = BEWSA (I)
                        TPDRY (I) = TDDSA (I) * 100.0
                        TPWW (I) = TWWSA (I) * 100.0
                        TRACE (I) = PTRSA (I) * 100.0
14                      CONTINUE
                    ELSE
                    IF (DISTC .EQ. 4) THEN
                        DO 16 I = 1 , 12
                            NETPR (I) = NETEP (I)
                            LMBPR (I) = LMBEP (I)
                            MAXD (I) = MXDEP (I)
                            ALD (I) = ALDEP (I)
                            BED (I) = BEDEP (I)
                            MAXW (I) = MXWEP (I)
                            ALW (I) = ALWEP (I)
                            BEW (I) = BEWEP (I)
                            TPDRY (I) = TDDEP (I) * 100.0
                            TPWW (I) = TWWEP (I) * 100.0
                            TRACE (I) = PTREP (I) * 100.0
16                          CONTINUE
                        END IF
                    END IF
                END IF
            END IF
```

```
            ELSE
C*************************************************************************
C*      WHEN THE DISTRIBUTION NEEDS TO BE DEVELOPED FROM LOCAL RAW      *
C*      METEOROLOGICAL DATA, READ THE RELATED PARAMETRS ASSOCIATED WITH*
C*      THE RAW DATA. THESE INFORMATION ARE TRANSFERRED TO THE          *
C*      SUBROUTINE FORMDIS WHERE THE RAW DATA ARE PROCESSED AND THE     *
C*      DISTRIBUTIONS ARE FORMED                                        *
C*************************************************************************
C*      READ THE LATTITUDE OF THE STATION                               *
C*         LATT: LATTITUDE OF THE STATION                               *
C*************************************************************************
            READ(5,*)LATT
C*************************************************************************
C*      READ THE HEIGHTS OF THE WEATHER STATION AND THE CHANGE DATES    *
C*         NUM  : NUMBER OF READING                                     *
C*         HEIG: HEIGHT OF THE STATION                                  *
C*         MONT1, DAY1, YEAR1: DATE THE WEATHER STATION WAS CHANGED     *
C*************************************************************************
            READ (5,*) NUM
            READ (5,*) (HEIG1(I),MONT1(I),DAY1(I),YEAR1(I),I=1,NUM)
C*************************************************************************
C*     READ THE CONTROL PARAMETERS FOR RAW METEOROLOGICAL DATA TYPE     *
C*     DTYPE = 0, WHEN THE RAW METEOROLOGICAL DATA IS NOT A             *
C*                COMBINATION OF WEATHER DATA AND PAN EVAPORATION       *
C*                DATA                                                 *
C*     DTYPE = 1, WHEN THE RAW METEOROLOGICAL DATA IS A                 *
C*                COMBINATION OF WEATHER DATA AND PAN EVAPORATION       *
C*                DATA                                                 *
C*     IF THE DATA ARE PAN EVAPORATION DATA OR COMBINATION OF PAN       *
C*     AND WEATHER DATA, ENTER THE PAN COEFFICIENT TO CALCULATE THE     *
C*     POTENTIAL EVAPOTRANSPIRATION                                     *
C*************************************************************************
            READ (5,*) DTYPE
            IF (DTYPE .EQ. 1) THEN
                READ (5,*) PANCO
                IF (PANCO .EQ. 0.0) PANCO = 0.8
                END IF
            END IF
          END IF
C*************************************************************************
C*      READ THE CONSTANTS OF THE INTENSITY-DEPTH-DURATION EQUATION     *
C*      FOR EVENT DURATIONS OF 120 MINUTES OR LESS.                     *
C*      (THE INTENSITY-DEPTH-DURATION EQUATION IS NEEDED TO CALCULATE   *
C*      THE DEPTH AND DURATION OF RAINFALL IN THE STOCHASTIC RAINFALL   *
C*      GENERATION).                                                    *
C*************************************************************************
       DO 10 I = 1 , 5
          READ (5,*) CA (I), CB (I)
  10      CONTINUE
C*************************************************************************
C*      READ CONTROL PARAMETER FOR THE CONSTANTS OF THE INTENSITY-      *
C*      DEPTH-DURATION EQUATION FOR EVENT DURATIONS GREATER THAN 120    *
C*      MINUTES                                                         *
C*************************************************************************
      READ (5,*) CK, CX, CN
```

```
C*********************************************************************
C*********************************************************************
C*     INPUT THE DATA FOR GEOMETRIC SECTION DEFINITION                *
C*********************************************************************
C*        1. READ THE LENGTH (M) AND WIDTH (M) OF THE PAVEMENT, CRACK  *
C*           LENGTH (M), AND PAVEMENT TYPE                             *
C*              1. PAVTP = 1, FOR PCC                                  *
C*              2. PAVTP = 2, FOR BCP                                  *
C*                                                                     *
C*              INFIL : INFILTRATION RATE (FT^3/HR/FT OF CRACK)        *
C*                      FROM RIDGEWAY'S LABORATORY RESULTS             *
C*********************************************************************
      READ (5,*) LNGTH, WIDTH, CRACK
      IF (CRACK .GT. 0.0) READ (5,*) PAVTP
      IF (PAVTP .EQ. 1) THEN
          INFIL = 0.03
          ELSE
          INFIL = 0.11
          END IF
C*********************************************************************
C*        2. READ THE SLOPE OF THE PAVEMENT                            *
C*           SLOP1 : LONGITUDINAL SLOPE OF THE PAVEMENT (FRACTION)     *
C*           SLOP2 : TRANSVERSALSLOPE (FRACTION)                       *
C*********************************************************************
      READ (5,*) SLOP1, SLOP2
C*********************************************************************
C*        3. READ THE DIMENSION OF THE BASE                            *
C*           BASE1 : THICKNESS OF BASE AT CENTERLINE (M)               *
C*           BASE2 : THICKNESS OF BASE AT EDGE (M)                     *
C*********************************************************************
      READ (5,*) BASE1, BASE2
C*********************************************************************
C*        4. READ THE DIMENSION OF THE MOISTURE BARRIER                *
C*           IPERM : CONTROL PARAMETER FOR THE MOISTURE BARRIER         *
C*             IPERM = 1, FOR PERMEABLE BARRIER                        *
C*             IPERM = 2, FOR IMPERMEABLE BARRIER                      *
C*           DEPMB : DEPTH OF MOISTURE BARRIER (M)                     *
C*           THKMB : THICKNESS OF MOISTURE BARRIER (M)                 *
C*           DROOT : ROOTING DEPTH (M)                                 *
C*********************************************************************
      READ (5,*) IPERM, DEPMB, THKMB, DROOT
C*********************************************************************
C*        5. READ THE DIMENSION OF THE UNPAVED AREA ON THE SIDE OF     *
C*           PAVEMENT                                                  *
C*           EDGE1 : SLOPE OF THE UNPAVED AREA (FROM EDGE TO THE       *
C*                   DRAINAGE TRENCH)                                  *
C*           EDGE2 : SLOPE OF THE UNPAVED AREA (FROM TRENCH TO THE     *
C*                   SIDE)                                             *
C*           EDGE3 : SLOPE OF THE REST OF UNPAVED AREA                 *
C*           WS1   : DIMENSION OF THE UNPAVED AREA (FROM EDGE TO THE   *
C*                   DRAINAGE TRENCH) (M)                              *
C*           WS2   : DIMENSION OF THE UNPAVED AREA (FROM TRENCH TO     *
C*                   THE SIDE) (M)                                     *
C*           WS3   : DIMENSION OF THE REST OF THE UNPAVED AREA         *
C*           NOTE  : REFER TO THE DIAGRAM IN THE REPORT                *
```

```
C*           DPOND : DEPTH OF PONDING (IN THE DRAINAGE TRENCH ALLOWED  *
C*                   BY THE PROGRAM)(CM)                               *
C*************************************************************************
      READ (5,*) EDGE1, EDGE2, EDGE3, WS1, WS2, WS3, DPOND
C*************************************************************************
C*        6. READ THE CONTROL PARAMETER AND DIMENSION OF THE SOIL       *
C*           BLOCKS                                                     *
C*           BLOCK : CONTROL PARAMETER FOR THE CRACK FABRIC             *
C*           1. BLOCK = 0 , FOR THE DEFAULT CRACK FABRIC                *
C*           2. BLOCK = 1 , FOR THE USER TO PROVIDE THE CRACK FABRIC    *
C*                          DATA                                        *
C*           ISOIL : CONTROL PARAMETER FOR CHOOSING THE DEFAULT SOIL    *
C*                   BLOCK                                              *
C*           1. ISOIL = 1, FOR BLKL1/BLKW1                              *
C*           2. ISOIL = 2, FOR BLKL2/BLKW2                              *
C*           3. ISOIL = 3, FOR BLKL3/BLKW3                              *
C*           4. ISOIL = 4, FOR BLKL4/BLKW4                              *
C*           NB    : NUMBER OF BLOCKS COUNTED VERTICALLY FROM BASE TO   *
C*                   THE BOTTOM OF THE SECTION                          *
C*           BLOKL : BLOCK LENGTH (CM)                                  *
C*           BLOKW : BLOCK WIDTH (CM)                                   *
C*           LAYER : NUMBER OF LAYER (UP TO 10 LAYERS)                  *
C*************************************************************************
      READ (5,*) BLOCK
      IF (BLOCK .EQ. 0) THEN
          READ (5,*) ISOIL
          IF (ISOIL .EQ. 1) THEN
              NB = 5
              DO 15 I = 1 , NB
                  BLOKL (I) = BLKL1 (I)
                  BLOKW (I) = BLKW1 (I)
 15               CONTINUE
                  ELSE
                  IF (ISOIL .EQ. 2) THEN
                      NB = 7
                      DO 20 I = 1 , NB
                          BLOKL (I) = BLKL2 (I)
                          BLOKW (I) = BLKW2 (I)
 20                       CONTINUE
                      ELSE
                      IF (ISOIL .EQ. 3) THEN
                          NB = 7
                          DO 30 I = 1 , NB
                              BLOKL (I) = BLKL3 (I)
                              BLOKW (I) = BLKW3 (I)
 30                           CONTINUE
                          ELSE
                          IF (ISOIL .EQ. 4) THEN
                              NB = 7
                              DO 40 I = 1 , NB
                                  BLOKL (I) = BLKL4 (I)
                                  BLOKW (I) = BLKW4 (I)
 40                               CONTINUE
                              END IF
                          END IF
```

```
                    END IF
                END IF
            ELSE
            READ (5,*) NB
            DO 50 I = 1 , NB
                READ (5,*) BLOKL (I), BLOKW (I)
 50             CONTINUE
            END IF
C*************************************************************************
C*        7. READ THE CONTROL PARAMETER AND PARAMETER FOR MAXIMUM       *
C*           PERCENTAGE OF LINEAR SHRINKAGE AT THE SURFACE              *
C*           SLMAX : MAXIMUM PERCENTAGE OF LINEAR SHRINKAGE (AT THE     *
C*                   SOIL SURFACE)                                      *
C*           LSHRN : CONTROL PARAMATER FOR CHOOSING DEFAULTS LINEAR     *
C*                   SHRINKAGE CURVE                                    *
C*           1. LSHRN = 0, FOR DEFAULT LINEAR SHRINKAGE CURVE           *
C*           2. LSHRN = 1, FOR THE USER TO PROVIDE THE LINEAR           *
C*                         SHRINKAGE CURVE                              *
C*           3. LSHRN = 2, FOR THE PROGRAM TO CALCULATE THE LINEAR
C*                          SHRINKAGE FROM THE EQUATION                 *
C*           LSHRC : CONTROL PARAMETER FOR CHOOSING DEFAULT LINEAR      *
C*                   SHRINKAGE CURVE                                    *
C*           1. LSHRC = 1, FOR CS1/CD1                                  *
C*           2. LSHRC = 2, FOR CS2/CD2                                  *
C*           3. LSHRC = 3, FOR CS3/CD3                                  *
C*************************************************************************
      READ (5,*) LSHRN
      IF (LSHRN .EQ. 0) THEN
          READ (5,*) LSHRC
          IF (LSHRC .EQ. 1) THEN
              SLMAX = 15.0
              DO 60 I = 1 , 15
                  CSIZE (I) = CS1 (I)
                  CDEPH (I) = CD1 (I)
 60               CONTINUE
              ELSE
              IF (LSHRC .EQ. 2) THEN
                  SLMAX = 16.0
                  DO 70 I = 1 , 15
                      CSIZE (I) = CS2 (I)
                      CDEPH (I) = CD2 (I)
 70                   CONTINUE
                  ELSE
                  IF (LSHRC .EQ. 3) THEN
                      SLMAX = 17.0
                      DO 80 I = 1 , 15
                          CSIZE (I) = CS3 (I)
                          CDEPH (I) = CD3 (I)
 80                       CONTINUE
                      END IF
                  END IF
              END IF
              ELSE
              IF (LSHRN .EQ. 1) THEN
                  READ (5,*) SLMAX
```

```
                DO 90 I = 1 , 15
                    READ (5,*) CSIZE (I), CDEPH (I)
 90                 CONTINUE
                ELSE
                DO 95 I = 1 , NB
                    READ (5,*) GC (I), GS (I), GH(I)
 95                 CONTINUE
                END IF
             END IF
C*************************************************************************
C*        8. READ THE CONTROL PARAMETER FOR BLOCK CURVE                  *
C*           1. BCURV = 0, WHEN THE BLOCK CURVE NEEDS TO BE DEVELOPED    *
C*           2. BCURV = 1, WHEN BLOCK CURVE IS ALREADY AVAILABLE         *
C*           VBLK : VOLUME OF THE BLOCK (CM^3)                           *
C*           TBLK : WETTING TIME (DAYS)                                  *
C*           WHEN THE BLOCK CURVE NEEDS TO BE DEVELOPED (I.E. BCURV=0)   *
C*           READ THE CONTROL PARAMETER FOR IMPUTTING THE PROPERTIES OF  *
C*           THE SOIL BLOCK TO BE USED IN THE BLOCK CURVE DEVELOPMENT     *
C*           1. CPROP = 1 , FOR THE PROPERTIES TO BE IMPUTTED IN THE     *
C*                          EQUATION FORM                                *
C*           2. CPROP = 2 , FOR THE PROPERTIES TO BE IMPUTTED IN THE     *
C*                          TABLE FORM                                   *
C*           K1, K2, K3 : COEFFICIENT OF THE EQUATION GIVING             *
C*                        PERMEABILITY AS A FUNCTION OF SOIL SUCTION     *
C*           C1 , C2    : COEFFICIENT OF EQUATION RELATING SOIL SUCTION  *
C*                        TO MOISTURE CONTENT                            *
C*           HH : SUCTION (CM WATER)                                     *
C*           KK : PERMEABILITY                                           *
C*           CC : SLOPE OF MOISTURE CHARACTERISTIC CURVE                  *
C*           HINN       : INITIAL SUCTION PROFILE IN THE BLOCKS          *
C*************************************************************************
C*************************************************************************
      READ (5,*) BCURV
      IF (BCURV .EQ. 1) THEN
          DO 100 I = 1 , NB
              DO 110 J = 1 , 100
                  READ (5,*)ix, VBLK (I,J), TBLK (I,J)
 110              CONTINUE
 100          CONTINUE
          ELSE
          IF (BCURV. EQ. 0) THEN
              READ (5,*) CPROP
              IF (CPROP .EQ. 1) THEN
                  DO 120 I = 1 , NB
                      READ (5,*) K1(I), K2(I), K3(I)
 120                  CONTINUE
                  DO 125 I = 1 , NB
                      READ (5,*) C1 (I), C2 (I)
 125                  CONTINUE
                  ELSE
                  IF (CPROP .EQ. 2) THEN
                      DO 130 I = 1 , NB
                          DO 140 J = 1 , 20
                              READ (5,*) HH (I,J), KK (I,J), CC(I,J)
 140                          CONTINUE
```

```
 130                    CONTINUE
                      END IF
                    END IF
                END IF
            END IF
C*************************************************************************
C*     READ THE INITIAL SUCTION OF THE BLOCKS WHEN THE LINEAR SHRINKAGE*
C*     CURVES OR BLOCK CURVES NEED TO BE DEVELOPED                      *
C*************************************************************************
      IF (LSHRN .EQ. 2 .OR. BCURV .EQ. 0) THEN
          DO 150 I = 1 , NB
              READ (5,*) HINN (I)
 150          CONTINUE
          END IF
C*************************************************************************
C*        9. READ THE PARAMETERS FOR CALCULATING THE EVAPORATION        *
C*           LAIDX : CONTROL PARAMETER FOR LEAF AREA INDEX               *
C*           1. LAIDX = 0, FOR DEFAULT LEAF AREA INDEX                  *
C*           2. LAIDX = 1, FOR USER TO PROVIDE LEAF AREA INDEX          *
C*           LAISQ : LEAF AREA INDEX                                    *
C*************************************************************************
      READ (5,*) LAIDX
      IF (LAIDX .EQ. 0) THEN
          DO 160 I = 1 , 24
              LAISQ (I) = DLAI (I)
              TMLAI (I) = TLAI (i)
 160          CONTINUE
          ELSE
          IF (LAIDX .EQ. 1) THEN
              DO 170 I = 1 , 24
                  READ (5,*) TMLAI(I), LAISQ (I)
 170              CONTINUE
              END IF
           END IF
C*************************************************************************
C*        10. LOAD THE NECESSARY DATA FOR ACTUAL EVAPOTRANSPIRATION     *
C*            1. MONTHLY WEIGHTED AVERAGE OF POTENTIAL EVAPO-           *
C*               TRANSPIRATION                                          *
C*               ENBAR : MONTHLY WEIGHTED AVERAGE OF POTENTIAL          *
C*                       EVAPOTRANSPIRATION                             *
C*               DEPENDING ON THE CONTROL PARAMETERS FOR THE            *
C*               DISTRIBUTION THE MONTHLY WEIGHTED AVERAGE OF POTENTIAL*
C*               EVAPOTRANSPIRATION ARE EITHER:                         *
C*                  1. PROVIDE BY THE USER                              *
C*                  2. CHOOSE FROM ONE OF THE AVAILABLE STATION         *
C*                     (HOUSTON, SAN ANTONIO, DALLAS, OR EL PASO)       *
C*               OR 3. CALCULATED FROM THE RAW METEORLOGICAL DATA        *
C*            2. SOIL PROPERTIES                                        *
C*                  1. UL   : UPPER LIMIT OF WATER STORAGE IN SOIL      *
C*                            PROFILE (MM)                              *
C*                  2. U    : UPPER LIMIT OF CUMULATIVE EVAPORATION     *
C*                            FROM THESOIL SURFACE IN THE STAGE I       *
C*                            DRYING (MM)                               *
C*                  3. ALFA : SOIL EVAPORATION PARAMETER IN THE STAGE   *
C*                            II DRYING IN MM/SQRT(DAY)                 *
```

```
C*                  4. LLENT: LOWER LIMIT OF SOIL WATER, BELOW WHICH   *
C*                            POTENTIAL TRANSPIRATION CANNOT TAKE      *
C*                            PLACE (MM)                               *
C*                  5. LL   : WATER IN THE PROFILE AT THE LOWER LIMIT  *
C*                            OF WATER AVAILIBILITY (MM)               *
C*************************************************************************
      READ (5,*) STYPE
      IF (STYPE .EQ. 0) THEN
          READ (5,*) IMAT
          LLENT = 0.0
          LL = 0.0
          IF (IMAT .EQ. 1) THEN
              ALFA = 5.08
              U = 12.0
              UL = 270.0
              ELSE
              IF (IMAT .EQ. 2) THEN
                  ALFA = 4.04
                  U = 9.0
                  UL = 270.0
                  ELSE
                  IF (IMAT .EQ. 3) THEN
                      ALFA = 3.5
                      U    = 6.0
                      UL   = 270.0
                      ELSE
                      IF (IMAT .EQ. 4) THEN
                          ALFA = 3.34
                          U    = 6.0
                          UL   = 270.0
                          END IF
                      END IF
                  END IF
              END IF
          ELSE
          READ (5,*) ALFA, U, UL, LLENT, LL
          END IF
      IF (DIST .EQ. 1) THEN
          DO 180 I = 1 , 12
              READ (5,*) ENBAR (I)
180           CONTINUE
          ELSE
          IF (DISTC .EQ. 1) THEN
              DO 190 I = 1 , 12
                  ENBAR (I) = EBRHO (I)
190               CONTINUE
              ELSE
              IF (DISTC .EQ. 2) THEN
                  DO 200 I = 1 , 12
                      ENBAR (I) = EBRDL (I)
200                   CONTINUE
                  ELSE
                  IF (DISTC .EQ. 3) THEN
                      DO 210 I = 1 , 12
                          ENBAR (I) = EBRSA (I)
```

```
 210                    CONTINUE
                     ELSE
                     IF (DISTC .EQ. 4) THEN
                         DO 220 I = 1 , 12
                             ENBAR (I) = EBREP (I)
 220                         CONTINUE
                         END IF
                     END IF
                 END IF
             END IF
         END IF
C*************************************************************************
C*        11. INPUT OTHER RELATED PARAMETERS FOR SIMULATION              *
C*            PER  : PERIOD OF SIMULATION (YEARS)                        *
C*            SEED : SEED VALUE FOR THE RANDOM NUMBER GENERATOR (SHOULD*
C*                   BE ALARGE ODD INTEGER, EG. 1234567)                 *
C*            DEC31: STATE OF THE DAY BEFORE THE FIRST DAY OF            *
C*                   SIMULATION                                          *
C*              DEC31 = 0 , FOR DRY DAY                                  *
C*              DEC31 = 1 , FOR WET DAY                                  *
C*                   OF 1)                                               *
C*            VBASE: INITIAL VOLUME OF WATER IN THE CRACKS UNDER THE     *
C*                   PAVEMENT (CM^3)                                     *
C*            VSIDE: INITIAL VOLUME OF WATER IN THE CRACKS OF UNPAVED    *
C*                   AREA (CM^3)                                         *
C*            FRACT: FRACTION OF RUN-OFF FROM THE PAVEMENT THAT FLOW     *
C*                   INTO THE UNPAVED AREA (FRACTION OF 1)               *
C*************************************************************************
      READ (5,*) PER, SEED, DEC31, VBASE, VSIDE, FRACT
C*************************************************************************
C*       READ THE PARAMETERS FOR SPECIFYING THE OUTPUT FILE              *
C*       RAWDATA : INPUT FILE NAME OF THE FILE CONTAINING THE RAW        *
C*                 METEOROLOGICAL DATA                                   *
C*       WEATHER : OUTPUT FILE NAME FOR THE SUMMARY OF THE RAW DATA      *
C*                 ANALYSIS                                              *
C*       IPCOOR  : CONTROL PARAMETERS FOR SPECIFYING WHETHER TO WRITE    *
C*                 THE COORSINATES AND CONNECTIVITY OF THE BLOCKS. THE   *
C*                 COORDINATES AND CONNECTIVITY OF THE BLOCKS CAN BE     *
C*                 USED WITH PLOTTING SOFTWARE TO PRODUCE A PLOT OF THE*
C*                 BLOCKS.                                               *
C*          IPCOOR = 1 , FOR WRITTING THE COORDINATES                    *
C*          IPCOOR = 0 , FOR NOT WRITTING                                *
C*       BLKCOOR : OUTPUT FILE FOR THE COORDINATE OF THE BLOCKS          *
C*       BLKCONN : OUTPUT FILE FOR THE CONNECTIVITY OF THE BLOCKS        *
C*       OUT1, OUT2: FILE NAMES                                          *
C*       FOR WRITTING VARIOUS  OUTPUT INFORMATION OF THE SIMULATION      *
C*************************************************************************
      IF (DIST .EQ. 2) READ (5,*)RAWDATA, WEATHER
      IF (BCURV .EQ. 0) READ (5,*)BLKCURV
      READ (5,*) IPCOOR, IPLS
      IF (IPCOOR .EQ. 1) THEN
          DO 230 I = 1 , PER + 1
             READ (5,*) BCOOR (I), BCONN (I)
 230         CONTINUE
          END IF
```

```
      IF (IPLS .EQ. 1) THEN
          READ(5,*) LINESH
          END IF
      READ (5,*) ISTEP
      DO 240 I = 1 , PER
         READ(5,*)OUT1(I), OUT2(I)
  240    CONTINUE
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINES TO CALCULATE THE DEPTH OF THE CRACK                   *
C*                                                                       *
C*************************************************************************
C*************************************************************************
C*     CALCULATE THE DEPTH OF CRACKS INSIDE                              *
C*************************************************************************
      SUBROUTINE CBDEPTH (DCB)
      REAL    WBBKS (50), TB (50)
      REAL    WBLK (50), LBLK (50), WBB (50), WBBS (50)
      INTEGER NBB (50)
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC1/ WBB, WBBS, WBBKS, TB, NBB
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      DCB = 0.0
      DO 10 I = 1 , NBVB + 1
         DIF = WBLK (I) - WBBKS (I)
         IF (DIF .GT. 0.0) GO TO 10
         DCB = DCB + TB (I)
  10     CONTINUE
      RETURN
      END
C*************************************************************************
C*     CALCULATE THE DEPTH OF CRACKS UNDER EDGE                          *
C*************************************************************************
      SUBROUTINE CMDEPTH (DCM)
      REAL    WBMKS (50), TM (50)
      REAL    WBLK (50), LBLK (50), WBM (50), WBMS (50)
      INTEGER NBM (50)
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      DCM = 0.0
      DO 10 I = 1 , NBVB + 1
         DIF = WBLK (I) - WBMKS (I)
         IF (DIF .GT. 0.0) GO TO 10
         DCM = DCM + TM (I)
  10     CONTINUE
      RETURN
      END
```

```
C*********************************************************************
C*     CALCULATE THE DEPTH OF CRACKS OUTSIDE                         *
C*********************************************************************
      SUBROUTINE CSDEPTH (DCS)
      REAL    WBS (50), WBSS (50), WBSKS (50), TS (50)
      REAL    WBLK (50), LBLK (50)
      INTEGER NBS (50), BMS(50)
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      DCS = 0.0
      DO 10 I = 1 , NBVS
         DIF = WBLK (I) - WBSKS (I)
         IF (DIF .GT. 0.0) GO TO 10
         DCS = DCS + TS (I)
  10     CONTINUE
      RETURN
      END
C*********************************************************************
C*********************************************************************
C*                                                                   *
C*          SUBROUTINE TO REDUCE THE WIND SPEED TO AN ELEVATION OF TWO *
C*          METERS AND TRANSFORM THE MILE/HOUR (MPH) TO KM/DAY       *
C*                                                                   *
C*********************************************************************
C*********************************************************************
      SUBROUTINE SPEED (RGVE, YR, MO, DY)
      INTEGER YR, MO, DY, F, DIF, NUM
      REAL    RGVE, RDVE, FF, HEIG1  (10), CURVE (10)
      INTEGER MONT1(10),DAY1(10),YEAR1(10)
      INTEGER MM (10), DD (10), YY (10)
      COMMON /ONE1/ HEIG1,MONT1,DAY1,YEAR1,NUM
      DO 10 I=1,NUM
         CURVE (I) = HEIG1 (I)
         MM (I) = MONT1 (I)
         DD (I) = DAY1 (I)
         YY (I) = YEAR1 (I)
   10 CONTINUE
      DO 20 I=1,NUM
         DIF = YR - YY (I)
         IF (DIF .LT. 0) THEN
             FF = CURVE (I - 1)
             GO TO 40
             END IF
         IF (DIF .EQ. 0) THEN
             F = MM (I)
             IF (MO .LT. F) FF = CURVE (I - 1)
             IF (MO .GT. F) FF = CURVE (I)
             IF (MO .EQ. F) THEN
                 F = DD (I)
                 IF (DY .LT. F) THEN
                     FF = CURVE (I - 1)
                     ELSE
                     FF = CURVE (I)
                     END IF
```

```
                END IF
              GO TO 40
              END IF
   20     CONTINUE
   40 CONTINUE
      RDVE = RGVE * 38.6232
      RGVE = RDVE * (6.56 / FF) ** 0.1428571
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*           SUBROUTINE TO CLACULATE THE LATENT HEAT OF VAPORIZATION     *
C*           AT THE AIR TEMPERATURE IN QUESTION                          *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE LATNT (LE, TA)
      REAL XMA, XMI, YMA, YMI, TB, LE
      REAL TA, LAT(11), TEMP(11), X
      DATA LAT /2.549, 2.525, 2.501, 2.489, 2.477, 2.466, 2.453,
     *          2.442, 2.430, 2.418, 2.406/
      DATA TEMP /-20.0, -10.0, 0.0, 5.0, 10.0, 15.0, 20.0, 25.0,
     *           30.0, 35.0, 40.0/
      TB = TA - 273.16
      DO 10 I = 1 , 11
          X = TB - TEMP (I)
          IF (X .LE. 0.0) THEN
              YMA = LAT (I)
              YMI = LAT (I - 1)
              XMA = TEMP (I)
              XMI = TEMP (I-1)
              LE  = YMI + ((YMA - YMI) / (XMA - XMI)) * (TB - XMI)
              GO TO 20
              END IF
   10     CONTINUE
   20 CONTINUE
      LE = LE * 1.0E+6
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*         SUBROUTINE TO CALCULATE THE PSYCHROMETRIC CONSTANT OVER THE   *
C*         SLOPE OF THE SATURATED VAPOR PRESSURE-TEMPERATURE CURVE       *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE PSYCH (TA, DEL, GAM)
      REAL TA, DEL, GAM, TB
      REAL PSY (11), TEMPR (11), X, XMA, XMI, YMA, YMI
      DATA PSY /5.864, 2.829, 1.456, 1.067, 0.7934, 0.5964,
     *          0.4549, 0.3505, 0.2731, 0.2149, 0.1707/
      DATA TEMPR /-20.0, -10.0, 0.0, 5.0, 10.0, 15.0, 20.0, 25.0,
     *            30.0, 35.0, 40.0/
```

```
      TB = TA - 273.16
      DO 10 I = 1 , 11
          X = TB - TEMPR (I)
          IF (X .LE. 0.0) THEN
              YMA = PSY (I)
              YMI = PSY (I - 1)
              XMA = TEMPR (I)
              XMI = TEMPR (I-1)
              RTA = YMI + ((YMA - YMI) / (XMA - XMI)) * (TB - XMI)
              DEL = 1.0 / (1.0 + RTA)
              GAM = RTA / (1.0 + RTA)
              GO TO 20
              END IF
   10     CONTINUE
   20 CONTINUE
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*              SUBROUTINE TO CALCULATE INCOMING RADIATION               *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE RADIA (D, M, RA)
      INTEGER D, M
      REAL RA, LATT
      REAL NOR40 (12), NOR20 (12), NORLA (12)
      INTEGER DAYS (12)
      COMMON /SEVE/ LATT
      DATA DAYS / 31, 29, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31/
      DATA NOR40 /358.5, 539.8, 662.4, 847.5, 929.1, 1001.6,
     *            940.6, 843.1, 720.1, 527.7, 397.1, 318.3/
      DATA NOR20 /630.9, 796.9, 820.2, 915.7, 911.9, 948.3,
     *            911.9, 886.1, 856.4, 739.9, 666.7, 599.3/
      DO 10 I = 1 , 12
          NORLA (I) = NOR20 (I) + ((NOR40 (I) - NOR20 (I)) / 20.0) *
     *                            (LATT - 20.0)
   10 CONTINUE
      IF (D .EQ. 15) THEN
          RA = NORLA (M)
          ELSE
          IF (D .LT. 15) THEN
              IF (M .GT. 1)THEN
                  RA = NORLA (M) - ((NORLA (M) - NORLA (M - 1)) /
     *                 DAYS (M - 1)) * (15.0 - FLOAT (D))
                  ELSE
                  RA = NORLA (1) - ((NORLA (1) - NORLA (12)) /
     *                 DAYS (12)) * (15.0 - FLOAT (D))
                  END IF
              ELSE
              IF (M .LT. 12) THEN
                  RA = NORLA (M) + ((NORLA (M + 1) - NORLA (M)) /
     *                 DAYS (M)) * (FLOAT (D) - 15.0)
                  ELSE
```

```
                RA = NORLA (12) + ((NORLA (1) - NORLA (12)) /
     *               DAYS (12)) * (FLOAT (D) - 15.0)
                END IF
              END IF
            END IF
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*         SUBROUTINE TO SET LIMITS OF DISTRIBUTIONS AND CLASS MARKS     *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE LIMITDIST
      REAL     ULEVP (24), ULPRE (34), MRKEV (24), MRKPR (34)
      COMMON /LIMIT/ ULEVP, ULPRE, MRKEV, MRKPR
      ULEVP (1) = 0.05
      ULPRE (1) = 0.25
      MRKEV (1) = 0.025
      MRKPR (1) = 0.125
      DO 750 I=2,24
           ULEVP (I) = ULEVP (I-1) + 0.05
           MRKEV (I) = MRKEV (I-1) + 0.05
  750      CONTINUE
      DO 755 I=2,34
           ULPRE (I) = ULPRE (I-1) + 0.25
           MRKPR (I) = MRKPR (I-1) + 0.25
  755      CONTINUE
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE POTENTIAL EVAPOTRANSPIRATION USING THE    *
C*     RAW DATA AND FORM THE DISTRIBUTION                                *
C*                                                                       *
C*     INPUT DATA:                                                       *
C*     1. STATION HEIGHT AND THE DATE OF THE HEIGHT MEASUREMENT          *
C*     2. LATTITUDE OF THE STATION                                       *
C*                                                                       *
C*     3. METEOROLOGICAL DATA :                                          *
C*           A. MEAN AIR TEMPERATURE                                     *
C*           B. MEAN RELATIVE HUMIDITY                                   *
C*           C. MEAN WIND SPEED                                          *
C*           D. PERCENT OF POSSIBLE SUNSHINE                             *
C*           E. PRECIPITATION                                            *
C*                                                                       *
C*     THE SUBROUTINE FORMS THREE DISTRIBUTIONS FOR EVERY MONTH:         *
C*           1. ONE DISTRIBUTION OF RAINFALL                             *
C*           2. ONE DISTRIBUTION OF PET CORRESPONDING TO THE WET DAYS    *
C*              (WET DAYS ARE DAYS WITH TRACE OF RAINFALL OR HIGHER)     *
C*           3. ONE DISTRIBUTION OF PET CORRESPONDING TO THE DRY DAYS     *
C*     THE SUBROUTINE CALCULATES THE FOLLOWING STATISTICAL PARAMETERS:   *
C*           1. ARITHMETIC AVERAGE                                       *
```

```
C*           2. GEOMETRIC AVERAGE                                          *
C*           3. VARIANCE                                                   *
C*           4. COEFFICIENT OF VARIATION                                   *
C*           5. COEFFICIENT OF SKEW                                        *
C*           6. KURTOSIS                                                   *
C*           FOR ALL DISTRIBUTIONS                                         *
C*                                                                         *
C*          THE SUBROUTINE ALSO COUNTS THE NUMBER OF DRY DAYS PRECEEDED*
C*          BY A DRY DAY AND THE DRY DAYS PRECEEDED BY A WET DAY TO    *
C*          CALCULATE THE TRANSITION PROBABILITIES                        *
C*                                                                         *
C*          THE RAINFALL DISTRIBUTION INCLUDES ONLY THE DAYS WITH MORE *
C*          THAN TRACE OF RAIN.                                           *
C*                                                                         *
C***************************************************************************
C***************************************************************************
      SUBROUTINE FORMDIS
      INTEGER  NED (12), NEW (12), NPRE (12), NTRA (12)
      INTEGER  NDRYD (12), NWETD (12), TNDYD (12), TNWTD (12)
      INTEGER  DSTED (12,24), DSTEW (12,24), DSTPR (12,34)
      INTEGER  DSNED (12), DSNEW (12), DSNPR (12), DD
      REAL     SUMED (12), SUMEW (12), SUMPR (12), SUMGT (12)
      REAL     SSQED (12), SSQEW (12), SSQPR (12), PRE, PTE
      REAL     SCBED (12), SCBEW (12), SCBPR (12), TEMP1, TEMP2
      REAL     SFTED (12), SFTEW (12), SFTPR (12), PRVIO, DIF
      REAL     SQUTR (12)
      REAL     ULEVP (24), ULPRE (34), MRKEV (24), MRKPR (34)
      REAL     LOGED (12), LOGEW (12), LOGPR (12)
      REAL     AVED  (12), AVEW  (12), AVPRE (12)
      REAL     STDED (12), STDEW (12), STDPR (12)
      REAL     CVED  (12), CVEW  (12), CVPRE (12)
      REAL     CSKED (12), CSKEW (12), CSKPR (12)
      REAL     KRTED (12), KRTEW (12), KRTPR (12)
      REAL     GEOED (12), GEOEW (12), GEOPR (12), FALSE (12)
      REAL     TPDRY (12), TPWET (12)
      REAL     NETPR (12), LMBPR (12), TPWW (12), TRACE (12)
      REAL     ENBAR (12)
      REAL     MAXD (12), ALD (12), BED (12)
      REAL     MAXW (12), ALW (12), BEW (12)
      REAL     RSTDD (12), RSTDW (12)
      INTEGER MTEMP, MNRH, POSUN
      INTEGER YEAR,  DAY,  MONTH, PRECP, PTEVP
      INTEGER TYPE, S
      REAL    PAN,   PANCO, MWIND, MW
      REAL    RN,    RA,   LE,    TA,    ED,     ES
      REAL     EE5, EE6
      REAL     AA,BB,LA
      CHARACTER*3 C5, CMONT (12)
      COMMON /EIGH/ PANCO
      COMMON /ACCU1/ SUMED, SSQED, SCBED, SFTED, LOGED, NED
      COMMON /ACCU2/ SUMEW, SSQEW, SCBEW, SFTEW, LOGEW, NEW
      COMMON /ACCU3/ NTRA,  SQUTR, SFTPR
      COMMON /ACCU4/ SUMPR, SSQPR, SCBPR, SUMGT, LOGPR, NPRE
      COMMON /ACCU5/ NDRYD, NWETD, TNDYD, TNWTD
      COMMON /ACCU6/ DSTED, DSNED, DSTEW, DSNEW, DSTPR, DSNPR
```

```
      COMMON /LIMIT/ ULEVP, ULPRE, MRKEV, MRKPR
      COMMON /STAT1/ AVED,  AVEW,  AVPRE, FALSE
      COMMON /STAT/  STDED, STDEW, STDPR
      COMMON /STAT2/ CVED,  CVEW,  CVPRE, CSKED, CSKEW, CSKPR
      COMMON /STAT3/ KRTED, KRTEW, KRTPR, GEOED, GEOEW, GEOPR
      COMMON /STAT4/ TPDRY, TPWET
      COMMON /STAT5/ TPWW, TRACE
      COMMON /GAMA1/ NETPR, LMBPR
      COMMON /BETA1/ MAXD, ALD, BED
      COMMON /BETA2/ MAXW, ALW, BEW
      COMMON /BETA3/ RSTDD, RSTDW
      COMMON /INPT8/ ENBAR
      DATA CMONT / 'JAN','FEB','MAR','APR','MAY','JUN','JUL','AUG',
     *             'SEP','OCT','NOV','DEC' /
C*************************************************************************
C*         SET ALL COUNTERS AND ACCUMULATORS TO ZERO                     *
C*************************************************************************
      DO 700 I=1,12
          NED (I) = 0
          NEW   (I) = 0
          NPRE  (I) = 0
          NTRA  (I) = 0
          NDRYD (I) = 0
          NWETD (I) = 0
          SUMED (I) = 0.0
          SUMEW (I) = 0.0
          SUMGT (I) = 0.0
          SQUTR (I) = 0.0
          SUMPR (I) = 0.0
          SSQED (I) = 0.0
          SSQEW (I) = 0.0
          SSQPR (I) = 0.0
          SCBED (I) = 0.0
          SCBEW (I) = 0.0
          SCBPR (I) = 0.0
          SFTED (I) = 0.0
          SFTEW (I) = 0.0
          SFTPR (I) = 0.0
          LOGED (I) = 0.0
          LOGEW (I) = 0.0
          LOGPR (I) = 0.0
          TNDYD (I) = 0
          TNWTD (I) = 0
  700     CONTINUE
      DD = -1
C*************************************************************************
C*     INITIALIZE TO ZERO THE COUNTERS FOR THE DISTRIBUTIONS             *
C*************************************************************************
      DO 710 I=1, 12
           DO 720 J=1, 24
               DSTED (I,J) = 0
               DSTEW (I,J) = 0
  720          CONTINUE
               DO 730 J=1, 34
                   DSTPR (I,J) = 0
```

```
  730              CONTINUE
                DSNED (I) = 0
                DSNEW (I) = 0
                DSNPR (I) = 0
  710           CONTINUE
C*************************************************************************
C*              SET LIMITS OF DISTRIBUTIONS AND CLASS MARKS              *
C*************************************************************************
      CALL LIMITDIST
C*************************************************************************
C*                                                                       *
C*      INPUT AND CHECK THE DAILY RAW METEOROLOGICAL DATA                *
C*      ONE CARD AT A TIME                                               *
C*                                                                       *
C*************************************************************************
  30  CONTINUE
      READ(3,*,END=100) TYPE,YEAR,MONTH,DAY,PRECP,POSUN,MTEMP,
     *                  MWIND,MNRH
      IF (TYPE .EQ. 0) THEN
          PAN = POSUN
          PTEVP = PAN * PANCO
          GO TO 65
          END IF
      IF (POSUN .EQ. -1 .OR. MTEMP .EQ. -100 .OR. MWIND .EQ. -1
     *    .OR. MNRH .EQ. -1) THEN
      PTEVP = -1
      GO TO 65
      END IF
C*************************************************************************
C*              CALCULATE NET RADIANT ENERGY                             *
C*************************************************************************
      CALL RADIA (DAY, MONTH, RA)
      TA = 273.16 + 0.5555555 * (FLOAT (MTEMP) - 32.0)
      TR = 1.0 - (373.15 / TA)
      ES = 1013.25 * EXP (TR * (13.3185 + TR * (-1.9760 + TR *
     *                  (-0.6445 - 0.1299 * TR))))
      ED = ES * FLOAT (MNRH) / 100.0
      RN = RA * 0.8 * (0.18 + 0.55 * (FLOAT (POSUN) / 100.0)) -
     *     11.71E-08 * TA ** 4 * (0.56 - 0.08 * SQRT (ED)) *
     *     (0.10 + 0.9 * (FLOAT (POSUN) /100.0))
C*************************************************************************
C*            PREPARE INPUT DATA AND CALCULATE POTENTIAL EVAPO-          *
C*            TRANSPIRATION                                              *
C*************************************************************************
      MW = MWIND
      CALL SPEED (MW, YEAR, MONTH, DAY)
      CALL PSYCH (TA, DEL, GAM)
      POTET = DEL * RN + GAM * 15.36 * (1.0 + 0.0062 * MW) *
     *        (ES - ED)
      CALL LATNT (LE, TA)
      PTEVP = INT ((4184.0 * POTET) / (LE / 100.0))
   65 CONTINUE
```

```
C*************************************************************************
C*                                                                       *
C*           FORM THE DISTRIBUTIONS FOR PRECIPITATION AND                *
C*           EVAPOTRANSPIRATION                                          *
C*                                                                       *
C*************************************************************************
C*         TRANSFORM THE DATA:                                           *
C*         1. THE RAINFALL IN THOUSANDS OF AN INCH                       *
C*         2. THE EVAPOTRANSPIRATION IN TENTHS OF A MM                   *
C*************************************************************************
      IF (PRECP .EQ. -1 .OR. PTEVP .EQ. -1) GO TO 30
      DD = DD + 1
      PRE = FLOAT (PRECP) / 1000.0
      PTE = FLOAT (PTEVP) / 100.0
C*************************************************************************
C*         UPDATE ALL ACCUMULATORS TO CALCULATE SAMPLE STATISTICS        *
C*************************************************************************
      TEMP1 = PTE
      TEMP2 = PRE
      IF (PRECP .EQ. 0) THEN
          SUMED (MONTH) = SUMED (MONTH) + TEMP1
          TEMP1 = TEMP1 * PTE
          SSQED (MONTH) = SSQED (MONTH) + TEMP1
          TEMP1 = TEMP1 * PTE
          SCBED (MONTH) = SCBED (MONTH) + TEMP1
          TEMP1 = TEMP1 * PTE
          SFTED (MONTH) = SFTED (MONTH) + TEMP1
          LOGED (MONTH) = LOGED (MONTH) + ALOG (PTE)
          NED (MONTH) = NED (MONTH) + 1
          ELSE
          SUMEW (MONTH) = SUMEW (MONTH) + TEMP1
          TEMP1 = TEMP1 * PTE
          SSQEW (MONTH) = SSQEW (MONTH) + TEMP1
          TEMP1 = TEMP1 * PTE
          SCBEW (MONTH) = SCBEW (MONTH) + TEMP1
          TEMP1 = TEMP1 * PTE
          SFTEW (MONTH) = SFTEW (MONTH) + TEMP1
          LOGEW (MONTH) = LOGEW (MONTH) + ALOG (PTE)
          NEW (MONTH) = NEW (MONTH) + 1
          END IF
      IF (PRECP .GT. 0) THEN
          NTRA (MONTH) = NTRA (MONTH) + 1
          SUMGT (MONTH) = SUMGT (MONTH) + PRE
          SQUTR (MONTH) = SQUTR (MONTH) + PRE ** 2
          IF (PRECP .GT. 5) THEN
              NPRE (MONTH) = NPRE (MONTH) + 1
              SUMPR (MONTH) = SUMPR (MONTH) + TEMP2
              TEMP2 = TEMP2 * PRE
              SSQPR (MONTH) = SSQPR (MONTH) + TEMP2
              TEMP2 = TEMP2 * PRE
              SCBPR (MONTH) = SCBPR (MONTH) + TEMP2
              TEMP2 = TEMP2 * PRE
              SFTPR (MONTH) = SFTPR (MONTH) + TEMP2
              LOGPR (MONTH) = LOGPR (MONTH) + ALOG (PRE)
              END IF
```

```
          END IF
C*************************************************************************
C*           ACCUMULATE THIS DAY FOR TRANSITIONAL PROBABILITIES          *
C*************************************************************************
      IF (DD .EQ. 0) THEN
          PRVIO = PRE
          DD = DD + 1
          GO TO 510
          END IF
      IF (PRE .EQ. 0.0) THEN
          IF (PRVIO .EQ. 0.0) THEN
              NDRYD (MONTH) = NDRYD (MONTH) + 1
              ELSE
              NWETD (MONTH) = NWETD (MONTH) + 1
              END IF
          END IF
      IF (PRVIO .EQ. 0.0) THEN
          TNDYD (MONTH) = TNDYD (MONTH) + 1
          ELSE
          TNWTD (MONTH) = TNWTD (MONTH) + 1
          END IF
      PRVIO = PRE
  510 CONTINUE
C*************************************************************************
C*            FORM MONTHLY DISTRIBUTION OF EVAPOTRANSPIRATION            *
C*************************************************************************
      DO 520 I=1, 24
           DIF = PTE - ULEVP (I)
           IF (DIF .LE. 0.0) THEN
               IF (PRECP .EQ. 0) THEN
                   DSTED (MONTH,I) = DSTED (MONTH,I) + 1
                   DSNED (MONTH) = DSNED (MONTH) + 1
                   ELSE
                   DSTEW (MONTH,I) = DSTEW (MONTH,I) + 1
                   DSNEW (MONTH) = DSNEW (MONTH) + 1
                   END IF
                   GO TO 530
               END IF
  520      CONTINUE
  530 CONTINUE
C*************************************************************************
C*              FORM MONTHLY DISTRIBUTION OF PRECIPITATION               *
C*************************************************************************
      IF (PRECP .GT. 5) THEN
          DO 540 I=1, 34
               DIF = PRE - ULPRE (I)
               IF (DIF .LE. 0.0) THEN
                   DSTPR (MONTH,I) = DSTPR (MONTH,I) + 1
                   DSNPR (MONTH) = DSNPR (MONTH) + 1
                   GO TO 550
                   END IF
  540          CONTINUE
         END IF
  550 CONTINUE
      GO TO 30
```

```
  100 CONTINUE
C*********************************************************************
C*           CALCULATE THE STATISTICS OF ALL DISTRIBUTIONS           *
C*********************************************************************
      CALL STATIS
C*********************************************************************
C*         PRINT OUT THE SUMMARY OF THE STATISTICS OF ALL DISTRIBUTIONS*
C*********************************************************************
      WRITE (6,711)
  711 FORMAT ('1',51X,'SUMMARY OF THE STATISTICAL PARAMETERS OF THE',/,
     *         1X,56X,'EXPERIMENTAL DISTRIBUTION',/)
      WRITE (6,701)
  701 FORMAT ('0',/,1X,25X,1X,'NBR DAYS',3X,'AVERAGE',3X,'STD DEV',3X,
     *        'GEO AVE',3X,'COF VAR',3X,'CF SKEW',3X,'KURTOSIS',2X,
     *        'DRY-DRY',3X,'WET-DRY',3X,'GBL AVE',/,'+',26X,8('_'),
     *        9(3X,7('_')))
      DO 213 I=1,12
           IF (I .EQ. 1) WRITE (6,612)
  612      FORMAT ('0')
           WRITE (6,702) CMONT (I), NPRE (I), AVPRE (I), STDPR (I),
     *     GEOPR (I), CVPRE (I), CSKPR (I), KRTPR (I), TPDRY (I),
     *     TPWET (I), FALSE (I)
  702      FORMAT (1X,'PRECIPITATION (',A3,')',6X,2X,I5,6X,9(G9.3,1X))
  213      CONTINUE
      DO 211 I=1, 12
           IF (I .EQ. 1) WRITE (6,601)
  601      FORMAT ('0')
           C4 = 'DRY'
           WRITE (6,712) C4, CMONT (I), NED (I), AVED (I), STDED (I),
     *     GEOED (I), CVED (I), CSKED (I), KRTED (I)
  712      FORMAT (1X,'EVP TRANS - ',A4,'DAYS (',A3,')',2X,I4,6X,
     *            G9.3,3(1X,G9.3),G11.3,1X,G9.3)
  211      CONTINUE
      DO 212 I=1,12
           IF (I .EQ. 1) WRITE (6,601)
           C4 = 'WET'
           WRITE (6,712) C4, CMONT (I), NEW (I), AVEW (I), STDEW (I),
     *     GEOEW (I), CVEW (I), CSKEW (I), KRTEW (I)
  212      CONTINUE
      WRITE (6,288)
  288 FORMAT (/,39X,'WEIGHTED MONTHLY AVERAGE OF POTENTIAL ',
     *          'EVAPOTRANSPIRATION')
      WRITE (6,286) (CMONT (I), I = 1 , 12)
  286 FORMAT (5X,12(6X,A4),/)
      WRITE (6,287) (ENBAR (I), I = 1 , 12)
  287 FORMAT (6X,12(4X,F6.3))
C*********************************************************************
C*             CALCULATE THE PARAMETERS OF GAMMA DISTRIBUTION OF THE  *
C*             PRECIPITATION                                          *
C*********************************************************************
      CALL HYPOPR
```

```
C*************************************************************************
C*             PRINT OUT THE RESULT OF THE PRECIPITATION DISTRIBUTION  *
C*************************************************************************
      DO 500 I=1,12
         WRITE (6,501) CMONT (I)
  501    FORMAT ('1',/,'0',41X,7X,'PRECIPITATION IN INCHES',3X,
     *           '(',A3,')',/,'+',43X,41('_'),/,/)
         NI  = NED  (I) + NEW  (I)
         NII = NTRA (I) - NPRE (I)
         WRITE (6,502) NI, NTRA (I)
  502    FORMAT (' ','TOTAL NUMBER OF DAYS COUNTED :',I5,28X,
     *                'NUMBER OF WET DAYS :',I4)
         WRITE (6,503) NII, NPRE (I)
  503    FORMAT (' ','DAYS WITH ONLY TRACE OF RAIN :',I4,29X,
     *                'DAYS WITH MORE THAN TRACE OF RAIN :',I4)
         WRITE (6,504) TRACE (I), FALSE (I)
  504    FORMAT (' ','PROBABILITY OF TRACE AMOUNT IN WET DAYS :',F7.4,
     *     15X,'GLOBAL AVERAGE INCLUDING TRACE & DRY DAYS :',F10.4)
         XXX = 100.0 - TPDRY (I)
         WRITE (6,505) TPDRY (I), XXX
  505    FORMAT (' ','TRANSITION PROBABILITY DRY-DRY :',F7.4,24X,
     *                'TRANSITION PROBABILITY DRY-WET :',F7.4)
         WRITE (6,506) TPWET (I), TPWW (I)
  506    FORMAT (' ','TRANSITION PROBABILITY WET-DRY :',F7.4,24X,
     *                'TRANSITION PROBABILITY WET-WET :',F7.4)
         WRITE (6,507) AVPRE (I), GEOPR (I)
  507    FORMAT (' ','ARITHMETIC AVERAGE :',F10.4,33X,
     *                'GEOMETRIC AVERAGE :',F10.4)
         WRITE (6,508) STDPR (I), CVPRE (I)
  508    FORMAT (' ','STANDARD DEVIATION :',F10.4,33X,
     *                'COEFFICIENT OF VARIATION :',F10.4)
         WRITE (6,509) CSKPR (I), KRTPR (I)
  509    FORMAT (' ','COEFFICIENT OF SKEW :',F10.4,32X,
     *                'KURTOSIS :',F10.4)
         WRITE (6,511) NETPR (I), LMBPR (I)
  511    FORMAT (' ','NETA - GAMMA DISTRIBUTION :',1X,G14.7,21X,
     *                'LAMBDA - GAMMA DISTRIBUTION :',G14.7,/,1X)
  500    CONTINUE
C*************************************************************************
C*             CALCULATE THE PARAMETERS OF BETA DISTRIBUTION OF THE    *
C*             EVAPOTRANSPIRATION TO FIT THE EMPIRICAL DISTRIBUTION OF *
C*             THE POTENTIAL EVAPOTRANSPIRATION                        *
C*************************************************************************
      CALL HYPOET
C*************************************************************************
C*        PRINT OUT THE RESULT OF THE EVAPOTRANSPIRATION DISTRIBUTION  *
C*************************************************************************
      DO 600 I = 1 , 24
         MESA = 0
         IF (I .LE. 12) THEN
            C4 = 'DRY'
            C5 = CMONT (I)
            IF (STDED (I) .NE. RSTDD (I)) MESA = 1
            ELSE
            NI = I - 12
```

```
            C4 = 'WET'
            C5 = CMONT (NI)
            IF (STDEW (NI) .NE. RSTDW (NI)) MESA = 1
            END IF
          WRITE (6,525) C4, C5
525       FORMAT ('1',/,'0',39X,'EVAPOTRANSPIRATION IN CM -',A4,
     *    ' DAYS',' (',A4,')',/,'+',34X,58('_'),/,/)
          IF (I .LE. 12) THEN
              S = NED (I) + NEW (I)
              ELSE
              S = NED (NI) + NEW (NI)
              END IF
          WRITE (6,526) S
526       FORMAT('0',42X,'TOTAL NUMBER OF WET & DRY DAYS :',I5)
          IF (I .LE. 12) THEN
              AA  = ALD (I)
              BB  = BED (I)
              LA  = MAXD (I)
              AA1 = AVED (I)
              AA2 = GEOED (I)
              AA3 = STDED (I) ** 2
              AA4 = CVED (I)
              AA5 = CSKED (I)
              AA6 = KRTED (I)
              AA7 = STDED (I)
              AA8 = RSTDD (I)
              ELSE
              AA  = ALW (NI)
              BB  = BEW (NI)
              LA  = MAXW (NI)
              AA1 = AVEW (NI)
              AA2 = GEOEW (NI)
              AA3 = STDEW (NI) ** 2
              AA4 = CVEW (NI)
              AA5 = CSKEW (NI)
              AA6 = KRTEW (NI)
              AA7 = STDEW (NI)
              AA8 = RSTDW (NI)
              END IF
          WRITE (6,527) AA1, AA2
527       FORMAT ('0','ARITHMETIC AVERAGE :',F14.7,33X,
     *              'GEOMETRIC AVERAGE :',G14.7)
          WRITE (6,528) AA3, AA4
528       FORMAT ('0','VARIANCE :',G14.7,43X,
     *              'COEFFICIENT OF VARIATION :',G14.7)
          WRITE (6,529) AA5, AA6
529       FORMAT ('0','COEFFICIENT OF SKEW :',G14.7,32X,
     *              'KURTOSIS :',G14.7)
          WRITE (6,531) AA, BB
531       FORMAT ('0','ALFA - BETA DISTRIBUTION :',G14.7,27X,
     *              'BETA - BETA DISTRIBUTION :',G14.7)
          IF (MESA .EQ. 1) WRITE (6,535) AA7, AA8
535       FORMAT (10X,'NOTE : THE PARAMETERS ALFA AND BETA OF THE ',
     *              'FITTED BETA DISTRIBUTION',/,
     *            10X,'ARE DETERMINED BY REDUCING THE STANDARD ',
```

```
     *                'DEVIATION FROM ',G14.7,3X,'TO',3X,G14.7)
          EE5 = (AA / (AA + BB)) * LA
          EE6 = (AA * BB/((1.0 + AA + BB) * ((AA + BB) ** 2)))*LA ** 2
          WRITE (6,533) LA, EE5
  533     FORMAT ('0','UPPER LIMIT - BETA DIST :',G14.7,28X,
     *                'EXPECTED VALUE - BETA DIST :',G14.7)
          WRITE (6,532) EE6
  532     FORMAT ('0',42X,'VARIENCE - BETA DISTRIBUTION :',G14.7)
  600     CONTINUE
  222  CONTINUE
       RETURN
       END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*          SUBROUTINE TO CALCULATE STATISTICS OF ALL DISTRIBUTIONS AND*
C*          TRANSITION PROBABILITIES                                     *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE STATIS
      INTEGER  NED (12), NEW (12), NPRE (12), NTRA (12)
      INTEGER  NDRYD (12), NWETD (12), TNDYD (12), TNWTD (12)
      REAL     SUMED (12), SUMEW (12), SUMPR (12), SUMGT (12)
      REAL     SSQED (12), SSQEW (12), SSQPR (12)
      REAL     SCBED (12), SCBEW (12), SCBPR (12)
      REAL     SFTED (12), SFTEW (12), SFTPR (12)
      REAL     AVED  (12), AVEW  (12), AVPRE (12)
      REAL     STDED (12), STDEW (12), STDPR (12)
      REAL     CVED  (12), CVEW  (12), CVPRE (12)
      REAL     CSKED (12), CSKEW (12), CSKPR (12), SQUTR (12)
      REAL     KRTED (12), KRTEW (12), KRTPR (12), M4
      REAL     GEOED (12), GEOEW (12), GEOPR (12), FALSE (12)
      REAL     LOGED (12), LOGEW (12), LOGPR (12), M3, NN, MM, PP
      REAL     TPDRY (12), TPWET (12), TPWW (12), TRACE (12)
      REAL     ENBAR (12)
      COMMON /ACCU1/ SUMED, SSQED, SCBED, SFTED, LOGED, NED
      COMMON /ACCU2/ SUMEW, SSQEW, SCBEW, SFTEW, LOGEW, NEW
      COMMON /ACCU3/ NTRA, SQUTR, SFTPR
      COMMON /ACCU4/ SUMPR, SSQPR, SCBPR, SUMGT, LOGPR, NPRE
      COMMON /ACCU5/ NDRYD, NWETD, TNDYD, TNWTD
      COMMON /STAT1/ AVED,  AVEW,  AVPRE, FALSE
      COMMON /STAT/  STDED, STDEW, STDPR
      COMMON /STAT2/ CVED,  CVEW,  CVPRE, CSKED, CSKEW, CSKPR
      COMMON /STAT3/ KRTED, KRTEW, KRTPR, GEOED, GEOEW, GEOPR
      COMMON /STAT4/ TPDRY, TPWET
      COMMON /STAT5/ TPWW, TRACE
      COMMON /INPT8/ ENBAR
      DO 560 I=1, 12
          NN = FLOAT (NED (I))
          MM = FLOAT (NEW (I))
          PP = FLOAT (NPRE(I))
          AVED (I) = SUMED (I) / NN
          AVEW (I) = SUMEW (I) / MM
          ENBAR (I) = (SUMED (I) + SUMEW (I))/(NN + MM) * 10.0
```

```
            AVPRE (I) = SUMPR (I) / PP
            FALSE (I) = SUMGT (I) / (NN + MM)
            STDED (I) = SQRT ((SSQED (I) + NN * AVED (I) ** 2 -
     *                        2.0 * AVED (I) * SUMED (I)) / (NN - 1.0))
            STDEW (I) = SQRT ((SSQEW (I) + MM * AVEW (I) ** 2 -
     *                        2.0 * AVEW (I) * SUMEW (I)) / (MM - 1.0))
            STDPR (I) = SQRT ((SSQPR (I) + PP * AVPRE (I) ** 2 - 2.0 *
     *                         AVPRE (I) * SUMPR (I)) / (PP - 1.0))
            CVED (I) = STDED (I) / AVED (I)
            CVEW (I) = STDEW (I) / AVEW (I)
            CVPRE (I) = STDPR (I) / AVPRE (I)
            M3 = SCBED (I) - 3.0 * AVED (I) * SSQED (I) + 3.0 * AVED (I)
     *           ** 2 * SUMED (I) - NN * AVED (I) ** 3
            CSKED (I) = (NN * M3) / ((NN - 1.0) * (NN - 2.0) *
     *                   STDED (I) ** 3)
            M3 = SCBEW (I) - 3.0 * AVEW (I) * SSQEW (I) + 3.0 * AVEW (I)
     *           ** 2 * SUMEW (I) - MM * AVEW (I) ** 3
            CSKEW (I) = (MM * M3) / ((MM - 1.0) * (MM - 2.0) *
     *                   STDEW (I) ** 3)
            M3 = SCBPR (I) - 3.0 * AVPRE (I) * SSQPR (I) + 3.0 *
     *           AVPRE (I) ** 2 * SUMPR (I) - PP * AVPRE (I) ** 3
            CSKPR (I) = (PP * M3) / ((PP - 1.0) * (PP - 2.0) *
     *                   STDPR (I) ** 3)
            M4 = SFTED (I) - 4.0 * AVED (I) * SCBED (I) + 6.0 *
     *           AVED (I) ** 2 * SSQED (I) - 4.0 * AVED (I) ** 3 *
     *           SUMED (I) + NN * AVED (I) ** 4
            KRTED (I) = (NN ** 2 * M4) / ((NN - 1.0) * (NN - 2.0) *
     *                  (NN - 3.0) * STDED (I) ** 4)
            M4 = SFTEW (I) - 4.0 * AVEW (I) * SCBEW (I) + 6.0 *
     *           AVEW (I) ** 2 * SSQEW (I) - 4.0 * AVEW (I) ** 3 *
     *           SUMEW (I) + MM * AVEW (I) ** 4
            KRTEW (I) = (MM ** 2 * M4) / ((MM - 1.0) * (NN - 2.0) *
     *                  (MM - 3.0) * STDEW (I) ** 4)
            M4 = SFTPR (I) - 4.0 * AVPRE (I) * SCBPR (I) + 6.0 *
     *           AVPRE (I) ** 2 * SSQPR (I) - 4.0 * AVPRE (I) ** 3 *
     *           SUMPR (I) + PP * AVPRE (I) ** 4
            KRTPR (I) = (PP ** 2 * M4) / ((PP - 1.0) * (PP - 2.0) *
     *                  (PP - 3.0) * STDPR (I) ** 4)
            GEOED (I) = EXP (LOGED (I) / NN)
            GEOEW (I) = EXP (LOGEW (I) / MM)
            GEOPR (I) = EXP (LOGPR (I) / PP)
  560       CONTINUE
C*************************************************************************
C*              CALCULATE THE TRANSITION PROBABILITIES                   *
C*************************************************************************
      DO 570 I=1, 12
            TPDRY (I) = (FLOAT (NDRYD (I)) / FLOAT (TNDYD (I))) * 100.0
            TPWET (I) = (FLOAT (NWETD (I)) / FLOAT (TNWTD (I))) * 100.0
            NI = NTRA (I) - NPRE (I)
            TRACE (I) = FLOAT (NI) / FLOAT (NTRA (I)) * 100.0
            TPWW  (I) = 100.0 - TPWET (I)
  570       CONTINUE
      RETURN
      END
```

```
C*********************************************************************
C*********************************************************************
C*                                                                   *
C*            SUBROUTINE TO ESTIMATE THE PARAMETERS OF GAMMA         *
C*            DISTRIBUTION TO FIT THE EMPIRICAL PRECIPITATION        *
C*            DISTRIBUTION USING THE MAXIMUM LIKELYHOOD METHOD OF    *
C*            GREENWOOD & DURAND, 1960                               *
C*                                                                   *
C*********************************************************************
C*********************************************************************
      SUBROUTINE HYPOPR
      REAL AVPRE (12), GEOPR (12), STDPR (12),NETPR (12), LMBPR(12)
      REAL AVED (12), AVEW (12), FALSE (12), STDED (12),STDEW (12)
      REAL KRTED (12), KRTEW (12), KRTPR (12), GEOED (12), GEOEW (12)
      COMMON /STAT1/ AVED,  AVEW,  AVPRE, FALSE
      COMMON /STAT/  STDED, STDEW, STDPR
      COMMON /STAT3/ KRTED, KRTEW, KRTPR, GEOED, GEOEW, GEOPR
      COMMON /GAMA1/ NETPR, LMBPR
C*********************************************************************
C*             ESTIMATE GAMMA PARAMETERS                             *
C*********************************************************************
      DO 95 I=1 , 12
          Y1 = ALOG (AVPRE (I) / GEOPR (I))
          IF (Y1 .GE. 0.0  .AND.  Y1 .LE. 0.5772) THEN
              NETPR (I) = (0.5000876 + 0.1648852 * Y1 -
     *                     0.0544274 * Y1 ** 2) / Y1
              END IF
          IF (Y1 .GT. 0.5772 .AND. Y1 .LE. 17.0) THEN
              NETPR (I) = (8.898919 + 9.05995 * Y1 + 0.9775373 *
     *                     Y1 ** 2) / (Y1 * (17.79728 + 11.968477
     *                     * Y1 + Y1 ** 2))
              END IF
          IF (Y1 .GT. 17.0) THEN
              NETPR (I) = AVPRE (I) ** 2 / STDPR (I) ** 2
              END IF
          LMBPR (I) = NETPR (I) / AVPRE (I)
   95 CONTINUE
      RETURN
      END
C*********************************************************************
C*********************************************************************
C*                                                                   *
C*            SUBROUTINE TO ESTIMATE THE PARAMETERS OF BETA          *
C*            DISTRIBUTION TO FIT THE EMPIRICAL EVAPOTRANSPIRATION   *
C*            DISTRIBUTION                                           *
C*                                                                   *
C*********************************************************************
C*********************************************************************
      SUBROUTINE HYPOET
      INTEGER  DSTED (12,24), DSTEW (12,24), DSTPR (12,34)
      INTEGER  DSNED (12), DSNEW (12), DSNPR (12)
      INTEGER  UT, LT, NI, S
      REAL     AVED  (12), AVEW  (12), AVPRE (12), FALSE (12)
      REAL     STDED (12), STDEW (12), STDPR (12)
      REAL     RSTDD (12), RSTDW (12)
```

```
      REAL      MRKEV (24), ULEVP (24), ULPRE (34), MRKPR (34)
      REAL      MATRX (24), UL
      REAL      LOW, GMM
      REAL      MAXD (12), ALD (12), BED (12)
      REAL      MAXW (12), ALW (12), BEW (12)
      REAL      TOL,  PARA1, PARA2, T1, T2
      REAL      ALFA, RTI, RPLUS, EXP0 (24), OMNE (24), STATC (24)
      REAL      TOTAL
      COMMON /ACCU6/ DSTED, DSNED, DSTEW, DSNEW, DSTPR, DSNPR
      COMMON /LIMIT/ ULEVP, ULPRE, MRKEV, MRKPR
      COMMON /STAT1/ AVED,  AVEW,  AVPRE, FALSE
      COMMON /STAT/  STDED, STDEW, STDPR
      COMMON /BETA1/ MAXD, ALD, BED
      COMMON /BETA2/ MAXW, ALW, BEW
      COMMON /BETA3/ RSTDD, RSTDW
      DO 120 I = 1, 24
          IF (I .LE. 12) THEN
              RSTDD (I) = STDED (I)
              DO 107 J = 1 , 24
                  MATRX (J) = FLOAT (DSTED (I,J))
107               CONTINUE
              ELSE
              NI = I - 12
              RSTDW (NI) = STDEW (NI)
              DO 108 J = 1 , 24
                  MATRX (J) = FLOAT (DSTEW (NI,J))
108               CONTINUE
              END IF
          CALL TAILS (MATRX, 24, UT, LT)
          S = 0
          TOL = 1.0E+25
          ALFA = MRKEV (UT) + 3.0 * MRKEV (1)
135       CONTINUE
          IF (I .LE. 12) THEN
10            RTI = (AVED (I) / ALFA) / (1.0 - AVED (I) / ALFA)
              RPLUS = RTI + 1.0
              PARA2 = (RTI / (RPLUS * RSTDD (I) / ALFA) ** 2 - 1.0) /
     *                 RPLUS
              PARA1 = PARA2 * RTI
              IF (PARA1 .LT. 1.0 .AND. PARA2 .LT. 1.0) THEN
                  RSTDD (I) = RSTDD (I) - 0.05
                  GO TO 10
                  END IF
              ELSE
20            RTI = (AVEW (NI) / ALFA) / (1.0 - AVEW (NI) / ALFA)
              RPLUS = RTI + 1.0
              PARA2 = (RTI / (RPLUS * RSTDW (NI) / ALFA) ** 2 - 1.0)
     *                 / RPLUS
              PARA1 = PARA2 * RTI
              IF (PARA1 .LT. 1.0 .OR. PARA2 .LT. 1.0) THEN
                  RSTDW (NI) = RSTDW (NI) - 0.05
                  GO TO 20
                  END IF
              END IF
          TOTAL = 0.0
```

```
      DO 140 K = LT, UT
          UL  = (MRKEV (K) + MRKEV (1)) / ALFA
          LOW = (MRKEV (K) - MRKEV (1)) / ALFA
          IF (LOW .EQ. 0.0) THEN
              UL = UL ** PARA1
              CALL PROBA (GMM, PARA1, PARA2, UL, LOW, 6, 0, 0)
              ELSE
              IF (UL .EQ. 1.0) THEN
                  UL = (1.0 - UL) ** PARA2
                  CALL PROBA (GMM, PARA1, PARA2, UL, LOW, 7, 0, 0)
                  ELSE
                  CALL PROBA (GMM, PARA1, PARA2, UL, LOW, 4, 0, 0)
                  END IF
              END IF
          IF (I .LE. 12) THEN
              EXP0 (K) = GMM * FLOAT (DSNED (I))
              ELSE
              EXP0 (K) = GMM * FLOAT (DSNEW (NI))
              END IF
          OMNE (K) = MATRX (K) - EXP0 (K)
          STATC (K) = OMNE (K) ** 2 / EXP0 (K)
          TOTAL = TOTAL + STATC (K)
140       CONTINUE
      T1 = TOL
      T2 = TOTAL
      IF (T2 .LE. T1) THEN
          ALFA = ALFA + MRKEV (1)
          TOL = TOTAL
          S = S + 1
          IF (S .GT. 10) GO TO 150
          GO TO 135
          END IF
150       CONTINUE
      IF (I .LE. 12) THEN
          MAXD (I) = ALFA
          ALD (I) = PARA1
          BED (I) = PARA2
          ELSE
          MAXW (NI) = ALFA
          ALW (NI) = PARA1
          BEW (NI) = PARA2
          END IF
120   CONTINUE
      RETURN
      END
```

```
C*************************************************************************C
**************************************************************************
C*                                                                        *
C*     SUBROUTINE TO CALCULATE THE STOCHASTIC WEATHER SEQUENCE            *
C*                                                                        *
C**************************************************************************
C**************************************************************************
      SUBROUTINE STOCHASTIC (ISTAT)
      INTEGER  EVENT(2,365),IX
      INTEGER  INDX
      INTEGER  YY (12)
      INTEGER  K, L, STATE
      INTEGER  MM, M
      REAL     NETA (12),TPWW (12), TPWET (12), TPDRY (12),TRACE (12)
      REAL     NETPR (12), LMBPR (12)
      REAL     MAXD (12), ALD (12), BED (12)
      REAL     MAXW (12), ALW (12), BEW (12)
      REAL     TRPWW (12), TRPDD (12), PRTRA (12)
      REAL     ALFAD (12), BETAD (12), ALFAW (12), BETAW (12)
      REAL     BETWT (12,100), BETDR (12,100), GAMPR (12,50)
      REAL     DLTX, VBASE, VSIDE
      REAL     GANNA (12), BEDRY (12), BEWET (12), CC, CHCK1
      REAL     PR1, NDLTX, PARA1, PARA2, PARA3, LOW, UL, BL
      REAL     CHCK, PR2, YFL, RAIN, EVP
      INTEGER PER, DEC31
      COMMON /GAMA1/ NETPR, LMBPR
      COMMON /BETA1/ MAXD, ALD, BED
      COMMON /BETA2/ MAXW, ALW, BEW
      COMMON /STAT4/ TPDRY, TPWET
      COMMON /STAT5/ TPWW, TRACE
      COMMON /STOC5/ EVENT
      COMMON /STOC8/ GANNA
      COMMON /STOC9/ BEDRY
      COMMON /STOC10/BEWET
      COMMON /INPTI/ PER, DEC31, VBASE, VSIDE, FRA
      DATA YY / 31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31/
      DO 10 I = 1, 12
          TRPWW (I) = TPWW (I) / 100.0
          TRPDD (I) = TPDRY (I) / 100.0
          PRTRA (I) = TRACE (I) / 100.0
          NETA (I) = NETPR (I) - 1.0
          ALFAD (I) = ALD (I) - 1.0
          BETAD (I) = BED (I) - 1.0
          ALFAW (I) = ALW (I) - 1.0
          BETAW (I) = BEW (I) - 1.0
   10     CONTINUE
C**************************************************************************
C*       PREPARE A TABLE OF THE VALUES OF THE VARIATE THAT CORRESPONDS *
C*       TO INCREASING PROBABILITIES IN INCREMENTS OF THE VARIATE      *
C**************************************************************************
      DO 20 I = 1 , 12
          CHCK = NETA (I) + 1.0
          GMM = GAMMA (CHCK)
          GANNA (I) = (GMM) / (LMBPR (I) ** CHCK)
          AA = ALFAD (I) + 1.0
```

```
          BB = BETAD (I) + 1.0
          CC = AA + BB
          GMM = GAMMA (AA)
          CHCK = GMM
          IF (CC .GT. 30.0) THEN
              A = 1.0
              II = 1
1010          CONTINUE
              H = CC - II
              A = H * A
              IF (H .LE. 30.0) GO TO 1015
              II = II + 1
              GO TO 1010
1015          CONTINUE
              GMM1 = A * 1.0E-20
              GMM2 = GAMMA (H) * 1.0E-20
              GMM = GMM1 * GMM2
              CHCK2 = CHCK / GMM * 1.0E-20
              CHCK1 = CHCK2 * 1.0E-20
              ELSE
              GMM = GAMMA(CC)
              CHCK1 = CHCK / GMM
              END IF
          GMM = GAMMA (BB)
          BEDRY (I) = CHCK1 * GMM
          AA = ALFAW (I) + 1.0
          BB = BETAW (I) + 1.0
          CC = AA + BB
          GMM = GAMMA (AA)
          CHCK = GMM
          GMM = GAMMA (CC)
          CHCK1 = CHCK / GMM
          GMM = GAMMA (BB)
          BEWET (I) = CHCK1 * GMM
   20     CONTINUE
C*************************************************************************
C*       PREPARE THE TABLE FOR THE RAINFALL DISTRIBUITON                 *
C*************************************************************************
      DO 30 I =1 , 12
          PARA1 = NETA (I)
          PARA2 = LMBPR (I)
          LOW = 0.0
          DLTX = 0.002
          DO 35 J =1 , 5
              DLTX = DLTX * 5.0
              DO 40 K = 1, 10
                  UL = LOW + DLTX
                  IF (LOW .EQ. 0.0) THEN
                      BL =  UL ** (PARA1 + 1.0)
                      CALL PROBA (GMM,PARA1,PARA2,BL,LOW,55,I,0)
                      ELSE
                      CALL PROBA (GMM,PARA1,PARA2,UL,LOW,22,I,0)
                      END IF
                  INDX = (J-1)* 10 + K
                  IF (INDX .EQ. 1) THEN
```

```
                    GAMPR (I,INDX) = GMM
                    ELSE
                    CHCK = GAMPR (I,INDX-1)
                    GAMPR (I, INDX) = CHCK + GMM
                    END IF
                LOW = UL
 40             CONTINUE
 35          CONTINUE
 30      CONTINUE
C*************************************************************************
C*          PREPARE THE TABLE FOR THE BETA DISTRIBUTION THAT             *
C*          CORRESPONDS TO EVAPOTRANSPIRATION DURING DRY DAYS            *
C*************************************************************************
      DO 50 I = 1, 12
          PARA1 = ALFAD (I)
          PARA2 = BETAD (I)
          LOW = 0.0
          DLTX = 0.01
          DO 55 J = 1, 99
              UL = LOW + DLTX
              CALL PROBA (GMM,PARA1,PARA2,UL,LOW,44,I,0)
              IF (J .EQ. 1) THEN
                  BETDR (I,J) = GMM
                  ELSE
                  CHCK = BETDR (I,J-1)
                  BETDR (I,J) = CHCK + GMM
                  END IF
              LOW = UL
 55           CONTINUE
          BETDR (I,100) = 1.0
 50       CONTINUE
C*************************************************************************
C*           PREPARE THE TABLE FOR THE BETA DISTRIBUTION THAT            *
C*           CORRESPONDS TO EVAPOTRANSPIRATION DURING WET DAYS           *
C*************************************************************************
      DO 60 I = 1 , 12
          PARA1 = ALFAW (I)
          PARA2 = BETAW (I)
          LOW = 0.0
          DLTX = 0.01
          DO 65 J = 1, 99
              UL = LOW + DLTX
              CALL PROBA (GMM,PARA1,PARA2,UL,LOW,44,I,1)
              IF (J .EQ. 1) THEN
                  BETWT (I,J) = GMM
                  ELSE
                  CHCK = BETWT (I,J-1)
                  BETWT (I,J) = CHCK + GMM
                  END IF
              LOW = UL
 65           CONTINUE
          BETWT (I,100) = 1.0
 60       CONTINUE
```

```
C*************************************************************************
C*            GENERATE A ONE-YEAR EVENT OF RAINFALL                      *
C*************************************************************************
      ID = 0
      STATE = ISTAT
      DO 400 J = 1 , 365
          MM = J
          DO 75 K = 1 , 12
              MM = MM - YY (K)
              IF (MM .LE. 0) THEN
                  M = K
                  GO TO 70
                  END IF
   75         CONTINUE
   70     CONTINUE
          ID = ID + 1
          CALL RANDOM (YFL)
          IF (STATE .EQ. 0) THEN
              IF (YFL .LE. TRPDD (M)) THEN
                  STATE = 0
                  EVENT (1,J) = 0
                  ELSE
                  STATE = 1
                  CALL RANDOM (YFL)
                  IF (YFL .LE. PRTRA (M)) THEN
                      EVENT (1,J) = 1
                      ELSE
   80             CONTINUE
                  CALL RANDOM (YFL)
                  PARA1 = NETA (M)
                  PARA2 = LMBPR (M)
                  DLTX = 0.002
                  LOW = 0.0
                  DO 85 K = 1 , 5
                      DLTX = DLTX * 5.0
                      DO 90 L = 1 , 10
                          UL = LOW + DLTX
                          INDX = (K-1) * 10 + L
                          CHCK = YFL - GAMPR (M,INDX)
                          CHCK1 = ABS (CHCK)
                          IF (CHCK1 .LT. 0.0001) GO TO 100
                          IF (CHCK .LT. 0.0) GO TO 105
                          LOW = UL
   90                     CONTINUE
   85                 CONTINUE
                      GO TO 100
  105                     CONTINUE
                          IF (INDX . EQ. 1) THEN
                              PR1 = 0.0
                              ELSE
                              PR1 = GAMPR (M,INDX-1)
                              END IF
                          PR2 = GAMPR (M,INDX)
                          CHCK = YFL - PR1
                          NDLTX = ((UL - LOW) / (PR2 - PR1)) * CHCK
```

```
110                     CONTINUE
                        UL = LOW + NDLTX
                        IF (LOW .EQ. 0.0) THEN
                            BL = UL ** (PARA1 + 1.0)
                            CALL PROBA(GMM,PARA1,PARA2,BL,LOW,55,M,0)
                            ELSE
                            CALL PROBA(GMM,PARA1,PARA2,UL,LOW,22,M,0)
                            END IF
                        CHCK = ABS (PR1 + GMM - YFL)
                        IF (CHCK .LT. 0.001) GO TO 100
                        NDLTX = ((UL -LOW) / (GMM)) * (YFL-PR1)
                        GO TO 110
100                     CONTINUE
                        RAIN = UL * 25.4 * 10.0
                        IF (RAIN .LT. 2.54) THEN
                            GO TO 80
                            ELSE
                            EVENT (1,J) = INT (RAIN)
                            END IF
                        END IF
                    END IF
                ELSE
                IF (YFL .GT. TRPWW (M)) THEN
                    STATE = 0
                    EVENT (1,J) = 0
                    ELSE
                    STATE = 1
                    CALL RANDOM (YFL)
                    IF (YFL .LE. PRTRA (M)) THEN
                        EVENT (1,J) = 1
                        ELSE
180                     CONTINUE
                        CALL RANDOM (YFL)
                       PARA1 = NETA (M)
                       PARA2 = LMBPR (M)
                       DLTX = 0.002
                       LOW = 0.0
                       DO 185 K = 1 , 5
                           DLTX = DLTX * 5.0
                           DO 190 L = 1 , 10
                               UL = LOW + DLTX
                               INDX = (K-1) * 10 + L
                               CHCK = YFL - GAMPR (M,INDX)
                               CHCK1 = ABS (CHCK)
                               IF (CHCK1 .LT. 0.0001) GO TO 200
                               IF (CHCK .LT. 0.0) GO TO 205
                               LOW = UL
190                            CONTINUE
185                        CONTINUE
                        GO TO 200
205                     CONTINUE
                        IF (INDX . EQ. 1) THEN
                            PR1 = 0.0
                            ELSE
                            PR1 = GAMPR (M,INDX-1)
```

```
                        END IF
                    PR2 = GAMPR (M,INDX)
                    CHCK = YFL - PR1
                    NDLTX = ((UL - LOW) / (PR2 - PR1)) * CHCK
210                 CONTINUE
                    UL = LOW + NDLTX
                    IF (LOW .EQ. 0.0) THEN
                        BL = UL ** (PARA1 + 1.0)
                        CALL PROBA(GMM,PARA1,PARA2,BL,LOW,55,M,0)
                        ELSE
                        CALL PROBA(GMM,PARA1,PARA2,UL,LOW,22,M,0)
                        END IF
                    CHCK = ABS (PR1 + GMM - YFL)
                    IF (CHCK .LT. 0.001) GO TO 200
                    NDLTX = ((UL -LOW) / GMM)*(YFL - PR1)
                    GO TO 210
200                 CONTINUE
                    RAIN = UL * 25.4 * 10.0
                    IF (RAIN .LT. 2.54) THEN
                        GO TO 180
                        ELSE
                        EVENT (1,J) = INT (RAIN)
                        END IF
                    END IF
                END IF
            END IF
C*************************************************************************
C*          GENERATE A ONE-YEAR EVENT OF POTENTIAL EVAPOTRANSPIRATION *
C*************************************************************************
            CALL RANDOM (YFL)
            IF (STATE .EQ. 0) THEN
                PARA3 = MAXD (M)
                ELSE
                PARA3 = MAXW (M)
                END IF
            DO 300 K = 1 , 100
                IF (STATE .EQ. 0) THEN
                    CHCK = YFL - BETDR (M,K)
                    ELSE
                    CHCK = YFL - BETWT (M,K)
                    END IF
                IF (CHCK .LT. 0.0) THEN
                    UL = 0.01 * FLOAT (K)
                    LOW = UL - 0.01
                    INDX = K
                    GO TO 305
                    END IF
300             CONTINUE
305         CONTINUE
            IF (STATE .EQ. 0) THEN
                PR1 = BETDR (M,INDX-1)
                PR2 = BETDR (M,INDX)
                ELSE
                PR1 = BETWT (M,INDX-1)
                PR2 = BETWT (M,INDX)
```

```
                END IF
              NDLDX = 0.01 * (YFL - PR1) / (PR2 - PR1)
              UL = LOW + NDLTX
              EVP = UL * PARA3 * 100.0
              EVENT (2,J) = INT (EVP)
              IF (EVENT (2,J) .EQ. 0) THEN
                  EVENT (2,J) = 1
                  END IF
  400         CONTINUE
      ISTAT = STATE
      RETURN
      END
C*******************************************************************************
C*******************************************************************************
C*                                                                             *
C*     SUBROUTINE TO CALCULATE THE DURATION OF THE RAINFALL AND                *
C*     PAVEMENT INFILTRATION                                                   *
C*                                                                             *
C*******************************************************************************
C*******************************************************************************
      SUBROUTINE INFLO (RAIN, TR1, PO)
      INTEGER  T (5), RP, DIF, RAIN, PER, DEC31
      REAL     A (5), B (5)
      REAL     TR1, DEPTH
      REAL     CK, CX, CN
      REAL     CRACK, INFIL,LNGTH,WIDTH
      COMMON /RDDP1/ A, B
      COMMON /RDDP2/ CK, CX, CN
      COMMON /SECT1/ LNGTH, WIDTH, CRACK, INFIL
      COMMON /INPTI/ PER, DEC31, VBASE, VSIDE, FRA
      DATA T /1, 2, 5, 10, 25/
      ITRY = 0
C*******************************************************************************
C*     CALCULATE THE DURATION OF THE RAINFALL                                  *
C*******************************************************************************
  188 CALL RANDOM (YFL)
      IF (YFL .LT. 0.04) GO TO 188
      RP = INT (1.0 / YFL)
      DO 510 II=1, 5
          DIF = RP - T(II)
          IF (DIF .EQ. 0) GO TO 520
          IF (DIF .LT. 0) GO TO 530
  510     CONTINUE
  520 AA=A(II)
      BB=B(II)
      GO TO 540
  530 AA=A(II)+(RP-T(II))/(T(II+1)-T(II))
     *        *(A(II+1)-A(II))
      BB=B(II)+(RP-T(II))/(T(II+1)-T(II))
     *        *(B(II+1)-B(II))
  540 CONTINUE
      DEPTH = FLOAT (RAIN) / 254.0
      DENOM = (AA - 60.0 * DEPTH)
      IF (DENOM .LE. 0.0) THEN
   10     CALL RANDOM (YFL)
```

```
          IF (YFL .LT. 0.01) GO TO 10
          RP = INT (1.0/YFL)
          TR1 = (60.0 * DEPTH / (CK * RP ** CX))
     *          ** (1.0/(1.0-CN))
          IF (TR1 .LE. 120.0) TR1 = 120.0
          IF (TR1 .GT. 1440.0)TR1 = 1440.0
          ELSE
          TR1 = 60.0 * DEPTH * BB / DENOM
          IF (TR1 .GT. 120.0) THEN
 20           CALL RANDOM (YFL)
              IF (YFL .LT.0.01) GO TO 20
              RP = INT (1.0/YFL)
              TR1 = (60.0 * DEPTH / (CK * RP ** CX))
     *              ** (1.0/(1.0-CN))
              IF (TR1 .LE. 120.0) TR1 = 120.0
              IF (TR1 .GT. 1440.0) TR1 = 1440.0
              END IF
          END IF
 550  CONTINUE
      IF (CRACK .EQ. 0.0) THEN
          PV = FLOAT(RAIN) / 10000.0 * LNGTH * WIDTH
          PO = (0.48*PV + 0.32) / (LNGTH * WIDTH) * 100.0
          ELSE
          PO = (INFIL * TR1/60.0 * CRACK * 3.281) /
     *         (LNGTH * WIDTH * 10.764) * 30.48
          END IF
      PT = FLOAT (RAIN) / 100.0
      IF (PO .GT. PT) PO = PT
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO FORM THE CRACK FABRICK BENEATH THE SECTION          *
C*     THE SUBROUTINE DETERMINE THE NUMBER OF SOIL BLOCKS THAT FIT       *
C*     UNDER THE INTENDED SECTION AND REDUCES THE BLOCK SIZE ACCORDING   *
C*     TO THE LINEAR SHRINKAGE CURVE                                     *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE FABRIC
      REAL    L (15), W (15), LBLK(50), WBLK(50)
      REAL    XB (50,100), YB (50),TB (50)
      REAL    XM (50,100), YM (50),TM (50)
      REAL    XS (50,100), YS (50),TS (50)
      REAL    WBB (50), WBM (50), WBS (50), WBL (50)
      REAL    WBBS (50), WBMS (50), WBSS (50), WBLS (50)
      REAL    WBBKS(50), WBMKS(50), WBSKS(50), WBLKS (50)
      INTEGER NBB (50), NBM (50), NBS (50), NBL (50), BMS (50)
      REAL    L1, L2
      COMMON /SECT1/ BW2, BW1, CRCK, INFIL
      COMMON /SECT2/ NL
      COMMON /SECT3/ SPL, SP, ST1, ST2, ST3
      COMMON /SECT4/ WS1, WS2, WS3, DPOND
      COMMON /SECT5/ IPERM,DMB, WMB, PERMB, DROOT
```

```
      COMMON /SECT6/ HB1, HB2
      COMMON /SECT7/ SLMAX
      COMMON /SECT8/ L, W
      COMMON /FBRC1/ WBB, WBBS, WBBKS, TB, NBB
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC5/ WSBM,WSBMS,TSBM,NSBM
      COMMON /FBRC6/ NBVB, NBVM,NBVS,NBC
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC8/ DB, DMAX, CDBBX
      COMMON /NBVMB/ NBVFLO
      DB = 0.0
      DO 10 I = 1 , NL
          DB = DB + L(I)
10        CONTINUE
      DBB = (DROOT*100.0) - DB
      IF (DBB .GT. 0.0) THEN
          NBC = DBB / L(1) + 1
          CDBBY = NBC * L(1)
          CDBB = (DROOT - DMB)*100.0
          IF (CDBB .LE. 0.0) THEN
              CDBBX = WMB * 100.0
              ELSE
              CDBBX = CDBB + (WMB * 100.0)
              END IF
          ELSE
          NBC = 0
          CDBBY = 0.0
          CDBB =(HB2*100.0 + DB) - (DMB * 100.0)
          IF (CDBB .LE. 0.0) THEN
              CDBBX = WMB * 100.0
              ELSE
              CDBBX = CDBB + (WMB * 100.0)
              END IF
          END IF
      DMAX = DB + CDBBY + DPOND
      WMIN = 1000.0
      DO 15 I = 1 , NL
          IF (W (I) .LT. WMIN) THEN
              WMIN = W(I)
              ELSE
              WMIN = WMIN
              END IF
15        CONTINUE
      X1 = (BW1 + WMB + WS1) * 100.0
      X2 = (X1 + WS2) * 100.0
      X3 = (X2 + WS3) * 100.0
      TB1 = (ST1 * WS1) * 100.0
      TB2 = (ST2 * WS2) * 100.0
      TB3 = (ST3 * WS3) * 100.0
      RNBH1 = ((BW1+WMB)* 100.0-CDBBX) / WMIN
      NBH1 = INT (RNBH1) + 1
      NBH2 = INT (CDBBX / WMIN) + 1
      NBH3 = INT (((WS1 + WS2 + WS3) * 100.0) / WMIN) + 1
```

```
      NBVB  = NL + NBC
      NBVS  = INT ((TB3 + TB2) / L (NL)) + 1 + NL + NBC
      DO 25 I = 1 , NBVB
            WBB (I) = 0.0
            WBBS (I) = 0.0
            YB (I) = 0.0
            TB (I) = 0.0
         DO 20 J = 1 , NBH1
            XB (I,J) = 0.0
 20         CONTINUE
 25      CONTINUE
      DO 26 I = 1 , NBVB
            YM (I)   = 0.0
            WBM (I) = 0.0
            WBMS (I) = 0.0
            TM (I) = 0.0
         DO 27 J = 1 , NBH2
            XM (I,J) = 0.0
 27         CONTINUE
 26      CONTINUE
      DO 28 I = 1 , NBVS
            YS (I)   = 0.0
            WBS(I) = 0.0
            WBSS (I) = 0.0
            TS (I) = 0.0
         DO 29 J = 1 , NBH3
            XS (I,J) = 0.0
 29         CONTINUE
 28      CONTINUE
      DO 30 I = 1 , NBVS
         IF (I .GT. NBVB) THEN
            WBLK (I) = W(NL)
            LBLK (I) = L(NL)
            ELSE
            IF (I .LE. NBC) THEN
               WBLK (I) = W(1)
               LBLK (I) = L(1)
               ELSE
               WBLK (I) = W (I-NBC)
               LBLK (I) = L (I-NBC)
               END IF
            END IF
 30      CONTINUE
C*************************************************************************
C*               GENERATE CRACK FABRIC (BLOCKS) UNDERNEATH THE          *
C*               PAVEMENT                                               *
C*************************************************************************
      DO 40 I = 1 , NBVB
         SUM = 0.0
         DO 50 IK = 1 , I
            CY  = LBLK (IK)
            SUM = SUM + CY
 50         CONTINUE
         YB (I) = SUM - LBLK (I) / 2.0
         TB (I) = LBLK (I)
```

```
          IF (I .LE. NBC) THEN
              SL = 0.0
              ELSE
              Y = YB (I) - CDBBY
              CALL SHRNK (Y, SL)
              END IF
          BH1 = ((BW1+WMB) * 100.0 - CDBBX)/ WBLK (I)
          IBH1= INT (BH1)
          RW1 = (BH1 - IBH1) * WBLK (I)
          IF (RW1 .LT. WBLK (I)/2.0) THEN
              WBB (I) = WBLK (I) + RW1
              NBB (I) = IBH1
              ELSE
              WBB (I) = RW1
              NBB (I) = IBH1 + 1
              END IF
          BH2 = BW2 * 100.0 / WBLK (I)
          IBH2= INT (BH2)
          RW2 = (BH2 - IBH2) * WBLK (I)
          IF (RW2 .LT. WBLK (I)/2.0) THEN
              WBL (I) = WBLK (I) + RW2
              NBL (I)= IBH2
              ELSE
              WBL (I) = RW2
              NBL (I) = IBH2 + 1
              END IF
          WBLS (I) = WBL (I) * (1.0-SLMAX*SL/100.0)
          WBBS (I) = WBB (I) * (1.0-SLMAX*SL/100.0)
          WBLKS (I) = WBLK (I) * (1.0-SLMAX*SL/100.0)
          WBBKS (I) = WBLK (I) * (1.0-SLMAX*SL/100.0)
          XB (I,1) = WBB (I) / 2.0
          XB (I,2) = WBB (I) + WBLK (I) / 2.0
          DO 40 J = 3 , NBB (I)
              XB (I,J) = WBB (I) + WBLK (I)/2.0+WBLK (I)*(J-2)
 40       CONTINUE
          TB (NBVB + 1) = ((HB1 + HB2)* 100.0) / 2.0
          WBBKS (NBVB + 1) = WBBKS (NBVB)
          NBB (NBVB + 1) = NBB (NBVB)
          DO 51 I = NBVB + 1 , NBVS
             NBL (I) = NBL (NBVB)
 51          CONTINUE
C*************************************************************************
C*                GENERATE THE CRACK FABRICK (BLOCKS) UNDERNEATH THE   *
C*                MOISTURE BARRIER                                     *
C*************************************************************************
      IF (DMB .EQ. 0) THEN
          NBVM = NBVB
          WSBM = 0.0
          TBSM = 0.0
          NSBM = 0
          ELSE
          DBMB = HB2*100.0 + DB + CDBBY - (DMB * 100.0)
          IF (DBMB .LE. 0.0) THEN
              NBVM = 0
              WSBM = 0.0
```

```
                TBSM = 0.0
                NBSM = 0
                ELSE
                DO 70 I = 1 , NBVB
                    LB = I
                    DL = DL + LBLK (I)
                    L2 = DBMB - DL
                    IF (L2 .LE. 0.0) GO TO 80
 70                 CONTINUE
 80             L2 = DL - LBLK (LB)
                L1 = DBMB - L2
                IF (L1 .LT. LBLK (LB)/2.) THEN
                    TSBM = L1 + LBLK (LB)
                    NBVM = LB
                    ELSE
                    TSBM = L1
                    NBVM = LB + 1
                    END IF
                BH1 = WMB*100.0 / WBLK (NBVM)
                IBH1= INT (BH1)
                RW1 = (BH1 - IBH1) * WBLK (NBVM)
                IF (RW1 .LT. WBLK (NBVM)/2.0) THEN
                    WSBM = WBLK (NBVM) + RW1
                    NSBM = IBH1
                    ELSE
                    WSBM = RW1
                    NSBM = IBH1 + 1
                    END IF
                END IF
            END IF
        DO 90 I = 1 , NBVB
            SUM = 0.0
            DO 100 IK = 1 , I
                CY = LBLK (IK)
                SUM= SUM + CY
100             CONTINUE
            YM (I) = SUM - LBLK (I) / 2.0
            TM (I) = LBLK (I)
            IF (I .LE. NBC) THEN
                SL = 0.0
                ELSE
                Y = YM (I) - CDBBY
                CALL SHRNK (Y, SL)
                END IF
            IF (I .GE. NBVM) THEN
                BH1 = (CDBBX - (WMB*100.0)) / WBLK (I)
                ELSE
                BH1 = CDBBX / WBLK (I)
                END IF
            IBH1= INT (BH1)
            RW1 = (BH1 - IBH1) * WBLK (I)
            IF (RW1 .LT. WBLK (I)/2.0) THEN
                WBM (I) = WBLK (I) + RW1
                NBM (I) =IBH1
                IF (NBM (I) .EQ. 0) NBM (I) = 1
```

```
            ELSE
            WBM (I) = RW1
            NBM (I) = IBH1 + 1
            END IF
         WBMKS (I) = WBLK (I) * (1.0-SLMAX*SL/100.0)
         WBMS (I) = WBM (I)* (1.0-SLMAX*SL/100.0)
         XM (I,1) = BW1 * 100.0 + WBM (I)/2.0
         XM (I,2) = BW1 * 100.0 + WBM (I) + WBLK (I)/2.0
         DO 90 J = 3 , NBM (I)
            XM (I,J) = BW1*100.0 + WBM(I)+WBLK(I)/2.0+WBLK(I) * (J-2)
 90      CONTINUE
      WBMKS (NBVB + 1) = WBMKS(NBVB)
      TM (NBVB + 1) = ((HB1 + HB2)*100.0) / 2.0
      NBM (NBVB + 1) = NBM (NBVB)
         SUM = 0.0
      DO 110 I = 1,NBVM - 1
         SUM = SUM + LBLK (I)
110      CONTINUE
      YSBM = SUM + TSBM/2.0
      IF (NBVM .LE. NBC) THEN
         SL = 0.0
         ELSE
         Y = YSBM - CDBBY
         CALL SHRNK (Y, SL)
         END IF
      WSBMS = WSBM * (1.0-SLMAX*SL/100.0)
      IF (IPERM .EQ. 1) THEN
         NBVFLO = NBVS
         ELSE
         NBVFLO = NBVM
         END IF
C*************************************************************************
C*                GENERATE THE CRACK FABRICK (BLOCKS) UNDERNEATH THE   *
C*                SIDES OF THE PAVEMENT                                *
C*************************************************************************
 60   DO 140 I = 1 , NBVS
         SUM = 0.0
         BMS (I) = 0
         DO 145 IK = 1 , I
            CY = LBLK (IK)
            SUM= SUM + CY
145         CONTINUE
         YS (I) = SUM - LBLK (I) / 2.0
         TS (I) = LBLK (I)
         IF (I .LE. NBC) THEN
            SL = 0.0
            ELSE
            Y = YS (I) - CDBBY
            CALL SHRNK (Y, SL)
            END IF
         BH1 = (WS1 + WS2 + WS3) * 100.0 / WBLK (I)
         IBH1= INT (BH1)
         RW1 = (BH1-IBH1) * WBLK (I)
         IF (RW1 .LT. WBLK (I) / 2.0) THEN
            WBS (I) = WBLK(I) + RW1
```

```
            NBS (I) = IBH1
            ELSE
            WBS (I) = RW1
            NBS (I) = IBH1 + 1
            END IF
          WBSKS (I) = WBLK (I) * (1.0-SLMAX*SL/100.0)
          WBSS  (I) = WBS (I)* (1.0-SLMAX*SL/100.0)
          DO 150 J = 1 , NBS (I)
              IF (J .EQ. NBS (I)) THEN
                  XS (I,J) = (BW1+WMB)*100.0+ WBLK(I)*(J-1)+WBS(I)/2.0
                  ELSE
                  XS (I,J) = (BW1+WMB)*100.0 + WBLK(I) * J-WBLK(I)/2.0
                  END IF
              IF (XS (I,J) .LE. X1) THEN
                  SLOPE = DB+HB2*100.0-
     *                  (XS(I,J)-(BW1+WMB)*100.0)*ST1
                  ELSE
                  IF (XS (I,J) .LE. X2) THEN
                      SLOPE = DB+HB2*100.0-TB1+
     *                    (XS (I,J)-(BW1+WS1+WMB)*100.0)*ST2
                      ELSE
                      SLOPE = DB + HB2*100.0 - TB1 + TB2 +
     *                      (XS(I,J)-(BW1+WS1+WS2+WMB)*100.0)*ST3
                      END IF
                  END IF
              IF (YS (I) .GT. SLOPE) THEN
                  BMS (I) = BMS (I) + 1
                  END IF
  150         CONTINUE
  140     CONTINUE
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE THE COORDINATE OF THE SOIL BLOCKS (THE    *
C*     COORDINATE OF THE BLOCKS CAN BE USED IN CONJUNCTION WITH          *
C*     COMPUTER GRAPHIC PACKAGE EG. HP-PLOTTER, TO PLOT THE BLOCKS FOR   *
C*     BETTER ILLUSTRATION OF THE CRACK FABRIC                           *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE BLOCK
      REAL    LBLK(50), WBLK(50), XSBM (50)
      REAL    XB (50,100), YB (50),TB (50)
      REAL    XM (50,100), YM (50),TM (50)
      REAL    XS (50,100), YS (50),TS (50)
      REAL    WBB (50), WBM (50), WBS (50), WBL (50)
      REAL    WBBS (50), WBMS (50), WBSS (50), WBLS (50)
      REAL    WBBKS(50), WBMKS(50), WBSKS(50)
      INTEGER NBB (50), NBM (50), NBS (50), NBL (50), BMS (50)
      COMMON /SECT1/ BW2, BW1, CRCK, INFIL
      COMMON /SECT2/ NL
      COMMON /SECT3/ SPL, SP, ST1, ST2, ST3
      COMMON /SECT4/ WS1, WS2, WS3, DPOND
```

```
      COMMON /SECT5/ IPERM,DMB, WMB, PERMB, DROOT
      COMMON /SECT6/ HB1, HB2
      COMMON /FBRC1/ WBB, WBBS, WBBKS, TB, NBB
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC5/ WSBM, WSBMS, TSBM, NSBM
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC8/ DB, DMAX, CDBBX
      DNB = DB
      X1 = (BW1 + WMB + WS1) * 100.0
      X2 = (X1 + WS2) * 100.0
      X3 = (X2 + WS3) * 100.0
      TB1 = (ST1 * WS1) * 100.0
      TB2 = (ST2 * WS2) * 100.0
      TB3 = (ST3 * WS3) * 100.0
      DO 25 I = 1 , NBVB
              YB (I) = 0.0
          DO 20 J = 1 , NBB (I)
              XB (I,J) = 0.0
 20           CONTINUE
 25       CONTINUE
      DO 26 I = 1 , NBVB
              YM (I)   = 0.0
          DO 27 J = 1 , NBM (I)
              XM (I,J) = 0.0
 27           CONTINUE
 26       CONTINUE
      DO 28 I = 1 , NBVS
              YS (I)   = 0.0
          DO 29 J = 1 , NBS (I)
              XS (I,J) = 0.0
 29           CONTINUE
 28       CONTINUE
      NOD = 0
      IBLK = 0
C*************************************************************************
C*            GENERATE THE BLOCKS COORDINATE FOR BLOCKS UNDERNEATH THE *
C*            PAVEMENT                                                 *
C*************************************************************************
      DO 40 I = 1 , NBVB
          SUM = 0.0
          DO 50 IK = 1 , I
              CY  = LBLK (IK)
              SUM = SUM + CY
 50           CONTINUE
          YB (I) = SUM - LBLK (I) / 2.0
          DO 40 J = 1 , NBB (I)
              IF (J .EQ. 1) THEN
                  XB (I,J) = WBB (I) / 2.0
                  CX1 = XB (I,J) - WBBS (I) / 2.0
                  CX2 = XB (I,J) + WBBS (I) / 2.0
                  ELSE
                  IF (J .EQ. 2) THEN
```

```
                    XB (I,2) = WBB (I) + WBLK (I) / 2.0
                    CX1 = XB (I,J) - WBBKS (I) / 2.0
                    CX2 = XB (I,J) + WBBKS (I) / 2.0
                    ELSE
                    XB (I,J) = WBB (I) + WBLK (I)/2.0+WBLK (I)*(J-2)
                    CX1 = XB (I,J) - WBBKS (I) / 2.0
                    CX2 = XB (I,J) + WBBKS (I) / 2.0
                    END IF
                END IF
            CX3 = CX2
            CX4 = CX1
            CY1 = YB (I) - TB (I) / 2.0
            CY2 = CY1
            CY3 = YB (I) + TB (I) / 2.0
            CY4 = CY3
            IBLK = IBLK + 1
            NOD1 = NOD + 1
            NOD2 = NOD + 2
            NOD3 = NOD + 3
            NOD4 = NOD + 4
            NOD = NOD4
            WRITE (8,*) IBLK, NOD1,NOD2,NOD3,NOD4
            WRITE (7,*) NOD1, CX1, CY1
            WRITE (7,*) NOD2, CX2, CY2
            WRITE (7,*) NOD3, CX3, CY3
            WRITE (7,*) NOD4, CX4, CY4
 40     CONTINUE
C*************************************************************************
C*              GENERATE THE CRACK FABRICK (BLOCKS) UNDERNEATH THE   *
C*              MOISTURE BARRIER                                     *
C*************************************************************************
      DO 90 I = 1 , NBVB
          SUM = 0.0
          DO 100 IK = 1 , I
              CY = TM (IK)
              SUM= SUM + CY
100           CONTINUE
              YM (I) = SUM - TM (I) / 2.0
          DO 90 J = 1 , NBM (I)
              IF (J .EQ. 1) THEN
                  XM (I,J) = (BW1)*100.0 -CDBBX  + WBM (I)/2.0
                  CX1 = XM (I,J) - WBMS (I) / 2.0
                  CX2 = XM (I,J) + WBMS (I) / 2.0
                  ELSE
                  IF (J .EQ. 2) THEN
                      XM (I,J) = (BW1)*100.0 - CDBBX + WBM(I) +
    *                             WBLK (I)/2.0
                      CX1 = XM (I,J) - WBMKS (I) / 2.0
                      CX2 = XM (I,J) + WBMKS (I) / 2.0
                      ELSE
                      XM (I,J) = (BW1)*100.0 - CDBBX +WBM(I)+
    *                             WBLK(I)/2.0 + WBLK(I) * (J-2)
                      CX1 = XM (I,J) - WBMKS (I) / 2.0
                      CX2 = XM (I,J) + WBMKS (I) / 2.0
                      END IF
```

```
            END IF
            CX3 = CX2
            CX4 = CX1
            CY1 = YM (I) - TM (I) / 2.0
            CY2 = CY1
            CY3 = YM (I) + TM (I) / 2.0
            CY4 = CY3
            IBLK = IBLK + 1
            NOD1 = NOD + 1
            NOD2 = NOD + 2
            NOD3 = NOD + 3
            NOD4 = NOD + 4
            NOD = NOD4
            WRITE (8,*) IBLK, NOD1,NOD2,NOD3,NOD4
            WRITE (7,*) NOD1, CX1, CY1
            WRITE (7,*) NOD2, CX2, CY2
            WRITE (7,*) NOD3, CX3, CY3
            WRITE (7,*) NOD4, CX4, CY4
90      CONTINUE
    SUM = 0.0
    DO 155 I = 1 , NBVM - 1
       SUM = SUM + TM (I)
155    CONTINUE
    YSBM = SUM + TSBM / 2.0
    DO 160 I = 1 , NSBM
       IF (I .EQ. NSBM) THEN
           XSBM (I) = (BW1)*100.0 + WBLK (NBVM) * (I-1) +
   *                  WSBM / 2.0
           CX1 = XSBM (I) - WBMKS (I) / 2.0
           CX2 = XSBM (I) + WBMKS (I) / 2.0
           ELSE
           XSBM (I) = (BW1)*100.0 + WBLK (NBVM) * (I-1) +
   *                  (WBLK (NBVM) / 2.0)
           CX1 = XSBM (I) - WBMKS (I) / 2.0
           CX2 = XSBM (I) + WBMKS (I) / 2.0
           END IF
           CX3 = CX2
           CX4 = CX1
           CY1 = YSBM - TSBM / 2.0
           CY2 = CY1
           CY3 = YSBM + TSBM / 2.0
           CY4 = CY3
           IBLK = IBLK + 1
           NOD1 = NOD + 1
           NOD2 = NOD + 2
           NOD3 = NOD + 3
           NOD4 = NOD + 4
           NOD = NOD4
           WRITE (8,*) IBLK, NOD1,NOD2,NOD3,NOD4
           WRITE (7,*) NOD1, CX1, CY1
           WRITE (7,*) NOD2, CX2, CY2
           WRITE (7,*) NOD3, CX3, CY3
           WRITE (7,*) NOD4, CX4, CY4
160        CONTINUE
```

```
C*********************************************************************
C*                GENERATE THE BLOCK COORDINATES UNDERNEATH THE      *
C*                SIDES OF THE PAVEMENT                              *
C*********************************************************************
  60  DO 140 I = 1 , NBVS
          SUM = 0.0
          DO 145 IK = 1 , I
              CY = TS (IK)
              SUM= SUM + CY
 145          CONTINUE
          YS (I) = SUM - TS (I) / 2.0
          DO 150 J = 1 , NBS (I)
              IF (J .EQ. NBS (I)) THEN
                  XS (I,J) = (BW1+WMB)*100.0+ WBLK(I)*(J-1)+WBS(I)/2.0
                  CX1 = XS (I,J) - WBSS (I) / 2.0
                  CX2 = XS (I,J) + WBSS (I) / 2.0
                  ELSE
                  XS (I,J) = (BW1+WMB)*100.0 + WBLK(I) * J-WBLK(I)/2.0
                  CX1 = XS (I,J) - WBSKS (I) / 2.0
                  CX2 = XS (I,J) + WBSKS (I) / 2.0
                  END IF
              IF (XS (I,J) .LE. X1) THEN
                  SLOPE = DB+ HB2*100.0-
     *                       (XS(I,J)-(BW1+WMB)*100.0)*ST1
                  ELSE
                  IF (XS (I,J) .LE. X2) THEN
                      SLOPE = DB + HB2*100.0-TB1+
     *                           (XS (I,J)-(BW1+WS1+WMB)*100.0)*ST2
                      ELSE
                      SLOPE = DB + HB2*100.0 - TB1 + TB2 +
     *                            (XS(I,J)-(BW1+WS1+WS2+WMB)*100.0)*ST3
                      END IF
                  END IF
              IF (YS (I) .GT. SLOPE) THEN
                  BMS (I) = BMS (I) + 1
                  GO TO 150
                  END IF
              CX3 = CX2
              CX4 = CX1
              CY1 = YS (I) - TS (I) / 2.0
              CY2 = CY1
              CY3 = YS (I) + TS (I) / 2.0
              CY4 = CY3
              IBLK = IBLK + 1
              NOD1 = NOD + 1
              NOD2 = NOD + 2
              NOD3 = NOD + 3
              NOD4 = NOD + 4
              NOD = NOD4
              WRITE (8,*) IBLK, NOD1,NOD2,NOD3,NOD4
              WRITE (7,*) NOD1, CX1, CY1
              WRITE (7,*) NOD2, CX2, CY2
              WRITE (7,*) NOD3, CX3, CY3
              WRITE (7,*) NOD4, CX4, CY4
 150          CONTINUE
```

```
 140      CONTINUE
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO REDUCE THE BLOCK SIZE ACCORDING THE LINEAR          *
C*     SHRINKAGE CURVE                                                   *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE SHRNK (Y, SL)
      REAL DB, Y, SL
      REAL DEPTH(15),CSIZE(15)
      COMMON /INPT1/ DEPTH, CSIZE
      COMMON /FBRC8/ DB, DMAX, CDBBX
      DO 10 J = 1 , 15
          DIF = Y - DEPTH(J) * DB
          IF (DIF .LE. 0.0) THEN
              YMA = CSIZE (J)
              YMI = CSIZE (J-1)
              XMA = DEPTH (J) * DB
              XMI = DEPTH (J-1) * DB
              SL = YMI + ((YMA -YMI) / (XMA - XMI)) * (Y - XMI)
              GO TO 20
              END IF
  10      CONTINUE
  20  CONTINUE
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*       SUBROUTINE TO CALCULATE THE LINEAR SHRINKAGE ACCORDING TO THE   *
C*       EQUATION                                                        *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE LSHRINKAGE
      REAL DEPTH(15),CSIZE(15), TBLK (15), BLOKW(15), HINIT(15)
      REAL GC (15), GS (15), GH (15), LS(15), H (15)
      COMMON /INPT1/ DEPTH, CSIZE
      COMMON /SECT2/ NB
      COMMON /SECT8/ TBLK, BLOKW
      COMMON /INPT6/ HINIT
      COMMON /SECT7/ SLMAX
      COMMON /INPLS/ GC, GS, GH
      SGC = 0.0
      DO 10 I = 1 , NB
         II = NB - I + 1
         H(II) = HINIT (II)
         SGC = SGC + GC (II) * TBLK (II)
         IF (H(II) .LT. 100.0) H(II) = 100.0
         LS1 = GH (II) * LOG10(H(II)/100.0)
         LS2 = -GS (II) * LOG10 (((1.0/3.0)*SGC)/ 97.0)
```

```
         IF (LS2 .GT. 0.0) LS2 = 0.0
         LS (I) = (1.0/3.0) * (LS1 + LS2)
 10      CONTINUE
      TDP = 0.0
      DO 35 I = 1 , NB
         TDP = TDP + TBLK (I)
 35      CONTINUE
      DO 30 I = 1 , NB
         II = NB - I + 1
         DP = 0.0
         DO 40 J = 1 , I
            DP = DP + TBLK (J)
 40         CONTINUE
         DP = DP - TBLK (I)/2.0
         DEPTH (I) = DP/TDP
         CSIZE (I) = LS (II)/LS(1)
 30      CONTINUE
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINES TO CALCULATE THE LINEAR SHRINKAGE AFTER A PERIOD OF   *
C*     SIMULATION                                                        *
C*                                                                       *
C*************************************************************************
C*************************************************************************
C*     CALCULATE THE LINEAR SHRINKAGE FOR CRACKS UNDER THE PAVEMENT      *
C*************************************************************************
      SUBROUTINE LINEBASE (Y,LS)
      REAL Y (50), LS (50), LNGTH, WIDTH, CRACK, INFIL
      REAL WBB (50), WBBS (50), WBLK (50), LBLK (50)
      REAL WBBKS (50), TB (50), WBL (50), WBLS (50)
      INTEGER NBL (50), NBB (50)
      COMMON /FBRC1/ WBB, WBBS, WBBKS, TB, NBB
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /SECT1/ LNGTH, WIDTH, CRACK, INFIL
      COMMON /FBRC4/ WBL, WBLS, NBL
      DO 10 I = 1 , NBVB
         SUM = 0
         DO 20 J = 1 , I
            SUM = SUM + TB (J)
 20         CONTINUE
         Y(I) = SUM - TB (I)/2
         LS (I) = ((WBLK (I) - WBBKS (I)) *
     *             (NBL (I) + 1)) / (LNGTH * 100.0) * 100.0
 10      CONTINUE
      RETURN
      END
```

```
C*************************************************************************
C*     CALCULATE THE LINEAR SHRINKAGE FOR CRACKS UNDER THE EDGE OF THE *
C*     PAVEMENT                                                         *
C*************************************************************************
      SUBROUTINE LINEMOIS (Y,LS)
      REAL Y (50), LS (50), LNGTH, WIDTH, CRACK, INFIL
      REAL WBM (50), WBMS (50), WBLK (50), LBLK (50)
      REAL WBMKS (50), TM (50), WBL (50), WBLS (50)
      INTEGER NBL (50), NBM (50)
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /SECT1/ LNGTH, WIDTH, CRACK, INFIL
      COMMON /FBRC4/ WBL, WBLS, NBL
      DO 10 I = 1 , NBVB
         SUM = 0
         DO 20 J = 1 , I
            SUM = SUM + TM (J)
 20         CONTINUE
         Y(I) = SUM - TM (I)/2
         LS (I) = ((WBLK (I) - WBMKS (I)) * (NBL (I) + 1))
     *              / (LNGTH * 100.0) * 100.0
 10      CONTINUE
      RETURN
      END
C*************************************************************************
C*     CALCULATE THE LINEAR SHRINKAGE FOR CRACKS IN THE UNPAVED AREA    *
C*************************************************************************
      SUBROUTINE LINESIDE (Y,LS)
      REAL Y (50), LS (50), LNGTH, WIDTH, CRACK, INFIL
      REAL WBS (50), WBSS (50), WBLK (50), LBLK (50)
      REAL WBSKS (50), TS (50), WBL (50), WBLS (50)
      INTEGER NBS (50), BMS (50), NBL (50)
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /SECT1/ LNGTH, WIDTH, CRACK, INFIL
      COMMON /FBRC4/ WBL, WBLS, NBL
      DO 10 I = 1 , NBVS
         SUM = 0
         DO 20 J = 1 , I
            SUM = SUM + TS (J)
 20         CONTINUE
         Y(I) = SUM - TS (I)/2
         LS (I) = ((WBLK (I) - WBSKS (I)) * (NBL (I) + 1))
     *              /(LNGTH * 100.0) * 100.0
 10      CONTINUE
      RETURN
      END
```

```
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*            SUBROUTINE TO CALCULATE THE AMOUNT OF WATER THAT FLOW      *
C*            UNDER THE BARRIER DUE TO HEAD DIFFERENCE BASED ON          *
C*            THE FOLLOWING CONDITION:                                   *
C*               IMPERMEABLE BARRIER:                                    *
C*               1. MANNING'S EQUATION IS USED WHEN THE MOISTURE         *
C*                  BARRIER IS NOT EXTENDED TO THE BOTTOM OF CRACK       *
C*               2. NO FLOW OCCURS WHEN THE MOISTURE BARRIER IS          *
C*                  EXTENDED TO THE BOTTOM OF CRACK                      *
C*               PERMEABLE BARRIER:                                      *
C*                  FLOW ACCORDING TO MANNING'S EQN                      *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE HYFLO (DBI, DSI, VB, VS, QO)
      REAL    WBLK (50), LBLK (50), TH (50)
      REAL    WBL (50), WBLS (50)
      REAL    DH1, QO
      REAL    WBM(50), WBMS (50), WBMKS (50), TM (50)
      INTEGER NBL (50), NBM (50)
      COMMON /SECT1/ BW2, BW1, CRCK, INFIL
      COMMON /SECT4/ WS1, WS2, WS3, DPOND
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /SECT5/ IPERM,DMB, WMB, PERMB, DROOT
      COMMON /FBRC5/ WSBM,WSBMS,TSBM,NSBM
      COMMON /NBVMB/ NBVFLO
      DP = 0.0
      QO = 0.0
      DB1 = DBI
      DS1 = DSI
      DH1 = DB1 - DS1
      IF (DH1 .EQ. 0.0) RETURN
      IFLAG1 = INT(DH1/ABS(DH1))
      VB1 = VB
      VS1 = VS
      AVD = (DB1 + DS1) / 2.0
      DO 10 I = 1 , NBVFLO
          IF (IPERM .EQ. 2 .AND. I .EQ. NBVFLO) THEN
              TH (I) = TSBM
              ELSE
              TH (I) = TM (I)
              END IF
          DP = DP + TM (I)
          DIF = AVD - DP
          L = I
          IF (DIF .LE. 0.0) THEN
              TH (I) = TM (I) + DIF
              GO TO 20
              END IF
 10       CONTINUE
```

```
  20  AI = 0.0
      PI = 0.0
C*************************************************************************
C            CALCULATE THE CROSSECTION AREA AND THE WETTED PERIMETER
C*************************************************************************
      DO 30 I = 1 , L
          AC = (WBLK (I)-WBMKS (I)) *
     *          (NBL (I) - 1.5) * TH (I)
          PC = (NBL (I) * 2.0 - 2.0) * TH (I)
          AI = AI + AC
          PI = PI + PC
  30      CONTINUE
      P =  (WBLK (1)-WBMKS (1)) * (NBL (1) -1.5)
      PI = PI + P
C*************************************************************************
C*             CALCULATE THE FLOW
C*************************************************************************
      RN = 0.025
      R = (AI / PI) / 100.0
      IF (R .LT. 0.0) R = 0.0
      S = ABS (DH1) / (BW1 * 100.0 / 2.0 + (WS1+WS2+WS3) * 100.0 / 2.0)
      V = 1.0 / RN * ( R ** ( 2.0/3.0 )) * ( S**0.5 )
      Q = AI * V * 100.0
      QO = Q * 60.0 * (ABS(DH1) / DH1)
      IF (QO .GT. VB) QO = VB
      IF (QO .LT. -VS) QO = -VS
      IF (QO .EQ. 0.0) RETURN
      VB1 = VB1 - QO
      VS1 = VS1 + QO
      CALL BDEPTH (VB1, VS, FR, DB2)
      CALL SDEPTH (VS1, DS2)
      DH2 = DB2 - DS2
      IF (DH2 .EQ. 0.0) THEN
          IFLAG2 = IFLAG1
          ELSE
          IFLAG2 = INT(DH2 / ABS(DH2))
          END IF
      IF (IFLAG1 .NE. IFLAG2) THEN
          A1 = (DB1 - DB2) / QO
          A2 = (DS2 - DS1) / QO
          QO = (DB1 - DS1) / (A1 + A2)
          END IF
      VB = VB - QO
      VS = VS + QO
      RETURN
      END
```

```
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*            SUBROUTINE TO CALCULATE THE DEPTH OF WATER IN THE CRACKS   *
C*            UNDER THE PAVEMENT                                         *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE BDEPTH (VBASE, VSIDE, FR, DB)
      REAL    WBBKS (50), TB (50), WBB (50), WBBS(50)
      REAL    WBMKS (50), TM (50), WBM (50), WBMS(50)
      REAL    WBL (50), WBLS (50)
      REAL    LBLK (50), WBLK (50)
      INTEGER NBB (50), NBL (50), NBM (50)
      COMMON /FBRC1/ WBB, WBBS, WBBKS, TB, NBB
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /FBRC7/ LBLK, WBLK
      DB = 0.0
      VOL = VBASE
      DO 40 I = 1 , NBVB + 1
          AB1 = (WBLK (I) * (WBLK (I)-WBBKS (I)) +
     *          (WBBKS (I) * (WBLK (I)-WBBKS (I)))) *
     *          (NBB(I)-1)*(NBL(I)-1)
          AB2 = (WBLK (I) * (WBLK (I)-WBMKS (I)) +
     *          (WBMKS (I) * (WBLK (I)-WBMKS (I)))) *
     *          (NBM(I)-1)*(NBL(I)-1)
          AB = AB1 + AB2
          IF (AB .EQ. 0.0) THEN
              DB1 = TB(I)
              ELSE
              DB1 = VOL / AB
              END IF
          IF (DB1 .LT. TB (I)) THEN
              DB = DB + DB1
              VOL = VOL - (DB1 * AB)
              GO TO 50
              ELSE
              VOL = VOL - (TB(I) * AB)
              DB = DB + TB (I)
              END IF
 40       CONTINUE
 50   CONTINUE
      IF (VOL .GT. 1.0) THEN
          VSIDE = VSIDE + (FR * VOL)
          END IF
      VBASE = VBASE - VOL
      RETURN
      END
```

```
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*               SUBROUTINE TO CALCULATE THE DEPTH OF WATER IN THE       *
C*               CRACKS OUTSIDE                                          *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE SDEPTH (VSIDE, DS)
      REAL    WBSKS (50), TS (50), DMAX, WBL (50), WBLS (50)
      REAL    WBS(50), WBSS(50), WBLK (50), LBLK (50)
      INTEGER NBS (50), BMS (50), NBL (50)
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC8/ DBL, DMAX, CDBBX
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC4/ WBL, WBLS, NBL
      DS = 0.0
      VOL = VSIDE
      DO 40 I = 1 , NBVS
          AS1 = (WBLK (I) * (WBLK (I)-WBSKS (I)) +
     *          (WBSKS (I) * (WBLK (I)-WBSKS (I)))) *
     *          (NBS(I)-1) * (NBL(I)-1)
          AS2 = (WBSKS (I) ** 2) * BMS (I) * NBL (I)
          AS = AS1 + AS2
          IF (AS .EQ. 0.0) THEN
              DS1 = TS (I)
              ELSE
              DS1 = VSIDE / AS
              END IF
          IF (DS1 .LT. TS (I)) THEN
              VOL = VOL - (DS1 * AS)
              DS = DS + DS1
              GO TO 50
              ELSE
              VOL = VOL - (TS(I) * AS)
              DS = DS + TS (I)
              END IF
          IF (DS .GT. DMAX) THEN
              DS2 = DS - DMAX
              VOL = VOL + (DS2*AS)
              VSIDE = VSIDE - VOL
              DS = DMAX
              GO TO 50
              END IF
  40      CONTINUE
  50  CONTINUE
      RETURN
      END
```

```
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE THE VOLUME OF WATER IN THE EDGE           *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE MOISV (DBI, VBM, VMOIS)
      REAL    WBMKS (50), TM (50), WBM (50), WBMS(50)
      REAL    WBL (50), WBLS (50), TH (50)
      REAL    LBLK (50), WBLK (50)
      INTEGER NBL (50), NBM (50)
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /FBRC7/ LBLK, WBLK
      VOL = 0.0
      DP = 0.0
      DO 10 I = 1, NBVB + 1
          TH (I) = TM (I)
          DP = DP + TM (I)
          DIF = DBI - DP
          L = I
          IF (DIF .LE. 0.0) THEN
              TH (I) = TM (I) + DIF
              GO TO 20
              END IF
 10       CONTINUE
 20   DO 40 I = 1 , L
          AM = (WBLK (I) * (WBLK (I)-WBMKS (I)) +
     *          WBMKS (I) * (WBLK (I)-WBMKS (I)))*
     *          (NBM(I)-1)*(NBL(I)-1)
          VOL = VOL + (AM * TH (I))
 40       CONTINUE
      VMOIS = VOL
      IF (VMOIS .GT. VBM) VMOIS = VBM
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*       SUBROUTINES TO CALCULATE BLOCK'S ADSOPTION                      *
C*       ROUTINES:                                                       *
C*          1. DETERMINE THE SUBMERGED BLOCKS BASED ON THE WATER LEVEL   *
C*          2. DETERMINE THE VOLUME THAT WILL BE ADSORBED BASED ON THE   *
C*             BLOCK CURVES                                              *
C*             WHEN A BLOCK IS NOT TOTALLY SUBMERGED, IT SWELLS AT       *
C*             A FRACTION OF SUBMERGED LENGTH OVER TOTAL LENGTH          *
C*          3. CALCULATE THE INCREMENT OF THE BLOCK DIMENSION BASED ON   *
C*             THE VOLUMETRIC STRAIN IS EQUAL TO THE SUM OF THE NORMAL   *
C*             STRAINS.                                                  *
C*************************************************************************
```

```
C*************************************************************************
C*       CALCULATE BLOCK'S ADSORPTION UNDER THE PAVEMENT                 *
C*************************************************************************
      SUBROUTINE NEWBASE (DBI, IDT, TV, VOL)
      REAL    WBB (50), WBBS (50), WBBKS (50), TB (50), TH (50)
      REAL    WBLK (50), LBLK (50), DBI, TV, WBL(50),WBLS(50)
      REAL    DX (50), DY (50)
      INTEGER NBB (50), NBL (50), IDT
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC1/ WBB, WBBS, WBBKS, TB, NBB
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /DXDYB/ DX , DY
      DP = 0.0
      DT = FLOAT (IDT)
      DO 10 I = 1 , NBVB
          TH (I) = TB (I)
          DP = DP + TB (I)
          L = I
          DIF = DBI - DP
          IF (DIF .LE. 0.0) THEN
              TH (I) = TB (I) + DIF
              GO TO 20
              END IF
 10       CONTINUE
 20   TV = 0.0
      DO 30 I = 1 , L
          DIF = WBLK (I) - WBBKS (I)
          IF (DIF .LE. 0.0) GO TO 30
          VI = WBBKS (I) ** 2 * TB (I)
          CALL VBLOKB (I, VI, DV)
          DVA = DV * DT * TH (I)/TB (I)
          TV1  = (NBB (I) * DVA) * NBL (I)
          IF (TV1 .GT. VOL) THEN
              TV1 = VOL
              DV  = TV1 / (NBB (I) * NBL(I) * DT)
              END IF
          DX1  = DV * DT / VI * WBBKS (I) / 3.0 * (TH(I)/TB(I))
          IF (DIF .GE. DX1) THEN
              DY1  = DV * DT / VI * TB (I) / 3.0 * (TH(I)/TB(I))
              ELSE
              DX1 = DIF
              DY1 = (DV * DT / VI - (2.0*DX1/WBBKS(I))) *
     *              TB(I)*(TH(I)/TB(I))
              END IF
          DX (I) = DX (I) + DX1
          DY (I) = DY (I) + DY1
          TV = TV + TV1
          VOL = VOL - TV1
 30       CONTINUE
      RETURN
      END
C*************************************************************************
C*       CALCULATE BLOCK'S ADSORPTION UNDER THE UNPAVED AREA             *
C*************************************************************************
```

```
      SUBROUTINE NEWSIDE (DSI, IDT, TV, VOL)
      REAL    WBS (50), WBSS (50), WBSKS (50), TS (50), TH (50)
      REAL    WBLK (50), LBLK (50), WBL(50), WBLS (50)
      REAL    DX (50), DY (50)
      INTEGER NBS (50),NBL (50), BMS (50)
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /DXDYS/ DX , DY
      DP = 0.0
      DO 10 I = 1 , NBVS
          TH (I) = TS (I)
          DP = DP + TS (I)
          DIF = DSI - DP
          L = I
          IF (DIF .LE. 0.0) THEN
              TH (I) = TS (I) + DIF
              GO TO 20
              END IF
 10       CONTINUE
 20   TV = 0.0
      DT = FLOAT (IDT)
      DO 30 I = 1 , L
          DIF = WBLK (I) - WBSKS (I)
          IF (DIF .LE. 0.0) GO TO 30
          VI = WBSKS (I) ** 2 * TS (I)
          CALL VBLOKS (I, VI, DV)
          DVA = DV * DT * TH (I)/TS (I)
          TV1  = (NBS (I)-BMS(I)) * DVA * NBL (I)
          IF (TV1 .GT. VOL) THEN
              TV1 = VOL
              DV  = TV1 / ((NBS (I)-BMS(I)) * NBL(I) * DT)
              END IF
          DX1  = DV * DT / VI * WBSKS (I) / 3.0 * (TH(I)/TS(I))
          IF (DIF .GE. DX1) THEN
              DY1  = DV * DT / VI * TS (I) / 3.0 * (TH(I)/TS(I))
              ELSE
              DX1 = DIF
              DY1 = ((DV * DT / VI) - (2.0*DX1/WBSKS(I))) *
     *              TS(I)*(TH(I)/TS(I))
              END IF
          DX (I) = DX (I) + DX1
          DY (I) = DY (I) + DY1
          TV = TV + TV1
          VOL = VOL - TV1
 30       CONTINUE
      RETURN
      END
C*************************************************************************
C*       CALCULATE BLOCK'S ADSORPTION UNDER THE EDGE                     *
C*************************************************************************
      SUBROUTINE NEWMOIS (DBI, IDT, TV, VOL)
      REAL    WBM (50), WBMS (50), WBMKS (50), TM (50), TH (50)
      REAL    WBLK (50), LBLK (50), WBL(50), WBLS(50)
```

```
      REAL    DX (50), DY (50)
      INTEGER NBM (50), NBL (50)
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC4/ WBL, WBLS,NBL
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /DXDYM/ DX , DY
      DP = 0.0
      DT = FLOAT (IDT)
      DO 10 I = 1, NBVB
          TH (I) = TM (I)
          DP = DP + TM (I)
          DIF = DBI - DP
          L = I
          IF (DIF .LE. 0.0) THEN
              TH (I) = TM (I) - DIF
              GO TO 20
              END IF
10        CONTINUE
20    TV = 0.0
      DO 30 I = 1 , L
          DIF = WBLK (I) - WBMKS (I)
          IF (DIF .LE. 0.0) GO TO 30
          VI = WBMKS (I) ** 2 * TM (I)
          CALL VBLOKM (I, VI, DV)
          DVA = DV * DT * TH (I)/TM (I)
          TV1  = (NBM (I) * DVA) * NBL (I)
          IF (TV1 .GT. VOL) THEN
              TV1 = VOL
              DV  = TV1 / (NBM (I) * NBL(I) * DT)
              END IF
          DX1  = DV * DT / VI * WBMKS (I) / 3.0 * (TH(I)/TM(I))
          IF (DIF .GE. DX1) THEN
              DY1  = DV * DT / VI * TM (I) / 3.0 * (TH(I)/TM(I))
              ELSE
              DX1 = DIF
              DY1 = (DV * DT / VI - (2.0*DX1/WBMKS(I))) *
     *              TM(I)*(TH(I)/TM(I))
              END IF
          DX (I) = DX (I) + DX1
          DY (I) = DY (I) + DY1
          TV = TV + TV1
          VOL = VOL - TV1
30        CONTINUE
      RETURN
      END
```

```
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINES TO CALCULATE THE POTENTIAL VOLUME INCREMENT           *
C*     (SWELLING)OF THE BLOCKS BASED ON THE BLOCK CURVE. (THE VOLUME     *
C*     INREMENT IS DUE TO THE WATER ADSORPTION INTO THE SOIL BLOCK WHEN*
C*     THE BLOCK IS SUBMERGED IN THE WATER)                              *
C*     ROUTINES:                                                         *
C*        1. DETERMINE THE CORRESPONDING TIME ON THE BLOCK CURVE BASED *
C*           ON THE INITIAL CONDITION                                    *
C*        2. DETERMINE THE VOLUME AFTER ONE DAY (I.E. AT TIME + 1)       *
C*           THIS VOLUME CORRESPOND TO THE VOLUME ADSORBED BY THE SOIL *
C*           IN ONE DAY WHEN IT IS SUBMERGED UNDER THE WATER             *
C*                                                                       *
C*************************************************************************
C*************************************************************************
C*      DETERMINE THE VOLUME INCREMENT FOR BLOCKS INSIDE                 *
C*************************************************************************
      SUBROUTINE VBLOKB (IB, VI, DVWB)
      REAL VBLK (50,100), TBLK (50,100)
      REAL WBBKS (50), TB (50), WBB (50), WBBS (50)
      INTEGER NBB (50)
      COMMON /SECT2/ NL
      COMMON /HEAVE/ VBLK, TBLK
      COMMON /FBRC1/ WBB, WBBS, WBBKS, TB, NBB
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      IF (IB. GT. NBC + NL) THEN
          IBLK = NL
          ELSE
          IF (IB. LE. NBC) THEN
              IBLK = 1
              ELSE
              IBLK = IB - NBC
              END IF
          END IF
      DO 10 I = 1 , 100
          DIF = VI - VBLK (IBLK,I)
          IF (DIF .LE. 0.0) THEN
              YMA = TBLK (IBLK,I)
              YMI = TBLK (IBLK,I-1)
              XMA = VBLK (IBLK,I)
              XMI = VBLK (IBLK,I-1)
              TI = YMI + ((YMA - YMI) / (XMA - XMI)) * (VI - XMI)
              GO TO 20
              END IF
 10        CONTINUE
 20   CONTINUE
      DO 30 I = 1 , 100
          DIF = TI + 1.0 - TBLK (IBLK,I)
          IF (DIF .LE. 0.0) THEN
              XMA = TBLK (IBLK,I)
              XMI = TBLK (IBLK,I-1)
              YMA = VBLK (IBLK,I)
              YMI = VBLK (IBLK,I-1)
              VBW = YMI + ((YMA - YMI) / (XMA - XMI)) * (TI + 1.0 -XMI)
```

```
            GO TO 40
            END IF
 30       CONTINUE
 40   CONTINUE
      DVWB = (VBW - VI) / 1440.0
      IF (DVWB .LE. 0.0) DVWB = 0.0
      RETURN
      END
C*************************************************************************
C*      DETERMINE THE VOLUME INCREMENT FOR BLOCKS OUTSIDE                *
C*************************************************************************
      SUBROUTINE VBLOKS (IB, VI, DVWS)
      REAL VBLK (50,100), TBLK (50,100), WBS (50), WBSS (50)
      REAL WBSKS (50), TS (50)
      INTEGER NBS (50), BMS (50)
      COMMON /SECT2/ NL
      COMMON /HEAVE/ VBLK, TBLK
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      IF (IB. GT. NBC + NL) THEN
          IBLK = NL
          ELSE
          IF (IB. LE. NBC) THEN
              IBLK = 1
              ELSE
              IBLK = IB - NBC
              END IF
          END IF
      DO 10 I = 1 , 100
          DIF = VI - VBLK (IBLK,I)
          IF (DIF .LE. 0.0) THEN
              YMA = TBLK (IBLK,I)
              YMI = TBLK (IBLK,I-1)
              XMA = VBLK (IBLK,I)
              XMI = VBLK (IBLK,I-1)
              TI = YMI + ((YMA - YMI) / (XMA - XMI)) * (VI - XMI)
              GO TO 20
              END IF
 10       CONTINUE
 20   CONTINUE
      DO 30 I = 1 , 100
          DIF = TI + 1.0 - TBLK (IBLK,I)
          IF (DIF .LE. 0.0) THEN
              XMA = TBLK (IBLK,I)
              XMI = TBLK (IBLK,I-1)
              YMA = VBLK (IBLK,I)
              YMI = VBLK (IBLK,I-1)
              VBW = YMI + ((YMA - YMI) / (XMA - XMI)) * (TI + 1.0 -XMI)
              GO TO 40
              END IF
 30       CONTINUE
 40   CONTINUE
      DVWS = (VBW - VI) / 1440.0
      IF (DVWS .LT. 0.0) DVWS = 0.0
      RETURN
```

```
      END
C*********************************************************************
C*      DETERMINE THE VOLUME INCREMENT FOR BLOCKS INSIDE             *
C*********************************************************************
      SUBROUTINE VBLOKM (IB, VI, DVWM)
      REAL VBLK (50,100), TBLK (50,100), WBM (50), WBMS (50)
      REAL WBMKS (50), TM (50)
      INTEGER NBM (50)
      COMMON /SECT2/ NL
      COMMON /HEAVE/ VBLK, TBLK
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      IF (IB. GT. NBC + NL) THEN
          IBLK = NL
          ELSE
          IF (IB. LE. NBC) THEN
              IBLK = 1
              ELSE
              IBLK = IB - NBC
              END IF
          END IF
      DO 10 I = 1 , 100
          DIF = VI - VBLK (IBLK,I)
          IF (DIF .LE. 0.0) THEN
              YMA = TBLK (IBLK,I)
              YMI = TBLK (IBLK,I-1)
              XMA = VBLK (IBLK,I)
              XMI = VBLK (IBLK,I-1)
              TI = YMI + ((YMA - YMI) / (XMA - XMI)) * (VI - XMI)
              GO TO 20
              END IF
 10        CONTINUE
 20   CONTINUE
      DO 30 I = 1 , 100
          DIF = TI + 1.0 - TBLK (IBLK,I)
          IF (DIF .LE. 0.0) THEN
              XMA = TBLK (IBLK,I)
              XMI = TBLK (IBLK,I-1)
              YMA = VBLK (IBLK,I)
              YMI = VBLK (IBLK,I-1)
              VBW = YMI + ((YMA - YMI) / (XMA - XMI)) * (TI + 1.0 -XMI)
              GO TO 40
              END IF
 30       CONTINUE
 40   CONTINUE
      DVWM = (VBW - VI) / 1440.0
      IF (DVWM .LT. 0.0) DVWM = 0.0
      RETURN
      END
```

```
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*            SUBROUTINE TO FIND THE FIRST AND LAST NONZERO ELEMENTS IN*
C*            A ONE DIMENSIONAL MATRIX                                   *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE TAILS (M, N, UT, LT)
      INTEGER N, UT, LT, I, NI
      REAL    M (N)
      DO 10 I = 1, N
          IF (M (I) .GT. 0.0) THEN
              LT = I
              GO TO 15
              END IF
   10     CONTINUE
   15 CONTINUE
      DO 20 I = 1 , N
          NI = N - I + 1
          IF (M (NI) .GT. 0.0) THEN
              UT = NI
              GO TO 25
              END IF
   20     CONTINUE
   25 CONTINUE
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*           SUBROUTINE TO CALCULATE THE PROBABILITY BETWEEN TWO LIMITS*
C*           USING ROMBERG INTEGRATION OF THE DISTRIBUTION               *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE PROBA (GM, P1, P2, L2, L1, TY, K, L)
      REAL GM, P1, P2, L1, L2, T (15,15), RES, IST
      REAL X1, F1, F2, X2, CONT
      INTEGER TY, N, J, I1, I2, I3, I4, K, L
      CALL FUCT (L1, F1, P1, P2, TY, K, L)
      CALL FUCT (L2, F2, P1, P2, TY, K, L)
      T (1,1) = (L2 - L1) * (F1 + F2) / 2.0
      X1 = L1 + (L2 - L1) / 2.0
      CALL FUCT (X1, F1, P1, P2, TY, K, L)
      T (1,2) = T (1,1) / 2.0 + (L2 -L1) * F1 / 2.0
      X1 = L1 + (L2 - L1) / 4.0
      X2 = L1 + 0.75 * (L2 -L1)
      CALL FUCT (X1, F1, P1, P2, TY, K, L)
      CALL FUCT (X2, F2, P1, P2, TY, K, L)
      T (1,3) = T (1,2) / 2.0 + (L2 -L1) * (F1 + F2) / 4.0
      T (2,1) = (4.0 * T (1,2) - T (1,1)) / 3.0
      T (2,2) = (4.0 * T (1,3) - T (1,2)) / 3.0
      T (3,1) = (16.0 * T (2,2) - T (2,1)) / 15.0
      J = 3
```

```
   10 CONTINUE
      I1 = J - 1
      RES = ABS (T (J,1) - T (I1,1))
      IF (TY .EQ. 22 .OR. TY .EQ. 44 .OR. TY .EQ. 55) THEN
          CONT = 0.00001
          ELSE
          CONT = 0.001
          END IF
      IF (RES .LT. CONT) THEN
          GM = T (J,1)
          RETURN
          END IF
      J = J + 1
      N = 2 ** (J - 2)
      T (1,J) = T (1,J-1) / 2.0
      IST = (L2 - L1) / FLOAT (2 ** (J - 1))
      X1 = IST + L1
      CALL FUCT (X1, F1, P1, P2, TY, K, L)
      T (1,J) = T (1,J) + IST * F1
      DO 15 I = 2 , N
          X1 = X1 + 2.0 * IST
          CALL FUCT (X1, F1, P1, P2, TY, K, L)
          T (1,J) = T (1,J) + IST * F1
   15     CONTINUE
      N = J - 1
      DO 20 I = 1 , N
          I1 = I + 1
          I2 = N - I + 1
          I3 = I1 - 1
          I4 = I2 + 1
          T (I1,I2) = (4.0 ** (I1 - 1) * T (I3,I4) - T (I3,I2))
     *              / (4.0 ** (I1 - 1) - 1.0)
   20     CONTINUE
      IF (J .GE. 15) THEN
          GM = T (J,1)
          RETURN
          END IF
      GO TO 10
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*            SUBROUTINE TO EVALUATE SEVERAL FUNCTIONS                   *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE FUCT (X, F, P1, P2, I, J, K)
      REAL X, F, P1, P2, T, T1, T2, P
      REAL G (12), BD (12), BW (12)
      INTEGER I, J, K
      COMMON /STOC8/ G
      COMMON /STOC9/ BD
      COMMON /STOC10/BW
      IF (I .EQ. 1) THEN
          F = EXP (-0.5 * ((X - P1) / P2) ** 2) / SQRT (6.283184 *
```

```
     *        P2 ** 2)
              ELSE
              IF (I .EQ. 2) THEN
                  T = GAMMA (P1)
                  F = X ** (P1 - 1.0) * EXP (- P2 * X)
                  F = F * (P2 / (T ** (1.0/P1) / 1.0E-20**(1.0/P1)))**P1
                  ELSE
                  IF (I .EQ. 3) THEN
                      IF (X .EQ. 0.0) THEN
                          F = 0.0
                          ELSE
                          F = EXP (-0.5 * (ALOG (X) - P1) ** 2 / P2) /
     *                        SQRT (6.283184 * X ** 2 * P2)
                          END IF
                      ELSE
                      IF (I .EQ. 4) THEN
                          P = P1 + P2
                          IF (P .GT. 30.0) THEN
                              A = 1.0
                              II = 1
    10                        CONTINUE
                              H = P - II
                              A = H * A
                              IF (H .LE. 30.0) GO TO 15
                              II = II + 1
                              GO TO 10
    15                        CONTINUE
                              T = 1.0E-10 * GAMMA (P1)
                              T1 = 1.0E-10 * GAMMA (P2)
                              T2 = GAMMA (H)
                              F =  X ** (P1 - 1.0) * (1.0 - X) **
     *                             (P2 - 1.0)
                              F = F * T2 * 1.0E-20 * A / (T1 * T)
                              F = F * 1.0E-20
                              ELSE
                              T = GAMMA (P1)
                              T1 = GAMMA (P2)
                              T2 = GAMMA (P)
                              F =  X ** (P1 - 1.0) * (1.0 - X) **
     *                             (P2 - 1.0)
                              F = F * T2 / (T1 * T)
                              F = F * 1.0E-20
                              END IF
                          ELSE
                          IF (I .EQ. 5) THEN
                              T = GAMMA (P1)
                              F =(P2/(T**(1.0/P1)*(P1/1.0E-20)**(1.0/P1)))
     *                             ** P1 * EXP (-P2 * X ** (1.0/P1))
                              ELSE
                              IF (I .EQ. 6) THEN
                                  P = P1 + P2
                                   T1 = GAMMA (P1)
                                   T2 = GAMMA (P2)
                                   T = GAMMA (P)
                                F = (1.0 - X ** (1.0 / P1)) ** (P2 -
```

```
*                       1.0) / (P1 * (T1 * T2 / T) / 1.0E-20)
                        ELSE
                        IF (I .EQ. 7) THEN
                            P = P1 + P2
                            T1 = GAMMA (P1)
                            T2 = GAMMA (P2)
                            T = GAMMA (P)
                            F = (1.0 - X ** (1.0 / P2)) **
*                           (P1 -1.0) / (P2 * (T1 *T2 / T)
*                           / 1.0E-20)
                            ELSE
  IF (I .EQ. 22) THEN
        F = X ** P1 * EXP (-P2*X)/G(J)
        ELSE
        IF (I .EQ. 44) THEN
            IF (X .EQ. 0.0  .OR.  X .EQ. 1.0) THEN
                F = 0.0
                ELSE
                IF (K .EQ. 0) THEN
                    F = X ** P1 * (1.0-X) ** P2 / BD (J)
                    ELSE
                    F = X ** P1 * (1.0-X) ** P2 / BW (J)
                    END IF
                END IF
            ELSE
            IF (I .EQ. 55) THEN
                F1 = EXP (-P2 * (X ** (1.0 / (P1 + 1.0))))
                F = (F1 / G (J))/ (P1 +1.0)
                ELSE
                PRINT*,'ERROR MESSAGE FROM SUBROUTINE FUCT'
                PRINT*,'THE FUNCTION CODE IS MISTAKEN'
                                    END IF
                                END IF
                            END IF
                        END IF
                    END IF
                END IF
            END IF
    END IF
END IF
RETURN
END
```

```
C*************************************************************************
C*************************************************************************
C*     SUBROUTINE TO FORM THE BLOCK CURVE                                *
C*     INPUT:                                                            *
C*       1. INITIAL BLOCK SIZE                                           *
C*       2. INITIAL MOISTURE CONTENT (SUCTION PRESSURE)                  *
C*     OUTPUT:                                                           *
C*       1. TABLE OF BLOCK VOLUME FROM THE DRYMOST CONDITION TO THE      *
C*          WETTEST CONDITION WITH ITS CORRESPONDING WETTING TIME        *
C*************************************************************************
C*************************************************************************
      SUBROUTINE CURVE (K)
      REAL WBSKS (50), TS (50), WB, LB, WBS (50), WBSS (50)
      REAL DVWET (2000), DVDRY (2000), TDRY (2000), TWET (2000)
      REAL VDRY (50), TD (50), VWET (50), TW (50)
      REAL VBLK (50,100), TBLK (50,100), H(50), HINN (15)
      INTEGER NBS(50), BMS (50)
      COMMON /HEAVE/ VBLK, TBLK
      COMMON /HINIT/ H
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /BSIZE/ WB, LB
      COMMON /INPT6/ HINN
      WRITE(9,100) K
100   FORMAT(//,10X,'BLOCK CURVE FOR BLOCK NO : ',I2,/
     *       ,16X,'VOLUME',10X,'TIME',/,
     *        16X,'(CM^3)',9X,'(DAYS)',/)
      HI = HINN (K)
      WB = WBSKS (K)
      LB = TS (K)
      VOLUME = WB * WB * LB
      DO 110 I=1, 2000
         DVWET (I) = 0.0
         DVDRY (I) = 0.0
         TWET (I) = 0.0
         TDRY (I) = 0.0
  110    CONTINUE
C*************************************************************************
C*               PREPARE A TABLE OF WET VOLUME VS. TIME                  *
C*************************************************************************
      DO 15 I = 2,49
          H(I) = HI
  15      CONTINUE
      VOL1 = 0.0
      DO 33 J = 1 , 60
          CALL WETTING (K, 1.0, VL)
          VOL1 = VOL1 + VL
  33      CONTINUE
      DO 34 J = 2 , 60
          CALL WETTING (K, 60.0, VL)
          VOL1 = VOL1 + VL
  34      CONTINUE
      DO 35 J = 2 , 24
          CALL WETTING (K, 3600.0, VL)
          VOL1 = VOL1 + VL
  35      CONTINUE
```

```
      DVWET (1) = 0.0
      TWET (1) = 0.0
      DVWET (2) = VOL1
      TWET (2) = 1.0
      NDWET = 1
      DO 36 J = 3 , 2000
          CALL WETTING (K, 86400.0, VL)
          NDWET = NDWET + 1
          VOL1 = VOL1 + VL
          DVWET (J) = VOL1
          TWET (J) = FLOAT(J-1)
          DIFV = DVWET (J) - DVWET (J-1)
          IF (DIFV .LE. 0.1) GO TO 112
 36       CONTINUE
112   DMAX1 = VOL1
      DIV1 = DMAX1 / 51.0
      DV1 = 0.0
      DO 120 I=1,50
          VWET (I) = 0.0
          TW (I) = 0.0
          VDRY (I) = 0.0
          TD (I) = 0.0
120       CONTINUE
      DO 111 I = 1 , 50
          DV1  = FLOAT(I) * DIV1
          VWET (I) = DV1
          DO 222 J = 1 , NDWET
              DIF = DV1 - DVWET (J)
              IF (DIF .LE. 0.01) THEN
                  XMA = DVWET (J)
                  XMI = DVWET (J-1)
                  YMA = TWET (J)
                  YMI = TWET (J-1)
                  TW (I) = YMI + ((YMA - YMI) / (XMA - XMI)) *
     *                     (DV1 - XMI)
                  GO TO 111
                  END IF
222           CONTINUE
111       CONTINUE
C*************************************************************************
C*               PREPARE DRY VOLUME VS. TIME                             *
C*************************************************************************
      DO 25 I = 2,49
          H(I) = HI
 25       CONTINUE
      VOL2 = 0.0
      DO 133 J = 1 , 60
          CALL DRYING (K,1.0, VL)
          VOL2 = VOL2 + VL
 133      CONTINUE
      DO 134 J = 2 , 60
          CALL DRYING (K,60.0, VL)
          VOL2 = VOL2 + VL
 134      CONTINUE
      DO 135 J = 2 , 24
```

```
          CALL DRYING (K,3600.0, VL)
          VOL2 = VOL2 + VL
  135      CONTINUE
       DVDRY (1) = VOL2
       TDRY (1) = 1.0
       NDDRY = 1
       DO 136 J = 2 , 2000
          CALL DRYING (K,86400.0, VL)
          NDDRY = NDDRY + 1
          VOL2 = VOL2 + VL
          DVDRY (J) = VOL2
          TDRY (J) = FLOAT(J)
          DIFV = ABS(DVDRY (J)) - ABS (DVDRY (J-1))
          IF (DIFV .LE. 0.1) GO TO 12
  136     CONTINUE
12       DMAX2 = VOL2
         DIV2 = DMAX2 / 50.0
         DV2 = 0.0
         VDRY(1) = 0.0
         TD(1) = 0.0
         DO 11 I = 2 , 50
            DV2  = FLOAT(I-1) * DIV2
            VDRY (I) = DV2
            DO 22 J = 1 , NDDRY
               DIF = ABS(VDRY (I)) - ABS(DVDRY (J))
               IF (DIF .LE. 0.01) THEN
                  XMA = DVDRY (J)
                  XMI = DVDRY (J-1)
                  YMA = TDRY (J)
                  YMI = TDRY (J-1)
                  TD (I) = YMI + ((YMA - YMI) / (XMA - XMI)) *
     *                        (VDRY(I) - XMI)
                  GO TO 11
                  END IF
  22           CONTINUE
  11        CONTINUE
         VB = VOLUME
         TB = 0.0
         DO 130 I = 1 , 50
            J = 50 - I + 1
            VBLK (K,I) = VB + VDRY (J)
            TB = TD(50) - TD(J)
            TBLK (K,I) = TB
            WRITE (9,*)I, VBLK (K,I), TBLK (K,I)
  130       CONTINUE
         DO 140 I = 1 , 50
            J = 50 + I
            VBLK (K,J) = VB + VWET (I)
            TBLK (K,J) = TD(50) + TW (I)
            WRITE (9,*)J, VBLK (K,J), TBLK (K,J)
  140       CONTINUE
         RETURN
         END
```

```
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE THE VOLUME INCREMENT OF THE BLOCK WITH    *
C*     TIME                                                              *
C*                                                                       *
C*************************************************************************
      SUBROUTINE WETTING (IBLK, DT, VL)
      REAL K (50,50), C (50,1), CC (50), H (50)
      REAL C1 (50), C2 (50), C3 (50), C4 (50)
      REAL HPREV (50), HNEW (50)
      REAL K1 (50), K2 (50), DT, VL
      REAL KK1, KK2, WB, LB
      COMMON /ONE/ K
      COMMON /TWO/ C1, C2, C3, C4
      COMMON /THREE/ C
      COMMON /HINIT/ H
      COMMON /BSIZE/ WB, LB
      DX = WB / 50.0
      AREA = 2.0 * WB * LB
      DO 10 I=1,50
           HPREV (I) = 0.0
           HNEW(I) = 0.0
 10        CONTINUE
           DO 30 I = 2,49
              HPREV (I) = H(I)
              HNEW (I) = HPREV (I)
 30           CONTINUE
 70       HPREV(1) = 0.0
          HPREV(50) = 0.0
C*************************************************************************
C*         FIND THE VALUES OF K(PERMEABILITY) AND                        *
C*         C (SLOPE OF THETA VS. H)                                      *
C*************************************************************************
       DO 35 I = 2,49
           H1 = (HPREV(I) + HPREV(I-1) +HNEW (I) + HNEW(I-1))/4.0
           CALL INTER1 (IBLK,H1,KK1)
           K1 (I) = KK1
           H2 = (HPREV(I) + HPREV(I+1) + HNEW (I)+HNEW(I+1))/4.0
           CALL INTER1 (IBLK,H2,KK2)
           K2 (I) = KK2
           H3 = (HPREV (I) + HNEW(I))/2.0
           CALL INTER2 (IBLK,H3,CCC)
           CC (I) = CCC
C*************************************************************************
C*          FORM THE COEFFICIENTS OF THE MATRICES                        *
C*************************************************************************
           C1 (I) = CC(I) * DX**2 + K1(I) * DT + K2(I) * DT
           C2 (I) = -K1(I) * DT
           C3 (I) = -K2(I) * DT
           C4 (I) = CC(I) * DX**2 * HPREV(I)
 35        CONTINUE
C*************************************************************************
C*          FORM THE MATRICES                                            *
C*************************************************************************
           CALL FORM (1)
```

```
C*************************************************************************
C*          SOLVE [K]{H} = {C}                                           *
C*************************************************************************
          CALL MATRIX
C*************************************************************************
C*          CHECK THE ACCURACY OF THE ITERATION                          *
C*************************************************************************
          DIF1 = 0.0
          DO 40 I = 2,49
              DIF = HNEW (I) - C(I,1)
              IF (DIF .GT. 0.1) GO TO 50
  40          CONTINUE
                  GO TO 80
  50      DO 60 I=2,49
              HNEW(I) = C(I,1)
  60          CONTINUE
          GO TO 70
  80      DO 85 I=1,50
              H(I) = C(I,1)
  85          CONTINUE
          GRA =( H(2) + HPREV(2)) / (2.0 * DX)
          VL = K1(2) * GRA * AREA * DT
      RETURN
      END
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE THE VOLUME DECREMENT OF THE BLOCK WITH    *
C*     TIME                                                              *
C*                                                                       *
C*************************************************************************
      SUBROUTINE DRYING (IBLK,DT, VL)
      REAL K (50,50), C (50,1), CC (50), H (50)
      REAL C1 (50), C2 (50), C3 (50), C4 (50)
      REAL HPREV (50), HNEW (50)
      REAL K1 (50), K2 (50), DT, VL
      REAL KK1, KK2, WB, LB
      COMMON /ONE/ K
      COMMON /TWO/ C1, C2, C3, C4
      COMMON /THREE/ C
      COMMON /HINIT/ H
      COMMON /BSIZE/ WB, LB
      DX = WB / 50.0
      AREA = 2.0 * WB * LB
          DO 300 I = 2,49
              HPREV (I) = H(I)
              HNEW (I) = HPREV (I)
  300          CONTINUE
  700       HPREV(1) = 15000.0
           HPREV(50) = 15000.0
C*************************************************************************
C*          FIND THE VALUES OF K(PERMEABILITY) AND                       *
C*          C (SLOPE OF THETA VS. H)                                     *
C*************************************************************************
       DO 350 I = 2,49
           H1 = (HPREV(I) + HPREV(I-1) +HNEW (I) + HNEW(I-1))/4.0
```

```
            CALL INTER1 (IBLK,H1,KK1)
            K1 (I) = KK1
            H2 = (HPREV(I) + HPREV(I+1) + HNEW (I)+HNEW(I+1))/4.0
            CALL INTER1 (IBLK,H2,KK2)
            K2 (I) = KK2
            H3 = (HPREV (I) + HNEW(I))/2.0
            CALL INTER2 (IBLK,H3,CCC)
            CC (I) = CCC
C*************************************************************************
C*          FORM THE COEFFICIENTS OF THE MATRICES                        *
C*************************************************************************
            C1 (I) = CC(I) * DX**2 + K1(I) * DT + K2(I) * DT
            C2 (I) = -K1(I) * DT
            C3 (I) = -K2(I) * DT
            C4 (I) = CC(I) * DX**2 * HPREV(I)
  350        CONTINUE
C*************************************************************************
C*          FORM THE MATRICES                                            *
C*************************************************************************
            CALL FORM (2)
C*************************************************************************
C*          SOLVE [K]{H} = {C}                                           *
C*************************************************************************
            CALL MATRIX
C*************************************************************************
C*          CHECK THE ACCURACY OF THE ITERATION                          *
C*************************************************************************
            DIF1 = 0.0
            DO 400 I = 2,49
                DIF = C (I,1) - HNEW (I)
                IF (DIF .GT. 0.1) GO TO 500
  400            CONTINUE
                GO TO 800
  500        DO 600 I=2,49
                HNEW(I) = C(I,1)
  600            CONTINUE
            GOTO 700
  800       DO 850 I=1,50
                H(I) = C(I,1)
  850            CONTINUE
            GRA =((H(2)-H(1)) + (HPREV(2)-HPREV(1)))/(2.0* DX)
            VL = (K1(2) * GRA * AREA * DT)
  330       CONTINUE
        RETURN
        END
```

```
C*************************************************************************
C*                                                                       *
C*          SUBROUTINE TO FORM THE MATRICES K AND C IN A SYSTEM          *
C*          OF EQUATIONS IN THE FORM [K]{H}={C} WHERE C ARE THE          *
C*          CONSTANTS                                                    *
C*                                                                       *
C*************************************************************************
      SUBROUTINE FORM (DW)
      REAL K(50,50),C(50,1)
      REAL C1(50),C2(50),C3(50),C4(50)
      INTEGER DW
      COMMON /ONE/ K
      COMMON /TWO/ C1,C2,C3,C4
      COMMON /THREE/ C
C*************************************************************************
C*     INITIALIZE THE MATRICES                                           *
C*************************************************************************
      DO 10 I=1,50
          DO 20 J=1,50
              K(I,J) = 0.0
  20          CONTINUE
  10      CONTINUE
      DO 30 I=1,50
          C(I,1) = 0.0
  30      CONTINUE
C*************************************************************************
C*     FORM MATRIX [K]                                                   *
C*************************************************************************
      K(1,1) = 1.0
      K(50,50) = 1.0
      DO 40 I=2,49
          K(I,I) = C1(I)
          K(I,I+1) = C3 (I)
          K(I,I-1) = C2(I)
  40      CONTINUE
C*************************************************************************
C*     FORM MATRIX {C}                                                   *
C*************************************************************************
      IF (DW .EQ. 1) THEN
          C(1,1) = 0.0
          C(50,1) = 0.0
          ELSE
          IF (DW. EQ. 2) THEN
              C(1,1) = 15000.0
              C(50,1) = 15000.0
              END IF
          END IF
      DO 50 I=2,49
          C(I,1) = C4(I)
  50      CONTINUE
      RETURN
      END
```

```
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE THE VALUE OF K FROM                       *
C*     THE EQUATION OR BY INTERPOLATION                                  *
C*                                                                       *
C*************************************************************************
      SUBROUTINE INTER1 (I,H,K)
      INTEGER BCURV, CPROP
      REAL K1 (10), K2 (10), K3 (10)
      REAL HH (10,20), KK (10,20), CC (10,20)
      REAL H,K
      COMMON /INPT2/ BCURV, CPROP
      COMMON /INPT3/ K1, K2, K3
      COMMON /INPT5/ HH, KK, CC
      IF (CPROP .EQ. 1) THEN
          K = K1 (I) / (1.0 + K2(I) * H) + K3 (I)
          ELSE
          IF (CPROP .EQ. 2) THEN
              DO 10 J = 1 , 20
                  DIF =  H - HH (I,J)
                  IF (DIF .LE. 0.0) THEN
                      YMA = KK (I,J)
                      YMI = KK (I,J-1)
                      XMA = HH (I,J)
                      XMI = HH (I,J-1)
                      K = YMI + ((YMA - YMI) / (XMA - XMI)) * (H - XMI)
                      GO TO 20
                      END IF
  10              CONTINUE
  20          CONTINUE
              END IF
          END IF
      RETURN
      END
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE THE VALUE OF C (THE SLOPE OF              *
C*     THETA VS. H) FROM THE EQUATION OR BY INTERPOLATION                *
C*                                                                       *
C*************************************************************************
      SUBROUTINE INTER2 (I,H,C)
      INTEGER BCURV, CPROP
      REAL C1(10), C2 (10)
      REAL HH (10,20), KK (10,20), CC (10,20)
      REAL H,C
      COMMON /INPT2/ BCURV, CPROP
      COMMON /INPT4/ C1,C2
      COMMON /INPT5/ HH, KK, CC
      IF (CPROP .EQ. 1) THEN
          C = 1.0 / ((C1 (I) + C2 (I) * H) * 100.0)
          ELSE
          IF (CPROP .EQ. 2) THEN
              DO 10 J = 1 , 20
                  DIF =  H - HH (I,J)
                  IF (DIF .LE. 0.0) THEN
```

```
                    YMA = CC (I,J)
                    YMI = CC (I,J-1)
                    XMA = HH (I,J)
                    XMI = HH (I,J-1)
                    C = YMI + ((YMA - YMI) / (XMA - XMI)) * (H - XMI)
                    GO TO 20
                    END IF
 10               CONTINUE
 20           CONTINUE
              END IF
          END IF
      RETURN
      END
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO SOLVE THE SYSTEM OF EQUATIONS (USING THE GAUSS-     *
C*     ELIMINATION METHOD)                                               *
C*                                                                       *
C*************************************************************************
      SUBROUTINE MATRIX
      REAL KK(50,50), C(50,1), KC (50,51)
      INTEGER PIVOT
      COMMON /ONE/ KK
      COMMON /THREE/ C
      DO 10 I = 1 , 50
          DO 20 J = 1 , 50
              KC (I,J) = KK (I,J)
 20           CONTINUE
 10       CONTINUE
      DO 30 I = 1 , 50
          KC (I,51) = C(I,1)
 30       CONTINUE
      DO 40 I = 1 , 49
          IF (KC (I,I) .EQ. 0.0) THEN
              PIVOT = 0
              J = I + 1
 50           IF ((PIVOT .EQ. 0) .AND. (J .LE. 50)) THEN
                  IF (KC (J,I) .NE. 0.0) PIVOT = J
                  J = J + 1
                  GO TO 50
                  END IF
              IF (PIVOT .EQ. 0) THEN
                  PRINT*,'ERROR MESSAGE FROM SUBROUTINE MATRIX'
                  PRINT*,'MATRIX [K] IS SINGULAR'
                  RETURN
                  ELSE
                  DO 60 J = 1 , 51
                      TMP = KC (I,J)
                      KC (I,J) = KC (PIVOT,J)
                      KC (PIVOT,J) = TMP
 60                   CONTINUE
                  END IF
              END IF
          DO 70 J = I + 1 , 50
              CONT = -(KC(J,I) / KC(I,I))
```

```
              DO 80 K = I, 51
                  KC (J,K) = KC (J,K) + CONT * KC (I,K)
   80             CONTINUE
   70         CONTINUE
   40       CONTINUE
            C (50,1) = KC (50,51) / KC (50,50)
            DO 90 J = 49 , 1 , -1
                C (J,1) = KC (J, 51)
                DO 100 K = J + 1 , 50
                    C (J,1) = C (J,1) - KC (J,K) * C (K,1)
  100               CONTINUE
                C (J,1) = C (J,1) / KC (J,J)
   90           CONTINUE
  300       RETURN
        END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*                SUBROUTINE TO FIND THE EVAPORATION                     *
C*                    FROM THE SOIL AND PLANTS                           *
C*************************************************************************
C*************************************************************************
      SUBROUTINE EVAPT (DD, EFPRE, PTE, EVAPR)
      INTEGER MONTH, SW2, NI, YY (12)
      INTEGER TMLAI (24), FLAG, DD
      REAL    PTE , EFPRE, PR, LLENT, ESX, UL, ASUM, LOST
      REAL    D1, D2, LAI, LAISQ(24), SLEVP, ENTSL,ZI
      REAL    SGES1, SGES2, ALFA, TL, TT, TS
      REAL    PLEVP, PLENT, WATER
      REAL    ENBAR (12)
      COMMON /INPT7/ TMLAI, LAISQ
      COMMON /INPT8/ ENBAR
      COMMON /INPT9/ ALFA, U, LLENT, LL
      COMMON /EVAP1/ WATER, UL
      COMMON /EVAP2/ FLAG, TS, TT, ZI, SGES1, SGES2
      DATA YY /31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31/
      LLENT = 1.0
      MM = DD
      DO 410 KD = 1 , 12
          MM = MM - YY (KD)
          IF (MM .LE. 0.0) THEN
              MONTH = KD
              GO TO 400
              END IF
  410     CONTINUE
  400 CONTINUE
C*************************************************************************
C*     DETERMINE THE LEAF AREA INDEX                                     *
C*************************************************************************
      DO 35 I = 1,24
          DIF = DD - TMLAI(I)
          IF (DIF .LT. 0) THEN
               D2 = FLOAT (TMLAI (I))
               D1 = FLOAT (TMLAI (I-1))
               LAI = LAISQ (I-1) + ((LAISQ (I) - LAISQ (I-1))/
```

```
     *              (D2 - D1)) * (FLOAT(DD) - D1)
                GO TO 36
                ENDIF
  35        CONTINUE
  36    CONTINUE
C*************************************************************************
C*          CALCULATE THE EVAPORATION FROM THE SOIL SURFACE               *
C*************************************************************************
      ENTSL = PTE * EXP (-0.4 * LAI)
      IF (SGES1 .LT. U) THEN
          IF (EFPRE .GE. SGES1) THEN
              SGES1 = 0.0
              ELSE
              SGES1 = SGES1 - EFPRE
              ENDIF
          SGES1 = SGES1 + ENTSL
          IF (SGES1 .GT. U) THEN
              SLEVP = ENTSL - 0.4 * (SGES1 - U)
            SGES2 = 0.6 * (SGES1 - U)
              TS    = (SGES2 / ALFA) ** 2
              ELSE
              SLEVP = ENTSL
              ENDIF
          ELSE
          IF (EFPRE .GE. SGES2) THEN
              PR = EFPRE - SGES2
              SGES1 = U - PR
              IF (PR .GT. U) THEN
                  SGES1 = 0.0
                  ENDIF
              SGES1 = SGES1 + ENTSL
              IF (SGES1 .GT. U) THEN
                  SLEVP = ENTSL - 0.4 * (SGES1 - U)
                  SGES2 = 0.6 * (SGES1 - U)
                  TS = (SGES2 / ALFA) ** 2
                  ELSE
                  SLEVP = ENTSL
                  ENDIF
              ELSE
              TS = TS + 1.0
              SLEVP = ALFA * (SQRT (TS) - SQRT (TS - 1.0))
            IF (EFPRE .GT. 0.0) THEN
                  ESX = 0.8 * EFPRE
                  IF (ESX .LE. SLEVP) THEN
                      ESX = SLEVP + EFPRE
                      ENDIF
                  IF (ESX .GT. ENTSL) THEN
                      ESX = ENTSL
                      ENDIF
                  SLEVP = ESX
                  ELSE
                  IF (SLEVP .GT. ENTSL) THEN
                      SLEVP = ENTSL
                      ENDIF
                  ENDIF
```

```
              SGES2 = SGES2 + SLEVP - EFPRE
              TS    = ( SGES2 / ALFA ) ** 2
              ENDIF
            ENDIF
C*************************************************************************
C*                    CALCULATE PLANT TRANSPIRATION                      *
C*************************************************************************
      PLENT = PTE * (-0.21 + 0.7 *  (LAI) ** 0.5)
      SW1   = WATER
      IF (SW1 .LE. LLENT) THEN
          IF (FLAG .EQ. 0) THEN
              TT = 0.0
              FLAG = 1
              AVENT = ENBAR (MONTH)
              TL = 3.0 * (LLENT - LL) / AVENT
              NI = INT (TL)
              ZI = FLOAT (NI + 1)
            ENDIF
          TT = TT + 1.0
          IF (TT .GE. ZI) THEN
              IF (TT .EQ. ZI) THEN
                  PLEVP = AVENT * ( 1.0 - SQRT ((TT - 1.0)/ TL))
                  ELSE
                  PLEVP = 0.0
                  ENDIF
              GOTO 45
              ENDIF
          PLEVP = AVENT * ( 1.0 - SQRT (TT / TL))
 45   CONTINUE
      SW2 = SW1 - PLEVP + EFPRE
      IF (SW2 .GE. LLENT) THEN
          FLAG = 0
          GOTO 40
          ENDIF
      IF (EFPRE .GT. PLEVP) THEN
          AVENT = ENBAR (MONTH)
          TL = 3.0 * (LLENT - LL) / AVENT
          NI = INT ( TL)
          ZI = FLOAT (NI + 1)
          ASUM = 0.0
          DO 38 I = 1,NI
              ASUM = ASUM + AVENT * (1.0 - SQRT( FLOAT (I) / TL))
              LOST = LLENT - SW2
              IF (LOST .LE. ASUM) THEN
                  TT = FLOAT (I)
                  FLAG = 1
                  GOTO 39
                  ENDIF
 38             CONTINUE
          ENDIF
 39    CONTINUE
       GO TO 41
       END IF
 40   CONTINUE
      PLEVP = PLENT
```

```
      SW1    = SW1 - PLEVP + EFPRE
      IF (SW1 .LE. LLENT) THEN
          TT = 0.0
          FLAG = 1
          AVENT = ENBAR (MONTH)
          TL = 3.0 * (LLENT - LL) / AVENT
          NI = INT (TL)
          ZI = FLOAT (NI + 1)
          ENDIF
  41    CONTINUE
C*************************************************************************
C*               COMPUTE EVAPOTRANSPIRATION                              *
C*************************************************************************
      EVAPR = PLEVP + SLEVP
      IF (EVAPR .GT. PTE) THEN
          EVAPR = PTE
          ENDIF
      WATER = WATER + EFPRE - EVAPR
      IF (WATER .LE. LL) WATER = LL
      IF (WATER .GT. UL) WATER = UL
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE THE BLOCK SIZE AFTER LOSS OF WATER        *
C*     DUE TO EVAPOTRANSPIRATION                                         *
C*     ROUTINE:                                                          *
C*        1. DETERMINE THE WETTEST BLOCKS (THE WETTEST BLOCKS            *
C*           ARE MORE LIKELY TO GIVE UP WATER)                           *
C*        2. REMOVE TOTAL VOLUME EVAPORATED FROM THE                     *
C*           WETTEST BLOCKS                                              *
C*        3. RECALCULATE THE BLOCKS DIMENSIONS                           *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE BSHRINK (DVDRY)
      REAL    WBS (50), WBSS (50), WBSKS (50), TS (50)
      REAL    WBM (50), WBMS (50), WBMKS (50), TM (50)
      REAL    WBLK (50), LBLK (50), DV, VBS (50), VBM(50)
      REAL    VBLK (50,100), TBLK (50,100), WBL(50), WBLS(50)
      REAL    DX1 (50), DY1 (50), DX2 (50), DY2 (50)
      INTEGER NBS (50), NBL (50), BMS (50), NBM (50)
      COMMON /FBRC7/ LBLK, WBLK
      COMMON /SECT2/ NL
      COMMON /FBRC4/ WBL, WBLS, NBL
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC3/ WBM, WBMS, WBMKS, TM, NBM
      COMMON /HEAVE/ VBLK, TBLK
      COMMON /DXDYE/ DX1, DY1, DX2, DY2
      DV = DVDRY
```

```
C*************************************************************************
C*     DETERMINE THE WETTEST BLOCK IN THE SIDE                           *
C*************************************************************************
          II = NBVS
          IBLK = NL
          VBS (II) = (WBSKS (II) ** 2) * TS (II)
          VS1 = (VBS (II) - VBLK (IBLK,1)) / (VBLK (IBLK,100) -
     *         VBLK(IBLK,1)) * 100.0
          IBS = II
          DO 10 I = 1 , NBVS
              II = NBVS - I + 1
              IF (II .GT. NBC + NL) THEN
                  IBLK = NL
                  ELSE
                  IF (II .LE. NBC) THEN
                      IBLK = 1
                      ELSE
                      IBLK = II - NBC
                      END IF
                  END IF
              VBS (II) = (WBSKS (II) ** 2) * TS (II)
              VI = (VBS (II) - VBLK (IBLK,1)) / (VBLK (IBLK,100) -
     *              VBLK(IBLK,1)) * 100.0
              IF (VI .GT. VS1) THEN
                  VS1 = VI
                  IBS = II
                  GO TO 40
                  END IF
 10           CONTINUE
C*************************************************************************
C*     DETERMINE THE WETTEST BLOCK UNDER THE PAVEMENT                    *
C*************************************************************************
 40       II = NBVB
          IBLK = NL
          VBM (II) = (WBMKS (II) ** 2) * TM (II)
          VM1 = (VBM (II) - VBLK (IBLK,1)) / (VBLK (IBLK,100) -
     *          VBLK(IBLK,1)) * 100.0
          IBM = II
          DO 50 I = 1 , NBVB
              II = NBVB - I + 1
              IF (II .GT. NBC + NL) THEN
                  IBLK = NL
                  ELSE
                  IF (II .LE. NBC) THEN
                      IBLK = 1
                      ELSE
                      IBLK = II - NBC
                      END IF
                  END IF
              VBM (II) = (WBMKS (II) ** 2) * TM (II)
              VI = (VBM (II) - VBLK (IBLK,1)) / (VBLK (IBLK,100) -
     *               VBLK(IBLK,1)) * 100.0
              IF (VI .GT. VM1) THEN
                  VM1 = VI
                  IBM = II
```

```
                    GO TO 30
                    END IF
 50             CONTINUE
C*************************************************************************
C*      REDUCE THE BLOCK DIMENSIONS ACCORDING TO THE VOLUME REMOVED     *
C*************************************************************************
 30         DVBLK = DV / ((NBS (IBS) - BMS (IBS)) * NBL (IBS) +
     *                  NBM (IBM) * NBL (IBM))
            DXS  = DVBLK / VBS (IBS) * WBSKS (IBS) / 3.0
            DYS  = DVBLK / VBS (IBS) * TS (IBS) / 3.0
            DXM  = DVBLK / VBM (IBM) * WBMKS (IBM) / 3.0
            DYM  = DVBLK / VBM (IBM) * TM (IBM) / 3.0
            DX1 (IBS) = DX1 (IBS) + DXS
            DY1 (IBS) = DY1 (IBS) + DYS
            DX2 (IBM) = DX2 (IBM) + DXM
            DY2 (IBM) = DY2 (IBM) + DYM
      RETURN
      END
C*************************************************************************
C*************************************************************************
C*                                                                       *
C*     SUBROUTINE TO CALCULATE THE INITIAL WATER IN THE SOIL PROFILE     *
C*     THE UPPER LIMIT OF THE WATER DEPTH STORED IN THE SOIL             *
C*                                                                       *
C*************************************************************************
C*************************************************************************
      SUBROUTINE INITIAL
      REAL    WBS(50), WBSS(50),WBSKS(50),TS(50)
      REAL    VBLK(50,100),TBLK(50,100),LLENT, LL
      INTEGER NBS(50),BMS(50)
      COMMON /FBRC2/ WBS, WBSS, WBSKS, TS, NBS, BMS
      COMMON /FBRC6/ NBVB, NBVM, NBVS, NBC
      COMMON /EVAP1/ WATER, UL
      COMMON /INPT9/ ALFA, U, LLENT, LL
      COMMON /HEAVE/ VBLK, TBLK
      UL = 0.0
      WATER = 0.0
      DO 10 I = NBC + 1 , NBVB
         IB = I - NBC
         VIB = WBSKS (IB) ** 2 * TS (IB)
         DV = VIB - VBLK (IB,1)
         DY = (DV / VIB) * TS (IB) / 3.0
         HD = TS (IB) - DY
         WT = (VBLK (IB,100) - VBLK (IB,1)) / VBLK (IB,1) * HD * 10.0
         WI = (VIB - VBLK (IB,1)) / VBLK (IB,1) * HD * 10.0
         UL = UL + WT
         WATER = WATER + WI
 10      CONTINUE
         UL = UL + LLENT
      RETURN
      END
```

```
C*****************************************************************************
C*****************************************************************************
C*                                                                           *
C*     FUNCTION TO EVALUATE THE GAMMA FUNCTION                               *
C*                                                                           *
C*****************************************************************************
C*****************************************************************************
      REAL FUNCTION GAMMA (X)
      REAL X, MAX, PIE, XMIN, XMAX, XS, Y, ARG, RX, AX
      INTEGER IARG, J, IFLAG
      REAL C1 (5), C2 (4), C3 (3)
      DATA C1 /-51.49952, 80.05398, -201.4659, -1.889439, 9.895546/
      DATA C2 /130.5263, -303.5898, 26.84174, -19.52375/
      DATA C3 /.9189385, .8333332E-01, -.2770927E-02/
      XMAX = 1.7E+38
      XMIN = 5.8775E-39
      PIE = 3.141593
      MAX = 34.844
      IFLAG = 0
      ARG = X
      IF (ABS(ARG) .GT. XMIN) GOTO 10
      GAMMA = XMAX
      IF (ARG .LE. 0.0) GAMMA = -XMAX
      GOTO 150
10    IF (ABS(ARG) .LT. MAX) GOTO 20
      GAMMA = XMAX
      GOTO 150
20    IF (ARG .GT. 0.0) GOTO 30
      IFLAG = 100
      ARG = - ARG
      RX = AINT (ARG)
      XS = 1.0
      ARX2 = AMOD (RX,2.0)
      IF (ARX2 .EQ. 0.0) XS = -1.0
      RX = ARG - RX
      IF (RX .NE. 0.0) GOTO 40
      GAMMA = XMAX
      IF (XS .EQ. -1.0) GAMMA = - XMAX
      GOTO 150
40    RX = PIE / SIN (RX * PIE) * XS
      ARG = ARG + 1.0
30    IF (ARG .GT. 12.0) GOTO 50
      IARG = INT (ARG)
      AX = 1.0
      IF (IARG .GT. 2) GOTO 60
      IARG = IARG + 1
      IF (IARG .LT. 0) THEN
          AX = AX / (ARG * (ARG + 1.0))
          ARG = ARG + 2.0
          GOTO 90
          END IF
      IF (IARG .EQ. 0) THEN
          AX = AX / ARG
          ARG = ARG + 1.0
          GOTO 90
```

```
          END IF
      IF (IARG .GT. 0) GO TO 90
60    DO 120 J = 3, IARG
          ARG = ARG - 1.0
          AX = AX * ARG
120       CONTINUE
90    XUL = C1(4) * ARG + C1(5)
      XEND = ARG + C2(4)
      DO 130 J = 1 , 3
          XUL = XUL * ARG + C1(J)
          XEND = XEND * ARG + C2(J)
130       CONTINUE
      Y = (XUL / XEND) * AX
      IF (IFLAG .EQ. 100) Y = RX / Y
      GAMMA = Y
      GO TO 160
50    XUL = ALOG (ARG)
      XUL = ARG * (XUL - 1.0) - 0.5*XUL
      ARG = 1.0 / ARG
      BX = ARG ** 2
      Y = (C3(3) * BX + C3(2)) * ARG + C3(1) + XUL
      Y = EXP (Y)
      IF (IFLAG .EQ. 100) Y = RX / Y
      GAMMA = Y
      GOTO 160
150   PRINT*,'ERROR FROM SUBROUTINE GAMMA:'
      PRINT*,'GAMMA (',X,') CAN NOT BE EVALUATED'
160   RETURN
      END
C*********************************************************************
C*********************************************************************
C*                                                                   *
C*      SUBROUTINE TO GENERATE RANDOM NUMBERS BETWEEN 0.0 AND 1.0    *
C*                                                                   *
C*********************************************************************
C*********************************************************************
      SUBROUTINE RANDOM (YFL)
      COMMON /SEEDNUM/ IX
      YFL = RAN (IX)
      RETURN
      END
```