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DREXEL INSTITUTE OF TECHNOLOGY  
LABORATORY OF CLIMATOLOGY

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VOLUME X NUMBER 3

INSTRUCTIONS AND TABLES FOR COMPUTING POTENTIAL  
EVAPOTRANSPIRATION AND THE WATER BALANCE

by  
C. W. Thornthwaite and J. R. Mather

With a section  
by D. P. Carter

Center for, New Jersey

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## FOREWORD

The term water balance has recently gained widespread popularity among climatologists, geographers, biologists, hydrologists and others concerned with water problems. It has, of course, taken on a variety of meanings depending on the user. In this publication the term water balance refers to the balance between the income of water from precipitation and the outflow of water by evapotranspiration. It is a climatic balance since the quantities precipitation and evapotranspiration are active factors of climate. From a comparison of the seasonal march of precipitation with the evapotranspiration, the magnitude of other related moisture parameters, the water surplus, water deficit, soil moisture storage and water runoff may be determined.

The climatic water balance was introduced into the literature by Thornthwaite in 1944 (Trans. A.G.U., Vol. 26, Part V, pp. 663-693) and used by him as the basis for a new and improved classification of climates in 1948 (Geogr. Rev., Vol. 38, No. 1, pp. 55-94). Since that time further studies of the water balance by the staff of the Laboratory of Climatology have led to revisions and extensions of the balance itself and its applications. These have been summed up in a publication by Thornthwaite and Mather in 1955 ("The Water Balance," Publications in Climatology, Laboratory of Climatology, Vol. VIII, No. 1, 104 pp.). The approach has been utilized in the following detailed studies of water problems which have appeared in previous issues of Publications in Climatology of the Laboratory of Climatology.

- D. B. Carter, "The Water Balance of the Lake Maracaibo Basin During 1946-53," Vol. VIII, No. 3, pp. 205-227
- T. E. A. van Hylckama, "The Water Balance of the Earth," Vol. IX, No. 2, pp. 53-117
- D. B. Carter, "The Water Balance of the Mediterranean and Black Seas," Vol. IX, No. 3, pp. 119-174

In developing the methods of analysis of the water balance which are used in the Laboratory of Climatology it has been necessary to produce a number of tables to facilitate the performance of the various computations. Since these methods are being employed widely throughout the world the present volume has been prepared to give detailed instructions and to provide the necessary tables.

## INSTRUCTIONS FOR EVALUATING THE WATER BALANCE

## PART I

In order to compute the water balance at a place it is necessary to have the following specific information:

- a) Mean monthly or daily air temperatures
- b) Mean monthly or daily precipitation
- c) Necessary conversion and computational tables
- d) Information on the water holding capacity of the depth of soil for which the balance is to be computed.

Air temperatures and precipitation are measured daily at a large number of stations over the whole world while the present publication includes essentially all of the needed tables and computational aids. It is more difficult to obtain information on the fourth item - the water holding capacity of the soil.

One of the reasons for this is that the water holding capacity of the soil depends on two different factors - the soil type and structure, and the type of vegetation growing on the surface. A sandy soil will hold only a centimeter or two of moisture per 30 centimeters depth of soil while a silt or clay may hold ten or more centimeters of moisture in the same depth.

At the same time, different species of vegetation will send roots down into the soil to different depths. Cultivated crops such as peas or spinach are very shallow rooted and so the depth of the root zone in which water can be stored in the soil is quite small. Vegetation, like trees and pasture grasses, send roots down to much greater depths so that the amount of water which can be held in the root zone of a soil covered with such vegetation is much larger than would be true of vegetable crops.

One factor which complicates the relation between depth of rooting of a plant and the type of vegetation is that the same plants will send roots to different depths in different types of soil. Thus in a sandy soil plants tend to be more deeply rooted than in silts and clays. The rooting habit of plants in different types of soils, in this way tends to compensate somewhat for the different water holding capacities of soils. However, the amount of water in the root zone of a soil at field capacity is quite variable and this quantity has to be estimated from a knowledge of soil and plant characteristics. It can vary from just a few millimeters to more than 400 millimeters depth of water. Measurements of this quantity are not available from many places so that the estimates of water holding capacity have to come from indirect evidence - maps of soil type and structure and maps of vegetation cover. While these lines of evidence are available for many areas the information obtained from such maps is only of a general nature and cannot be used to give precise estimates of the water holding capacities of the soil.

Tables for use in the computations of the water balance have been prepared for different values of water holding capacity (from 25 to 400 mm. and from 1 inch to 16 inches) and are included in section IV of this report.

At the beginning of section IV there is a table of provisional values of available water and root zone depths for different soil types to help in the selection of the proper soil moisture retention table. It must be understood that the table gives only general values for a few soils and that different soils, different vegetation covers, and different aged plants will result in somewhat different values of available water and root zone depth. The three examples which are used to illustrate the computational procedure, Seabrook, N.J., Bismarck, N.D., and Concord, N.H., are for fields where the water holding capacity of the soil is 300, 200, and 100 mm respectively. It must be remembered that it is necessary to determine or estimate this value in advance for each station record to be evaluated.

A) MONTHLY WATER BALANCE

Sample water balance computations at three stations are included below. These examples will be discussed in detail in the following section.

Seabrook, New Jersey  
(All values except T and I in mm. Water holding capacity in root zone of soil is 300 mm)

	J	F	M	A	M	J	J	A	S	O	N	D	Y
TOC*	0.9	1.2	5.9	11.3	17.5	22.3	24.7	23.7	20.2	14.0	7.6	2.3	
I	0.07	0.12	1.29	3.04	6.66	9.62	11.23	10.55	8.28	4.75	1.69	0.31	58.21
Unadj PE	0.1	0.1	0.6	1.3	2.5	3.5	4.1	3.9	3.1	1.8	0.8	0.1	
PE	3	3	19	43	93	131	156	138	97	52	20	2	756
P	87	93	102	88	92	91	112	113	82	85	70	93	1108
P-PE	84	91	83	45	-1	-40	-44	-25	-15	33	50	91	352
Acc Pot WL					-1	-41	-85	-110	-125				
ST	300	300	300	300	299	261	225	207	197	230	280	300	
ΔST	0	0	0	0	-1	-38	-36	-18	-10	+33	+50	+20	
AE	3	2	19	43	93	129	148	131	92	52	20	2	734
D	0	0	0	0	0	2	8	7	5	0	0	0	22
S	84	91	83	45	0	0	0	0	0	0	0	0	71
RO	59	76	79	62	31	15	8	4	2	1	1	1	36
SMRO	0	0	0	0	0	0	0	0	0	0	0	0	36
Tot RO	59	76	79	62	31	15	8	4	2	1	1	1	36
DT	360	375	379	362	330	277	233	211	199	231	280	335	374
						Snow	0						

\* Abbreviations: T, mean air temperature; I, heat index; Unadj PE, unadjusted potential evapotranspiration; PE, potential evapotranspiration; P, precipitation; P-PE, precipitation minus the potential evapotranspiration; Acc Pot WL, accumulated potential water loss (accumulated sum of the negative P-PE values); ST, storage; ΔST, change in soil moisture; AE, actual evapotranspiration; D, moisture deficit; S, moisture surplus; RO, water runoff; SMRO, snow melt runoff; Tot RO, total runoff; DT, total moisture detention.

Bismarck, North Dakota  
(All values except T and I in mm. Water holding capacity in root zone of soil is 200 mm)

	J	F	M	A	M	J	J	A	S	O	N	D	Y
TOC	-13.4	-12.1	-4.3	5.6	12.5	17.6	21.0	19.6	14.5	7.2	-1.9	-9.6	
I	0	0	0	1.19	4.00	6.72	8.78	7.91	5.01	1.74	0	0	35.35
Unadj PE	0	0	0	0.9	2.0	2.9	3.5	3.3	2.4	1.1	0	0	
PE	0	0	0	31	78	115	140	121	76	31	21	0	592
P	111	111	23	39	59	85	57	46	31	21	14	14	144
P-PE	111	111	23	8	-19	-30	-83	-75	-45	-7	14	14	-178
Acc Pot WL				(-116)	-135	-165	-248	-323	-368	-375			
ST	69	80	103	111	101	87	57	39	31	30	44	58	
ΔST	11	11	23	8	-10	-14	-30	-18	-8	25	14	14	
AE	0	0	0	31	69	99	87	64	39	25	0	0	414
D	0	0	0	0	9	16	53	57	37	6	0	0	178
S	0	0	0	0	0	0	0	0	0	0	0	0	
RO	0	0	0	0	0	0	0	0	0	0	0	0	
SMRO	0	0	0	0	0	0	0	0	0	0	0	0	
Tot RO	69	80	103	111	101	87	57	39	31	30	44	58	
							Snow	73					

Concord, New Hampshire  
(All values except T and I in mm. Water holding capacity in root zone of soil is 100 mm)

	J	F	M	A	M	J	J	A	S	O	N	D	Y
TOC	-6.0	-5.2	0	6.7	13.3	18.0	20.9	19.5	15.5	9.6	2.9	-3.4	
I	0	0	0	1.56	4.40	6.95	8.72	7.85	5.55	2.69	0.44	0	38.16
Unadj PE	0	0	0	0	2.1	3.0	3.5	3.2	2.5	1.5	0.4	0	
PE	0	0	0	34	79	115	135	115	78	43	10	0	609
P	68	63	75	74	75	80	90	81	76	76	86	66	910
P-PE	68	63	75	40	-4	-35	-45	-34	-2	33	76	66	301
Acc Pot WL					-4	-39	-84	-118	-120				
ST	234	297	100	100	96	67	42	30	29	62	100	166	
ΔST	0	0	0	0	-4	-29	-25	-12	-1	33	38	0	560
AE	0	0	0	34	79	109	115	93	77	43	10	0	49
D	0	0	0	0	0	6	20	22	1	0	0	0	153
S	0	0	0	40	0	0	0	0	0	0	0	0	153
RO	0	0	0	20	20	10	5	2	1	1	1	10	197
SMRO	0	0	0	89	44	22	11	16	6	2	2	10	350
Tot RO	239	299	315	128	64	32	58	38	33	64	120	176	
							Snow	197					



In order to determine potential evapotranspiration, mean monthly values of temperature must be available, and the latitude of the station must be known. Three steps are involved in the computation and all three are accomplished by means of tables (tables 1-9 in sections I, II, and III).

I: Heat Index

The first step is to obtain the heat index I. Tables 1 and 2 (section I) give the monthly values of I corresponding to mean monthly temperatures. Summation of the 12 monthly values gives the index I. I is zero when the mean temperature is 0°C or less.

Example: Seabrook, N.J.

J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 1 T <sub>QC</sub>	0.9	1.2	5.9	11.3	17.5	22.3	24.7	23.7	20.2	14.0	7.6	2.3
Line 2 I	.07	.12	1.29	3.14	6.66	9.62	11.23	10.55	8.28	4.75	1.89	.31
												58.21

Unadj PE: Unadjusted Daily Evapotranspiration

The second step is to determine the unadjusted daily potential evapotranspiration using tables 3 and 4, section II. For temperatures over 26.5°C use table 5, section II for all indices I. Potential evapotranspiration is zero at temperatures below 0°C.

Example: Seabrook, N.J.

J	F	M	A	M	J	J	A	S	O	N	D	
Line 1 T <sub>QC</sub>	0.9	1.2	5.9	11.3	17.5	22.3	24.7	23.7	20.2	14.0	7.6	2.3
Line 3 Un-adj PE	0.1	0.1	0.6	1.3	2.5	3.5	4.1	3.9	3.1	1.8	0.8	0.1

Adj PE: Adjusted Potential Evapotranspiration

The third step is to adjust these daily values of potential evapotranspiration for month and day length by multiplying by the proper correction factors given in tables 6 and 7 (section III). For stations poleward of 50° use the correction factor for 50°.

Example: Seabrook, N.J.

J	F	M	A	M	J	J	A	S	O	N	D	
Line 1 T <sub>QC</sub>	0.9	1.2	5.9	11.3	17.5	22.3	24.7	23.7	20.2	14.0	7.6	2.3
Line 3 Un-adj PE	0.1	0.1	0.6	1.3	2.5	3.5	4.1	3.9	3.1	1.8	0.8	0.1
Adj PE	0.1	0.1	0.6	1.3	2.5	3.5	4.1	3.9	3.1	1.8	0.8	0.1

Seabrook, N.J. is located at latitude 40°N. Monthly correction factors for this latitude are:

J	F	M	A	M	J	J	A	S	O	N	D
25.2	21.9	30.9	33.3	37.2	37.5	38.1	35.1	31.2	28.8	24.9	24.3

Multiply the unadjusted daily potential evapotranspiration by the appropriate correction factor to obtain adjusted monthly value of potential evapotranspiration.

J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 3 Unadj PE	0.1	0.1	0.6	1.3	2.5	3.5	4.1	3.9	3.1	1.8	0.8	0.1
Line 4 Adj PE	.3	.2	1.9	4.3	9.3	13.1	15.6	13.8	9.7	5.2	2.0	2
												756

P: Precipitation

Enter monthly precipitation in same units as potential evapotranspiration on appropriate line.

P-PE: Precipitation Minus the Potential Evapotranspiration

To determine periods of moisture excess and deficiency it is necessary to obtain the difference between precipitation and potential evapotranspiration. A negative value of P-PE indicates the amount by which the precipitation falls to supply the potential water need of a vegetation covered area. A positive value of P-PE indicates the amount of excess water which is available during certain periods of the year for soil moisture recharge and runoff.

In the great majority of stations there is only one so called "wet" season and one "dry" season per year. Thus, there will be only one set of consecutive negative and one set of positive differences. At these stations, two possibilities exist. At some places the excess precipitation (positive P-PE) during the year may be greater than the potential water loss (negative P-PE) (see example Seabrook, N.J.), while in other places the reverse may be true (see example Bismarck, N.D.). This latter situation will occur in dry areas where the precipitation is not sufficient to bring the soil moisture up to its maximum value of water holding capacity at any time during the year. Here the water deficiency even at the end of a period of rain and moisture recharge is some value other than zero. At stations with positive totals the water deficiency at the end of the wet period is always zero.

Example: Seabrook, N.J.

J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 4 Adj PE	.3	.2	1.9	4.3	9.3	13.1	15.6	13.8	9.7	5.2	2.0	2
Line 5 P	87	93	102	88	92	91	112	113	82	85	70	93
Line 6 P-PE	84	91	83	45	-1	-40	-44	-25	-15	33	50	91
												352

Example: Bismarck, N.D.

J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 4 Adj PE	0	0	0	31	78	115	140	121	76	31	0	0
Line 5 P	11	11	23	39	59	85	57	46	31	24	14	14
Line 6 P-PE	11	11	23	8	-19	-30	-83	-75	-45	-7	14	14
												592
												114
												-178

## Acc Pot WL: Accumulated Potential Water Loss

The negative values of P-PE, representing a potential deficiency of water are summed month by month as an aid in the computational steps which follow. At dry stations (annual total P-PE is negative) it is necessary to find a value of potential water deficiency with which to start accumulating the negative values of P-PE. This can be done by means of a series of successive approximations starting with an estimated value of the potential water deficiency at the beginning of the first month when P-PE is negative. Adding the total negative P-PE value to this estimate, and converting the result into a value of soil moisture retention by means of the tables in section IV, one obtains an estimated value of moisture stored in the soil at the end of the period of negative P-PE. Adding the total positive P-PE values now provides an estimate of the moisture retention at the end of the period of recharge. Converting this value into potential water loss (by reading on the border of the proper table in section IV, a value corresponding to the moisture retention in the body of the table) one again obtains a value of potential deficiency at the beginning of the period with negative P-PE values. Repeating this process results in a closer and closer approximation of the value of potential deficiency with which to begin the accumulation of the negative P-PE. If the process is repeated enough times the value of potential deficiency at the end of the last month with positive P-PE will be found not to change with repeated additions of the positive and negative P-PE values. This, then, is the correct value to use in the accumulation of the potential water loss values.

Example: Seabrook, N.J.

	J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 6 P-PE	84	91	83	45	-1	-10	-14	-25	-15	33	50	91	352
Line 7 Acc Pot					-1	-11	-85	-110	-125				

Since the sum of all the P-PE values is positive the value of accumulated potential water loss with which to start accumulating the negative values of P-PE is 0.

Example: Bismarck, N.D.

	J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 6 P-PE	11	11	23	8	-19	-30	-83	-75	-45	-7	14	14	-178
Line 7 Acc Pot				(-116)	-135	-165	-248	-323	-368	-375			

The sum of the P-PE values is negative so that it is necessary to use the successive approximation method of obtaining the value (-116) to start the accumulation of P-PE values. Use table 29 (200 mm soil moisture retention) and find in the body of the table the value of soil moisture retention equal to the total negative P-PE's (-259). This is found to be 54. This would be the storage in the soil if the moisture storage at the

beginning of the dry period (negative P-PE) had been 200 mm (the water holding capacity). Actually it will be some value less than this since the soil moisture content was some value less than 200 at the beginning of the dry period. Add to this value of 54 the sum of the positive P-PE values (81) to obtain a new estimated value of retention of 135 at the end of the moist period. Find this value in body of table 29 and obtain value on border giving the amount of potential water loss necessary to result in this value of retention. This value is found to be 78. Now add the total negative P-PE's (259) to this value (337) and find the new value of soil moisture retention at the end of the dry period in the body of the table opposite 337. The value is 36. Again add the total positive P-PE (81) to this (117) and find value on border of table corresponding (106). This is another estimated value of moisture retention at the end of the moist period. Again add negative P-PE (259) to this value (365) and find new retention figure (32). Adding positive P-PE gives a value of 372 and loss gives 113. Adding the total negative P-PE gives a value of 372 and the value of retention corresponding to this is 30. Adding the positive P-PE's to this and converting to potential loss gives a value of 372 and we find that the actual retention equal to a potential water loss of 375 mm is still 30, the same as it was the last time the negative P-PE values were added to the potential loss at the end of the moist season. Successive additions will not change these figures and so we have determined the value of potential water loss (-116) with which to start the accumulation of negative P-PE values. In the case of Bismarck the value of potential water loss of -116 is entered in the last month of positive P-PE, April, giving the potential water loss at the end of the wet period.

#### 51: Storage

Tables 11-33 give values of the soil moisture storage or the moisture retained in the soil after a given amount of accumulated potential water loss has occurred. Look up each value of the accumulated potential water loss line in the proper table (depending on the water holding capacity of the root zone at the place in question) and enter values of storage (retention) in appropriate places on storage line. After the soil moisture storage for each of the months with negative values of P-PE has been found from the table, the positive figures from line P-PE representing additions of moisture to the soil must be included. If accumulative adding brings the value of soil moisture storage over the water holding capacity by this value is entered on the storage line until the next negative value of P-PE is reached since the soil cannot hold more water in storage (see example Seabrook, N.J.). If the temperature is below -1°C it is assumed that the precipitation falls as snow. Under those conditions total storage can go higher than the water holding capacity since the snow will remain on the surface. If the total storage is above the water holding capacity of the soil when the temperature again rises above -1°C, the storage reverts to the value of the water holding capacity since the snow is considered to be moisture surplus in the process of running off (see example Concord, N.H.). If the total storage is less than the water holding capacity at the time temperatures above -1°C again occur the snow melt is held in storage in the ground (see example Bismarck, N.D.).

Example: Seabrook, N.J.

Line 6-P-PE	8h	J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 7 Acc Pot														
Line 8 ST	300	300	300	300	299	261	225	207	197	230	280	300		

Example: Concord, N.H.

Line 1 T°C	-6.0	-5.2	0.0	6.7	13.3	18.0	20.9	19.5	15.5	9.6	2.9	-3.4		
Line 6 P-PE	68	63	75	40	-4	-35	-45	-34	-2	33	76	66		301
Line 7 Acc Pot														
Line 8 ST	234	297	100	100	96	67	42	30	29	62	100	166		

Example: Bismarck, N.D.

Line 1 T°C	-13.4	-12.1	-11.3	5.6	12.5	17.6	21.0	19.6	14.5	7.2	-1.9	-9.6		
Line 6 P-PE	11	11	23	8	-19	-30	-83	-75	-45	-7	14	14		-178
Line 7 Acc Pot														
Line 8 ST	69	80	103	111	101	87	57	39	31	30	44	58		

ΔST: Change in Soil Moisture

As an aid in later computations it is desirable to obtain the difference in the amount of soil moisture storage from one month to the next. When the value in the storage line is above the water holding capacity, it is assumed that there is no change in soil storage although there may be a change in above surface storage. This is not reflected in the values in the ΔST line.

Example: Concord, N.H.

Line 1 T°C	-6.0	-5.2	0.0	6.7	13.3	18.0	20.9	19.5	15.5	9.6	2.9	-3.4		
Line 8 ST	234	297	100	100	96	67	42	30	29	62	100	166		
Line 9 ΔST	0	0	0	0	-4	-29	-25	-12	-1	+33	+38	0		

AE: Actual Evapotranspiration

When the precipitation is greater than the potential evapotranspiration, the soil remains full of water and the actual evapotranspiration will equal the potential. When the precipitation drops below the potential evapotranspiration the soil begins to dry out and actual evapotranspiration becomes

less than that potentially possible. In those months, the actual evapotranspiration equals the precipitation plus the amount of water drawn from the soil moisture storage (the ΔST, disregarding its sign).

Example: Seabrook, N.J.

Line 4 PE	3	2	19	43	93	131	156	138	97	52	20	2	756
Line 5 P	87	93	102	86	92	91	112	113	82	85	70	93	1108
Line 9 ΔST	0	0	0	0	-1	-38	-36	-18	-10	+33	+50	+20	
Line 10 AE	3	2	19	43	93	129	148	131	92	52	20	2	734

D: Moisture Deficit

The amount by which the actual and potential evapotranspiration differ in any month is the moisture deficit for that month.

Example: Seabrook, N.J.

Line 4 PE	3	2	19	43	93	131	156	138	97	52	20	2	756
Line 10 AE	3	2	19	43	93	129	148	131	92	52	20	2	734
Line 11 D	0	0	0	0	0	2	8	7	5	0	0	0	22

S: Moisture Surplus

After the soil moisture storage reaches the water holding capacity any excess precipitation is counted as moisture surplus and is subject to runoff. If the temperature of the month is below -1°C so that the precipitation falls as snow there is no surplus since all of the precipitation is treated as storage. Only when the temperature rises above -1°C can a surplus again occur. The surplus water which results from the melting snow is considered separately (in line 14) from the surplus which results from rainfall (line 12).

Example: Concord, N.H.

Line 1 T°C	-6.0	-5.2	0.0	6.7	13.3	18.0	20.9	19.5	15.5	9.6	2.9	-3.4		
Line 6 P-PE	68	63	75	40	-4	-35	-45	-34	-2	33	76	66		301
Line 8 ST	234	297	100	100	96	67	42	30	29	62	100	166		
Line 9 ΔST	0	0	0	0	-4	-29	-25	-12	-1	+33	+38	0		
Line 12 S	0	0	0	40	0	0	0	0	0	0	0	38		153

RO: Water Runoff

Studies have shown that for large watersheds only about 50 percent of the surplus water which is available for runoff in any month actually does run off. The rest of the surplus water is detained on the watershed

and made available for runoff during the next month. If periods shorter than a month are considered for surplus water there is only a few square miles in area the detention of surplus water may differ from 50 percent. In the example for Concord, N.H. a factor of 50 percent is used.

Example: Concord, N.H.

Line 12 S	J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 13 RO	4	3	39	39	20	10	5	2	1	1	19	10	153

SMRO: Snow Melt Runoff

Empirical evidence now available indicates that there is a relation between the elevation of the watershed, and the runoff of the water made available from melting snow provided the soil moisture content is at field capacity. It has been found that the lower the elevation of the watershed, the more rapid is the runoff of the water from the melting snow. Of course, in the first month that the temperature rises above -10°C the snow melt runoff cannot equal 50 percent of the available snow for much of the heat must go into the process of melting the snow first. Until the temperature rises considerable above freezing, snow melt remains a relatively slow process. It must be emphasized that the empirical relations found relate to the runoff of the water from the melting snow and not to the rate of snow melt itself.

It has been found that in areas above 1600 m (5000 ft) if the soil is at its water holding capacity or above approximately 10 percent of the water made available from the melting snow will run off during the first month with temperature above -10°C, 25 percent of the remainder during the second month, and 50 percent of the remainder in each of the following months until it is all gone. In areas below 1600 m if the soil is at its water holding capacity or above, 10 percent of the water available from the melting snow will run off during the first month with temperatures above -10°C while 50 percent of the remainder will run off in succeeding months. If the soil moisture storage is less than the water holding capacity there is no runoff of snow melt since it is assumed to go into storage in the soil.

Example: Concord, N.H. Elevation 339 feet

Line 1 T <sub>0C</sub>	-6.0	-5.0	0.0	6.7	13.3	18.0	20.9	19.5	15.5	9.6	2.9	-3.4
Line 5 P	68	63	75	74	75	80	90	81	76	76	86	66
Line 8 ST	234	297	100	100	96	67	42	30	29	62	100	166
Line 14 SMRO	0	0	20	89	44	22	11	6	3	1	1	0

Snow 197 mm

Example: Bismarck, N.D. Elevation 1670 feet

Line 1 T <sub>0C</sub>	-13.4	-13.1	-4.3	5.6	12.5	17.6	21.0	19.6	14.5	7.2	-1.9	-9.6
Line 5 P	11	23	39	59	85	57	46	31	24	14	14	14
Line 8 ST	69	80	103	111	101	87	57	39	31	30	44	58
Line 14 SMRO	0	0	0	0	0	0	0	0	0	0	0	0

Snow 73 mm

Tot RO: Total Runoff

The total runoff from an area is the sum of the water surplus runoff and the snow melt runoff. Because of the lag introduced by large watersheds there can be appreciable runoff during periods when the evapotranspiration is more than the precipitation and a moisture deficit is occurring.

Example: Concord, N.H.

Line 13 RO	J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 14 SMRO	4	3	39	39	20	10	5	2	1	1	19	10	153
Line 15 Tot RO	4	3	59	128	64	32	16	8	4	2	20	10	350

DT: Total Moisture Detention

The moisture detention is the total of the water stored within the soil, the snow remaining on the soil surface and the surplus water in the process of running off which has been detained for a month.

Example: Concord, N.H.

Line 8 ST	J	F	M	A	M	J	J	A	S	O	N	D	Y
Line 12 S	234	297	100	100	96	67	42	30	29	62	100	166	
Line 13 RO	4	3	39	39	20	10	5	2	1	1	19	10	
Line 14 SMRO	0	0	20	89	44	22	11	6	3	1	1	0	
Line 16 DT	239	299	315	228	160	99	58	38	33	64	120	176	

Snow 197 mm

Note: For March, detention of 315 consists of 75+2-39= 38 mm of water runoff detained, 197-20= 177 mm of snow detained and 100 mm of storage 100+177+38= 315 mm of detention.

B) DAILY WATER BALANCE

The computation procedure for determining the daily variation in soil moisture storage is quite similar to that already discussed for the monthly water balance. A special form has been prepared which permits the computations to be carried out simply and directly. Data for one period at Seabrook, N.J. have been evaluated as an example.

The computation form, or soil moisture record, permits the evaluation of one month of data per sheet. The first three columns deal with the determination of adjusted potential evapotranspiration from data of mean air temperature. The manner of determining potential evapotranspiration is entirely similar to that described previously for the monthly computations. The correction factor used to convert the unadjusted value of potential evapotranspiration to an adjusted potential evapotranspiration depends only on the deviation of the actual day length from a standard 12 hour day (table 8).

As in the case of the monthly computations, in making the daily determinations it is necessary to obtain the difference between the precipitation and the potential evapotranspiration. When the potential evapotranspiration is greater than the precipitation, this value is negative and indicates a drying of the soil.

In order to carry out the calculations of soil moisture storage it is necessary to know the value of soil moisture content with which to begin. If the record for the current year is being evaluated it is possible to obtain this starting value by direct measurement of the actual and total moisture content of the soil layer under consideration. If, however, a past record of soil moisture is being investigated the starting value soil moisture content can only be obtained by assuming a value of soil moisture storage equal to the moisture holding capacity after a period of rain during the moist season of the year and evaluating the daily record for a period of about a year prior to the actual date for which the daily calculations are wanted. During that time the assumed value of soil moisture storage will approach the true value and by the end of the year it should closely approximate the true value. Actual calculations can then begin with a realistic value of soil moisture storage.

When additions of moisture to the soil bring the storage up to the water holding capacity that value is entered on the soil moisture record sheet under storage. As the soil dries it is necessary to convert the values of potential change in storage given in the P-PE column into values of actual changes in storage for with drying the actual evapotranspiration will be less than the potential. Tables have been prepared which give the actual soil moisture retention or storage for given values of P-PE. These are the same tables which were used for a similar purpose in making the monthly computations (tables 11 to 33). Since the values of P-PE are not accumulated as in the case of the monthly computations it is necessary to accumulate them as the work is carried out by finding the value of soil moisture storage in the body of the table and then counting ahead a number equal to the value of P-PE to obtain the new value of soil moisture storage.

DAILY SOIL MOISTURE BALANCE, SEABROOK, NEW JERSEY, MAY-JUNE 1953

Water holding capacity of soil 300 mm. Soil moisture content at start 295 mm. Ninety percent of available gravitational water on any day held for later percolation. (All values except T in mm)

Date	Mean Temp	Unadj PE	Adj PE	P	P-PE	Soil Moist ST	Act Change	Moist Def	Moist Sur	Avail Grav Water	Grav Water ST	Soil Moist Bal
May 30	15.5	2.1	3	1	-2	295	-2	0	0	0	0	293
31	12.2	1.5	2	18	+16	300	+7	0	2	9	8	308
June 1	11.7	1.4	2	11	+9	300	0	0	9	17	15	315
2	12.8	1.6	2	1	-1	299	-1	0	0	15	14	313
3	17.8	2.6	3	0	-3	296	-3	0	0	14	13	309
4	18.9	2.8	3	0	-3	283	-3	0	0	13	12	305
5	23.3	3.8	5	0	-5	288	-5	0	0	12	11	299
6	25.0	4.1	5	15	+10	298	+10	0	0	11	10	308
7	25.6	4.3	5	1	-1	291	-1	0	0	10	9	303
8	22.8	3.7	5	0	-5	289	-5	0	0	8	8	297
9	22.2	3.5	4	0	-4	285	-4	0	0	8	7	292
10	23.9	3.9	5	0	-5	280	-5	0	0	7	7	287
11	20.0	3.0	4	0	-4	277	-4	1	0	7	6	283
12	17.2	2.5	3	0	-3	274	-3	0	0	6	5	279
13	18.9	2.8	4	1	-3	271	-3	0	0	6	5	276
14	16.7	2.3	3	2	+1	282	+1	0	0	5	5	286
15	13.9	1.8	2	0	-2	280	-2	0	0	4	4	284
16	17.8	2.6	3	0	-3	278	-3	1	0	4	3	282
17	20.0	3.0	4	0	-4	274	-4	0	0	4	3	277
18	18.9	2.8	4	0	-4	270	-4	0	0	3	3	274
19	21.1	3.3	5	4	-4	267	-4	1	0	3	3	270
20	24.4	4.0	5	0	-5	262	-5	0	0	3	2	264
21	26.1	4.4	6	0	-6	257	-6	1	0	2	2	259
22	26.7	4.5	6	0	-6	252	-6	1	1	2	2	250
23	25.0	4.1	5	0	-5	248	-5	1	0	2	2	244
24	22.2	3.5	4	0	-4	244	-4	1	0	2	2	246
25	20.0	3.0	4	0	-4	241	-4	1	0	2	1	242
26	22.8	3.7	4	0	-4	238	-4	1	0	1	1	239
27	27.2	4.7	6	0	-6	233	-6	1	1	1	1	234
28	26.7	4.5	6	0	-6	228	-6	1	1	1	1	229
29	26.1	4.4	6	2	-4	225	-4	1	1	1	1	226
30	25.6	4.3	5	1	-4	222	-4	1	0	1	1	223

Moisture is not stored in the soil above the value of the water holding capacity but is considered to be surplus water in transit from the area. Of course, at temperatures below -10°C the soil is considered to be frozen and no percolation of water through the soil and out of the area occurs.

The moisture deficit is the difference between the potential water loss, P-PE, and the actual change in storage or actual water loss.

The moisture surplus on any given day is the excess of precipitation over potential evapotranspiration after the soil moisture storage reaches the water holding capacity.

The sum of the gravitational water storage from the previous day and the moisture surplus gives the total available gravitational water on any given day. It has been found that only a certain percentage of the total quantity of surplus water will run off on any day. In the bookkeeping procedure the remaining percentage will be held as gravitational water storage and made available for runoff on the following day. Again only a percentage of this total will actually be lost by runoff on the second day. The percentage of surplus water lost each day depends on the soil type and the structure and the depth of the soil layer under consideration. It has been found to be near 90 percent for a deep loam soil.

The soil moisture balance is the sum of the soil moisture storage and the gravitational water storage on any day. It can have a value well above the moisture holding capacity due to the inclusion of gravitational water in the accounting process.

#### C) EVALUATION OF WATER BALANCES WITH MULTIPLE WET AND DRY SEASONS\*

The foregoing instructions describe the water balance computations at stations with only single groups of consecutive months having positive and negative differences of P-PE. There are some stations which have two or more groups of positive and negative P-PE's. These stations are more difficult to evaluate because of the problems involved in determining the proper value with which to start accumulating the potential water loss. Special forms are available which permit the data at these stations to be evaluated with comparative ease. Detailed instructions on the handling of these more difficult stations follow.

In cases where precipitation is sufficiently greater than potential evapotranspiration during every wet season so that soil moisture is restored to its water holding capacity (300 mm in our examples) following each of the dry season withdrawals, no difficulty is experienced in computing soil moisture utilization; the computation can be started at the beginning of any dry season because it is assumed that soil moisture storage is then at full capacity. The procedure for determining soil moisture utilization is, in this case, the same as that explained previously. Of course, each of the dry seasons must be treated as a new computation since soil moisture utilization is not influenced by any other antecedent conditions than the fact that soil moisture is at field capacity at the beginning of each dry season.

Two other cases that offer more difficulty for the computation of soil moisture utilization are: (1) those which have one wet season in which soil moisture is not restored to field capacity and (2) those which have no

\* Prepared by Dr. D. B. Carter, Research Associate, Laboratory of Climatology

wet season which is sufficient to restore soil moisture to field capacity. In each of these conditions, the dry season which follows an inadequate wet season has a quantity of soil moisture that is influenced by antecedent conditions of earlier wet and dry seasons. The computation of soil moisture utilization cannot begin at the start of the dry season without taking into consideration the effect of prior wet and dry seasons.

The examples tabulated for Kumasi, Ghana and Abengourou, Ivory Coast illustrate the two cases where one wet season and two wet seasons are inadequate to restore soil moisture to the water holding capacity.

To compute the soil moisture utilization and replenishment at a place, the values of P-PE for each month are determined and the sums for each dry period and wet period are accumulated separately. The sums of P-PE for the first and second dry periods of the year are designated  $N_1$  and  $N_2$  (negative) while the sums of the individual wet periods are  $P_1$  and  $P_2$  (positive). The values of  $N_1$  and  $N_2$  for Kumasi are -275 and -20 mm and they appear on the Acc. Pot. WL line in March and August columns. At Abengourou, the corresponding values are -160 in March and -157 in September. Wet season totals of P-PE at Abengourou are  $P_1 = 180$  mm which occurs in June and  $P_2 = 104$  mm in October.  $P_1$  at Kumasi is 177 mm in July and  $P_2$  is 159 mm in October.

#### Water Balances with One Adequate Wet Season

The most difficult part of the computation of soil moisture utilization is to ascertain where to start the computation. At Kumasi, typical of stations where  $P_1 + P_2$  is greater than  $N_1 + N_2$ , there is more moisture for replenishment of the soil than the accumulated potential water loss so at the end of at least one of the wet seasons, the soil must reach its moisture holding capacity. A starting point for the computation is, thus, the last month of the wet season that precedes the greater dry season. By inspection of the values of P-PE for Kumasi, October is seen to be the last month of the wet season that precedes the greater dry season so soil moisture storage must reach the water holding capacity during this month. In table 31, the accumulated potential water loss which corresponds to a soil moisture antecedent soil moisture content which must be considered in starting the computation of the soil moisture utilization of November at Kumasi is zero. The accumulated potential water loss for November at Kumasi is zero. In table 31 to 281 mm of soil moisture storage. The accumulated potential water loss through December is -118 mm which, in table 31, represents 202 mm of soil moisture storage. The soil moisture storage of each of the ensuing months through March is determined in similar fashion and the change in soil moisture is determined from the monthly values of soil moisture storage. For example, the change in storage from October to November at Kumasi is from 300 mm to 281 mm or -19 mm of change. The value of -19 is entered in the column for November on the line marked AST.

The first wet season at Kumasi of April through July does not restore soil moisture to field capacity. Adding the positive values of P-PE for the first wet season to the soil moisture storage remaining at the end of the first dry season at Kumasi one obtains a soil moisture storage of 296 mm.

Kumasi, Ghana  
(All values in mm. Assume water holding capacity  
of root zone is 300 mm)

	J	F	M	A	M	J	J	A	S	O	N	D	Y
PE*	110	119	143	138	137	119	110	95	105	117	117	128	1438
P	18	59	138	142	120	221	128	75	181	200	98	29	1479
P-PE	-92	-60	-5	4	53	102	18	-20	76	83	-19	-99	
Acc Pot Wt	-210	-270	-275				-20				-19	-118	
ΔST	-54	-27	-2	4	53	102	18	-19	23	0	-19	-79	
ST	148	121	119	123	176	278	296	277	300	300	261	202	1343
AE	72	85	140	138	137	119	110	94	105	117	117	108	95
D	38	33	3	0	0	0	0	1	0	0	0	20	0
S	0	0	0	0	0	0	0	0	53	83	0	0	136
RO	7	3	2	1	0	0	0	0	27	55	27	14	136
DT	155	124	121	123	176	278	296	277	327	355	308	216	

Abengourou, Ivory Coast  
(All values in mm. Assume water holding capacity  
of root zone is 300 mm)

	J	F	M	A	M	J	J	A	S	O	N	D	Y
PE	138	137	150	141	147	117	98	92	145	127	142	142	1576
P	9	46	123	199	216	170	80	37	61	231	54	17	1213
P-PE	-129	-91	-27	58	69	53	-18	-55	-84	104	-88	-125	
Acc Pot Wt	-342	-433	-460				-18	-73	-157	-88	-213		
ΔST	-41	-20	-5	+48	+69	+53	-14	-36	-45	+104	-61	-62	
ST	76	56	51	109	178	231	217	181	136	240	179	117	1213
AE	50	66	128	141	147	117	94	73	106	127	115	79	95
D	88	71	22	0	0	0	4	19	38	0	27	63	332
S	0	0	0	0	0	0	0	0	0	0	0	0	0
RO	0	0	0	0	0	0	0	0	0	0	0	0	0
DT	76	56	51	109	178	231	217	181	136	240	179	117	0

\* Abbreviations: PE, potential evapotranspiration; P, precipitation; P-PE, precipitation minus the potential evapotranspiration; Acc Pot Wt, accumulated potential water loss (accumulated sum of the negative P-PE values); ΔST, change in soil moisture; ST, storage; AE, actual evapotranspiration; D, moisture deficit; S, moisture surplus; RO, water runoff; DT, total moisture detention.

In table 31, the soil moisture storage of 296 mm is equivalent to an accumulated potential water loss of -4 mm. The second dry season at Kumasi begins with an antecedent of -4 mm of potential water loss. Thus, the accumulated water loss at the end of August is the sum of an antecedent -4 and a concurrent -20 mm, a total of -24 mm. In table 31, an accumulated potential water loss of -24 mm is the equivalent of 277 mm of soil moisture storage. In the remaining wet season at Kumasi, it may be seen that soil moisture is replenished to its moisture holding capacity of 300 mm, verifying the presumption that was made at the start of the computation.

#### Water Balances with no Adequate Wet Season

At places where the total of  $P_1$  and  $P_2$  is less than the total of  $N_1$  and  $N_2$ , field capacity may not be attained at the end of either wet season. The wet seasons are inadequate to restore soil moisture but the dry seasons are also inadequate to rid the soil of all its moisture so moisture storage fluctuates from low to moderate values.

The example for Abengourou, Ivory Coast illustrates the difficulty of ascertaining where to start the computation of soil moisture utilization. The value of  $P_1$  is less than the value of  $N_1$  at Abengourou and the value of  $P_2$  is less than the value of  $N_2$  so it is unlikely that field capacity is ever reached. Each of the dry seasons has an antecedent soil moisture storage which is less than field capacity and is virtually the same as though there had been a dry season instead of a wet season preceding it. The starting point for soil moisture utilization is found by successive approximations.

In the example for Abengourou,  $N_1 = -460$ ,  $P_1 = 180$ ,  $N_2 = -157$ , and  $P_2 = 104$ . The values of  $N_1$  and  $N_2$  are the seasonal values of potential water loss and are represented by the abscissa and ordinate of table 31. By means of the table, the soil moisture storage, ST, remaining after any potential water loss,  $N$ , can be determined. From successive conversions of potential water loss to soil moisture storage and vice versa, the soil moisture storage at the end of each wet and dry period is eventually determined.

Although it can be shown in this example that the soil does not attain its moisture holding capacity of 300 mm at the end of the second wet season, the amount of soil moisture storage which remains is not known so the antecedent potential water loss is also unknown. It is therefore necessary to begin the successive approximations as though soil moisture were at field capacity before the first dry season and proceed until the assumption is rectified by the compensating adjustments of soil moisture storage and potential water loss.

In the example for Abengourou,  $N_1 = -460$ ,  $P_1 = 180$ ,  $N_2 = -157$ , and  $P_2 = 104$ . The soil moisture retention which corresponds in table 31 to an accumulated potential water loss of  $N_1 = -460$  is 64 mm. The effect of the first dry season is to dry out the soil moisture storage to an amount which is at least as little as 64 mm so the first wet season adds 180 mm to 64 mm making 244 mm of storage. Since the soil moisture storage is not at the moisture holding capacity at the beginning of the second dry season, there is an antecedent value of potential water loss to be considered. In table 31,

the potential water loss which corresponds to a moisture retention of 214 mm is -61 mm. The second dry season begins with soil moisture at the level it would be if there had been an antecedent potential water loss of -61 mm. The second dry season begins with soil moisture at the level it would be if there had been an antecedent potential water loss of -61 mm. Adding the potential water loss of the second dry season to the antecedent water loss gives -218 mm of potential water loss. The soil moisture retention represented in table 31 by the potential loss of -218 is 114 mm. Adding 104 mm,  $P_2$  of the second wet season, yields a soil moisture storage of 218 mm which, is the equivalent of -57 mm of potential water loss.

The four adjustments involving  $M_1$ ,  $P_1$ ,  $M_2$  and  $P_2$  in the order of their natural occurrence is a cycle of approximations. The cycle is repeated successively until the soil moisture storage at the end of a wet or dry season is identical to the value for the same season in a previous cycle. In the example of a single cycle for Abengourou, the antecedent was unknown so it was assumed to be zero; after the adjustments of the first cycle, the antecedent potential water loss for the second cycle is -57 mm. The alternating effect of gains and potential losses is balanced eventually by carrying the procedure through successive cycles.

The computation is easily carried out with a form in which accumulated water loss and soil moisture storage are kept separate. The apparent values of accumulated potential water loss after adding the effect of a dry season; after adding the effect of the wet season, soil moisture storage is converted to potential water loss by finding the storage value in the retention table and proceeding then to the ordinate and abscissa of the table, the reverse is carried through the remaining cycles in the following form. The computation reveals that the thirteenth adjustment, in this case, produces the same value of soil moisture storage as the ninth adjustment. The fourth cycle of adjustments, and all succeeding cycles, reproduce the values of the third cycle so that soil moisture storage has been found that permits the determination of monthly soil moisture utilization and recharge for Abengourou. In fact, 51, 231, 136 and 240 mm the storage in the fourth cycle, are the amounts of storage at the end of the first dry season, first wet season, second dry season, and second wet season, respectively.

Starting with any of these values, the monthly values of potential water loss and soil moisture storage may be reckoned. The change in soil moisture storage is then deduced from the monthly storage and the remainder of the computation of the water balance is carried out according to previous instructions.

To calculate water balances with multiple wet and dry seasons

Example: Abengourou. Assumed water holding capacity 300 mm.

$$M_1 = -160 \quad P_1 = 180 \quad M_2 = -157 \quad P_2 = +104$$

Acc. Pot. Water Loss ST	0	-160 X	=-160 51 ↓	X 180	-61 ↓ 214 ↓	X 157	=-218 114 ↓	X 104	-57 ↓ 218 ↓
Acc. Pot. Water Loss ST	-57	-160 X	=-517 53 ↓	X 180	-75 ↑ 233 ↓	X 157	=-232 138 ↓	X 104	-61 ↓ 212 ↓
Acc. Pot. Water Loss ST	-64	-160 X	=-524 51 ↓	X 180	-78 ↑ 231 ↓	X 157	=-235 136 ↓	X 104	-66 ↓ 210 ↓
Acc. Pot. Water Loss ST	-66	-160 X	=-526 51 ↓	X 180	=	X	=	X	=
Acc. Pot. Water Loss ST		X	=	+	=	X	=	+	=

\* Locate negative value (Acc. Pot. Water Loss) on border of table 31. Storage value will be given in body of table.

\*\* Locate storage value in body of table 31. Negative value (Acc. Pot. Water Loss) will be given on border of table.



PART II  
TABLES FOR COMPUTING POTENTIAL EVAPOTRANSPIRATION  
AND THE WATER BALANCE

SECTION I

Table 1	Monthly Values of I Corresponding to Monthly Mean Temperatures ( $t_p$ ) . . . . .	Page 206
Table 2	Monthly Values of I Corresponding to Monthly Mean Temperatures ( $t_c$ ) . . . . .	208

Temperature in  $t_p$  (pp. 206-207) or  $t_c$  (p. 208) is given to nearest tenth of a degree on outside vertical and horizontal scales. Sum  $i$  values found in the body of table corresponding to the mean temperature of each month to obtain the heat index I of the station.

MONTHLY VALUES OF t CORRESPONDING TO MONTHLY MEAN TEMPERATURES (°F)

TABLE 1

t°F	MONTHLY VALUES OF t CORRESPONDING TO MONTHLY MEAN TEMPERATURES (°F)									t°F	MONTHLY VALUES OF t CORRESPONDING TO MONTHLY MEAN TEMPERATURES (°F)										
	.0	.1	.2	.3	.4	.5	.6	.7	.8		.9	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
32	.00	.00	.00	.01	.01	.01	.02	.02	.03	.03	77	11.43	11.47	11.51	11.54	11.58	11.62	11.70	11.74	11.78	
33	.04	.04	.05	.05	.06	.06	.07	.08	.09	.09	78	11.82	11.85	11.89	11.93	11.97	12.01	12.06	12.13	12.17	
34	.10	.11	.12	.13	.14	.14	.15	.16	.17	.18	79	12.21	12.25	12.29	12.33	12.37	12.41	12.49	12.53	12.57	
35	.19	.20	.21	.22	.24	.25	.26	.27	.28	.29	80	12.61	12.65	12.69	12.73	12.77	12.81	12.85	12.89	12.97	
36	.29	.30	.32	.33	.34	.35	.36	.37	.38	.40	81	13.01	13.05	13.09	13.13	13.17	13.21	13.29	13.33	13.37	
37	.41	.42	.43	.44	.46	.47	.48	.50	.51	.52	82	13.41	13.45	13.49	13.53	13.57	13.61	13.66	13.69	13.73	
38	.55	.55	.56	.58	.59	.60	.62	.63	.65	.66	83	13.81	13.85	13.89	13.94	13.98	14.02	14.08	14.10	14.18	
39	.68	.70	.71	.73	.74	.75	.77	.79	.80	.82	84	14.22	14.26	14.31	14.35	14.39	14.43	14.47	14.52	14.60	
40	.83	.85	.86	.88	.90	.91	.93	.95	.96	.98	85	14.64	14.69	14.73	14.77	14.81	14.85	14.90	14.94	15.02	
41	1.00	1.01	1.03	1.05	1.07	1.08	1.10	1.12	1.14	1.16	86	15.07	15.11	15.15	15.19	15.23	15.28	15.32	15.36	15.40	
42	1.17	1.19	1.21	1.23	1.24	1.26	1.28	1.30	1.32	1.33	87	15.49	15.53	15.58	15.62	15.66	15.71	15.75	15.79	15.84	
43	1.54	1.55	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.72	88	15.92	15.97	16.01	16.05	16.10	16.14	16.18	16.23	16.31	
44	1.95	1.96	1.97	1.99	2.00	2.02	2.04	2.06	2.08	2.10	89	16.36	16.40	16.44	16.49	16.53	16.57	16.62	16.66	16.70	
45	1.74	1.76	1.78	1.80	1.82	1.85	1.87	1.89	1.91	1.93	90	16.79	16.83	16.88	16.92	16.96	17.01	17.05	17.10	17.18	
46	1.95	1.97	2.00	2.02	2.04	2.06	2.08	2.10	2.13	2.15	91	17.23	17.27	17.32	17.36	17.41	17.45	17.49	17.54	17.63	
47	2.17	2.19	2.21	2.23	2.26	2.28	2.30	2.32	2.34	2.37	92	17.67	17.72	17.76	17.81	17.85	17.89	17.94	17.98	18.03	
48	2.39	2.41	2.43	2.46	2.48	2.50	2.53	2.55	2.57	2.60	93	18.12	18.16	18.21	18.25	18.30	18.34	18.39	18.43	18.48	
49	2.62	2.64	2.67	2.69	2.71	2.74	2.76	2.79	2.81	2.84	94	18.57	18.62	18.66	18.71	18.75	18.80	18.84	18.89	18.94	
50	2.86	2.89	2.91	2.93	2.96	2.98	3.01	3.03	3.05	3.08	95	19.07	19.07	19.12	19.16	19.21	19.25	19.30	19.34	19.39	
51	3.11	3.13	3.16	3.18	3.21	3.23	3.25	3.28	3.30	3.33	96	19.48	19.53	19.58	19.62	19.67	19.71	19.76	19.81	19.86	
52	3.35	3.38	3.40	3.43	3.46	3.48	3.50	3.53	3.55	3.58	97	19.95	20.00	20.04	20.09	20.14	20.18	20.23	20.28	20.32	
53	3.60	3.63	3.65	3.68	3.71	3.73	3.76	3.79	3.81	3.84	98	20.42	20.46	20.51	20.56	20.60	20.65	20.70	20.74	20.79	
54	3.87	3.89	3.92	3.95	3.97	4.00	4.03	4.06	4.08	4.11	99	20.88	20.93	20.98	21.03	21.08	21.13	21.17	21.22	21.27	
55	4.14	4.16	4.19	4.22	4.25	4.27	4.30	4.33	4.35	4.38	100	21.36	21.41	21.46	21.51	21.56	21.60	21.65	21.70	21.75	
56	4.41	4.44	4.47	4.50	4.52	4.55	4.57	4.60	4.63	4.66	101	21.84	21.89	21.94	21.99	22.03	22.08	22.13	22.18	22.23	
57	4.69	4.72	4.75	4.77	4.80	4.83	4.86	4.89	4.92	4.95	102	22.33	22.38	22.42	22.47	22.52	22.57	22.62	22.67	22.71	
58	4.98	5.01	5.04	5.07	5.10	5.13	5.16	5.18	5.22	5.25	103	22.81	22.86	22.91	22.96	23.00	23.05	23.10	23.15	23.20	
59	5.28	5.31	5.34	5.37	5.40	5.43	5.46	5.49	5.52	5.55	104	23.30									
60	5.58	5.61	5.64	5.67	5.70	5.73	5.76	5.79	5.82	5.85											
61	5.88	5.91	5.94	5.97	6.00	6.03	6.06	6.10	6.13	6.16											
62	6.19	6.22	6.25	6.28	6.31	6.34	6.38	6.41	6.44	6.47											
63	6.50	6.53	6.56	6.59	6.62	6.66	6.69	6.72	6.75	6.78											
64	6.62	6.65	6.68	6.72	6.75	6.78	6.82	6.85	6.88	6.91											
65	6.85	6.88	6.92	6.95	6.98	7.02	7.05	7.08	7.12	7.15											
66	7.18	7.22	7.25	7.28	7.32	7.35	7.38	7.42	7.45	7.48											
67	7.46	7.52	7.55	7.58	7.62	7.65	7.68	7.72	7.75	7.78											
68	7.82	7.85	7.89	7.92	7.95	7.99	8.02	8.05	8.09	8.12											
69	8.15	8.19	8.23	8.26	8.30	8.33	8.37	8.40	8.44	8.47											
70	8.51	8.54	8.57	8.61	8.64	8.68	8.71	8.75	8.78	8.82											
71	8.85	8.89	8.92	8.96	8.99	9.03	9.06	9.10	9.13	9.17											
72	9.20	9.24	9.27	9.31	9.34	9.38	9.42	9.46	9.49	9.53											
73	9.57	9.60	9.64	9.67	9.71	9.75	9.78	9.82	9.85	9.89											
74	9.93	9.97	10.01	10.04	10.08	10.12	10.15	10.19	10.22	10.26											
75	10.30	10.34	10.37	10.41	10.45	10.48	10.52	10.56	10.60	10.64											
76	10.67	10.71	10.75	10.78	10.82	10.86	10.89	10.93	10.97	11.01											
76	11.05	11.09	11.13	11.17	11.20	11.24	11.28	11.31	11.35	11.39											

TABLE 2  
MONTHLY VALUES OF I CORRESPONDING TO MONTHLY MEAN TEMPERATURES (°C)

T <sup>o</sup> C	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
0			.01	.01	.02	.03	.04	.05	.06	.07
1	.09	.10	.12	.13	.15	.16	.18	.20	.21	.23
2	.25	.27	.29	.31	.33	.35	.37	.39	.42	.44
3	.46	.48	.51	.53	.55	.58	.61	.63	.66	.68
4	.71	.74	.77	.80	.82	.85	.88	.91	.94	.97
5	1.00	1.03	1.06	1.09	1.12	1.15	1.19	1.22	1.25	1.29
6	1.32	1.35	1.39	1.42	1.49	1.52	1.56	1.59	1.63	1.68
7	1.68	1.70	1.74	1.77	1.81	1.86	1.89	1.92	1.96	2.00
8	2.04	2.08	2.12	2.15	2.19	2.23	2.27	2.31	2.35	2.39
9	2.44	2.48	2.52	2.56	2.60	2.64	2.69	2.73	2.77	2.81
10	2.66	2.80	2.94	2.99	3.03	3.08	3.12	3.16	3.21	3.25
11	3.30	3.34	3.39	3.44	3.48	3.53	3.58	3.62	3.67	3.72
12	3.76	3.81	3.86	3.91	3.96	4.00	4.05	4.10	4.15	4.20
13	4.26	4.30	4.35	4.40	4.45	4.50	4.55	4.60	4.65	4.70
14	4.75	4.81	4.86	4.91	4.96	5.01	5.07	5.12	5.17	5.22
15	5.28	5.33	5.38	5.44	5.49	5.55	5.60	5.65	5.71	5.76
16	5.82	5.87	5.93	5.98	6.04	6.10	6.15	6.21	6.26	6.32
17	6.38	6.44	6.49	6.55	6.61	6.66	6.72	6.78	6.84	6.90
18	6.95	7.01	7.07	7.13	7.19	7.25	7.31	7.37	7.43	7.49
19	7.55	7.61	7.67	7.73	7.79	7.85	7.91	7.97	8.03	8.10
20	8.16	8.22	8.28	8.34	8.41	8.47	8.53	8.59	8.65	8.72
21	8.78	8.85	8.91	8.97	9.04	9.10	9.17	9.23	9.29	9.36
22	9.42	9.49	9.55	9.62	9.68	9.75	9.82	9.89	9.95	10.01
23	10.09	10.15	10.21	10.28	10.35	10.41	10.48	10.55	10.62	10.68
24	10.76	10.82	10.89	10.95	11.02	11.09	11.16	11.23	11.30	11.37
25	11.44	11.50	11.57	11.64	11.71	11.78	11.85	11.92	11.99	12.06
26	12.13	12.21	12.28	12.35	12.42	12.49	12.56	12.63	12.70	12.78
27	12.85	12.92	12.99	13.07	13.14	13.21	13.28	13.36	13.43	13.50
28	13.58	13.65	13.72	13.80	13.87	13.94	14.02	14.09	14.17	14.24
29	14.32	14.39	14.47	14.54	14.62	14.69	14.77	14.84	14.92	14.99
30	15.07	15.15	15.22	15.30	15.38	15.45	15.53	15.61	15.68	15.76
31	15.84	15.92	15.99	16.07	16.15	16.23	16.31	16.39	16.46	16.54
32	16.82	16.78	16.78	16.85	16.93	17.01	17.09	17.17	17.25	17.33
33	17.41	17.49	17.57	17.65	17.73	17.81	17.89	17.97	18.05	18.13
34	18.22	18.30	18.38	18.46	18.54	18.62	18.70	18.79	18.87	18.95
35	19.03	19.11	19.20	19.28	19.36	19.45	19.53	19.61	19.69	19.78
36	19.86	19.95	20.03	20.11	20.20	20.28	20.36	20.45	20.53	20.62
37	20.70	20.79	20.87	20.96	21.04	21.13	21.21	21.30	21.38	21.47
38	21.56	21.64	21.73	21.81	21.90	21.99	22.07	22.16	22.25	22.33
39	22.42	22.51	22.59	22.68	22.77	22.86	22.95	23.03	23.12	23.21
40	23.30									

SECTION II

Table 3	Values of Unadjusted Daily Potential Evapotranspiration (in.) for Different Mean Temperatures (°F) and I Values . . . . .	210
Table 4	Values of Unadjusted Daily Potential Evapotranspiration (mm) for Different Mean Temperatures (°C) and I Values . . . . .	218
Table 5	Values of Unadjusted Daily Potential Evapotranspiration for Mean Temperatures Above 80°F or 26.5°C . . . . .	226

Select the proper table, either in °F and inches (pp. 210-217) or °C and millimeters (pp. 218-225), and find the column with the heat index I value most nearly equal to I value of the station whose record is being evaluated. Values of unadjusted daily potential evapotranspiration are read from the body of the table for each given mean daily temperature.

At mean temperatures over 80°F or 26.5°C the relation between temperature and unadjusted daily potential evapotranspiration is the same everywhere. The conversion table on page 226 (table 5) gives the universal relation for values of temperature over 80°F or 26.5°C.

TABLE 3  
VALUES OF UNADJUSTED DAILY POTENTIAL EVAPOTRANSPIRATION (mm.)  
FOR DIFFERENT MEAN TEMPERATURES (°F) AND T VALUES

T°F	T VALUES											
	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5	45.0	47.5	50.0	52.5
32.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
33.5	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
34.5	.01	.01	.01	.01	.01	.01	.00	.00	.00	.00	.00	.00
35.5	.02	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
36.0	.02	.02	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01
36.5	.02	.02	.02	.02	.02	.02	.01	.01	.01	.01	.01	.01
37.0	.02	.02	.02	.02	.02	.02	.02	.02	.02	.01	.01	.01
37.5	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.01	.01
38.0	.03	.03	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
38.5	.03	.03	.03	.02	.02	.02	.02	.02	.02	.02	.02	.02
39.0	.03	.03	.03	.03	.02	.02	.02	.02	.02	.02	.02	.02
39.5	.04	.03	.03	.03	.03	.02	.02	.02	.02	.02	.02	.02
40.0	.04	.04	.03	.03	.03	.02	.02	.02	.02	.02	.02	.02
40.5	.04	.04	.03	.03	.03	.03	.02	.02	.02	.02	.02	.02
41.0	.04	.04	.04	.03	.03	.03	.03	.03	.02	.02	.02	.02
41.5	.04	.04	.04	.04	.03	.03	.03	.03	.02	.02	.02	.02
42.0	.04	.04	.04	.04	.04	.03	.03	.03	.02	.02	.02	.02
42.5	.05	.05	.04	.04	.04	.04	.03	.03	.03	.03	.02	.02
43.0	.05	.05	.04	.04	.04	.04	.04	.03	.03	.03	.03	.03
43.5	.05	.05	.04	.04	.04	.04	.04	.04	.03	.03	.03	.03
44.0	.05	.05	.05	.04	.04	.04	.04	.04	.04	.03	.03	.03
44.5	.06	.05	.05	.05	.04	.04	.04	.04	.04	.04	.03	.03
45.0	.06	.05	.05	.05	.05	.04	.04	.04	.04	.04	.04	.04
45.5	.06	.05	.05	.05	.05	.04	.04	.04	.04	.04	.04	.04
46.0	.06	.06	.06	.05	.05	.05	.04	.04	.04	.04	.04	.04
46.5	.06	.06	.06	.05	.05	.05	.05	.04	.04	.04	.04	.04
47.0	.06	.06	.06	.06	.05	.05	.05	.05	.05	.04	.04	.04
47.5	.06	.06	.06	.06	.05	.05	.05	.05	.05	.04	.04	.04
48.0	.07	.06	.06	.06	.06	.05	.05	.05	.05	.05	.04	.04
48.5	.07	.07	.06	.06	.06	.05	.05	.05	.05	.05	.04	.04
49.0	.07	.07	.06	.06	.06	.05	.05	.05	.05	.05	.04	.04
49.5	.07	.07	.07	.06	.06	.06	.06	.06	.06	.05	.05	.05
50.0	.07	.07	.07	.07	.07	.06	.06	.06	.06	.06	.05	.05
50.5	.07	.07	.07	.07	.07	.06	.06	.06	.06	.06	.05	.05
51.0	.08	.08	.07	.07	.07	.07	.06	.06	.06	.06	.06	.06
51.5	.08	.08	.07	.07	.07	.07	.06	.06	.06	.06	.06	.06
52.0	.08	.08	.07	.07	.07	.07	.07	.06	.06	.06	.06	.06
52.5	.08	.08	.08	.07	.07	.07	.07	.06	.06	.06	.06	.06
53.0	.09	.08	.08	.08	.07	.07	.07	.07	.06	.06	.06	.06
53.5	.09	.09	.08	.08	.08	.07	.07	.07	.07	.07	.06	.06
54.0	.09	.09	.08	.08	.08	.07	.07	.07	.07	.07	.06	.06
54.5	.09	.09	.09	.08	.08	.08	.07	.07	.07	.07	.06	.06
55.0	.09	.09	.09	.09	.08	.08	.08	.08	.07	.07	.07	.06
55.5	.09	.09	.09	.09	.09	.08	.08	.08	.08	.07	.07	.06
56.0	.09	.09	.09	.09	.09	.09	.08	.08	.08	.08	.07	.06
56.5	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.08	.08
57.0	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.09	.09
57.5	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.09	.09
58.0	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.09	.09
58.5	.11	.10	.10	.10	.10	.10	.10	.10	.10	.10	.09	.09
59.0	.11	.10	.10	.10	.10	.10	.10	.10	.10	.10	.09	.09
59.5	.11	.11	.10	.10	.10	.10	.10	.10	.10	.10	.09	.09
60.0	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.10	.10
60.5	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.10	.10
61.0	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.10	.10
61.5	.12	.12	.11	.11	.11	.11	.11	.11	.11	.11	.10	.10
62.0	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.11	.11
62.5	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.11	.11
63.0	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.11	.11
63.5	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.11	.11
64.0	.13	.13	.13	.12	.12	.12	.12	.12	.12	.12	.11	.11
64.5	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.12	.12
65.0	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.12	.12
65.5	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.12	.12
66.0	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.12	.12
66.5	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.12	.12
67.0	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.12	.12
67.5	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.13	.13
68.0	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.13	.13
68.5	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.13	.13
69.0	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.13	.13
69.5	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
70.0	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
70.5	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
71.0	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
71.5	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
72.0	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
72.5	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
73.0	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
73.5	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.15	.15
74.0	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.15	.15
74.5	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.15	.15
75.0	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.15	.15
75.5	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.15	.15
76.0	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.16	.16
76.5	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.16	.16
77.0	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.16	.16
77.5	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.16	.16
78.0	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.16	.16
78.5	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.16	.16
79.0	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.17	.17
79.5	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.17	.17
80.0	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.17	.17







TABLE 4

VALUES OF UNADJUSTED DAILY POTENTIAL EVAPOTRANSPIRATION (mm) FOR DIFFERENT MEAN TEMPERATURES (°C) AND I VALUES

T°C	I										T°C															
	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5	45.0	47.5	50.0	52.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5	45.0	47.5	50.0	52.5		
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.25	2.4	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.8
0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.90	2.6	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	1.9	1.8
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.55	2.5	2.5	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.0	2.0	1.9	1.8
0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15.20	2.6	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.0	1.9	1.8
0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15.85	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.0	1.9
0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16.50	2.8	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.1	2.0
0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17.15	2.9	2.8	2.7	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2
0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17.80	3.0	2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3
0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18.45	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.5	2.5	2.4
0.9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19.10	3.1	3.0	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.5
1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19.75	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.5
1.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20.40	3.2	3.1	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
1.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21.05	3.2	3.1	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
1.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21.70	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
1.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22.35	3.3	3.2	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.7
1.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	23.00	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.7
1.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	23.65	3.3	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8
1.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	24.30	3.3	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8
1.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	24.95	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8
1.9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25.60	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8
2.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26.25	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.8
2.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26.90	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9
2.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27.55	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9
2.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	28.20	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9
2.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	28.85	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.9







	117.5	120.0	122.5	125.0	127.5	130.0	132.5	135.0	137.5	140.0
115.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

115.0 117.5 120.0 122.5 125.0 127.5 130.0 132.5 135.0 137.5 140.0

VALUES OF UNADJUSTED DAILY POTENTIAL EVAPOTRANSPIRATION FOR MEAN TEMPERATURES ABOVE 80°F OR 28.3°C

TABLE 5

UNADJUSTED POTENTIAL EVAPOTRANSPIRATION IN MM

°C	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
26	4.6	4.7	4.7	4.7	4.8	4.5	4.5	4.6	4.6	4.6
27	4.9	5.0	5.0	5.0	5.0	4.9	4.8	4.9	4.9	4.9
28	5.2	5.2	5.2	5.2	5.3	5.1	5.1	5.1	5.1	5.2
29	5.4	5.4	5.4	5.5	5.5	5.3	5.3	5.3	5.4	5.4
30	5.4	5.4	5.4	5.5	5.5	5.5	5.5	5.5	5.6	5.6
31	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.7	5.7	5.8
32	5.8	5.8	5.8	5.8	5.8	5.9	5.9	5.9	5.9	5.9
33	5.9	5.9	5.9	5.9	6.0	6.0	6.0	6.0	6.0	6.0
34	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
35	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
36	6.1	6.1	6.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2
37	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
38	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2

  

UNADJUSTED POTENTIAL EVAPOTRANSPIRATION IN INCHES

°F	0.0	0.5	1°F	0.0	0.5	1°F	0.0	0.5
80	.18	.18	87	.22	.22	94	.24	.24
81	.18	.19	88	.22	.22	85	.24	.24
82	.19	.19	89	.22	.23	86	.24	.24
83	.20	.20	90	.23	.23	87	.24	.24
84	.20	.20	91	.23	.23	88	.24	.24
85	.21	.21	92	.23	.24	89	.24	.24
86	.21	.22	93	.24	.24	90	.24	.24
						100		

SECTION III

Table 6	Mean Possible Monthly Duration of Sunlight in the Northern Hemisphere Expressed in Units of 12 Hours . . . . .	228
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Table 9	Conversion Table to Obtain Duration of Sunlight in Units of 12 Hours in Southern Hemisphere from Northern Hemisphere Data . . . . .	241

To change the unadjusted daily values of potential evapotranspiration obtained from tables 3-5 into adjusted monthly potential evapotranspiration multiply by a factor giving the duration of sunlight for the particular month and latitude of the station whose record is being evaluated expressed in terms of a 12-hour day (table 6-7). Use the latitude nearest that of the station being considered.

To change the unadjusted daily values of potential evapotranspiration obtained from tables 3-5 into adjusted daily potential evapotranspiration multiply by a factor giving the duration of sunlight for the particular day and latitude of the station whose record is being evaluated expressed in terms of a standard 12-hour day (table 8). Select the table for the latitude nearest that of the station being considered.

Poleward from 50° use the duration of sunlight factors for 50°. A table to convert from northern to southern latitudes is found on page 241 (table 9).











DATE	LATITUDE 36° N								LATITUDE 36° S							
	T	A	N	J	J	A	S	O	T	A	N	D	S	O	N	D
1	81	87	95	1.05	1.13	1.20	1.22	1.16	1.08	99	89	83	81	83	81	81
2	82	80	85	1.05	1.13	1.20	1.21	1.16	1.07	98	89	83	81	83	81	81
3	81	87	95	1.05	1.14	1.20	1.21	1.16	1.07	98	89	83	83	83	83	83
4	82	88	96	1.05	1.14	1.20	1.20	1.15	1.07	98	89	83	83	83	83	83
5	82	88	96	1.08	1.14	1.20	1.20	1.14	1.06	97	88	83	83	83	83	83
6	82	88	97	1.08	1.14	1.20	1.20	1.14	1.06	97	88	82	82	82	82	82
7	82	88	97	1.07	1.13	1.21	1.21	1.14	1.05	96	88	82	82	82	82	82
8	82	88	97	1.07	1.13	1.21	1.21	1.14	1.05	96	87	82	82	82	82	82
9	82	88	97	1.07	1.15	1.21	1.21	1.14	1.05	96	87	82	82	82	82	82
10	82	88	99	1.08	1.16	1.21	1.21	1.14	1.05	95	87	81	81	81	81	81
11	82	89	99	1.08	1.16	1.21	1.21	1.14	1.05	95	86	81	81	81	81	81
12	82	89	99	1.08	1.16	1.21	1.21	1.14	1.05	95	85	81	81	81	81	81
13	83	89	99	1.08	1.16	1.21	1.21	1.14	1.04	95	85	81	81	81	81	81
14	83	89	99	1.09	1.17	1.22	1.22	1.14	1.04	94	84	81	81	81	81	81
15	83	89	99	1.09	1.17	1.22	1.22	1.13	1.03	94	84	81	81	81	81	81
16	83	89	99	1.09	1.17	1.22	1.22	1.13	1.03	94	84	81	81	81	81	81
17	83	89	99	1.09	1.17	1.22	1.22	1.13	1.03	94	84	81	81	81	81	81
18	83	89	99	1.10	1.18	1.22	1.22	1.13	1.02	93	83	81	81	81	81	81
19	84	92	1.01	1.10	1.18	1.22	1.22	1.11	1.01	92	82	81	81	81	81	81
20	84	92	1.01	1.11	1.18	1.22	1.22	1.11	1.01	92	82	81	81	81	81	81
21	84	92	1.02	1.11	1.18	1.22	1.22	1.11	1.01	92	82	81	81	81	81	81
22	84	92	1.02	1.11	1.18	1.22	1.22	1.11	1.01	92	82	81	81	81	81	81
23	84	93	1.02	1.11	1.18	1.22	1.22	1.11	1.01	92	82	81	81	81	81	81
24	85	93	1.02	1.13	1.18	1.22	1.22	1.11	1.01	92	82	81	81	81	81	81
25	85	93	1.02	1.13	1.19	1.22	1.22	1.11	1.01	91	81	84	84	84	84	84
26	85	94	1.03	1.12	1.19	1.22	1.22	1.10	1.00	91	81	83	83	83	83	83
27	85	94	1.03	1.12	1.19	1.22	1.22	1.10	1.00	91	81	83	83	83	83	83
28	86	94	1.03	1.12	1.19	1.22	1.22	1.10	1.00	91	81	82	82	82	82	82
29	86	95	1.03	1.12	1.19	1.21	1.21	1.10	1.00	91	81	82	82	82	82	82
30	86	95	1.04	1.13	1.19	1.21	1.21	1.10	1.00	91	81	82	82	82	82	82
31	87	1.04	1.13	1.19	1.21	1.21	1.17	1.09	99	89	83	82	82	82	82	82

  

DATE	LATITUDE 40° N								LATITUDE 30° S							
	T	A	N	J	J	A	S	O	T	A	N	D	S	O	N	D
1	78	84	94	1.05	1.16	1.23	1.25	1.19	1.09	98	87	80	78	80	78	78
2	78	85	94	1.06	1.16	1.24	1.25	1.19	1.09	98	88	81	81	81	81	81
3	78	85	95	1.06	1.16	1.24	1.25	1.18	1.08	98	88	81	81	81	81	81
4	78	85	95	1.06	1.17	1.24	1.24	1.18	1.08	97	87	79	79	79	79	79
5	78	86	95	1.07	1.17	1.24	1.24	1.18	1.08	97	86	78	78	78	78	78
6	78	86	95	1.07	1.17	1.24	1.24	1.17	1.07	96	86	78	78	78	78	78
7	79	86	96	1.07	1.17	1.24	1.24	1.17	1.07	96	86	79	79	79	79	79
8	79	86	96	1.07	1.17	1.24	1.24	1.17	1.07	96	86	79	79	79	79	79
9	79	87	97	1.08	1.18	1.24	1.24	1.17	1.07	95	85	79	79	79	79	79
10	79	87	97	1.08	1.18	1.24	1.24	1.16	1.06	95	85	78	78	78	78	78
11	79	87	97	1.09	1.18	1.25	1.24	1.16	1.06	95	85	78	78	78	78	78
12	79	88	98	1.09	1.18	1.25	1.25	1.16	1.05	94	84	78	78	78	78	78
13	80	88	98	1.10	1.19	1.25	1.25	1.16	1.05	94	84	78	78	78	78	78
14	80	88	98	1.10	1.19	1.25	1.25	1.15	1.04	94	84	78	78	78	78	78
15	80	89	99	1.10	1.20	1.25	1.25	1.15	1.04	93	83	78	78	78	78	78
16	80	89	99	1.11	1.20	1.25	1.22	1.14	1.03	93	83	78	78	78	78	78
17	81	89	99	1.11	1.21	1.25	1.22	1.14	1.03	93	83	78	78	78	78	78
18	81	89	99	1.11	1.21	1.25	1.22	1.14	1.03	92	82	78	78	78	78	78
19	81	90	1.01	1.12	1.21	1.25	1.22	1.14	1.03	92	82	78	78	78	78	78
20	81	90	1.01	1.12	1.21	1.25	1.22	1.13	1.02	91	81	78	78	78	78	78
21	81	91	1.01	1.12	1.21	1.25	1.22	1.13	1.02	91	81	78	78	78	78	78
22	82	91	1.02	1.13	1.22	1.25	1.21	1.12	1.01	91	81	78	78	78	78	78
23	82	91	1.02	1.13	1.22	1.25	1.21	1.12	1.01	91	81	78	78	78	78	78
24	82	92	1.02	1.13	1.22	1.25	1.21	1.12	1.01	90	81	78	78	78	78	78
25	82	92	1.03	1.14	1.22	1.25	1.21	1.12	1.01	90	81	78	78	78	78	78
26	82	92	1.03	1.14	1.22	1.25	1.21	1.12	1.01	90	81	78	78	78	78	78
27	83	92	1.03	1.14	1.22	1.25	1.21	1.11	1.00	89	81	78	78	78	78	78
28	83	92	1.03	1.14	1.22	1.25	1.20	1.11	1.00	89	81	78	78	78	78	78
29	83	93	1.04	1.15	1.23	1.25	1.20	1.10	1.00	89	80	78	78	78	78	78
30	84	94	1.04	1.15	1.23	1.25	1.20	1.10	1.00	89	80	78	78	78	78	78
31	84	94	1.05	1.15	1.23	1.25	1.19	1.09	99	89	82	82	82	82	82	82

LATITUDE 42° N												
DATE	H	A	M	J	J	A	S	0	N	D		
1	.75	.83	1.06	1.17	1.25	1.27	1.20	1.10	.86	.78		
2	.76	.82	1.06	1.18	1.25	1.27	1.22	1.10	.86	.76		
3	.75	.82	1.06	1.19	1.27	1.28	1.21	1.10	.87	.85		
4	.75	.83	1.07	1.19	1.28	1.28	1.21	1.09	.87	.84		
5	.75	.83	1.08	1.19	1.28	1.28	1.21	1.09	.86	.84		
6	.75	.83	1.08	1.20	1.28	1.28	1.20	1.08	.86	.84		
7	.75	.84	1.09	1.20	1.28	1.28	1.20	1.08	.85	.83		
8	.75	.84	1.09	1.21	1.28	1.28	1.19	1.07	.85	.83		
9	.76	.85	1.09	1.21	1.28	1.28	1.19	1.07	.85	.83		
10	.76	.85	1.10	1.22	1.29	1.29	1.19	1.07	.84	.82		
11	.76	.85	1.10	1.22	1.29	1.29	1.18	1.06	.84	.82		
12	.76	.86	1.11	1.22	1.29	1.29	1.18	1.06	.83	.81		
13	.76	.86	1.11	1.22	1.29	1.29	1.18	1.05	.83	.81		
14	.77	.87	1.12	1.23	1.29	1.29	1.17	1.05	.82	.81		
15	.77	.87	1.12	1.23	1.29	1.28	1.17	1.04	.82	.80		
16	.77	.87	1.13	1.23	1.29	1.28	1.16	1.04	.81	.80		
17	.77	.88	1.13	1.23	1.29	1.28	1.16	1.03	.81	.80		
18	.78	.88	1.13	1.24	1.29	1.28	1.15	1.03	.81	.80		
19	.78	.88	1.13	1.24	1.29	1.28	1.15	1.02	.80	.79		
20	.78	.89	1.14	1.24	1.29	1.28	1.15	1.02	.80	.79		
21	.78	.89	1.14	1.24	1.29	1.28	1.14	1.01	.80	.78		
22	.80	.90	1.14	1.23	1.27	1.23	1.13	1.01	.80	.80		
23	.81	.91	1.14	1.23	1.27	1.23	1.13	1.01	.80	.80		
24	.81	.91	1.15	1.24	1.27	1.23	1.12	1.00	.80	.79		
25	.81	.91	1.15	1.24	1.27	1.22	1.12	1.00	.80	.79		
26	.81	.92	1.15	1.24	1.27	1.22	1.12	1.00	.80	.79		
27	.82	.92	1.15	1.24	1.27	1.22	1.12	1.00	.80	.78		
28	.82	.93	1.16	1.25	1.27	1.21	1.11	.99	.80	.78		
29	.82	.93	1.16	1.25	1.27	1.21	1.11	.99	.80	.78		
30	.82	.93	1.16	1.25	1.27	1.21	1.11	.99	.80	.78		
31	.83	1.05	1.16	1.25	1.27	1.20	1.10	.98	.80	.78		

LATITUDE 46° N												
DATE	H	A	M	J	J	A	S	0	N	D		
1	.70	.79	1.07	1.21	1.32	1.33	1.25	1.12	.98	.83		
2	.70	.79	1.07	1.21	1.32	1.33	1.25	1.12	.97	.83		
3	.71	.80	1.08	1.22	1.32	1.33	1.24	1.11	.97	.82		
4	.71	.80	1.08	1.22	1.32	1.33	1.24	1.11	.96	.82		
5	.71	.81	1.09	1.22	1.32	1.33	1.23	1.10	.96	.81		
6	.71	.81	1.09	1.23	1.32	1.33	1.23	1.10	.95	.81		
7	.71	.81	1.10	1.23	1.33	1.32	1.23	1.09	.95	.80		
8	.71	.82	1.10	1.24	1.33	1.32	1.22	1.09	.94	.80		
9	.72	.83	1.11	1.24	1.33	1.32	1.22	1.08	.94	.80		
10	.72	.83	1.12	1.25	1.33	1.32	1.22	1.08	.93	.80		
11	.72	.83	1.12	1.25	1.33	1.32	1.22	1.07	.93	.80		
12	.72	.84	1.12	1.25	1.33	1.32	1.21	1.07	.92	.80		
13	.72	.84	1.13	1.26	1.33	1.31	1.20	1.06	.92	.80		
14	.73	.85	1.13	1.26	1.33	1.31	1.20	1.06	.92	.80		
15	.73	.85	1.14	1.26	1.33	1.31	1.19	1.05	.92	.80		
16	.73	.85	1.14	1.27	1.33	1.30	1.19	1.05	.91	.80		
17	.73	.86	1.15	1.27	1.33	1.30	1.18	1.05	.90	.80		
18	.74	.86	1.15	1.27	1.34	1.30	1.18	1.04	.90	.80		
19	.74	.86	1.15	1.28	1.34	1.30	1.18	1.04	.89	.80		
20	.74	.87	1.16	1.28	1.34	1.29	1.17	1.03	.89	.80		
21	.75	.88	1.16	1.28	1.34	1.29	1.17	1.03	.88	.80		
22	.75	.88	1.17	1.29	1.34	1.28	1.16	1.02	.88	.80		
23	.75	.88	1.17	1.29	1.34	1.28	1.16	1.02	.88	.80		
24	.76	.89	1.18	1.29	1.34	1.28	1.16	1.01	.87	.80		
25	.76	.89	1.18	1.29	1.34	1.28	1.16	1.01	.87	.80		
26	.76	.89	1.19	1.30	1.34	1.28	1.15	1.00	.86	.80		
27	.77	.90	1.19	1.30	1.34	1.27	1.15	1.00	.86	.80		
28	.77	.91	1.19	1.30	1.34	1.27	1.15	1.00	.85	.80		
29	.78	.91	1.20	1.31	1.33	1.26	1.14	.99	.85	.80		
30	.80	1.05	1.18	1.28	1.31	1.25	1.12	.99	.85	.80		
31	.80	1.06	1.20	1.31	1.33	1.24	1.11	.99	.85	.80		

DATE	L	F	M	A	M	J	J	A	S	O	N	D
1	50°	77	1,07	1,22	1,34	1,36	1,27	1,13	97	82	70	68
2	68	78	92	1,08	1,23	1,34	1,26	1,12	97	81	70	68
3	68	79	92	1,08	1,23	1,34	1,26	1,12	96	80	70	68
4	68	79	93	1,09	1,24	1,35	1,26	1,11	96	80	69	67
5	69	79	93	1,09	1,24	1,35	1,26	1,11	95	80	69	67
6	69	79	94	1,10	1,25	1,35	1,25	1,10	95	80	69	67
7	69	80	94	1,10	1,25	1,35	1,25	1,10	94	79	69	67
8	69	80	95	1,11	1,26	1,35	1,24	1,09	94	79	69	67
9	69	81	95	1,11	1,26	1,35	1,24	1,09	93	78	69	67
10	70	81	96	1,12	1,26	1,35	1,23	1,08	93	78	69	67
11	70	82	96	1,12	1,27	1,36	1,23	1,08	92	77	68	67
12	70	82	97	1,13	1,27	1,36	1,22	1,07	92	77	68	67
13	70	83	97	1,13	1,27	1,36	1,22	1,07	91	76	68	67
14	71	83	98	1,14	1,28	1,36	1,21	1,06	91	76	68	67
15	71	84	98	1,14	1,28	1,36	1,21	1,06	90	75	68	67
16	71	84	99	1,15	1,29	1,36	1,20	1,05	90	75	68	67
17	72	85	1,00	1,15	1,29	1,36	1,20	1,05	89	75	68	67
18	72	85	1,00	1,16	1,30	1,37	1,19	1,04	89	74	67	67
19	72	86	1,00	1,16	1,30	1,37	1,18	1,04	89	74	67	67
20	72	86	1,01	1,17	1,30	1,37	1,18	1,03	88	74	67	67
21	73	87	1,01	1,17	1,30	1,37	1,17	1,02	87	73	67	67
22	73	87	1,02	1,18	1,31	1,37	1,17	1,01	86	73	67	67
23	73	88	1,02	1,18	1,31	1,37	1,16	1,01	86	72	67	67
24	74	88	1,03	1,19	1,32	1,37	1,16	1,00	85	72	67	67
25	74	88	1,04	1,19	1,32	1,36	1,15	1,00	85	72	67	67
26	74	89	1,04	1,20	1,32	1,36	1,15	1,00	84	72	67	67
27	75	89	1,05	1,20	1,33	1,36	1,15	1,00	84	72	67	67
28	75	90	1,05	1,21	1,33	1,36	1,15	1,00	84	71	67	67
29	76	90	1,06	1,21	1,33	1,36	1,14	99	83	71	67	67
30	76	91	1,06	1,22	1,33	1,36	1,14	99	83	71	67	67
31	77	91	1,07	1,22	1,34	1,36	1,13	98	82	71	67	67

TABLE 9  
 CONVERSION TABLE TO OBTAIN DURATION OF SUNLIGHT  
 IN UNITS OF 12 HOURS IN SOUTHERN HEMISPHERE  
 FROM NORTHERN HEMISPHERE DATA\*  
 (\*DATE IN SOUTHERN HEMISPHERE ON BORDER OF TABLE,  
 CORRESPONDING DATE IN NORTHERN HEMISPHERE  
 IN BODY OF TABLE.)

DATE	L	F	M	A	M	J	J	A	S	O	N	D
1	7/3	5	3	5	3	3	31	29	27	28	29	30
2	4	5	4	6	4	4	31	30	28	29	30	31
3	5	6	5	7	5	5	1/1	30	3/1	30	5/1	6/1
4	6	7	6	8	6	6	2	2	3/1	31	2	2
5	7	8	7	9	7	7	3	2/1	4	4/1	3	3
6	8	9	8	10	8	8	4	3	4	4	4	5
7	9	10	9	11	9	9	5	4	5	5	6	6
8	10	11	10	11	10	10	6	5	6	6	7	7
9	11	12	11	12	11	11	7	6	7	7	8	8
10	12	13	12	13	12	12	8	7	8	8	9	10
11	13	14	13	14	13	13	9	8	9	9	10	11
12	14	15	14	15	14	14	10	9	10	10	11	12
13	15	16	15	16	15	15	11	10	11	11	12	13
14	16	17	16	17	16	16	12	11	12	12	13	14
15	17	18	17	18	17	17	13	12	13	13	14	15
16	18	19	18	19	18	18	14	13	14	14	15	16
17	20	21	19	20	19	19	15	14	15	15	16	17
18	21	22	20	21	20	20	16	15	16	16	17	18
19	22	23	21	22	21	21	17	16	17	17	18	19
20	23	24	22	23	22	22	18	17	18	18	19	20
21	24	25	23	24	23	23	19	18	19	19	20	21
22	25	26	24	25	24	24	20	19	20	20	21	22
23	26	27	25	26	25	25	21	20	21	21	22	23
24	27	28	26	27	26	26	22	21	22	22	23	24
25	28	29	27	28	27	27	23	22	23	23	24	25
26	29	30	28	29	28	28	24	23	24	24	25	26
27	30	31	29	30	29	29	25	24	25	25	26	27
28	8/1	30	30	30	30	30	26	25	26	26	27	28
29	8/1	2	10/1	31	29	28	26	25	26	26	27	28
30	2	11/1	2	30	29	28	27	26	27	27	28	29
31	4	3	4	12/1	2	30	28	26	27	27	28	29

\* ADAPTED FROM TABLE OF "SUNRISE, SUNSET, AND FULLIGHT FOR SOUTHERN LATITUDES,"  
 PAGES 484-5, THE AMERICAN EPHEMERIS AND NAUTICAL ALMANAC FOR THE YEAR 1950, G. P. O.,  
 WASHINGTON, 1948.

SECTION IV

Table 10 Provisional Water Holding Capacities with Different Combinations of Soil and Vegetation . . . . . 244

Table 11-33 Soil Moisture Retention Tables . . . . . 245-308

Table No.	Inches		Page	Millimeters		Page
	Water Holding Capacity	Water Holding Capacity		Water Holding Capacity	Water Holding Capacity	
11	1 inch	245	23	25 mm	290	
12	1.5 inches	246	24	50 mm	290	
13	2 inches	247	25	75 mm	291	
14	3 inches	249	26	100 mm	292	
15	4 inches	251	27	125 mm	293	
16	5 inches	253	28	150 mm	294	
17	6 inches	256	29	200 mm	296	
18	8 inches	259	30	250 mm	299	
19	10 inches	264	31	300 mm	302	
20	12 inches	269	32	350 mm	305	
21	14 inches	275	33	400 mm	308	
22	16 inches	282				

Tables 11-33 give values of depth of soil moisture retained in the soil after different amounts of potential evapotranspiration have occurred. Tables are based on the relation that the rate of water loss from the soil is proportional to the soil moisture content. Select the proper table to use on the basis of the water holding capacity of the soil layer under consideration. Provisional values of root zone depths and available moisture in different soils and with different vegetation covers are included in table 10 to aid in the selection of the proper retention table.

Tables are given in inches (pp. 245-282) or in millimeters (pp. 290-308) for selected water holding capacities.

In using the tables for daily computations, the values of P-PE are not accumulated as in the case of the monthly computations so that it is necessary to accumulate these values as the work is carried out. This is done by finding the value of soil moisture retention in the body of the table and then counting ahead a number equal to the value of P-PE to obtain the new value of soil moisture retention.

TABLE 10  
PROVISIONAL WATER HOLDING CAPACITIES WITH DIFFERENT COMBINATIONS  
OF SOIL AND VEGETATION

SOIL TYPE	AVAILABLE WATER MM/H	IN/FT	ROOT ZONE		APPLICABLE SOIL MOISTURE RETENTION TABLE	
			H	FT	MM	IN
SHALLOW-ROOTED CROPS (SPINACH, PEAS, BEANS, BEETS, CARROTS, ETC.)	100	1.2	1.67	1.67	50	2.0
FINE SAND	150	1.8	1.50	1.67	75	3.0
FINE SANDY LOAM	200	2.4	1.62	2.08	125	5.0
SILT LOAM	250	3.0	1.83	1.33	100	4.0
CLAY LOAM	300	3.6	2.25	.83	75	3.0
CLAY						
MODERATELY DEEP-ROOTED CROPS (CORN, COTTON, TOBACCO, CEREAL GRAINS)	100	1.2	1.75	2.50	75	3.0
FINE SAND	150	1.8	1.50	3.33	150	6.0
FINE SANDY LOAM	200	2.4	1.00	3.33	200	8.0
SILT LOAM	250	3.0	.80	2.67	200	8.0
CLAY LOAM	300	3.6	.50	1.67	50	5.0
CLAY						
DEEP-ROOTED CROPS (ALFALFA, PASTURES, SHRUBS)	100	1.2	1.00	3.33	100	4.0
FINE SAND	150	1.8	1.00	3.33	150	6.0
FINE SANDY LOAM	200	2.4	1.25	4.17	250	10.0
SILT LOAM	250	3.0	1.00	3.33	250	10.0
CLAY LOAM	300	3.6	.87	2.22	200	8.0
CLAY						
ORCHARDS	100	1.2	1.50	5.00	150	6.0
FINE SAND	150	1.8	1.57	5.35	250	10.0
FINE SANDY LOAM	200	2.4	1.50	5.00	300	12.0
SILT LOAM	250	3.0	1.00	3.33	250	10.0
CLAY LOAM	300	3.6	.67	2.22	200	8.0
CLAY						
CLOSED MATURE FOREST	100	1.2	2.50	8.33	250	10.0
FINE SAND	150	1.8	2.00	6.66	300	12.0
FINE SANDY LOAM	200	2.4	2.00	6.66	400	16.0
SILT LOAM	250	3.0	1.80	5.33	400	16.0
CLAY LOAM	300	3.6	1.17	3.90	350	14.0
CLAY						

THESE FIGURES ARE FOR MATURE VEGETATION. YOUNG CULTIVATED CROPS, SEEDLINGS, AND OTHER IMMATURE VEGETATION WILL HAVE SMALLER ROOT ZONES AND, THEREFORE, TAKE LESS WATER AVAILABLE FOR THE USE OF THE VEGETATION. AS THE PLANT DEVELOPS FROM A SEED OR A YOUNG SPROUT TO THE MATURE FORM, THE ROOT ZONE WILL INCREASE PROGRESSIVELY FROM ONLY A FEW INCHES TO THE VALUES LISTED ABOVE. USE OF A SERIES OF SOIL MOISTURE RETENTION TABLES WITH SUCCESSIVELY INCREASING VALUES OF AVAILABLE MOISTURE PERMITS THE SOIL MOISTURE TO BE DETERMINED THROUGHOUT THE GROWING SEASON.

TABLE 11  
SOIL MOISTURE RETENTION TABLE - 1.0 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT ZONE OF SOIL IS 1.0 INCHES.

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91
0.1	0.80	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.81
0.2	0.60	0.79	0.78	0.77	0.76	0.75	0.74	0.74	0.74	0.73
0.3	0.40	0.72	0.71	0.70	0.69	0.68	0.67	0.66	0.66	0.65
0.4	0.20	0.64	0.63	0.62	0.61	0.61	0.60	0.59	0.59	0.58
0.5	0.05	0.57	0.56	0.55	0.54	0.54	0.53	0.52	0.52	0.51
0.6	0.01	0.51	0.50	0.49	0.48	0.48	0.48	0.47	0.47	0.46
0.7	0.00	0.46	0.45	0.44	0.44	0.43	0.43	0.42	0.42	0.41
0.8	0.00	0.41	0.40	0.39	0.39	0.38	0.38	0.37	0.37	0.36
0.9	0.00	0.36	0.35	0.35	0.34	0.34	0.34	0.33	0.33	0.32
1.0	0.00	0.32	0.32	0.31	0.31	0.31	0.31	0.30	0.30	0.30
1.1	0.00	0.29	0.29	0.29	0.28	0.28	0.28	0.27	0.27	0.27
1.2	0.00	0.26	0.26	0.26	0.25	0.25	0.25	0.24	0.24	0.24
1.3	0.00	0.23	0.23	0.23	0.22	0.22	0.22	0.22	0.21	0.21
1.4	0.00	0.21	0.21	0.20	0.20	0.20	0.20	0.20	0.19	0.19
1.5	0.00	0.19	0.19	0.18	0.18	0.18	0.18	0.18	0.17	0.17
1.6	0.00	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.15	0.15
1.7	0.00	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14	0.14
1.8	0.00	0.14	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.12
1.9	0.00	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11
2.0	0.00	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.09
2.1	0.00	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2.2	0.00	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
2.3	0.00	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07
2.4	0.00	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06
2.5	0.00	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
2.6	0.00	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05
2.7	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
2.8	0.00	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04
2.9	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
3.0	0.00	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
3.1	0.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
3.2	0.00	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
3.3	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
3.4	0.00	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3.5	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3.6	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3.7	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

TABLE 12  
SOIL MOISTURE RETENTION TABLE - 1.5 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT ZONE OF SOIL IS 1.5 INCHES.

Table with 13 columns: PE, 0.00, 0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, and WATER RETAINED IN SOIL. Rows represent soil moisture retention values for various PE levels from 0.0 to 4.4.

TABLE 13  
SOIL MOISTURE RETENTION TABLE - 2 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT ZONE OF SOIL IS 2 INCHES.

Table with 13 columns: PE, 0.00, 0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, and WATER RETAINED IN SOIL. Rows represent soil moisture retention values for various PE levels from 0.0 to 4.4.

SOIL MOISTURE RETENTION TABLE - 2 INCHES

(CONTINUED)

PE	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
	WATER RETAINED IN SOIL									
4.5	0.19	0.19	0.19	0.18	0.18	0.18	0.18	0.18	0.18	0.18
4.6	0.18	0.18	0.18	0.17	0.17	0.17	0.17	0.17	0.17	0.17
4.7	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
4.8	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15
4.9	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14
5.0	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.13	0.13	0.13
5.1	0.13	0.13	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12
5.2	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
5.3	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
5.4	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
5.5	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10
5.6	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
5.7	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09
5.8	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
5.9	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08
6.0	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
6.1	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
6.2	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
6.3	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
6.4	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
6.5	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
6.6	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
6.7	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05
6.8	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05
6.9	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
7.0	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
7.1	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
7.2	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
7.3	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
7.4	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
7.5	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
7.6	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
7.7	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
7.8	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
7.9	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
8.0	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03

TABLE 14

SOIL MOISTURE RETENTION TABLE - 3 INCHES

SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT ZONE OF SOIL IS 3 INCHES.

PE	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
	WATER RETAINED IN SOIL									
0.0	3.00	2.99	2.98	2.97	2.96	2.95	2.94	2.93	2.92	2.91
0.1	2.90	2.89	2.88	2.87	2.86	2.85	2.84	2.83	2.82	2.81
0.2	2.80	2.79	2.78	2.77	2.76	2.75	2.74	2.73	2.72	2.71
0.3	2.70	2.69	2.68	2.67	2.66	2.65	2.64	2.63	2.62	2.61
0.4	2.61	2.60	2.60	2.59	2.58	2.57	2.56	2.55	2.54	2.53
0.5	2.53	2.52	2.51	2.50	2.49	2.48	2.47	2.46	2.45	2.44
0.6	2.44	2.44	2.43	2.42	2.41	2.40	2.39	2.38	2.37	2.36
0.7	2.36	2.35	2.34	2.34	2.33	2.32	2.31	2.30	2.29	2.28
0.8	2.28	2.27	2.26	2.26	2.24	2.24	2.23	2.22	2.22	2.21
0.9	2.20	2.19	2.18	2.18	2.17	2.16	2.15	2.14	2.14	2.13
1.0	2.12	2.11	2.11	2.10	2.09	2.08	2.08	2.07	2.06	2.05
1.1	2.05	2.04	2.04	2.03	2.02	2.01	2.01	2.00	1.99	1.98
1.2	1.98	1.97	1.96	1.96	1.95	1.94	1.94	1.93	1.92	1.91
1.3	1.92	1.91	1.91	1.90	1.89	1.88	1.87	1.86	1.85	1.84
1.4	1.86	1.85	1.84	1.84	1.83	1.82	1.81	1.80	1.79	1.78
1.5	1.79	1.79	1.78	1.77	1.77	1.76	1.75	1.74	1.74	1.73
1.6	1.73	1.73	1.72	1.71	1.71	1.70	1.69	1.68	1.67	1.66
1.7	1.67	1.66	1.66	1.65	1.64	1.64	1.63	1.62	1.61	1.60
1.8	1.62	1.61	1.61	1.60	1.59	1.58	1.57	1.56	1.55	1.54
1.9	1.56	1.55	1.55	1.54	1.54	1.53	1.52	1.51	1.51	1.50
2.0	1.50	1.50	1.49	1.49	1.48	1.47	1.47	1.46	1.45	1.44
2.1	1.45	1.44	1.44	1.44	1.43	1.42	1.42	1.41	1.41	1.40
2.2	1.40	1.40	1.39	1.39	1.38	1.38	1.37	1.37	1.36	1.35
2.3	1.36	1.35	1.35	1.34	1.33	1.33	1.32	1.32	1.31	1.30
2.4	1.31	1.30	1.30	1.29	1.29	1.28	1.28	1.27	1.27	1.26
2.5	1.27	1.26	1.26	1.25	1.24	1.24	1.23	1.23	1.22	1.22
2.6	1.22	1.21	1.21	1.20	1.20	1.19	1.19	1.18	1.18	1.17
2.7	1.18	1.18	1.17	1.17	1.16	1.16	1.15	1.15	1.14	1.14
2.8	1.14	1.14	1.13	1.13	1.13	1.12	1.12	1.11	1.11	1.10
2.9	1.10	1.10	1.09	1.09	1.08	1.08	1.07	1.07	1.06	1.06
3.0	1.06	1.06	1.05	1.05	1.04	1.04	1.04	1.03	1.03	1.02
3.1	1.03	1.02	1.02	1.02	1.01	1.01	1.00	1.00	1.00	0.99
3.2	0.99	0.99	0.98	0.98	0.98	0.97	0.97	0.96	0.96	0.95
3.3	0.96	0.96	0.96	0.95	0.95	0.94	0.94	0.94	0.93	0.92
3.4	0.93	0.93	0.93	0.92	0.92	0.91	0.91	0.91	0.90	0.89
3.5	0.90	0.90	0.90	0.89	0.89	0.88	0.88	0.88	0.87	0.86
3.6	0.87	0.87	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83
3.7	0.84	0.84	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.80
3.8	0.81	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77
3.9	0.78	0.78	0.78	0.77	0.77	0.76	0.76	0.75	0.75	0.74
4.0	0.75	0.75	0.75	0.75	0.74	0.74	0.74	0.73	0.73	0.72
4.1	0.73	0.73	0.72	0.72	0.72	0.71	0.71	0.71	0.70	0.69
4.2	0.70	0.70	0.70	0.70	0.69	0.69	0.68	0.68	0.67	0.66
4.3	0.68	0.68	0.67	0.67	0.67	0.66	0.66	0.65	0.65	0.64
4.4	0.66	0.65	0.65	0.65	0.65	0.64	0.64	0.64	0.63	0.63

SOIL MOISTURE RETENTION TABLE - 3 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
4.5	0.63	0.63	0.63	0.62	0.62	0.62	0.62	0.62	0.61	0.61
4.6	0.61	0.61	0.61	0.60	0.60	0.60	0.59	0.59	0.59	0.59
4.7	0.59	0.59	0.59	0.58	0.58	0.58	0.58	0.57	0.57	0.57
4.8	0.57	0.57	0.57	0.56	0.56	0.56	0.56	0.55	0.55	0.55
4.9	0.55	0.55	0.55	0.54	0.54	0.54	0.54	0.54	0.53	0.53
5.0	0.53	0.53	0.53	0.53	0.53	0.52	0.52	0.52	0.52	0.52
5.1	0.51	0.51	0.51	0.51	0.51	0.50	0.50	0.50	0.50	0.50
5.2	0.50	0.49	0.49	0.49	0.49	0.49	0.48	0.48	0.48	0.48
5.3	0.48	0.48	0.48	0.47	0.47	0.47	0.47	0.46	0.46	0.46
5.4	0.46	0.46	0.46	0.46	0.46	0.45	0.45	0.45	0.45	0.45
5.5	0.45	0.44	0.44	0.44	0.44	0.44	0.43	0.43	0.43	0.43
5.6	0.43	0.43	0.43	0.43	0.43	0.42	0.42	0.42	0.41	0.41
5.7	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41
5.8	0.41	0.41	0.41	0.41	0.41	0.41	0.40	0.40	0.40	0.40
5.9	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
6.0	0.38	0.38	0.38	0.38	0.38	0.37	0.37	0.37	0.37	0.37
6.1	0.36	0.36	0.36	0.36	0.36	0.36	0.35	0.35	0.35	0.35
6.2	0.35	0.35	0.35	0.35	0.35	0.35	0.34	0.34	0.34	0.34
6.3	0.34	0.34	0.34	0.34	0.34	0.34	0.33	0.33	0.33	0.33
6.4	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.32	0.32	0.32
6.5	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.31	0.31	0.31
6.6	0.31	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.30
6.7	0.30	0.30	0.30	0.30	0.30	0.30	0.29	0.29	0.29	0.29
6.8	0.29	0.29	0.29	0.29	0.29	0.29	0.28	0.28	0.28	0.28
6.9	0.28	0.28	0.28	0.28	0.28	0.28	0.27	0.27	0.27	0.27
7.0	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.26	0.26	0.26
7.1	0.26	0.26	0.26	0.26	0.26	0.26	0.25	0.25	0.25	0.25
7.2	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24
7.3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.23	0.23	0.23
7.4	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.22	0.22	0.22
7.5	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
7.6	0.22	0.22	0.22	0.22	0.22	0.22	0.21	0.21	0.21	0.21
7.7	0.21	0.21	0.21	0.21	0.21	0.21	0.20	0.20	0.20	0.20
7.8	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
7.9	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
8.0	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
8.1	0.18	0.18	0.18	0.18	0.18	0.18	0.17	0.17	0.17	0.17
8.2	0.18	0.18	0.18	0.17	0.17	0.17	0.17	0.16	0.16	0.16
8.3	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
8.4	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
8.5	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
8.6	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
8.7	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
8.8	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.13
8.9	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

TABLE 15  
SOIL MOISTURE RETENTION TABLE - 4 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT ZONE OF SOIL IS 4 INCHES.

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	4.00	3.99	3.98	3.97	3.96	3.95	3.94	3.93	3.92	3.91
0.1	3.90	3.89	3.88	3.87	3.86	3.85	3.84	3.83	3.82	3.81
0.2	3.80	3.79	3.78	3.77	3.76	3.75	3.74	3.73	3.72	3.71
0.3	3.70	3.69	3.68	3.67	3.66	3.65	3.64	3.63	3.62	3.62
0.4	3.61	3.60	3.59	3.58	3.57	3.56	3.55	3.54	3.54	3.53
0.5	3.52	3.51	3.50	3.49	3.48	3.47	3.46	3.46	3.45	3.44
0.6	3.43	3.42	3.41	3.40	3.39	3.38	3.38	3.37	3.36	3.35
0.7	3.34	3.33	3.32	3.31	3.30	3.30	3.29	3.28	3.27	3.26
0.8	3.26	3.25	3.24	3.23	3.22	3.22	3.21	3.20	3.19	3.19
0.9	3.18	3.17	3.16	3.16	3.15	3.14	3.14	3.13	3.12	3.11
1.0	3.10	3.09	3.09	3.08	3.07	3.06	3.05	3.05	3.04	3.03
1.1	3.02	3.02	3.01	3.00	2.99	2.98	2.98	2.97	2.96	2.95
1.2	2.94	2.94	2.93	2.92	2.91	2.90	2.89	2.89	2.88	2.87
1.3	2.86	2.86	2.85	2.84	2.83	2.82	2.82	2.81	2.80	2.79
1.4	2.79	2.78	2.77	2.76	2.75	2.75	2.74	2.73	2.72	2.72
1.5	2.72	2.71	2.70	2.70	2.69	2.68	2.68	2.67	2.66	2.66
1.6	2.65	2.64	2.64	2.63	2.62	2.62	2.61	2.60	2.60	2.59
1.7	2.58	2.58	2.57	2.57	2.56	2.55	2.54	2.54	2.53	2.52
1.8	2.51	2.51	2.50	2.50	2.49	2.49	2.48	2.47	2.47	2.46
1.9	2.45	2.45	2.44	2.43	2.43	2.42	2.41	2.40	2.40	2.39
2.0	2.39	2.38	2.38	2.37	2.36	2.36	2.35	2.35	2.34	2.34
2.1	2.33	2.33	2.32	2.32	2.31	2.30	2.29	2.29	2.28	2.28
2.2	2.27	2.27	2.26	2.25	2.25	2.24	2.24	2.23	2.22	2.22
2.3	2.21	2.21	2.20	2.19	2.19	2.18	2.18	2.17	2.16	2.16
2.4	2.15	2.15	2.14	2.14	2.13	2.13	2.12	2.12	2.11	2.11
2.5	2.10	2.10	2.09	2.09	2.08	2.08	2.07	2.07	2.06	2.06
2.6	2.05	2.05	2.04	2.04	2.03	2.03	2.02	2.02	2.01	2.01
2.7	2.00	2.00	1.99	1.99	1.98	1.98	1.97	1.96	1.96	1.96
2.8	1.95	1.95	1.94	1.94	1.93	1.93	1.92	1.91	1.91	1.91
2.9	1.90	1.90	1.89	1.89	1.88	1.88	1.87	1.86	1.86	1.86
3.0	1.85	1.85	1.84	1.84	1.83	1.83	1.82	1.82	1.81	1.81
3.1	1.80	1.80	1.79	1.79	1.78	1.78	1.77	1.77	1.76	1.76
3.2	1.76	1.75	1.75	1.74	1.73	1.73	1.72	1.72	1.71	1.71
3.3	1.71	1.70	1.70	1.69	1.69	1.68	1.68	1.67	1.67	1.67
3.4	1.67	1.66	1.66	1.66	1.65	1.65	1.64	1.64	1.63	1.63
3.5	1.63	1.62	1.62	1.61	1.61	1.61	1.60	1.60	1.59	1.59
3.6	1.58	1.58	1.57	1.57	1.57	1.56	1.56	1.55	1.55	1.55
3.7	1.55	1.54	1.54	1.53	1.53	1.53	1.52	1.52	1.51	1.51
3.8	1.51	1.50	1.50	1.49	1.49	1.49	1.48	1.47	1.47	1.47
3.9	1.47	1.46	1.46	1.45	1.45	1.45	1.44	1.44	1.43	1.43
4.0	1.43	1.42	1.42	1.41	1.41	1.41	1.40	1.40	1.40	1.39
4.1	1.39	1.39	1.38	1.38	1.38	1.37	1.37	1.37	1.36	1.36
4.2	1.36	1.35	1.35	1.35	1.35	1.34	1.34	1.33	1.33	1.33
4.3	1.32	1.32	1.32	1.31	1.31	1.31	1.30	1.30	1.29	1.29
4.4	1.29	1.29	1.28	1.28	1.28	1.28	1.27	1.27	1.27	1.26



SOIL MOISTURE RETENTION TABLE - 4 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL										PE	WATER RETAINED IN SOIL										
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09		0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	
4.5	1.26	1.26	1.25	1.25	1.25	1.25	1.24	1.24	1.24	1.24	1.23	0.0	5.00	4.99	4.90	4.97	4.96	4.95	4.94	4.93	4.92	4.91
4.6	1.23	1.22	1.22	1.22	1.22	1.22	1.21	1.21	1.21	1.21	1.20	0.1	4.80	4.89	4.88	4.87	4.86	4.85	4.84	4.83	4.82	4.81
4.7	1.20	1.19	1.19	1.19	1.19	1.19	1.18	1.18	1.18	1.18	1.17	0.2	4.70	4.79	4.78	4.77	4.76	4.75	4.74	4.73	4.72	4.71
4.8	1.14	1.14	1.16	1.16	1.16	1.16	1.15	1.15	1.15	1.15	1.14	0.3	4.60	4.69	4.68	4.67	4.66	4.65	4.64	4.63	4.62	4.61
4.9	1.14	1.14	1.13	1.13	1.13	1.12	1.12	1.12	1.12	1.11	1.11	0.4	4.51	4.80	4.59	4.58	4.57	4.56	4.55	4.54	4.53	4.52
5.0	1.11	1.11	1.10	1.10	1.10	1.09	1.09	1.09	1.09	1.09	1.08	0.5	4.52	4.51	4.50	4.49	4.48	4.47	4.46	4.45	4.44	4.43
5.1	1.08	1.08	1.07	1.07	1.07	1.07	1.06	1.06	1.06	1.06	1.05	0.6	4.42	4.41	4.40	4.39	4.38	4.37	4.37	4.36	4.35	4.34
5.2	1.05	1.05	1.05	1.04	1.04	1.04	1.04	1.03	1.03	1.03	1.02	0.7	4.33	4.33	4.32	4.31	4.30	4.29	4.28	4.27	4.26	4.25
5.3	1.02	1.02	1.02	1.01	1.01	1.01	1.01	1.00	1.00	1.00	0.98	0.8	4.25	4.24	4.23	4.22	4.21	4.20	4.20	4.19	4.18	4.17
5.4	1.00	1.00	0.99	0.99	0.99	0.98	0.98	0.98	0.98	0.98	0.96	0.9	4.16	4.15	4.15	4.14	4.13	4.12	4.11	4.11	4.10	4.09
5.5	0.98	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.96	0.95	0.95	1.0	4.08	4.07	4.06	4.05	4.04	4.03	4.02	4.01	4.00	
5.6	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	1.1	3.99	3.98	3.97	3.97	3.96	3.95	3.94	3.93	3.92	3.91
5.7	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	1.2	3.91	3.90	3.89	3.89	3.88	3.87	3.86	3.85	3.84	3.83
5.8	0.90	0.90	0.90	0.89	0.89	0.89	0.89	0.89	0.89	0.88	0.88	1.3	3.83	3.83	3.82	3.81	3.80	3.79	3.78	3.77	3.76	3.75
5.9	0.88	0.88	0.88	0.87	0.87	0.87	0.87	0.87	0.86	0.86	0.85	1.4	3.76	3.75	3.74	3.73	3.72	3.72	3.71	3.70	3.69	3.68
6.0	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	0.84	0.84	0.84	1.5	3.68	3.67	3.66	3.66	3.65	3.64	3.63	3.62	3.61	3.60
6.1	0.84	0.84	0.83	0.83	0.83	0.83	0.83	0.83	0.82	0.82	0.82	1.6	3.61	3.60	3.60	3.59	3.58	3.57	3.56	3.55	3.54	3.53
6.2	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.80	0.80	0.80	0.79	1.7	3.53	3.53	3.52	3.51	3.50	3.49	3.48	3.47	3.46	3.45
6.3	0.80	0.79	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.76	1.8	3.46	3.45	3.44	3.44	3.43	3.42	3.42	3.41	3.40	3.39
6.4	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.75	1.9	3.39	3.38	3.38	3.37	3.36	3.36	3.35	3.34	3.33	3.33
6.5	0.76	0.76	0.76	0.76	0.75	0.75	0.75	0.74	0.74	0.74	0.72	2.0	3.32	3.32	3.31	3.30	3.30	3.29	3.28	3.28	3.27	3.26
6.6	0.74	0.74	0.74	0.73	0.73	0.73	0.73	0.73	0.72	0.72	0.70	2.1	3.28	3.25	3.24	3.24	3.23	3.22	3.22	3.21	3.20	3.20
6.7	0.72	0.72	0.72	0.72	0.71	0.71	0.71	0.71	0.71	0.71	0.68	2.2	3.19	3.19	3.19	3.17	3.17	3.16	3.15	3.14	3.13	3.13
6.8	0.70	0.70	0.70	0.69	0.69	0.69	0.69	0.69	0.68	0.68	0.67	2.3	3.13	3.12	3.11	3.11	3.10	3.09	3.08	3.07	3.07	3.06
6.9	0.68	0.68	0.68	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.65	2.4	3.06	3.05	3.05	3.04	3.04	3.03	3.03	3.02	3.02	3.01
7.0	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.65	0.65	0.65	0.63	2.5	3.01	3.00	2.99	2.98	2.98	2.97	2.97	2.96	2.96	2.95
7.1	0.65	0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.63	2.6	2.94	2.94	2.93	2.92	2.92	2.91	2.91	2.90	2.89	2.89
7.2	0.63	0.63	0.63	0.63	0.62	0.62	0.62	0.62	0.62	0.61	0.61	2.7	2.88	2.88	2.87	2.86	2.86	2.85	2.84	2.84	2.83	2.83
7.3	0.61	0.61	0.61	0.61	0.61	0.61	0.60	0.60	0.60	0.60	0.58	2.8	2.82	2.82	2.81	2.81	2.80	2.80	2.79	2.78	2.78	2.77
7.4	0.60	0.60	0.60	0.59	0.59	0.59	0.59	0.58	0.58	0.58	0.56	2.9	2.77	2.76	2.76	2.75	2.74	2.74	2.73	2.73	2.72	2.72
7.5	0.58	0.58	0.58	0.58	0.58	0.58	0.57	0.57	0.57	0.57	0.55	3.0	2.71	2.71	2.70	2.69	2.69	2.68	2.67	2.67	2.66	2.65
7.6	0.57	0.57	0.57	0.56	0.56	0.56	0.56	0.56	0.56	0.55	0.55	3.1	2.65	2.64	2.64	2.63	2.63	2.62	2.62	2.61	2.61	2.60
7.7	0.56	0.56	0.56	0.55	0.55	0.55	0.55	0.55	0.55	0.54	0.54	3.2	2.59	2.59	2.58	2.58	2.57	2.57	2.56	2.56	2.55	2.55
7.8	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.53	0.53	0.52	3.3	2.55	2.54	2.54	2.53	2.53	2.52	2.52	2.51	2.51	2.50
7.9	0.53	0.53	0.53	0.53	0.53	0.52	0.52	0.52	0.52	0.52	0.50	3.4	2.50	2.49	2.48	2.48	2.47	2.47	2.46	2.46	2.45	2.45
8.0	0.52	0.51	0.51	0.51	0.51	0.50	0.50	0.50	0.50	0.50	0.48	3.5	2.45	2.44	2.44	2.43	2.43	2.42	2.42	2.41	2.41	2.40
8.1	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.48	3.6	2.40	2.39	2.38	2.38	2.38	2.37	2.37	2.36	2.36	2.35
8.2	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.46	3.7	2.35	2.34	2.33	2.33	2.32	2.32	2.31	2.31	2.30	2.30
8.3	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.46	3.8	2.30	2.29	2.28	2.28	2.28	2.27	2.27	2.26	2.26	2.25
8.4	0.47	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.44	3.9	2.25	2.24	2.24	2.23	2.23	2.22	2.22	2.22	2.21	2.21
8.5	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.43	4.0	2.21	2.20	2.19	2.19	2.19	2.19	2.18	2.18	2.17	2.17
8.6	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.42	4.1	2.16	2.16	2.16	2.15	2.15	2.14	2.14	2.13	2.13	2.12
8.7	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.41	4.2	2.12	2.12	2.11	2.10	2.10	2.09	2.09	2.09	2.08	2.08
8.8	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.40	4.3	2.08	2.08	2.07	2.07	2.06	2.06	2.05	2.05	2.05	2.04
8.9	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.39	4.4	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.01	2.01	2.00

TABLE 16

SOIL MOISTURE RETENTION TABLE - 5 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAP-  
TRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT  
ZONE OF SOIL IS 5 INCHES.

SOIL MOISTURE RETENTION TABLE - 5 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
4.5	2.00	2.00	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.97
4.6	1.96	1.96	1.95	1.95	1.95	1.94	1.93	1.93	1.93	1.93
4.7	1.92	1.91	1.91	1.91	1.90	1.89	1.89	1.89	1.89	1.89
4.8	1.88	1.88	1.87	1.86	1.86	1.85	1.85	1.84	1.84	1.84
4.9	1.84	1.84	1.84	1.83	1.83	1.82	1.82	1.82	1.81	1.81
5.0	1.81	1.81	1.80	1.80	1.80	1.79	1.78	1.78	1.78	1.78
5.1	1.77	1.77	1.76	1.76	1.75	1.74	1.74	1.74	1.74	1.74
5.2	1.73	1.73	1.73	1.72	1.71	1.71	1.71	1.71	1.70	1.70
5.3	1.70	1.70	1.69	1.69	1.69	1.68	1.68	1.68	1.68	1.68
5.4	1.66	1.66	1.66	1.65	1.65	1.64	1.64	1.64	1.63	1.63
5.5	1.63	1.63	1.62	1.62	1.61	1.61	1.61	1.60	1.60	1.60
5.6	1.60	1.60	1.59	1.59	1.59	1.58	1.58	1.57	1.57	1.57
5.7	1.57	1.57	1.57	1.56	1.55	1.55	1.55	1.54	1.54	1.54
5.8	1.54	1.54	1.53	1.53	1.52	1.52	1.52	1.51	1.51	1.51
5.9	1.51	1.50	1.50	1.50	1.49	1.49	1.48	1.48	1.48	1.48
6.0	1.47	1.47	1.47	1.46	1.46	1.45	1.45	1.44	1.44	1.44
6.1	1.44	1.44	1.44	1.43	1.43	1.42	1.42	1.41	1.41	1.41
6.2	1.41	1.41	1.40	1.40	1.40	1.39	1.39	1.38	1.38	1.38
6.3	1.38	1.38	1.38	1.37	1.37	1.37	1.36	1.36	1.35	1.35
6.4	1.36	1.36	1.35	1.35	1.34	1.34	1.34	1.33	1.33	1.33
6.5	1.33	1.33	1.33	1.32	1.32	1.31	1.31	1.30	1.30	1.30
6.6	1.30	1.30	1.30	1.29	1.29	1.29	1.28	1.28	1.28	1.28
6.7	1.28	1.28	1.28	1.27	1.27	1.27	1.26	1.26	1.25	1.25
6.8	1.25	1.25	1.25	1.24	1.24	1.24	1.23	1.23	1.23	1.23
6.9	1.22	1.22	1.22	1.21	1.21	1.21	1.20	1.20	1.19	1.19
7.0	1.19	1.19	1.19	1.18	1.18	1.18	1.17	1.17	1.17	1.17
7.1	1.17	1.17	1.17	1.16	1.16	1.16	1.15	1.15	1.15	1.15
7.2	1.15	1.15	1.15	1.14	1.14	1.14	1.13	1.13	1.13	1.13
7.3	1.13	1.13	1.13	1.12	1.12	1.11	1.11	1.11	1.10	1.10
7.4	1.10	1.10	1.10	1.09	1.09	1.09	1.09	1.09	1.08	1.08
7.5	1.08	1.08	1.08	1.07	1.07	1.07	1.07	1.07	1.06	1.06
7.6	1.06	1.06	1.06	1.05	1.05	1.05	1.05	1.04	1.04	1.04
7.7	1.04	1.04	1.04	1.03	1.03	1.03	1.03	1.02	1.02	1.02
7.8	1.02	1.02	1.02	1.01	1.01	1.01	1.01	1.01	1.00	1.00
7.9	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.98	0.98
8.0	0.98	0.98	0.98	0.98	0.97	0.97	0.97	0.97	0.96	0.96
8.1	0.96	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.94	0.94
8.2	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
8.3	0.92	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.90	0.90
8.4	0.90	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.89	0.89
8.5	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.88	0.87	0.87
8.6	0.87	0.87	0.87	0.87	0.86	0.86	0.86	0.86	0.86	0.86
8.7	0.85	0.85	0.85	0.85	0.84	0.84	0.84	0.84	0.84	0.84
8.8	0.83	0.83	0.83	0.83	0.83	0.82	0.82	0.82	0.82	0.82
8.9	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.80	0.80	0.80

SOIL MOISTURE RETENTION TABLE - 5 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
9.0	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79
9.1	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.77	0.77
9.2	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.76	0.76	0.76
9.3	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.74	0.74	0.74
9.4	0.74	0.74	0.74	0.73	0.73	0.73	0.73	0.73	0.73	0.73
9.5	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.71	0.71	0.71
9.6	0.71	0.71	0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.70
9.7	0.70	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.68	0.68
9.8	0.68	0.68	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.67
9.9	0.67	0.67	0.67	0.66	0.66	0.66	0.66	0.66	0.66	0.66
10.0	0.66	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.64	0.64
10.1	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.63	0.63
10.2	0.63	0.63	0.63	0.63	0.62	0.62	0.62	0.62	0.62	0.62
10.3	0.62	0.62	0.62	0.61	0.61	0.61	0.61	0.61	0.60	0.60
10.4	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.59	0.59
10.5	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.58	0.58
10.6	0.58	0.58	0.58	0.58	0.58	0.58	0.57	0.57	0.57	0.57
10.7	0.57	0.57	0.57	0.57	0.56	0.56	0.56	0.56	0.56	0.56
10.8	0.56	0.56	0.56	0.56	0.55	0.55	0.55	0.55	0.55	0.55
10.9	0.55	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
11.0	0.54	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
11.1	0.53	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
11.2	0.52	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
11.3	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
11.4	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
11.5	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
11.6	0.48	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
11.7	0.47	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
11.8	0.46	0.46	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
11.9	0.45	0.45	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
12.0	0.44	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
12.1	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
12.2	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
12.3	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
12.4	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
12.5	0.40	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
12.6	0.39	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
12.7	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
12.8	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
12.9	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
13.0	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
13.1	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
13.2	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
13.3	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
13.4	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
13.5	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
13.6	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
13.7	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
13.8	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
13.9	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
14.0	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29

TABLE 11

SOIL MOISTURE RETENTION TABLE - 6 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPORATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT ZONE OF SOIL IS 6 INCHES

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	5.00	5.99	5.98	5.87	5.96	5.95	5.94	5.93	5.92	5.91
0.1	5.90	5.89	5.88	5.87	5.86	5.85	5.84	5.83	5.82	5.81
0.2	5.80	5.79	5.78	5.77	5.76	5.75	5.74	5.73	5.72	5.71
0.3	5.70	5.69	5.68	5.67	5.66	5.65	5.64	5.63	5.62	5.61
0.4	5.61	5.60	5.59	5.58	5.57	5.56	5.55	5.54	5.53	5.52
0.5	5.51	5.50	5.49	5.48	5.47	5.46	5.45	5.44	5.43	5.42
0.6	5.42	5.41	5.40	5.39	5.38	5.37	5.36	5.35	5.34	5.33
0.7	5.33	5.32	5.31	5.30	5.29	5.28	5.27	5.26	5.25	5.24
0.8	5.24	5.23	5.22	5.21	5.20	5.19	5.18	5.17	5.16	5.15
0.9	5.15	5.14	5.14	5.13	5.12	5.11	5.10	5.09	5.08	5.07
1.0	5.07	5.06	5.05	5.04	5.03	5.02	5.01	5.00	4.99	4.98
1.1	4.98	4.97	4.96	4.95	4.94	4.93	4.92	4.91	4.90	4.89
1.2	4.90	4.89	4.88	4.87	4.86	4.85	4.84	4.83	4.82	4.81
1.3	4.81	4.80	4.80	4.79	4.78	4.77	4.76	4.75	4.74	4.73
1.4	4.73	4.73	4.72	4.71	4.70	4.69	4.68	4.67	4.66	4.65
1.5	4.65	4.65	4.64	4.63	4.62	4.61	4.60	4.59	4.58	4.57
1.6	4.58	4.57	4.56	4.55	4.54	4.53	4.52	4.51	4.50	4.49
1.7	4.50	4.49	4.48	4.47	4.46	4.45	4.44	4.43	4.42	4.41
1.8	4.42	4.41	4.40	4.39	4.38	4.37	4.36	4.35	4.34	4.33
1.9	4.35	4.34	4.34	4.33	4.32	4.31	4.30	4.29	4.28	4.27
2.0	4.28	4.27	4.27	4.26	4.25	4.24	4.23	4.22	4.21	4.20
2.1	4.21	4.20	4.20	4.19	4.18	4.17	4.16	4.15	4.14	4.13
2.2	4.14	4.14	4.13	4.12	4.11	4.10	4.09	4.08	4.07	4.06
2.3	4.07	4.06	4.05	4.04	4.03	4.02	4.01	4.00	3.99	3.98
2.4	4.00	3.99	3.98	3.98	3.97	3.96	3.95	3.94	3.93	3.92
2.5	3.93	3.92	3.91	3.91	3.90	3.89	3.88	3.87	3.86	3.85
2.6	3.86	3.85	3.85	3.84	3.83	3.82	3.81	3.80	3.79	3.78
2.7	3.80	3.79	3.78	3.78	3.77	3.76	3.75	3.74	3.73	3.72
2.8	3.74	3.73	3.73	3.72	3.71	3.70	3.69	3.68	3.67	3.66
2.9	3.68	3.67	3.67	3.66	3.65	3.64	3.64	3.63	3.62	3.61
3.0	3.62	3.61	3.61	3.60	3.59	3.58	3.57	3.56	3.55	3.54
3.1	3.55	3.55	3.54	3.53	3.52	3.51	3.50	3.49	3.48	3.47
3.2	3.49	3.48	3.48	3.47	3.46	3.45	3.44	3.43	3.42	3.41
3.3	3.43	3.42	3.42	3.41	3.40	3.39	3.38	3.37	3.36	3.35
3.4	3.37	3.36	3.36	3.35	3.34	3.33	3.32	3.31	3.30	3.29
3.5	3.31	3.30	3.30	3.29	3.28	3.27	3.26	3.25	3.24	3.23
3.6	3.26	3.25	3.24	3.23	3.22	3.21	3.20	3.19	3.18	3.17
3.7	3.20	3.19	3.19	3.18	3.17	3.16	3.15	3.14	3.13	3.12
3.8	3.15	3.14	3.14	3.13	3.12	3.11	3.10	3.09	3.08	3.07
3.9	3.10	3.10	3.09	3.09	3.08	3.07	3.06	3.05	3.04	3.03
4.0	3.05	3.05	3.04	3.04	3.03	3.02	3.01	3.01	3.00	2.99
4.1	3.00	2.99	2.99	2.98	2.98	2.97	2.96	2.95	2.94	2.93
4.2	2.95	2.95	2.94	2.94	2.93	2.92	2.91	2.90	2.89	2.88
4.3	2.90	2.89	2.89	2.88	2.88	2.87	2.86	2.85	2.84	2.83
4.4	2.85	2.85	2.84	2.84	2.83	2.82	2.81	2.80	2.79	2.78

SOIL MOISTURE RETENTION TABLE - 6 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
4.5	2.80	2.80	2.79	2.79	2.78	2.78	2.77	2.77	2.76	2.76
4.6	2.75	2.75	2.74	2.74	2.73	2.73	2.72	2.72	2.71	2.71
4.7	2.70	2.70	2.69	2.69	2.68	2.68	2.67	2.67	2.66	2.66
4.8	2.65	2.65	2.65	2.64	2.64	2.63	2.63	2.62	2.61	2.61
4.9	2.61	2.60	2.60	2.60	2.59	2.59	2.58	2.57	2.56	2.55
5.0	2.57	2.56	2.56	2.55	2.55	2.55	2.54	2.54	2.53	2.53
5.1	2.53	2.52	2.52	2.51	2.51	2.51	2.50	2.50	2.49	2.49
5.2	2.49	2.49	2.48	2.48	2.47	2.47	2.46	2.45	2.45	2.44
5.3	2.44	2.44	2.44	2.43	2.43	2.42	2.42	2.41	2.40	2.40
5.4	2.40	2.40	2.39	2.39	2.38	2.38	2.38	2.37	2.37	2.36
5.5	2.36	2.36	2.35	2.35	2.34	2.34	2.34	2.33	2.32	2.32
5.6	2.32	2.31	2.31	2.30	2.30	2.29	2.29	2.28	2.28	2.27
5.7	2.28	2.28	2.27	2.27	2.26	2.26	2.25	2.25	2.24	2.24
5.8	2.24	2.24	2.24	2.23	2.23	2.22	2.22	2.21	2.20	2.20
5.9	2.20	2.20	2.20	2.19	2.19	2.19	2.18	2.17	2.17	2.16
6.0	2.16	2.16	2.15	2.15	2.14	2.14	2.14	2.13	2.13	2.12
6.1	2.12	2.12	2.11	2.11	2.11	2.10	2.10	2.09	2.09	2.08
6.2	2.09	2.08	2.08	2.08	2.07	2.07	2.06	2.06	2.05	2.05
6.3	2.05	2.05	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.01
6.4	2.02	2.02	2.01	2.01	2.01	2.00	2.00	2.00	1.99	1.99
6.5	1.98	1.98	1.98	1.97	1.97	1.97	1.96	1.96	1.95	1.95
6.6	1.93	1.93	1.94	1.94	1.93	1.93	1.92	1.92	1.92	1.91
6.7	1.91	1.91	1.91	1.91	1.90	1.90	1.89	1.89	1.88	1.88
6.8	1.88	1.88	1.88	1.87	1.87	1.87	1.86	1.86	1.85	1.85
6.9	1.85	1.85	1.85	1.84	1.84	1.84	1.83	1.83	1.82	1.82
7.0	1.82	1.82	1.81	1.81	1.81	1.80	1.80	1.80	1.79	1.79
7.1	1.79	1.79	1.78	1.78	1.78	1.77	1.77	1.77	1.76	1.76
7.2	1.76	1.76	1.75	1.75	1.75	1.75	1.74	1.74	1.74	1.73
7.3	1.73	1.73	1.73	1.72	1.72	1.72	1.71	1.71	1.71	1.70
7.4	1.70	1.70	1.70	1.70	1.69	1.69	1.68	1.68	1.67	1.67
7.5	1.67	1.67	1.66	1.66	1.66	1.66	1.65	1.65	1.64	1.64
7.6	1.64	1.64	1.63	1.63	1.63	1.62	1.62	1.62	1.61	1.61
7.7	1.61	1.61	1.61	1.60	1.60	1.60	1.59	1.59	1.58	1.58
7.8	1.58	1.58	1.58	1.57	1.57	1.57	1.56	1.56	1.55	1.55
7.9	1.55	1.55	1.54	1.54	1.54	1.54	1.53	1.53	1.53	1.52
8.0	1.53	1.53	1.53	1.52	1.52	1.52	1.51	1.51	1.50	1.50
8.1	1.50	1.50	1.50	1.50	1.49	1.49	1.49	1.48	1.48	1.47
8.2	1.48	1.48	1.48	1.48	1.47	1.47	1.46	1.46	1.46	1.45
8.3	1.45	1.45	1.45	1.45	1.44	1.44	1.44	1.44	1.44	1.43
8.4	1.43	1.43	1.43	1.43	1.42	1.42	1.42	1.41	1.41	1.41
8.5	1.40	1.40	1.40	1.39	1.39	1.39	1.38	1.38	1.38	1.37
8.6	1.38	1.38	1.37	1.37	1.37	1.36	1.36	1.36	1.35	1.35
8.7	1.35	1.35	1.35	1.35	1.35	1.34	1.34	1.34	1.33	1.33
8.8	1.33	1.33	1.33	1.33	1.33	1.32	1.32	1.32	1.31	1.31
8.9	1.30	1.30	1.30	1.30	1.29	1.29	1.29	1.29	1.28	1.28

SOIL MOISTURE RETENTION TABLE - 6 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
9.0	1.28	1.28	1.28	1.28	1.28	1.27	1.27	1.27	1.26	1.26
9.1	1.26	1.26	1.26	1.26	1.26	1.25	1.25	1.25	1.24	1.24
9.2	1.24	1.24	1.24	1.24	1.24	1.23	1.23	1.22	1.22	1.22
9.3	1.22	1.22	1.22	1.22	1.22	1.21	1.21	1.21	1.21	1.21
9.4	1.20	1.20	1.20	1.20	1.20	1.19	1.19	1.19	1.18	1.18
9.5	1.18	1.18	1.18	1.18	1.18	1.17	1.17	1.17	1.15	1.15
9.6	1.16	1.16	1.16	1.16	1.16	1.15	1.15	1.15	1.13	1.13
9.7	1.14	1.14	1.14	1.14	1.14	1.13	1.13	1.13	1.11	1.11
9.8	1.12	1.12	1.12	1.12	1.12	1.11	1.11	1.11	1.09	1.09
9.9	1.10	1.10	1.10	1.10	1.10	1.09	1.09	1.09	1.07	1.07
10.0	1.08	1.08	1.08	1.08	1.08	1.07	1.07	1.07	1.05	1.05
10.1	1.06	1.06	1.06	1.06	1.06	1.05	1.05	1.05	1.03	1.03
10.2	1.04	1.04	1.04	1.04	1.04	1.03	1.03	1.03	1.01	1.01
10.3	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.01	0.99	0.99
10.4	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.97	0.97
10.5	0.98	0.98	0.98	0.98	0.98	0.97	0.97	0.97	0.95	0.95
10.6	0.97	0.97	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.94
10.7	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.92	0.92
10.8	0.94	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.91	0.91
10.9	0.92	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.89	0.89
11.0	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.89	0.88	0.88
11.1	0.89	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.86	0.86
11.2	0.87	0.87	0.87	0.87	0.87	0.86	0.86	0.86	0.85	0.85
11.3	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.83	0.83
11.4	0.85	0.84	0.84	0.84	0.84	0.84	0.84	0.83	0.83	0.83
*****										
0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05	0.05

TABLE 18

SOIL MOISTURE RETENTION TABLE - 8 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT ZONE OF SOIL IS 8 INCHES.

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	9.00	7.99	7.98	7.97	7.96	7.95	7.94	7.93	7.92	7.91
0.1	7.90	7.89	7.88	7.87	7.86	7.85	7.84	7.83	7.82	7.81
0.2	7.80	7.79	7.78	7.77	7.76	7.75	7.74	7.73	7.72	7.71
0.3	7.70	7.69	7.68	7.67	7.66	7.65	7.64	7.63	7.62	7.61
0.4	7.60	7.59	7.58	7.57	7.56	7.55	7.54	7.53	7.52	7.51
0.5	7.51	7.50	7.49	7.48	7.47	7.46	7.45	7.44	7.43	7.42
0.6	7.42	7.41	7.40	7.39	7.38	7.37	7.36	7.35	7.34	7.33
0.7	7.33	7.32	7.31	7.30	7.29	7.28	7.27	7.26	7.25	7.24
0.8	7.24	7.23	7.22	7.21	7.20	7.19	7.18	7.17	7.16	7.15
0.9	7.15	7.14	7.13	7.12	7.11	7.10	7.09	7.08	7.07	7.06
1.0	7.06	7.05	7.04	7.03	7.02	7.01	7.00	6.99	6.98	6.97
1.1	6.97	6.96	6.95	6.94	6.93	6.92	6.91	6.90	6.89	6.88
1.2	6.88	6.87	6.86	6.85	6.84	6.83	6.82	6.81	6.80	6.79
1.3	6.80	6.79	6.78	6.77	6.76	6.75	6.74	6.73	6.72	6.71
1.4	6.71	6.70	6.69	6.68	6.67	6.66	6.65	6.64	6.63	6.62
1.5	6.63	6.62	6.61	6.60	6.59	6.58	6.57	6.56	6.55	6.54
1.6	6.55	6.54	6.53	6.52	6.51	6.50	6.49	6.48	6.47	6.46
1.7	6.46	6.45	6.44	6.43	6.42	6.41	6.40	6.39	6.38	6.37
1.8	6.38	6.37	6.36	6.35	6.34	6.33	6.32	6.31	6.30	6.29
1.9	6.30	6.29	6.28	6.27	6.26	6.25	6.24	6.23	6.22	6.21
2.0	6.23	6.22	6.21	6.20	6.19	6.18	6.17	6.16	6.15	6.14
2.1	6.15	6.14	6.13	6.12	6.11	6.10	6.09	6.08	6.07	6.06
2.2	6.07	6.06	6.05	6.04	6.03	6.02	6.01	6.00	5.99	5.98
2.3	6.00	5.99	5.98	5.97	5.96	5.95	5.94	5.93	5.92	5.91
2.4	5.92	5.91	5.90	5.89	5.88	5.87	5.86	5.85	5.84	5.83
2.5	5.85	5.84	5.83	5.82	5.81	5.80	5.79	5.78	5.77	5.76
2.6	5.77	5.76	5.75	5.74	5.73	5.72	5.71	5.70	5.69	5.68
2.7	5.70	5.69	5.68	5.67	5.66	5.65	5.64	5.63	5.62	5.61
2.8	5.63	5.62	5.61	5.60	5.59	5.58	5.57	5.56	5.55	5.54
2.9	5.56	5.55	5.54	5.53	5.52	5.51	5.50	5.49	5.48	5.47
3.0	5.49	5.48	5.47	5.46	5.45	5.44	5.43	5.42	5.41	5.40
3.1	5.42	5.41	5.40	5.39	5.38	5.37	5.36	5.35	5.34	5.33
3.2	5.36	5.35	5.34	5.33	5.32	5.31	5.30	5.29	5.28	5.27
3.3	5.29	5.28	5.27	5.26	5.25	5.24	5.23	5.22	5.21	5.20
3.4	5.22	5.21	5.20	5.19	5.18	5.17	5.16	5.15	5.14	5.13
3.5	5.16	5.15	5.14	5.13	5.12	5.11	5.10	5.09	5.08	5.07
3.6	5.09	5.08	5.07	5.06	5.05	5.04	5.03	5.02	5.01	5.00
3.7	5.03	5.02	5.01	5.00	4.99	4.98	4.97	4.96	4.95	4.94
3.8	4.97	4.96	4.95	4.94	4.93	4.92	4.91	4.90	4.89	4.88
3.9	4.91	4.90	4.89	4.88	4.87	4.86	4.85	4.84	4.83	4.82
4.0	4.86	4.85	4.84	4.83	4.82	4.81	4.80	4.79	4.78	4.77
4.1	4.78	4.77	4.76	4.75	4.74	4.73	4.72	4.71	4.70	4.69
4.2	4.72	4.71	4.70	4.69	4.68	4.67	4.66	4.65	4.64	4.63
4.3	4.67	4.66	4.65	4.64	4.63	4.62	4.61	4.60	4.59	4.58
4.4	4.61	4.60	4.59	4.58	4.57	4.56	4.55	4.54	4.53	4.52

SOIL MOISTURE RETENTION TABLE - 8 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL										PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09		0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
4.5	4.55	4.54	4.53	4.53	4.52	4.52	4.51	4.50	4.49	4.49	9.0	2.59	2.59	2.58	2.58	2.57	2.57	2.57	2.56	2.56	
4.6	4.49	4.48	4.48	4.48	4.47	4.47	4.46	4.45	4.44	4.44	9.1	2.56	2.55	2.55	2.55	2.54	2.54	2.53	2.53	2.53	
4.7	4.44	4.42	4.42	4.42	4.41	4.41	4.40	4.39	4.38	4.38	9.2	2.52	2.52	2.52	2.51	2.51	2.51	2.50	2.50	2.50	
4.8	4.38	4.37	4.36	4.36	4.35	4.35	4.35	4.34	4.34	4.33	9.3	2.49	2.49	2.49	2.48	2.48	2.48	2.47	2.47	2.47	
4.9	4.33	4.32	4.32	4.31	4.30	4.30	4.29	4.28	4.27	4.27	9.4	2.46	2.46	2.46	2.45	2.45	2.44	2.44	2.44	2.44	
5.0	4.27	4.27	4.26	4.26	4.25	4.25	4.24	4.23	4.22	4.22	9.5	2.43	2.43	2.43	2.42	2.42	2.42	2.41	2.41	2.41	
5.1	4.22	4.21	4.20	4.20	4.19	4.19	4.19	4.18	4.17	4.17	9.6	2.40	2.40	2.40	2.39	2.39	2.39	2.38	2.38	2.38	
5.2	4.17	4.16	4.15	4.15	4.14	4.14	4.14	4.13	4.12	4.12	9.7	2.37	2.37	2.37	2.36	2.36	2.36	2.35	2.35	2.35	
5.3	4.12	4.11	4.10	4.10	4.09	4.09	4.08	4.07	4.06	4.06	9.8	2.34	2.34	2.34	2.33	2.33	2.33	2.32	2.32	2.32	
5.4	4.06	4.06	4.05	4.05	4.04	4.04	4.04	4.02	4.01	4.01	9.9	2.31	2.31	2.31	2.30	2.30	2.30	2.29	2.29	2.29	
5.5	4.01	4.01	4.00	4.00	3.99	3.99	3.98	3.97	3.96	3.96	10.0	2.28	2.28	2.28	2.27	2.27	2.27	2.26	2.26	2.26	
5.6	3.96	3.96	3.95	3.95	3.94	3.94	3.93	3.92	3.91	3.91	10.1	2.25	2.25	2.25	2.25	2.24	2.24	2.24	2.24	2.24	
5.7	3.91	3.91	3.90	3.90	3.89	3.89	3.88	3.88	3.87	3.87	10.2	2.23	2.23	2.23	2.22	2.22	2.21	2.21	2.21	2.21	
5.8	3.87	3.86	3.85	3.85	3.84	3.84	3.83	3.83	3.82	3.82	10.3	2.20	2.20	2.20	2.19	2.19	2.18	2.18	2.18	2.18	
5.9	3.82	3.81	3.80	3.80	3.79	3.79	3.78	3.78	3.77	3.77	10.4	2.17	2.17	2.17	2.16	2.16	2.16	2.15	2.15	2.15	
6.0	3.77	3.77	3.76	3.76	3.75	3.75	3.74	3.73	3.72	3.72	10.5	2.14	2.14	2.14	2.14	2.13	2.13	2.13	2.13	2.12	
6.1	3.72	3.72	3.71	3.71	3.70	3.70	3.69	3.69	3.68	3.68	10.6	2.12	2.12	2.12	2.11	2.11	2.10	2.10	2.10	2.10	
6.2	3.68	3.67	3.66	3.66	3.65	3.65	3.64	3.64	3.63	3.63	10.7	2.09	2.09	2.09	2.09	2.08	2.08	2.08	2.07	2.07	
6.3	3.63	3.63	3.62	3.62	3.61	3.61	3.60	3.60	3.59	3.59	10.8	2.07	2.07	2.07	2.06	2.06	2.05	2.05	2.05	2.05	
6.4	3.59	3.58	3.57	3.57	3.56	3.56	3.56	3.55	3.54	3.54	10.9	2.04	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.02	
6.5	3.54	3.54	3.53	3.53	3.52	3.52	3.51	3.51	3.50	3.50	11.0	2.01	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.00	
6.6	3.50	3.49	3.49	3.48	3.48	3.47	3.47	3.46	3.45	3.45	11.1	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	
6.7	3.45	3.45	3.44	3.44	3.44	3.43	3.43	3.42	3.42	3.41	11.2	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	
6.8	3.41	3.41	3.40	3.40	3.40	3.39	3.39	3.38	3.37	3.37	11.3	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.92	1.92	
6.9	3.37	3.37	3.36	3.36	3.35	3.35	3.34	3.34	3.33	3.33	11.4	1.92	1.92	1.92	1.91	1.91	1.90	1.90	1.90	1.90	
7.0	3.33	3.32	3.32	3.31	3.31	3.30	3.30	3.29	3.28	3.28	11.5	1.89	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	
7.1	3.28	3.28	3.27	3.27	3.26	3.26	3.25	3.25	3.24	3.24	11.6	1.87	1.87	1.87	1.86	1.86	1.86	1.85	1.85	1.85	
7.2	3.24	3.24	3.23	3.23	3.22	3.22	3.21	3.21	3.20	3.20	11.7	1.84	1.84	1.84	1.84	1.83	1.83	1.83	1.83	1.83	
7.3	3.20	3.20	3.19	3.19	3.18	3.18	3.17	3.17	3.16	3.16	11.8	1.82	1.82	1.82	1.82	1.81	1.81	1.81	1.81	1.81	
7.4	3.16	3.16	3.15	3.15	3.14	3.14	3.14	3.13	3.12	3.12	11.9	1.80	1.80	1.80	1.80	1.79	1.79	1.79	1.79	1.79	
7.5	3.12	3.12	3.11	3.11	3.10	3.10	3.09	3.09	3.08	3.08	12.0	1.78	1.78	1.78	1.78	1.77	1.77	1.76	1.76	1.76	
7.6	3.08	3.08	3.08	3.07	3.07	3.07	3.06	3.06	3.05	3.05	12.1	1.75	1.75	1.75	1.75	1.74	1.74	1.74	1.74	1.74	
7.7	3.05	3.05	3.04	3.04	3.03	3.03	3.02	3.02	3.01	3.01	12.2	1.73	1.73	1.73	1.73	1.72	1.72	1.72	1.72	1.72	
7.8	3.01	3.01	3.00	3.00	2.99	2.99	2.98	2.98	2.97	2.97	12.3	1.71	1.71	1.71	1.71	1.70	1.70	1.70	1.70	1.70	
7.9	2.97	2.97	2.96	2.96	2.95	2.95	2.94	2.94	2.93	2.93	12.4	1.69	1.69	1.69	1.69	1.68	1.68	1.68	1.68	1.68	
8.0	2.93	2.93	2.92	2.92	2.92	2.92	2.92	2.91	2.90	2.90	12.5	1.67	1.67	1.67	1.67	1.66	1.66	1.66	1.66	1.66	
8.1	2.90	2.90	2.89	2.89	2.88	2.88	2.88	2.87	2.86	2.86	12.6	1.65	1.65	1.65	1.65	1.64	1.64	1.64	1.64	1.64	
8.2	2.86	2.86	2.85	2.85	2.84	2.84	2.83	2.83	2.82	2.82	12.7	1.63	1.63	1.63	1.63	1.62	1.62	1.62	1.62	1.62	
8.3	2.83	2.82	2.82	2.82	2.81	2.81	2.80	2.80	2.79	2.79	12.8	1.61	1.61	1.61	1.61	1.60	1.60	1.60	1.60	1.60	
8.4	2.79	2.79	2.78	2.78	2.77	2.77	2.77	2.76	2.75	2.75	12.9	1.59	1.59	1.59	1.59	1.58	1.58	1.58	1.58	1.58	
8.5	2.75	2.75	2.75	2.75	2.74	2.74	2.73	2.73	2.72	2.72	13.0	1.57	1.57	1.57	1.57	1.56	1.56	1.56	1.56	1.56	
8.6	2.72	2.72	2.71	2.71	2.71	2.70	2.70	2.69	2.69	2.69	13.1	1.55	1.55	1.55	1.55	1.54	1.54	1.54	1.54	1.54	
8.7	2.69	2.68	2.68	2.68	2.67	2.67	2.66	2.66	2.66	2.66	13.2	1.53	1.53	1.53	1.53	1.52	1.52	1.52	1.52	1.52	
8.8	2.65	2.65	2.65	2.65	2.64	2.64	2.63	2.63	2.62	2.62	13.3	1.51	1.51	1.51	1.51	1.50	1.50	1.50	1.50	1.50	
8.9	2.62	2.62	2.61	2.61	2.61	2.60	2.60	2.59	2.59	2.59	13.4	1.49	1.49	1.49	1.49	1.48	1.48	1.48	1.48	1.48	

SOIL MOISTURE RETENTION TABLE - 8 INCHES  
(CONTINUED)

SOIL MOISTURE RETENTION TABLE - 8 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
13.5	1.47	1.47	1.47	1.47	1.47	1.46	1.46	1.46	1.46	1.46
13.6	1.45	1.45	1.45	1.45	1.45	1.44	1.44	1.44	1.44	1.44
13.7	1.44	1.44	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43
13.8	1.42	1.42	1.42	1.42	1.41	1.41	1.41	1.41	1.41	1.41
13.9	1.40	1.40	1.40	1.40	1.39	1.39	1.39	1.39	1.39	1.39
14.0	1.38	1.38	1.38	1.38	1.37	1.37	1.37	1.37	1.37	1.37
14.1	1.37	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
14.2	1.35	1.35	1.35	1.35	1.34	1.34	1.34	1.34	1.34	1.34
14.3	1.33	1.33	1.33	1.33	1.32	1.32	1.32	1.32	1.32	1.32
14.4	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
14.5	1.30	1.30	1.30	1.30	1.29	1.29	1.29	1.29	1.29	1.29
14.6	1.28	1.28	1.28	1.28	1.27	1.27	1.27	1.27	1.27	1.27
14.7	1.27	1.27	1.27	1.27	1.26	1.26	1.26	1.26	1.26	1.26
14.8	1.25	1.25	1.25	1.25	1.24	1.24	1.24	1.24	1.24	1.24
14.9	1.24	1.24	1.24	1.24	1.23	1.23	1.23	1.23	1.23	1.23
15.0	1.22	1.22	1.22	1.22	1.21	1.21	1.21	1.21	1.21	1.21
15.1	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
15.2	1.19	1.19	1.19	1.19	1.18	1.18	1.18	1.18	1.18	1.18
15.3	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
15.4	1.16	1.16	1.16	1.16	1.15	1.15	1.15	1.15	1.15	1.15
15.5	1.15	1.15	1.15	1.15	1.14	1.14	1.14	1.14	1.14	1.14
15.6	1.13	1.13	1.13	1.13	1.12	1.12	1.12	1.12	1.12	1.12
15.7	1.12	1.12	1.12	1.12	1.11	1.11	1.11	1.11	1.11	1.11
15.8	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
15.9	1.09	1.09	1.09	1.09	1.08	1.08	1.08	1.08	1.08	1.08
16.0	1.08	1.08	1.08	1.08	1.07	1.07	1.07	1.07	1.07	1.07
16.1	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
16.2	1.05	1.05	1.05	1.05	1.04	1.04	1.04	1.04	1.04	1.04
16.3	1.04	1.04	1.04	1.04	1.03	1.03	1.03	1.03	1.03	1.03
16.4	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
16.5	1.01	1.01	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.00
16.6	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
16.7	0.99	0.99	0.99	0.99	0.98	0.98	0.98	0.98	0.98	0.98
16.8	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
16.9	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
17.0	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94
17.1	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.93	0.93
17.2	0.93	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92
17.3	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
17.4	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
17.5	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
17.6	0.88	0.88	0.88	0.88	0.87	0.87	0.87	0.87	0.87	0.87
17.7	0.87	0.87	0.87	0.87	0.86	0.86	0.86	0.86	0.86	0.86
17.8	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	0.85
17.9	0.85	0.85	0.85	0.85	0.84	0.84	0.84	0.84	0.84	0.84

SOIL MOISTURE RETENTION TABLE - 8 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
18.0	0.84	0.84	0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.83
18.1	0.83	0.83	0.83	0.83	0.82	0.82	0.82	0.82	0.82	0.82
18.2	0.82	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81
18.3	0.81	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80
18.4	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79
18.5	0.79	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78
18.6	0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.77
18.7	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.76	0.76	0.76
18.8	0.76	0.76	0.76	0.76	0.75	0.75	0.75	0.75	0.75	0.75
18.9	0.75	0.75	0.75	0.75	0.74	0.74	0.74	0.74	0.74	0.74
19.0	0.74	0.74	0.74	0.74	0.73	0.73	0.73	0.73	0.73	0.73
19.1	0.73	0.73	0.73	0.73	0.72	0.72	0.72	0.72	0.72	0.72
19.2	0.72	0.72	0.72	0.72	0.71	0.71	0.71	0.71	0.71	0.71
19.3	0.71	0.71	0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.70
19.4	0.70	0.70	0.70	0.70	0.69	0.69	0.69	0.69	0.69	0.69
19.5	0.69	0.69	0.69	0.69	0.68	0.68	0.68	0.68	0.68	0.68
19.6	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.67	0.67	0.67
19.7	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.67	0.67	0.67
19.8	0.67	0.67	0.67	0.67	0.66	0.66	0.66	0.66	0.66	0.66
19.9	0.66	0.66	0.66	0.66	0.65	0.65	0.65	0.65	0.65	0.65
20.0	0.65	0.65	0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64
20.1	0.64	0.64	0.64	0.64	0.63	0.63	0.63	0.63	0.63	0.63
20.2	0.64	0.64	0.64	0.64	0.63	0.63	0.63	0.63	0.63	0.63
20.3	0.63	0.63	0.63	0.63	0.62	0.62	0.62	0.62	0.62	0.62
20.4	0.62	0.62	0.62	0.62	0.61	0.61	0.61	0.61	0.61	0.61
20.5	0.61	0.61	0.61	0.61	0.60	0.60	0.60	0.60	0.60	0.60
20.6	0.60	0.60	0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.59
20.7	0.60	0.60	0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.59
20.8	0.59	0.59	0.59	0.59	0.58	0.58	0.58	0.58	0.58	0.58
20.9	0.58	0.58	0.58	0.58	0.57	0.57	0.57	0.57	0.57	0.57
21.0	0.57	0.57	0.57	0.57	0.56	0.56	0.56	0.56	0.56	0.56
21.1	0.57	0.57	0.57	0.57	0.56	0.56	0.56	0.56	0.56	0.56
21.2	0.56	0.56	0.56	0.56	0.55	0.55	0.55	0.55	0.55	0.55
21.3	0.55	0.55	0.55	0.55	0.54	0.54	0.54	0.54	0.54	0.54
21.4	0.55	0.55	0.55	0.55	0.54	0.54	0.54	0.54	0.54	0.54
21.5	0.54	0.54	0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53

TABLE 19

SOIL MOISTURE RETENTION TABLE - 10 INCHES

SOIL MOISTURE RETENTION TABLE - 10 INCHES

SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPORATION TRANSPiration ON HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT ZONE OF SOIL IS 10 INCHES.

(CONTINUED)

PE	WATER RETAINED IN SOIL										PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09		0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	10.00	9.99	9.98	9.97	9.96	9.95	9.94	9.93	9.92	9.91	4.5	6.41	6.40	6.39	6.38	6.37	6.37	6.36	6.35	6.35	
0.1	9.90	9.89	9.88	9.87	9.86	9.85	9.84	9.83	9.82	9.81	4.9	6.34	6.33	6.32	6.32	6.31	6.31	6.30	6.29	6.29	
0.2	9.80	9.79	9.78	9.77	9.76	9.75	9.74	9.73	9.72	9.71	4.8	6.28	6.27	6.26	6.26	6.25	6.25	6.24	6.23	6.22	
0.3	9.70	9.69	9.68	9.67	9.66	9.65	9.64	9.63	9.62	9.61	4.8	6.22	6.21	6.20	6.20	6.19	6.19	6.18	6.17	6.15	
0.4	9.61	9.60	9.59	9.58	9.57	9.56	9.55	9.54	9.53	9.52	4.9	6.15	6.14	6.13	6.13	6.12	6.12	6.11	6.10	6.09	
0.6	9.51	9.50	9.49	9.48	9.47	9.46	9.45	9.44	9.43	9.42	5.0	6.09	6.08	6.07	6.07	6.06	6.06	6.05	6.04	6.03	
0.6	9.41	9.40	9.39	9.38	9.37	9.36	9.35	9.34	9.33	9.32	5.1	6.03	6.02	6.01	6.01	6.00	6.00	5.99	5.98	5.97	
0.7	9.32	9.31	9.30	9.29	9.28	9.27	9.26	9.25	9.24	9.24	5.2	5.97	5.96	5.95	5.95	5.94	5.94	5.93	5.92	5.91	
0.8	9.23	9.22	9.21	9.20	9.19	9.18	9.17	9.16	9.15	9.14	5.3	5.91	5.90	5.89	5.89	5.88	5.88	5.87	5.86	5.85	
0.9	9.14	9.13	9.12	9.11	9.10	9.09	9.08	9.07	9.06	9.05	5.4	5.85	5.84	5.83	5.83	5.82	5.82	5.81	5.80	5.80	
1.0	9.05	9.04	9.03	9.02	9.01	9.00	8.99	8.98	8.97	8.96	5.5	5.80	5.79	5.78	5.78	5.77	5.77	5.76	5.75	5.74	
1.1	8.96	8.95	8.94	8.93	8.92	8.92	8.92	8.92	8.91	8.90	5.6	5.74	5.74	5.72	5.72	5.71	5.71	5.70	5.69	5.68	
1.2	8.88	8.87	8.86	8.85	8.85	8.84	8.84	8.82	8.81	8.80	5.7	5.68	5.67	5.66	5.66	5.65	5.65	5.64	5.63	5.62	
1.3	8.80	8.79	8.78	8.77	8.76	8.75	8.75	8.74	8.73	8.72	5.8	5.62	5.62	5.61	5.61	5.60	5.60	5.59	5.58	5.57	
1.4	8.72	8.71	8.70	8.69	8.68	8.68	8.67	8.67	8.66	8.65	5.9	5.57	5.56	5.55	5.55	5.54	5.54	5.53	5.52	5.51	
1.5	8.65	8.64	8.63	8.62	8.61	8.60	8.60	8.59	8.58	8.57	6.0	5.51	5.50	5.49	5.49	5.48	5.48	5.48	5.47	5.46	
1.6	8.56	8.55	8.54	8.53	8.52	8.51	8.51	8.50	8.49	8.48	6.1	5.46	5.45	5.44	5.44	5.43	5.43	5.42	5.41	5.40	
1.7	8.48	8.47	8.46	8.45	8.44	8.43	8.42	8.41	8.40	8.39	6.2	5.40	5.40	5.39	5.39	5.38	5.38	5.37	5.36	5.35	
1.8	8.39	8.38	8.37	8.36	8.35	8.34	8.33	8.32	8.31	8.31	6.4	5.35	5.34	5.33	5.33	5.32	5.32	5.31	5.30	5.29	
1.9	8.31	8.30	8.29	8.28	8.27	8.26	8.25	8.24	8.23	8.23	6.4	5.30	5.29	5.28	5.28	5.27	5.27	5.26	5.25	5.24	
2.0	8.22	8.21	8.20	8.19	8.18	8.17	8.16	8.15	8.14	8.14	6.5	5.24	5.24	5.23	5.23	5.22	5.22	5.21	5.20	5.19	
2.1	8.14	8.13	8.12	8.11	8.10	8.10	8.09	8.08	8.07	8.06	6.6	5.19	5.18	5.17	5.17	5.16	5.16	5.15	5.15	5.14	
2.2	8.06	8.05	8.04	8.03	8.02	8.01	8.00	7.99	7.99	7.98	6.7	5.14	5.13	5.12	5.12	5.11	5.11	5.10	5.09	5.08	
2.3	7.99	7.98	7.97	7.96	7.95	7.94	7.93	7.92	7.91	7.91	6.8	5.09	5.09	5.08	5.07	5.07	5.07	5.06	5.05	5.04	
2.4	7.91	7.90	7.89	7.88	7.87	7.87	7.86	7.85	7.84	7.83	6.9	5.04	5.03	5.02	5.02	5.01	5.01	5.00	5.00	4.99	
2.5	7.83	7.82	7.81	7.80	7.79	7.79	7.78	7.77	7.76	7.75	7.0	4.99	4.98	4.97	4.97	4.96	4.96	4.96	4.95	4.94	
2.6	7.73	7.74	7.73	7.72	7.71	7.71	7.70	7.69	7.68	7.67	7.1	4.94	4.93	4.92	4.92	4.91	4.91	4.90	4.89	4.88	
2.7	7.61	7.66	7.65	7.63	7.64	7.64	7.63	7.62	7.61	7.60	7.2	4.89	4.88	4.87	4.87	4.86	4.86	4.85	4.85	4.84	
2.8	7.60	7.60	7.59	7.58	7.57	7.56	7.55	7.54	7.53	7.53	7.3	4.84	4.84	4.82	4.82	4.81	4.81	4.80	4.80	4.79	
2.9	7.52	7.52	7.51	7.50	7.49	7.48	7.46	7.45	7.46	7.45	7.4	4.79	4.79	4.78	4.78	4.77	4.77	4.76	4.75	4.74	
3.0	7.45	7.44	7.43	7.42	7.41	7.41	7.40	7.39	7.38	7.37	7.5	4.74	4.74	4.73	4.73	4.72	4.72	4.71	4.71	4.70	
3.1	7.37	7.36	7.35	7.34	7.33	7.33	7.32	7.31	7.30	7.30	7.6	4.70	4.69	4.68	4.68	4.67	4.67	4.66	4.66	4.65	
3.2	7.30	7.29	7.28	7.27	7.26	7.26	7.25	7.24	7.23	7.23	7.7	4.65	4.64	4.63	4.63	4.62	4.62	4.61	4.61	4.60	
3.3	7.23	7.22	7.21	7.20	7.19	7.19	7.18	7.17	7.16	7.15	7.8	4.60	4.60	4.59	4.59	4.58	4.58	4.57	4.57	4.56	
3.4	7.15	7.14	7.13	7.13	7.12	7.12	7.11	7.10	7.09	7.08	7.9	4.56	4.56	4.54	4.54	4.53	4.53	4.52	4.52	4.51	
3.5	7.08	7.07	7.06	7.06	7.05	7.05	7.04	7.03	7.02	7.01	8.0	4.51	4.51	4.50	4.50	4.49	4.49	4.48	4.48	4.47	
3.6	7.01	7.00	6.99	6.99	6.98	6.98	6.97	6.96	6.95	6.94	8.1	4.47	4.46	4.45	4.45	4.44	4.44	4.43	4.43	4.42	
3.7	6.94	6.93	6.92	6.92	6.91	6.91	6.90	6.89	6.88	6.87	8.2	4.42	4.42	4.41	4.41	4.40	4.40	4.39	4.39	4.38	
3.8	6.87	6.86	6.85	6.85	6.84	6.84	6.83	6.82	6.81	6.80	8.3	4.38	4.38	4.37	4.37	4.36	4.36	4.35	4.35	4.34	
3.9	6.80	6.79	6.78	6.78	6.77	6.77	6.76	6.75	6.74	6.74	8.4	4.33	4.33	4.32	4.32	4.31	4.31	4.30	4.30	4.29	
4.0	6.74	6.73	6.72	6.72	6.71	6.70	6.70	6.69	6.68	6.67	8.5	4.29	4.29	4.28	4.28	4.27	4.27	4.26	4.26	4.25	
4.1	6.67	6.66	6.65	6.65	6.64	6.64	6.63	6.62	6.61	6.60	8.6	4.25	4.25	4.24	4.24	4.23	4.23	4.22	4.21	4.20	
4.2	6.60	6.59	6.58	6.58	6.57	6.57	6.56	6.55	6.54	6.54	8.7	4.20	4.20	4.19	4.19	4.18	4.18	4.17	4.17	4.16	
4.3	6.54	6.53	6.52	6.52	6.51	6.50	6.49	6.48	6.48	6.47	8.8	4.16	4.16	4.15	4.15	4.14	4.14	4.13	4.13	4.12	
4.4	6.47	6.46	6.45	6.45	6.44	6.44	6.43	6.42	6.42	6.41	8.9	4.12	4.12	4.11	4.11	4.10	4.10	4.09	4.09	4.08	

SOIL MOISTURE RETENTION TABLE - 10 INCHES (CONTINUED)

Table with 23 columns: PE, 0.00, 0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, WATER RETAINED IN SOIL, 0.00, 0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09. Rows include data for various soil types and depths (e.g., 10.0, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 11.0, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.0, 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 12.9, 13.0, 13.1, 13.2, 13.3, 13.4).

SOIL MOISTURE RETENTION TABLE - 10 INCHES (CONTINUED)

Table with 23 columns: PE, 0.00, 0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, WATER RETAINED IN SOIL, 0.00, 0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09. Rows include data for various soil types and depths (e.g., 13.5, 13.6, 13.7, 13.8, 13.9, 14.0, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.9, 15.0, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8, 15.9, 16.0, 16.1, 16.2, 16.3, 16.4, 16.5, 16.6, 16.7, 16.8, 16.9, 17.0, 17.1, 17.2, 17.3, 17.4, 17.5, 17.6, 17.7, 17.8, 17.9, 18.0, 18.1, 18.2, 18.3, 18.4, 18.5, 18.6, 18.7, 18.8, 18.9, 19.0, 19.1, 19.2, 19.3, 19.4, 19.5, 19.6, 19.7, 19.8, 19.9, 20.0, 20.1, 20.2, 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 21.0, 21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7, 21.8, 21.9, 22.0, 22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.7, 22.8, 22.9, 23.0, 23.1, 23.2, 23.3, 23.4, 23.5, 23.6, 23.7, 23.8, 23.9, 24.0, 24.1, 24.2, 24.3, 24.4, 24.5, 24.6, 24.7, 24.8, 24.9, 25.0, 25.1, 25.2, 25.3, 25.4, 25.5, 25.6, 25.7, 25.8, 25.9, 26.0, 26.1, 26.2, 26.3, 26.4, 26.5, 26.6, 26.7, 26.8, 26.9, 27.0, 27.1, 27.2, 27.3, 27.4, 27.5, 27.6, 27.7, 27.8, 27.9, 28.0, 28.1, 28.2, 28.3, 28.4, 28.5, 28.6, 28.7, 28.8, 28.9, 29.0, 29.1, 29.2, 29.3, 29.4, 29.5, 29.6, 29.7, 29.8, 29.9, 30.0, 30.1, 30.2, 30.3, 30.4, 30.5, 30.6, 30.7, 30.8, 30.9, 31.0, 31.1, 31.2, 31.3, 31.4, 31.5, 31.6, 31.7, 31.8, 31.9, 32.0, 32.1, 32.2, 32.3, 32.4, 32.5, 32.6, 32.7, 32.8, 32.9, 33.0, 33.1, 33.2, 33.3, 33.4, 33.5, 33.6, 33.7, 33.8, 33.9, 34.0, 34.1, 34.2, 34.3, 34.4, 34.5, 34.6, 34.7, 34.8, 34.9, 35.0, 35.1, 35.2, 35.3, 35.4, 35.5, 35.6, 35.7, 35.8, 35.9, 36.0, 36.1, 36.2, 36.3, 36.4, 36.5, 36.6, 36.7, 36.8, 36.9, 37.0, 37.1, 37.2, 37.3, 37.4, 37.5, 37.6, 37.7, 37.8, 37.9, 38.0, 38.1, 38.2, 38.3, 38.4, 38.5, 38.6, 38.7, 38.8, 38.9, 39.0, 39.1, 39.2, 39.3, 39.4, 39.5, 39.6, 39.7, 39.8, 39.9, 40.0, 40.1, 40.2, 40.3, 40.4, 40.5, 40.6, 40.7, 40.8, 40.9, 41.0, 41.1, 41.2, 41.3, 41.4, 41.5, 41.6, 41.7, 41.8, 41.9, 42.0, 42.1, 42.2, 42.3, 42.4, 42.5, 42.6, 42.7, 42.8, 42.9, 43.0, 43.1, 43.2, 43.3, 43.4, 43.5, 43.6, 43.7, 43.8, 43.9, 44.0, 44.1, 44.2, 44.3, 44.4, 44.5, 44.6, 44.7, 44.8, 44.9, 45.0, 45.1, 45.2, 45.3, 45.4, 45.5, 45.6, 45.7, 45.8, 45.9, 46.0, 46.1, 46.2, 46.3, 46.4, 46.5, 46.6, 46.7, 46.8, 46.9, 47.0, 47.1, 47.2, 47.3, 47.4, 47.5, 47.6, 47.7, 47.8, 47.9, 48.0, 48.1, 48.2, 48.3, 48.4, 48.5, 48.6, 48.7, 48.8, 48.9, 49.0, 49.1, 49.2, 49.3, 49.4, 49.5, 49.6, 49.7, 49.8, 49.9, 50.0, 50.1, 50.2, 50.3, 50.4, 50.5, 50.6, 50.7, 50.8, 50.9, 51.0, 51.1, 51.2, 51.3, 51.4, 51.5, 51.6, 51.7, 51.8, 51.9, 52.0, 52.1, 52.2, 52.3, 52.4, 52.5, 52.6, 52.7, 52.8, 52.9, 53.0, 53.1, 53.2, 53.3, 53.4, 53.5, 53.6, 53.7, 53.8, 53.9, 54.0, 54.1, 54.2, 54.3, 54.4, 54.5, 54.6, 54.7, 54.8, 54.9, 55.0, 55.1, 55.2, 55.3, 55.4, 55.5, 55.6, 55.7, 55.8, 55.9, 56.0, 56.1, 56.2, 56.3, 56.4, 56.5, 56.6, 56.7, 56.8, 56.9, 57.0, 57.1, 57.2, 57.3, 57.4, 57.5, 57.6, 57.7, 57.8, 57.9, 58.0, 58.1, 58.2, 58.3, 58.4, 58.5, 58.6, 58.7, 58.8, 58.9, 59.0, 59.1, 59.2, 59.3, 59.4, 59.5, 59.6, 59.7, 59.8, 59.9, 60.0, 60.1, 60.2, 60.3, 60.4, 60.5, 60.6, 60.7, 60.8, 60.9, 61.0, 61.1, 61.2, 61.3, 61.4, 61.5, 61.6, 61.7, 61.8, 61.9, 62.0, 62.1, 62.2, 62.3, 62.4, 62.5, 62.6, 62.7, 62.8, 62.9, 63.0, 63.1, 63.2, 63.3, 63.4, 63.5, 63.6, 63.7, 63.8, 63.9, 64.0, 64.1, 64.2, 64.3, 64.4, 64.5, 64.6, 64.7, 64.8, 64.9, 65.0, 65.1, 65.2, 65.3, 65.4, 65.5, 65.6, 65.7, 65.8, 65.9, 66.0, 66.1, 66.2, 66.3, 66.4, 66.5, 66.6, 66.7, 66.8, 66.9, 67.0, 67.1, 67.2, 67.3, 67.4, 67.5, 67.6, 67.7, 67.8, 67.9, 68.0, 68.1, 68.2, 68.3, 68.4, 68.5, 68.6, 68.7, 68.8, 68.9, 69.0, 69.1, 69.2, 69.3, 69.4, 69.5, 69.6, 69.7, 69.8, 69.9, 70.0, 70.1, 70.2, 70.3, 70.4, 70.5, 70.6, 70.7, 70.8, 70.9, 71.0, 71.1, 71.2, 71.3, 71.4, 71.5, 71.6, 71.7, 71.8, 71.9, 72.0, 72.1, 72.2, 72.3, 72.4, 72.5, 72.6, 72.7, 72.8, 72.9, 73.0, 73.1, 73.2, 73.3, 73.4, 73.5, 73.6, 73.7, 73.8, 73.9, 74.0, 74.1, 74.2, 74.3, 74.4, 74.5, 74.6, 74.7, 74.8, 74.9, 75.0, 75.1, 75.2, 75.3, 75.4, 75.5, 75.6, 75.7, 75.8, 75.9, 76.0, 76.1, 76.2, 76.3, 76.4, 76.5, 76.6, 76.7, 76.8, 76.9, 77.0, 77.1, 77.2, 77.3, 77.4, 77.5, 77.6, 77.7, 77.8, 77.9, 78.0, 78.1, 78.2, 78.3, 78.4, 78.5, 78.6, 78.7, 78.8, 78.9, 79.0, 79.1, 79.2, 79.3, 79.4, 79.5, 79.6, 79.7, 79.8, 79.9, 80.0, 80.1, 80.2, 80.3, 80.4, 80.5, 80.6, 80.7, 80.8, 80.9, 81.0, 81.1, 81.2, 81.3, 81.4, 81.5, 81.6, 81.7, 81.8, 81.9, 82.0, 82.1, 82.2, 82.3, 82.4, 82.5, 82.6, 82.7, 82.8, 82.9, 83.0, 83.1, 83.2, 83.3, 83.4, 83.5, 83.6, 83.7, 83.8, 83.9, 84.0, 84.1, 84.2, 84.3, 84.4, 84.5, 84.6, 84.7, 84.8, 84.9, 85.0, 85.1, 85.2, 85.3, 85.4, 85.5, 85.6, 85.7, 85.8, 85.9, 86.0, 86.1, 86.2, 86.3, 86.4, 86.5, 86.6, 86.7, 86.8, 86.9, 87.0, 87.1, 87.2, 87.3, 87.4, 87.5, 87.6, 87.7, 87.8, 87.9, 88.0, 88.1, 88.2, 88.3, 88.4, 88.5, 88.6, 88.7, 88.8, 88.9, 89.0, 89.1, 89.2, 89.3, 89.4, 89.5, 89.6, 89.7, 89.8, 89.9, 90.0, 90.1, 90.2, 90.3, 90.4, 90.5, 90.6, 90.7, 90.8, 90.9, 91.0, 91.1, 91.2, 91.3, 91.4, 91.5, 91.6, 91.7, 91.8, 91.9, 92.0, 92.1, 92.2, 92.3, 92.4, 92.5, 92.6, 92.7, 92.8, 92.9, 93.0, 93.1, 93.2, 93.3, 93.4, 93.5, 93.6, 93.7, 93.8, 93.9, 94.0, 94.1, 94.2, 94.3, 94.4, 94.5, 94.6, 94.7, 94.8, 94.9, 95.0, 95.1, 95.2, 95.3, 95.4, 95.5, 95.6, 95.7, 95.8, 95.9, 96.0, 96.1, 96.2, 96.3, 96.4, 96.5, 96.6, 96.7, 96.8, 96.9, 97.0, 97.1, 97.2, 97.3, 97.4, 97.5, 97.6, 97.7, 97.8, 97.9, 98.0, 98.1, 98.2, 98.3, 98.4, 98.5, 98.6, 98.7, 98.8, 98.9, 99.0, 99.1, 99.2, 99.3, 99.4, 99.5, 99.6, 99.7, 99.8, 99.9, 100.0).



SOIL MOISTURE RETENTION TABLE - 10 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL										PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09		0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
18.0	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	0.0	12.00	11.99	11.98	11.97	11.96	11.95	11.94	11.93	11.92	11.91
18.1	1.64	1.64	1.63	1.63	1.63	1.63	1.63	1.62	1.62	1.62	0.1	11.90	11.89	11.88	11.87	11.86	11.85	11.84	11.83	11.82	11.81
18.2	1.62	1.62	1.62	1.62	1.62	1.61	1.61	1.61	1.61	1.61	0.2	11.80	11.79	11.78	11.77	11.76	11.75	11.74	11.73	11.72	11.71
18.3	1.61	1.61	1.60	1.60	1.60	1.60	1.60	1.59	1.59	1.59	0.3	11.70	11.69	11.68	11.67	11.66	11.65	11.64	11.63	11.62	11.61
18.4	1.61	1.61	1.59	1.59	1.58	1.58	1.58	1.58	1.58	1.58	0.4	11.61	11.60	11.59	11.58	11.57	11.56	11.55	11.54	11.53	11.52
18.5	1.58	1.57	1.57	1.57	1.57	1.57	1.57	1.56	1.56	1.56	0.5	11.51	11.50	11.49	11.48	11.47	11.46	11.45	11.44	11.43	11.42
18.6	1.56	1.56	1.56	1.56	1.55	1.55	1.55	1.54	1.54	1.54	0.6	11.41	11.40	11.39	11.37	11.37	11.36	11.35	11.34	11.33	11.32
18.7	1.54	1.54	1.54	1.54	1.54	1.54	1.53	1.53	1.53	1.53	0.7	11.32	11.31	11.30	11.29	11.28	11.27	11.26	11.25	11.24	11.23
18.8	1.53	1.53	1.53	1.52	1.52	1.52	1.52	1.52	1.52	1.52	0.8	11.22	11.21	11.20	11.19	11.18	11.17	11.16	11.15	11.14	11.13
18.9	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.50	1.50	0.9	11.13	11.12	11.11	11.10	11.09	11.08	11.07	11.06	11.05	11.04
19.0	1.50	1.50	1.50	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.0	11.04	11.03	11.02	11.01	11.00	10.99	10.98	10.97	10.96	10.95
19.1	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.47	1.47	1.1	10.95	10.94	10.93	10.92	10.91	10.90	10.89	10.88	10.87	10.86
19.2	1.47	1.47	1.47	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.2	10.86	10.85	10.84	10.83	10.82	10.81	10.80	10.79	10.78	10.77
19.3	1.45	1.45	1.45	1.45	1.45	1.45	1.44	1.44	1.44	1.44	1.3	10.77	10.76	10.75	10.74	10.73	10.72	10.71	10.70	10.69	10.68
19.4	1.44	1.44	1.44	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.4	10.68	10.67	10.66	10.65	10.64	10.63	10.62	10.61	10.60	10.59
19.5	1.43	1.42	1.42	1.42	1.42	1.42	1.42	1.41	1.41	1.41	1.5	10.59	10.58	10.57	10.56	10.55	10.54	10.53	10.52	10.51	10.50
19.6	1.41	1.41	1.41	1.41	1.40	1.40	1.40	1.40	1.40	1.40	1.6	10.50	10.49	10.48	10.47	10.46	10.45	10.44	10.43	10.42	10.41
19.7	1.40	1.40	1.39	1.39	1.39	1.38	1.38	1.38	1.38	1.38	1.7	10.41	10.40	10.39	10.38	10.37	10.36	10.35	10.34	10.33	10.32
19.8	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.37	1.37	1.37	1.8	10.33	10.32	10.31	10.30	10.29	10.28	10.27	10.26	10.25	10.24
19.9	1.37	1.37	1.37	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.9	10.24	10.23	10.22	10.21	10.20	10.19	10.18	10.17	10.16	10.15
0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	2.0	10.15	10.14	10.13	10.12	10.11	10.11	10.10	10.09	10.08	10.07
20.0	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	2.1	10.07	10.06	10.05	10.04	10.03	10.03	10.02	10.01	10.00	9.99
20.1	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	2.2	9.99	9.98	9.97	9.96	9.95	9.94	9.93	9.92	9.91	9.90
20.2	1.33	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	2.3	9.90	9.89	9.88	9.87	9.86	9.85	9.84	9.83	9.82	9.81
20.3	1.32	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	2.4	9.82	9.81	9.80	9.79	9.78	9.78	9.77	9.76	9.75	9.74
20.4	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	2.5	9.74	9.73	9.72	9.71	9.70	9.70	9.69	9.68	9.67	9.66
20.5	1.29	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	2.6	9.66	9.65	9.64	9.63	9.62	9.62	9.61	9.60	9.59	9.58
20.6	1.28	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	2.7	9.58	9.57	9.56	9.56	9.55	9.54	9.54	9.53	9.52	9.51
20.7	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	2.8	9.50	9.50	9.49	9.48	9.48	9.48	9.48	9.47	9.46	9.45
20.8	1.25	1.25	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	2.9	9.42	9.42	9.41	9.40	9.39	9.38	9.38	9.37	9.36	9.35
20.9	1.24	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	3.0	9.34	9.34	9.33	9.32	9.31	9.30	9.29	9.28	9.27	9.26
21.0	1.23	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	3.1	9.26	9.25	9.24	9.24	9.23	9.22	9.21	9.20	9.19	9.18
21.1	1.21	1.21	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	3.2	9.18	9.18	9.18	9.17	9.17	9.16	9.15	9.14	9.13	9.12
21.2	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	3.3	9.11	9.11	9.10	9.09	9.08	9.07	9.07	9.06	9.05	9.04
21.3	1.19	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	3.4	9.03	9.03	9.02	9.01	9.00	9.00	9.00	8.99	8.98	8.97
21.4	1.18	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	3.5	8.96	8.95	8.94	8.93	8.92	8.92	8.91	8.90	8.89	8.88
21.5	1.17	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	4.0	8.59	8.58	8.57	8.57	8.57	8.56	8.56	8.54	8.53	8.52
21.6	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	4.1	8.52	8.51	8.51	8.50	8.49	8.48	8.47	8.47	8.46	8.45
21.7	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	4.2	8.45	8.45	8.44	8.43	8.43	8.41	8.41	8.40	8.38	8.38
21.8	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	4.3	8.38	8.37	8.36	8.36	8.35	8.34	8.34	8.33	8.32	8.31
21.9	1.12	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	4.4	8.31	8.30	8.30	8.29	8.28	8.28	8.27	8.26	8.25	8.24

TABLE 20  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAP-  
TRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT  
ZONE OF SOIL IS 12 INCHES.

SOIL MOISTURE RETENTION TABLE - 12 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL											PE	WATER RETAINED IN SOIL										
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09			0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	
4.5	8.24	8.23	8.23	8.22	8.21	8.21	8.21	8.20	8.19	8.18	8.18	9.0	5.65	5.66	5.65	5.65	5.64	5.64	5.63	5.63	5.62	5.62	
4.6	8.17	8.16	8.16	8.15	8.15	8.15	8.15	8.14	8.14	8.14	8.14	9.1	5.61	5.61	5.61	5.60	5.60	5.59	5.58	5.58	5.57	5.57	
4.7	8.10	8.09	8.09	8.08	8.08	8.07	8.07	8.07	8.06	8.05	8.05	9.2	5.57	5.56	5.56	5.55	5.55	5.54	5.54	5.53	5.53	5.53	
4.8	8.04	8.04	8.03	8.02	8.01	8.00	8.00	8.00	7.99	7.98	7.98	9.3	5.52	5.52	5.52	5.51	5.51	5.50	5.50	5.49	5.49	5.49	
4.9	7.97	7.96	7.96	7.95	7.95	7.94	7.94	7.94	7.93	7.92	7.91	9.4	5.47	5.47	5.47	5.46	5.46	5.45	5.45	5.45	5.44	5.44	
5.0	7.90	7.89	7.89	7.89	7.88	7.87	7.87	7.87	7.86	7.86	7.85	9.5	5.43	5.43	5.42	5.42	5.41	5.41	5.40	5.40	5.39	5.39	
5.1	7.84	7.84	7.83	7.83	7.82	7.81	7.81	7.81	7.80	7.79	7.78	9.6	5.38	5.37	5.37	5.36	5.36	5.36	5.35	5.35	5.34	5.34	
5.2	7.77	7.77	7.76	7.75	7.75	7.74	7.74	7.74	7.73	7.72	7.72	9.7	5.34	5.34	5.33	5.33	5.32	5.32	5.31	5.31	5.30	5.30	
5.3	7.71	7.70	7.70	7.69	7.68	7.68	7.68	7.68	7.67	7.66	7.65	9.8	5.29	5.29	5.29	5.28	5.28	5.27	5.27	5.26	5.26	5.26	
5.4	7.64	7.64	7.63	7.62	7.61	7.61	7.61	7.60	7.60	7.59	7.58	9.9	5.25	5.25	5.25	5.24	5.24	5.23	5.23	5.22	5.22	5.21	
5.5	7.58	7.57	7.56	7.56	7.55	7.55	7.55	7.54	7.53	7.53	7.52	10.0	5.21	5.20	5.20	5.19	5.19	5.18	5.18	5.17	5.17	5.17	
5.6	7.52	7.51	7.50	7.50	7.49	7.49	7.49	7.48	7.47	7.47	7.46	10.1	5.16	5.16	5.16	5.15	5.15	5.14	5.14	5.13	5.12	5.12	
5.7	7.45	7.45	7.45	7.44	7.43	7.42	7.42	7.42	7.41	7.40	7.39	10.2	5.12	5.12	5.11	5.11	5.10	5.10	5.10	5.09	5.09	5.08	
5.8	7.39	7.38	7.38	7.37	7.36	7.36	7.36	7.35	7.34	7.34	7.33	10.3	5.08	5.08	5.07	5.07	5.06	5.06	5.06	5.05	5.05	5.04	
5.9	7.33	7.32	7.31	7.31	7.30	7.30	7.30	7.29	7.29	7.28	7.27	10.4	5.04	5.04	5.03	5.03	5.02	5.02	5.01	5.01	5.00	4.99	
6.0	7.27	7.26	7.26	7.25	7.24	7.24	7.24	7.23	7.23	7.22	7.21	10.5	4.99	4.99	4.98	4.98	4.97	4.97	4.97	4.96	4.96	4.95	
6.1	7.21	7.20	7.20	7.19	7.18	7.18	7.18	7.17	7.17	7.16	7.15	10.6	4.95	4.95	4.95	4.94	4.94	4.93	4.93	4.92	4.92	4.91	
6.2	7.15	7.14	7.14	7.13	7.12	7.12	7.12	7.11	7.11	7.10	7.09	10.7	4.91	4.91	4.90	4.90	4.89	4.89	4.88	4.88	4.87	4.87	
6.3	7.09	7.08	7.08	7.07	7.06	7.06	7.06	7.05	7.05	7.04	7.03	10.8	4.87	4.87	4.86	4.86	4.85	4.85	4.85	4.84	4.84	4.83	
6.4	7.03	7.02	7.02	7.01	7.00	7.00	7.00	6.99	6.99	6.98	6.97	10.9	4.83	4.83	4.83	4.82	4.82	4.81	4.81	4.80	4.80	4.79	
6.5	6.97	6.96	6.96	6.95	6.94	6.94	6.94	6.94	6.93	6.93	6.92	11.0	4.79	4.79	4.78	4.78	4.77	4.77	4.77	4.76	4.76	4.75	
6.6	6.92	6.91	6.91	6.90	6.89	6.89	6.89	6.88	6.87	6.87	6.86	11.1	4.75	4.75	4.74	4.74	4.73	4.73	4.72	4.72	4.71	4.71	
6.7	6.86	6.85	6.85	6.84	6.83	6.83	6.83	6.82	6.82	6.81	6.80	11.2	4.71	4.71	4.70	4.70	4.69	4.69	4.68	4.68	4.67	4.67	
6.8	6.80	6.79	6.79	6.78	6.77	6.77	6.77	6.76	6.76	6.75	6.74	11.3	4.67	4.67	4.66	4.66	4.65	4.65	4.64	4.64	4.63	4.63	
6.9	6.74	6.74	6.73	6.73	6.72	6.72	6.72	6.71	6.71	6.70	6.69	11.4	4.63	4.63	4.62	4.62	4.61	4.61	4.61	4.60	4.60	4.59	
7.0	6.69	6.68	6.68	6.67	6.66	6.66	6.66	6.65	6.65	6.64	6.63	11.5	4.59	4.59	4.58	4.58	4.57	4.57	4.57	4.56	4.56	4.55	
7.1	6.63	6.62	6.62	6.61	6.60	6.60	6.60	6.59	6.59	6.58	6.58	11.6	4.55	4.55	4.55	4.54	4.54	4.54	4.53	4.53	4.52	4.52	
7.2	6.58	6.57	6.57	6.56	6.55	6.55	6.55	6.54	6.54	6.53	6.52	11.7	4.52	4.52	4.51	4.51	4.50	4.50	4.50	4.49	4.49	4.48	
7.3	6.52	6.52	6.51	6.51	6.50	6.50	6.50	6.49	6.49	6.48	6.47	11.8	4.48	4.48	4.48	4.47	4.47	4.46	4.46	4.45	4.45	4.44	
7.4	6.46	6.46	6.46	6.45	6.44	6.44	6.44	6.43	6.43	6.42	6.41	11.9	4.44	4.44	4.44	4.43	4.43	4.42	4.42	4.42	4.41	4.41	
7.5	6.41	6.41	6.40	6.40	6.39	6.39	6.39	6.38	6.38	6.37	6.36	12.0	4.41	4.41	4.40	4.40	4.40	4.39	4.39	4.39	4.38	4.38	
7.6	6.36	6.35	6.35	6.34	6.33	6.33	6.33	6.32	6.32	6.32	6.31	12.1	4.37	4.37	4.37	4.36	4.36	4.36	4.35	4.35	4.34	4.34	
7.7	6.31	6.30	6.30	6.29	6.28	6.28	6.28	6.27	6.27	6.27	6.26	12.2	4.33	4.33	4.33	4.32	4.32	4.31	4.31	4.30	4.30	4.30	
7.8	6.26	6.25	6.25	6.24	6.24	6.23	6.23	6.22	6.22	6.22	6.21	12.3	4.30	4.30	4.29	4.29	4.29	4.28	4.28	4.27	4.27	4.26	
7.9	6.20	6.20	6.19	6.19	6.18	6.18	6.18	6.17	6.17	6.16	6.16	12.4	4.26	4.26	4.26	4.25	4.25	4.24	4.24	4.24	4.23	4.23	
8.0	6.15	6.14	6.14	6.14	6.13	6.13	6.13	6.12	6.12	6.11	6.11	12.5	4.23	4.23	4.22	4.22	4.22	4.21	4.21	4.21	4.20	4.20	
8.1	6.10	6.10	6.09	6.09	6.08	6.08	6.08	6.07	6.07	6.06	6.06	12.6	4.19	4.19	4.18	4.18	4.18	4.17	4.17	4.16	4.16	4.16	
8.2	6.05	6.05	6.04	6.04	6.03	6.03	6.03	6.02	6.02	6.01	6.01	12.7	4.16	4.16	4.15	4.15	4.14	4.14	4.14	4.13	4.13	4.12	
8.3	6.00	6.00	5.99	5.99	5.98	5.98	5.98	5.97	5.97	5.96	5.96	12.8	4.12	4.12	4.11	4.11	4.11	4.10	4.10	4.09	4.09	4.09	
8.4	5.95	5.95	5.94	5.94	5.93	5.93	5.93	5.92	5.92	5.91	5.91	12.9	4.09	4.09	4.08	4.08	4.07	4.07	4.07	4.06	4.06	4.06	
8.5	5.90	5.90	5.89	5.89	5.88	5.88	5.88	5.87	5.87	5.86	5.86	13.0	4.05	4.05	4.05	4.04	4.04	4.04	4.04	4.03	4.03	4.02	
8.6	5.85	5.85	5.84	5.84	5.83	5.83	5.83	5.82	5.82	5.81	5.81	13.1	4.02	4.02	4.01	4.01	4.01	4.01	4.00	4.00	3.99	3.99	
8.7	5.80	5.80	5.79	5.79	5.78	5.78	5.78	5.77	5.77	5.76	5.76	13.2	3.99	3.99	3.99	3.98	3.98	3.97	3.97	3.96	3.96	3.96	
8.8	5.75	5.75	5.74	5.74	5.73	5.73	5.73	5.72	5.72	5.71	5.71	13.3	3.95	3.95	3.95	3.94	3.94	3.94	3.94	3.93	3.93	3.92	
8.9	5.71	5.70	5.70	5.69	5.68	5.68	5.68	5.67	5.67	5.67	5.66	13.4	3.92	3.92	3.92	3.91	3.91	3.91	3.90	3.90	3.90	3.89	

SOIL MOISTURE RETENTION TABLE - 12 INCHES  
(CONTINUED)



SOIL MOISTURE RETENTION TABLE - 12 INCHES  
(CONTINUED)

PE	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
22.5	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83
22.6	1.82	1.82	1.82	1.82	1.82	1.81	1.81	1.81	1.81	1.81
22.7	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
22.8	1.79	1.79	1.79	1.79	1.79	1.78	1.78	1.78	1.78	1.78
23.0	1.76	1.76	1.76	1.76	1.76	1.75	1.75	1.75	1.75	1.75
23.1	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74
23.2	1.73	1.73	1.73	1.73	1.73	1.72	1.72	1.72	1.72	1.72
23.3	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71
23.4	1.70	1.70	1.70	1.70	1.70	1.69	1.69	1.69	1.69	1.69
23.5	1.69	1.69	1.69	1.69	1.69	1.68	1.68	1.68	1.68	1.68
23.6	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67
23.7	1.66	1.66	1.66	1.66	1.66	1.65	1.65	1.65	1.65	1.65
23.8	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64
23.9	1.63	1.63	1.63	1.63	1.63	1.62	1.62	1.62	1.62	1.62
24.0	1.62	1.62	1.62	1.62	1.62	1.61	1.61	1.61	1.61	1.61
24.1	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
24.2	1.59	1.59	1.59	1.59	1.59	1.58	1.58	1.58	1.58	1.58
24.3	1.58	1.58	1.58	1.58	1.58	1.57	1.57	1.57	1.57	1.57
24.4	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56

SOIL MOISTURE RETENTION TABLE - 14 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAP-  
TRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT  
ZONE OF SOIL IS 14 INCHES.

PE	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
4.0	14.00	13.99	13.98	13.97	13.96	13.95	13.94	13.93	13.92	13.91
4.1	13.90	13.89	13.88	13.87	13.86	13.85	13.84	13.83	13.82	13.81
4.2	13.80	13.79	13.78	13.77	13.76	13.75	13.74	13.73	13.72	13.71
4.3	13.70	13.69	13.68	13.67	13.66	13.65	13.64	13.63	13.62	13.61
4.4	13.60	13.59	13.58	13.57	13.56	13.55	13.54	13.53	13.52	13.51
3.9	13.51	13.50	13.49	13.48	13.47	13.46	13.45	13.44	13.43	13.42
3.8	13.41	13.40	13.39	13.38	13.37	13.36	13.35	13.34	13.33	13.32
3.7	13.32	13.31	13.30	13.29	13.28	13.27	13.26	13.25	13.24	13.23
3.6	13.22	13.21	13.20	13.19	13.18	13.17	13.16	13.15	13.14	13.13
3.5	13.13	13.12	13.11	13.10	13.09	13.08	13.07	13.06	13.05	13.04
3.4	13.03	13.02	13.01	13.00	12.99	12.98	12.97	12.96	12.95	12.94
3.3	12.94	12.93	12.92	12.91	12.90	12.89	12.88	12.87	12.86	12.85
3.2	12.85	12.84	12.83	12.82	12.81	12.80	12.79	12.78	12.77	12.76
3.1	12.76	12.75	12.74	12.73	12.72	12.71	12.70	12.69	12.68	12.67
3.0	12.66	12.65	12.64	12.63	12.62	12.61	12.60	12.59	12.58	12.57
2.9	12.58	12.57	12.56	12.55	12.54	12.53	12.52	12.51	12.50	12.49
2.8	12.48	12.47	12.46	12.45	12.44	12.43	12.42	12.41	12.40	12.39
2.7	12.40	12.39	12.38	12.37	12.36	12.35	12.34	12.33	12.32	12.31
2.6	12.31	12.30	12.29	12.28	12.27	12.26	12.25	12.24	12.23	12.22
2.5	12.22	12.21	12.20	12.19	12.18	12.17	12.16	12.15	12.14	12.13
2.4	12.13	12.12	12.11	12.10	12.09	12.08	12.07	12.06	12.05	12.04
2.3	12.05	12.04	12.03	12.02	12.01	12.00	11.99	11.97	11.96	11.95
2.2	11.96	11.95	11.94	11.92	11.92	11.91	11.90	11.89	11.88	11.87
2.1	11.88	11.87	11.86	11.85	11.84	11.83	11.82	11.81	11.80	11.79
2.0	11.79	11.78	11.77	11.76	11.75	11.74	11.73	11.72	11.71	11.70
1.9	11.71	11.70	11.69	11.68	11.67	11.66	11.65	11.64	11.63	11.62
1.8	11.62	11.61	11.60	11.59	11.58	11.57	11.56	11.55	11.54	11.53
1.7	11.54	11.53	11.52	11.51	11.50	11.49	11.48	11.47	11.46	11.45
1.6	11.46	11.45	11.44	11.43	11.42	11.41	11.40	11.39	11.38	11.37
1.5	11.38	11.37	11.36	11.35	11.34	11.33	11.32	11.31	11.30	11.29
1.4	11.30	11.29	11.28	11.27	11.26	11.25	11.24	11.23	11.22	11.21
1.3	11.22	11.21	11.20	11.19	11.18	11.17	11.16	11.15	11.14	11.13
1.2	11.14	11.13	11.12	11.11	11.10	11.09	11.08	11.07	11.06	11.05
1.1	11.06	11.05	11.04	11.03	11.02	11.01	11.00	10.99	10.98	10.97
1.0	10.98	10.97	10.96	10.95	10.94	10.93	10.92	10.91	10.90	10.89
0.9	10.90	10.89	10.88	10.87	10.86	10.85	10.84	10.83	10.82	10.81
0.8	10.82	10.81	10.80	10.79	10.78	10.77	10.76	10.75	10.74	10.73
0.7	10.74	10.73	10.72	10.71	10.70	10.69	10.68	10.67	10.66	10.65
0.6	10.67	10.66	10.65	10.64	10.63	10.62	10.61	10.60	10.59	10.58
0.5	10.59	10.58	10.57	10.56	10.55	10.54	10.53	10.52	10.51	10.50
0.4	10.51	10.50	10.49	10.48	10.47	10.46	10.45	10.44	10.43	10.42
0.3	10.44	10.43	10.42	10.41	10.40	10.39	10.38	10.37	10.36	10.35
0.2	10.37	10.36	10.35	10.34	10.33	10.32	10.31	10.30	10.29	10.28
0.1	10.29	10.28	10.27	10.26	10.25	10.24	10.23	10.22	10.21	10.20
0.0	10.22	10.21	10.20	10.19	10.18	10.17	10.16	10.15	10.14	10.13



SOIL MOISTURE RETENTION TABLE - 14 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL										PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09		0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
13.5	5.33	5.32	5.32	5.31	5.31	5.31	5.30	5.30	5.29	5.29	18.0	3.85	3.85	3.85	3.85	3.85	3.84	3.84	3.84	3.83	
13.6	5.28	5.28	5.28	5.28	5.27	5.27	5.27	5.26	5.26	5.26	18.1	3.83	3.83	3.83	3.83	3.82	3.82	3.82	3.81	3.81	
13.7	5.25	5.25	5.25	5.24	5.24	5.24	5.24	5.23	5.22	5.22	18.2	3.80	3.80	3.80	3.79	3.79	3.78	3.78	3.77	3.77	
13.8	5.22	5.21	5.21	5.20	5.20	5.20	5.19	5.19	5.18	5.18	18.3	3.77	3.77	3.77	3.76	3.76	3.76	3.76	3.75	3.75	
13.9	5.18	5.17	5.17	5.16	5.16	5.16	5.15	5.15	5.14	5.14	18.4	3.75	3.75	3.74	3.74	3.73	3.73	3.73	3.72	3.72	
14.0	5.14	5.13	5.13	5.13	5.12	5.12	5.12	5.11	5.11	5.11	18.5	3.72	3.72	3.71	3.71	3.71	3.71	3.70	3.70	3.69	
14.1	5.10	5.10	5.10	5.10	5.09	5.09	5.08	5.08	5.07	5.07	18.6	3.69	3.69	3.69	3.68	3.68	3.68	3.67	3.67	3.67	
14.2	5.07	5.06	5.06	5.05	5.05	5.05	5.04	5.04	5.03	5.03	18.7	3.67	3.66	3.66	3.66	3.65	3.65	3.65	3.65	3.64	
14.3	5.03	5.03	5.02	5.02	5.02	5.01	5.01	5.01	5.00	5.00	18.8	3.64	3.64	3.64	3.64	3.63	3.63	3.62	3.62	3.62	
14.4	5.00	4.99	4.99	4.98	4.98	4.98	4.97	4.97	4.96	4.96	18.9	3.62	3.62	3.61	3.61	3.60	3.60	3.60	3.59	3.59	
14.5	4.96	4.95	4.95	4.95	4.94	4.94	4.94	4.93	4.93	4.93	19.0	3.59	3.59	3.58	3.58	3.58	3.58	3.57	3.57	3.56	
14.6	4.92	4.92	4.92	4.91	4.91	4.91	4.90	4.90	4.89	4.89	19.1	3.59	3.59	3.58	3.58	3.58	3.58	3.57	3.57	3.56	
14.7	4.89	4.89	4.88	4.88	4.88	4.87	4.87	4.87	4.86	4.86	19.2	3.58	3.58	3.58	3.58	3.58	3.58	3.57	3.57	3.56	
14.8	4.86	4.85	4.85	4.84	4.84	4.84	4.83	4.83	4.82	4.82	19.3	3.51	3.51	3.51	3.51	3.50	3.50	3.50	3.49	3.49	
14.9	4.82	4.81	4.81	4.81	4.80	4.80	4.80	4.79	4.79	4.79	19.4	3.49	3.49	3.48	3.48	3.48	3.47	3.47	3.47	3.46	
15.0	4.78	4.78	4.78	4.77	4.77	4.77	4.76	4.76	4.75	4.75	19.5	3.46	3.46	3.46	3.46	3.46	3.46	3.45	3.45	3.44	
15.1	4.75	4.74	4.74	4.73	4.73	4.73	4.72	4.72	4.71	4.71	19.6	3.44	3.44	3.43	3.43	3.43	3.42	3.42	3.42	3.41	
15.2	4.71	4.70	4.70	4.70	4.69	4.69	4.68	4.68	4.68	4.68	19.7	3.41	3.41	3.41	3.41	3.40	3.40	3.40	3.39	3.39	
15.3	4.67	4.67	4.67	4.66	4.66	4.66	4.65	4.65	4.65	4.65	19.8	3.39	3.39	3.39	3.38	3.38	3.38	3.37	3.37	3.37	
15.4	4.64	4.64	4.63	4.63	4.63	4.63	4.62	4.62	4.62	4.62	19.9	3.36	3.36	3.36	3.36	3.36	3.35	3.35	3.35	3.34	
15.5	4.61	4.61	4.60	4.60	4.60	4.59	4.59	4.59	4.58	4.58	20.0	3.34	3.34	3.34	3.33	3.33	3.33	3.32	3.32	3.32	
15.6	4.58	4.57	4.57	4.57	4.56	4.56	4.55	4.55	4.55	4.55	20.1	3.32	3.32	3.31	3.31	3.31	3.30	3.30	3.29	3.29	
15.7	4.54	4.54	4.54	4.53	4.53	4.53	4.52	4.52	4.51	4.51	20.2	3.29	3.29	3.29	3.29	3.28	3.28	3.28	3.27	3.27	
15.8	4.51	4.51	4.50	4.50	4.50	4.49	4.49	4.49	4.48	4.48	20.3	3.27	3.27	3.27	3.26	3.26	3.26	3.25	3.25	3.25	
15.9	4.48	4.47	4.47	4.47	4.46	4.46	4.46	4.45	4.45	4.45	20.4	3.25	3.25	3.24	3.24	3.24	3.23	3.23	3.23	3.22	
16.0	4.44	4.44	4.44	4.43	4.43	4.43	4.42	4.42	4.42	4.42	20.5	3.22	3.22	3.22	3.22	3.21	3.21	3.21	3.20	3.20	
16.1	4.41	4.41	4.41	4.40	4.40	4.40	4.40	4.39	4.39	4.39	20.6	3.20	3.20	3.19	3.19	3.19	3.19	3.18	3.18	3.18	
16.2	4.38	4.38	4.38	4.37	4.37	4.37	4.37	4.36	4.36	4.36	20.7	3.18	3.18	3.17	3.17	3.17	3.17	3.16	3.16	3.16	
16.3	4.35	4.35	4.35	4.34	4.34	4.34	4.33	4.33	4.32	4.32	20.8	3.16	3.16	3.15	3.15	3.15	3.14	3.14	3.14	3.13	
16.4	4.32	4.32	4.31	4.31	4.31	4.30	4.30	4.30	4.29	4.29	20.9	3.13	3.13	3.13	3.12	3.12	3.12	3.11	3.11	3.11	
16.5	4.29	4.29	4.28	4.28	4.28	4.27	4.27	4.27	4.26	4.26	21.0	3.11	3.11	3.10	3.10	3.10	3.10	3.09	3.09	3.09	
16.6	4.26	4.26	4.26	4.25	4.25	4.25	4.24	4.24	4.23	4.23	21.1	3.09	3.09	3.08	3.08	3.08	3.08	3.07	3.07	3.07	
16.7	4.23	4.23	4.22	4.22	4.22	4.21	4.21	4.21	4.20	4.20	21.2	3.07	3.07	3.06	3.06	3.06	3.06	3.05	3.05	3.05	
16.8	4.20	4.20	4.19	4.19	4.19	4.18	4.18	4.18	4.17	4.17	21.3	3.05	3.05	3.04	3.04	3.04	3.04	3.03	3.03	3.02	
16.9	4.17	4.17	4.16	4.16	4.16	4.15	4.15	4.15	4.14	4.14	21.4	3.02	3.02	3.02	3.01	3.01	3.01	3.01	3.00	3.00	
17.0	4.14	4.14	4.13	4.13	4.13	4.12	4.12	4.12	4.11	4.11	21.5	3.00	3.00	3.00	2.99	2.99	2.99	2.99	2.98	2.98	
17.1	4.11	4.11	4.10	4.10	4.10	4.09	4.09	4.09	4.08	4.08	21.6	2.99	2.99	2.99	2.99	2.99	2.99	2.98	2.98	2.98	
17.2	4.08	4.08	4.07	4.07	4.07	4.06	4.06	4.06	4.05	4.05	21.7	2.98	2.98	2.98	2.98	2.98	2.98	2.97	2.97	2.97	
17.3	4.05	4.05	4.04	4.04	4.04	4.04	4.03	4.03	4.03	4.03	21.8	2.96	2.96	2.96	2.96	2.96	2.96	2.95	2.95	2.95	
17.4	4.02	4.02	4.01	4.01	4.01	4.01	4.00	4.00	4.00	4.00	21.9	2.92	2.92	2.92	2.91	2.91	2.91	2.91	2.90	2.90	
17.5	3.99	3.99	3.99	3.99	3.98	3.98	3.98	3.97	3.97	3.97	22.0	2.90	2.90	2.90	2.89	2.89	2.89	2.89	2.88	2.88	
17.6	3.96	3.96	3.96	3.96	3.95	3.95	3.95	3.94	3.94	3.94	22.1	2.88	2.88	2.88	2.87	2.87	2.87	2.87	2.86	2.86	
17.7	3.94	3.94	3.93	3.93	3.93	3.92	3.92	3.92	3.91	3.91	22.2	2.86	2.86	2.86	2.85	2.85	2.85	2.84	2.84	2.84	
17.8	3.91	3.91	3.91	3.90	3.90	3.90	3.89	3.89	3.89	3.89	22.3	2.84	2.84	2.83	2.83	2.83	2.83	2.82	2.82	2.82	
17.9	3.88	3.88	3.88	3.88	3.87	3.87	3.87	3.86	3.86	3.86	22.4	2.82	2.82	2.81	2.81	2.81	2.81	2.80	2.80	2.80	

SOIL MOISTURE RETENTION - 14 INCHES  
(CONTINUED)

SOIL MOISTURE RETENTION TABLE - 14 INCHES  
(CONTINUED)

PE	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
22.5	2.80	2.79	2.79	2.79	2.79	2.79	2.79	2.78	2.78	2.78
22.6	2.78	2.77	2.77	2.77	2.77	2.77	2.76	2.76	2.76	2.76
22.7	2.76	2.75	2.75	2.75	2.75	2.75	2.74	2.74	2.74	2.74
22.8	2.74	2.73	2.73	2.73	2.73	2.73	2.72	2.72	2.72	2.72
22.9	2.72	2.71	2.71	2.71	2.71	2.71	2.70	2.70	2.70	2.70
23.0	2.70	2.69	2.69	2.69	2.69	2.69	2.68	2.68	2.68	2.68
23.1	2.68	2.68	2.68	2.67	2.67	2.67	2.67	2.67	2.67	2.67
23.2	2.66	2.66	2.66	2.66	2.66	2.66	2.65	2.65	2.65	2.65
23.3	2.64	2.64	2.64	2.64	2.64	2.64	2.63	2.63	2.63	2.63
23.4	2.62	2.62	2.62	2.62	2.62	2.62	2.61	2.61	2.61	2.61
23.5	2.60	2.60	2.60	2.60	2.60	2.60	2.59	2.59	2.59	2.59
23.6	2.58	2.58	2.58	2.58	2.58	2.58	2.57	2.57	2.57	2.57
23.7	2.56	2.56	2.56	2.56	2.56	2.56	2.55	2.55	2.55	2.55
23.8	2.54	2.54	2.54	2.54	2.54	2.54	2.53	2.53	2.53	2.53
23.9	2.52	2.52	2.52	2.52	2.52	2.52	2.51	2.51	2.51	2.51
24.0	2.51	2.51	2.50	2.50	2.50	2.50	2.49	2.49	2.49	2.49
24.1	2.49	2.49	2.49	2.49	2.49	2.49	2.48	2.48	2.48	2.48
24.2	2.48	2.47	2.47	2.47	2.47	2.47	2.46	2.46	2.46	2.46
24.3	2.46	2.46	2.46	2.46	2.46	2.46	2.45	2.45	2.45	2.45
24.4	2.44	2.44	2.44	2.44	2.44	2.44	2.43	2.43	2.43	2.43
24.5	2.42	2.42	2.42	2.42	2.42	2.42	2.41	2.41	2.41	2.41
24.6	2.40	2.40	2.40	2.40	2.40	2.40	2.39	2.39	2.39	2.39
24.7	2.39	2.39	2.39	2.39	2.39	2.39	2.37	2.37	2.37	2.37
24.8	2.37	2.37	2.37	2.37	2.37	2.37	2.36	2.36	2.36	2.36
24.9	2.35	2.35	2.35	2.35	2.35	2.35	2.34	2.34	2.34	2.34
25.0	2.34	2.33	2.33	2.33	2.33	2.33	2.32	2.32	2.32	2.32
25.1	2.32	2.32	2.32	2.31	2.31	2.31	2.31	2.31	2.31	2.31
25.2	2.30	2.30	2.30	2.30	2.30	2.30	2.29	2.29	2.29	2.29
25.3	2.29	2.29	2.29	2.29	2.29	2.29	2.28	2.28	2.28	2.28
25.4	2.27	2.27	2.27	2.27	2.27	2.27	2.26	2.26	2.26	2.26
25.5	2.26	2.26	2.26	2.25	2.25	2.25	2.25	2.24	2.24	2.24
25.6	2.24	2.24	2.24	2.24	2.24	2.24	2.23	2.23	2.23	2.23
25.7	2.22	2.22	2.22	2.22	2.22	2.22	2.21	2.21	2.21	2.21
25.8	2.21	2.21	2.20	2.20	2.20	2.20	2.19	2.19	2.19	2.19
25.9	2.19	2.19	2.19	2.19	2.18	2.18	2.18	2.18	2.18	2.18
26.0	2.17	2.17	2.17	2.17	2.17	2.17	2.16	2.16	2.16	2.16
26.1	2.16	2.16	2.15	2.15	2.15	2.15	2.14	2.14	2.14	2.14
26.2	2.14	2.14	2.14	2.14	2.14	2.14	2.13	2.13	2.13	2.13
26.3	2.13	2.12	2.12	2.12	2.12	2.12	2.11	2.11	2.11	2.11
26.4	2.11	2.11	2.11	2.11	2.11	2.11	2.10	2.10	2.10	2.10
26.5	2.10	2.10	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09
26.6	2.08	2.08	2.08	2.08	2.08	2.08	2.07	2.07	2.07	2.07
26.7	2.07	2.07	2.07	2.07	2.07	2.07	2.06	2.06	2.06	2.06
26.8	2.05	2.05	2.05	2.05	2.05	2.05	2.04	2.04	2.04	2.04
26.9	2.04	2.04	2.04	2.04	2.04	2.04	2.03	2.03	2.03	2.03

SOIL MOISTURE RETENTION TABLE - 14 INCHES  
(CONTINUED)

PE	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
27.0	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02
27.1	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
27.2	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99
27.3	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97
27.4	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96
27.5	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
27.6	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93
27.7	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92
27.8	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90
27.9	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.89
28.0	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88
28.1	1.87	1.87	1.87	1.87	1.87	1.87	1.86	1.86	1.86	1.86
28.2	1.86	1.86	1.86	1.86	1.86	1.86	1.85	1.85	1.85	1.85
28.3	1.85	1.85	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
28.4	1.83	1.83	1.83	1.83	1.83	1.83	1.82	1.82	1.82	1.82
28.5	1.82	1.82	1.82	1.82	1.82	1.82	1.81	1.81	1.81	1.81
28.6	1.81	1.81	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
28.7	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79
28.8	1.78	1.78	1.78	1.78	1.78	1.78	1.77	1.77	1.77	1.77
28.9	1.77	1.77	1.77	1.76	1.76	1.76	1.76	1.76	1.76	1.76

TABLE 22

SOIL MOISTURE RETENTION TABLE - 16 INCHES  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAP-  
TRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF ROOT  
ZONE OF SOIL IS 16 INCHES.

PE	WATER RETAINED IN SOIL										PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09		0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	16.00	15.99	15.98	15.97	15.96	15.95	15.94	15.93	15.92	15.91	4.5	12.07	12.07	12.06	12.05	12.04	12.03	12.03	12.02	12.01	12.00
0.1	15.90	15.89	15.88	15.87	15.86	15.85	15.84	15.83	15.82	15.81	4.6	12.00	11.99	11.98	11.97	11.96	11.95	11.94	11.94	11.93	11.93
0.2	15.80	15.79	15.78	15.77	15.76	15.75	15.74	15.73	15.72	15.71	4.7	11.92	11.92	11.91	11.90	11.89	11.88	11.87	11.86	11.85	11.85
0.3	15.70	15.69	15.68	15.67	15.66	15.65	15.64	15.63	15.62	15.61	4.8	11.85	11.84	11.83	11.82	11.81	11.81	11.80	11.79	11.78	11.77
0.4	15.60	15.59	15.58	15.57	15.56	15.55	15.54	15.53	15.52	15.51	4.9	11.77	11.76	11.76	11.75	11.74	11.74	11.73	11.72	11.71	11.71
0.5	15.51	15.50	15.49	15.48	15.47	15.46	15.45	15.44	15.43	15.42	5.0	11.70	11.70	11.69	11.68	11.67	11.66	11.65	11.64	11.63	11.63
0.6	15.41	15.40	15.39	15.38	15.37	15.36	15.35	15.34	15.33	15.32	5.1	11.63	11.62	11.61	11.60	11.59	11.58	11.57	11.56	11.55	11.55
0.7	15.31	15.30	15.29	15.28	15.27	15.27	15.26	15.25	15.24	15.23	5.2	11.55	11.54	11.53	11.52	11.51	11.51	11.50	11.49	11.48	11.48
0.8	15.22	15.21	15.20	15.19	15.18	15.17	15.16	15.15	15.14	15.13	5.3	11.48	11.47	11.46	11.45	11.44	11.43	11.42	11.41	11.40	11.40
0.9	15.12	15.11	15.10	15.09	15.08	15.08	15.07	15.06	15.05	15.04	5.4	11.41	11.40	11.39	11.38	11.38	11.37	11.36	11.35	11.34	11.34
1.0	15.03	15.02	15.01	15.00	14.99	14.98	14.97	14.96	14.95	14.94	5.5	11.34	11.33	11.32	11.31	11.30	11.30	11.29	11.28	11.27	11.27
1.1	14.94	14.93	14.92	14.91	14.90	14.89	14.88	14.87	14.86	14.85	5.6	11.27	11.26	11.25	11.24	11.23	11.23	11.22	11.21	11.20	11.20
1.2	14.84	14.83	14.82	14.81	14.80	14.80	14.79	14.78	14.77	14.76	5.7	11.20	11.19	11.18	11.17	11.16	11.16	11.15	11.14	11.13	11.13
1.3	14.75	14.74	14.73	14.72	14.71	14.70	14.69	14.68	14.67	14.66	5.8	11.13	11.12	11.11	11.10	11.09	11.09	11.08	11.07	11.06	11.06
1.4	14.66	14.65	14.64	14.63	14.62	14.61	14.60	14.59	14.58	14.57	5.9	11.06	11.05	11.04	11.03	11.03	11.02	11.01	11.00	10.99	10.99
1.5	14.57	14.56	14.55	14.54	14.53	14.52	14.51	14.50	14.49	14.48	6.0	10.99	10.98	10.97	10.97	10.96	10.95	10.94	10.94	10.93	10.93
1.6	14.48	14.47	14.46	14.45	14.44	14.43	14.42	14.41	14.40	14.39	6.1	10.92	10.92	10.91	10.90	10.89	10.88	10.87	10.86	10.85	10.85
1.7	14.38	14.37	14.36	14.35	14.34	14.33	14.32	14.31	14.30	14.29	6.2	10.85	10.84	10.83	10.82	10.81	10.81	10.80	10.79	10.78	10.78
1.8	14.30	14.29	14.28	14.27	14.26	14.25	14.24	14.23	14.22	14.21	6.3	10.79	10.78	10.77	10.76	10.75	10.75	10.74	10.73	10.72	10.72
1.9	14.21	14.20	14.19	14.18	14.17	14.16	14.15	14.14	14.13	14.12	6.4	10.72	10.71	10.70	10.70	10.69	10.68	10.67	10.66	10.65	10.65
2.0	14.12	14.11	14.10	14.09	14.08	14.07	14.06	14.05	14.04	14.03	6.5	10.65	10.64	10.63	10.62	10.62	10.61	10.60	10.59	10.58	10.58
2.1	14.03	14.02	14.01	14.00	13.99	13.98	13.97	13.96	13.95	13.94	6.6	10.58	10.57	10.56	10.55	10.54	10.54	10.53	10.52	10.51	10.51
2.2	13.94	13.93	13.92	13.91	13.90	13.89	13.88	13.87	13.86	13.85	6.7	10.52	10.51	10.51	10.50	10.49	10.48	10.47	10.46	10.45	10.45
2.3	13.85	13.84	13.83	13.82	13.81	13.80	13.79	13.78	13.77	13.76	6.8	10.45	10.44	10.44	10.43	10.42	10.41	10.40	10.39	10.38	10.38
2.4	13.77	13.76	13.75	13.74	13.73	13.73	13.72	13.71	13.70	13.69	6.9	10.39	10.38	10.37	10.36	10.36	10.35	10.34	10.33	10.32	10.32
2.5	13.68	13.67	13.66	13.65	13.64	13.64	13.63	13.62	13.61	13.60	7.0	10.32	10.31	10.30	10.29	10.28	10.28	10.27	10.26	10.25	10.25
2.6	13.60	13.59	13.58	13.57	13.56	13.55	13.54	13.53	13.52	13.51	7.1	10.26	10.25	10.24	10.23	10.23	10.22	10.21	10.21	10.20	10.20
2.7	13.51	13.50	13.49	13.48	13.47	13.46	13.45	13.44	13.43	13.42	7.2	10.19	10.18	10.18	10.17	10.16	10.16	10.15	10.14	10.14	10.14
2.8	13.43	13.42	13.41	13.40	13.39	13.38	13.37	13.36	13.35	13.34	7.3	10.13	10.13	10.12	10.11	10.11	10.10	10.10	10.09	10.08	10.08
2.9	13.34	13.33	13.32	13.31	13.30	13.29	13.28	13.27	13.26	13.25	7.4	10.07	10.07	10.06	10.05	10.05	10.04	10.04	10.03	10.02	10.01
3.0	13.26	13.25	13.24	13.23	13.22	13.22	13.21	13.20	13.19	13.18	7.5	10.00	10.00	9.99	9.98	9.97	9.97	9.96	9.95	9.94	9.94
3.1	13.18	13.17	13.16	13.15	13.14	13.14	13.13	13.12	13.11	13.10	7.6	9.94	9.93	9.93	9.92	9.91	9.91	9.90	9.89	9.88	9.88
3.2	13.10	13.09	13.08	13.07	13.06	13.05	13.04	13.03	13.02	13.01	7.7	9.88	9.87	9.86	9.85	9.85	9.84	9.84	9.83	9.82	9.82
3.3	13.01	13.00	12.99	12.98	12.97	12.96	12.95	12.94	12.93	12.92	7.8	9.82	9.81	9.80	9.80	9.79	9.79	9.78	9.77	9.76	9.76
3.4	12.93	12.92	12.91	12.90	12.89	12.89	12.88	12.87	12.86	12.85	7.9	9.76	9.76	9.75	9.74	9.74	9.73	9.72	9.72	9.71	9.71
3.5	12.85	12.84	12.83	12.82	12.81	12.81	12.80	12.79	12.78	12.77	8.0	9.70	9.70	9.69	9.68	9.68	9.67	9.66	9.65	9.64	9.64
3.6	12.77	12.76	12.74	12.73	12.72	12.71	12.70	12.69	12.68	12.67	8.1	9.64	9.64	9.63	9.62	9.62	9.61	9.60	9.59	9.58	9.58
3.7	12.69	12.68	12.67	12.66	12.65	12.65	12.64	12.63	12.62	12.61	8.2	9.58	9.58	9.57	9.56	9.55	9.54	9.53	9.52	9.51	9.51
3.8	12.61	12.60	12.59	12.58	12.57	12.57	12.56	12.55	12.54	12.53	8.3	9.52	9.52	9.51	9.50	9.49	9.48	9.47	9.46	9.45	9.45
3.9	12.53	12.52	12.51	12.50	12.49	12.49	12.48	12.47	12.46	12.45	8.4	9.46	9.45	9.45	9.44	9.44	9.43	9.42	9.41	9.40	9.40
4.0	12.46	12.45	12.44	12.43	12.42	12.42	12.41	12.40	12.39	12.38	8.5	9.40	9.40	9.39	9.38	9.38	9.37	9.36	9.35	9.34	9.34
4.1	12.38	12.38	12.37	12.36	12.35	12.34	12.34	12.33	12.32	12.31	8.6	9.34	9.34	9.33	9.32	9.32	9.31	9.30	9.29	9.28	9.28
4.2	12.30	12.30	12.29	12.28	12.27	12.26	12.26	12.25	12.24	12.23	8.7	9.28	9.28	9.27	9.26	9.26	9.25	9.24	9.23	9.22	9.22
4.3	12.22	12.22	12.21	12.20	12.19	12.19	12.18	12.17	12.16	12.15	8.8	9.22	9.22	9.21	9.20	9.20	9.19	9.18	9.17	9.16	9.16
4.4	12.15	12.14	12.13	12.13	12.11	12.11	12.10	12.09	12.08	12.08	8.9	9.17	9.16	9.15	9.15	9.14	9.14	9.13	9.12	9.11	9.11

SOIL MOISTURE RETENTION TABLE - 16 INCHES  
(CONTINUED)



SOIL MOISTURE RETENTION TABLE - 16 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL										
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.99
9.0	9.11	9.11	9.10	9.09	9.09	9.08	9.08	9.07	9.06	9.06	9.06
9.1	9.05	9.05	9.04	9.03	9.03	9.02	9.02	9.01	9.01	9.00	9.00
9.2	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
9.3	9.04	9.04	9.03	9.03	9.03	9.03	9.03	9.03	9.03	9.03	9.03
9.4	9.08	9.08	9.07	9.07	9.07	9.07	9.07	9.07	9.07	9.07	9.07
9.5	9.03	9.03	9.02	9.02	9.02	9.02	9.02	9.02	9.02	9.02	9.02
9.6	8.77	8.77	8.76	8.76	8.76	8.75	8.75	8.74	8.73	8.73	8.73
9.7	8.72	8.72	8.71	8.70	8.70	8.69	8.69	8.68	8.67	8.67	8.67
9.8	8.66	8.66	8.65	8.65	8.65	8.64	8.64	8.63	8.62	8.61	8.61
9.9	8.61	8.60	8.60	8.59	8.59	8.58	8.58	8.57	8.57	8.56	8.56
10.0	8.56	8.55	8.55	8.54	8.54	8.53	8.53	8.52	8.51	8.51	8.51
10.1	8.50	8.50	8.49	8.49	8.48	8.48	8.47	8.46	8.46	8.45	8.45
10.2	8.45	8.44	8.43	8.43	8.42	8.42	8.41	8.41	8.40	8.40	8.40
10.3	8.40	8.39	8.38	8.38	8.38	8.37	8.37	8.36	8.35	8.35	8.35
10.4	8.34	8.34	8.33	8.33	8.32	8.32	8.31	8.31	8.30	8.30	8.30
10.5	8.29	8.29	8.28	8.28	8.27	8.27	8.26	8.26	8.25	8.25	8.25
10.6	8.24	8.24	8.23	8.22	8.22	8.21	8.21	8.20	8.20	8.19	8.19
10.7	8.19	8.18	8.18	8.17	8.17	8.16	8.16	8.15	8.15	8.14	8.14
10.8	8.14	8.13	8.13	8.12	8.12	8.11	8.11	8.10	8.10	8.09	8.09
10.9	8.09	8.08	8.08	8.07	8.07	8.06	8.06	8.05	8.05	8.04	8.04
11.0	8.04	8.03	8.03	8.02	8.02	8.01	8.01	8.00	8.00	7.99	7.99
11.1	7.99	7.98	7.98	7.97	7.97	7.96	7.96	7.95	7.95	7.94	7.94
11.2	7.94	7.93	7.93	7.92	7.92	7.91	7.91	7.90	7.90	7.89	7.89
11.3	7.89	7.88	7.88	7.87	7.87	7.86	7.86	7.85	7.85	7.84	7.84
11.4	7.84	7.83	7.83	7.82	7.82	7.81	7.81	7.80	7.80	7.79	7.79
11.5	7.79	7.78	7.77	7.77	7.76	7.76	7.75	7.75	7.74	7.74	7.74
11.6	7.74	7.73	7.73	7.72	7.72	7.71	7.71	7.70	7.70	7.70	7.70
11.7	7.69	7.69	7.68	7.68	7.67	7.67	7.66	7.65	7.65	7.65	7.65
11.8	7.64	7.64	7.63	7.63	7.62	7.62	7.61	7.61	7.60	7.60	7.60
11.9	7.60	7.59	7.59	7.58	7.58	7.57	7.57	7.56	7.56	7.55	7.55
12.0	7.55	7.55	7.54	7.54	7.53	7.53	7.52	7.51	7.51	7.51	7.51
12.1	7.50	7.49	7.49	7.48	7.48	7.47	7.47	7.46	7.46	7.46	7.46
12.2	7.46	7.45	7.45	7.44	7.44	7.43	7.42	7.42	7.41	7.41	7.41
12.3	7.41	7.41	7.40	7.40	7.39	7.39	7.37	7.37	7.37	7.37	7.37
12.4	7.36	7.36	7.35	7.34	7.34	7.33	7.33	7.32	7.32	7.32	7.32
12.5	7.32	7.31	7.31	7.30	7.30	7.29	7.29	7.28	7.28	7.28	7.28
12.6	7.27	7.27	7.27	7.26	7.26	7.25	7.25	7.24	7.23	7.23	7.23
12.7	7.23	7.22	7.22	7.21	7.21	7.20	7.19	7.19	7.18	7.18	7.18
12.8	7.19	7.18	7.18	7.17	7.17	7.16	7.16	7.15	7.15	7.14	7.14
12.9	7.14	7.13	7.13	7.12	7.12	7.11	7.11	7.10	7.10	7.09	7.09
13.0	7.09	7.09	7.08	7.08	7.07	7.07	7.07	7.06	7.06	7.05	7.05
13.1	7.05	7.04	7.04	7.03	7.03	7.02	7.02	7.01	7.01	7.00	7.00
13.2	7.00	7.00	7.00	6.99	6.99	6.98	6.98	6.97	6.97	6.96	6.96
13.3	6.96	6.95	6.95	6.95	6.95	6.94	6.94	6.93	6.93	6.92	6.92
13.4	6.92	6.91	6.91	6.90	6.90	6.89	6.89	6.88	6.88	6.87	6.87

SOIL MOISTURE RETENTION TABLE - 16 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL										
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.99
13.5	6.87	6.87	6.86	6.86	6.85	6.85	6.84	6.84	6.83	6.83	6.83
13.6	6.83	6.83	6.82	6.82	6.81	6.81	6.80	6.80	6.80	6.79	6.79
13.7	6.79	6.79	6.78	6.78	6.77	6.77	6.76	6.76	6.75	6.75	6.75
13.8	6.74	6.74	6.73	6.73	6.72	6.72	6.71	6.71	6.70	6.70	6.70
13.9	6.70	6.70	6.69	6.69	6.68	6.68	6.67	6.67	6.66	6.66	6.66
14.0	6.66	6.66	6.65	6.65	6.64	6.64	6.63	6.63	6.62	6.62	6.62
14.1	6.62	6.62	6.61	6.61	6.60	6.60	6.59	6.59	6.58	6.58	6.58
14.2	6.58	6.58	6.57	6.57	6.56	6.56	6.55	6.55	6.54	6.54	6.54
14.3	6.54	6.54	6.53	6.53	6.52	6.52	6.52	6.51	6.51	6.50	6.50
14.4	6.50	6.50	6.49	6.49	6.48	6.48	6.47	6.47	6.46	6.46	6.46
14.5	6.46	6.46	6.45	6.45	6.44	6.44	6.44	6.43	6.43	6.42	6.42
14.6	6.42	6.42	6.41	6.41	6.40	6.40	6.40	6.39	6.39	6.38	6.38
14.7	6.38	6.38	6.37	6.37	6.36	6.36	6.35	6.35	6.35	6.34	6.34
14.8	6.34	6.34	6.33	6.33	6.32	6.32	6.32	6.31	6.31	6.30	6.30
14.9	6.30	6.30	6.29	6.29	6.28	6.28	6.27	6.27	6.27	6.26	6.26
15.0	6.26	6.26	6.25	6.25	6.24	6.24	6.24	6.23	6.23	6.22	6.22
15.1	6.22	6.22	6.21	6.21	6.20	6.20	6.20	6.19	6.19	6.18	6.18
15.2	6.18	6.18	6.17	6.17	6.16	6.16	6.15	6.15	6.15	6.14	6.14
15.3	6.14	6.14	6.13	6.13	6.12	6.12	6.12	6.11	6.11	6.10	6.10
15.4	6.10	6.10	6.09	6.09	6.08	6.08	6.08	6.07	6.07	6.06	6.06
15.5	6.06	6.06	6.05	6.05	6.05	6.04	6.04	6.04	6.03	6.03	6.03
15.6	6.03	6.03	6.02	6.02	6.02	6.01	6.01	6.00	6.00	5.99	5.99
15.7	5.99	5.99	5.98	5.98	5.97	5.97	5.97	5.96	5.96	5.95	5.95
15.8	5.95	5.95	5.94	5.94	5.94	5.93	5.93	5.92	5.92	5.92	5.92
15.9	5.91	5.91	5.91	5.90	5.90	5.90	5.89	5.89	5.89	5.88	5.88
16.0	5.88	5.88	5.87	5.87	5.86	5.86	5.86	5.85	5.85	5.84	5.84
16.1	5.84	5.84	5.83	5.83	5.82	5.82	5.82	5.81	5.81	5.81	5.81
16.2	5.80	5.80	5.79	5.79	5.78	5.78	5.77	5.77	5.77	5.77	5.77
16.3	5.77	5.77	5.76	5.76	5.75	5.75	5.75	5.74	5.74	5.74	5.74
16.4	5.73	5.73	5.73	5.72	5.72	5.71	5.71	5.71	5.70	5.70	5.70
16.5	5.70	5.69	5.69	5.69	5.68	5.68	5.68	5.67	5.67	5.67	5.67
16.6	5.66	5.66	5.65	5.65	5.65	5.64	5.64	5.64	5.63	5.63	5.63
16.7	5.63	5.63	5.62	5.62	5.62	5.61	5.61	5.61	5.60	5.60	5.60
16.8	5.59	5.59	5.58	5.58	5.58	5.57	5.57	5.57	5.57	5.56	5.56
16.9	5.56	5.56	5.55	5.55	5.54	5.54	5.54	5.53	5.53	5.52	5.52
17.0	5.52	5.52	5.51	5.51	5.51	5.50	5.50	5.50	5.49	5.49	5.49
17.1	5.49	5.49	5.48	5.48	5.47	5.47	5.47	5.46	5.46	5.46	5.46
17.2	5.45	5.45	5.45	5.44	5.44	5.44	5.44	5.43	5.43	5.42	5.42
17.3	5.42	5.42	5.41	5.41	5.40	5.40	5.40	5.40	5.39	5.39	5.39
17.4	5.38	5.38	5.38	5.37	5.37	5.37	5.37	5.36	5.36	5.35	5.35
17.5	5.35	5.35	5.34	5.34	5.33	5.33	5.33	5.32	5.32	5.32	5.32
17.6	5.31	5.31	5.31	5.31	5.30	5.30	5.29	5.29	5.29	5.28	5.28
17.7	5.28	5.28	5.27	5.27	5.27	5.27	5.26	5.26	5.26	5.25	5.25
17.8	5.25	5.25	5.24	5.24	5.24	5.23	5.23	5.23	5.22	5.22	5.22
17.9	5.21	5.21	5.21	5.21	5.20	5.20	5.20	5.20	5.19	5.19	5.19

SOIL MOISTURE RETENTION TABLE - 16 INCHES  
(CONTINUED)

PE	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
18.0	5.18	5.18	5.17	5.17	5.17	5.16	5.16	5.16	5.15	5.15
18.1	5.15	5.15	5.14	5.14	5.13	5.13	5.13	5.12	5.12	5.12
18.2	5.12	5.11	5.11	5.10	5.10	5.10	5.10	5.09	5.09	5.09
18.3	5.08	5.08	5.08	5.07	5.07	5.07	5.07	5.06	5.06	5.06
18.4	5.05	5.05	5.05	5.05	5.04	5.04	5.04	5.03	5.03	5.03
18.5	5.02	5.02	5.02	5.01	5.01	5.01	5.00	5.00	4.99	4.99
18.6	4.99	4.99	4.99	4.98	4.98	4.97	4.97	4.97	4.96	4.96
18.7	4.96	4.96	4.95	4.95	4.95	4.94	4.94	4.93	4.93	4.93
18.8	4.93	4.93	4.92	4.92	4.91	4.91	4.91	4.90	4.90	4.90
18.9	4.90	4.90	4.89	4.89	4.88	4.88	4.88	4.87	4.87	4.87
19.0	4.87	4.86	4.86	4.86	4.85	4.85	4.85	4.84	4.84	4.84
19.1	4.84	4.84	4.83	4.83	4.83	4.82	4.82	4.81	4.81	4.81
19.2	4.81	4.81	4.80	4.80	4.79	4.79	4.79	4.78	4.78	4.78
19.3	4.78	4.78	4.77	4.77	4.76	4.76	4.76	4.75	4.75	4.75
19.4	4.75	4.75	4.74	4.74	4.73	4.73	4.73	4.72	4.72	4.72
19.5	4.72	4.72	4.71	4.71	4.71	4.70	4.70	4.69	4.69	4.69
19.6	4.69	4.69	4.68	4.68	4.68	4.67	4.67	4.67	4.66	4.66
19.7	4.66	4.66	4.65	4.65	4.64	4.64	4.64	4.63	4.63	4.63
19.8	4.63	4.63	4.62	4.62	4.61	4.61	4.61	4.61	4.60	4.60
19.9	4.60	4.60	4.59	4.59	4.59	4.58	4.58	4.58	4.57	4.57
20.0	4.57	4.57	4.57	4.56	4.56	4.55	4.55	4.55	4.54	4.54
20.1	4.54	4.54	4.54	4.53	4.53	4.52	4.52	4.51	4.51	4.51
20.2	4.51	4.51	4.51	4.51	4.50	4.50	4.50	4.49	4.49	4.49
20.3	4.49	4.49	4.48	4.48	4.48	4.47	4.47	4.47	4.46	4.46
20.4	4.46	4.46	4.46	4.45	4.45	4.44	4.44	4.43	4.43	4.43
20.5	4.43	4.43	4.42	4.42	4.42	4.41	4.41	4.41	4.40	4.40
20.6	4.40	4.40	4.40	4.40	4.39	4.39	4.39	4.38	4.38	4.38
20.7	4.38	4.38	4.37	4.37	4.37	4.36	4.36	4.35	4.35	4.35
20.8	4.35	4.35	4.34	4.34	4.34	4.33	4.33	4.33	4.32	4.32
20.9	4.32	4.32	4.32	4.31	4.31	4.31	4.30	4.30	4.30	4.30
21.0	4.29	4.29	4.29	4.29	4.28	4.28	4.28	4.27	4.27	4.27
21.1	4.27	4.27	4.26	4.26	4.25	4.25	4.25	4.24	4.24	4.24
21.2	4.24	4.24	4.24	4.23	4.23	4.22	4.22	4.22	4.22	4.22
21.3	4.21	4.21	4.21	4.21	4.21	4.20	4.20	4.20	4.19	4.19
21.4	4.19	4.19	4.18	4.18	4.18	4.17	4.17	4.17	4.16	4.16
21.5	4.16	4.16	4.16	4.16	4.15	4.15	4.15	4.15	4.15	4.15
21.6	4.14	4.14	4.14	4.14	4.14	4.12	4.12	4.12	4.12	4.12
21.7	4.11	4.11	4.11	4.11	4.10	4.10	4.10	4.10	4.10	4.10
21.8	4.08	4.08	4.08	4.08	4.07	4.07	4.07	4.07	4.07	4.07
21.9	4.06	4.06	4.06	4.06	4.05	4.05	4.05	4.05	4.05	4.05
22.0	4.03	4.03	4.03	4.03	4.02	4.02	4.02	4.02	4.02	4.02
22.1	4.01	4.01	4.01	4.01	4.01	4.00	4.00	4.00	4.00	4.00
22.2	3.98	3.98	3.98	3.98	3.97	3.97	3.97	3.97	3.97	3.97
22.3	3.96	3.96	3.96	3.96	3.95	3.95	3.95	3.95	3.95	3.95
22.4	3.93	3.93	3.93	3.93	3.92	3.92	3.92	3.92	3.92	3.92

SOIL MOISTURE RETENTION TABLE - 16 INCHES  
(CONTINUED)

PE	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
22.5	3.91	3.91	3.91	3.91	3.91	3.90	3.90	3.90	3.90	3.90
22.6	3.88	3.88	3.88	3.88	3.88	3.87	3.87	3.87	3.87	3.87
22.7	3.86	3.86	3.86	3.86	3.85	3.85	3.85	3.85	3.85	3.85
22.8	3.84	3.84	3.84	3.84	3.84	3.82	3.82	3.82	3.82	3.82
22.9	3.81	3.81	3.81	3.81	3.81	3.80	3.80	3.80	3.80	3.80
23.0	3.79	3.79	3.79	3.79	3.79	3.78	3.78	3.78	3.78	3.78
23.1	3.76	3.76	3.76	3.76	3.76	3.75	3.75	3.75	3.75	3.75
23.2	3.74	3.74	3.74	3.74	3.74	3.73	3.73	3.73	3.73	3.73
23.3	3.72	3.72	3.72	3.72	3.72	3.71	3.71	3.71	3.71	3.71
23.4	3.69	3.69	3.69	3.69	3.69	3.68	3.68	3.68	3.68	3.68
23.5	3.67	3.67	3.67	3.67	3.67	3.66	3.66	3.66	3.66	3.66
23.6	3.65	3.65	3.65	3.65	3.65	3.64	3.64	3.64	3.64	3.64
23.7	3.63	3.63	3.63	3.63	3.63	3.61	3.61	3.61	3.61	3.61
23.8	3.60	3.60	3.60	3.60	3.60	3.59	3.59	3.59	3.59	3.59
23.9	3.58	3.58	3.58	3.58	3.58	3.57	3.57	3.57	3.57	3.57
24.0	3.56	3.56	3.56	3.56	3.56	3.55	3.55	3.55	3.55	3.55
24.1	3.54	3.54	3.54	3.54	3.54	3.53	3.53	3.53	3.53	3.53
24.2	3.51	3.51	3.51	3.51	3.51	3.50	3.50	3.50	3.50	3.50
24.3	3.49	3.49	3.49	3.49	3.49	3.48	3.48	3.48	3.48	3.48
24.4	3.47	3.47	3.47	3.47	3.47	3.46	3.46	3.46	3.46	3.46
24.5	3.45	3.45	3.45	3.45	3.45	3.44	3.44	3.44	3.44	3.44
24.6	3.43	3.43	3.43	3.43	3.43	3.42	3.42	3.42	3.42	3.42
24.7	3.41	3.41	3.41	3.41	3.41	3.40	3.40	3.40	3.40	3.40
24.8	3.39	3.39	3.39	3.39	3.39	3.37	3.37	3.37	3.37	3.37
24.9	3.36	3.36	3.36	3.36	3.36	3.35	3.35	3.35	3.35	3.35
25.0	3.34	3.34	3.34	3.34	3.34	3.33	3.33	3.33	3.33	3.33
25.1	3.32	3.32	3.32	3.32	3.32	3.31	3.31	3.31	3.31	3.31
25.2	3.30	3.30	3.30	3.30	3.30	3.29	3.29	3.29	3.29	3.29
25.3	3.28	3.28	3.28	3.28	3.28	3.27	3.27	3.27	3.27	3.27
25.4	3.26	3.26	3.26	3.26	3.26	3.25	3.25	3.25	3.25	3.25
25.5	3.24	3.24	3.24	3.24	3.24	3.23	3.23	3.23	3.23	3.23
25.6	3.22	3.22	3.22	3.22	3.22	3.21	3.21	3.21	3.21	3.21
25.7	3.20	3.20	3.20	3.20	3.20	3.19	3.19	3.19	3.19	3.19
25.8	3.18	3.18	3.18	3.18	3.18	3.17	3.17	3.17	3.17	3.17
25.9	3.16	3.16	3.16	3.16	3.16	3.15	3.15	3.15	3.15	3.15
26.0	3.14	3.14	3.14	3.14	3.14	3.13	3.13	3.13	3.13	3.13
26.1	3.12	3.12	3.12	3.12	3.12	3.11	3.11	3.11	3.11	3.11
26.2	3.10	3.10	3.10	3.10	3.10	3.09	3.09	3.09	3.09	3.09
26.3	3.08	3.08	3.08	3.08	3.08	3.07	3.07	3.07	3.07	3.07
26.4	3.06	3.06	3.06	3.06	3.06	3.05	3.05	3.05	3.05	3.05
26.5	3.04	3.04	3.04	3.04	3.04	3.03	3.03	3.03	3.03	3.03
26.6	3.02	3.02	3.02	3.02	3.02	3.01	3.01	3.01	3.01	3.01
26.7	3.01	3.01	3.01	3.01	3.01	3.00	3.00	3.00	3.00	3.00
26.8	2.99	2.99	2.99	2.99	2.99	2.98	2.98	2.98	2.98	2.98
26.9	2.97	2.97	2.97	2.97	2.97	2.96	2.96	2.96	2.96	2.96

SOIL MOISTURE RETENTION TABLE - 16 INCHES  
(CONTINUED)

PE	WATER RETAINED IN SOIL										PE	WATER RETAINED IN SOIL									
	0.00	0.01	0.02	0.03	0.04	0.05	0.08	0.07	0.08	0.09		0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
27.0	2.99	2.95	2.95	2.95	2.95	2.94	2.94	2.94	2.94	2.94	31.5	2.23	2.23	2.23	2.23	2.23	2.22	2.22	2.22	2.22	
27.1	2.99	2.93	2.93	2.93	2.93	2.92	2.92	2.92	2.92	2.92	31.6	2.21	2.21	2.21	2.21	2.21	2.20	2.20	2.20	2.20	
27.2	2.91	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80	2.80	31.7	2.20	2.20	2.20	2.20	2.20	2.19	2.19	2.19	2.19	
27.3	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	31.8	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	
27.4	2.88	2.88	2.88	2.88	2.88	2.87	2.87	2.87	2.87	2.87	31.9	2.17	2.17	2.17	2.17	2.17	2.16	2.16	2.16	2.16	
27.5	2.86	2.86	2.86	2.86	2.86	2.85	2.85	2.85	2.85	2.85	32.0	2.16	2.16	2.16	2.16	2.16	2.15	2.15	2.15	2.15	
27.6	2.84	2.84	2.84	2.84	2.84	2.83	2.83	2.83	2.83	2.83	32.1	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	
27.7	2.82	2.82	2.82	2.82	2.82	2.81	2.81	2.81	2.81	2.81	32.2	2.13	2.13	2.13	2.13	2.13	2.12	2.12	2.12	2.12	
27.8	2.81	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80	2.80	32.3	2.12	2.12	2.12	2.12	2.12	2.11	2.11	2.11	2.11	
27.9	2.79	2.79	2.79	2.79	2.79	2.78	2.78	2.78	2.78	2.78	32.4	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	
28.0	2.77	2.77	2.77	2.77	2.77	2.76	2.76	2.76	2.76	2.76	32.5	2.09	2.09	2.09	2.09	2.09	2.08	2.08	2.08	2.08	
28.1	2.75	2.75	2.75	2.75	2.75	2.74	2.74	2.74	2.74	2.74	32.6	2.08	2.08	2.08	2.08	2.08	2.07	2.07	2.07	2.07	
28.2	2.74	2.74	2.74	2.74	2.74	2.73	2.73	2.73	2.73	2.73	32.7	2.06	2.06	2.06	2.06	2.06	2.05	2.05	2.05	2.05	
28.3	2.72	2.72	2.72	2.72	2.72	2.71	2.71	2.71	2.71	2.71	32.8	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	
28.4	2.70	2.70	2.70	2.70	2.70	2.69	2.69	2.69	2.69	2.69	32.9	2.04	2.04	2.04	2.04	2.04	2.03	2.03	2.03	2.03	
28.5	2.69	2.69	2.69	2.69	2.69	2.68	2.68	2.68	2.68	2.68	33.0	2.03	2.03	2.03	2.03	2.03	2.02	2.02	2.02	2.02	
28.6	2.67	2.67	2.67	2.67	2.67	2.66	2.66	2.66	2.66	2.66	33.1	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	
28.7	2.66	2.66	2.66	2.66	2.66	2.64	2.64	2.64	2.64	2.64	33.2	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	
28.8	2.64	2.64	2.64	2.64	2.64	2.63	2.63	2.63	2.63	2.63											
28.9	2.62	2.62	2.62	2.62	2.62	2.61	2.61	2.61	2.61	2.61											
29.0	2.60	2.60	2.60	2.60	2.60	2.59	2.59	2.59	2.59	2.59											
29.1	2.59	2.59	2.59	2.59	2.59	2.58	2.58	2.58	2.58	2.58											
29.2	2.57	2.57	2.57	2.57	2.57	2.56	2.56	2.56	2.56	2.56											
29.3	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55											
29.4	2.54	2.54	2.54	2.54	2.54	2.53	2.53	2.53	2.53	2.53											
29.5	2.52	2.52	2.52	2.52	2.52	2.51	2.51	2.51	2.51	2.51											
29.6	2.49	2.49	2.49	2.49	2.49	2.48	2.48	2.48	2.48	2.48											
29.7	2.48	2.48	2.48	2.48	2.48	2.47	2.47	2.47	2.47	2.47											
29.8	2.46	2.46	2.46	2.46	2.46	2.45	2.45	2.45	2.45	2.45											
29.9	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44											
30.0	2.43	2.43	2.43	2.43	2.43	2.42	2.42	2.42	2.42	2.42											
30.1	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41											
30.2	2.40	2.40	2.40	2.40	2.40	2.39	2.39	2.39	2.39	2.39											
30.3	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38											
30.4	2.37	2.37	2.37	2.37	2.37	2.36	2.36	2.36	2.36	2.36											
30.5	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35											
30.6	2.34	2.34	2.34	2.34	2.34	2.33	2.33	2.33	2.33	2.33											
30.7	2.34	2.34	2.34	2.34	2.34	2.33	2.33	2.33	2.33	2.33											
30.8	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32											
30.9	2.31	2.31	2.31	2.31	2.31	2.30	2.30	2.30	2.30	2.30											
31.0	2.30	2.30	2.30	2.30	2.30	2.29	2.29	2.29	2.29	2.29											
31.1	2.28	2.28	2.28	2.28	2.28	2.27	2.27	2.27	2.27	2.27											
31.2	2.27	2.27	2.27	2.27	2.27	2.26	2.26	2.26	2.26	2.26											
31.3	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25											
31.4	2.24	2.24	2.24	2.24	2.24	2.23	2.23	2.23	2.23	2.23											

SOIL MOISTURE RETENTION TABLE - 16 INCHES  
(CONTINUED)

TABLE 23

SOIL MOISTURE RETENTION TABLE - 25 MM

PE	SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF SOIL IS 25 MM.									
	0	1	2	3	4	5	6	7	8	9
	WATER RETAINED IN SOIL									
0	26	24	23	22	21	20	19	18	17	16
10	16	15	15	14	13	13	12	12	11	11
20	10	10	9	9	8	8	8	7	7	7
30	7	6	6	6	5	5	5	5	5	4
40	4	4	4	4	3	3	3	3	3	3
50	3	3	3	2	2	2	2	2	2	2
60	2	2	2	2	1	1	1	1	1	1
70	1	1	1	1	1	1	1	1	1	1
80	1	1	1	1	1	1	1	1	1	1
90	1	1	1	1	1	1	1	1	1	1

TABLE 24

SOIL MOISTURE RETENTION TABLE - 50 MM

PE	SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF SOIL IS 50 MM.									
	0	1	2	3	4	5	6	7	8	9
	WATER RETAINED IN SOIL									
0	50	49	48	47	46	45	44	43	42	41
10	41	40	39	38	37	36	35	35	34	33
20	33	32	32	31	30	30	29	28	28	27
30	27	26	25	24	24	23	23	22	22	22
40	21	21	20	19	19	19	18	18	18	18
50	17	17	17	16	16	16	15	15	15	14
60	14	14	13	13	13	13	12	12	11	11
70	11	11	11	10	10	10	10	9	9	9
80	9	9	9	8	8	8	8	8	8	8
90	7	7	7	7	7	7	7	6	6	6
100	6	6	6	6	6	6	5	5	5	5
110	5	5	5	5	4	4	4	4	4	4
120	4	4	4	4	4	4	4	4	3	3
130	3	3	3	3	3	3	3	3	3	2
140	3	3	3	3	2	2	2	2	2	2
150	2	2	2	2	2	2	2	2	2	2
160	2	2	2	2	2	2	2	2	2	2
170	1	1	1	1	1	1	1	1	1	1
180	1	1	1	1	1	1	1	1	1	1
190	1	1	1	1	1	1	1	1	1	1
200	1	1	1	1	1	1	1	1	1	1
210	1	1	1	1	1	1	1	1	1	1
220	1	1	1	1	1	1	1	1	1	1

TABLE 25

SOIL MOISTURE RETENTION TABLE - 75 MM

PE	SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF SOIL IS 75 MM.									
	0	1	2	3	4	5	6	7	8	9
	WATER RETAINED IN SOIL									
0	75	74	73	72	71	70	69	68	67	66
10	65	64	63	62	61	60	59	58	57	56
20	57	56	55	54	53	53	52	51	51	50
30	50	49	48	47	46	46	45	45	44	44
40	43	43	42	41	40	40	39	39	38	38
50	38	37	36	36	35	35	35	34	34	33
60	33	33	32	31	31	31	30	30	29	29
70	28	28	27	27	27	27	26	26	25	25
80	25	24	24	23	23	23	23	22	22	22
90	22	21	21	21	20	20	20	20	19	19
100	19	19	18	18	18	18	17	17	17	17
110	16	16	16	16	15	15	15	15	14	14
120	14	14	14	14	13	13	13	13	13	13
130	12	12	12	12	12	12	11	11	11	11
140	11	11	11	10	10	10	10	10	10	10
150	10	10	9	9	9	9	9	9	8	8
160	8	8	8	8	8	8	8	8	7	7
170	7	7	7	7	7	7	7	7	6	6
180	6	6	6	6	6	6	6	6	6	6
190	6	6	5	5	5	5	5	5	5	5
200	5	5	5	4	4	4	4	4	4	4
210	4	4	4	4	4	4	4	4	4	4
220	4	4	3	3	3	3	3	3	3	3
230	3	3	3	3	3	3	3	3	3	3
240	3	3	3	3	3	3	3	3	3	3
250	2	2	2	2	2	2	2	2	2	2
260	2	2	2	2	2	2	2	2	2	2
270	2	2	2	2	2	2	2	2	2	2
280	2	2	2	2	2	2	2	2	2	2
290	1	1	1	1	1	1	1	1	1	1
300	1	1	1	1	1	1	1	1	1	1
310	1	1	1	1	1	1	1	1	1	1
320	1	1	1	1	1	1	1	1	1	1
330	1	1	1	1	1	1	1	1	1	1
340	1	1	1	1	1	1	1	1	1	1
350	1	1	1	1	1	1	1	1	1	1
360	1	1	1	1	1	1	1	1	1	1



TABLE 28

SOIL MOISTURE RETENTION TABLE - 150 MM  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION  
HAVE OCCURRED. WATER HOLDING CAPACITY OF SOIL IS 150 MM.

PE	WATER RETAINED IN SOIL									
	0	1	2	3	4	5	6	7	8	9
0	150	149	148	147	146	145	144	143	142	141
10	140	139	138	137	136	135	134	133	132	131
20	131	130	129	128	127	127	126	125	124	123
30	122	122	121	120	119	118	117	116	115	114
40	114	113	113	112	111	110	109	108	107	107
50	107	106	106	105	104	103	102	101	100	100
60	100	99	98	97	97	96	95	94	93	93
70	93	92	92	91	90	89	89	88	87	87
80	86	86	86	85	84	84	84	83	82	82
90	82	81	81	80	79	79	78	77	76	76
100	76	76	75	75	74	74	73	72	72	71
110	71	71	70	70	69	69	68	68	67	67
120	66	66	66	65	65	64	64	63	63	62
130	62	62	62	61	60	60	59	59	58	58
140	58	58	57	57	56	56	55	55	54	54
150	54	53	53	53	52	52	52	51	51	51
160	51	51	50	50	49	49	48	48	47	47
170	47	47	47	46	46	45	45	45	44	44
180	44	44	44	43	43	42	42	41	41	41
190	41	41	41	40	40	40	39	39	39	39
200	38	38	38	38	37	37	37	36	36	36
210	36	36	36	36	35	35	34	34	34	34
220	34	34	34	33	33	33	32	32	32	32
230	32	31	31	31	31	30	30	30	30	30
240	30	29	29	29	29	28	28	28	28	28
250	28	27	27	27	27	26	26	26	26	26
260	26	26	25	25	25	25	24	24	24	24
270	24	24	24	23	23	23	23	23	23	23
280	22	22	22	22	22	22	22	21	21	21
290	21	21	21	20	20	20	20	20	20	20
300	20	19	19	19	19	19	19	18	18	18
310	18	18	18	18	18	18	17	17	17	17
320	17	17	17	17	17	16	16	16	16	16
330	16	16	16	16	16	15	15	15	15	15
340	15	15	15	15	15	14	14	14	14	14
350	14	14	14	14	14	14	13	13	13	13
360	13	13	13	13	13	13	12	12	12	12
370	12	12	12	12	12	12	11	11	11	11
380	11	11	11	11	11	11	11	11	11	11
390	11	11	11	10	10	10	10	10	10	10
400	10	10	10	10	10	10	10	9	9	9
410	9	9	9	9	9	9	9	9	9	9
420	9	9	9	8	8	8	8	8	8	8
430	8	8	8	8	8	8	8	8	8	8
440	8	8	8	7	7	7	7	7	7	7

SOIL MOISTURE RETENTION TABLE - 100 MM

(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0	1	2	3	4	5	6	7	8	9
450	7	7	7	7	7	7	7	7	7	7
460	7	7	7	7	6	6	6	6	6	6
470	6	6	6	6	6	6	6	6	6	6
480	6	6	6	6	6	6	6	6	6	6
490	5	5	5	5	5	5	5	5	5	5
500	5	5	5	5	5	5	5	5	5	5
510	5	5	5	5	5	5	5	5	5	5
520	4	4	4	4	4	4	4	4	4	4
530	4	4	4	4	4	4	4	4	4	4
540	4	4	4	4	4	4	4	4	4	4
550	4	4	4	4	4	4	4	4	4	4
560	3	3	3	3	3	3	3	3	3	3
570	3	3	3	3	3	3	3	3	3	3
580	3	3	3	3	3	3	3	3	3	3
590	3	3	3	3	3	3	3	3	3	3
600	3	3	3	3	3	3	3	3	3	3
610	2	2	2	2	2	2	2	2	2	2
620	2	2	2	2	2	2	2	2	2	2
630	2	2	2	2	2	2	2	2	2	2
640	2	2	2	2	2	2	2	2	2	2
650	2	2	2	2	2	2	2	2	2	2
660	2	2	2	2	2	2	2	2	2	2
670	2	2	2	2	2	2	2	2	2	2
680	2	2	2	2	2	2	2	2	2	2
690	1	1	1	1	1	1	1	1	1	1
700	1	1	1	1	1	1	1	1	1	1
710	1	1	1	1	1	1	1	1	1	1
720	1	1	1	1	1	1	1	1	1	1
730	1	1	1	1	1	1	1	1	1	1
740	1	1	1	1	1	1	1	1	1	1
750	0	5	.....	.....	.....	.....	.....	.....	.....	.....
760	1	1	790	0	5	.....	.....	.....	.....	.....
770	1	1	800	1	1	1	1	1	1	1
780	1	1	810	1	1	1	1	1	1	1
790	1	1	820	1	1	1	1	1	1	1
800	1	1	830	1	1	1	1	1	1	1
810	1	1	840	1	1	1	1	1	1	1
820	1	1	850	1	1	1	1	1	1	1
830	1	1	860	1	1	1	1	1	1	1
840	1	1	870	1	1	1	1	1	1	1
850	1	1	880	1	1	1	1	1	1	1
860	1	1	890	1	1	1	1	1	1	1
870	1	1	900	1	1	1	1	1	1	1
880	1	1	910	1	1	1	1	1	1	1
890	1	1	920	1	1	1	1	1	1	1
900	1	1	930	1	1	1	1	1	1	1
910	1	1	940	1	1	1	1	1	1	1
920	1	1	950	1	1	1	1	1	1	1
930	1	1	960	1	1	1	1	1	1	1
940	1	1	970	1	1	1	1	1	1	1
950	1	1	980	1	1	1	1	1	1	1
960	1	1	990	1	1	1	1	1	1	1
970	1	1	1000	1	1	1	1	1	1	1

TABLE 29

SOIL MOISTURE RETENTION TABLE - 200 MM  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION  
HAVE OCCURRED. WATER HOLDING CAPACITY OF SOIL IS 200 MM.

PE	0	1	2	3	4	5	6	7	8	9	WATER RETAINED IN SOIL										
											0	1	2	3	4	5	6	7	8	9	
0	200	198	198	197	196	195	194	193	192	191	450	20	20	20	20	20	20	20	20	20	20
10	189	189	188	187	186	185	184	183	182	182	460	20	19	19	19	19	19	19	19	19	19
20	181	180	179	178	177	176	175	174	173	173	470	20	18	18	18	18	18	18	18	18	18
30	172	171	170	169	168	168	167	166	165	164	480	18	17	17	17	17	17	17	17	17	17
40	163	162	162	161	160	159	159	158	157	156	490	17	17	16	16	16	16	16	16	16	16
50	155	154	153	153	152	151	151	150	149	148	500	16	16	16	16	16	16	16	16	16	16
60	148	147	146	145	145	144	143	142	142	141	510	15	15	15	15	15	15	15	15	15	15
70	140	140	139	138	138	137	136	135	134	134	520	14	14	14	14	14	14	14	14	14	14
80	133	133	132	131	131	130	129	128	127	127	530	14	14	14	13	13	13	13	13	13	13
90	127	126	125	125	124	124	123	122	122	121	540	13	13	13	13	13	13	13	13	13	13
100	120	120	119	119	118	118	117	116	116	115	550	12	12	12	12	12	12	12	12	12	12
110	115	114	113	113	112	112	111	110	110	109	560	12	12	12	12	12	12	12	12	12	12
120	109	108	108	107	107	106	106	105	104	104	570	11	11	11	11	11	11	11	11	11	11
130	104	103	102	102	101	100	100	100	99	99	580	11	10	10	10	10	10	10	10	10	10
140	98	98	97	97	96	96	96	95	94	94	590	10	10	10	10	10	10	10	10	10	10
150	94	93	93	92	92	91	91	90	90	89	600	10	9	9	9	9	9	9	9	9	9
160	89	88	88	88	87	86	86	86	85	85	610	9	9	9	9	9	9	9	9	9	9
170	85	84	84	83	83	82	82	82	81	81	620	9	8	8	8	8	8	8	8	8	8
180	80	80	80	79	79	79	78	78	77	77	630	8	8	8	8	8	8	8	8	8	8
190	76	76	76	75	75	74	74	74	73	73	640	8	8	8	8	8	8	8	8	8	8
200	73	72	72	71	71	71	70	70	70	69	650	7	7	7	7	7	7	7	7	7	7
210	69	69	68	68	68	67	67	66	66	66	660	7	7	7	7	7	7	7	7	7	7
220	66	65	65	65	64	64	64	63	63	63	670	7	7	7	7	7	7	7	7	7	7
230	62	62	62	61	61	60	60	60	60	60	680	6	6	6	6	6	6	6	6	6	6
240	59	59	59	58	58	58	57	57	57	57	690	6	6	6	6	6	6	6	6	6	6
250	56	56	56	56	55	55	54	54	54	54	700	6	6	6	6	6	6	6	6	6	6
260	54	53	53	52	52	52	52	51	51	51	710	6	6	6	6	6	6	6	6	6	6
270	51	51	50	50	50	49	49	49	49	49	720	5	5	5	5	5	5	5	5	5	5
280	48	48	48	48	47	47	47	47	46	46	730	5	5	5	5	5	5	5	5	5	5
290	46	46	46	45	45	45	44	44	44	44	740	5	5	5	5	5	5	5	5	5	5
300	44	44	43	43	43	43	42	42	42	42	750	5	5	5	5	5	5	5	5	5	5
310	42	41	41	41	41	41	40	40	40	40	760	5	5	5	5	5	5	5	5	5	5
320	40	39	39	39	39	39	38	38	38	38	770	4	4	4	4	4	4	4	4	4	4
330	38	37	37	37	37	37	36	36	36	36	780	4	4	4	4	4	4	4	4	4	4
340	36	36	35	35	35	35	35	34	34	34	790	4	4	4	4	4	4	4	4	4	4
350	34	34	34	33	33	33	33	33	32	32	800	4	4	4	4	4	4	4	4	4	4
360	32	32	32	32	32	32	31	31	31	31	810	4	4	4	4	4	4	4	4	4	4
370	31	30	30	30	30	30	30	29	29	29	820	4	4	4	4	4	4	4	4	4	4
380	29	29	29	29	29	28	28	28	28	28	830	3	3	3	3	3	3	3	3	3	3
390	28	28	27	27	27	27	27	27	27	26	840	3	3	3	3	3	3	3	3	3	3
400	26	26	26	26	26	26	26	25	25	25	850	3	3	3	3	3	3	3	3	3	3
410	25	25	25	25	25	24	24	24	24	24	860	3	3	3	3	3	3	3	3	3	3
420	24	24	24	24	23	23	23	23	23	23	870	3	3	3	3	3	3	3	3	3	3
430	23	22	22	22	22	22	22	22	22	22	880	3	3	3	3	3	3	3	3	3	3
440	22	21	21	21	21	21	21	21	21	21	890	2	2	2	2	2	2	2	2	2	2

SOIL MOISTURE RETENTION TABLE - 200 MM  
(CONTINUED)

SOIL MOISTURE RETENTION TABLE - 200 MM  
(CONTINUED)

PE	0	1	2	3	4	5	6	7	8	9
900	2	2	2	2	2	2	2	2	2	2
910	2	2	2	2	2	2	2	2	2	2
920	2	2	2	2	2	2	2	2	2	2
930	2	2	2	2	2	2	2	2	2	2
940	2	2	2	2	2	2	2	2	2	2
850	2	2	2	2	2	2	2	2	2	2
860	2	2	2	2	2	2	2	2	2	2
970	2	2	2	2	2	2	2	2	2	2
980	2	2	2	2	2	2	2	2	2	2
990	2	2	2	2	2	2	2	2	2	2
1000	1	1	1	1	1	1	1	1	1	1
1010	1	1	1	1	1	1	1	1	1	1
1020	1	1	1	1	1	1	1	1	1	1
1030	1	1	1	1	1	1	1	1	1	1
1040	1	1	1	1	1	1	1	1	1	1
1050	1	1	1	1	1	1	1	1	1	1
1060	1	1	1	1	1	1	1	1	1	1
1070	1	1	1	1	1	1	1	1	1	1
1080	1	1	1	1	1	1	1	1	1	1
1090	1	1	1	1	1	1	1	1	1	1
1100	1	1	1	1	1	1	1	1	1	1

WATER RETAINED IN SOIL

SOIL MOISTURE RETENTION TABLE - 250 MM  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION  
HAVE OCCURRED. WATER HOLDING CAPACITY OF SOIL IS 250 MM.

TABLE 30

PE	0	1	2	3	4	5	6	7	8	9
0	250	249	248	247	246	245	244	243	242	241
10	240	239	238	237	236	235	234	233	232	231
20	231	230	229	228	227	226	225	224	223	222
30	222	221	220	219	218	217	216	215	214	213
40	213	212	211	210	209	208	208	207	206	205
50	204	204	203	202	201	200	199	198	197	196
60	196	195	194	193	192	191	190	189	188	188
70	189	188	187	186	185	184	183	182	181	181
80	181	180	179	178	177	176	175	174	174	174
90	174	173	172	171	171	170	170	169	169	168
100	167	167	166	165	165	164	164	163	162	161
110	160	160	159	159	158	157	157	156	156	155
120	154	154	153	152	152	151	151	150	149	148
130	148	147	146	146	145	144	144	144	143	143
140	142	142	141	140	140	139	138	138	137	137
150	136	136	135	135	134	134	133	132	132	131
160	131	130	129	129	128	128	127	127	126	126
170	126	126	125	124	124	123	122	122	122	121
180	121	120	120	119	119	118	118	117	117	116
190	116	115	115	114	114	113	113	113	112	112
200	111	111	110	110	109	109	108	108	108	107
210	107	107	106	106	105	105	104	104	104	103
220	103	103	102	102	101	101	100	100	100	99
230	99	99	98	98	97	97	97	96	96	95
240	95	95	94	94	93	93	92	92	92	91
250	91	91	90	90	89	89	88	88	88	87
260	87	87	86	86	86	86	85	85	85	84
270	84	84	83	83	82	82	82	82	81	81
280	81	81	80	80	79	79	79	79	78	78
290	78	78	77	77	76	76	76	76	75	75
300	74	74	74	73	73	73	72	72	72	71
310	71	71	71	70	70	70	70	69	69	69
320	69	68	68	68	67	67	67	66	66	66
330	66	66	65	65	65	65	64	64	64	63
340	63	63	63	62	62	62	62	61	61	61
350	61	61	60	60	60	60	59	59	59	58
360	58	58	58	57	57	57	56	56	56	56
370	56	55	55	55	55	54	54	54	54	54
380	54	54	53	53	53	53	52	52	52	52
390	52	52	51	51	51	51	50	50	50	50
400	50	50	49	49	49	49	49	48	48	48
410	48	48	47	47	47	47	46	46	46	46
420	46	46	45	45	45	45	45	44	44	44
430	44	44	43	43	43	43	43	42	42	42
440	42	42	42	42	41	41	41	41	41	41



SOIL MOISTURE RETENTION TABLE - 250 MM  
(CONTINUED)

PE	0	1	2	3	4	5	6	7	8	9
450	41	41	40	40	40	40	40	40	40	40
460	39	39	39	39	38	38	38	38	38	38
470	37	37	37	37	37	37	37	36	36	36
480	36	36	36	35	35	35	35	35	35	35
490	34	34	34	34	34	34	34	33	33	33
500	33	33	33	33	32	32	32	32	32	32
510	32	32	32	31	31	31	31	31	31	31
520	31	31	30	30	30	30	30	30	30	30
530	29	29	29	29	29	29	29	28	28	28
540	28	28	28	28	28	28	28	27	27	27
550	27	27	27	27	26	26	26	26	26	26
560	26	26	26	26	25	25	25	25	25	25
570	25	25	25	25	24	24	24	24	24	24
580	24	24	24	24	24	23	23	23	23	23
590	23	23	23	23	23	23	23	22	22	22
600	22	22	22	22	22	22	22	21	21	21
610	21	21	21	21	21	21	21	20	20	20
620	20	20	20	20	20	20	20	20	20	20
630	20	20	20	19	19	19	19	19	19	19
640	19	19	19	19	18	18	18	18	18	18
650	18	18	18	18	18	18	18	17	17	17
660	17	17	17	17	17	17	17	17	17	17
670	17	17	17	17	16	16	16	16	16	16
680	16	16	16	16	16	16	16	15	15	15
690	15	15	15	15	15	15	15	15	15	15
700	15	15	15	15	14	14	14	14	14	14
710	14	14	14	14	14	14	14	14	14	14
720	14	14	14	14	13	13	13	13	13	13
730	13	13	13	13	13	13	13	13	13	13
740	13	13	13	12	12	12	12	12	12	12
750	12	12	12	12	12	12	12	12	12	12
760	12	12	12	12	11	11	11	11	11	11
770	11	11	11	11	11	11	11	11	11	11
780	11	11	11	11	11	11	11	10	10	10
790	10	10	10	10	10	10	10	10	10	10
800	10	10	10	10	10	10	10	9	9	9
810	9	9	9	9	9	9	9	9	9	9
820	9	9	9	9	9	9	9	9	9	9
830	9	9	9	9	8	8	8	8	8	8
840	8	8	8	8	8	8	8	8	8	8
850	8	8	8	8	8	8	8	8	8	8
860	8	8	8	8	8	8	8	8	8	8
870	7	7	7	7	7	7	7	7	7	7
880	7	7	7	7	7	7	7	7	7	7
890	7	7	7	7	7	7	7	7	7	7

SOIL MOISTURE RETENTION TABLE - 250 MM  
(CONTINUED)

PE	0	1	2	3	4	5	6	7	8	9
900	6	6	6	6	6	6	6	6	6	6
910	6	6	6	6	6	6	6	6	6	6
920	6	6	6	6	6	6	6	6	6	6
930	6	6	6	6	6	6	6	6	6	6
940	6	6	6	6	6	6	6	6	6	6
950	5	5	5	5	5	5	5	5	5	5
960	5	5	5	5	5	5	5	5	5	5
970	5	5	5	5	5	5	5	5	5	5
980	5	5	5	5	5	5	5	5	5	5
990	5	5	5	5	5	5	5	5	5	5
1000	4	4	4	4	4	4	4	4	4	4
1010	4	4	4	4	4	4	4	4	4	4
1020	4	4	4	4	4	4	4	4	4	4
1030	4	4	4	4	4	4	4	4	4	4
1040	4	4	4	4	4	4	4	4	4	4
1050	4	4	4	4	4	4	4	4	4	4
1060	3	3	3	3	3	3	3	3	3	3
1070	3	3	3	3	3	3	3	3	3	3
1080	3	3	3	3	3	3	3	3	3	3
1090	3	3	3	3	3	3	3	3	3	3
1100	3	3	3	3	3	3	3	3	3	3
1110	3	3	3	3	3	3	3	3	3	3
1120	3	3	3	3	3	3	3	3	3	3
1130	3	3	3	3	3	3	3	3	3	3
1140	2	2	2	2	2	2	2	2	2	2
1150	2	2	2	2	2	2	2	2	2	2
1160	2	2	2	2	2	2	2	2	2	2
1170	2	2	2	2	2	2	2	2	2	2
1180	2	2	2	2	2	2	2	2	2	2
1190	2	2	2	2	2	2	2	2	2	2
1200	2	2	2	2	2	2	2	2	2	2
1210	2	2	2	2	2	2	2	2	2	2
1220	2	2	2	2	2	2	2	2	2	2
1230	2	2	2	2	2	2	2	2	2	2
1240	2	2	2	2	2	2	2	2	2	2
1250	2	2	2	2	2	2	2	2	2	2
1260	0	5	*****	*****	*****	*****	*****	*****	*****	*****
1270	1	1	1	1	1	1	1	1	1	1
1280	1	1	1	1	1	1	1	1	1	1
1290	1	1	1	1	1	1	1	1	1	1
1300	1	1	1	1	1	1	1	1	1	1

TABLE 31

SOIL MOISTURE RETENTION TABLE - 300 MM  
SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION  
WATER OCCURRED. WATER HOLDING CAPACITY OF SOIL IS 30.0 PM.

SOIL MOISTURE RETENTION TABLE - 300 MM  
(CONTINUED)

PE	WATER RETAINED IN SOIL									PE	WATER RETAINED IN SOIL										
	0	1	2	3	4	5	6	7	8		9	0	1	2	3	4	5	6	7	8	9
0	300	299	298	297	296	295	294	293	292	291	450	66	66	66	65	65	65	65	65	64	64
10	280	289	288	287	286	285	284	283	282	281	400	64	64	64	63	63	63	63	63	62	62
20	260	279	278	277	276	275	274	273	272	271	400	62	62	62	61	61	61	61	61	60	60
30	271	270	269	268	267	266	265	264	263	262	480	60	60	60	59	59	59	59	59	58	58
40	282	261	260	259	258	257	256	255	254	253	490	58	58	57	57	57	57	57	56	56	56
50	254	253	252	251	250	249	248	247	246	245	500	56	56	55	55	55	55	55	54	54	54
60	245	244	244	243	242	241	240	239	238	237	510	54	54	54	53	53	53	53	52	52	52
70	236	236	236	235	234	233	232	231	230	229	520	52	52	52	52	51	51	51	51	50	50
80	229	228	228	227	226	225	224	223	222	221	530	50	50	50	50	50	50	50	49	49	49
90	222	221	220	219	218	217	216	215	215	214	540	49	49	48	48	48	48	48	48	47	47
100	214	214	213	212	212	211	210	209	208	207	550	47	47	47	47	46	46	46	46	46	46
110	207	207	206	205	204	204	203	202	201	200	560	46	46	45	45	45	45	45	44	44	44
120	200	200	199	198	198	197	196	195	194	193	570	44	44	44	44	44	44	44	43	43	43
130	194	193	192	192	191	191	190	189	188	187	580	43	43	42	42	42	42	42	42	42	42
140	187	187	186	186	185	184	184	183	182	181	590	41	41	41	41	41	41	41	40	40	40
150	181	181	180	179	179	178	178	177	176	175	600	40	40	40	39	39	39	39	39	39	39
160	175	175	174	173	173	172	171	171	170	169	610	38	38	38	38	38	38	38	38	38	37
170	170	169	168	168	167	167	166	165	164	163	620	37	37	37	37	37	37	37	36	36	36
180	164	163	163	162	162	161	160	159	158	157	630	36	36	36	36	36	36	36	35	35	35
190	156	156	157	157	156	156	155	154	154	153	640	35	35	35	35	34	34	34	34	34	34
200	153	153	152	152	151	151	150	149	149	148	650	34	34	34	33	33	33	33	33	33	33
210	148	148	147	147	146	146	145	144	144	143	660	32	32	32	32	32	32	32	32	32	32
220	143	143	142	142	141	141	140	139	139	138	670	32	31	31	31	31	31	31	31	31	31
230	138	138	138	137	137	136	136	135	134	133	680	30	30	30	30	30	30	30	30	30	30
240	134	133	133	132	132	131	131	130	130	129	690	30	30	29	29	29	29	29	29	29	29
250	130	129	128	128	128	127	127	126	126	125	700	28	28	28	28	28	28	28	28	28	28
260	125	125	124	124	124	123	123	122	122	121	710	27	27	27	27	27	27	27	27	27	27
270	121	121	120	120	119	119	118	118	117	116	720	27	26	26	26	26	26	26	26	26	26
280	117	117	116	116	115	115	114	114	114	113	730	26	26	26	26	25	25	25	25	25	25
290	113	113	112	112	112	111	110	110	110	109	740	25	25	25	25	25	25	25	24	24	24
300	109	109	109	108	108	108	107	107	106	105	750	24	24	24	24	24	24	24	24	24	24
310	106	106	105	105	104	104	104	103	103	102	760	23	23	23	23	23	23	23	23	23	23
320	102	102	102	101	101	101	100	100	100	99	770	22	22	22	22	22	22	22	22	22	22
330	98	98	98	98	98	97	97	97	96	95	780	22	22	22	22	22	22	22	21	21	21
340	95	95	95	95	94	94	94	93	93	92	790	21	21	21	21	21	21	21	21	20	20
350	92	92	92	92	91	91	91	90	90	89	800	20	20	20	20	20	20	20	20	20	20
360	89	89	89	88	88	88	88	87	87	86	810	20	20	20	20	20	20	20	19	19	19
370	86	86	86	86	85	85	85	84	84	83	820	19	19	19	19	19	19	19	19	19	19
380	84	83	83	83	82	82	82	81	81	80	830	18	18	18	18	18	18	18	18	18	18
390	81	80	80	80	80	80	79	79	78	77	840	18	18	18	18	18	18	18	17	17	17
400	78	78	78	77	77	77	77	76	76	75	850	17	17	17	17	17	17	17	17	17	17
410	76	75	75	75	74	74	74	74	74	73	860	17	17	17	17	16	16	16	16	16	16
420	73	73	72	72	72	72	72	71	71	71	870	16	16	16	16	16	16	16	16	16	16
430	71	70	70	70	70	70	70	69	69	68	880	16	16	16	16	15	15	15	15	15	15
440	68	68	68	68	67	67	67	67	66	65	890	15	15	15	15	15	15	15	15	15	15

SOIL MOISTURE RETENTION TABLE - 300 MM

(CONTINUED)

PE	0	1	2	3	4	5	6	7	8	9
300	15	15	14	14	14	14	14	14	14	14
910	14	14	14	14	14	14	14	14	14	14
920	14	14	14	14	14	14	14	14	14	14
930	13	13	13	13	13	13	13	13	13	13
940	13	13	13	13	13	13	13	13	13	13
950	12	12	12	12	12	12	12	12	12	12
960	12	12	12	12	12	12	12	12	12	12
970	12	12	12	12	12	12	12	12	12	12
980	11	11	11	11	11	11	11	11	11	11
990	11	11	11	11	11	11	11	11	11	11
1000	10	10	10	10	10	10	10	10	10	10
1010	10	10	10	10	10	10	10	10	10	10
1020	10	10	10	10	10	10	10	10	10	10
1030	9	9	9	9	9	9	9	9	9	9
1040	9	9	9	9	9	9	9	9	9	9
1050	9	9	9	9	9	9	9	9	9	9
1060	8	8	8	8	8	8	8	8	8	8
1070	8	8	8	8	8	8	8	8	8	8
1080	8	8	8	8	8	8	8	8	8	8
1090	8	8	8	8	8	8	8	8	8	8
1100	7	7	7	7	7	7	7	7	7	7
1110	7	7	7	7	7	7	7	7	7	7
1120	7	7	7	7	7	7	7	7	7	7
1130	7	7	7	7	7	7	7	7	7	7
1140	6	6	6	6	6	6	6	6	6	6
1150	6	6	6	6	6	6	6	6	6	6
1160	6	6	6	6	6	6	6	6	6	6
1170	6	6	6	6	6	6	6	6	6	6
1180	6	6	6	6	6	6	6	6	6	6
1190	6	6	6	6	6	6	6	6	6	6

SOIL MOISTURE RETENTION TABLE - 350 MM

SOIL MOISTURE REMAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION HAVE OCCURRED. WATER HOLDING CAPACITY OF SOIL IS 350 MM.

PE	0	1	2	3	4	5	6	7	8	9
0	350	349	348	347	346	345	344	343	342	341
10	340	339	338	337	336	335	334	333	332	331
20	330	329	328	327	326	325	324	323	322	321
30	320	320	319	318	317	316	315	314	313	312
40	312	311	310	309	308	307	306	305	304	303
50	303	302	301	300	299	298	297	296	295	294
60	294	294	293	292	291	290	289	288	287	286
70	286	285	284	283	282	281	280	279	278	277
80	278	277	276	275	274	273	272	271	270	269
90	270	269	268	267	266	265	264	263	262	261
100	262	262	261	260	259	258	257	256	255	254
110	255	254	253	252	251	250	249	248	247	246
120	248	247	246	245	244	243	242	241	240	239
130	241	240	239	238	237	236	235	234	233	232
140	234	233	233	232	231	230	229	228	227	226
150	227	226	225	224	224	223	223	222	221	220
160	221	220	219	218	217	216	215	214	213	212
170	215	214	213	212	211	210	209	208	207	206
180	208	208	207	206	205	204	203	202	201	200
190	203	202	201	200	200	199	198	197	196	195
200	197	196	195	194	193	192	191	190	189	188
210	191	190	189	188	187	186	185	184	183	182
220	186	185	184	183	182	181	180	179	178	177
230	181	180	179	178	177	176	175	174	173	172
240	175	174	173	172	171	170	169	168	167	166
250	170	169	168	167	166	165	164	163	162	161
260	165	164	163	162	161	160	159	158	157	156
270	161	160	159	158	157	156	155	154	153	152
280	156	155	154	153	152	151	150	149	148	147
290	152	151	150	149	148	147	146	145	144	143
300	148	147	146	145	144	143	142	141	140	139
310	143	142	141	140	139	138	137	136	135	134
320	139	138	137	136	135	134	133	132	131	130
330	135	134	133	132	131	130	129	128	127	126
340	132	131	130	129	128	127	126	125	124	123
350	128	127	126	125	124	123	122	121	120	119
360	124	123	122	121	120	119	118	117	116	115
370	121	120	119	118	117	116	115	114	113	112
380	117	116	115	114	113	112	111	110	109	108
390	114	113	112	111	110	109	108	107	106	105
400	111	110	109	108	107	106	105	104	103	102
410	108	107	106	105	104	103	102	101	100	99
420	104	103	102	101	100	99	98	97	96	95
430	102	101	100	99	98	97	96	95	94	93
440	99	98	97	96	95	94	93	92	91	90

SOIL MOISTURE RETENTION TABLE - 350 MM  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0	1	2	3	4	5	6	7	8	9
450	96	96	86	95	94	94	94	94	94	93
460	93	93	92	92	92	92	91	91	91	91
470	90	90	90	89	89	89	88	88	88	88
480	88	88	88	87	87	87	86	86	86	86
490	85	85	85	85	84	84	84	84	83	83
500	83	83	83	83	82	82	82	81	81	81
510	81	81	80	80	80	80	79	79	79	79
520	78	78	78	77	77	77	77	76	76	76
530	76	76	76	75	75	75	75	74	74	74
540	74	74	74	73	73	73	73	72	72	72
550	72	72	72	71	71	71	71	70	70	70
560	70	70	70	69	69	69	68	68	68	68
570	68	68	68	67	67	67	66	66	66	66
580	66	66	66	65	65	65	65	64	64	64
590	64	64	64	64	63	63	63	63	63	63
600	62	62	62	62	61	61	61	61	61	61
610	60	60	60	60	60	60	59	59	59	59
620	59	59	59	58	58	58	58	57	57	57
630	57	57	57	56	56	56	56	55	55	55
640	56	56	55	55	55	55	55	54	54	54
650	54	54	54	53	53	53	53	52	52	52
660	52	52	52	52	52	51	51	51	51	51
670	51	51	51	50	50	50	50	50	50	50
680	50	50	50	49	49	49	49	48	48	48
690	48	48	48	47	47	47	47	47	47	47
700	47	47	47	46	46	46	46	46	46	46
710	45	45	45	45	45	45	45	44	44	44
720	44	44	44	43	43	43	43	43	43	43
730	43	43	42	42	42	42	42	42	42	42
740	42	42	41	41	41	41	41	41	41	41
750	40	40	40	40	40	40	40	40	40	40
760	39	39	39	39	39	39	39	38	38	38
770	38	38	38	38	38	38	38	37	37	37
780	37	37	37	37	37	37	37	36	36	36
790	36	36	36	36	36	36	36	35	35	35
800	35	35	35	35	35	35	35	34	34	34
810	34	34	34	34	34	34	34	34	34	34
820	33	33	33	33	33	33	33	33	33	33
830	32	32	32	32	32	32	32	32	32	32
840	31	31	31	31	31	31	31	31	31	31
850	30	30	30	30	30	30	30	30	30	30
860	30	30	29	29	29	29	29	29	29	29
870	29	29	28	28	28	28	28	28	28	28
880	28	28	28	27	27	27	27	27	27	27
890	27	27	27	27	27	27	26	26	26	26

SOIL MOISTURE RETENTION TABLE - 350 MM  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0	1	2	3	4	5	6	7	8	9
900	26	26	26	26	26	26	26	26	26	26
910	25	25	25	25	25	25	25	25	25	25
920	25	25	25	25	25	25	25	25	25	25
930	24	24	24	24	24	24	24	24	24	24
940	23	23	23	23	23	23	23	23	23	23
950	23	23	23	23	23	23	22	22	22	22
960	22	22	22	22	22	22	22	22	22	22
970	22	22	22	22	22	22	22	21	21	21
980	21	21	21	21	21	21	21	21	21	21
990	20	20	20	20	20	20	20	20	20	20
1000	20	20	20	20	20	20	20	20	20	20
1010	19	19	19	19	19	19	19	19	19	19
1020	19	19	19	19	19	19	19	18	18	18
1030	18	18	18	18	18	18	18	18	18	18
1040	18	18	18	18	18	18	17	17	17	17
1050	17	17	17	17	17	17	17	17	17	17
1060	17	17	17	17	17	17	17	17	17	17
1070	16	16	16	16	16	16	16	16	16	16
1080	16	16	16	16	16	16	16	16	16	16
1090	15	15	15	15	15	15	15	15	15	15
1100	15	15	15	15	15	15	15	15	15	15
1110	14	14	14	14	14	14	14	14	14	14
1120	14	14	14	14	14	14	14	14	14	14
1130	14	14	14	14	14	14	14	14	14	14
1140	13	13	13	13	13	13	13	13	13	13
1150	13	13	13	13	13	13	13	13	13	13
1160	12	12	12	12	12	12	12	12	12	12
1170	12	12	12	12	12	12	12	12	12	12
1180	12	12	12	12	12	12	12	12	12	12
1190	11	11	11	11	11	11	11	11	11	11
1200	11	11	11	11	11	11	11	11	11	11
1210	11	11	11	11	11	11	11	11	11	11
1220	10	10	10	10	10	10	10	10	10	10
1230	10	10	10	10	10	10	10	10	10	10
1240	10	10	10	10	10	10	10	10	10	10
1250	10	10	10	10	10	10	10	10	10	10
1260	9	9	9	9	9	9	9	9	9	9
1270	9	9	9	9	9	9	9	9	9	9
1280	9	9	9	9	9	9	9	9	9	9
1290	8	8	8	8	8	8	8	8	8	8
1300	8	8	8	8	8	8	8	8	8	8
1310	8	8	8	8	8	8	8	8	8	8
1320	8	8	8	8	8	8	8	8	8	8
1330	8	8	8	8	8	8	8	8	8	8
1340	8	8	8	8	8	8	8	8	8	8
1350	7	7	7	7	7	7	7	7	7	7
1360	7	7	7	7	7	7	7	7	7	7
1370	7	7	7	7	7	7	7	7	7	7
1380	7	7	7	7	7	7	7	7	7	7
1390	6	6	6	6	6	6	6	6	6	6
1400	6	6	6	6	6	6	6	6	6	6
1410	6	6	6	6	6	6	6	6	6	6
1420	6	6	6	6	6	6	6	6	6	6
1430	6	6	6	6	6	6	6	6	6	6
1440	6	6	6	6	6	6	6	6	6	6
1450	5	5	5	5	5	5	5	5	5	5
1500	5	5	5	5	5	5	5	5	5	5
1550	4	4	4	4	4	4	4	4	4	4
1600	4	4	4	4	4	4	4	4	4	4
1650	4	4	4	4	4	4	4	4	4	4
1680	3	3	3	3	3	3	3	3	3	3
1700	3	3	3	3	3	3	3	3	3	3
1750	3	3	3	3	3	3	3	3	3	3
1780	2	2	2	2	2	2	2	2	2	2
1800	2	2	2	2	2	2	2	2	2	2
1850	2	2	2	2	2	2	2	2	2	2
1900	2	2	2	2	2	2	2	2	2	2
1950	1	1	1	1	1	1	1	1	1	1
2000	1	1	1	1	1	1	1	1	1	1
2100	1	1	1	1	1	1	1	1	1	1
2200	1	1	1	1	1	1	1	1	1	1

TABLE 33

SOIL MOISTURE RETENTION TABLE - 400 MM  
 SOIL MOISTURE RETAINED AFTER DIFFERENT AMOUNTS OF POTENTIAL EVAPOTRANSPIRATION  
 HAVE OCCURRED, WATER HOLDING CAPACITY OF SOIL IS 400 MM.

PE	WATER RETAINED IN SOIL									PE	WATER RETAINED IN SOIL									
	0	1	2	3	4	5	6	7	8		9	0	1	2	3	4	5	6	7	8
0	400	399	398	397	396	395	394	393	392	391	480	129	129	128	128	128	127	127	126	126
10	390	389	388	387	386	385	384	383	382	381	480	126	126	125	125	124	124	124	123	123
20	380	379	378	377	376	375	374	373	372	371	480	123	122	122	122	121	121	121	120	120
30	371	370	369	368	367	366	365	364	363	362	480	120	120	119	119	119	118	118	117	117
40	362	361	360	359	358	357	356	355	354	353	480	117	117	116	116	115	115	115	114	114
50	353	352	351	350	349	348	347	346	345	344	500	114	114	113	113	113	112	112	111	111
60	344	344	343	342	341	340	339	338	337	336	500	111	111	110	110	110	110	109	109	108
70	335	335	334	333	332	331	330	329	328	327	520	108	108	108	107	107	107	106	106	106
80	327	326	325	324	323	322	321	320	319	318	520	105	105	105	105	104	104	104	103	103
90	319	318	317	316	315	314	313	312	311	310	540	103	103	102	102	102	102	101	101	101
100	311	310	309	308	307	306	305	304	303	302	560	100	100	100	100	99	99	99	98	98
110	303	303	302	301	300	299	298	297	296	295	560	98	98	98	98	97	97	96	96	96
120	296	295	294	293	292	291	290	289	288	287	570	95	95	95	95	94	94	94	93	93
130	288	288	287	286	285	284	283	282	281	280	580	93	93	93	92	92	92	92	91	91
140	281	281	280	279	278	277	276	275	274	273	580	91	91	91	90	90	90	89	89	89
150	274	274	273	272	271	270	269	268	267	266	600	88	88	88	88	88	87	87	87	87
160	267	267	266	265	264	263	262	261	260	259	610	86	86	86	86	86	85	85	85	85
170	261	260	260	259	258	257	256	255	254	253	620	84	84	84	84	84	83	83	83	83
180	254	254	253	252	251	250	249	248	247	246	630	82	82	82	82	82	81	81	81	81
190	246	246	245	244	243	242	241	240	239	238	640	80	80	80	80	80	79	79	79	79
200	242	242	241	240	239	238	237	236	235	234	660	78	78	78	78	78	77	77	77	77
210	236	236	235	234	233	232	231	230	229	228	680	76	76	76	76	75	75	75	75	75
220	230	230	229	228	227	226	225	224	223	222	680	74	74	74	74	74	73	73	73	73
230	224	224	223	222	221	220	219	218	217	216	680	72	72	72	72	72	71	71	71	71
240	219	218	218	217	216	215	214	213	212	211	690	70	70	70	70	70	70	69	69	69
250	213	213	212	211	210	209	208	207	206	205	710	69	69	69	69	69	68	68	68	68
260	208	208	207	206	205	204	203	202	201	200	710	67	67	67	67	67	66	66	66	66
270	202	202	201	200	199	198	197	196	195	194	720	65	65	65	65	65	64	64	64	64
280	198	197	197	196	195	194	193	192	191	190	730	64	64	64	64	63	63	63	62	62
290	193	192	192	191	190	189	188	187	186	185	740	62	62	62	62	62	61	61	61	61
300	188	188	187	186	185	184	183	182	181	180	760	61	61	61	61	61	60	60	60	60
310	183	183	182	181	180	179	178	177	176	175	760	59	59	59	59	59	58	58	58	58
320	179	179	178	177	176	175	174	173	172	171	770	58	58	58	58	57	57	57	56	56
330	174	174	173	172	171	170	169	168	167	166	780	56	56	56	56	56	55	55	55	55
340	170	170	169	168	167	166	165	164	163	162	790	55	55	55	55	54	54	54	54	54
350	166	166	165	164	163	162	161	160	159	158	800	54	54	53	53	53	53	52	52	52
360	162	162	161	160	159	158	157	156	155	154	810	52	52	52	52	52	51	51	51	51
370	158	158	157	156	155	154	153	152	151	150	820	51	51	51	51	50	50	50	50	50
380	154	154	153	152	151	150	149	148	147	146	830	49	49	49	49	49	49	49	48	48
390	150	150	149	148	147	146	145	144	143	142	840	48	48	48	48	48	48	48	47	47
400	146	146	145	144	143	142	141	140	139	138	850	47	47	47	47	47	46	46	46	46
410	143	142	142	141	141	140	140	140	139	138	860	46	46	46	46	45	45	45	45	45
420	139	139	139	138	138	137	137	136	135	134	870	45	45	45	45	44	44	44	44	44
430	136	136	135	135	134	134	133	133	132	131	880	44	44	44	44	43	43	43	43	43
440	132	132	132	131	131	130	130	129	128	127	890	43	43	43	42	42	42	42	42	42

SOIL MOISTURE RETENTION TABLE - 400 MM  
 (CONTINUED)

SOIL MOISTURE RETENTION TABLE - 400 MM  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0	1	2	3	4	5	6	7	8	9
800	42	42	42	41	41	41	41	41	41	41
910	41	40	40	40	40	40	40	40	40	40
920	39	39	39	39	39	39	39	39	39	39
930	38	38	38	38	38	38	38	38	38	38
940	36	36	37	37	37	37	37	37	37	37
950	37	37	37	36	36	36	36	36	36	36
960	36	36	36	35	35	35	35	35	35	35
970	35	35	35	34	34	34	34	34	34	34
980	34	34	34	34	34	34	34	34	34	34
990	33	33	33	33	33	33	33	33	33	33
1000	32	32	32	32	32	32	32	32	32	32
1010	31	31	31	31	31	31	31	31	31	31
1020	31	31	31	30	30	30	30	30	30	30
1030	30	30	30	30	30	30	30	30	30	30
1040	29	29	29	29	29	29	29	29	29	29
1050	28	28	28	28	28	28	28	28	28	28
1060	28	28	28	27	27	27	27	27	27	27
1070	27	27	27	27	27	27	27	27	27	27
1080	26	26	26	26	26	26	26	26	26	26
1090	26	26	26	26	26	26	26	26	26	26
1100	25	25	25	25	25	25	25	25	25	25
1110	24	24	24	24	24	24	24	24	24	24
1120	24	24	24	24	24	24	24	24	24	24
1130	23	23	23	23	23	23	23	23	23	23
1140	23	23	23	22	22	22	22	22	22	22
1150	22	22	22	22	22	22	22	22	22	22
1160	22	22	22	21	21	21	21	21	21	21
1170	21	21	21	21	21	21	21	21	21	21
1180	21	21	21	20	20	20	20	20	20	20
1190	20	20	20	20	20	20	20	20	20	20
1200	20	20	19	19	19	19	19	19	19	19
1210	19	19	19	19	19	19	19	19	19	19
1220	19	19	18	18	18	18	18	18	18	18
1230	18	18	18	18	18	18	18	18	18	18
1240	18	18	17	17	17	17	17	17	17	17
1250	17	17	17	17	17	17	17	17	17	17
1260	17	17	17	17	17	17	17	17	17	17
1270	16	16	16	16	16	16	16	16	16	16
1280	16	16	16	16	16	16	16	16	16	16
1290	16	16	15	15	15	15	15	15	15	15
1300	15	15	15	15	15	15	15	15	15	15
1310	15	15	15	15	15	15	15	15	15	15
1320	14	14	14	14	14	14	14	14	14	14
1330	14	14	14	14	14	14	14	14	14	14
1340	14	14	14	14	14	14	14	14	14	14

SOIL MOISTURE RETENTION TABLE - 400 MM  
(CONTINUED)

PE	WATER RETAINED IN SOIL									
	0	1	2	3	4	5	6	7	8	9
1350	13	13	13	13	13	13	13	13	13	13
1360	13	13	13	13	13	13	13	13	13	13
1370	13	13	13	13	13	13	13	13	13	13
1380	13	13	13	13	13	13	13	13	13	13
1390	12	12	12	12	12	12	12	12	12	12
1400	12	12	12	12	12	12	12	12	12	12
1410	12	12	12	12	12	12	12	12	12	12
1420	11	11	11	11	11	11	11	11	11	11
1430	11	11	11	11	11	11	11	11	11	11
1440	11	11	11	11	11	11	11	11	11	11
1450	10	10	10	10	10	10	10	10	10	10
1460	10	10	10	10	10	10	10	10	10	10
1470	10	10	10	10	10	10	10	10	10	10
1480	10	10	10	10	10	10	10	10	10	10
1490	9	9	9	9	9	9	9	9	9	9
1500	9	9	9	9	9	9	9	9	9	9
1510	9	9	9	9	9	9	9	9	9	9
1520	9	9	9	9	9	9	9	9	9	9
1530	8	8	8	8	8	8	8	8	8	8
1540	8	8	8	8	8	8	8	8	8	8
1550	8	8	8	8	8	8	8	8	8	8