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WATER DEFICIENCIES IN CENTRAL AMERICA AND PANAMA (CLIMATE, PRECIPITATION AND POTENTIAL EVAPOTRANSPIRATION)

By

George H. Hargreaves

A study prepared for the United Nations, World Meteorologic Organization and the WMO-UNDP Proyecto Hidrometeorologico Centroamericano

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WATER DEFICIENCIES IN CENTRAL AMERICA AND PANAMA

Introduction

The Central American area is rapidly developing and agriculture is becoming of increasing importance both for supplying local necessities and for export. This study defines the availability of precipitation for supplying moisture needs. This is accomplished for ten locations in Guatemala and ten in El Salvador using either ten years or long-term records of precipitation and other weather data. An analysis is made for 99 stations for the year 1970 from the data available from the six republics.

The available climatic data are summarized and used to estimate potential evapotranspiration or water use by a good stand of short, green, rapidly growing grass with an adequate moisture supply. Measured rainfall is used to calculate water deficiencies and adequacy ratios. A ratio of 1.00 is calculated when precipitation equals potential evapotranspiration.

The principal use of this analysis should be in connection with agricultural development planning. The study is, however, of value for all objectives that require a better knowledge of climate and of the interrelationship between climatic factors. It will aid in planning many

types of construction and development. Although the major portion of the analysis is based upon only one year of record, the basic methodology is outlined for the use of long term averages and for the use of probability analysis.

Definition of Terms

Potential Evapotranspiration, ETP, is the amount of water transpired or transferred, including evaporation, from an actively growing short green plant cover (usually grass) with a continuously adequate moisture supply.

Dependable Precipitation, PD, is that precipitation equaled or exceeded during three years out of four. It is best determined from a long period of record by means of a gamma distribution analysis. In this study an approximation is made using the relationship of mean precipitation, PM, to dependable precipitation.

Moisture Deficit, ETDF, is the difference between potential evapotranspiration and dependable precipitation.

Ratio of Moisture Availability, RMA, is the monthly precipitation for the year 1970 divided by the potential evapotranspiration estimated from 1970 data.

Moisture-Availability Index, MAI, is a measure of the adequacy of precipitation over a period of time in supplying moisture requirements. It is computed by dividing the dependable precipitation by the potential evapotranspiration.

Climate and Evaporation

Most crop consumptive use or evapotranspiration measurements have been related to evaporation. The most widely used and best standardized evaporation is that from a Class A pan. Measurements by the Piche apparatus are difficult to interpret or standardize. Unfortunately, however, Class A pan evaporation is influenced significantly by pan location and exposure conditions and by the influence of advective heating and advective cooling. With inexperienced operators errors of measurement are fairly frequent. The compensation for rainfall is sometimes less than completely accurate. Significant splash sometimes occurs during high intensity rain storms.

An equation for estimating Class A pan evaporation from a pan located in standardized, low advective conditions, usually in a fairly extensive irrigated area can be written

$$EVPC = .43 \times RMM \times CT \times CHV \times CWV \times CEV \qquad (1)$$

in which

EVPC = estimated monthly Class A pan evaporation

RMM = monthly extraterrestrial radiation expressed as equivalent evaporation by dividing the radiation (cal/cm^2/day) by the heat of vaporization at the mean monthly temperature, TM, and converting to appropriate units, mm per month (Table 1)

Table 1. Mean monthly values of extraterrestrial radiation.

Latitude Degrees	Expressed as Equivalent Evaporation in Millimeters Per Day											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
North												
60	1.41	3.36	6.88	11.31	15.14	17.06	16.25	13.03	8.67	4.58	1.92	0.96
55	2.55	4.62	8.08	12.18	15.55	17.18	16.50	13.71	9.77	5.85	3.11	2.02
50	3.77	5.89	9.23	12.98	15.93	17.30	16.73	14.34	10.79	7.09	4.35	3.21
45	5.04	7.14	10.30	13.69	16.23	17.38	16.91	14.87	11.74	8.30	5.63	4.46
40	6.32	8.36	11.30	14.31	16.45	17.38	17.01	15.32	12.59	9.45	6.90	5.75
35	7.59	9.53	12.21	14.82	16.58	17.30	17.01	15.66	13.35	10.54	8.15	7.04
30	8.84	10.64	13.03	15.23	16.60	17.13	16.92	15.90	14.01	11.55	9.36	8.32
25	10.05	11.68	13.75	15.52	16.51	16.85	16.72	16.02	14.56	12.48	10.53	9.56
20	11.20	12.64	14.37	15.70	16.32	16.48	16.42	16.04	15.00	13.33	11.63	10.76
15	12.29	13.51	14.88	15.77	16.02	16.00	16.02	15.93	15.33	14.07	12.66	11.91
10	13.30	14.28	15.27	15.72	15.61	15.42	15.51	15.72	15.54	14.71	13.61	12.98
5	14.23	14.96	15.55	15.55	15.09	14.74	14.90	15.39	15.63	15.24	14.47	13.98
0	15.07	15.53	15.71	15.27	14.47	13.97	14.19	14.95	15.61	15.66	15.23	14.90

Table 1. (Continued)

Latitude Degrees	Expressed as Equivalent Evaporation in Millimeters Per Day											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
South												
- 5	15.81	15.98	15.75	14.88	13.76	13.12	13.39	14.41	15.46	15.96	15.89	15.72
-10	16.45	16.33	15.67	14.37	12.95	12.18	12.51	13.76	15.20	16.15	16.45	16.44
-15	16.98	16.55	15.48	13.76	12.06	11.17	11.54	13.01	14.82	16.21	16.89	17.06
-20	17.40	16.66	15.16	13.05	11.09	10.10	10.51	12.17	14.33	16.16	17.22	17.57
-25	17.71	16.65	14.73	12.24	10.05	8.97	9.42	11.25	13.73	15.99	17.43	17.97
-30	17.91	16.52	14.19	11.34	8.95	7.80	8.28	10.25	13.03	15.70	17.54	18.27
-35	17.99	16.27	13.54	10.36	7.80	6.61	7.10	9.18	12.23	15.29	17.52	18.46
-40	17.98	15.92	12.79	9.31	6.61	5.40	5.89	8.06	11.33	14.78	17.40	18.54
-45	17.86	15.46	11.94	8.19	5.41	4.19	4.69	6.89	10.35	14.16	17.18	18.54
-50	17.66	14.90	11.00	7.02	4.20	3.02	3.49	5.68	9.29	13.45	16.87	18.46
-55	17.40	14.25	9.98	5.81	3.01	1.90	2.34	4.46	8.16	12.64	16.49	18.33
-60	17.12	13.54	8.88	4.57	1.88	0.91	1.28	3.24	6.97	11.76	16.07	18.20

$$CT = .40 + .024 \times TM \quad (1a)$$

(TM = mean monthly temperature in ^{o}C)

$$CHV = .05 + 1.42 \times (1.00 - HM)^{1/2} \quad (1b)$$

(HM = mean monthly relative humidity - the mean of three readings, 0700, 1300, 1900 hours)

$$CWV = .72 + .039 \times W6 \quad (1c)$$

(W6 = wind in km/hr at an instrument height of 6 meters)

$$CEV = 1.00 + .00007 \times EL \quad (1d)$$

(EL = elevation in meters).

Wind data have not been published in suitable form for use in evaluating the effect of wind velocities on evaporation for the year 1970. Therefor, for the 99 stations an average value of 1.00 was assumed for CWV.

Class A pan evaporation was recorded at 46 of the 99 locations used. A comparison was made of measured evaporation to computed evaporation at each of the stations. The results are summarized as follows:

Country	Number of Stations	Average Ratio of Measured to Calculated Evaporation
Guatemala	4	.94
El Salvador	7	1.18
Honduras	8	.90
Nicaragua	14	1.08
Costa Rica	7	.91
Panama	6	.96

The overall average ratio of measured evaporation to calculated evaporation from equation 1 is 1.01 for the 46 climatic stations which recorded Class A pan evaporation for the year 1970. However, for some stations ratios were abnormally high or unusually low. Most of these variations from normal can be explained by the lack of wind data, by advective conditions or by pan location conditions. For a few locations it would seem that the data may not be fully representative.

Estimation of Evapotranspiration and Moisture Relationships

The equation used for estimating potential evapotranspiration, ETP, can be written

$$ETP = .35 \times RMM \times CT \times CH \times CW \times CE \qquad (2)$$

in which

$$CH = .05 + 1.42 \times (1.00 - HM)^{1/2} \qquad (2a)$$

(with a maximum value of CH = 1.00)

$$CW = .80 + .028 \times W6 \qquad (2b)$$

$$CE = 1.00 + .00004 \times EL \qquad (2c)$$

RMM and CT are the same as given in equation 1.

Except for eight of the ten stations in Guatemala with ten year average values, and for Las Mercedes in Nicaragua, wind speed was not used in calculating potential evapotranspiration, ETP. An average value of CW = 1.00 was used for all other calculations.

$$ETDF = ETP - PREC \quad (3)$$

in which

PREC = monthly precipitation for 1970.

For the ten-year and long term average data the equation used was

$$ETDF = ETP - PD \quad (4)$$

in which

$$PD = -10 + .70\ PM \quad (4a)$$

PM = long term mean monthly precipitation in mm (4b).

Equation 4a was developed by plotting the 75 percent probability of precipitation from a gamma distribution analysis (that equaled or exceeded three years out of four) as a function of mean precipitation. Equation 4a is a best fit relationship for the precipitation data from Nicaragua, Colombia, Ecuador and 23 eastern states of the United States.

The ratio of moisture availability, RMA, was calculated for the 99 stations using 1970 data by means of the equation

$$RMA = PREC/ETP \quad (5)$$

For the stations with ten years or long term average data, a moisture availability index, MAI, was calculated from the equation

RMA and MAI are used as standard indices for measuring water deficiencies. The following classification of deficiencies is used:

MAI or RMA = 0 - .33	Very deficient
MAI or RMA = .34 - .67	Moderately deficient
MAI or RMA = .68 - 1.00	Somewhat deficient
MAI or RMA = 1.01 - 1.33	Adequate
MAI or RMA = 1.34 and above	Excessive

For the area under study most of the locations have temperatures within a fairly narrow range. The extraterrestrial radiation does not vary greatly. Wind data are not available except for a few locations. For this analysis humidity is a most important determining factor influencing pan evaporation and evapotranspiration. Mean monthly relative humidity is difficult to determine with a high degree of precision. Measurements can normally be expected to have errors of ± 5 percent. The mean of three readings does not have a constant relationship to 24-hour mean humidity. However, the equations used are based upon average relationships found in other areas.

The ratios of measured evaporation to calculated values (EVM/EVC) indicate that the evapotranspiration equation probably provides a reasonably good fit of the data. Much of the variation in EVM/EVC ratios can be explained as the effect of advective heating or advective cooling of the

are available the computation of both evaporation and evapotranspiration can be significantly improved.

Average Moisture Deficiencies

Guatemala and El Salvador

Average values for a ten-year period are given for ten locations in Guatemala. At eight of these, wind speeds at an instrument height of 6 meters are also available. Mean monthly temperature in ^{o}C, TM; mean monthly relative humidity, expressed decimally, HM; wind at 6 meters in km/hr, W6; precipitation in mm, PREC; and calculated monthly estraterrestrial radiation for the latitude and temperature, RMM, are printed out and used to compute evaporation estimated with a wind coefficient of 1.00, EVPC; evaporation estimated using a correction for wind (for those stations at which wind data are available), EVPC2; calculated potential evapotranspiration, ETP; estimated potential evapotranspiration corrected for wind (for the eight locations having wind data), ETP2; the dependable precipitation, PD; the evapotranspiration deficit, ETDF; and the moisture availability index, MAI.

A similar analysis is made for eleven stations in El Salvador (one of which lacks precipitation data) using the latest long term averages for the climatic data. Wind velocity data are not available for the stations

The computer printout indicates missing values for wind data with .0, and for station 046-156, Santiago de Maria, missing values for PREC and MAI are shown as 0. and .00, respectively. Other zero values are real. Monthly values of precipitation equal to or greater than 1000 mm were recorded for convenience as 999.

The climatic data and moisture availability analysis for average conditions at the twenty locations are given on the following pages.

AVERAGE MOISTURE DEFICIENCIES

Guatemala

002 004 ROGER ALTEMBACH GUA LAT 14 42 LONG 91 52 ELEV 498

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	24.2	.61	5.5	14.	394.	161.	150.	129.	123.	0.	123.	.00
2	23.3	.60	5.4	33.	387.	157.	146.	126.	120.	13.	105.	.11
3	24.6	.62	5.1	69.	468.	191.	175.	153.	144.	38.	106.	.27
4	25.4	.69	4.5	213.	475.	180.	161.	144.	133.	139.	-6.	1.04
5	24.7	.74	4.3	392.	495.	169.	150.	136.	125.	264.	-139.	2.12
6	23.4	.80	4.6	90.	476.	139.	125.	112.	104.	53.	51.	.51
7	24.5	.76	4.9	188.	494.	162.	147.	130.	122.	122.	0.	1.00
8	24.2	.76	5.1	599.	494.	161.	148.	129.	122.	409.	-288.	3.37
9	23.5	.79	4.7	731.	464.	143.	129.	114.	106.	502.	-396.	4.71
10	22.9	.78	4.2	598.	444.	134.	119.	108.	99.	409.	-310.	4.13
11	23.4	.77	4.8	177.	391.	122.	111.	98.	92.	114.	-22.	1.24
12	23.0	.67	5.3	49.	382.	140.	130.	112.	107.	24.	82.	.23
AVE	23.9	.71	4.9	263.	447.	155.	141.	124.	116.	174.	-58.	1.56

003-018 SAN JERONIMO GUA LAT 15 5 LONG 90 16 ELEV 979

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	18.3	.69	8.5	5.	381.	123.	130.	98.	101.	0.	101.	.00
2	19.5	.65	8.5	5.	378.	134.	141.	106.	110.	0.	110.	.00
3	20.6	.66	9.8	7.	462.	167.	184.	132.	142.	0.	142.	.00
4	22.7	.67	10.1	25.	474.	178.	199.	141.	153.	8.	145.	.05
5	23.2	.68	8.4	53.	498.	187.	196.	148.	153.	27.	126.	.18
6	22.5	.76	5.5	200.	481.	155.	145.	123.	117.	130.	-13.	1.11
7	21.5	.77	5.1	129.	497.	153.	141.	121.	114.	80.	34.	.70
8	21.1	.77	4.1	128.	494.	151.	132.	119.	109.	80.	29.	.73
9	21.1	.80	3.1	188.	460.	131.	110.	104.	92.	122.	-29.	1.32
10	21.0	.80	3.3	88.	437.	124.	106.	98.	88.	52.	35.	.59
11	19.0	.76	3.8	28.	380.	111.	97.	88.	80.	10.	70.	.12
12	18.7	.73	4.9	9.	369.	113.	103.	90.	84.	0.	84.	.00
AVE	20.8	.73	6.3	72.	443.	144.	140.	114.	112.	42.	70.	.40

AVERAGE MOISTURE DEFICIENCIES

Guatemala

0 4 026 LOS BRILLANTES GUA LAT 14 34 LONG 91 38 ELEV 345

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	25.8	.72	6.2	27.	393.	141.	136.	114.	111.	9.	102.	.08
2	26.1	.69	5.1	31.	388.	147.	135.	119.	112.	12.	100.	.10
3	27.5	.69	5.7	50.	469.	184.	173.	148.	142.	25.	117.	.18
4	27.7	.78	3.9	145.	476.	160.	140.	129.	117.	92.	25.	.79
5	27.4	.83	3.6	263.	496.	147.	126.	118.	107.	174.	-67.	1.63
6	26.6	.87	3.3	565.	478.	123.	104.	99.	88.	385.	-297.	4.37
7	26.9	.84	3.2	401.	495.	141.	119.	114.	101.	271.	-170.	2.68
8	26.9	.85	3.4	520.	495.	137.	117.	110.	99.	354.	-255.	3.59
9	26.6	.87	2.2	563.	465.	120.	96.	96.	83.	384.	-301.	4.63
10	26.5	.86	3.3	638.	445.	118.	100.	95.	85.	437.	-352.	5.14
11	27.4	.84	2.3	153.	392.	113.	91.	91.	79.	97.	-19.	1.24
12	26.8	.80	3.2	44.	382.	120.	102.	97.	85.	21.	65.	.24
AVE	26.8	.80	3.8	283.	448.	138.	120.	111.	101.	188.	-88.	2.05

010-011 TIQUISATE GUA LAT 14 17 LONG 91 21 ; ELEV 70

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	26.6	.55	9.3	10.	392.	175.	191.	143.	151.	0.	151.	.00
2	28.5	.51	8.7	6.	387.	189.	201.	147.	154.	0.	154.	.00
3	29.6	.50	7.4	23.	469.	237.	239.	183.	184.	6.	178.	.03
4	30.6	.54	6.1	84.	478.	237.	227.	190.	185.	49.	136.	.26
5	30.3	.63	5.0	300.	498.	222.	212.	180.	174.	200.	-26.	1.15
6	29.2	.68	4.5	357.	480.	195.	174.	158.	146.	240.	-93.	1.64
7	28.5	.65	6.5	308.	497.	207.	202.	168.	165.	205.	-40.	1.24
8	28.6	.65	7.8	327.	497.	208.	213.	169.	172.	219.	-47.	1.28
9	28.0	.68	5.3	426.	465.	184.	170.	149.	142.	288.	-147.	2.03
10	28.1	.68	5.6	402.	445.	176.	165.	143.	137.	271.	-134.	1.98
11	27.9	.62	8.3	67.	390.	167.	174.	136.	140.	37.	103.	.26
12	27.0	.59	8.6	12.	380.	165.	174.	134.	140.	0.	140.	.00
AVE	28.6	.61	7.0	193.	448.	197.	195.	158.	157.	126.	31.	.82

AVERAGE MOISTURE DEFICIENCIES

Guatemala

016-012 JARDIN MIL FLORES GUA LAT 14 27 LONG 90 38 ELEV 1189

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	19.1	.74	.0	0.	390.	121.	121.	95.	95.	0.	95.	.00
2	19.3	.75	.0	24.	385.	118.	118.	92.	92.	7.	86.	.07
3	20.6	.74	.0	8.	465.	150.	150.	118.	118.	0.	118.	.00
4	20.6	.80	.0	21.	473.	135.	135.	106.	106.	5.	102.	.04
5	21.4	.83	.0	76.	494.	134.	134.	105.	105.	43.	62.	.41
6	20.1	.90	.0	217.	475.	97.	97.	77.	77.	142.	-65.	1.85
7	21.8	.80	.0	132.	493.	145.	145.	114.	114.	82.	32.	.72
8	20.9	.84	.0	163.	493.	128.	128.	101.	101.	104.	-3.	1.03
9	19.9	.88	.0	208.	462.	107.	102.	81.	81.	136.	-55.	1.68
10	20.0	.85	.0	89.	442.	109.	109.	86.	86.	52.	33.	.61
11	19.4	.79	.0	23.	388.	110.	110.	86.	86.	6.	80.	.07
12	18.8	.78	.0	7.	379.	107.	107.	85.	85.	0.	85.	.00
AVE	20.2	.81	.0	81.	445.	121.	121.	95.	95.	48.	47.	.54

016-053 POTRERO LARGO GUA LAT 14 21 LONG 90 32 ELEV 1120

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	17.6	.67	.0	0.	389.	128.	128.	101.	101.	0.	101.	.00
2	20.5	.65	.0	0.	385.	142.	142.	112.	112.	0.	112.	.00
3	21.2	.67	.0	12.	465.	170.	170.	134.	134.	0.	134.	.00
4	23.2	.75	.0	30.	474.	160.	160.	126.	125.	11.	115.	.09
5	21.5	.77	.0	144.	494.	153.	153.	121.	121.	91.	30.	.75
6	20.6	.84	.0	345.	476.	122.	122.	96.	96.	231.	-135.	2.41
7	21.0	.81	.0	208.	493.	138.	138.	109.	109.	136.	-27.	1.24
8	20.4	.86	.0	209.	493.	118.	118.	93.	93.	136.	-43.	1.46
9	20.0	.88	.0	398.	462.	102.	102.	81.	81.	269.	-188.	3.33
10	20.1	.85	.0	221.	442.	108.	108.	86.	86.	145.	-59.	1.69
11	20.4	.71	.0	39.	388.	130.	130.	103.	103.	17.	86.	.17
12	19.8	.68	.0	17.	378.	131.	131.	103.	103.	2.	101.	.02
AVE	20.5	.76	.0	135.	445.	134.	134.	105.	105.	86.	19.	.93

01°-072 LA FRAGUA GUA LAT 14 57 LONG 89 33 · ELEV 190

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	25.0	.63	10.8	1.	395.	157.	180.	127.	140.	0.	140.	.00
2	27.0	.62	12.6	0.	390.	165.	199.	133.	154.	0.	154.	.00
3	28.7	.61	12.6	5.	470.	209.	253.	169.	195.	0.	195.	.00
4	29.4	.62	13.1	5.	477.	213.	262.	172.	201.	0.	201.	.00
5	28.6	.66	11.2	60.	496.	206.	238.	167.	186.	32.	154.	.17
6	26.6	.71	6.6	153.	476.	176.	172.	142.	140.	97.	43.	.69
7	26.1	.73	8.8	156.	494.	174.	185.	141.	147.	99.	48.	.67
8	26.7	.66	8.3	119.	495.	197.	206.	159.	165.	73.	91.	.45
9	26.7	.69	6.2	144.	466.	178.	171.	144.	140.	91.	49.	.65
10	26.0	.67	6.5	62.	447.	173.	168.	140.	137.	33.	104.	.24
11	25.8	.66	8.3	11.	393.	153.	160.	124.	128.	0.	128.	.00
12	25.2	.69	8.8	3.	384.	144.	153.	116.	122.	0.	122.	.00
AVE	26.8	.66	9.5	60.	449.	179.	196.	145.	155.	35.	119.	.24

020 004 MONTUFAR GUA LAT 13 49 LONG 90 9 ELEV 10

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	29.5	.62	9.0	0.	403.	178.	190.	145.	152.	0.	152.	.00
2	28.3	.67	7.3	0.	394.	158.	159.	129.	129.	0.	129.	.00
3	28.8	.66	10.5	8.	472.	195.	220.	158.	173.	0.	173.	.00
4	29.2	.76	7.5	57.	477.	168.	171.	137.	138.	30.	109.	.22
5	29.2	.85	4.9	104.	494.	140.	128.	114.	107.	63.	44.	.59
6	29.0	.86	3.7	353.	475.	130.	112.	106.	96.	237.	-141.	2.48
7	30.3	.81	4.4	192.	493.	160.	143.	130.	120.	124.	-4.	1.04
8	29.2	.81	4.5	231.	495.	157.	140.	128.	118.	152.	-34.	1.28
9	29.9	.87	3.4	349.	468.	127.	108.	103.	92.	234.	-142.	2.54
10	29.5	.82	4.7	198.	452.	141.	127.	114.	107.	129.	-22.	1.21
11	29.4	.66	7.6	4.	400.	167.	170.	136.	138.	0.	138.	.00
12	29.5	.64	7.4	25.	392.	168.	170.	137.	138.	8.	131.	.05
AVE	29.3	.75	6.2	127.	451.	157.	153.	128.	125.	91.	44.	.78

AVERAGE MOISTURE DEFICIENCIES

Guatemala

046-005 LA CEIBITA GUA LAT 14 30 LONG 89 52 ELEV 961 :

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	20.8	.71	8.9	0.	391.	131.	140.	104.	109.	0.	109.	.00
2	21.9	.68	8.9	1.	386.	140.	149.	111.	116.	0.	116.	.00
3	23.6	.61	7.8	30.	467.	194.	199.	154.	156.	11.	145.	.07
4	24.8	.61	7.0	32.	475.	203.	202.	161.	160.	12.	148.	.08
5	24.2	.68	7.2	90.	495.	190.	190.	151.	151.	53.	98.	.35
6	21.5	.79	6.2	234.	476.	140.	135.	111.	108.	154.	-46.	1.42
7	21.7	.78	6.3	170.	493.	149.	144.	118.	115.	109.	6.	.95
8	22.0	.75	5.8	185.	493.	160.	151.	126.	122.	119.	2.	.98
9	22.4	.80	5.1	170.	463.	137.	125.	108.	102.	109.	-7.	1.07
10	22.2	.78	5.5	96.	443.	136.	127.	108.	103.	57.	45.	.56
11	21.8	.77	7.3	17.	389.	121.	121.	95.	96.	2.	94.	.02
12	21.7	.73	7.7	10.	380.	127.	129.	100.	102.	0.	102.	.00
AVE	22.4	.72	7.0	86.	446.	152.	151.	121.	120.	52.	68.	.46

045 011 ASUNCION MITA GUA LAT 14 20 LONG 89 42 ELEV 478

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	24.9	.66	11.0	0.	391.	152.	175.	122.	136.	0.	136.	.00
2	25.8	.63	9.4	1.	386.	160.	174.	128.	136.	0.	136.	.00
3	26.6	.63	10.3	4.	468.	197.	221.	158.	172.	0.	172.	.00
4	27.9	.66	5.9	47.	477.	199.	189.	160.	154.	23.	131.	.15
5	27.5	.73	4.2	140.	497.	184.	163.	148.	136.	88.	48.	.65
6	26.0	.84	2.4	279.	478.	135.	109.	108.	94.	185.	-92.	1.98
7	27.0	.77	5.6	193.	496.	169.	158.	136.	130.	125.	5.	.96
8	26.8	.79	4.0	175.	496.	165.	144.	132.	120.	112.	8.	.93
9	25.2	.86	2.2	230.	464.	120.	97.	97.	83.	151.	-68.	1.81
10	25.2	.83	2.9	114.	444.	126.	105.	101.	89.	70.	19.	.78
11	25.0	.73	6.2	28.	389.	136.	131.	109.	107.	10.	97.	.09
12	24.9	.69	7.6	5.	380.	142.	144.	114.	115.	0.	115.	.00
AVE	25.1	.73	6.0	101.	447.	157.	151.	126.	123.	64.	59.	.51

AVERAGE MOISTURE DEFICIENCIES

El Salvador

030-306 ACAJUTLA ELS LAT 13 34 LONG 89 50 ELEV 15

1.00 is adequate at 75% prob. (3 yrs and up +)

MO	TM (Mean Temp °C)	HM (Rel Hum)	W6 (wind)	PREC (In mm)	RMM	EVPC	EVPC2	ETP	ETP2	PD (Approx 75% prob. of prec)	ETDF	MAI
1	25.8	.68	.0	0.	400.	150.	150.	122.	122.	0.	122.	.00
2	26.4	.69	.0	0.	392.	147.	147.	119.	119.	0.	119.	.00
3	27.5	.68	.0	0.	471.	183.	183.	149.	149.	0.	149.	.00
4	28.3	.72	.0	0.	476.	177.	177.	144.	144.	0.	144.	.00
5	28.0	.76	.0	19.	494.	170.	170.	138.	138.	3.	135.	.02
6	27.0	.81	.0	118.	474.	143.	143.	116.	116.	73.	44.	.62
7	26.9	.79	.0	56.	492.	155.	155.	126.	126.	29.	97.	.23
8	26.8	.79	.0	81.	494.	155.	155.	127.	127.	47.	80.	.37
9	26.3	.82	.0	63.	466.	135.	135.	110.	110.	34.	76.	.31
10	26.3	.81	.0	78.	449.	133.	133.	109.	109.	10.	99.	.09
11	26.4	.74	.0	0.	397.	137.	137.	111.	111.	0.	111.	.00
12	26.0	.69	.0	0.	389.	144.	144.	117.	117.	0.	117.	.00
AVE	26.8	.75	.0	30.	450.	153.	153.	124.	124.	16.	108.	.14

032-303 IZALCO ELS LAT 13 46 LONG 89 42 ELEV 390

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	23.4	.69	.0	0.	400.	143.	143.	115.	115.	0.	115.	.00
2	23.8	.67	.0	0.	392.	146.	146.	117.	117.	0.	117.	.00
3	25.4	.69	.0	0.	471.	176.	176.	142.	142.	0.	142.	.00
4	25.0	.73	.0	4.	475.	165.	165.	133.	133.	0.	133.	.00
5	24.4	.78	.0	151.	492.	153.	153.	123.	123.	96.	28.	.78
6	24.6	.83	.0	214.	473.	131.	131.	106.	106.	140.	-34.	1.32
7	24.5	.81	.0	108.	490.	143.	143.	115.	115.	66.	50.	.57
8	23.9	.82	.0	153.	493.	138.	138.	111.	111.	97.	14.	.87
9	24.0	.85	.0	205.	466.	120.	120.	97.	97.	133.	-37.	1.38
10	23.9	.84	.0	202.	449.	119.	119.	96.	96.	131.	-35.	1.37
11	23.7	.76	.0	0.	397.	127.	127.	102.	102.	0.	102.	.00
12	.0	.72	.0	0.	381.	54.	54.	43.	43.	0.	43.	.00
AVE	22.2	.77	.0	86.	448.	135.	135.	109.	109.	55.	53.	.52

AVERAGE MOISTURE DEFICIENCIES

El Salvador

042-056 STA CRUZ PORPILLO ELS LAT 13 26 LONG 88 48 ELEV 30

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	26.2	.63	.0	0.	399.	162.	162.	131.	131.	0.	131.	.00
2	26.5	.64	.0	0.	392.	158.	158.	128.	128.	0.	128.	.00
3	27.4	.64	.0	0.	471.	194.	194.	157.	157.	0.	157.	.00
4	28.1	.69	.0	0.	476.	185.	185.	151.	151.	0.	151.	.00
5	27.9	.75	.0	10.	494.	173.	173.	141.	141.	0.	141.	.00
6	26.8	.81	.0	71.	475.	143.	143.	116.	116.	40.	75.	.34
7	27.0	.78	.0	83.	492.	159.	159.	129.	129.	48.	81.	.37
8	26.8	.80	.0	119.	494.	152.	152.	124.	124.	73.	50.	.59
9	26.3	.84	.0	160.	466.	128.	128.	104.	104.	102.	2.	.98
10	26.1	.82	.0	69.	449.	130.	130.	105.	105.	38.	67.	.36
11	26.1	.73	.0	0.	396.	138.	138.	112.	112.	0.	112.	.00
12	26.0	.66	.0	0.	388.	150.	150.	122.	122.	0.	122.	.00
AVE	26.8	.73	.0	43.	449.	156.	156.	127.	127.	25.	102.	.22

042-510 ILOPANGO ELS LAT 13 42 LONG 89 70 ELEV 6150

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	22.1	.66	.0	0.	399.	201.	201.	142.	142.	0.	142.	.00
2	22.6	.65	.0	0.	391.	202.	202.	143.	143.	0.	143.	.00
3	23.8	.66	.0	0.	470.	246.	246.	175.	175.	0.	175.	.00
4	24.4	.72	.0	1.	475.	231.	231.	164.	164.	0.	164.	.00
5	24.1	.78	.0	39.	492.	212.	212.	150.	150.	17.	133.	.12
6	23.2	.85	.0	141.	472.	167.	167.	118.	118.	89.	30.	.75
7	23.2	.82	.0	183.	490.	188.	188.	133.	133.	118.	15.	.89
8	23.1	.83	.0	216.	492.	184.	184.	130.	130.	141.	-11.	1.08
9	22.7	.86	.0	201.	465.	157.	157.	111.	111.	131.	-19.	1.17
10	22.6	.83	.0	139.	448.	165.	165.	117.	117.	87.	30.	.75
11	22.1	.75	.0	0.	396.	169.	169.	120.	120.	0.	120.	.00
12	21.8	.70	.0	0.	388.	182.	182.	129.	129.	0.	129.	.00
AVE	23.0	.75	.0	77.	448.	192.	192.	136.	136.	49.	88.	.40

046-112 SANTA ANA ELS LAT 13 59 LONG 89 34 ELEV 725

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	21.6	.65	.0	0.	401.	148.	148.	118.	118.	0.	118.	.00
2	22.2	.63	.0	0.	392.	151.	151.	120.	120.	0.	120.	.00
3	23.4	.62	.0	0.	470.	189.	189.	151.	151.	0.	151.	.00
4	24.3	.66	.0	0.	475.	185.	185.	148.	148.	0.	148.	.00
5	23.9	.72	.0	46.	491.	173.	173.	138.	138.	22.	116.	.16
6	22.9	.80	.0	122.	471.	138.	138.	110.	110.	75.	35.	.68
7	23.0	.77	.0	152.	489.	154.	154.	123.	123.	96.	26.	.79
8	23.0	.78	.0	140.	492.	151.	151.	121.	121.	88.	33.	.73
9	22.6	.82	.0	122.	465.	129.	129.	103.	103.	75.	28.	.73
10	22.5	.79	.0	23.	449.	137.	137.	109.	109.	6.	103.	.06
11	21.9	.70	.0	0.	398.	138.	138.	110.	110.	0.	110.	.00
12	21.5	.68	.0	0.	390.	138.	138.	110.	110.	0.	110.	.00
AVE	22.7	.72	.0	50.	449.	153.	153.	122.	122.	30.	91.	.26

046-156 SANTIAGO DE MARIA ELS LAT 13 29 LONG 88 28 ELEV 920

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	21.3	.65	.0	0.	397.	146.	146.	115.	115.	0.	115.	.00
2	21.8	.65	.0	0.	390.	147.	147.	116.	116.	0.	116.	.00
3	22.7	.66	.0	0.	469.	178.	178.	141.	141.	0.	141.	.00
4	23.1	.71	.0	0.	474.	169.	169.	134.	134.	0.	134.	.00
5	22.7	.78	.0	0.	492.	152.	152.	121.	121.	0.	121.	.00
6	22.0	.83	.0	0.	473.	128.	128.	101.	101.	0.	101.	.00
7	22.5	.77	.0	0.	490.	154.	154.	122.	122.	0.	122.	.00
8	22.4	.79	.0	0.	492.	148.	148.	117.	117.	0.	117.	.00
9	21.6	.85	.0	0.	464.	117.	117.	93.	93.	0.	93.	.00
10	21.5	.83	.0	0.	447.	119.	119.	94.	94.	0.	94.	.00
11	21.3	.75	.0	0.	395.	125.	125.	99.	99.	0.	99.	.00
12	21.2	.69	.0	0.	386.	135.	135.	107.	107.	0.	107.	.00
AVE	22.0	.75	.0	0.	447.	143.	143.	113.	113.	0.	113.	.00

AVERAGE MOISTURE DEFICIENCIES

El Salvador

046-404 SAN ANDRES ELS LAT 13 49 LONG 89 24 ELEV 460

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	22.6	.69	.0	0.	400.	141.	141.	113.	113.	0.	113.	.00
2	23.4	.68	.0	0.	392.	143.	143.	115.	115.	0.	115.	.00
3	24.6	.67	.0	0.	471.	179.	179.	144.	144.	0.	144.	.00
4	25.6	.71	.0	8.	475.	174.	174.	140.	140.	0.	140.	.00
5	25.2	.78	.0	71.	492.	157.	157.	126.	126.	40.	87.	.31
6	24.3	.84	.0	156.	472.	127.	127.	102.	102.	99.	3.	.97
7	24.2	.82	.0	202.	490.	139.	139.	112.	112.	131.	-20.	1.18
8	24.3	.82	.0	164.	493.	140.	140.	113.	113.	105.	8.	.93
9	23.9	.85	.0	166.	466.	121.	121.	97.	97.	106.	-9.	1.10
10	23.5	.82	.0	54.	449.	125.	125.	101.	101.	28.	73.	.28
11	22.7	.76	.0	0.	397.	124.	124.	100.	100.	0.	100.	.00
12	22.2	.72	.0	0.	389.	129.	129.	104.	104.	0.	104.	.00
AVE	23.9	.76	.0	68.	449.	142.	142.	114.	114.	42.	71.	.40

046-408 SANTA TECLA ELS LAT 13 41 LONG 89 17 ELEV 965

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	19.4	.72	.0	0.	398.	127.	127.	100.	100.	0.	100.	.00
2	20.0	.72	.0	0.	390.	126.	126.	100.	100.	0.	100.	.00
3	21.0	.72	.0	0.	469.	156.	156.	123.	123.	0.	123.	.00
4	21.8	.76	.0	2.	474.	150.	150.	118.	118.	0.	118.	.00
5	21.8	.82	.0	64.	491.	136.	136.	108.	108.	35.	73.	.32
6	21.2	.86	.0	129.	471.	114.	114.	91.	91.	80.	10.	.89
7	21.4	.82	.0	126.	489.	134.	134.	106.	106.	78.	28.	.74
8	21.6	.83	.0	181.	492.	132.	132.	104.	104.	117.	-12.	1.12
9	20.8	.87	.0	231.	464.	108.	108.	85.	85.	152.	-65.	1.78
10	20.7	.83	.0	80.	447.	117.	117.	93.	93.	45.	47.	.50
11	20.1	.76	.0	0.	395.	119.	119.	95.	95.	0.	95.	.00
12	19.6	.74	.0	0.	387.	120.	120.	95.	95.	0.	95.	.00
AVE	20.8	.79	.0	68.	447.	128.	128.	101.	101.	42.	59.	.45

046-505 SAN SALVADOR ELS LAT 13 42 LONG 98 12 ELEV 700

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	22.0	.62	.0	60.	399.	155.	155.	123.	123.	32.	91.	.26
2	22.5	.62	.0	0.	391.	153.	153.	122.	122.	0.	122.	.00
3	23.7	.63	.0	0.	470.	188.	188.	150.	150.	0.	150.	.00
4	24.4	.68	.0	0.	475.	180.	180.	144.	144.	0.	144.	.00
5	24.0	.74	.0	29.	492.	168.	168.	134.	134.	10.	123.	.08
6	23.0	.82	.0	154.	472.	132.	132.	106.	106.	98.	8.	.93
7	23.0	.79	.0	117.	490.	147.	147.	118.	118.	72.	46.	.61
8	23.0	.80	.0	99.	492.	145.	145.	115.	115.	59.	56.	.51
9	22.5	.84	.0	148.	465.	122.	122.	97.	97.	94.	4.	.96
10	22.5	.79	.0	78.	448.	133.	133.	106.	106.	45.	62.	.42
11	22.2	.71	.0	0.	396.	136.	136.	108.	108.	0.	108.	.00
12	21.9	.66	.0	0.	388.	142.	142.	113.	113.	0.	113.	.00
AVE	22.9	.72	.0	57.	448.	150.	150.	120.	120.	34.	86.	.31

046-901 CHOP DEL GUAYABO ELS LAT 14 0 LONG 88 45 ELEV 190

MO	TM	HM	W6	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	26.4	.60	.0	0.	390.	166.	166.	135.	135.	0.	135.	.00
2	27.4	.59	.0	0.	385.	170.	170.	138.	138.	0.	138.	.00
3	28.7	.58	.0	0.	468.	215.	215.	174.	174.	0.	174.	.00
4	29.1	.62	.0	18.	477.	211.	211.	171.	171.	3.	168.	.02
5	27.8	.70	.0	79.	498.	192.	192.	155.	155.	45.	110.	.29
6	26.1	.80	.0	225.	479.	147.	147.	119.	119.	147.	-29.	1.24
7	25.8	.76	.0	247.	496.	164.	164.	133.	133.	163.	-30.	1.22
8	26.0	.79	.0	213.	496.	155.	155.	125.	125.	139.	-14.	1.11
9	25.5	.82	.0	185.	464.	133.	133.	108.	108.	119.	-11.	1.11
10	25.7	.78	.0	34.	443.	140.	140.	114.	114.	14.	100.	.12
11	25.7	.70	.0	0.	388.	142.	142.	115.	115.	0.	115.	.00
12	25.9	.64	.0	0.	378.	152.	152.	123.	123.	0.	123.	.00
AVE	26.7	.70	.0	83.	447.	166.	166.	134.	134.	53.	82.	.43

AVERAGE MOISTURE DEFICIENCIES

El Salvador

048-252 SAN MIGUEL ELS LAT 13 29 LONG 88 10 ELEV 105

MO	TM	HM	WG	PREC	RMM	EVPC	EVPC2	ETP	ETP2	PD	ETDF	MAI
1	26.3	.59	.0	0.	399.	171.	171.	139.	139.	0.	139.	.00
2	26.8	.59	.0	0.	392.	170.	170.	138.	138.	0.	138.	.00
3	28.2	.58	.0	0.	471.	213.	213.	173.	173.	0.	173.	.00
4	28.8	.63	.0	0.	477.	206.	206.	167.	167.	0.	167.	.00
5	28.2	.70	.0	20.	494.	191.	191.	155.	155.	4.	151.	.03
6	26.5	.79	.0	21.	475.	149.	149.	121.	121.	5.	116.	.04
7	26.8	.76	.0	76.	492.	166.	166.	135.	135.	43.	91.	.32
8	26.7	.77	.0	99.	494.	163.	163.	132.	132.	59.	73.	.45
9	25.8	.82	.0	168.	466.	134.	134.	109.	109.	108.	1.	.99
10	25.8	.84	.0	66.	449.	122.	122.	99.	99.	36.	63.	.36
11	25.4	.73	.0	0.	396.	137.	137.	111.	111.	0.	111.	.00
12	25.7	.64	.0	0.	388.	154.	154.	125.	125.	0.	125.	.00
AVE	26.7	.70	.0	38.	449.	165.	165.	134.	134.	21.	112.	.18

Evapotranspiration and Moisture Availability - 1970

An analysis of evapotranspiration deficits and availability of precipitation for supplying moisture needs is presented for the year 1970. Monthly temperatures in ^{o}C, TM; monthly relative humidity, expressed decimally, HM; monthly precipitation in mm, PREC; and extraterrestrial radiation for each month, expressed in equivalent mm of evaporation, RMM, are used to estimate potential evapotranspiration in mm, ETP; the evapotranspiration deficit, ETDF; and the ratio of moisture availability, RMA. Where available, Class A pan evaporation in mm, EVPM, is reported. Calculated evaporation, EVPC, is given, and where EVPM is available the ratio of EVPM/EVPC is computed and printed as EVM/EVC.

The computer printout uses 0. for missing values of EVPM and .00 for missing values of EVM/EVC. This may seem inconsistant, as zero values of precipitation are shown also as 0. Except for EVPM and the ratios of EVPM/EVPC there are no missing data or output values in the analysis. Missing data were filled in either by estimation or by correlation with a station located in similar climatic conditions.

A computer analysis showing the above climatic values, evapotranspiration and moisture availability is given on the following pages for 99 locations including 19 in Guatemala, 19 in El Salvador, 14 in

002-004 ROGER ALTEMBACH GUA LAT 14 42 LONG 91 52 ELEV 498

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.0	.79	0.	0.	394.	1.02	.70	126.	101.	.00	101.	.00
2	26.5	.70	0.	0.	388.	1.04	.83	148.	119.	.00	119.	.00
3	27.0	.58	0.	0.	469.	1.05	.97	212.	170.	.00	170.	.00
4	27.8	.58	0.	0.	476.	1.07	.97	220.	176.	.00	176.	.00
5	27.2	.60	0.	203.	496.	1.05	.95	220.	177.	.00	-26.	1.15
6	26.5	.63	0.	463.	477.	1.04	.91	201.	161.	.00	-302.	2.87
7	25.2	.71	0.	533.	494.	1.00	.81	180.	144.	.00	-389.	3.69
8	25.3	.68	0.	308.	495.	1.01	.85	189.	152.	.00	-158.	2.03
9	25.0	.77	0.	125.	465.	1.00	.73	151.	121.	.00	-4.	1.03
10	24.7	.83	0.	350.	445.	.99	.64	125.	100.	.00	-250.	3.49
11	25.1	.75	0.	12.	392.	1.00	.76	133.	107.	.00	95.	.11
12	25.8	.64	0.	0.	383.	1.02	.90	157.	126.	.00	126.	.00
AVE	26.0	.69	0.	166.	448.	1.02	.84	172.	138.	.00	-28.	1.20

002-045 CHAMPERICO GUA LAT 14 17 LONG 91 54 ELEV 5

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.9	.75	0.	3.	391.	1.02	.76	131.	106.	.00	103.	.03
2	26.6	.79	0.	0.	386.	1.04	.70	121.	98.	.00	98.	.00
3	27.6	.78	0.	3.	468.	1.06	.72	153.	125.	.00	122.	.02
4	29.2	.79	0.	5.	477.	1.10	.70	158.	129.	.00	124.	.04
5	29.0	.77	0.	79.	498.	1.10	.73	172.	140.	.00	61.	.57
6	28.1	.81	0.	289.	479.	1.07	.67	148.	121.	.00	-168.	2.40
7	27.9	.83	0.	495.	496.	1.07	.64	145.	118.	.00	-377.	4.19
8	28.0	.82	0.	225.	496.	1.07	.65	149.	122.	.00	-103.	1.85
9	27.5	.85	0.	233.	465.	1.06	.60	127.	104.	.00	-129.	2.25
10	28.2	.85	0.	168.	445.	1.08	.60	124.	101.	.00	-67.	1.67
11	27.2	.82	0.	51.	390.	1.05	.65	115.	94.	.00	43.	.54
12	27.2	.81	0.	0.	381.	1.05	.67	115.	94.	.00	94.	.00
AVE	27.7	.81	0.	129.	448.	1.06	.67	138.	113.	.00	-17.	1.13

003-018 SAN JERONIMO GUA LAT 15 5 LONG 90 16 ELEV 979

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	19.1	.73	115.	2.	381.	.86	.79	118.	94.	.97	92.	.02
2	18.8	.70	126.	6.	378.	.85	.83	122.	97.	1.03	91.	.06
3	22.3	.65	202.	1.	462.	.94	.89	177.	140.	1.14	139.	.01
4	24.1	.67	144.	6.	475.	.98	.87	185.	146.	.78	140.	.04
5	22.5	.69	140.	101.	498.	.94	.84	181.	143.	.77	42.	.71
6	22.0	.77	130.	72.	481.	.93	.73	150.	119.	.87	47.	.61
7	21.0	.81	125.	133.	497.	.90	.67	138.	109.	.91	-24.	1.22
8	21.4	.80	149.	183.	495.	.91	.69	142.	113.	1.05	-70.	1.63
9	21.4	.84	132.	201.	461.	.91	.62	119.	95.	1.10	-106.	2.13
10	21.6	.82	130.	90.	437.	.92	.65	120.	95.	1.08	5.	.94
11	18.0	.77	90.	6.	380.	.83	.73	106.	84.	.85	78.	.07
12	17.7	.77	112.	15.	369.	.82	.73	102.	81.	1.10	66.	.19
AVE	20.8	.75	133.	68.	443.	.90	.75	138.	110.	.97	42.	.63

003-051 NEBAJ GUA LAT 15 24 LONG 91 9 ELEV 1907

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	14.0	.78	0.	40.	381.	.74	.72	98.	76.	.00	36.	.53
2	13.9	.84	0.	24.	378.	.73	.62	93.	65.	.00	41.	.37
3	18.0	.81	0.	41.	461.	.83	.67	125.	97.	.00	56.	.42
4	18.2	.70	0.	78.	472.	.84	.83	159.	123.	.00	45.	.63
5	16.8	.78	0.	128.	494.	.80	.72	139.	107.	.00	-21.	1.20
6	17.4	.84	0.	171.	477.	.82	.62	118.	91.	.00	-80.	1.88
7	17.4	.83	0.	330.	494.	.82	.64	125.	97.	.00	-233.	3.41
8	16.9	.86	0.	390.	492.	.81	.58	117.	87.	.00	-303.	4.49
9	16.9	.87	0.	449.	459.	.81	.56	101.	78.	.00	-371.	5.73
10	17.0	.86	0.	219.	437.	.81	.58	100.	77.	.00	-142.	2.83
11	14.2	.87	0.	47.	380.	.74	.56	77.	60.	.00	13.	.79
12	14.6	.88	0.	49.	370.	.75	.54	73.	57.	.00	8.	.86
AVE	16.3	.83	0.	164.	441.	.79	.64	109.	84.	.00	-79.	1.93

003-052 SACAPULAS GUA LAT 15 17 LONG 91 6 ELEV 1196

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	19.3	.55	0.	15.	383.	.86	1.00	154.	121.	.00	106.	.12
2	19.2	.56	0.	0.	379.	.86	.99	151.	119.	.00	119.	.00
3	22.9	.53	0.	5.	463.	.95	1.00	210.	161.	.00	156.	.03
4	25.0	.51	0.	6.	475.	1.00	1.00	231.	174.	.00	168.	.03
5	23.8	.52	0.	63.	498.	.97	1.00	233.	177.	.00	114.	.36
6	23.6	.63	0.	79.	481.	.97	.91	198.	156.	.00	77.	.51
7	23.1	.70	0.	144.	497.	.95	.83	183.	144.	.00	0.	1.00
8	22.5	.72	0.	132.	495.	.94	.80	174.	137.	.00	5.	.97
9	22.1	.77	0.	129.	461.	.93	.73	146.	115.	.00	-14.	1.12
10	22.1	.74	0.	124.	438.	.93	.77	147.	116.	.00	-8.	1.07
11	19.1	.73	0.	12.	381.	.86	.79	120.	95.	.00	83.	.13
12	17.7	.61	0.	5.	370.	.82	.94	133.	105.	.00	100.	.05
AVE	21.7	.63	0.	59.	443.	.92	.90	173.	135.	.00	75.	.45

004-026 LOS BRILLANTES GUA LAT 14 34 LONG 91 38 ELEV 345

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	28.7	.66	0.	7.	394.	1.09	.88	166.	134.	.00	127.	.05
2	29.5	.59	0.	14.	389.	1.11	.96	182.	147.	.00	133.	.10
3	30.3	.59	0.	0.	470.	1.13	.96	224.	180.	.00	180.	.00
4	30.1	.68	0.	197.	478.	1.12	.85	201.	162.	.00	-35.	1.21
5	29.5	.72	0.	99.	497.	1.11	.80	195.	157.	.00	59.	.63
6	29.1	.77	0.	488.	479.	1.10	.73	169.	136.	.00	-352.	3.58
7	28.5	.82	0.	539.	496.	1.08	.65	154.	124.	.00	-415.	4.33
8	28.5	.81	0.	539.	496.	1.08	.67	158.	128.	.00	-411.	4.22
9	28.2	.79	0.	724.	466.	1.08	.70	155.	125.	.00	-599.	5.81
10	28.7	.81	0.	350.	446.	1.09	.67	143.	115.	.00	-235.	3.03
11	28.1	.79	0.	130.	392.	1.07	.70	130.	105.	.00	-25.	1.24
12	28.5	.71	0.	0.	383.	1.08	.81	149.	120.	.00	120.	.00
AVE	29.0	.73	0.	257.	449.	1.10	.78	169.	136.	.00	-121.	2.02

010-006 SAN MARTIN JILO. GUA LAT 14 47 LONG 90 47 ELEV 1800

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	15.7	.67	0.	8.	391.	.78	.87	127.	99.	.00	91.	.08
2	15.3	.68	0.	1.	385.	.77	.85	122.	94.	.00	93.	.01
3	18.1	.67	0.	0.	465.	.93	.87	163.	126.	.00	126.	.00
4	19.6	.66	0.	50.	473.	.87	.88	175.	136.	.00	86.	.37
5	18.7	.69	0.	85.	492.	.85	.84	170.	132.	.00	47.	.65
6	18.4	.77	0.	115.	473.	.84	.73	141.	109.	.00	-6.	1.05
7	17.8	.81	0.	349.	490.	.83	.67	131.	102.	.00	-247.	3.43
8	17.6	.79	0.	250.	491.	.82	.70	137.	106.	.00	-144.	2.36
9	17.3	.84	0.	294.	461.	.82	.62	113.	87.	.00	-207.	3.37
10	15.5	.82	0.	256.	442.	.77	.65	108.	83.	.00	-173.	3.07
11	14.3	.75	0.	15.	388.	.74	.76	106.	82.	.00	67.	.18
12	14.0	.68	0.	2.	379.	.74	.85	115.	89.	.00	87.	.02
AVE	16.9	.74	0.	119.	444.	.80	.77	134.	104.	.00	-15.	1.22

010-011 TIQUISATE GUA LAT 14 13 LONG 96 47 ELEV 400

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.8	.73	0.	14.	391.	1.04	.79	142.	114.	.00	100.	.12
2	27.1	.68	0.	13.	386.	1.05	.85	153.	123.	.00	110.	.11
3	27.8	.68	0.	62.	468.	1.07	.85	188.	152.	.00	90.	.41
4	28.5	.76	0.	154.	477.	1.08	.75	170.	137.	.00	-17.	1.12
5	28.4	.78	0.	102.	498.	1.08	.72	170.	137.	.00	35.	.74
6	27.2	.81	0.	276.	479.	1.05	.67	149.	120.	.00	-156.	2.30
7	27.5	.82	0.	311.	496.	1.06	.65	157.	122.	.00	-189.	2.55
8	27.2	.88	0.	379.	496.	1.05	.54	125.	101.	.00	-278.	3.77
9	26.8	.86	0.	328.	465.	1.04	.58	125.	100.	.00	-228.	3.27
10	27.3	.87	0.	409.	444.	1.06	.56	116.	94.	.00	-315.	4.37
11	27.0	.83	0.	89.	390.	1.05	.64	115.	92.	.00	3.	.96
12	26.8	.74	0.	1.	380.	1.04	.77	136.	109.	.00	108.	.01
AVE	27.4	.79	0.	178.	448.	1.06	.70	145.	117.	.00	-61.	1.64

010-013 PANAJACHEL GUA LAT 14 44 LONG 91 9 ELEV 1564

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	18.0	.68	127.	0.	391.	.83	.85	133.	103.	.96	103.	.00
2	18.4	.62	151.	11.	385.	.84	.93	143.	112.	1.05	101.	.10
3	18.6	.73	130.	19.	465.	.85	.79	148.	115.	.88	96.	.16
4	20.3	.81	144.	10.	473.	.89	.67	134.	104.	1.07	94.	.10
5	19.5	.76	167.	173.	492.	.87	.75	152.	119.	1.10	-54.	1.46
6	19.9	.75	141.	114.	474.	.88	.76	151.	118.	.93	4.	.97
7	19.4	.78	133.	330.	491.	.87	.72	145.	113.	.92	-217.	2.92
8	19.4	.81	124.	329.	492.	.87	.67	136.	106.	.91	-222.	3.10
9	19.0	.85	105.	400.	462.	.86	.60	113.	88.	.93	-312.	4.53
10	19.6	.81	130.	85.	443.	.87	.67	123.	96.	1.06	11.	.89
11	17.8	.74	156.	79.	389.	.83	.77	119.	93.	1.31	14.	.85
12	18.2	.66	167.	41.	380.	.84	.88	133.	104.	1.25	63.	.39
AVE	19.0	.75	140.	132.	445.	.86	.75	136.	106.	1.03	-27.	1.29

.76

010-021 EL CAPITAN GUA LAT 14 39 LONG 91 8 ELEV 1563

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	18.6	.57	0.	4.	391.	.85	.98	155.	121.	.00	117.	.03
2	19.2	.74	0.	11.	385.	.86	.77	122.	95.	.00	84.	.12
3	20.1	.78	0.	0.	466.	.88	.72	140.	109.	.00	109.	.00
4	20.6	.78	0.	18.	473.	.89	.72	145.	113.	.00	95.	.16
5	21.8	.68	0.	76.	494.	.92	.85	185.	145.	.00	69.	.53
6	21.7	.77	0.	120.	475.	.92	.73	153.	119.	.00	-1.	1.01
7	20.4	.81	0.	212.	492.	.89	.67	140.	109.	.00	-103.	1.95
8	19.9	.77	0.	190.	492.	.88	.73	151.	117.	.00	-73.	1.62
9	18.2	.81	0.	371.	462.	.84	.67	123.	96.	.00	-275.	3.86
10	19.1	.76	0.	205.	443.	.86	.75	135.	105.	.00	-100.	1.95
11	18.5	.69	0.	18.	389.	.84	.84	132.	103.	.00	85.	.18
12	18.1	.60	0.	6.	380.	.83	.95	143.	112.	.00	106.	.05
AVE	19.7	.73	0.	103.	445.	.87	.78	144.	112.	.00	9.	.95

014-018 SABANA GRANDE GUA LAT 14 23 LONG 90 50 ELEV 910

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	23.6	.73	140.	3.	391.	.97	.79	136.	108.	1.03	105.	.03
2	25.0	.66	168.	0.	386.	1.00	.88	155.	123.	1.08	123.	.00
3	24.4	.69	164.	0.	467.	.99	.84	177.	140.	.93	140.	.00
4	24.8	.75	120.	107.	475.	1.00	.76	164.	130.	.73	23.	.82
5	23.0	.79	140.	268.	495.	.95	.70	151.	120.	.93	-148.	2.24
6	23.0	.83	132.	365.	477.	.95	.64	132.	105.	1.00	-260.	3.49
7	22.4	.87	96.	662.	494.	.94	.56	119.	94.	.81	-568.	7.02
8	22.7	.87	102.	608.	494.	.94	.56	120.	95.	.89	-513.	6.39
9	24.2	.87	72.	643.	464.	.98	.56	117.	93.	.62	-550.	6.93
10	22.9	.87	96.	470.	443.	.95	.56	108.	85.	.89	-384.	5.48
11	22.7	.69	150.	116.	389.	.94	.84	141.	112.	1.06	-4.	1.04
12	23.8	.66	180.	0.	380.	.97	.88	148.	118.	1.21	118.	.00
AVE	23.5	.77	130.	270.	446.	.96	.71	139.	110.	.93	-160.	2.79

016-001 OBSERVATORIO NAC GUA LAT 14 35 LONG 90 32 ELEV 1502

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	17.3	.71	114.	1.	390.	.82	.81	123.	96.	.93	95.	.01
2	17.1	.68	132.	0.	384.	.81	.85	126.	99.	1.05	99.	.00
3	19.3	.72	156.	0.	465.	.86	.80	153.	119.	1.02	119.	.00
4	20.8	.73	140.	33.	473.	.90	.79	159.	124.	.88	91.	.27
5	20.4	.69	149.	97.	493.	.89	.84	175.	137.	.85	40.	.71
6	19.9	.78	111.	207.	475.	.88	.72	142.	111.	.78	-96.	1.87
7	19.2	.81	103.	358.	491.	.86	.67	134.	105.	.77	-253.	3.41
8	19.2	.80	107.	266.	492.	.86	.69	138.	108.	.78	-158.	2.47
9	19.1	.85	66.	392.	462.	.86	.60	113.	88.	.58	-304.	4.44
10	19.6	.81	64.	108.	443.	.87	.67	122.	95.	.52	-12.	1.13
11	17.4	.74	112.	13.	388.	.82	.77	117.	91.	.96	78.	.14
12	16.7	.68	121.	2.	379.	.80	.85	123.	95.	.98	94.	.02
AVE	18.8	.75	115.	123.	445.	.85	.76	136.	106.	.84	-17.	1.21

018-002 LA SOLEDA GUA LAT 14 30 LONG 90 24 ELEV 1670

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	14.5	.82	0.	23.	389.	.75	.65	91.	71.	.00	48.	.32
2	14.5	.79	0.	16.	383.	.75	.70	96.	75.	.00	59.	.21
3	16.6	.79	0.	0.	464.	.80	.70	125.	97.	.00	97.	.00
4	18.2	.80	0.	56.	472.	.84	.69	130.	101.	.00	45.	.55
5	17.5	.78	0.	131.	492.	.82	.72	139.	108.	.00	-23.	1.21
6	17.7	.86	0.	207.	474.	.82	.58	109.	85.	.00	-122.	2.44
7	17.3	.89	0.	498.	491.	.82	.52	100.	78.	.00	-420.	6.40
8	17.1	.89	0.	346.	491.	.81	.52	100.	77.	.00	-269.	4.47
9	17.3	.89	0.	322.	461.	.82	.52	94.	73.	.00	-249.	4.41
10	17.0	.91	0.	121.	441.	.81	.48	81.	63.	.00	-58.	1.91
11	14.8	.85	0.	29.	387.	.76	.60	84.	65.	.00	36.	.44
12	15.2	.83	0.	1.	378.	.76	.64	88.	69.	.00	68.	.01
AVE	16.5	.84	0.	146.	444.	.80	.61	103.	80.	.00	-56.	1.87

018-020 LOS ESCLAVOS GUA LAT 14 15 LONG 90 16 ELEV 840

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.6	.64	0.	0.	390.	.94	.90	151.	120.	.00	120.	.00
2	23.4	.59	0.	0.	385.	.96	.96	162.	129.	.00	129.	.00
3	23.9	.64	0.	1.	466.	.97	.90	186.	148.	.00	147.	.01
4	25.5	.68	0.	17.	476.	1.01	.88	192.	153.	.00	136.	.11
5	24.6	.68	0.	121.	496.	.99	.85	191.	152.	.00	31.	.80
6	24.1	.79	0.	172.	478.	.98	.70	149.	118.	.00	-54.	1.45
7	23.5	.79	0.	277.	494.	.96	.70	152.	121.	.00	-156.	2.29
8	22.9	.79	0.	259.	494.	.95	.70	150.	119.	.00	-140.	2.18
9	22.6	.84	0.	294.	463.	.94	.62	123.	98.	.00	-196.	3.01
10	22.8	.86	0.	223.	443.	.95	.58	111.	88.	.00	-135.	2.53
11	21.4	.73	0.	14.	388.	.91	.79	127.	101.	.00	87.	.14
12	21.2	.64	0.	1.	378.	.91	.90	141.	112.	.00	111.	.01
AVE	23.2	.72	0.	115.	446.	.96	.79	153.	122.	.00	7.	1.04

018-021 FCA EL PROGRESO GUA LAT 14 13 LONG 90 26 ELEV 1300

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	18.6	.77	0.	0.	388.	.85	.73	113.	88.	.00	88.	.00
2	18.9	.75	0.	0.	383.	.85	.76	117.	92.	.00	92.	.00
3	19.5	.82	0.	22.	464.	.87	.65	123.	97.	.00	75.	.23
4	20.9	.85	0.	47.	473.	.90	.60	120.	94.	.00	47.	.50
5	19.9	.87	0.	153.	494.	.88	.56	114.	90.	.00	-63.	1.71
6	19.9	.88	0.	139.	476.	.88	.54	106.	83.	.00	-56.	1.67
7	19.5	.90	0.	250.	493.	.87	.50	100.	79.	.00	-171.	3.18
8	19.0	.90	0.	167.	492.	.86	.50	99.	77.	.00	-90.	2.16
9	19.0	.92	0.	303.	461.	.86	.45	84.	66.	.00	-237.	4.61
10	19.2	.93	0.	232.	441.	.86	.43	76.	59.	.00	-173.	3.90
11	18.4	.83	0.	21.	386.	.84	.64	97.	76.	.00	59.	.28
12	18.1	.79	0.	6.	377.	.83	.70	103.	81.	.00	75.	.07
AVE	19.2	.85	0.	112.	444.	.86	.59	104.	82.	.00	-30.	1.53

019-022 CAMOTAN GUA LAT 14 49 LONG 0 22 ELEV 450

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	23.0	.69	0.	0.	394.	.95	.84	140.	112.	.00	112.	.00
2	22.6	.70	0.	5.	387.	.94	.83	134.	108.	.00	103.	.05
3	26.4	.62	0.	24.	469.	1.03	.93	199.	160.	.00	136.	.15
4	28.3	.62	0.	43.	477.	1.08	.93	211.	170.	.00	127.	.25
5	26.8	.64	0.	104.	496.	1.04	.90	207.	166.	.00	62.	.63
6	26.7	.75	0.	272.	477.	1.04	.76	167.	134.	.00	-138.	2.02
7	26.2	.77	0.	227.	494.	1.03	.73	165.	132.	.00	-95.	1.71
8	26.6	.78	0.	227.	495.	1.04	.72	163.	131.	.00	-96.	1.73
9	26.6	.80	0.	321.	465.	1.04	.69	147.	118.	.00	-203.	2.72
10	26.4	.78	0.	43.	446.	1.03	.72	147.	118.	.00	75.	.37
11	23.2	.74	0.	4.	392.	.96	.77	129.	103.	.00	99.	.04
12	22.5	.74	0.	15.	382.	.94	.77	123.	99.	.00	84.	.15
AVE	25.4	.72	0.	107.	448.	1.01	.80	161.	129.	.00	22.	.82

020-006 QUESADA GUA LAT 14 16 LONG 90 2 ELEV 980

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	20.4	.64	0.	5.	389.	.89	.90	144.	114.	.00	109.	.04
2	18.7	.59	0.	1.	363.	.85	.96	143.	114.	.00	113.	.01
3	22.3	.65	0.	0.	466.	.94	.89	178.	141.	.00	141.	.00
4	24.6	.62	0.	33.	475.	.99	.93	200.	158.	.00	125.	.21
5	23.3	.78	0.	116.	495.	.96	.72	156.	124.	.00	8.	.94
6	23.4	.72	0.	145.	477.	.96	.80	169.	134.	.00	-11.	1.08
7	23.0	.84	0.	240.	494.	.95	.62	134.	106.	.00	-134.	2.27
8	22.6	.88	0.	236.	494.	.94	.54	116.	92.	.00	-144.	2.57
9	22.4	.90	0.	202.	463.	.94	.50	100.	79.	.00	-123.	2.56
10	22.5	.78	0.	84.	443.	.94	.72	137.	108.	.00	24.	.78
11	20.6	.76	0.	1.	387.	.89	.75	119.	94.	.00	93.	.01
12	21.3	.65	0.	0.	378.	.91	.89	141.	112.	.00	112.	.00
AVE	22.1	.73	0.	89.	445.	.93	.77	145.	115.	.00	26.	.87

046-005 LA CEIBITA GUA LAT 14 30 LONG 89 52 ELEV 961

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	19.6	.68	0.	0.	391.	.87	.85	133.	105.	.00	105.	.00
2	21.2	.64	0.	3.	385.	.91	.90	145.	115.	.00	112.	.03
3	22.9	.65	0.	16.	467.	.95	.89	181.	143.	.00	127.	.11
4	24.1	.66	0.	33.	475.	.98	.88	187.	148.	.00	115.	.22
5	24.1	.71	0.	49.	495.	.98	.81	181.	143.	.00	94.	.34
6	23.2	.68	0.	84.	476.	.96	.85	179.	141.	.00	57.	.59
7	22.3	.75	0.	342.	493.	.94	.76	161.	127.	.00	-215.	2.68
8	22.5	.74	0.	188.	494.	.94	.77	165.	131.	.00	-57.	1.44
9	21.9	.79	0.	151.	463.	.93	.70	138.	109.	.00	-42.	1.38
10	22.0	.76	0.	98.	443.	.93	.75	141.	111.	.00	13.	.88
11	19.4	.69	0.	0.	388.	.87	.84	130.	103.	.00	103.	.00
12	19.6	.63	0.	2.	379.	.87	.91	138.	110.	.00	108.	.07
AVE	21.9	.70	0.	80.	446.	.93	.83	157.	124.	.00	43.	.64

045-012 ASUNCION MITA GUA LAT 14 20 LONG 87 42 ELEV 428

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.7	.71	0.	2.	391.	.99	.81	140.	113.	.00	111.	.02
2	24.6	.68	0.	0.	386.	.99	.85	144.	116.	.00	116.	.00
3	27.3	.64	0.	0.	468.	1.06	.90	197.	159.	.00	159.	.00
4	28.1	.63	0.	84.	477.	1.07	.91	207.	167.	.00	83.	.50
5	27.0	.63	0.	162.	497.	1.05	.91	211.	169.	.00	7.	.96
6	26.4	.74	0.	214.	478.	1.03	.77	170.	136.	.00	-78.	1.57
7	25.5	.78	0.	299.	495.	1.01	.72	159.	128.	.00	-171.	2.34
8	25.6	.79	0.	250.	495.	1.01	.70	156.	125.	.00	-125.	2.00
9	24.6	.84	0.	286.	464.	.99	.62	126.	101.	.00	-185.	2.83
10	25.7	.76	0.	144.	444.	1.02	.75	149.	120.	.00	-24.	1.20
11	24.8	.62	0.	0.	389.	1.00	.93	159.	128.	.00	128.	.00
12	24.9	.64	0.	1.	380.	1.00	.90	151.	122.	.00	121.	.01
AVE	25.8	.70	0.	120.	447.	1.02	.81	164.	132.	.00	12.	.95

020-118 LOS ANDES ELS LAT 13 53 LONG 89 39 ELEV 1770

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	15.1	.79	0.	23.	398.	.76	.70	103.	80.	.00	57.	.29
2	14.4	.78	0.	1.	389.	.75	.72	100.	78.	.00	77.	.01
3	17.4	.70	0.	0.	468.	.82	.83	153.	119.	.00	119.	.00
4	18.8	.72	0.	45.	472.	.85	.80	156.	121.	.00	76.	.37
5	17.5	.76	0.	185.	489.	.82	.75	144.	112.	.00	-74.	1.66
6	17.6	.82	0.	261.	469.	.82	.65	122.	94.	.00	-167.	2.77
7	17.0	.87	0.	390.	486.	.81	.56	107.	83.	.00	-307.	4.71
8	16.9	.86	0.	310.	489.	.81	.58	111.	86.	.00	-224.	3.61
9	16.8	.85	0.	454.	463.	.80	.60	108.	84.	.00	-370.	5.43
10	16.6	.90	0.	332.	447.	.80	.50	86.	67.	.00	-265.	4.98
11	14.1	.87	0.	1.	394.	.74	.56	79.	61.	.00	60.	.02
12	14.5	.84	0.	16.	387.	.75	.62	86.	67.	.00	51.	.24
AVE	16.4	.81	0.	168.	446.	.79	.66	113.	88.	.00	-81.	2.01

020-208 AHUACHAPAN ELS LAT 13.57 LONG 89 52 ELEV 725

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	21.7	.66	210.	7.	400.	.92	.88	146.	117.	1.44	110.	.06
2	21.8	.60	262.	0.	392.	.92	.95	155.	124.	1.69	124.	.00
3	23.2	.67	254.	0.	470.	.96	.87	176.	140.	1.44	140.	.00
4	25.0	.68	264.	26.	475.	1.00	.85	183.	146.	1.44	120.	.18
5	24.0	.69	235.	168.	491.	.98	.84	182.	145.	1.29	-23.	1.16
6	23.8	.76	193.	151.	472.	.97	.75	154.	123.	1.25	-28.	1.23
7	22.8	.77	214.	340.	489.	.95	.73	153.	122.	1.40	-218.	2.79
8	22.5	.84	179.	196.	492.	.94	.62	129.	103.	1.38	-93.	1.90
9	22.2	.86	147.	251.	465.	.93	.58	114.	91.	1.29	-160.	2.76
10	22.8	.82	149.	141.	449.	.95	.65	125.	100.	1.19	-41.	1.41
11	21.1	.70	167.	3.	397.	.91	.83	135.	107.	1.24	104.	.03
12	21.9	.62	205.	0.	390.	.93	.93	151.	120.	1.36	120.	.00
AVE	22.7	.72	207.	107.	449.	.95	.79	150.	120.	1.37	13.	.96

030-306 ACAJUTLA ELS LAT 13 34 LONG 89 50 ELEV 5

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.3	.69	240.	0.	400.	1.03	.84	149.	121.	1.61	121.	.00
2	26.8	.62	265.	0.	392.	1.04	.93	163.	133.	1.63	133.	.00
3	27.4	.72	242.	2.	471.	1.06	.80	172.	140.	1.41	138.	.01
4	28.9	.70	232.	11.	477.	1.09	.83	186.	151.	1.25	140.	.07
5	28.0	.73	214.	172.	494.	1.07	.79	180.	146.	1.19	-26.	1.18
6	27.3	.80	180.	191.	475.	1.06	.69	148.	120.	1.22	-71.	1.59
7	26.4	.82	180.	304.	492.	1.03	.65	143.	116.	1.26	-188.	2.62
8	26.6	.81	195.	578.	494.	1.04	.67	148.	120.	1.32	-458.	4.81
9	25.9	.83	155.	356.	466.	1.02	.64	130.	106.	1.19	-250.	3.36
10	26.3	.83	159.	293.	449.	1.03	.64	127.	103.	1.26	-190.	2.84
11	25.9	.68	185.	4.	397.	1.02	.85	149.	121.	1.24	117.	.03
12	26.1	.66	202.	9.	389.	1.03	.88	151.	123.	1.34	114.	.07
AVE	26.8	.74	204.	160.	450.	1.04	.77	154.	125.	1.33	-35.	1.38

032-303 IZALCO ELS LAT 13 46 LONG 89 42 ELEV 390

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	23.2	.67	0.	11.	400.	.96	.87	146.	118.	.00	107.	.09
2	24.5	.58	0.	0.	392.	.99	.97	166.	134.	.00	134.	.00
3	24.9	.66	0.	7.	471.	1.00	.88	182.	147.	.00	140.	.05
4	26.1	.69	0.	12.	475.	1.03	.84	181.	146.	.00	134.	.08
5	25.5	.75	0.	285.	493.	1.01	.76	167.	135.	.00	-150.	2.12
6	25.2	.81	0.	251.	473.	1.00	.67	140.	113.	.00	-138.	2.22
7	24.2	.84	0.	377.	490.	.98	.62	131.	106.	.00	-271.	3.57
8	24.2	.85	0.	405.	493.	.98	.60	128.	103.	.00	-302.	3.93
9	23.6	.88	0.	517.	465.	.97	.54	108.	87.	.00	-430.	5.97
10	24.0	.87	0.	478.	449.	.98	.56	109.	88.	.00	-390.	5.46
11	23.3	.70	0.	25.	397.	.96	.83	139.	112.	.00	87.	.22
12	24.1	.69	0.	16.	389.	.98	.84	141.	114.	.00	98.	.14
AVE	24.4	.75	0.	199.	449.	.99	.75	145.	117.	.00	-82.	1.99

042-056 STA CRZ PORRILLO ELS LAT 13 26 LONG 88 48 ELEV 30

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.0	.67	171.	4.	399.	1.02	.87	152.	124.	1.12	120.	.03
2	27.7	.53	237.	0.	392.	1.06	1.00	184.	146.	1.29	146.	.00
3	27.3	.67	207.	2.	471.	1.06	.87	185.	151.	1.12	149.	.01
4	28.8	.65	210.	0.	477.	1.09	.89	200.	162.	1.05	162.	.00
5	28.3	.71	209.	248.	495.	1.08	.81	187.	152.	1.12	-96.	1.63
6	27.2	.80	191.	370.	475.	1.05	.69	148.	120.	1.29	-250.	3.08
7	26.6	.81	159.	311.	492.	1.04	.67	147.	120.	1.08	-191.	2.60
8	26.3	.83	169.	279.	494.	1.03	.64	140.	113.	1.21	-166.	2.45
9	26.0	.84	159.	366.	466.	1.02	.62	127.	103.	1.25	-263.	3.54
10	26.0	.86	140.	482.	449.	1.02	.58	115.	94.	1.22	-388.	5.15
11	25.7	.72	150.	26.	396.	1.02	.80	139.	113.	1.08	87.	.23
12	26.2	.63	184.	14.	388.	1.03	.91	157.	128.	1.17	114.	.11
AVE	26.8	.73	182.	175.	449.	1.04	.78	157.	127.	1.17	-48.	1.57

042-510 ILOPANGO AERO. ELS LAT 13 42 LONG 89 7 ELEV 615

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.2	.69	0.	3.	399.	.93	.84	140.	112.	.00	109.	.03
2	22.4	.62	0.	0.	391.	.94	.93	152.	122.	.00	122.	.00
3	24.1	.69	0.	0.	470.	.98	.84	173.	139.	.00	139.	.00
4	25.7	.66	0.	4.	475.	1.02	.88	190.	152.	.00	148.	.03
5	24.2	.74	0.	228.	492.	.98	.77	168.	134.	.00	-94.	1.70
6	23.6	.82	0.	195.	473.	.97	.65	134.	107.	.00	-88.	1.83
7	23.1	.85	0.	349.	490.	.95	.60	126.	101.	.00	-248.	3.47
8	22.8	.87	0.	307.	492.	.95	.56	117.	94.	.00	-213.	3.27
9	22.4	.88	0.	416.	465.	.94	.54	106.	85.	.00	-331.	4.91
10	22.9	.86	0.	299.	448.	.95	.58	111.	89.	.00	-210.	3.37
11	21.4	.75	0.	27.	396.	.91	.76	123.	99.	.00	72.	.27
12	22.2	.69	0.	29.	388.	.93	.84	137.	109.	.00	80.	.27
AVE	23.1	.76	0.	155.	448.	.95	.73	140.	112.	.00	-43.	1.59

042-709 COJUTEPEQUE ELS LAT 13 43 LONG 88 56 ELEV 880

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	21.2	.70	0.	6.	399.	.91	.83	137.	109.	.00	103.	.06
2	21.2	.61	0.	0.	391.	.91	.94	152.	121.	.00	121.	.00
3	22.7	.67	0.	8.	469.	.94	.87	175.	139.	.00	131.	.06
4	21.5	.70	0.	29.	473.	.92	.83	164.	130.	.00	101.	.22
5	22.8	.74	0.	117.	491.	.95	.77	164.	131.	.00	14.	.90
6	22.5	.82	0.	237.	472.	.94	.65	132.	105.	.00	-132.	2.26
7	21.9	.85	0.	264.	489.	.93	.60	124.	98.	.00	-166.	2.68
8	21.6	.87	0.	267.	492.	.92	.56	116.	92.	.00	-175.	2.90
9	21.1	.89	0.	259.	464.	.91	.52	100.	79.	.00	-180.	3.26
10	21.4	.91	0.	226.	448.	.91	.48	89.	71.	.00	-155.	3.20
11	20.0	.78	0.	60.	396.	.88	.72	114.	90.	.00	50.	.44
12	20.9	.68	0.	24.	388.	.90	.85	136.	108.	.00	84.	.22
AVE	21.6	.77	0.	123.	448.	.92	.72	134.	106.	.00	-17.	1.35

045-112 SANTA ANA PALMAR ELS LAT 13 59 LONG 89 34 ELEV 725

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	21.4	.68	0.	30.	401.	.91	.85	141.	112.	.00	82.	.27
2	21.6	.62	0.	0.	392.	.92	.93	151.	120.	.00	120.	.00
3	23.5	.66	0.	0.	470.	.96	.88	180.	143.	.00	143.	.00
4	25.0	.68	0.	68.	475.	1.00	.85	183.	146.	.00	78.	.47
5	23.8	.70	0.	193.	491.	.97	.83	178.	142.	.00	-51.	1.36
6	23.3	.78	0.	226.	471.	.96	.72	146.	117.	.00	-109.	1.94
7	22.8	.81	0.	438.	489.	.95	.67	140.	112.	.00	-326.	3.93
8	22.5	.83	0.	345.	492.	.94	.64	133.	106.	.00	-239.	3.26
9	22.3	.85	0.	256.	465.	.94	.60	118.	94.	.00	-162.	2.72
10	21.8	.82	0.	222.	449.	.92	.65	122.	97.	.00	-125.	2.28
11	20.9	.57	0.	0.	397.	.90	.98	159.	127.	.00	127.	.00
12	21.6	.65	0.	5.	390.	.92	.89	144.	115.	.00	110.	.04
AVE	22.5	.72	0.	149.	449.	.94	.79	150.	119.	.00	-29.	1.36

046-115 GUIJA ELS LAT 14 14 LONG 89 28 ELEV 485

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	23.7	.63	152.	2.	390.	.97	.91	154.	123.	.99	121.	.02
2	22.8	.59	172.	22.	385.	.95	.96	155.	125.	1.11	103.	.18
3	25.6	.59	206.	1.	467.	1.01	.96	202.	162.	1.02	161.	.01
4	26.5	.62	219.	82.	476.	1.04	.93	203.	163.	1.08	81.	.50
5	24.6	.70	180.	149.	496.	.99	.83	181.	145.	1.00	-4.	1.03
6	21.6	.77	155.	180.	477.	.92	.73	142.	114.	1.09	-66.	1.58
7	23.2	.82	128.	397.	494.	.96	.65	137.	110.	.93	-287.	3.61
8	23.0	.83	134.	309.	494.	.95	.64	133.	107.	1.01	-202.	2.90
9	22.0	.84	137.	242.	463.	.93	.62	118.	95.	1.16	-147.	2.56
10	23.3	.81	131.	135.	443.	.96	.67	126.	101.	1.04	-34.	1.33
11	22.0	.69	135.	0.	388.	.93	.84	135.	108.	1.00	108.	.00
12	23.4	.63	150.	0.	379.	.96	.91	148.	119.	1.01	119.	.00
AVE	23.5	.71	158.	127.	446.	.96	.80	153.	123.	1.04	-4.	1.14

046-156 SANTIAGO DE MRA. ELS LAT 13 29 LONG 88 28 ELEV 920

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	20.9	.69	0.	2.	397.	.90	.84	138.	109.	.00	107.	.02
2	21.6	.61	0.	0.	390.	.92	.94	154.	122.	.00	122.	.00
3	22.4	.67	0.	26.	469.	.94	.87	174.	138.	.00	112.	.19
4	23.8	.67	0.	4.	475.	.97	.87	183.	145.	.00	141.	.03
5	22.6	.75	0.	198.	492.	.94	.76	161.	128.	.00	-70.	1.55
6	22.7	.80	0.	287.	473.	.94	.69	140.	111.	.00	-176.	2.58
7	22.1	.79	0.	360.	490.	.93	.70	146.	116.	.00	-244.	3.11
8	21.8	.82	0.	273.	492.	.92	.65	136.	108.	.00	-165.	2.54
9	21.1	.88	0.	505.	464.	.91	.54	104.	83.	.00	-422.	6.11
10	21.6	.86	0.	267.	447.	.92	.58	109.	87.	.00	-180.	3.08
11	20.4	.74	0.	27.	394.	.89	.77	124.	99.	.00	72.	.27
12	21.4	.64	0.	35.	387.	.91	.90	146.	116.	.00	81.	.30
AVE	21.9	.74	0.	165.	447.	.92	.76	143.	113.	.00	-52.	1.65

046-355 CORINTO ELS LAT 13 48 LONG 87 58 ELEV 820

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	20.8	.77	0.	3.	399.	.90	.73	119.	95.	.00	92.	.03
2	21.9	.77	0.	0.	391.	.93	.73	120.	96.	.00	96.	.00
3	23.1	.78	0.	0.	470.	.95	.72	146.	116.	.00	116.	.00
4	24.6	.75	0.	129.	475.	.99	.76	162.	129.	.00	0.	1.00
5	23.6	.80	0.	317.	492.	.97	.69	148.	118.	.00	-199.	2.69
6	22.5	.85	0.	419.	472.	.94	.60	121.	96.	.00	-323.	4.36
7	22.5	.87	0.	477.	489.	.94	.56	118.	93.	.00	-384.	5.11
8	21.7	.88	0.	482.	491.	.92	.54	112.	89.	.00	-393.	5.44
9	21.3	.89	0.	527.	464.	.91	.52	100.	80.	.00	-447.	6.61
10	21.6	.89	0.	267.	448.	.92	.52	98.	78.	.00	-189.	3.44
11	20.5	.85	0.	10.	396.	.89	.60	96.	77.	.00	67.	.13
12	20.8	.77	0.	8.	388.	.90	.73	116.	92.	.00	84.	.09
AVE	22.1	.82	0.	220.	448.	.93	.64	121.	96.	.00	-123.	2.41

046-404 SAN ANDRES ELS LAT 13 49 LONG 89 24 ELEV 460

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.2	.71	0.	4.	400.	.93	.81	135.	108.	.00	104.	.04
2	22.4	.64	0.	0.	392.	.94	.90	147.	118.	.00	118.	.00
3	24.3	.69	0.	13.	470.	.98	.84	173.	139.	.00	126.	.09
4	26.0	.69	0.	38.	475.	1.02	.84	182.	146.	.00	108.	.26
5	25.1	.72	0.	149.	492.	1.00	.80	175.	141.	.00	-8.	1.06
6	25.4	.80	0.	156.	473.	1.01	.69	145.	117.	.00	-39.	1.34
7	24.1	.82	0.	303.	490.	.98	.65	139.	111.	.00	-192.	2.72
8	24.0	.85	0.	307.	492.	.98	.60	128.	103.	.00	-204.	2.99
9	23.4	.86	0.	286.	465.	.96	.58	115.	93.	.00	-193.	3.08
10	23.9	.83	0.	243.	449.	.97	.64	123.	99.	.00	-144.	2.45
11	21.8	.76	0.	29.	397.	.92	.75	121.	97.	.00	68.	.30
12	22.5	.69	0.	3.	389.	.94	.84	136.	110.	.00	107.	.03
AVE	23.8	.75	0.	128.	449.	.97	.74	143.	115.	.00	-12.	1.20

046-408 SANTA TECLA ELS LAT 13 41 LONG 89 17 ELEV 965

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	18.9	.79	0.	8.	398.	.85	.70	109.	86.	.00	78.	.09
2	19.7	.73	0.	0.	390.	.87	.79	123.	98.	.00	98.	.00
3	20.8	.78	0.	0.	469.	.90	.72	138.	110.	.00	110.	.00
4	22.0	.76	0.	10.	474.	.93	.75	150.	119.	.00	109.	.08
5	21.5	.80	0.	165.	491.	.92	.69	141.	112.	.00	-53.	1.47
6	21.4	.84	0.	198.	472.	.91	.62	122.	97.	.00	-101.	2.05
7	21.2	.84	0.	490.	489.	.91	.62	126.	100.	.00	-390.	4.91
8	20.9	.86	0.	355.	491.	.90	.58	118.	94.	.00	-261.	3.79
9	20.4	.89	0.	423.	464.	.89	.52	99.	78.	.00	-345.	5.41
10	20.6	.87	0.	316.	447.	.89	.56	103.	82.	.00	-234.	3.87
11	19.0	.76	0.	33.	395.	.86	.75	116.	92.	.00	59.	.36
12	19.2	.74	0.	13.	387.	.86	.77	118.	94.	.00	81.	.14
AVE	20.5	.80	0.	158.	447.	.89	.67	122.	97.	.00	-71.	1.85

046-708 AGUILARES ELS LAT 13 58 LONG 89 10 ELEV 285

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	23.8	.67	0.	15.	401.	.97	.87	148.	119.	.00	104.	.13
2	24.6	.58	0.	0.	393.	.99	.97	166.	134.	.00	134.	.00
3	26.4	.63	0.	0.	472.	1.03	.91	195.	158.	.00	158.	.00
4	28.7	.62	0.	8.	477.	1.09	.93	211.	170.	.00	162.	.05
5	27.0	.66	0.	156.	493.	1.05	.88	199.	160.	.00	4.	.97
6	26.1	.77	0.	261.	473.	1.03	.73	156.	126.	.00	-135.	2.08
7	25.1	.81	0.	350.	490.	1.00	.67	144.	116.	.00	-244.	3.10
8	25.0	.82	0.	276.	493.	1.00	.65	141.	114.	.00	-162.	2.43
9	24.7	.84	0.	374.	466.	.99	.62	125.	101.	.00	-273.	3.69
10	25.5	.79	0.	258.	451.	1.01	.70	140.	113.	.00	-145.	2.28
11	23.5	.75	0.	20.	398.	.96	.76	128.	103.	.00	83.	.19
12	24.2	.67	0.	3.	391.	.98	.87	146.	117.	.00	114.	.03
AVE	25.4	.72	0.	144.	450.	1.01	.80	158.	128.	.00	-17.	1.24

046-803 NUEVA CONCEPCION ELS LAT 14 8 LONG 89 17 ELEV 320

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.4	.60	192.	6.	390.	.99	.95	160.	129.	1.20	123.	.05
2	25.3	.52	210.	0.	385.	1.01	1.00	176.	138.	1.19	138.	.00
3	27.2	.57	217.	10.	467.	1.05	.98	212.	171.	1.02	161.	.06
4	28.7	.58	229.	53.	477.	1.09	.97	222.	179.	1.03	126.	.30
5	26.9	.65	201.	152.	497.	1.05	.89	203.	164.	.99	12.	.93
6	25.6	.79	164.	258.	479.	1.01	.70	150.	121.	1.10	-137.	2.14
7	24.8	.82	145.	449.	495.	1.00	.65	141.	114.	1.03	-335.	3.94
8	24.6	.82	152.	212.	495.	.99	.65	141.	113.	1.08	-99.	1.87
9	24.4	.83	121.	406.	464.	.99	.64	128.	103.	.95	-303.	3.94
10	24.8	.83	138.	225.	443.	1.00	.64	123.	99.	1.12	-126.	2.27
11	23.4	.68	160.	0.	388.	.96	.85	140.	113.	1.14	113.	.00
12	24.5	.60	180.	0.	379.	.99	.95	156.	126.	1.15	126.	.00
AVE	25.4	.69	176.	148.	447.	1.01	.82	163.	131.	1.08	-17.	1.29

045-804 LA PALMA ELS LAT 14 18 LONG 89 10 ELEV 1000

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	19.1	.70	0.	27.	389.	.86	.83	127.	101.	.00	74.	.27
2	18.5	.70	0.	1.	384.	.84	.83	123.	98.	.00	97.	.01
3	21.6	.66	0.	3.	465.	.92	.88	173.	137.	.00	134.	.02
4	23.0	.68	0.	45.	474.	.95	.85	177.	140.	.00	95.	.32
5	21.4	.73	0.	240.	494.	.91	.79	164.	129.	.00	-111.	1.85
6	21.2	.83	0.	487.	476.	.91	.64	127.	100.	.00	-387.	4.86
7	20.5	.86	0.	631.	493.	.89	.58	118.	93.	.00	-538.	6.78
8	20.2	.88	0.	606.	493.	.88	.54	109.	86.	.00	-520.	7.05
9	20.2	.87	0.	507.	462.	.88	.56	106.	84.	.00	-423.	6.06
10	20.5	.85	0.	311.	442.	.89	.60	109.	86.	.00	-225.	3.61
11	18.2	.77	0.	0.	387.	.84	.73	109.	86.	.00	86.	.00
12	19.0	.73	0.	0.	378.	.86	.79	117.	93.	.00	93.	.00
AVE	20.3	.77	0.	238.	445.	.89	.72	130.	103.	.00	-135.	2.57

045-901 CHOR DEL GUAYABO ELS LAT 14 0 LONG 88 45 ELEV 190

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.2	.64	209.	58.	390.	1.03	.90	158.	128.	1.33	70.	.45
2	26.4	.57	253.	0.	385.	1.03	.98	170.	138.	1.49	138.	.00
3	28.6	.58	280.	6.	468.	1.09	.97	215.	174.	1.30	168.	.03
4	30.0	.58	221.	22.	478.	1.12	.97	226.	183.	.98	161.	.12
5	28.3	.62	269.	126.	498.	1.08	.93	217.	175.	1.24	49.	.72
6	26.6	.75	205.	314.	480.	1.04	.76	165.	133.	1.24	-181.	2.35
7	25.7	.80	179.	254.	496.	1.02	.69	151.	122.	1.19	-132.	2.08
8	25.6	.80	185.	302.	496.	1.01	.69	150.	121.	1.23	-181.	2.49
9	25.2	.81	162.	429.	464.	1.00	.67	136.	110.	1.19	-319.	3.90
10	25.9	.81	182.	242.	443.	1.02	.67	132.	106.	1.38	-136.	2.27
11	24.8	.70	163.	3.	387.	1.00	.83	139.	113.	1.17	110.	.03
12	26.0	.63	224.	0.	378.	1.02	.91	154.	125.	1.45	125.	.00
AVE	26.6	.69	211.	146.	447.	1.04	.83	168.	136.	1.27	-11.	1.20

048-357 SAN FCO GOTERA ELS LAT 13 42 LONG 88 6 ELEV 250

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.6	.59	164.	0.	400.	1.01	.96	170.	138.	.96	138.	.00
2	26.1	.53	207.	4.	393.	1.03	1.00	180.	142.	1.15	138.	.03
3	27.4	.59	196.	5.	472.	1.06	.96	209.	169.	.94	164.	.03
4	28.7	.57	240.	40.	477.	1.09	.98	223.	180.	1.08	140.	.22
5	27.4	.64	223.	319.	494.	1.06	.90	206.	166.	1.08	-153.	1.92
6	26.0	.74	215.	364.	474.	1.02	.77	164.	133.	1.31	-231.	2.74
7	25.5	.78	176.	390.	491.	1.01	.72	156.	126.	1.13	-264.	3.10
8	25.2	.80	143.	289.	493.	1.00	.69	149.	120.	.96	-169.	2.41
9	25.0	.80	139.	505.	466.	1.00	.69	140.	113.	1.00	-392.	4.48
10	25.5	.78	149.	312.	450.	1.01	.72	143.	115.	1.05	-197.	2.71
11	24.4	.68	116.	27.	397.	.99	.85	146.	118.	.79	91.	.23
12	25.2	.58	143.	6.	389.	1.00	.97	166.	134.	.86	128.	.04
AVE	26.0	.67	176.	188.	450.	1.02	.85	171.	138.	1.03	-51.	1.49

050-462 PASAQUINA ELS LAT 13 35 LONG 87 50 ELEV 60

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.1	.62	0.	2.	400.	1.03	.93	164.	133.	.00	131.	.02
2	27.7	.49	0.	0.	393.	1.06	1.00	192.	147.	.00	147.	.00
3	27.4	.62	0.	0.	471.	1.06	.93	199.	162.	.00	162.	.00
4	29.8	.56	0.	69.	477.	1.12	.99	228.	185.	.00	116.	.37
5	28.6	.64	0.	293.	494.	1.09	.90	209.	170.	.00	-123.	1.72
6	27.0	.77	0.	341.	474.	1.05	.73	157.	128.	.00	-213.	2.67
7	26.2	.79	0.	301.	492.	1.03	.70	153.	124.	.00	-177.	2.42
8	26.1	.80	0.	279.	494.	1.03	.69	150.	122.	.00	-157.	2.29
9	25.6	.82	0.	444.	466.	1.01	.65	133.	108.	.00	-336.	4.10
10	26.3	.81	0.	326.	449.	1.03	.67	134.	109.	.00	-217.	3.00
11	25.5	.68	0.	0.	397.	1.01	.85	148.	120.	.00	120.	.00
12	26.4	.59	0.	11.	389.	1.03	.96	167.	135.	.00	124.	.08
AVE	26.9	.68	0.	172.	450.	1.05	.83	169.	137.	.00	-35.	1.39

025-026 EL COYOLAR HON LAT 14 15 LONG 87 33 ELEV 900

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RM
1	21.0	.58	115.	0.	389.	.90	.97	156.	124.	.74	124.	.00
2	21.4	.62	118.	1.	384.	.91	.93	149.	118.	.79	117.	.01
3	25.2	.48	152.	0.	467.	1.00	1.00	230.	170.	.56	170.	.00
4	26.8	.46	208.	69.	476.	1.04	1.00	248.	180.	.84	111.	.38
5	25.4	.56	160.	48.	496.	1.01	.99	227.	180.	.70	132.	.27
6	25.5	.63	105.	123.	478.	1.01	.91	202.	160.	.52	37.	.77
7	24.7	.63	117.	179.	495.	.99	.91	205.	163.	.57	-16.	1.10
8	24.5	.66	126.	182.	495.	.99	.88	196.	156.	.64	-26.	1.17
9	24.0	.70	92.	228.	464.	.98	.83	171.	136.	.54	-92.	1.68
10	23.7	.77	76.	188.	443.	.97	.73	143.	114.	.53	-74.	1.65
11	20.5	.72	66.	15.	387.	.89	.80	127.	100.	.52	85.	.15
12	20.8	.69	82.	15.	378.	.90	.84	131.	104.	.63	89.	.14
AVE	23.6	.62	118.	87.	446.	.97	.90	182.	142.	.64	55.	.61

025-080 LA HERMITA HON LAT 14 28 LONG 87 4 ELEV 765

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	20.8	.73	88.	8.	391.	.90	.79	125.	100.	.70	92.	.08
2	21.5	.87	119.	5.	385.	.92	.56	90.	72.	1.32	67.	.07
3	24.4	.70	182.	5.	467.	.99	.83	173.	137.	1.05	132.	.04
4	26.2	.61	189.	31.	476.	1.03	.94	208.	165.	.91	134.	.19
5	25.1	.67	240.	146.	496.	1.00	.87	195.	155.	1.23	9.	.94
6	24.3	.78	219.	67.	477.	.98	.72	152.	121.	1.44	54.	.55
7	20.9	.77	189.	105.	493.	.90	.73	147.	117.	1.28	12.	.90
8	20.7	.77	116.	120.	493.	.90	.73	146.	117.	.79	-3.	1.03
9	23.7	.79	134.	243.	464.	.97	.70	143.	114.	.94	-129.	2.14
10	23.6	.82	128.	212.	444.	.97	.65	127.	101.	1.01	-111.	2.10
11	20.9	.83	80.	71.	389.	.90	.64	101.	80.	.79	9.	.88
12	20.3	.85	84.	31.	379.	.89	.60	91.	73.	.92	42.	.43
AVE	22.7	.77	147.	87.	446.	.94	.73	141.	113.	1.03	26.	.78

025-081 ASUA CALIENTE HON LAT 14 40 LONG 87 18 ELEV 555

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.4	.69	100.	14.	393.	.94	.84	138.	111.	.72	97.	.13
2	22.4	.67	108.	5.	387.	.94	.87	140.	112.	.77	107.	.04
3	25.5	.59	162.	0.	468.	1.01	.96	203.	163.	.80	163.	.00
4	27.6	.53	195.	31.	476.	1.06	1.00	231.	181.	.84	150.	.17
5	27.2	.56	169.	50.	496.	1.05	.99	231.	185.	.73	135.	.27
6	25.4	.74	137.	191.	477.	1.01	.77	166.	133.	.82	-58.	1.43
7	24.5	.79	65.	310.	494.	.99	.70	153.	122.	.43	-188.	2.54
8	24.7	.78	74.	174.	494.	.99	.72	157.	126.	.47	-48.	1.38
9	24.5	.79	67.	325.	464.	.99	.70	144.	115.	.47	-210.	2.83
10	25.2	.78	66.	123.	445.	1.00	.72	143.	115.	.46	-8.	1.07
11	21.7	.77	67.	4.	390.	.92	.73	117.	94.	.57	90.	.04
12	21.8	.76	102.	42.	381.	.92	.75	117.	94.	.87	52.	.45
AVE	24.4	.70	109.	106.	447.	.99	.81	162.	129.	.66	23.	.86

025 084 PLAYITAS HON LAT 14 27 LONG 87 43 ELEV 630

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.7	.65	162.	16.	391.	.94	.89	148.	118.	1.10	102.	.14
2	22.5	.64	160.	0.	386.	.94	.90	147.	117.	1.09	117.	.00
3	25.3	.54	213.	0.	467.	1.01	1.00	214.	169.	.99	169.	.00
4	27.2	.50	212.	0.	476.	1.05	1.00	237.	180.	.89	180.	.00
5	25.6	.59	267.	82.	496.	1.01	.96	217.	173.	1.23	91.	.47
6	26.6	.69	196.	136.	478.	1.04	.84	187.	150.	1.05	14.	.91
7	26.5	.73	150.	236.	495.	1.04	.79	182.	145.	.83	-91.	1.63
8	27.0	.76	139.	133.	496.	1.05	.75	174.	139.	.80	6.	.96
9	26.8	.79	108.	194.	465.	1.04	.70	153.	122.	.71	-72.	1.59
10	27.1	.80	128.	148.	445.	1.05	.69	144.	115.	.89	-33.	1.29
11	22.5	.78	105.	13.	389.	.94	.72	118.	94.	.89	81.	.14
12	22.2	.71	102.	24.	380.	.93	.81	130.	104.	.79	80.	.23
AVE	25.2	.68	162.	82.	447.	1.00	.84	171.	135.	.94	54.	.61

027-002 TELA HON LAT 15 43 LONG 87 29 ELEV 3

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	23.9	.82	0.	198.	387.	.97	.65	106.	86.	.00	-112.	2.30
2	22.9	.83	0.	152.	383.	.95	.64	99.	81.	.00	-71.	1.88
3	25.8	.79	0.	84.	466.	1.02	.70	143.	115.	.00	32.	.72
4	28.0	.75	0.	0.	477.	1.07	.76	167.	136.	.00	136.	.00
5	27.3	.74	0.	94.	498.	1.06	.77	175.	142.	.00	48.	.66
6	28.1	.77	0.	204.	481.	1.07	.73	163.	132.	.00	-72.	1.54
7	27.6	.79	0.	278.	498.	1.06	.70	159.	130.	.00	-148.	2.14
8	27.6	.79	0.	241.	497.	1.06	.70	159.	129.	.00	-112.	1.86
9	27.2	.80	0.	252.	464.	1.05	.69	144.	117.	.00	-135.	2.15
10	26.9	.82	0.	101.	442.	1.05	.65	130.	105.	.00	5.	.96
11	23.1	.82	0.	340.	385.	.95	.65	103.	84.	.00	-256.	4.05
12	24.1	.84	0.	480.	376.	.98	.62	98.	79.	.00	-401.	6.04
AVE	26.0	.80	0.	207.	446.	1.02	.69	137.	112.	.00	-90.	2.03

031-002 GUANAJA HON LAT 16 28 LONG 85 55 ELEV 2

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.4	.80	0.	167.	379.	1.01	.69	113.	92.	.00	-75.	1.82
2	24.6	.80	0.	152.	377.	.99	.69	110.	90.	.00	-62.	1.70
3	26.5	.82	0.	38.	463.	1.04	.65	134.	109.	.00	71.	.35
4	27.8	.80	0.	28.	477.	1.07	.69	150.	122.	.00	94.	.23
5	27.2	.81	0.	201.	501.	1.05	.67	152.	124.	.00	-77.	1.63
6	27.7	.85	0.	227.	485.	1.06	.60	133.	108.	.00	-114.	2.05
7	27.6	.84	0.	226.	502.	1.06	.62	142.	115.	.00	-111.	1.96
8	28.2	.83	0.	59.	498.	1.08	.64	147.	119.	.00	50.	.58
9	27.8	.83	0.	112.	462.	1.07	.64	135.	110.	.00	-2.	1.02
10	27.7	.82	0.	168.	437.	1.06	.65	131.	106.	.00	-62.	1.58
11	25.1	.83	0.	667.	378.	1.00	.64	104.	84.	.00	-583.	7.90
12	25.5	.83	0.	154.	367.	1.01	.64	102.	83.	.00	-71.	1.86
AVE	26.8	.82	0.	184.	444.	1.04	.65	129.	105.	.00	-78.	1.89

039-002 CATACAMAS HON LAT 14 54 LONG 85 56 ELEV 442

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.9	.83	110.	45.	394.	.95	.64	105.	85.	1.04	40.	.53
2	22.7	.69	121.	10.	388.	.94	.84	137.	113.	.89	100.	.09
3	25.8	.69	163.	12.	469.	1.02	.84	178.	143.	.92	131.	.08
4	27.1	.61	192.	23.	476.	1.05	.94	208.	167.	.92	144.	.14
5	26.7	.66	196.	142.	495.	1.04	.88	201.	161.	.98	19.	.88
6	22.6	.81	114.	213.	475.	.94	.67	133.	107.	.86	-106.	2.00
7	24.9	.81	129.	230.	493.	1.00	.67	146.	117.	.88	-113.	1.96
8	25.1	.81	151.	133.	494.	1.00	.67	147.	118.	1.03	-15.	1.13
9	25.0	.80	134.	144.	465.	1.00	.69	141.	113.	.95	-31.	1.27
10	25.5	.79	120.	153.	446.	1.01	.70	140.	113.	.86	-40.	1.36
11	23.1	.79	86.	31.	392.	.95	.70	116.	93.	.74	62.	.33
12	22.7	.77	108.	58.	383.	.94	.73	117.	94.	.92	36.	.62
AVE	24.5	.75	135.	99.	448.	.99	.75	147.	118.	.92	19.	.87

041-001 PUERTO LEMPIRA HON LAT 15 12 LONG 83 48 ELEV 10

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.1	.84	0.	144.	385.	1.03	.62	105.	85.	.00	-59.	1.69
2	25.5	.84	0.	131.	381.	1.01	.62	103.	83.	.00	-48.	1.57
3	27.5	.79	0.	68.	465.	1.06	.70	149.	121.	.00	53.	.56
4	29.0	.75	0.	23.	477.	1.10	.76	171.	139.	.00	116.	.17
5	27.8	.85	0.	463.	500.	1.07	.60	138.	112.	.00	-351.	4.13
6	27.8	.87	0.	366.	483.	1.07	.56	125.	101.	.00	-265.	3.61
7	27.7	.85	0.	463.	500.	1.06	.60	137.	112.	.00	-351.	4.14
8	27.5	.88	0.	364.	497.	1.06	.54	123.	100.	.00	-264.	3.63
9	27.4	.88	0.	224.	463.	1.06	.54	114.	93.	.00	-131.	2.41
10	28.4	.85	0.	245.	440.	1.08	.58	119.	97.	.00	-148.	2.53
11	25.6	.90	0.	564.	383.	1.01	.50	83.	68.	.00	-496.	8.31
12	26.2	.86	0.	183.	373.	1.03	.58	96.	78.	.00	-105.	2.34
AVE	27.2	.85	0.	270.	446.	1.05	.60	122.	99.	.00	-171.	2.92

054-001 PESPIRE HON LAT 13 36 LONG 87 22 ELEV 70

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	28.6	.52	210.	0.	401.	1.09	1.00	195.	153.	1.08	153.	.00
2	30.1	.42	266.	0.	394.	1.12	1.00	216.	155.	1.23	155.	.00
3	30.8	.49	269.	0.	473.	1.14	1.00	248.	189.	1.09	189.	.00
4	31.9	.47	270.	27.	478.	1.17	1.00	261.	196.	1.03	174.	.11
5	29.7	.62	224.	263.	495.	1.11	.93	220.	179.	1.02	-84.	1.47
6	28.9	.70	156.	153.	475.	1.09	.83	186.	151.	.84	-2.	1.01
7	28.0	.73	151.	297.	492.	1.07	.79	180.	145.	.84	-151.	2.03
8	27.6	.76	140.	381.	494.	1.06	.75	169.	137.	.83	-244.	2.77
9	27.2	.79	130.	400.	467.	1.05	.72	152.	123.	.86	-277.	3.24
10	27.9	.77	133.	214.	450.	1.07	.73	152.	124.	.87	-90.	1.73
11	26.7	.67	131.	41.	397.	1.04	.87	155.	126.	.85	85.	.33
12	28.3	.52	191.	0.	390.	1.08	1.00	188.	148.	1.02	148.	.00
AVE	28.8	.62	189.	148.	451.	1.09	.88	193.	152.	.96	5.	1.06

054-002 NACAOME HON LAT 13 30 LONG 89 22 ELEV 35

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	28.7	.52	363.	0.	400.	1.09	1.00	194.	153.	1.87	153.	.00
2	30.2	.41	320.	0.	393.	1.12	1.00	217.	155.	1.47	155.	.00
3	30.5	.49	299.	0.	472.	1.13	1.00	245.	187.	1.22	187.	.00
4	31.9	.48	308.	13.	478.	1.17	1.00	258.	195.	1.19	182.	.07
5	30.1	.60	208.	215.	495.	1.12	.95	227.	185.	.92	-30.	1.16
6	29.1	.70	157.	173.	476.	1.10	.83	186.	152.	.84	-21.	1.14
7	28.2	.73	156.	315.	493.	1.08	.79	180.	147.	.87	-168.	2.15
8	27.7	.75	128.	286.	495.	1.06	.76	173.	143.	.74	-146.	2.04
9	27.4	.79	181.	472.	467.	1.06	.70	149.	121.	1.21	-351.	3.89
10	27.6	.83	142.	231.	450.	1.06	.64	131.	106.	1.09	-125.	2.17
11	26.9	.74	130.	57.	397.	1.05	.77	138.	113.	.94	56.	.51
12	28.2	.68	240.	15.	389.	1.08	.85	154.	125.	1.56	110.	.12
AVE	28.9	.64	219.	142.	450.	1.09	.86	188.	148.	1.16	0.	1.10

054-107 AMAPALA HON LAT 13 18 LONG 87 40 ELEV 5

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	29.1	.51	0.	0.	399.	1.10	1.00	197.	153.	.00	153.	.00
2	29.7	.51	0.	0.	392.	1.11	1.00	196.	153.	.00	153.	.00
3	29.9	.59	0.	39.	472.	1.12	.96	217.	177.	.00	138.	.22
4	31.2	.56	0.	75.	478.	1.15	.99	234.	191.	.00	116.	.39
5	30.0	.64	0.	225.	496.	1.12	.90	215.	175.	.00	-50.	1.28
6	29.6	.67	0.	246.	477.	1.11	.87	197.	160.	.00	-86.	1.53
7	29.4	.68	0.	394.	494.	1.11	.85	200.	163.	.00	-231.	2.41
8	28.3	.74	0.	424.	495.	1.08	.77	178.	145.	.00	-279.	2.93
9	27.7	.77	0.	417.	467.	1.06	.73	156.	127.	.00	-290.	3.28
10	28.2	.77	0.	332.	449.	1.08	.73	152.	124.	.00	-208.	2.68
11	27.8	.68	0.	70.	396.	1.07	.85	155.	126.	.00	56.	.55
12	29.7	.59	0.	0.	388.	1.11	.96	178.	146.	.00	145.	.00
AVE	29.2	.64	0.	185.	450.	1.10	.89	190.	153.	.00	-32.	1.27

056-002 PASO LA CIERA HON LAT 14 15 LONG 87 0 ELEV 630

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.4	.75	116.	7.	390.	.94	.76	125.	100.	.93	93.	.07
2	22.8	.67	115.	0.	385.	.95	.87	142.	113.	.81	113.	.00
3	26.1	.56	192.	0.	467.	1.03	.99	214.	171.	.90	171.	.00
4	27.2	.54	221.	58.	476.	1.05	1.00	228.	180.	.97	122.	.32
5	26.6	.60	219.	208.	497.	1.04	.95	220.	175.	1.00	-33.	1.19
6	25.5	.75	140.	95.	478.	1.01	.76	165.	132.	.85	37.	.72
7	24.9	.76	149.	154.	495.	1.00	.75	165.	132.	.90	-22.	1.17
8	24.8	.77	228.	149.	495.	1.00	.73	162.	129.	1.41	-20.	1.15
9	24.7	.79	68.	188.	464.	.99	.70	145.	116.	.47	-72.	1.62
10	25.1	.79	91.	72.	444.	1.00	.70	140.	112.	.65	40.	.64
11	22.7	.80	103.	66.	388.	.94	.69	113.	90.	.91	24.	.73
12	22.5	.75	80.	22.	379.	.94	.76	121.	97.	.66	75.	.23
AVE	24.6	.71	143.	85.	446.	.99	.80	162.	129.	.87	44.	.65

056-007 TEGUCIGALPA HON LAT 14 2 LONG 87 11 . ELEV 1007

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	19.5	.71	0.	9.	388.	.87	.81	126.	100.	.00	91.	.09
2	19.5	.68	0.	1.	383.	.87	.85	130.	103.	.00	102.	.01
3	22.4	.62	0.	0.	465.	.94	.93	186.	147.	.00	147.	.00
4	23.5	.62	0.	90.	475.	.96	.93	195.	154.	.00	64.	.58
5	22.7	.67	0.	113.	495.	.94	.87	187.	148.	.00	35.	.77
6	22.3	.77	0.	68.	478.	.94	.73	150.	119.	.00	51.	.57
7	21.8	.77	0.	143.	494.	.92	.73	154.	121.	.00	-22.	1.18
8	21.9	.76	0.	101.	494.	.93	.75	157.	124.	.00	23.	.81
9	21.6	.79	0.	293.	462.	.92	.70	137.	108.	.00	-185.	2.71
10	21.7	.79	0.	109.	441.	.92	.70	131.	104.	.00	-5.	1.05
11	19.0	.78	0.	53.	386.	.86	.72	109.	86.	.00	33.	.62
12	19.3	.75	0.	22.	376.	.86	.76	114.	90.	.00	68.	.24
AVE	21.3	.73	0.	83.	445.	.91	.79	148.	117.	.00	33.	.72

056-020 CHOLUTECA HON LAT 13 18 LONG 87 12 ELEV 48

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.9	.56	0.	0.	399.	1.07	.99	183.	148.	.00	148.	.00
2	28.7	.47	0.	0.	392.	1.09	1.00	199.	150.	.00	150.	.00
3	29.4	.57	0.	0.	471.	1.11	.98	221.	179.	.00	179.	.00
4	30.3	.56	0.	0.	477.	1.13	.99	230.	187.	.00	187.	.00
5	28.7	.74	0.	0.	495.	1.09	.77	180.	146.	.00	146.	.00
6	27.9	.79	0.	0.	476.	1.07	.70	154.	125.	.00	125.	.00
7	26.7	.81	0.	0.	493.	1.04	.67	148.	120.	.00	120.	.00
8	26.4	.82	0.	0.	494.	1.03	.65	144.	117.	.00	117.	.00
9	25.9	.87	0.	0.	466.	1.02	.56	115.	94.	.00	94.	.00
10	27.0	.84	0.	0.	449.	1.05	.62	125.	102.	.00	102.	.00
11	26.3	.78	0.	0.	396.	1.03	.72	126.	102.	.00	102.	.00
12	28.2	.65	0.	0.	388.	1.08	.89	160.	130.	.00	130.	.00
AVE	27.8	.70	0.	0.	450.	1.07	.80	165.	133.	.00	133.	.00

045-029 CONDEGA NIC LAT 13 22 LONG 86 24 ELEV 560

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.0	.68	118.	22.	398.	.98	.85	148.	119.	.80	97.	.19
2	23.7	.60	189.	1.	390.	.97	.95	160.	128.	1.18	127.	.01
3	26.2	.55	242.	9.	470.	1.03	1.00	217.	173.	1.12	154.	.05
4	27.3	.52	249.	19.	476.	1.06	1.00	232.	180.	1.07	161.	.11
5	30.5	.59	205.	110.	496.	1.13	.97	243.	195.	.84	85.	.56
6	25.8	.71	149.	116.	475.	1.02	.81	176.	141.	.85	25.	.82
7	24.9	.75	100.	168.	492.	1.00	.76	167.	133.	.60	-35.	1.26
8	25.3	.73	130.	106.	494.	1.01	.79	175.	140.	.74	34.	.76
9	24.4	.77	115.	173.	465.	.99	.73	150.	120.	.77	-53.	1.44
10	25.2	.75	102.	44.	448.	1.00	.76	153.	122.	.67	78.	.36
11	23.4	.72	124.	26.	395.	.96	.80	136.	109.	.91	83.	.24
12	23.0	.69	140.	17.	386.	.95	.84	138.	111.	1.01	94.	.15
AVE	25.3	.67	155.	68.	449.	1.01	.86	175.	139.	.88	72.	.50

047-005 PUEPTO CABEZAS NIC LAT 14 2 LONG 83 23 ELEV 4

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.9	.86	0.	314.	389.	1.00	.58	97.	79.	.00	-235.	3.97
2	24.9	.83	0.	112.	385.	1.00	.64	105.	85.	.00	-27.	1.31
3	26.7	.82	0.	27.	467.	1.04	.65	136.	111.	.00	84.	.24
4	27.6	.76	0.	22.	477.	1.06	.75	162.	132.	.00	110.	.17
5	26.8	.80	0.	148.	497.	1.04	.69	153.	124.	.00	-24.	1.19
6	26.7	.86	0.	540.	480.	1.04	.58	125.	102.	.00	-438.	5.32
7	26.1	.87	0.	650.	496.	1.03	.56	123.	100.	.00	-550.	6.49
8	26.5	.84	0.	454.	496.	1.04	.62	137.	111.	.00	-343.	4.08
9	25.6	.90	0.	464.	464.	1.01	.50	101.	82.	.00	-382.	5.64
10	26.6	.88	0.	303.	443.	1.04	.54	107.	87.	.00	-216.	3.47
11	24.4	.88	0.	345.	388.	.99	.54	99.	72.	.00	-273.	4.76
12	24.8	.87	0.	186.	378.	1.00	.56	91.	74.	.00	-112.	2.51
AVE	26.0	.85	0.	297.	447.	1.02	.60	119.	97.	.00	-200.	3.26

055-002 LOS ROBLES NIC LAT 13 10 LONG 85 57 ELEV 990

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	19.3	.84	177.	60.	395.	.86	.62	97.	77.	1.83	17.	.78
2	18.5	.83	177.	19.	387.	.84	.64	96.	76.	1.85	57.	.25
3	21.1	.77	215.	28.	467.	.91	.73	142.	113.	1.51	85.	.25
4	21.8	.76	232.	97.	474.	.92	.75	150.	119.	1.55	22.	.82
5	22.2	.77	201.	64.	492.	.93	.73	154.	122.	1.30	58.	.52
6	21.5	.86	120.	209.	473.	.92	.58	116.	92.	1.04	-117.	2.28
7	20.9	.86	99.	213.	490.	.90	.58	118.	94.	.94	-119.	2.28
8	21.1	.85	137.	209.	492.	.91	.60	123.	97.	1.11	-112.	2.15
9	20.9	.86	134.	248.	463.	.90	.58	111.	88.	1.20	-160.	2.81
10	21.1	.87	129.	112.	446.	.91	.56	104.	83.	1.24	-29.	1.36
11	19.3	.85	169.	70.	392.	.86	.60	93.	74.	1.81	4.	.95
12	18.7	.86	180.	70.	383.	.85	.58	87.	69.	2.07	-1.	1.02
AVE	20.5	.83	164.	117.	446.	.89	.63	116.	92.	1.45	-25.	1.29

055-010 JINOTEGA NIC LAT 13 5 LONG 85 0 ELEV 1032

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	20.0	.78	58.	22.	394.	.88	.72	115.	91.	.51	69.	.24
2	18.8	.77	130.	16.	387.	.85	.73	111.	88.	1.17	72.	.18
3	20.6	.75	151.	18.	467.	.89	.75	146.	116.	1.03	98.	.16
4	21.5	.69	195.	90.	474.	.92	.84	168.	133.	1.16	43.	.68
5	21.2	.76	168.	115.	492.	.91	.75	154.	122.	1.09	7.	.95
6	20.9	.85	104.	99.	473.	.90	.60	118.	93.	.88	-6.	1.06
7	20.4	.86	94.	211.	491.	.89	.58	117.	92.	.80	-119.	2.28
8	20.9	.86	104.	242.	492.	.90	.58	119.	94.	.87	-148.	2.57
9	20.4	.85	117.	254.	463.	.89	.60	114.	90.	1.03	-174.	2.93
10	20.7	.85	130.	89.	445.	.90	.60	110.	87.	1.18	-2.	1.02
11	18.8	.84	111.	52.	392.	.85	.62	95.	75.	1.17	23.	.69
12	18.7	.83	115.	50.	383.	.85	.64	95.	75.	1.21	15.	.80
AVE	20.2	.81	123.	106.	446.	.89	.67	122.	96.	1.01	-10.	1.13

055-013 ESQUIPULAS NIC LAT 13 40 LONG 85 48 ELEV 520

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	23.0	.73	160.	43.	399.	.95	.79	133.	107.	1.20	64.	.40
2	22.7	.75	111.	10.	391.	.94	.76	125.	100.	.89	90.	.10
3	24.6	.69	299.	21.	470.	.99	.84	174.	140.	1.71	119.	.15
4	24.9	.70	293.	99.	475.	1.00	.83	175.	140.	1.68	41.	.71
5	25.1	.72	206.	110.	493.	1.00	.80	176.	141.	1.17	31.	.78
6	24.2	.82	133.	158.	473.	.98	.65	135.	108.	.99	-50.	1.46
7	22.6	.83	138.	182.	490.	.94	.64	131.	105.	1.06	-77.	1.74
8	23.8	.82	116.	205.	493.	.97	.65	139.	112.	.83	-93.	1.84
9	23.5	.83	108.	421.	465.	.96	.64	127.	102.	.85	-319.	4.13
10	23.9	.81	118.	119.	449.	.97	.67	130.	104.	.91	-15.	1.14
11	22.7	.75	116.	34.	396.	.94	.76	127.	102.	.91	68.	.33
12	22.3	.77	104.	73.	388.	.94	.73	118.	95.	.88	22.	.77
AVE	23.6	.77	158.	123.	448.	.97	.73	141.	113.	1.09	-10.	1.13

055-023 SEBACO NIC LAT 12 51 LONG 86 5 ELEV 480

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.5	.64	249.	14.	407.	.99	.90	161.	129.	1.54	115.	.11
2	24.6	.59	274.	2.	397.	.99	.96	168.	135.	1.63	133.	.01
3	26.3	.60	326.	43.	474.	1.03	.95	206.	165.	1.58	122.	.26
4	27.7	.58	336.	84.	476.	1.06	.97	218.	175.	1.54	91.	.48
5	26.6	.63	223.	148.	490.	1.04	.91	207.	166.	1.08	18.	.89
6	26.1	.69	194.	122.	469.	1.03	.84	180.	145.	1.08	23.	.84
7	25.1	.73	170.	127.	487.	1.00	.79	171.	137.	.99	10.	.93
8	24.9	.74	173.	182.	491.	1.00	.77	169.	135.	1.03	-47.	1.34
9	24.3	.78	134.	307.	467.	.98	.72	146.	117.	.92	-190.	2.62
10	25.0	.75	175.	93.	454.	1.00	.76	153.	123.	1.14	30.	.76
11	24.2	.68	160.	31.	404.	.98	.85	150.	120.	1.07	89.	.26
12	24.5	.61	213.	13.	397.	.99	.94	163.	131.	1.31	118.	.10
AVE	25.3	.67	219.	97.	451.	1.01	.86	174.	140.	1.24	43.	.72

055-026 PAIWAS NIC LAT 12 47 LONG 85 7 ELEV 118

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	23.9	.82	85.	92.	407.	.97	.65	112.	91.	.76	-1.	1.01
2	23.8	.79	90.	19.	396.	.97	.70	117.	95.	.77	76.	.20
3	25.8	.76	112.	96.	473.	1.02	.75	156.	127.	.72	31.	.76
4	26.7	.74	153.	109.	475.	1.04	.77	166.	135.	.92	26.	.81
5	26.2	.79	137.	275.	490.	1.03	.70	153.	124.	.89	-101.	1.81
6	25.4	.88	91.	378.	469.	1.01	.54	111.	90.	.82	-288.	4.19
7	25.3	.87	95.	370.	487.	1.01	.56	120.	97.	.79	-273.	3.81
8	25.1	.87	75.	340.	492.	1.00	.56	120.	97.	.62	-243.	3.49
9	25.0	.87	90.	423.	467.	1.00	.56	114.	92.	.79	-331.	4.58
10	25.6	.85	143.	211.	454.	1.01	.60	120.	97.	1.19	-114.	2.17
11	24.3	.81	83.	50.	403.	.98	.67	115.	93.	.72	43.	.54
12	24.0	.82	73.	256.	396.	.98	.65	109.	89.	.67	-157.	2.89
AVE	25.1	.82	102.	214.	451.	1.00	.64	126.	102.	.81	-112.	2.19

063-022 BLUEFIELDS NIC LAT 12 1 LONG 83 46 ELEV 10

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.4	.94	0.	299.	403.	1.06	.40	73.	59.	.00	-240.	5.04
2	26.9	.83	0.	116.	394.	1.05	.64	113.	92.	.00	-24.	1.26
3	28.2	.79	0.	71.	473.	1.08	.70	153.	125.	.00	54.	.57
4	28.5	.79	0.	218.	476.	1.09	.70	156.	127.	.00	-91.	1.72
5	28.1	.80	0.	340.	493.	1.07	.69	156.	127.	.00	-213.	2.68
6	27.5	.84	0.	634.	473.	1.06	.62	133.	109.	.00	-525.	5.84
7	27.3	.83	0.	739.	491.	1.06	.64	142.	115.	.00	-624.	6.41
8	27.5	.85	0.	406.	494.	1.06	.60	135.	110.	.00	-296.	3.69
9	28.1	.86	0.	248.	468.	1.07	.58	126.	102.	.00	-146.	2.42
10	28.1	.83	0.	270.	452.	1.07	.64	133.	108.	.00	-162.	2.50
11	26.7	.87	0.	359.	400.	1.04	.56	101.	82.	.00	-277.	4.38
12	26.1	.90	0.	550.	392.	1.03	.50	86.	70.	.00	-480.	7.83
AVE	27.5	.84	0.	354.	451.	1.06	.60	126.	102.	.00	-252.	3.70

064-008 CHINANDEGA NIC LAT 12 38 LONG 87 8 ELEV 90

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	29.8	.76	0.	0.	408.	1.12	.75	147.	119.	.00	119.	.00
2	26.6	.63	0.	0.	397.	1.04	.91	163.	132.	.00	132.	.00
3	26.2	.71	0.	0.	473.	1.03	.81	172.	139.	.00	139.	.00
4	28.1	.72	0.	109.	476.	1.07	.80	177.	144.	.00	35.	.76
5	26.3	.84	0.	331.	491.	1.03	.62	135.	110.	.00	-221.	3.01
6	27.2	.80	0.	128.	471.	1.05	.69	147.	119.	.00	-9.	1.07
7	26.8	.82	0.	244.	488.	1.04	.65	144.	117.	.00	-127.	2.09
8	26.5	.86	0.	387.	492.	1.04	.58	128.	104.	.00	-283.	3.71
9	26.4	.87	0.	313.	468.	1.03	.56	118.	95.	.00	-218.	3.28
10	26.5	.89	0.	262.	454.	1.04	.52	106.	86.	.00	-176.	3.05
11	25.0	.85	0.	95.	403.	1.00	.60	105.	85.	.00	-10.	1.12
12	25.2	.77	0.	68.	396.	1.00	.73	126.	102.	.00	34.	.67
AVE	26.7	.79	0.	161.	451.	1.04	.69	139.	113.	.00	-49.	1.56

065-004 LA CEIBA NIC LAT 12 24 LONG 86 49 ELEV 100

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.0	.73	134.	0.	405.	1.05	.79	145.	118.	.92	118.	.00
2	27.0	.67	187.	0.	396.	1.05	.87	156.	126.	1.20	126.	.00
3	29.0	.69	199.	0.	474.	1.10	.84	189.	153.	1.05	153.	.00
4	31.0	.66	252.	0.	477.	1.14	.88	208.	169.	1.21	169.	.00
5	30.0	.74	146.	186.	493.	1.12	.77	185.	150.	.79	-36.	1.24
6	30.0	.77	123.	202.	473.	1.12	.73	168.	136.	.73	-66.	1.48
7	28.0	.78	87.	151.	490.	1.07	.72	163.	132.	.53	-19.	1.14
8	27.0	.79	70.	266.	493.	1.05	.72	160.	130.	.44	-136.	2.05
9	26.0	.83	47.	374.	467.	1.02	.64	132.	107.	.36	-267.	3.50
10	26.0	.83	47.	136.	453.	1.02	.64	126.	103.	.37	-33.	1.31
11	25.0	.79	61.	314.	401.	1.00	.70	122.	99.	.50	-215.	3.18
12	25.0	.74	98.	0.	394.	1.00	.77	132.	107.	.74	107.	.00
AVE	27.6	.75	121.	136.	451.	1.06	.75	157.	128.	.74	-8.	1.16

068-001 SAN ANTONIO NIC LAT 12 7 LONG 86 32 ELEV 105

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.6	.66	318.	0.	404.	1.06	.88	163.	132.	1.95	132.	.00
2	28.1	.61	341.	0.	395.	1.07	.94	172.	140.	1.98	140.	.00
3	28.8	.67	369.	0.	473.	1.09	.87	194.	157.	1.91	157.	.00
4	29.0	.61	402.	2.	477.	1.10	.94	212.	172.	1.90	170.	.01
5	28.7	.69	331.	254.	493.	1.09	.84	195.	159.	1.69	-105.	1.66
6	26.9	.71	234.	97.	473.	1.05	.81	174.	141.	1.34	44.	.69
7	26.7	.81	202.	261.	490.	1.04	.67	148.	120.	1.37	-141.	2.18
8	27.1	.83	201.	376.	494.	1.05	.64	143.	116.	1.41	-260.	3.25
9	26.7	.85	192.	277.	467.	1.04	.60	126.	103.	1.52	-174.	2.70
10	27.1	.84	203.	226.	452.	1.05	.62	127.	103.	1.60	-123.	2.19
11	26.6	.78	206.	264.	400.	1.04	.72	129.	105.	1.60	-159.	2.52
12	26.9	.71	289.	22.	393.	1.05	.81	145.	118.	1.99	96.	.19
AVE	27.5	.73	274.	149.	451.	1.06	.78	161.	130.	1.69	-19.	1.28

069-003 AGUAS ZARCAS NIC LAT 13 1 LONG 86 6 ELEV 600

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.0	.62	254.	2.	395.	.98	.93	160.	128.	1.59	126.	.02
2	23.7	.60	294.	0.	389.	.97	.95	160.	128.	1.84	128.	.00
3	26.1	.58	304.	15.	469.	1.03	.97	209.	167.	1.45	152.	.09
4	26.9	.56	299.	67.	476.	1.05	.99	221.	177.	1.35	110.	.38
5	26.9	.64	231.	131.	495.	1.05	.90	209.	167.	1.10	36.	.78
6	25.7	.73	166.	106.	476.	1.02	.79	171.	137.	.97	31.	.78
7	25.2	.75	159.	168.	493.	1.00	.76	169.	135.	.94	-33.	1.25
8	25.1	.75	171.	129.	494.	1.00	.76	169.	135.	1.01	6.	.96
9	24.4	.81	113.	318.	465.	.99	.67	137.	110.	.82	-208.	2.90
10	25.4	.77	159.	65.	447.	1.01	.73	148.	118.	1.08	53.	.55
11	24.1	.68	176.	15.	393.	.98	.85	147.	118.	1.20	103.	.13
12	23.8	.66	206.	4.	384.	.97	.88	147.	117.	1.40	113.	.03
AVE	25.1	.68	211.	85.	448.	1.00	.85	171.	135.	1.23	51.	.65

069-039 JUIGALPA NIC LAT 12 6 LONG 85 23 ELEV 117

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.2	.76	0.	50.	403.	1.00	.75	131.	105.	.00	56.	.47
2	25.6	.74	0.	10.	394.	1.01	.77	134.	109.	.00	99.	.09
3	27.2	.75	0.	340.	472.	1.05	.76	164.	133.	.00	-207.	2.56
4	27.5	.75	0.	420.	476.	1.06	.76	166.	135.	.00	-285.	3.12
5	27.3	.81	0.	1610.	492.	1.06	.67	151.	122.	.00	-1488.	13.17
6	27.5	.86	0.	730.	473.	1.06	.58	126.	102.	.00	-628.	7.13
7	25.8	.85	0.	1880.	490.	1.02	.60	130.	105.	.00	-1775.	17.85
8	25.5	.84	0.	1750.	493.	1.01	.62	134.	108.	.00	-1642.	16.15
9	25.0	.86	0.	2320.	466.	1.00	.58	118.	95.	.00	-2225.	24.33
10	25.2	.83	0.	1340.	451.	1.00	.64	125.	101.	.00	-1239.	13.23
11	24.8	.76	0.	840.	400.	1.00	.75	129.	104.	.00	-736.	9.06
12	25.2	.76	0.	270.	392.	1.00	.75	127.	103.	.00	-157.	2.61
AVE	26.0	.80	0.	963.	450.	1.02	.68	136.	110.	.00	-853.	9.06

069-058 MASATEPE NIC LAT 11 54 LONG 86 9 ELEV 450

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.5	.75	134.	27.	414.	1.04	.76	145.	116.	.93	89.	.23
2	23.5	.68	243.	8.	401.	.96	.85	146.	117.	1.66	109.	.07
3	24.6	.72	329.	43.	475.	.99	.80	167.	134.	1.97	91.	.32
4	25.8	.86	252.	36.	474.	1.02	.58	125.	100.	2.02	54.	.36
5	25.6	.77	100.	279.	487.	1.01	.73	160.	129.	.62	-150.	2.17
6	24.8	.84	128.	147.	465.	1.00	.62	127.	102.	1.01	-45.	1.44
7	24.0	.87	97.	288.	483.	.98	.56	117.	94.	.83	-114.	3.05
8	24.1	.85	120.	320.	489.	.98	.60	127.	102.	.94	-218.	3.13
9	23.7	.86	109.	520.	468.	.97	.58	117.	94.	.93	-426.	5.54
10	24.0	.86	101.	292.	457.	.98	.58	115.	92.	.88	-200.	3.16
11	23.2	.80	108.	156.	409.	.96	.69	119.	95.	.91	-60.	1.63
12	23.0	.76	113.	39.	403.	.95	.75	127.	102.	.89	53.	.38
AVE	24.4	.80	153.	180.	452.	.99	.68	133.	107.	1.13	-73.	1.79

069-066 NANDAIME NIC LAT 11 45 LONG 86 2 ELEV 140

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.0	.57	300.	16.	414.	1.05	.98	185.	150.	1.62	134.	.11
2	27.0	.61	160.	0.	402.	1.05	.94	171.	139.	.93	139.	.00
3	27.5	.65	240.	30.	476.	1.06	.89	195.	158.	1.23	128.	.19
4	28.0	.60	250.	20.	475.	1.07	.95	210.	170.	1.19	150.	.12
5	27.4	.75	223.	382.	488.	1.06	.76	170.	138.	1.31	-244.	2.77
6	27.4	.76	186.	142.	467.	1.06	.75	160.	130.	1.16	-12.	1.10
7	26.4	.76	139.	294.	485.	1.03	.75	162.	131.	.86	-163.	2.24
8	26.5	.81	129.	319.	491.	1.04	.67	148.	120.	.87	-199.	2.67
9	26.1	.82	123.	444.	469.	1.03	.65	136.	110.	.90	-334.	4.02
10	26.2	.83	157.	288.	458.	1.03	.64	130.	105.	1.21	-183.	2.73
11	25.5	.76	117.	114.	409.	1.01	.75	134.	109.	.87	-5.	1.05
12	26.4	.66	197.	26.	403.	1.03	.88	159.	129.	1.24	103.	.20
AVE	26.8	.71	185.	173.	453.	1.04	.80	163.	132.	1.12	-41.	1.43

069-071 MORRITO NIC LAT 11 37 LONG 85 4 ELEV 45

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.7	.70	140.	0.	412.	1.02	.83	150.	122.	.94	122.	.00
2	25.8	.70	175.	15.	401.	1.02	.83	146.	118.	1.20	103.	.13
3	27.4	.72	195.	27.	476.	1.06	.80	174.	141.	1.12	114.	.19
4	28.3	.70	180.	94.	476.	1.08	.83	183.	149.	.98	55.	.63
5	27.8	.76	125.	224.	489.	1.07	.75	166.	136.	.75	-88.	1.64
6	26.8	.84	132.	214.	467.	1.04	.62	130.	106.	1.02	-108.	2.03
7	25.8	.88	106.	300.	485.	1.02	.54	115.	94.	.92	-206.	3.20
8	25.8	.87	117.	199.	491.	1.02	.56	121.	99.	.97	-100.	2.02
9	25.8	.87	111.	394.	468.	1.02	.56	116.	94.	.96	-300.	4.19
10	26.3	.86	132.	275.	457.	1.03	.58	118.	96.	1.12	-179.	2.86
11	24.9	.83	118.	288.	408.	1.00	.64	112.	91.	1.06	-197.	3.17
12	25.2	.79	121.	69.	402.	1.00	.70	122.	99.	.99	30.	.70
AVE	26.3	.79	138.	175.	453.	1.03	.69	138.	112.	1.00	-63.	1.73

069-072 ALTA GRACIA NIC LAT 11 34 LONG 85 34 ELEV 62

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.7	.79	118.	10.	412.	1.02	.70	127.	103.	.93	93.	.10
2	25.9	.79	148.	12.	400.	1.02	.70	124.	101.	1.20	89.	.12
3	27.6	.79	191.	43.	476.	1.06	.70	153.	124.	1.25	81.	.35
4	31.8	.72	188.	45.	477.	1.16	.80	192.	155.	.98	111.	.29
5	27.9	.78	175.	272.	489.	1.07	.72	162.	131.	1.08	-141.	2.07
6	27.4	.84	133.	136.	467.	1.06	.62	132.	107.	1.01	-29.	1.27
7	26.4	.86	135.	188.	485.	1.03	.58	126.	102.	1.07	-86.	1.84
8	27.3	.84	116.	354.	491.	1.06	.62	138.	112.	.84	-242.	3.15
9	26.6	.83	125.	412.	469.	1.04	.64	134.	109.	.94	-303.	3.80
10	26.9	.83	123.	175.	457.	1.05	.64	131.	107.	.94	-68.	1.64
11	25.9	.79	125.	220.	408.	1.02	.70	126.	103.	.99	-117.	2.15
12	25.8	.79	118.	78.	402.	1.02	.70	124.	101.	.95	23.	.77
AVE	27.1	.80	141.	162.	453.	1.05	.68	139.	113.	1.01	-49.	1.46

069-075 RIVAS NIC LAT 11 26 LONG 85 50 ELEV 63

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.0	.72	0.	5.	412.	1.05	.80	149.	121.	.00	116.	.04
2	26.7	.67	0.	6.	400.	1.04	.87	156.	127.	.00	121.	.05
3	27.9	.71	0.	57.	476.	1.07	.81	179.	145.	.00	88.	.39
4	28.9	.69	0.	34.	476.	1.09	.84	189.	154.	.00	120.	.22
5	28.2	.73	0.	172.	489.	1.08	.79	179.	145.	.00	-26.	1.18
6	27.8	.79	0.	146.	468.	1.07	.70	151.	123.	.00	-23.	1.19
7	26.7	.82	0.	382.	486.	1.04	.65	142.	116.	.00	-266.	3.30
8	27.3	.80	0.	266.	492.	1.06	.69	153.	125.	.00	-141.	2.13
9	27.2	.81	0.	342.	469.	1.05	.67	143.	115.	.00	-226.	2.95
10	27.2	.79	0.	175.	457.	1.05	.70	146.	113.	.00	-57.	1.48
11	26.2	.74	0.	92.	408.	1.03	.77	140.	114.	.00	22.	.81
12	26.3	.72	0.	38.	401.	1.03	.80	143.	115.	.00	78.	.33
AVE	27.3	.75	0.	143.	453.	1.05	.76	156.	127.	.00	-16.	1.17

069-086 EL CASTILLO NIC LAT 11 1 LONG 85 25 ELEV 40

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.4	.87	82.	171.	408.	.99	.56	97.	79.	.84	-92.	2.16
2	24.5	.85	61.	110.	398.	.99	.60	102.	83.	.50	-27.	1.33
3	26.2	.85	118.	95.	474.	1.03	.60	126.	103.	.94	8.	.93
4	26.8	.82	122.	180.	475.	1.04	.65	139.	113.	.87	-67.	1.59
5	26.6	.84	86.	290.	490.	1.04	.62	135.	110.	.63	-179.	2.62
6	26.0	.89	94.	411.	469.	1.02	.52	108.	88.	.87	-323.	4.69
7	25.5	.88	97.	458.	487.	1.01	.54	115.	94.	.84	-364.	4.90
8	25.2	.91	84.	405.	491.	1.00	.48	101.	82.	.83	-323.	4.92
9	25.3	.89	72.	272.	468.	1.01	.52	106.	86.	.68	-186.	3.16
10	25.6	.89	71.	227.	455.	1.01	.52	104.	84.	.69	-143.	2.69
11	24.4	.88	49.	151.	405.	.99	.54	93.	76.	.53	-75.	1.99
12	24.3	.88	62.	334.	398.	.98	.54	91.	74.	.68	-260.	4.50
AVE	25.4	.87	83.	259.	451.	1.01	.56	110.	89.	.75	-169.	2.96

069-514 ARENAL CR LAT 10 28 LONG 84 51 : ELEV 520

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.7	.84	83.	166.	416.	.94	.62	108.	87.	.77	-79.	1.91
2	21.5	.87	62.	220.	402.	.92	.56	92.	74.	.67	-146.	2.97
3	23.6	.80	100.	106.	476.	.97	.69	140.	113.	.71	7.	.94
4	24.1	.81	104.	155.	473.	.98	.67	138.	111.	.75	-44.	1.40
5	24.0	.82	110.	206.	484.	.98	.65	137.	110.	.80	-96.	1.87
6	24.4	.84	107.	394.	463.	.99	.62	126.	101.	.85	-293.	3.91
7	23.6	.85	92.	367.	481.	.97	.60	124.	100.	.74	-267.	3.69
8	23.4	.85	113.	418.	488.	.96	.60	125.	101.	.90	-317.	4.16
9	23.1	.87	97.	328.	468.	.95	.56	112.	90.	.87	-238.	3.66
10	23.3	.84	61.	297.	459.	.96	.62	121.	97.	.50	-200.	3.05
11	21.5	.86	41.	276.	411.	.92	.58	96.	78.	.42	-148.	2.89
12	21.7	.88	61.	560.	406.	.92	.54	90.	72.	.58	-488.	7.73
AVE	23.1	.84	86.	287.	452.	.95	.61	118.	94.	.72	-193.	3.18

EVAPOTRANSPIRATION AND MOISTURE AVAILABILITY

Costa Rica

069-528 PALMIRA CR LAT 10 24 LONG 84 24 ELEV 1950

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	16.5	.84	0.	138.	413.	.80	.62	99.	77.	.00	-61.	1.80
2	17.3	.89	0.	139.	401.	.82	.52	83.	64.	.00	-75.	2.17
3	17.3	.88	0.	168.	473.	.82	.54	102.	79.	.00	-89.	2.13
4	18.7	.86	0.	134.	471.	.85	.58	114.	88.	.00	-46.	1.53
5	17.8	.87	0.	661.	482.	.83	.56	109.	84.	.00	-577.	7.82
6	17.5	.96	0.	233.	460.	.92	.33	62.	48.	.00	-185.	4.90
7	17.2	.95	0.	244.	478.	.91	.37	70.	54.	.00	-190.	4.53
8	17.1	.95	0.	329.	485.	.81	.37	71.	55.	.00	-274.	6.03
9	16.9	.88	0.	420.	465.	.81	.54	99.	77.	.00	-343.	5.48
10	16.7	.91	0.	338.	456.	.80	.48	85.	66.	.00	-272.	5.15
11	15.2	.91	0.	330.	409.	.76	.48	73.	55.	.00	-274.	5.88
12	15.3	.93	0.	551.	403.	.77	.43	64.	50.	.00	-501.	11.09
AVE	17.0	.90	0.	307.	450.	.81	.48	86.	66.	.00	-241.	4.88

073-010 TURIALBA CR LAT 9 53 LONG 83 38 ELEV 602

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	20.9	.85	0.	239.	424.	.90	.60	103.	82.	.00	-157.	2.91
2	20.2	.88	0.	379.	407.	.88	.54	88.	70.	.00	-309.	5.41
3	21.6	.85	0.	99.	478.	.92	.60	118.	94.	.00	-5.	1.05
4	22.1	.87	0.	618.	471.	.93	.56	110.	88.	.00	-530.	7.00
5	22.0	.87	0.	244.	479.	.93	.56	112.	90.	.00	-154.	2.72
6	22.4	.87	0.	165.	456.	.94	.56	108.	86.	.00	-79.	1.91
7	21.8	.87	0.	218.	475.	.92	.56	110.	88.	.00	-130.	2.47
8	21.7	.88	0.	297.	485.	.92	.54	108.	87.	.00	-210.	3.43
9	21.8	.88	0.	330.	468.	.92	.54	105.	84.	.00	-246.	3.93
10	21.9	.87	0.	130.	463.	.93	.56	108.	86.	.00	-44.	1.50
11	20.5	.90	0.	392.	419.	.99	.50	83.	67.	.00	-325.	5.87
12	20.3	.87	0.	999.	415.	.89	.56	93.	74.	.00	-925.	13.48
AVE	21.4	.87	0.	342.	453.	.91	.56	104.	83.	.00	-259.	4.31

073-016 EL ALTO CR LAT 9 53 LONG 83 57 ELEV 1490

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	17.8	.85	91.	21.	423.	.83	.60	100.	78.	.91	57.	.27
2	18.7	.87	102.	8.	407.	.85	.56	92.	72.	1.11	64.	.11
3	19.7	.81	129.	85.	477.	.87	.67	132.	103.	.98	18.	.82
4	18.5	.79	130.	138.	469.	.84	.72	135.	105.	.96	-33.	1.31
5	18.0	.83	74.	437.	477.	.83	.64	120.	94.	.62	-343.	4.67
6	19.1	.81	80.	203.	455.	.86	.67	124.	97.	.65	-106.	2.10
7	18.6	.82	100.	378.	473.	.85	.65	124.	97.	.81	-281.	3.90
8	18.8	.81	119.	326.	483.	.85	.67	131.	102.	.91	-224.	3.19
9	18.6	.83	99.	658.	467.	.85	.64	119.	93.	.83	-575.	7.17
10	19.3	.82	109.	201.	462.	.86	.65	124.	97.	.88	-104.	2.08
11	18.0	.86	99.	316.	418.	.83	.58	96.	75.	1.03	-241.	4.22
12	17.8	.87	104.	131.	414.	.83	.56	91.	71.	1.14	-60.	1.84
AVE	18.6	.83	103.	243.	452.	.85	.63	116.	90.	.90	-152.	2.64

073-046 CACHI CR LAT 9 49 LONG 83 49 ELEV 1018

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	20.1	.80	110.	76.	423.	.88	.69	118.	93.	.93	17.	.82
2	18.8	.85	100.	159.	407.	.85	.60	96.	75.	1.05	-83.	2.10
3	21.0	.79	125.	102.	477.	.90	.70	139.	110.	.90	8.	.93
4	21.1	.81	119.	266.	471.	.91	.67	131.	104.	.91	-162.	2.56
5	21.0	.82	108.	206.	479.	.90	.65	130.	103.	.83	-103.	2.00
6	21.4	.84	105.	132.	456.	.91	.62	119.	94.	.89	-38.	1.41
7	20.7	.84	92.	176.	475.	.90	.62	121.	96.	.76	-80.	1.84
8	20.6	.84	103.	202.	484.	.89	.62	123.	98.	.84	-104.	2.07
9	20.3	.85	96.	193.	468.	.89	.60	115.	91.	.84	-102.	2.13
10	20.4	.73	93.	173.	463.	.89	.79	149.	116.	.62	-55.	1.47
11	19.6	.78	87.	240.	417.	.85	.72	117.	92.	.75	-148.	2.60
12	18.4	.81	75.	683.	413.	.84	.67	107.	85.	.70	-598.	8.06
AVE	20.2	.81	101.	217.	453.	.88	.66	122.	97.	.83	-171.	2.33

073-071 ATIRRO CR LAT 9 50 LONG 83 53 ELEV 900

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	21.3	.89	0.	226.	424.	.91	.52	92.	73.	.00	-153.	3.10
2	20.5	.91	0.	279.	407.	.89	.48	79.	63.	.00	-216.	4.45
3	21.7	.88	0.	114.	478.	.92	.54	109.	86.	.00	-28.	1.32
4	22.3	.90	0.	200.	471.	.94	.50	101.	80.	.00	-120.	2.51
5	22.2	.90	0.	212.	479.	.93	.50	102.	81.	.00	-131.	2.62
6	23.0	.88	0.	193.	457.	.95	.54	108.	85.	.00	-108.	2.26
7	22.4	.88	0.	243.	475.	.94	.54	110.	88.	.00	-155.	2.78
8	21.6	.89	0.	303.	485.	.92	.52	106.	84.	.00	-219.	3.60
9	21.6	.91	0.	302.	468.	.92	.48	94.	74.	.00	-228.	4.07
10	21.6	.91	0.	255.	463.	.92	.48	93.	73.	.00	-182.	3.47
11	21.2	.92	0.	322.	419.	.91	.45	79.	62.	.00	-260.	5.17
12	21.3	.94	0.	780.	415.	.91	.40	69.	55.	.00	-725.	14.31
AVE	21.7	.90	0.	286.	453.	.92	.50	95.	75.	.00	-210.	4.14

073-078 COLIBLANCO CR LAT 9 57 LONG 83 48 ELEV 2200

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	9.3	.81	0.	122.	420.	.62	.67	87.	67.	.00	-55.	1.83
2	8.2	.89	0.	200.	403.	.60	.52	62.	48.	.00	-152.	4.19
3	9.8	.79	0.	165.	473.	.64	.70	104.	80.	.00	-85.	2.06
4	10.2	.84	0.	307.	466.	.64	.62	92.	71.	.00	-236.	4.34
5	10.2	.84	0.	303.	474.	.64	.62	94.	72.	.00	-231.	4.22
6	11.6	.84	0.	197.	451.	.68	.62	94.	72.	.00	-125.	2.73
7	13.1	.82	0.	326.	471.	.71	.65	109.	84.	.00	-242.	3.90
8	12.9	.87	0.	273.	481.	.71	.56	95.	73.	.00	-200.	3.74
9	13.6	.89	0.	301.	465.	.73	.52	87.	67.	.00	-234.	4.49
10	12.8	.90	0.	435.	460.	.71	.50	81.	62.	.00	-373.	7.04
11	11.8	.91	0.	418.	415.	.68	.48	67.	51.	.00	-367.	8.12
12	11.6	.94	0.	917.	412.	.68	.40	55.	42.	.00	-875.	21.67
AVE	11.3	.86	0.	330.	449.	.67	.57	86.	65.	.00	-265.	5.70

073-081 VOLCAN IRAZU CR LAT 9 59 LONG 83 42 ELEV 3400

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	7.0	.72	125.	150.	419.	.57	.80	102.	76.	1.23	-74.	1.98
2	6.4	.70	118.	189.	403.	.55	.83	98.	73.	1.20	-116.	2.58
3	7.7	.73	131.	50.	472.	.58	.79	116.	86.	1.13	36.	.58
4	7.5	.80	122.	462.	465.	.58	.69	98.	73.	1.24	-389.	6.30
5	7.0	.89	67.	243.	472.	.57	.52	74.	56.	.90	-187.	4.37
6	7.7	.89	69.	121.	450.	.58	.52	73.	54.	.95	-67.	2.22
7	7.9	.92	65.	236.	468.	.59	.45	66.	50.	.98	-186.	4.76
8	5.0	.87	81.	180.	477.	.52	.65	86.	64.	.94	-116.	2.80
9	6.8	.85	75.	286.	462.	.56	.60	83.	62.	.90	-224.	4.61
10	7.8	.84	76.	208.	458.	.59	.62	88.	66.	.86	-142.	3.15
11	8.8	.83	68.	491.	414.	.61	.64	86.	64.	.79	-427.	7.67
12	6.5	.88	66.	727.	410.	.56	.54	66.	49.	1.00	-678.	14.80
AVE	7.2	.82	89.	279.	447.	.57	.64	86.	65.	1.01	-214.	4.65

074-006 LA GUINEA CR LAT 10 25 LONG 85 29 ELEV 40

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.1	.76	0.	12.	418.	1.05	.75	141.	115.	.00	103.	.10
2	28.1	.71	0.	0.	405.	1.07	.81	153.	124.	.00	124.	.00
3	29.1	.64	0.	5.	478.	1.10	.90	204.	166.	.00	161.	.03
4	29.3	.62	0.	74.	475.	1.10	.93	209.	170.	.00	96.	.43
5	28.8	.65	0.	168.	487.	1.09	.89	204.	166.	.00	-2.	1.01
6	28.1	.69	0.	277.	465.	1.07	.84	181.	147.	.00	-130.	1.88
7	27.2	.73	0.	280.	483.	1.05	.79	173.	140.	.00	-140.	2.00
8	27.1	.77	0.	258.	490.	1.05	.73	162.	132.	.00	-126.	1.96
9	26.8	.78	0.	384.	470.	1.04	.72	151.	123.	.00	-261.	3.12
10	27.0	.79	0.	500.	461.	1.05	.70	146.	119.	.00	-381.	4.22
11	26.2	.79	0.	176.	413.	1.03	.70	128.	104.	.00	-72.	1.69
12	26.7	.76	0.	7.	408.	1.04	.75	136.	111.	.00	104.	.06
AVE	27.6	.72	0.	178.	454.	1.06	.79	166.	135.	.00	-44.	1.38

076-008 TABOGA CR LAT 10 20 LONG 85 12 ELEV 40

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.4	.80	0.	0.	417.	1.06	.69	130.	105.	.00	106.	.00
2	27.4	.71	0.	0.	404.	1.06	.81	150.	122.	.00	122.	.00
3	28.1	.76	0.	0.	478.	1.07	.75	165.	134.	.00	134.	.00
4	28.7	.75	0.	57.	475.	1.09	.76	170.	138.	.00	81.	.41
5	27.8	.84	0.	134.	486.	1.07	.62	138.	112.	.00	-22.	1.19
6	27.6	.87	0.	159.	465.	1.06	.56	120.	97.	.00	-62.	1.64
7	26.8	.91	0.	197.	483.	1.04	.48	103.	84.	.00	-113.	2.34
8	26.6	.91	0.	358.	490.	1.04	.48	104.	85.	.00	-273.	4.22
9	25.3	.92	0.	420.	469.	1.03	.45	94.	77.	.00	-343.	5.48
10	26.3	.90	0.	403.	460.	1.03	.50	102.	83.	.00	-320.	4.86
11	25.7	.86	0.	76.	412.	1.02	.58	105.	85.	.00	9.	.89
12	26.5	.90	0.	24.	407.	1.04	.50	91.	74.	.00	50.	.33
AVE	27.1	.84	0.	152.	454.	1.05	.60	123.	100.	.00	-53.	1.78

078-003 PUNTARENAS CR LAT 9 58 LONG 84 50 ELEV 3

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.0	.76	118.	13.	427.	1.05	.75	143.	117.	.82	104.	.11
2	28.1	.64	203.	3.	411.	1.07	.90	171.	139.	1.19	136.	.02
3	28.2	.76	189.	30.	481.	1.08	.75	166.	135.	1.14	105.	.22
4	28.5	.73	176.	44.	474.	1.08	.79	174.	142.	1.01	98.	.31
5	27.1	.83	126.	168.	481.	1.05	.64	138.	112.	.91	-56.	1.49
6	27.0	.86	101.	148.	458.	1.05	.58	120.	98.	.84	-50.	1.52
7	26.2	.86	94.	417.	476.	1.03	.58	123.	100.	.77	-317.	4.18
8	25.4	.84	101.	321.	486.	1.01	.62	130.	106.	.77	-215.	3.02
9	23.8	.89	97.	270.	469.	.97	.52	102.	83.	.95	-187.	3.25
10	25.1	.88	115.	419.	465.	1.00	.54	109.	88.	1.06	-331.	4.74
11	25.3	.83	102.	38.	421.	1.01	.64	116.	94.	.88	56.	.40
12	25.7	.85	119.	61.	417.	1.02	.60	109.	89.	1.09	28.	.68
AVE	26.4	.81	128.	151.	456.	1.03	.66	134.	109.	.95	-52.	1.66

081-003 LIMON CR LAT 10 0 LONG 83 3 ELEV 3

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.3	.85	110.	684.	415.	1.01	.60	108.	88.	1.02	-596.	7.80
2	24.4	.86	91.	535.	402.	.99	.58	99.	81.	.92	-454.	6.64
3	26.0	.84	124.	128.	476.	1.02	.62	130.	105.	.96	-23.	1.21
4	26.5	.84	113.	925.	475.	1.04	.62	131.	106.	.86	-819.	8.70
5	25.9	.85	100.	241.	487.	1.02	.60	128.	104.	.78	-137.	2.31
6	26.9	.84	96.	493.	466.	1.05	.62	129.	105.	.74	-388.	4.68
7	26.5	.84	95.	166.	484.	1.04	.62	133.	108.	.71	-58.	1.53
8	26.4	.84	188.	209.	490.	1.03	.62	135.	110.	1.40	-99.	1.91
9	26.3	.84	112.	152.	469.	1.03	.62	129.	105.	.87	-47.	1.45
10	26.6	.83	110.	166.	459.	1.04	.64	130.	106.	.84	-60.	1.57
11	24.7	.86	73.	700.	410.	.99	.58	102.	83.	.72	-617.	8.45
12	24.4	.90	51.	999.	404.	.99	.50	86.	70.	.60	-929.	14.36
AVE	25.8	.85	105.	450.	453.	1.02	.60	120.	98.	.87	-352.	5.06

084-001 SAN JOSE CR LAT 9 56 LONG 84 5 ELEV 1172

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	19.8	.80	0.	24.	424.	.88	.69	118.	93.	.00	69.	.26
2	18.8	.80	0.	2.	407.	.85	.69	110.	87.	.00	85.	.02
3	20.2	.79	0.	70.	477.	.88	.70	138.	108.	.00	38.	.65
4	20.4	.80	0.	204.	470.	.89	.69	133.	105.	.00	-99.	1.94
5	20.0	.80	0.	204.	478.	.88	.69	134.	106.	.00	-98.	1.93
6	20.5	.82	0.	233.	455.	.89	.65	123.	97.	.00	-136.	2.40
7	19.9	.85	0.	349.	474.	.88	.60	116.	91.	.00	-258.	3.82
8	19.5	.84	0.	344.	484.	.87	.62	121.	95.	.00	-249.	3.62
9	19.3	.82	0.	418.	467.	.86	.65	122.	96.	.00	-322.	4.33
10	19.3	.83	0.	226.	462.	.86	.64	118.	93.	.00	-133.	2.43
11	18.5	.82	0.	99.	418.	.84	.65	107.	84.	.00	-15.	1.17
12	18.7	.83	0.	108.	414.	.85	.64	104.	82.	.00	-26.	1.32
AVE	19.6	.82	0.	190.	453.	.87	.66	120.	95.	.00	-95.	1.99

084-021 EL COCO CR LAT 9 59 LONG 84 13 ELEV 920

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.0	.63	0.	9.	425.	.93	.84	152.	120.	.00	111.	.07
2	21.9	.68	0.	2.	409.	.93	.85	148.	117.	.00	115.	.02
3	22.6	.69	0.	79.	478.	.94	.84	173.	138.	.00	59.	.57
4	22.6	.70	0.	217.	471.	.94	.83	168.	133.	.00	-84.	1.63
5	21.5	.74	0.	172.	479.	.92	.77	156.	123.	.00	-49.	1.39
6	21.6	.58	0.	218.	456.	.92	.97	186.	147.	.00	-71.	1.48
7	20.9	.53	0.	242.	474.	.90	1.00	200.	155.	.00	-87.	1.56
8	20.9	.70	0.	337.	484.	.90	.83	165.	131.	.00	-206.	2.57
9	21.0	.75	0.	401.	468.	.90	.76	147.	117.	.00	-284.	3.44
10	20.8	.83	0.	202.	463.	.90	.64	121.	96.	.00	-106.	2.10
11	21.5	.75	0.	105.	419.	.92	.76	134.	106.	.00	1.	.99
12	22.1	.71	0.	58.	416.	.93	.81	144.	114.	.00	56.	.51
AVE	21.6	.70	0.	170.	454.	.92	.83	158.	125.	.00	-45.	1.36

084-023 EST FABIO BAUDRIT CR LAT 10 1 LONG 87 16 ELEV 840

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	22.9	.68	176.	21.	414.	.95	.85	153.	121.	1.15	100.	.17
2	23.3	.63	226.	1.	401.	.96	.91	160.	127.	1.41	126.	.01
3	22.4	.66	211.	59.	475.	.94	.88	178.	141.	1.19	82.	.42
4	24.0	.68	182.	178.	473.	.98	.85	179.	143.	1.01	-35.	1.25
5	23.1	.75	164.	299.	485.	.95	.76	160.	127.	1.02	-172.	2.35
6	21.7	.79	117.	205.	463.	.92	.70	136.	108.	.86	-97.	1.90
7	19.2	.82	104.	238.	480.	.86	.65	123.	98.	.85	-140.	2.44
8	18.1	.83	108.	205.	486.	.83	.64	117.	93.	.92	-112.	2.20
9	18.9	.84	108.	404.	466.	.85	.62	112.	89.	.97	-315.	4.55
10	17.3	.86	105.	302.	455.	.82	.58	98.	78.	1.07	-224.	3.87
11	17.2	.79	104.	60.	407.	.81	.72	108.	86.	.96	26.	.70
12	20.0	.86	133.	67.	403.	.88	.58	94.	75.	1.42	8.	.90
AVE	20.7	.76	145.	170.	451.	.90	.73	135.	107.	1.07	-63.	1.73

098-006 VOLCAN CR LAT 9 13 LONG 83 27 ELEV 450

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.1	.83	0.	57.	421.	.98	.64	116.	93.	.00	36.	.61
2	25.0	.77	0.	2.	407.	1.00	.73	132.	106.	.00	104.	.02
3	26.0	.76	0.	36.	479.	1.02	.75	162.	130.	.00	94.	.28
4	25.6	.78	0.	349.	473.	1.01	.72	152.	122.	.00	-227.	2.85
5	25.2	.79	0.	280.	483.	1.00	.70	151.	121.	.00	-159.	2.31
6	25.4	.80	0.	308.	460.	1.01	.69	141.	113.	.00	-195.	2.72
7	25.0	.80	0.	393.	479.	1.00	.69	145.	117.	.00	-276.	3.36
8	24.5	.82	0.	305.	487.	.99	.65	139.	112.	.00	-193.	2.73
9	24.5	.81	0.	520.	469.	.99	.67	138.	110.	.00	-410.	4.71
10	24.4	.82	0.	651.	462.	.99	.65	132.	105.	.00	-545.	6.15
11	25.0	.81	0.	155.	417.	1.00	.67	124.	99.	.00	-56.	1.56
12	24.4	.80	0.	80.	412.	.99	.69	123.	99.	.00	19.	.81
AVE	24.9	.80	0.	261.	454.	1.00	.69	138.	111.	.00	-151.	2.34

098-007 SAN VITO DE JAVA CR LAT 8 52 LONG 82 59 ELEV 1019

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	21.8	.85	0.	68.	430.	.92	.60	110.	87.	.00	19.	.78
2	20.2	.76	0.	37.	411.	.88	.75	125.	99.	.00	62.	.37
3	22.5	.79	0.	100.	480.	.94	.70	146.	115.	.00	15.	.87
4	22.3	.85	0.	310.	470.	.94	.60	122.	96.	.00	-214.	3.23
5	21.5	.89	0.	431.	476.	.92	.52	105.	83.	.00	-348.	5.21
6	21.6	.89	0.	418.	452.	.92	.52	100.	79.	.00	-339.	5.31
7	21.0	.89	0.	271.	471.	.90	.52	102.	81.	.00	-190.	3.36
8	21.0	.90	0.	383.	482.	.90	.50	100.	79.	.00	-304.	4.83
9	20.7	.90	0.	536.	469.	.90	.50	97.	75.	.00	-460.	7.02
10	20.8	.90	0.	463.	466.	.90	.50	96.	75.	.00	-387.	6.08
11	20.5	.90	0.	394.	424.	.89	.50	87.	69.	.00	-325.	5.74
12	20.9	.90	0.	182.	421.	.90	.50	87.	69.	.00	-113.	2.64
AVE	21.2	.87	0.	299.	454.	.91	.55	106.	84.	.00	-215.	3.79

U9°-010 CEDRAL CR LAT 9 22 LONG 83 33 ELEV 1450

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	18.6	.95	0.	66.	420.	.85	.37	62.	48.	.00	-18.	1.36
2	18.9	.85	0.	29.	405.	.85	.60	98.	77.	.00	48.	.38
3	19.3	.83	0.	178.	476.	.86	.64	125.	97.	.00	-81.	1.84
4	19.4	.87	0.	258.	470.	.87	.56	108.	85.	.00	-173.	3.05
5	18.8	.91	0.	526.	479.	.85	.48	92.	72.	.00	-454.	7.31
6	18.9	.91	0.	305.	457.	.85	.48	88.	69.	.00	-236.	4.44
7	18.3	.92	0.	536.	475.	.84	.45	85.	67.	.00	-469.	8.04
8	18.3	.91	0.	595.	484.	.84	.48	92.	72.	.00	-523.	8.31
9	18.0	.91	0.	711.	466.	.83	.48	87.	68.	.00	-643.	10.39
10	18.3	.93	0.	755.	460.	.84	.43	78.	61.	.00	-694.	12.40
11	17.8	.92	0.	431.	415.	.83	.45	73.	57.	.00	-374.	7.51
12	18.2	.93	0.	154.	411.	.84	.43	69.	54.	.00	-100.	2.84
AVE	18.6	.90	0.	379.	452.	.85	.49	88.	69.	.00	-310.	5.66

098-012 POTRERO GRANDE CR LAT 9 1 LONG 83 11 ELEV 183

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.5	.77	0.	97.	421.	1.04	.73	139.	112.	.00	15.	.86
2	27.1	.73	0.	53.	407.	1.05	.79	147.	119.	.00	66.	.45
3	27.2	.74	0.	56.	479.	1.05	.77	170.	138.	.00	82.	.41
4	27.1	.78	0.	332.	474.	1.05	.72	155.	126.	.00	-206.	2.64
5	26.2	.83	0.	159.	484.	1.03	.64	138.	111.	.00	-48.	1.43
6	26.3	.82	0.	288.	461.	1.03	.65	135.	109.	.00	-179.	2.63
7	25.9	.84	0.	133.	480.	1.02	.62	132.	107.	.00	-26.	1.25
8	25.9	.99	0.	323.	488.	1.02	.19	42.	34.	.00	-289.	9.57
9	25.7	.88	0.	466.	470.	1.02	.54	113.	91.	.00	-375.	5.11
10	25.4	.85	0.	536.	462.	1.01	.60	122.	99.	.00	-437.	5.43
11	25.3	.83	0.	262.	416.	1.01	.64	116.	94.	.00	-168.	2.79
12	25.8	.82	0.	31.	411.	1.02	.65	119.	96.	.00	65.	.32
AVE	26.2	.82	0.	228.	454.	1.03	.63	127.	103.	.00	-125.	2.74

113-001 SALUD (TOCACAL) PAN LAT 9 12 LONG 80 9 ELEV 8

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.8	.83	0.	284.	422.	1.02	.64	118.	96.	.00	-189.	2.97
2	26.4	.85	0.	50.	407.	1.03	.60	109.	88.	.00	38.	.57
3	26.4	.86	0.	134.	479.	1.03	.58	124.	101.	.00	-33.	1.33
4	26.7	.89	0.	509.	474.	1.04	.52	111.	90.	.00	-419.	5.66
5	26.6	.92	0.	572.	483.	1.04	.45	98.	79.	.00	-493.	7.21
6	26.2	.91	0.	279.	461.	1.03	.48	97.	79.	.00	-109.	3.52
7	26.1	.89	0.	380.	479.	1.03	.52	110.	90.	.00	-290.	4.24
8	25.8	.91	0.	252.	488.	1.02	.48	102.	83.	.00	-169.	3.00
9	26.0	.91	0.	311.	470.	1.02	.48	99.	80.	.00	-231.	3.86
10	25.6	.91	0.	423.	463.	1.01	.49	96.	78.	.00	-345.	5.41
11	25.2	.91	0.	999.	417.	1.00	.48	86.	70.	.00	-929.	14.31
12	25.2	.92	0.	757.	412.	1.00	.45	80.	65.	.00	-692.	11.56
AVE	25.0	.89	0.	412.	454.	1.02	.51	102.	87.	.00	-329.	5.31

128-001 LOS SANTOS PAN LAT 7 56 LONG 80 25 ELEV 10

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.0	.79	146.	33.	438.	1.05	.70	138.	113.	1.05	80.	.29
2	27.8	.77	174.	3.	418.	1.07	.73	140.	114.	1.24	111.	.03
3	27.9	.75	186.	44.	484.	1.07	.76	169.	138.	1.10	94.	.32
4	28.9	.75	183.	31.	472.	1.09	.75	165.	134.	1.11	103.	.23
5	27.4	.78	130.	104.	475.	1.06	.72	155.	126.	.84	22.	.83
6	27.2	.81	93.	138.	450.	1.05	.67	136.	111.	.68	-27.	1.24
7	26.9	.82	87.	200.	469.	1.05	.65	135.	112.	.63	-88.	1.78
8	27.0	.81	93.	68.	483.	1.05	.67	146.	119.	.64	51.	.57
9	26.7	.81	93.	346.	472.	1.04	.67	141.	115.	.66	-231.	3.01
10	26.8	.82	96.	385.	472.	1.04	.65	139.	113.	.69	-272.	3.42
11	26.2	.81	102.	176.	431.	1.03	.67	128.	104.	.80	-72.	1.59
12	26.4	.81	96.	74.	430.	1.03	.67	126.	104.	.75	30.	.71
AVE	27.2	.79	123.	133.	458.	1.05	.69	144.	117.	.85	-17.	1.19

128-002 ATALAYITA PAN LAT 7 52 LONG 80 32 ELEV 20

MO	TM	HM	EVPM	PPFC	PMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.6	.79	145.	30.	437.	.99	.72	133.	109.	1.09	79.	.28
2	24.9	.79	176.	2.	417.	1.00	.70	125.	102.	1.41	100.	.32
3	25.7	.76	192.	35.	483.	1.02	.75	158.	128.	1.22	93.	.27
4	26.3	.74	192.	42.	471.	1.03	.77	162.	132.	1.19	90.	.32
5	25.0	.77	155.	265.	474.	1.00	.73	149.	121.	1.04	-145.	2.19
6	24.9	.81	99.	168.	449.	1.00	.67	129.	105.	.77	-53.	1.60
7	24.7	.84	90.	202.	469.	.99	.62	124.	101.	.73	-101.	2.01
8	24.4	.82	121.	206.	482.	.99	.65	133.	109.	.91	-97.	1.90
9	24.2	.81	102.	234.	471.	.98	.67	133.	108.	.77	-126.	2.16
10	24.4	.79	96.	278.	471.	.99	.70	140.	114.	.69	-164.	2.44
11	23.8	.79	99.	198.	430.	.97	.70	126.	103.	.79	-95.	1.93
12	23.8	.79	93.	104.	428.	.97	.70	125.	102.	.74	-2.	1.02
AVE	24.7	.79	130.	147.	457.	.99	.70	136.	111.	.94	-36.	1.35

132-006 LAGUNA LA YEGUADA PA LAT 8 25 LONG 80 54 ELEV 650

MO	TM	HM	EVPM	PPFC	PMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	20.0	.80	111.	90.	427.	.88	.69	116.	92.	.96	2.	.97
2	21.0	.74	148.	10.	410.	.90	.77	129.	103.	1.15	93.	.10
3	21.5	.76	158.	113.	479.	.92	.75	147.	117.	1.07	4.	.96
4	21.0	.80	141.	231.	470.	.90	.69	131.	105.	1.08	-126.	2.21
5	20.0	.85	78.	366.	477.	.88	.60	113.	90.	.69	-276.	4.05
6	18.5	.86	78.	370.	452.	.84	.58	100.	80.	.78	-290.	4.54
7	19.0	.88	71.	423.	472.	.85	.54	98.	79.	.72	-344.	5.39
8	19.3	.89	77.	587.	482.	.84	.52	95.	76.	.81	-511.	7.76
9	18.3	.90	72.	607.	467.	.84	.50	88.	71.	.82	-537.	8.64
10	18.0	.89	62.	622.	464.	.83	.52	90.	72.	.59	-550.	8.62
11	18.7	.88	90.	360.	421.	.85	.54	97.	69.	1.03	-291.	5.18
12	19.0	.87	115.	412.	417.	.86	.56	90.	72.	1.27	-340.	5.71
AVE	19.4	.84	100.	340.	453.	.87	.60	107.	85.	.92	-264.	4.52

132-012 DIVISA PAN LAT 8 6 LONG 80 41 ELEV 10

MO	TM	HM	FVPM	PPEC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.3	.92	133.	52.	428.	1.06	.45	88.	71.	1.52	9.	.37
2	27.2	.81	173.	0.	411.	1.05	.67	125.	101.	1.39	101.	.00
3	27.8	.71	195.	54.	481.	1.07	.81	180.	146.	1.08	92.	.37
4	28.6	.85	156.	54.	474.	1.09	.60	133.	108.	1.17	54.	.50
5	28.4	.85	108.	92.	481.	1.08	.60	134.	109.	.80	27.	.75
6	28.0	.90	78.	292.	458.	1.09	.50	108.	88.	.72	-204.	3.33
7	27.6	.90	93.	164.	477.	1.06	.50	109.	88.	.86	-76.	1.85
8	25.6	.89	74.	342.	486.	1.01	.52	111.	90.	.67	-252.	3.80
9	27.4	.92	111.	257.	471.	1.06	.45	97.	79.	1.15	-173.	3.26
10	28.0	.90	99.	224.	467.	1.07	.50	107.	87.	.92	-137.	2.56
11	27.2	.94	81.	153.	422.	1.05	.40	76.	62.	1.06	-101.	2.63
12	27.0	.94	105.	179.	419.	1.05	.40	75.	61.	1.40	-118.	2.93
AVE	27.6	.88	117.	155.	456.	1.06	.53	112.	91.	1.06	-55.	1.11

134-004 EL COPE PAN LAT 8 3 S LONG 80 43 ELEV 810

MO	TM	HM	FVPM	PPEC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	24.4	.81	143.	294.	430.	.99	.67	129.	102.	1.11	-192.	2.37
2	24.3	.75	154.	66.	412.	.98	.76	140.	111.	1.10	45.	.59
3	24.2	.77	205.	55.	480.	.98	.73	156.	124.	1.31	69.	.44
4	25.1	.75	179.	178.	472.	1.00	.76	153.	130.	1.10	-48.	1.37
5	24.4	.81	127.	314.	478.	.99	.67	143.	114.	.89	-200.	2.76
6	24.8	.85	128.	193.	454.	1.00	.60	123.	98.	1.04	-95.	1.97
7	24.2	.83	111.	223.	473.	.98	.64	134.	107.	.83	-115.	2.09
8	23.5	.85	115.	374.	484.	.97	.60	126.	101.	.90	-273.	3.[illegible]
9	23.9	.86	99.	492.	470.	.97	.58	121.	96.	.82	-386.	5.02
10	23.2	.90	117.	444.	468.	.96	.50	101.	80.	1.16	-354.	5.52
11	23.5	.83	101.	175.	424.	.97	.54	118.	94.	.85	-82.	1.47
12	23.6	.84	116.	261.	421.	.97	.62	114.	91.	1.02	-171.	2.38
AVE	24.1	.82	133.	255.	455.	.98	.65	131.	104.	1.01	-151.	2.[illegible]

138-002 CAPIRA PAN LAT 8 45 LONG 79 52 ELEV 110

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	25.1	.75	0.	54.	431.	1.03	.76	142.	115.	.00	51.	.47
2	26.7	.70	0.	25.	413.	1.04	.83	154.	125.	.00	100.	.20
3	27.0	.80	0.	51.	482.	1.05	.69	150.	122.	.00	71.	.42
4	27.0	.75	0.	84.	472.	1.05	.76	163.	132.	.00	48.	.64
5	26.5	.85	0.	335.	478.	1.04	.60	129.	105.	.00	-230.	3.20
6	25.8	.85	0.	105.	454.	1.02	.60	120.	98.	.00	-8.	1.09
7	25.3	.85	0.	207.	473.	1.01	.60	124.	100.	.00	-107.	2.06
8	24.7	.95	0.	428.	484.	.99	.60	125.	101.	.00	-327.	4.22
9	26.0	.84	0.	145.	471.	1.02	.62	129.	105.	.00	-40.	1.38
10	26.6	.87	0.	302.	468.	1.04	.56	118.	96.	.00	-206.	3.14
11	25.8	.86	0.	144.	425.	1.02	.62	116.	94.	.00	-50.	1.53
12	26.0	.86	0.	196.	422.	1.02	.58	109.	88.	.00	-108.	2.22
AVE	26.0	.82	0.	173.	456.	1.02	.65	132.	107.	.00	-56.	1.71

142-008 UNIVERSIDAD PAN LAT 8 55 LONG 79 30 ELEV 47

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	26.4	.91	105.	4.	432.	1.03	.48	92.	75.	1.14	71.	.05
2	27.3	.87	137.	30.	414.	1.06	.56	106.	86.	1.29	47.	.45
3	27.2	.89	152.	120.	482.	1.05	.52	114.	93.	1.33	-27.	1.29
4	27.6	.89	141.	282.	472.	1.06	.52	113.	92.	1.25	-190.	3.08
5	27.0	.92	93.	160.	479.	1.05	.45	98.	79.	.95	-81.	2.02
6	26.4	.94	81.	182.	454.	1.03	.40	80.	65.	1.01	-117.	2.78
7	26.4	.94	102.	152.	473.	1.03	.40	84.	69.	1.22	-84.	2.23
8	26.0	.94	87.	185.	485.	1.02	.40	85.	69.	1.02	-116.	2.57
9	26.0	.94	93.	243.	471.	1.02	.40	83.	67.	1.12	-181.	3.69
10	25.8	.94	96.	144.	469.	1.02	.40	82.	67.	1.17	-77.	2.16
11	25.6	.92	78.	213.	425.	1.01	.45	84.	68.	.93	-150.	3.19
12	25.6	.93	78.	186.	423.	1.01	.43	74.	64.	.99	-122.	2.90
AVE	26.4	.92	104.	160.	457.	1.03	.45	92.	74.	1.12	-86.	2.21

144-002 TOCUMEN PAN LAT 9 5 LONG 79 22 ELEV 10

MO	TM	HM	EVPM	PREC	RMM	CT	CH	EVPC	ETP	EVM/EVC	ETDF	RMA
1	27.2	.75	0.	63.	422.	1.05	.76	145.	118.	.00	55.	.53
2	28.8	.68	0.	10.	408.	1.09	.85	163.	133.	.00	123.	.08
3	27.4	.80	0.	80.	479.	1.06	.69	149.	121.	.00	41.	.66
4	28.0	.77	0.	96.	474.	1.07	.73	160.	130.	.00	34.	.74
5	27.4	.84	0.	287.	484.	1.06	.62	136.	111.	.00	-176.	2.59
6	26.9	.86	0.	188.	461.	1.05	.58	121.	98.	.00	-90.	1.91
7	26.9	.86	0.	319.	480.	1.05	.58	126.	102.	.00	-217.	3.12
8	25.9	.87	0.	208.	488.	1.02	.56	121.	98.	.00	-110.	2.12
9	25.2	.84	0.	201.	469.	1.00	.62	125.	102.	.00	-99.	1.97
10	26.1	.88	0.	302.	462.	1.03	.54	111.	90.	.00	-212.	3.35
11	25.8	.84	0.	241.	416.	1.02	.62	113.	92.	.00	-149.	2.62
12	25.6	.84	0.	195.	412.	1.01	.62	111.	90.	.00	-105.	2.16
AVE	26.8	.82	0.	182.	455.	1.04	.65	132.	107.	.00	-75.	1.82

Evapotranspiration and Moisture Availability

Las Mercedes, Nicaragua, 1962-69.

In order to dmonstrate the annual variability of evapotranspiration and moisture availability together with the variation of calculated evapotranspiration both with and without a wind correction, the data for 8 years, 1962-69, were used for Las Mercedes, Nicaragua. The computer printout presents the following data and computations:

Column Number	Column Heading	Description
1	MO	The month of the year in numerical order.
2	TM	The mean temperature for the month in ^{o}C.
3	HM	The mean relative humidity expressed decimally.
4	W6	The mean wind speed at 6 meters in km/hr (Converted from values recorded at 8.5 m in knots by multiplying by 1.73).
5	PREC	The precipitation for the month in mm.
6	RMM	The calculated extraterrestrial radiation for the month at Lat 12°07' and the mean temperature (expressed in equivalent mm of evaporation).
7	EVPC	Calculated evaporation in mm assuming a correction coefficient for wind of CWV = 1.00.
8	EVPC2	Estimated evaporation in mm using a correction for recorded wind speed.

Column Number	Column Heading	Description
9	ETP	Calculated potential evapotranspiration in mm using an assumed wind coefficient CW = 1.00.
10	ETP2	Estimated potential evapotranspiration in mm using a correction for measured wind speed.
11	RET	RET = ETP2/ETP.
12	ETDF	ETDF = ETP2 - PREC.
13	RMA	RMA = PREC/ETP2.

The mean wind speed in km/hr estimated for an instrument height of 6.0 meters was obtained from the data at an instrument height of about 8.5* meters registered in knots. This was corrected by assuming that wind speed varies directly with the fourth root of the height of the instrument.

A wind speed of 7.15 km/hr at a height of 6.0 meters results in a wind correction coefficient of 1.00. The mean wind speed at 6.0 meters at Las Mercedes is 11.0 km/hr. Las Mercedes has significantly higher than average wind speeds and is not typical for Central America.

The use of measured wind speed, instead of an average correction for wind, increases estimated potential evapotranspiration by an average of 11 percent. Annual differences in extremes are from 7 to 15 percent.

Monthly increases of 25 percent during the dry season are not uncommon.

The calculated potential evapotranspiration does not vary greatly from year to year. Precipitation is, however, most variable, resulting in considerable differences in moisture availability in meeting evapotransperative demands.

It should be noted that the evapotranspiration deficit, ETDF, does not provide a correction for non-utilizable rainfall. The ratio of moisture availability, RMA, also assumes that all rainfall is effective. This is not the case but is used in the analysis for lack of a satisfactory method of determining what portion of the rainfall during any one month should be considered as effective in meeting moisture requirements.

At Las Mercedes six months normally have very deficient precipitation. The other months vary from moderately deficient to excessive.

The computer printout of potential evapotranspiration and moisture availability for the period 1962-69 for Las Mercedes is given on the following pages.

1962 LAS MERCEDES NIC LAT 12 7 LONG 86 11 ELEV 56

MO	TM	HM	WS	PREC	PMM	EVPC	EVPC2	ETP	ETP2	RET	ETDF	RMA
1	26.0	.82	14.9	9.	403.	116.	151.	94.	115.	1.22	106.	.08
2	26.1	.78	15.1	0.	394.	125.	169.	102.	127.	1.25	127.	.00
3	28.2	.76	14.5	4.	473.	164.	211.	133.	161.	1.21	157.	.02
4	29.4	.77	15.6	3.	477.	166.	221.	135.	167.	1.24	164.	.02
5	29.3	.71	14.2	8.	493.	191.	244.	156.	186.	1.20	178.	.04
6	27.1	.89	10.4	259.	473.	112.	126.	91.	99.	1.09	-160.	2.62
7	26.9	.87	12.6	112.	490.	124.	151.	101.	117.	1.15	5.	.96
8	26.9	.84	11.4	194.	493.	138.	160.	112.	125.	1.12	-69.	1.55
9	27.0	.87	9.2	208.	467.	119.	128.	97.	102.	1.06	-106.	2.04
10	26.3	.88	7.8	398.	452.	109.	112.	89.	90.	1.02	-308.	4.42
11	25.8	.81	9.7	16.	400.	118.	129.	96.	102.	1.07	86.	.16
12	25.8	.75	11.4	8.	392.	131.	153.	107.	119.	1.12	111.	.07
AVE	27.1	.81	12.3	102.	451.	134.	163.	109.	126.	1.19	24.	1.00

1963 LAS MERCEDES NIC LAT 12 7 LONG 86 11 ELEV 56

MO	TM	HM	WS	PREC	PMM	EVPC	EVPC2	ETP	ETP2	RET	ETDF	RMA
1	25.8	.73	13.0	6.	403.	140.	171.	114.	132.	1.16	126.	.05
2	26.8	.70	13.8	1.	395.	147.	185.	120.	142.	1.19	141.	.01
3	28.0	.68	15.9	0.	473.	187.	250.	152.	189.	1.25	189.	.00
4	28.6	.68	14.4	2.	476.	191.	244.	155.	186.	1.20	184.	.01
5	24.4	.69	14.9	17.	491.	176.	228.	143.	174.	1.22	157.	.10
6	26.7	.82	11.6	183.	472.	138.	162.	113.	127.	1.12	-56.	1.45
7	25.3	.82	11.8	87.	489.	139.	164.	113.	127.	1.13	40.	.68
8	25.2	.79	12.5	107.	493.	153.	185.	125.	143.	1.15	36.	.75
9	25.5	.84	9.0	157.	467.	126.	135.	102.	108.	1.05	-49.	1.46
10	25.7	.83	9.0	110.	451.	126.	135.	102.	108.	1.05	-2.	1.02
11	24.6	.84	9.3	87.	400.	106.	114.	86.	91.	1.06	4.	.96
12	25.0	.72	13.5	0.	392.	136.	169.	110.	130.	1.18	130.	.00
AVE	26.0	.76	12.4	63.	450.	147.	179.	119.	138.	1.15	75.	.54

1964 LAS MERCEDES NIC LAT 12 7 LONG 86 11 ELEV 56

MO	TM	HM	WG	PREC	PMM	EVPC	EVPC2	ETP	ETP2	RET	ETDF	RMA
1	25.5	.70	14.9	2.	403.	146.	189.	118.	144.	1.22	142.	.01
2	26.1	.65	14.5	0.	394.	156.	200.	126.	153.	1.21	153.	.00
3	28.0	.65	15.9	0.	473.	195.	261.	158.	197.	1.25	197.	.00
4	28.1	.69	14.2	23.	476.	186.	236.	151.	181.	1.20	158.	.13
5	27.3	.70	12.3	136.	492.	186.	223.	151.	173.	1.14	37.	.79
6	24.8	.85	8.5	422.	472.	122.	128.	99.	102.	1.04	-320.	4.12
7	24.6	.84	10.4	207.	489.	129.	145.	105.	115.	1.09	-92.	1.81
8	25.5	.80	9.3	154.	493.	147.	160.	120.	127.	1.06	-27.	1.21
9	25.9	.82	9.0	92.	467.	134.	144.	109.	115.	1.05	23.	.80
10	25.3	.91	7.3	341.	451.	93.	94.	76.	76.	1.00	-265.	4.43
11	25.8	.85	9.0	25.	400.	106.	113.	86.	90.	1.05	65.	.28
12	24.9	.82	11.6	6.	392.	110.	129.	90.	101.	1.12	95.	.06
AVE	26.0	.77	11.4	117.	450.	142.	169.	116.	131.	1.12	14.	1.14

1965 LAS MERCEDES NIC LAT 12 7 LONG 86 11 ELEV 56

MO	TM	HM	WG	PREC	PMM	EVPC	EVPC2	ETP	ETP2	RET	ETDF	RMA
1	25.3	.75	15.2	5.	403.	133.	175.	108.	133.	1.23	128.	.04
2	27.0	.74	17.1	0.	395.	138.	192.	112.	144.	1.28	144.	.00
3	27.4	.71	17.0	0.	473.	176.	243.	143.	182.	1.27	182.	.00
4	27.9	.68	16.6	0.	476.	188.	257.	152.	193.	1.27	193.	.00
5	29.0	.70	14.0	130.	493.	193.	245.	157.	187.	1.19	57.	.69
6	26.9	.81	10.9	129.	473.	143.	163.	116.	128.	1.11	-1.	1.01
7	26.9	.78	12.8	85.	490.	158.	193.	129.	149.	1.16	64.	.57
8	26.9	.78	12.3	97.	493.	159.	191.	130.	148.	1.14	51.	.65
9	26.6	.81	9.7	130.	467.	140.	154.	114.	122.	1.07	-8.	1.07
10	26.4	.83	6.9	134.	452.	128.	127.	104.	103.	.99	-31.	1.30
11	26.3	.79	6.5	35.	400.	125.	124.	101.	101.	.99	66.	.35
12	25.7	.75	10.9	10.	392.	131.	150.	106.	118.	1.11	108.	.09
AVE	26.9	.76	12.5	63.	451.	151.	184.	123.	142.	1.15	79.	.48

1966 LAS MERCEDES NIC LAT 12 7 LONG 86 11 ELEV 56

MO	TM	HM	WG	PREC	PMM	EVPC	EVPC2	ETP	ETP2	RET	ETDF	RMA
1	26.5	.69	13.0	0.	403.	152.	186.	123.	143.	1.16	143.	.00
2	26.6	.70	15.7	0.	395.	146.	195.	119.	148.	1.24	148.	.00
3	27.0	.71	15.3	0.	472.	174.	236.	141.	178.	1.26	178.	.00
4	28.3	.70	13.5	0.	476.	184.	229.	149.	176.	1.18	176.	.00
5	27.1	.79	8.3	150.	492.	156.	163.	127.	131.	1.03	-19.	1.14
6	26.1	.87	5.6	384.	472.	118.	108.	96.	90.	.94	-294.	4.27
7	26.4	.84	7.3	220.	490.	135.	136.	110.	110.	1.00	-110.	2.00
8	26.4	.83	8.3	137.	493.	140.	146.	114.	117.	1.03	-20.	1.17
9	26.0	.85	6.6	191.	467.	124.	121.	101.	99.	.98	-92.	1.93
10	26.1	.86	4.7	238.	451.	116.	105.	94.	88.	.93	-150.	2.71
11	24.6	.79	7.3	14.	400.	120.	120.	97.	98.	1.00	84.	.14
12	25.1	.76	9.0	37.	392.	127.	135.	103.	108.	1.05	71.	.34
AVE	26.3	.78	9.6	114.	450.	141.	157.	115.	124.	1.07	10.	1.14

1967 LAS MERCEDES NIC LAT 12 7 LONG 86 11 ELEV 56

MO	TM	HM	WG	PREC	PMM	EVPC	EVPC2	ETP	ETP2	RET	ETDF	RMA
1	25.6	.74	17.6	2.	403.	137.	166.	111.	128.	1.15	126.	.02
2	25.9	.66	12.6	0.	394.	153.	185.	124.	143.	1.15	143.	.00
3	26.5	.65	14.9	3.	472.	188.	244.	153.	186.	1.22	183.	.02
4	27.8	.65	12.8	1.	476.	195.	238.	159.	184.	1.16	183.	.01
5	28.7	.66	13.8	4.	493.	203.	256.	165.	196.	1.19	192.	.02
6	26.4	.83	8.3	222.	472.	134.	140.	109.	112.	1.03	-110.	1.98
7	25.6	.83	10.7	120.	490.	136.	155.	111.	122.	1.10	2.	.99
8	26.2	.84	10.9	102.	493.	135.	155.	110.	122.	1.11	20.	.84
9	27.5	.84	5.9	193.	468.	132.	131.	107.	107.	.99	-86.	1.81
10	26.8	.85	8.3	124.	452.	122.	127.	99.	102.	1.03	-22.	1.21
11	25.9	.82	9.6	91.	400.	115.	122.	94.	97.	1.04	6.	.93
12	25.4	.78	10.0	13.	392.	122.	136.	99.	108.	1.08	95.	.12
AVE	26.5	.76	10.9	73.	450.	149.	171.	120.	134.	1.10	61.	.56

1968 LAS MERCEDES NIC LAT 12 7 LONG 86 11 ELEV 56

MO	TM	HM	WG	PREC	PMM	EVPC	EVPC2	ETP	ETP2	RET	ETDF	RMA
1	25.2	.72	12.8	8.	403.	140.	171.	114.	132.	1.16	124.	.05
2	25.7	.66	10.9	0.	394.	152.	174.	123.	136.	1.11	136.	.00
3	26.8	.65	14.0	0.	472.	189.	240.	154.	183.	1.19	183.	.00
4	27.9	.68	11.6	1.	476.	188.	220.	152.	171.	1.12	170.	.01
5	27.5	.75	9.5	207.	493.	171.	190.	139.	144.	1.04	-63.	1.43
6	26.0	.86	7.1	228.	472.	121.	121.	99.	98.	1.00	-130.	2.32
7	26.6	.83	10.9	75.	490.	140.	160.	113.	125.	1.11	50.	.60
8	26.3	.81	9.5	103.	493.	147.	150.	119.	127.	1.07	24.	.81
9	26.1	.85	5.7	268.	467.	120.	113.	98.	94.	.96	-174.	2.86
10	25.8	.86	5.4	341.	451.	115.	107.	94.	89.	.95	-252.	3.83
11	25.7	.81	6.2	26.	400.	117.	113.	95.	93.	.97	67.	.28
12	25.7	.75	11.6	9.	392.	131.	153.	106.	120.	1.12	111.	.08
AVE	26.3	.77	9.5	105.	450.	144.	159.	117.	126.	1.07	21.	1.02

1969 LAS MERCEDES NIC LAT 12 7 LONG 86 11 ELEV 56

MO	TM	HM	WG	PREC	PMM	EVPC	EVPC2	ETP	ETP2	RET	ETDF	RMA
1	26.2	.70	11.8	6.	403.	148.	175.	120.	136.	1.13	130.	.04
2	26.7	.66	13.1	0.	395.	156.	192.	126.	148.	1.17	148.	.00
3	29.3	.65	13.5	0.	473.	198.	247.	161.	189.	1.18	189.	.00
4	29.5	.63	13.1	22.	477.	208.	257.	169.	198.	1.17	176.	.11
5	29.5	.68	8.1	94.	493.	201.	209.	164.	168.	1.03	74.	.56
6	26.2	.85	6.4	252.	472.	126.	122.	102.	100.	.98	-152.	2.52
7	26.4	.82	10.4	104.	490.	143.	160.	116.	126.	1.09	22.	.82
8	25.9	.86	7.8	263.	493.	126.	129.	103.	105.	1.02	-158.	2.52
9	25.8	.86	7.3	255.	467.	119.	120.	97.	97.	1.00	-159.	2.63
10	25.1	.91	8.5	303.	451.	93.	98.	75.	78.	1.04	-225.	3.87
11	25.4	.80	7.1	64.	400.	119.	119.	97.	97.	1.00	33.	.66
12	25.3	.76	10.7	5.	392.	127.	145.	103.	114.	1.10	109.	.05
AVE	26.8	.77	9.8	114.	451.	147.	164.	120.	130.	1.07	16.	1.15

Requirements for Irrigation

Based upon the values of the moisture availability index, MAI, for 20 locations in Guatemala and El Salvador and values of the ratio of moisture availability, RMA, for 99 locations in Central America and Panama, it seems evident that generally severe moisture deficiencies may be expected during six months on the Pacific side of the area. This may be somewhat reduced by soil moisture carryover which varies greatly with soil conditions. Considerable annual variation can be expected, and during 1970 some locations were severely deficient during only four months. Based upon the 75% probability dependable precipitation may be severly deficient during as many as 9 months as is the case for Station 048-252, San Miguel in El Salvador.

In general for good production of bananas, sugar cane and pasture an adequate supply of irrigation water should be made available during about 6 months for lands on the Pacific Coast.

No attempt has been made in this study to evaluate the effectiveness of rainfall. Soil and crop management, soil characteristics and rainfall distribution are major factors influencing the amount of rainfall that can be stored in the root zone and used in meeting evapotranspirational requirements. The general range in ability of soils to store moisture varies from the crop requirements for one week to those for more than three weeks.

It should be noted that MAI is based on a probability analysis and is a more conservative value than is RMA. It would seem logical that some correction be made for effective precipitation when RMA is used to evaluate the months requiring irrigation or in the evaluation of moisture deficiencies. This has not been done in this study.

The potential evapotranspiration, ETP, is for short grass under conditions of rapid growth. Many crops during conditions of full crop cover require more water than does short grass. Table 2 gives crop coefficients, K, to be used with ETP for estimating crop water requirements. ETP x K gives the average requirement.

When fruit is sizing up, grain is setting or tubers are increasing rapidly in size, the crop water use is at a higher rate than average full crops cover rates. During this stage it is quite important that available moisture be fully adequate.

When moisture supply is severely deficient (MAI less than .33), crop growth in limited. At these low moisture levels fertilizer does not seem to have a positive effect on plant growth and may in fact further accentuate moisture deficiencies.

Conclusions and Recommendations

As soon as time permits, long term average values for temperature, humidity, wind speed, Class A pan evaporation and precipitation should be prepared and published. It is recommended that full available

TABLE 2. CROP COEFFICIENTS, K

CROP	Root Depth in Meters	Full Crop Cover		Seasonal K	
		Range in K	Average K	Range	Mean
Field and Oil Crops	1.00-1.30	1.10-1.32	1.22	.73-.99	.89
Fruits					
Grapefruit	1.20		.79		.79
Naval Oranges	1.07		.65		.65
Grain and Forage Crops	1.12-1.35	1.08-1.70	1.37	.95-1.15	1.04
Grass Crops					
Bermuda Lawn	1.19		1.05		1.05
Blue Panicium Grass	1.20		1.11		1.11
Green Manure Crops	.86-1.31	.97-1.22	1.11	.85-1.18	.96
Winter Vegetables	.64-.95	1.22-1.86	1.45	.85-1.18	1.01
Summer Vegetables	.86-.95	1.22-1.40	1.28	.82-.84	.83

Notes: Root depth is zone from which 90 percent of soil moisture depletion occurred. Coefficients are to be used with estimated potential evapotranspiration, ETP.

Source: [1]Erie, L.J., Orrin F. French and Karl Harris, "Consumptive Use of Water by Crops in Arizona". (Tech. Bulletin 169: University of Arizona Agricultural Experiment Station, 1965), 44 pp.

[2]Middleton, J.E., O. W. Pruitt, P. C. Crandall and M. C. Jensen, "Central and Western Washington Consumptive Use and Evaporation Data, 1954-62", (Bulletin 681: Washington State University Agricultural Experiment Station, 1967), 7 pp.

precipitation records be used to obtain monthly values of absolute maximum precipitation, absolute minimum precipitation, mean precipitation and precipitation at the 75% level of probability (that available three years out of four).

Wind velocity data at an instrument height of 6.0 meters should be summarized and published. Preferably this should be from a totalizing instrument and recorded as average for a 24-hour period in km/hr. In the event that another method is used, the relationship to 24-hour wind velocity should be determined. In each case the instrument height and period or time of measurement should be clearly explained as a footnote to the data.

For most stations the recorded Class A pan evaporation data appear to be reasonable and of the appropriate order of magnitude. Principal variations from calculated values can be explained for the most part as due to non-availability of wind data and to effects of advective cooling or advective heating. Evaporation pans located in a narrow valley or canyon surrounded by mountains usually have low evaporation due to restriction of wind movement and the cooling effect of air movement down the mountain slopes. However, for several locations it is not easy to explain the values given, and Class A pan evaporation data appear to be unrealistic. For an evaporation pan located in a dry exposure in a hot, dry, windy area, advective heating can increase evaporation as much as 35% above that typical for an irrigated area

exposure. Pans located beside a lake, marsh or the ocean may have significantly reduced evaporation due to advective cooling. An evaporation pan located in a depression or low area that has air drainage into the area will have significantly lower evaporation than one located on a small rise or hill with good air drainage away from the location. The relative humidity at the pan level is at times significantly higher than that at the instrument height. Whenever variations from calculated values seem too great to be explained by these factors, then an effort should be made to locate the cause for the discrepancy.

Relative humidity is a very important determining factor on water use by plants. Since evapotranspiration takes place principally during the daylight hours and evaporation may continue at a reduced rate during the night, providing humidities are not high enough to create condensation, relative humidity measured as an average of three readings, at 0700, 1300 and 1900 hours, may be a better index of evapotranspiration than is 24-hour mean relative humidity. However, since relative humidity is not always reported for the same hours, it is recommended that, where available, values be reported for both the 24-hour mean and the mean of three hourly readings. This will provide for a better transfer of data and better use of data from other locations.

Equation 4a, the relationship between dependable precipitation and mean precipitation, has not been tested using data from the area except for Nicaragua. Its universal applicability to the area and probable

deviation or errors should be further evaluated. When rainfall data have been summarized for the full periods of record, it is recommended that a gamma distribution analysis be run in order to evaluate the statistical probability of rainfall at various percentage levels. Equation 4a can then either be verified or improved.

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