TECHNICAL PUBLICATION
WRE #380

July 1999

Regional Rainfall Frequency Analysis for Central and South Florida

by

Alaa Ali and Wossenu Abtew

Hydrologic Reporting Unit
Resource Assessment Division
Water Resources Evaluation Department
South Florida Water Management District
West Palm Beach, Florida 33406

EXECUTIVE SUMMARY

The Operations and Maintenance Department (OMD) of the South Florida Water Management District (SFWMD) has divided the District area into fourteen rainfall basins to facilitate operations. Daily, monthly, seasonal and annual rainfall reporting for each basin requires historical rainfall statistics for comparison with current rainfall amounts. The objective of this study was to derive monthly basin rainfall from point (gage) records and perform statistical analyses to generate basin averages and magnitudes of rainfall for various probabilities of occurrence (return periods). An algorithm was developed to derive basin areal rainfall from point (gage) records of varying length of period of record.

Histograms were plotted for monthly, seasonal (dry and wet) and annual basin areal rainfall. Basic statistics such as average, standard deviation, skewness and kurtosis are provided for all durations. The Palm Beach rainfall basin has the highest cumulative rainfall at any time of the year, while the Lower Kissimmee and Lake Okeechobee basins have the corresponding lowest values. May and October represent transitional months between the wet and dry seasons, respectively. The wet season is June through October, and the dry season runs from November through May. The Southwest Coast basin has the lowest dry season rainfall and the highest wet season rainfall.

Frequency analysis was performed on monthly, seasonal (dry and wet) and annual basin areal rainfall. The results indicate that monthly, dry season and wet season basin areal rainfall fit the Gamma (2-parameter) probability distribution, while the annual basin areal rainfall fits Log Normal distribution. Based on the probability distribution, expected rainfall amounts for 5-year, 10-year, 20-year, 50-year and 100-year dry and wet states were computed and presented. Also, historical monthly, seasonal and annual rainfall departures from the historical average are presented graphically. The results show significant variations from the average.

The contents of this study provide rainfall basin statistics and the documentation of the analysis. Current and future basin areal rainfall can be compared to the historical basin areal rainfall statistics, and the magnitude and frequency of occurrence can be put into perspective. The information should be useful in the management and operation of South Florida water resources.

TABLE OF CONTENTS

EXECUTIVE SUMMARY i

TABLE OF CONTENTS iii

LIST OF TABLES iv

LIST OF FIGURES vi

ACKNOWLEDGEMENTS x

INTRODUCTION 1

RAINFALL BASINS AND AVAILABLE DATA 2

REGIONAL WEIGHTED AVERAGE RAINFALL 2

REGIONAL RAINFALL STATISTICS 4
- Monthly Statistics 4
- Histograms and Basic Statistics 4
- Monthly Average Rainfall 5
- Departures from the Historical Average 5
- Seasonal and Annual Statistics 8
- Histograms and Basic Statistics 8

FREQUENCY ANALYSIS 12
- Monthly Frequency Analysis 12
- Seasonal and Annual Frequency Analysis 15

SUMMARY 18

REFERENCES 20

APPENDIX A: Histograms for Monthly Weighted Rainfall for Each Basin 21

APPENDIX B: Basin Rainfall Departures from Historical Averages for Each Month 35

APPENDIX C: Basin Seasonal (Dry and Wet) and Annual Rainfall Departures from Respective Historical Averages 61

APPENDIX D: Monthly Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 75

APPENDIX E: Rain Gage Station Information for Each Rainfall Basin 83

APPENDIX F: Weighted Monthly Average Rainfall for Each Rainfall Basin 89

LIST OF TABLES

Table 1 Monthly Average Rainfall for Each Rainfall Basin and District-wide 6

Table 2 Cumulative Monthly Average Rainfall for Each Rainfall Basin and District-wide 6

Table 3 Dry Season Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 16

Table 4 Wet Season Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 16

Table 5 Annual Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 17

Table D_1 January Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 77

Table D_2 February Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 77

Table D_3 March Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 78

Table D_4 April Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 78

Table D_5 May Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 79

Table D_6 June Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 79

Table D_7 July Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 80

Table D_8 August Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 80

Table D_9 September Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 81

Table D_{10} October Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 81

LIST OF TABLES (continued)

Table D_{11} November Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 82

Table D_{12} December Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin 82

Table E Rain Gage Station Information for Each Rainfall Basin 85

Table F_1 Historical Monthly Weighted Average Rainfall for the Broward Area 91

Table F_2 Historical Monthly Weighted Average Rainfall for the Caloosahatchee Area 92

Table F_3 Historical Monthly Weighted Average Rainfall for the Dade Area 93

Table F_4 Historical Monthly Weighted Average Rainfall for the East EAA 95

Table F_5 Historical Monthly Weighted Average Rainfall for the Lake Okeechobee Area 97

Table F_6 Historical Monthly Weighted Average Rainfall for the Lower Kissimmee Area 98

Table F_7 Historical Monthly Weighted Average Rainfall for the Martin/St. Lucie Area 99

Table F_8 Historical Monthly Weighted Average Rainfall for the Palm Beach Area 101

Table F_9 Historical Monthly Weighted Average Rainfall for the Southwest Coast Area 103

Table F_{10} Historical Monthly Weighted Average Rainfall for the Upper Kissimmee Area 105

Table F_{11} Historical Monthly Weighted Average Rainfall for the WCA 1 & 2 Area 107

Table F_{12} Historical Monthly Weighted Average Rainfall for the West AG Area 107

LIST OF FIGURES

Figure 1 Rainfall Basins and Rain Gage Stations 3

Figure 2 Cumulative Rainfall Average for Each Rainfall Basin 7

Figure 3 Dry Season Histograms for Weighted Average Basin Rainfall 9

Figure 4 Wet Season Histograms for Weighted Average Basin Rainfall 10

Figure 5 Annual Histograms for Weighted Average Basin Rainfall 11

Figure 6 The Value of χ^2 Ratio (computed/tabulated) for Seven Monthly Basin Rainfall Frequency Distributions for January through June. 13

Figure 7 The Value of χ^2 Ratio (computed/tabulated) for Seven Monthly Basin Rainfall Frequency Distributions for July through December. 14

Figure 8 The Value of χ^2 Ratio (computed/tabulated) for Seven Frequency Distributions for Dry and Wet Seasons. 15

Figure 9 The Value of χ^2 Ratio (computed/tabulated) for Seven Frequency Distributions for Annual Rainfall 15

Figure A_1 January Histograms for Monthly Weighted Average Basin Rainfall 23

Figure A_2 February Histograms for Monthly Weighted Average Basin Rainfall 24

Figure A_3 March Histograms for Monthly Weighted Average Basin Rainfall 25

Figure A_4 April Histograms for Monthly Weighted Average Basin Rainfall 26

Figure A_5 May Histograms for Monthly Weighted Average Basin Rainfall 27

Figure A_6 June Histograms for Monthly Weighted Average Basin Rainfall 28

Figure A_7 July Histograms for Monthly Weighted Average Basin Rainfall 29

Figure A_8 August Histograms for Monthly Weighted Average Basin Rainfall 30

Figure A_9 September Histograms for Monthly Weighted Average Basin Rainfall 31

Figure A_{10} October Histograms for Monthly Weighted Average Basin Rainfall 32

Figure A_{11} November Histograms for Monthly Weighted Average Basin Rainfall 33

LIST OF FIGURES (continued)

Figure A_{12} December Histograms for Monthly Weighted Average Basin Rainfall 34

Figure B_{1a} Broward Rainfall Departures from Historical Averages for the Months of January through June. 37

Figure B_{1b} Broward Rainfall Departures from Historical Averages for the Months of July through December. 38

Figure B_{2a} Caloosahatchee Rainfall Departures from Historical Averages for the Months of January through June. 39

Figure B_{2b} Caloosahatchee Rainfall Departures from Historical Averages for the Months of July through December. 40

Figure B_{3a} Dade Rainfall Departures from Historical Averages for the Months of January through June. 41

Figure B_{3b} Dade Rainfall Departures from Historical Averages for the Months of July through December. 42

Figure B_{4a} East EAA Rainfall Departures from Historical Averages for the Months of January through June. 43

Figure B_{4b} East EAA Rainfall Departures from Historical Averages for the Months of July through December. 44

Figure B_{5a} Lake Okeechobee Rainfall Departures from Historical Averages for the Months of January through June. 45

Figure B_{5b} Lake Okeechobee Rainfall Departures from Historical Averages for the Months of July through December. 46

Figure B_{6a} Lower Kissimmee Rainfall Departures from Historical Averages for the Months of January through June. 47

Figure B_{6b} Lower Kissimmee Rainfall Departures from Historical Averages for the Months of July through December. 48

Figure B_{7a} Martin/St. Lucie Rainfall Departures from Historical Averages for the Months of January through June. 49

Figure B_{7b} Martin/St. Lucie Rainfall Departures from Historical Averages for the Months of July through December 50

LIST OF FIGURES (continued)

Figure B_{8a} Palm Beach Rainfall Departures from Historical Averages for the Months of January through June. 51

Figure B_{8b} Palm Beach Rainfall Departures from Historical Averages for the Months of July through December. 52

Figure B_{9a} Southwest Coast Rainfall Departures from Historical Averages for the Months of January through June. 53

Figure B_{9b} Southwest Coast Rainfall Departures from Historical Averages for the Months of July through December. 54

Figure B_{10a} Upper Kissimmee Rainfall Departures from Historical Averages for the Months of January through June. 55

Figure B_{10b} Upper Kissimmee Rainfall Departures from Historical Averages for the Months of July through December. 56

Figure B_{11a} WCA 1&2 Rainfall Departures from Historical Averages for the Months of January through June. 57

Figure B_{11b} WCA 1&2 Rainfall Departures from Historical Averages for the Months of July through December. 58

Figure B_{12a} West AG Rainfall Departures from Historical Averages for the Months of January through June. 59

Figure B_{12b} West AG Rainfall Departures from Historical Averages for the Months of July through December. 60

Figure C_1 Broward Seasonal and Annual Rainfall Departures from Respective Historical Averages 63

Figure C_2 Caloosahatchee Seasonal and Annual Rainfall Departures from Respective Historical Averages 64

Figure C_3 Dade Seasonal and Annual Rainfall Departures from Respective Historical Averages 65

Figure C_4 East EAA Seasonal and Annual Rainfall Departures from Respective Historical Averages 66

LIST OF FIGURES (continued)

Figure C_5 Lake Okeechobee Seasonal and Annual Rainfall Departures from Respective Historical Averages 67

Figure C_6 Lower Kissimmee Seasonal and Annual Rainfall Departures from Respective Historical Averages 68

Figure C_7 Martin/St. Lucie Seasonal and Annual Rainfall Departures from Respective Historical Averages 69

Figure C_8 Palm Beach Seasonal and Annual Rainfall Departures from Respective Historical Averages 70

Figure C_9 Southwest Coast Seasonal and Annual Rainfall Departures from Respective Historical Averages 71

Figure C_{10} Upper Kissimmee Seasonal and Annual Rainfall Departures from Respective Historical Averages 72

Figure C_{11} WCA 1&2 Seasonal and Annual Rainfall Departures from Respective Historical Averages 73

Figure C_{12} West AG Seasonal and Annual Rainfall Departures from Respective Historical Averages 74

ACKNOWLEDGEMENTS

Great acknowledgement is due to Daniel Bachand who generated the graphs and edited this document. Diane Smith is acknowledged for producing the map.

INTRODUCTION

The South Florida Water Management District (SFWMD) area covers South Florida and part of Central Florida (henceforth called Central and South Florida). In this area, rainfall represents the most important component of the water budget. Rainfall depth resulting from a storm event occurring with a given frequency is an essential variable for the design and operation of water management structures, flood control, consumptive use estimation, water supply planning, and total water resources management. This variable is usually evaluated for various durations and various frequencies using point or regional frequency analysis.

Point frequency analysis deals with a single time series representing a single location, while regional frequency analysis deals with a combined time series from several locations representing an entire region. In a recent study, Ali et al., 1999 presented comprehensive frequency analysis and spatial characterization for rainfall in Central and South Florida. In their study, point frequency analysis was conducted at each gage location as an essential step for subsequent mapping. While point frequency analysis is needed if frequency estimate mapping over a given region is of interest, regional frequency analysis provides better information when a lumped region-wide representation is desired (e.g., rainfall volume over the entire region for a given duration and frequency).

The Operations and Maintenance Department (OMD) of SFWMD has divided the District area into fourteen rainfall "basins" to facilitate operations (Figure 1). Lumped rainfall characteristics over these regions are of great interest to the District Meteorologists, Hydrologists, Operators, Regulators, and Planners. District Meteorologists issue rainfall forecasts for each region on a daily basis. The OMD produces a Surface Water Conditions Report every month that includes a graphical comparison of each region's current month rainfall with the basin historical average for that month. In addition, basin dry season and year-to-date rainfalls are compared to the respective historical averages. The Resource Assessment Division in the Water Resources Evaluation Department produces monthly rainfall maps for each basin with comparisons of historical averages. Therefore, periodic updates of estimated rainfall historical averages and frequency characteristics on the regional scale are needed.

In District Technical Publication 86-6 (Sculley, 1986), Sculley provided seasonal and annual rainfall frequency analysis for twelve rainfall basins and the District region using rainfall data from 1915 to 1985. Rainfall basins used at that time were Everglades Agricultural Area (800 sq. miles), Everglades National Park (2185 sq. miles), Fisheating Creek (440 sq. miles), Kissimmee River (697 sq. miles), Lake Okeechobee (697 sq. miles), Lower East Coast (1920 sq. miles), Lower West Coast (4318 sq. miles), Upper East Coast (1304 sq. miles), Upper Kissimmee River (335 sq. miles), Water Conservation Area 1 (221 sq. miles), Water Conservation Area 2A & 2B (210 sq. miles) and Water Conservation Area 3A & 3B (800 sq. miles). Wet season, dry season and annual historical rainfall histograms were provided for each area along with time series of departure from the historical mean. The dry season was designated to be from November through May, and the wet season from June through October.

In Sculley's study, Normal and Log Normal probability distributions were fitted to seasonal and annual rainfall for each basin and the whole District area. Magnitude and frequency of rainfall was provided for dry and wet return periods for 2, 5, 10, 25, 50, 100 and 200 years. Some of the results of the analysis include: a regional annual average rainfall of 53 inches for the District, and a 1-in-10-year "dry" and "wet" state annual regional rainfall of 44.3 and 62.5 inches, respectively.

With additional periods of records rainfall data, the current study provides monthly, seasonal, and annual frequency analyses for the OMD rainfall basins in Central and South Florida. A numerical algorithm was developed to provide a time series of weighted average monthly rainfall for each basin and each month. These time series are then used to present histograms, basic statistics, and departures from historical averages for monthly, seasonal, and annual rainfall. These time series are also used to evaluate the frequency characteristics of monthly, seasonal, and annual rainfall over the rainfall regions. The remaining body of this report consists of four sections: 1) Available Data, 2) Regional Weighted Average Rainfall, 3) Regional Rainfall Statistics, and 4) Regional Frequency Analysis.

RAINFALL BASINS AND AVAILABLE DATA

Figure 1 depicts the fourteen OMD rainfall basins and the rain gage stations covering the SFWMD's 16 counties. The SFWMD collects rainfall data from a network of recording and non-recording rain gages throughout its 16-county water management areas, encompassing 18,000 square miles. In addition to the SFWMD precipitation gages, Federal, State, and Local government agencies also maintain gages throughout the SFWMD region. In order to select the appropriate records for this study, a number of steps were followed. These steps included a comprehensive review of the available precipitation records, the identification of duplicate records, and the selection of gage records with a minimum record length of 25 years with 5% maximum of missing data for any year (Markovic, 1965). In addition, precipitation records were tested through a correlation analysis to identify if any records were unsuitable based on a poor correlation with other gage records. Based on this procedure, a final set of 145 gages existing inside and outside the SFWMD boundary were considered for the frequency analysis study conducted by Ali et al., 1999. In this study, rain gages outside the SFWMD boundary were excluded, thereby reducing the number to 108 rain gages (Appendix E). A compilation of these data is necessary to obtain a representative data set for each of the 14 rainfall basins.

REGIONAL WEIGHTED AVERAGE RAINFALL

Regional frequency analysis usually requires a proper delineation of a hydrologic basin with statistically homogeneous characteristics and a proper evaluation of a representative data set. The average area of the OMD fourteen rainfall basins is assumed, for operational purposes, small enough for rainfall characteristics to be statistically homogeneous. For a given duration, and a given year, the weighted average rainfall sum in a given area, based on the available data, is the best representative data for regional frequency analysis. Thiessen Polygon (Thiessen,

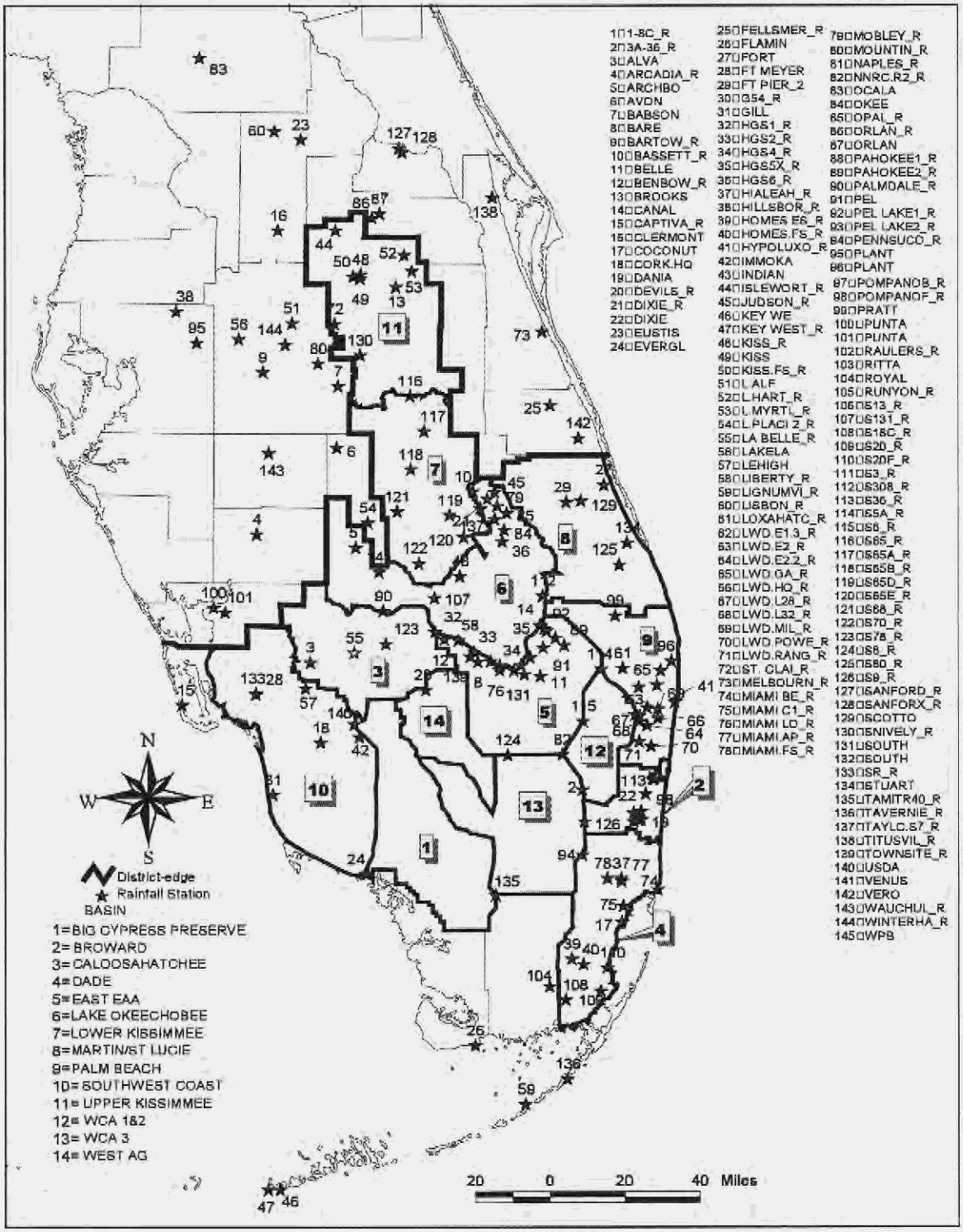

Figure 1. Rainfall Basins and Rain Gage Stations

1911) is the most commonly applied method for computing such a weighted average. In this method, a network of Thiessen polygons is configured based on the available data network. If the data network changes with time due to such irregularities as gage malfunction, data screening, and gages being added and/or dropped from the network, then a reconfiguration for a Thiessen Network is required accordingly. Given 14 rainfall basins in the current study, the number of these irregularities is so high that evaluating a Thiessen Network for each case is computationally intensive. To avoid this problem, the following algorithm has been developed:

1) Overlay the SFWMD area with a ½ by ½ mile pixel grid.
2) For a given pixel "i" in a given basin, given month, and a given year, identify distance, r_1, to the nearest rainfall data point, p_1, within the same basin and with existing record.
3) Search for all data points in the same basin with existing records (p_2, p_3, ... p_n) that fall within $r_1 + 0.5$ mile from pixel "i". (In most of the cases, this search provides no points).
4) Assign the uniform average: $p_{avg} = (p_1 + p_2 + \ldots p_n)/n$, to pixel "i".
5) Repeat steps 2 through 4 for all pixels (1 to N).
6) Repeat steps 2 through 5 for all years for a given month M.
7) Repeat steps 2 through 6 for all months.

The results show that no rain gages that match the initial criteria, as described above, were found inside Big Cypress Preserve and Water Conservation Area 3 rainfall basins. Therefore, the analysis in this study will be performed on the remaining 12 regions. The weighted average rainfall for these regions is presented in Appendix F (a table for each region).

REGIONAL RAINFALL STATISTICS

Monthly Statistics

Histograms and Basic Statistics

Histogram is a non-parametric method for presenting the frequency distribution of a given set of rainfall data. A value on the histogram indicates the relative frequency of rainfall occurrence within a prescribed range (interval width). To construct a histogram, an interval (bin) width must be prescribed. A too short bin-width provides an "under-smoothed looking" histogram due to a lack of data points within each bin. On the other hand, a too large bin-width provides an "over-smoothed looking" histogram due to an excess of data points within each bin leading to damping variability. There are many methods for estimating the "optimal" bin-width including visual judgement. In this study, Sturges empirical formula was used (Haan, 1977). For a given month, and a given basin, this formula is given as:

$$Bin_Width = \frac{Data_Range}{[1 + 3.32\log(n)]} \qquad (1)$$

where "n" is the number of data points. For convenience, all bin-width values were rounded to the nearest 0.1 inch.

Figures A_1 through A_{12} in Appendix A depict 12 histograms for January through December for each basin. The mean (μ), the standard deviation (σ), skewness (γ), and kurtosis (κ), are presented on each histogram plot. From these figures, and based on the provided statistics, the following observations are made:

1) The degree of skewness is higher in the dry season than in the wet season.
2) For a given month, the Palm Beach region is the wettest basin.
3) On an annual basis, Palm Beach rainfall basin is the wettest (61.5 inches), Lower Kissimmee rainfall basin is the driest (44.5 inches), followed by Lake Okeechobee rainfall basin (46.0 inches).

Monthly Average Rainfall

Monthly average rainfall for each rainfall basin and district-wide is presented in Table 1. Table 2 presents the historical cumulative average rainfall for the 12 months for each basin. Figure 2 is a graphical representation for this table. Based on Table 2 and Figure 2, the following is observed:

1) The highest cumulative average rainfall at any time is in the Palm Beach area.
2) The lowest cumulative average rainfall at any time is in the Lower Kissimmee and Lake Okeechobee (central zone) areas.
3) May and October represent significant break points in the rainfall seasonal patterns.

Departures from the Historical Average

Monthly rainfall departure from the historical average is part of the meteorologic reports by OMD. Time series of this departure are presented for the months of January through December in Figures B_{1a} through B_{12b} in Appendix B. From these figures, the following can be observed:

1) Significant departures from the historical means for all months and all basins are displayed.
2) In dry season months, monthly rainfall exceeded 6 inches in many years (e.g., 1902, 1925, 1958, 1974, 1983, 1991, and 1993).
3) There are many years where dry season rainfall is significantly higher than the historical average, while the wet season rainfall is lower than the historical average (e.g., 1983).

Table 1. Monthly Average Rainfall for Each Rainfall Basin and District-wide

Month	Broward	Caloosahatchee	Dade	East EAA	Lake Okeechobee	Lower Kissimmee	Martin / St. Lucie	Palm Beach	Southwest Coast	Upper Kissimmee	WCA 1&2	West AG	District
January	2.18	1.76	2.09	2.04	1.85	1.85	2.48	3.03	1.92	2.25	2.25	2.48	2.20
February	2.26	2.06	2.01	1.94	2.00	2.37	2.56	2.74	2.15	2.64	2.29	2.39	2.36
March	2.46	2.74	2.28	2.78	2.95	2.76	3.10	3.36	2.46	3.18	2.54	3.04	2.94
April	3.06	2.59	3.02	2.76	2.38	1.92	3.02	3.29	2.21	2.55	2.49	2.53	2.58
May	5.46	4.27	6.06	4.77	4.03	3.84	4.53	5.19	4.03	4.08	5.22	4.36	4.66
June	8.35	8.52	8.28	8.41	6.92	7.26	6.51	8.10	9.13	7.28	8.19	9.58	7.85
July	6.53	7.36	6.21	7.50	6.06	6.58	6.11	6.46	8.73	7.44	6.16	8.15	6.98
August	7.18	7.48	6.99	7.61	6.37	6.20	6.15	6.92	8.26	6.87	6.38	7.54	7.03
September	7.96	7.18	8.32	7.61	6.49	5.33	7.86	8.41	8.20	6.37	6.44	7.25	7.23
October	7.39	3.78	7.32	4.29	3.83	3.07	6.77	7.80	4.05	3.24	5.04	3.83	4.72
November	3.14	1.58	2.78	2.06	1.58	1.84	2.96	3.77	1.55	2.17	2.91	1.84	2.30
December	2.16	1.36	1.75	1.71	1.51	1.43	2.09	2.47	1.43	2.02	2.05	1.96	1.90
YEAR	58.13	50.68	57.11	53.48	45.97	44.45	54.14	61.54	54.12	50.09	51.96	54.95	52.75

Table 2. Cumulative Monthly Average Rainfall for Each Rainfall Basin and District-wide

Month	Broward	Caloosahatchee	Dade	East EAA	Lake Okeechobee	Lower Kissimmee	Martin / St. Lucie	Palm Beach	Southwest Coast	Upper Kissimmee	WCA 1&2	West AG	District
January	2.18	1.76	2.09	2.04	1.85	1.85	2.48	3.03	1.92	2.25	2.25	2.48	2.20
February	4.44	3.82	4.10	3.98	3.85	4.22	5.04	5.77	4.07	4.89	4.54	4.87	4.56
March	6.90	6.56	6.38	6.76	6.80	6.98	8.14	9.13	6.53	8.07	7.08	7.91	7.50
April	9.96	9.15	9.40	9.52	9.18	8.90	11.16	12.42	8.74	10.62	9.57	10.44	10.08
May	15.42	13.42	15.46	14.29	13.21	12.74	15.69	17.61	12.77	14.70	14.79	14.80	14.74
June	23.77	21.94	23.74	22.70	20.13	20.00	22.20	25.71	21.90	21.98	22.98	24.38	22.59
July	30.30	29.30	29.95	30.20	26.19	26.58	28.31	32.17	30.63	29.42	29.14	32.53	29.57
August	37.48	36.78	36.94	37.81	32.56	32.78	34.46	39.09	38.89	36.29	35.52	40.07	36.60
September	45.44	43.96	45.26	45.42	39.05	38.11	42.32	47.50	47.09	42.66	41.96	47.32	43.83
October	52.83	47.74	52.58	49.71	42.88	41.18	49.09	55.30	51.14	45.90	47.00	51.15	48.55
November	55.97	49.32	55.36	51.77	44.46	43.02	52.05	59.07	52.69	48.07	49.91	52.99	50.85
December	58.13	50.68	57.11	53.48	45.97	44.45	54.14	61.54	54.12	50.09	51.96	54.95	52.75

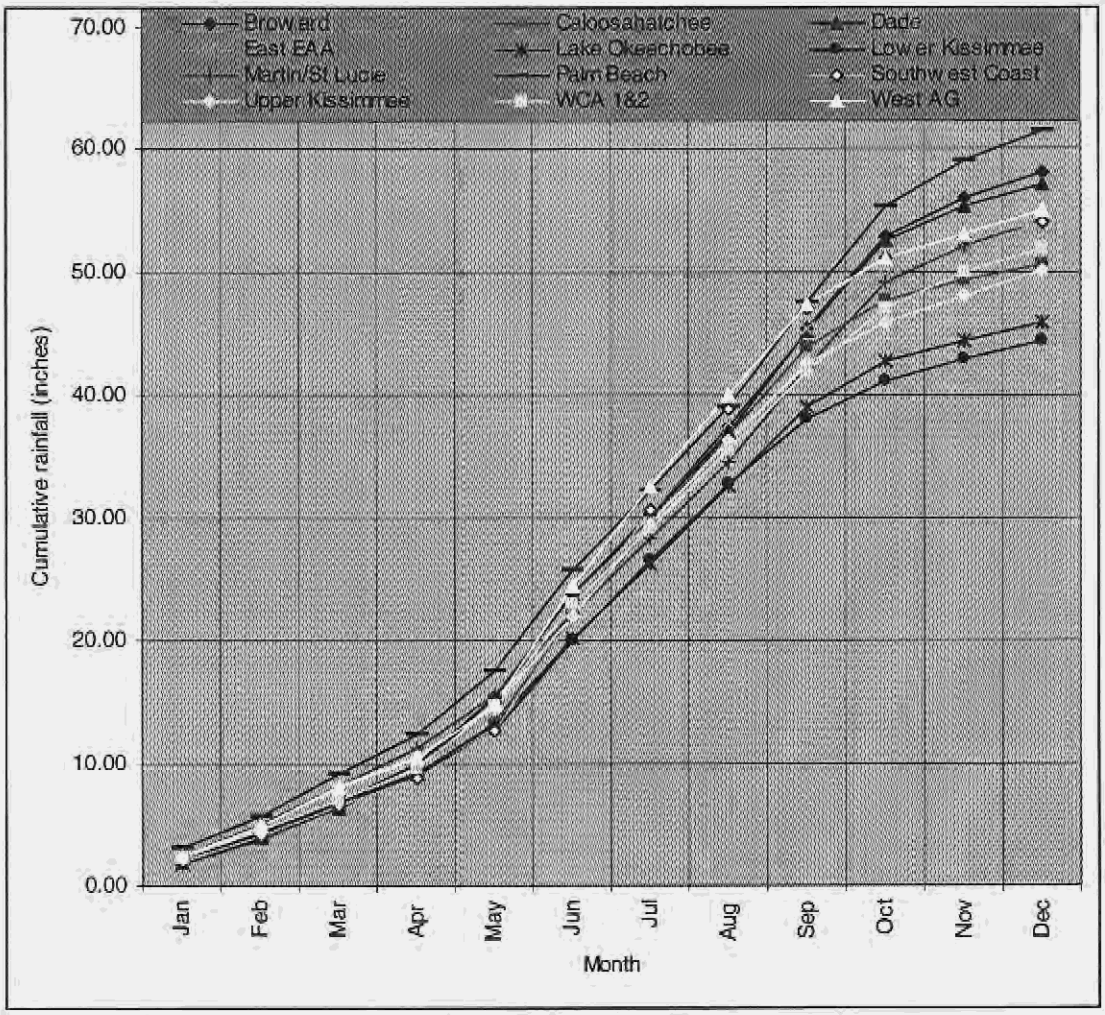

Figure 2. Cumulative Rainfall Average for Each Rainfall Basin

Seasonal and Annual Statistics

The dry season weighted average rainfall for a given area is the sum of the monthly weighted average rainfall of November and December of the previous calendar year and January through May of the current year. The wet season weighted average rainfall for a given area is the sum of monthly weighted average rainfall of June through October. The annual weighted average rainfall is the sum of monthly weighted average rainfall of January though December. The statistics for these data are presented below.

Histograms and Basic Statistics

Similar to monthly data, histograms were plotted for dry, wet, and annual data. Figures 3, 4, and 5 present these histograms respectively along with the mean, standard deviation, skewness, and kurtosis. From these figures, the following is observed:

1) Seasonal and annual rainfall have significantly lower skewness compared to the monthly rainfall.
2) The Broward region exhibits more normality in the dry season than in the wet season.
3) The Southwest Coast region has the lowest average rainfall in the dry season, and the highest average rainfall in the wet season.
4) The Palm Beach region has the highest annual rainfall, while the Lower Kissimmee region has the lowest.

Dry, wet, and annual time series for the departure from historical average for each basin are presented in Figures C_1 through C_{12} in Appendix C.

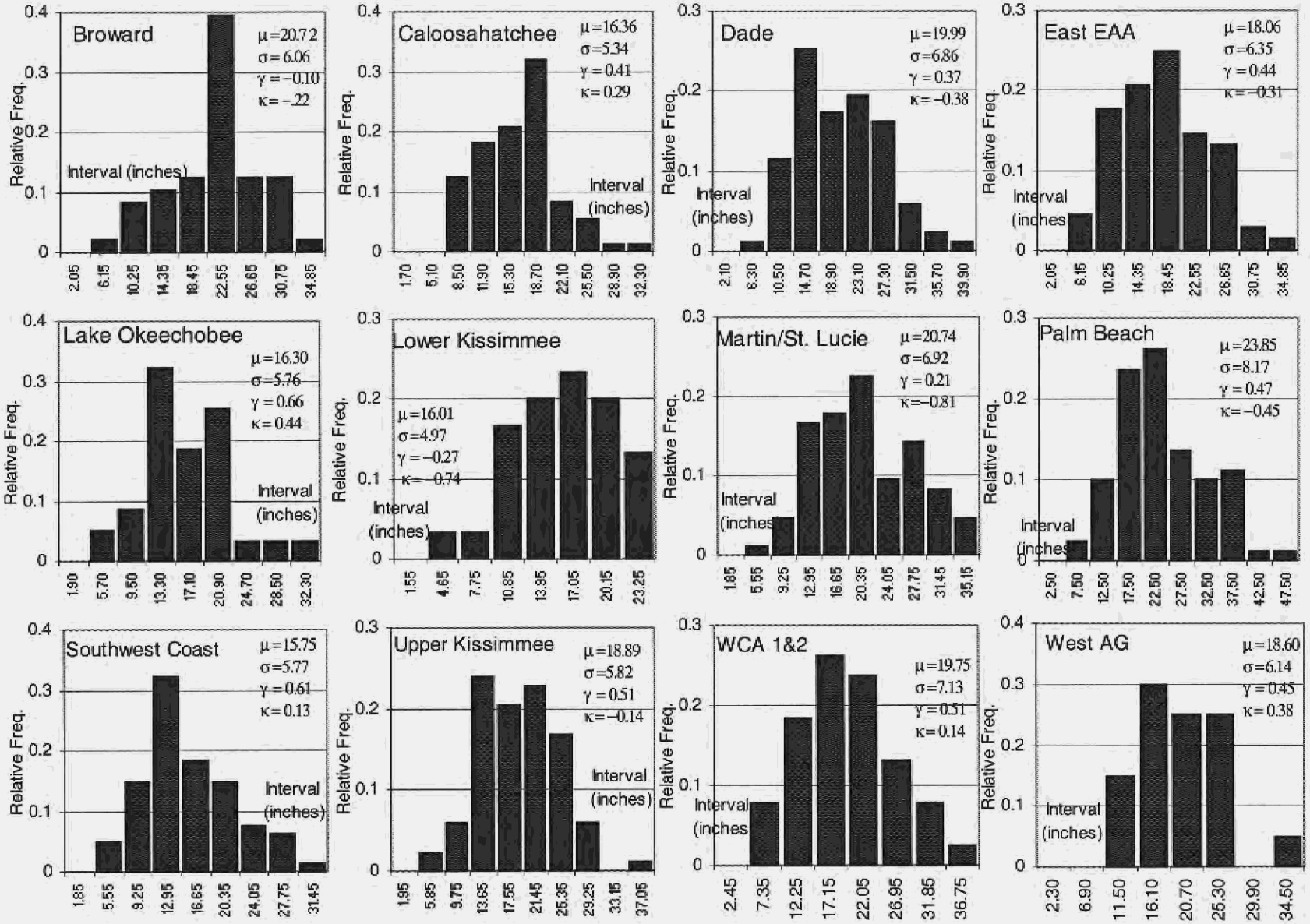

Figure 3. Dry Season Histograms for Weighted Average Basin Rainfall

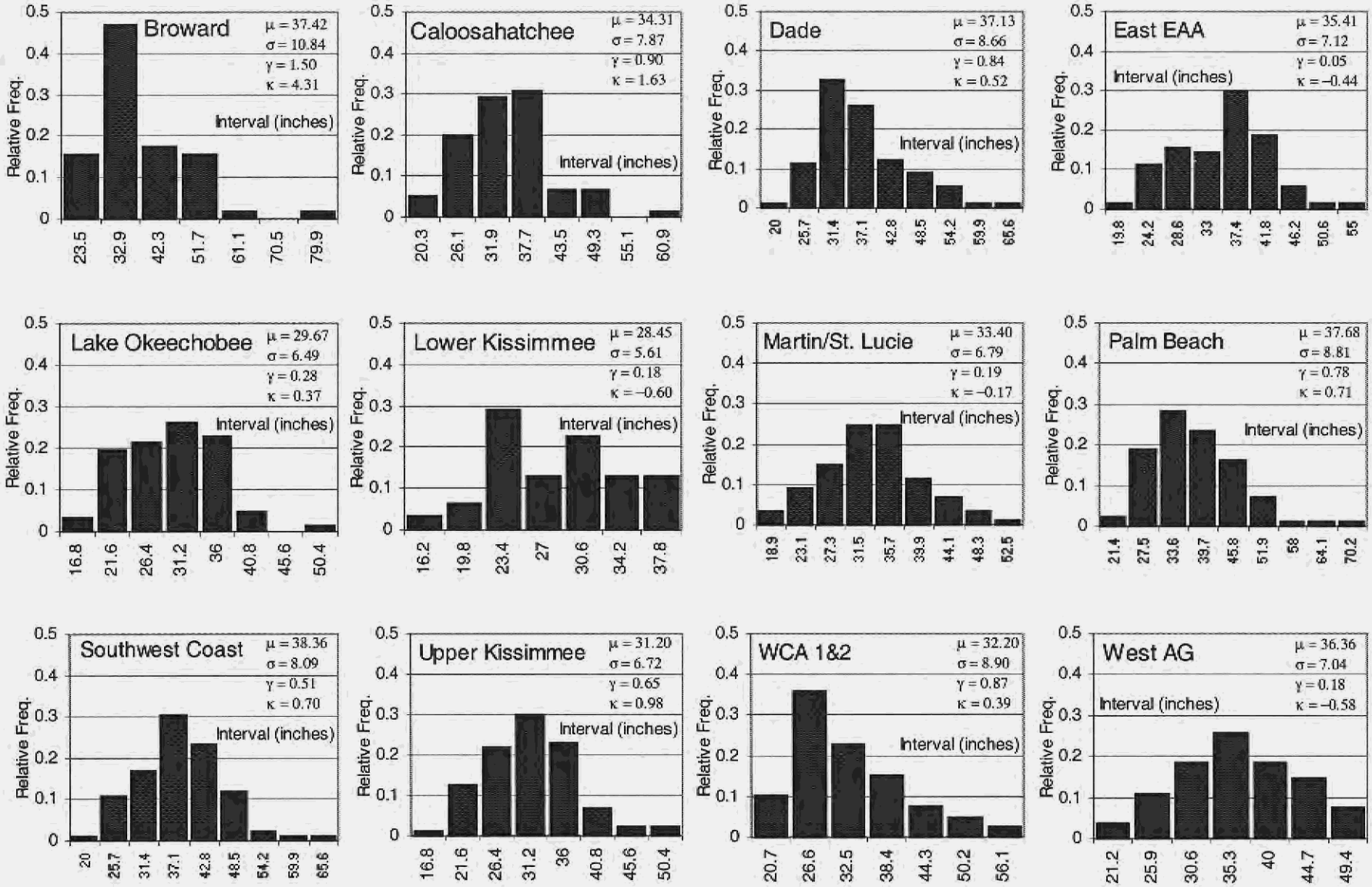

Figure 4. Wet Season Histograms for Weighted Average Basin Rainfall

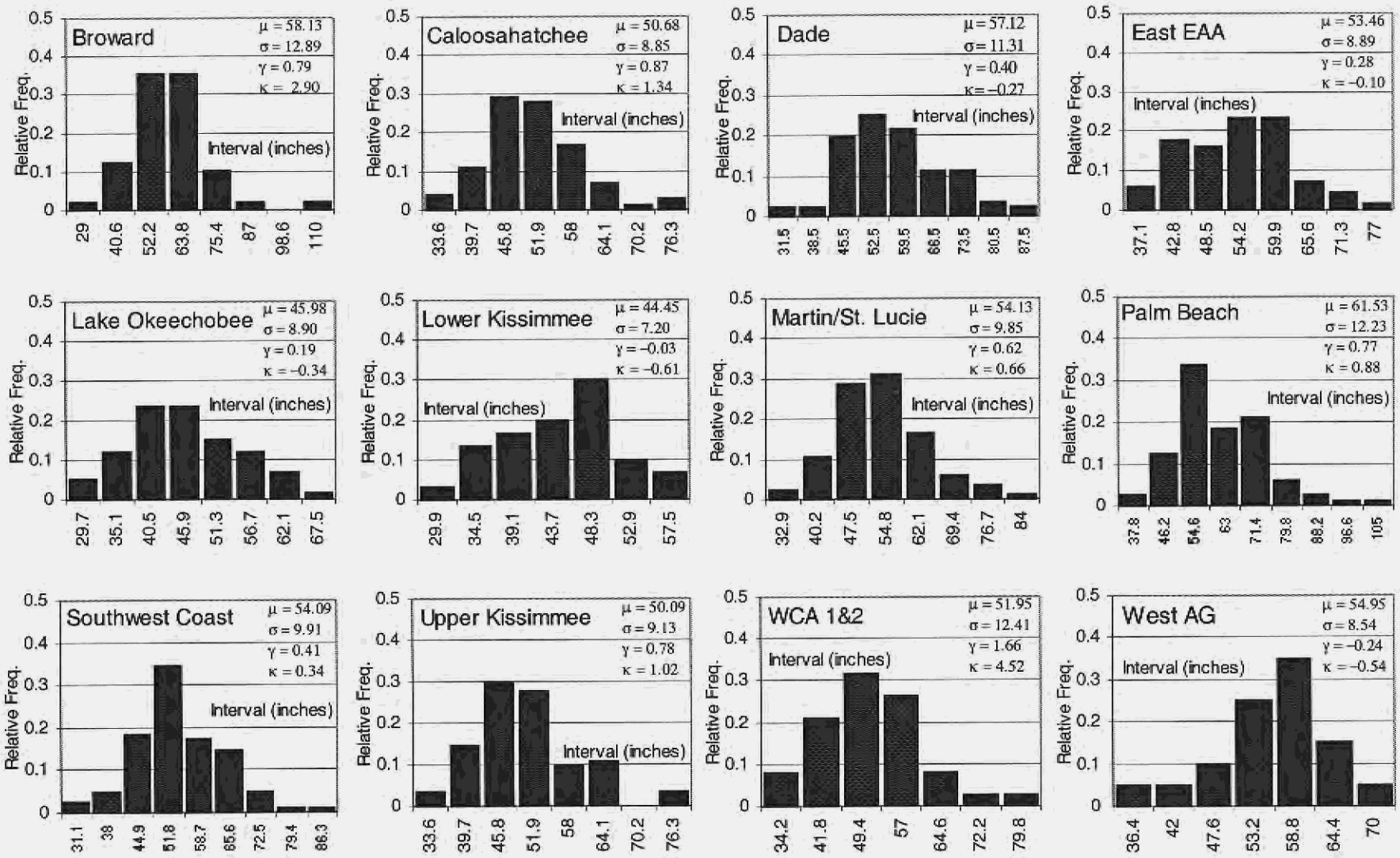

Figure 5. Annual Histograms for Weighted Average Basin Rainfall

FREQUENCY ANALYSIS

The objective of frequency analysis is to select the best "parametric" Probability Density Function (PDF) that fits a given data set (Histogram is a non-parametric probability representation of this data set). The selection approach of a PDF (model) is to test the goodness of fit of the major and commonly applied distributions for each month and each basin. The parameters of the best-fit probability distribution are then identified for each month and each basin. The candidate distributions are Normal, Log Normal (2-parameter), Log Normal (3-parameter), Gamma (2-parameter), Gamma (3-parameter), Weibull and Log Pearson Type III.

For each month and for each station, the seven PDFs were fitted, and both tabular and computed Chi-square (χ^2) were used. These computations were carried out using Frequency analysis program by Ahn (1990) (program developed to select parameters for various probability distributions suited for frequency analysis, SFWMD, 1990). Some modifications were added to this program to estimate the $\frac{\chi^2_{computed}}{\chi^2_{tabular}}$ ratio (henceforth called Chi-square ratio) as a comparative measure of the distributions relative goodness of fit. A lower than "1" Chi-square ratio indicates acceptance. Graphical presentations of the Chi-square value against rainfall basins for monthly, seasonal, and annual rainfall are provided to aid the selection of the best probability distribution (Figures 6 and 7). The Chi-square ratio and simplicity are both determining factors in the selection criteria. For a set of results (e.g., monthly rainfall), the distribution with the highest rate of acceptance is considered a default distribution unless the Chi-square ratio is higher than "1". For those cases where the Chi-square ratio is greater than "1", an alternate distribution is selected.

Monthly Frequency Analysis

The results of this application for monthly data, as plotted in Figures 6 and 7, indicate that Gamma (2-parameter) distribution has the highest hypothetical testing acceptance rate (only 8 out of the 144 tests had Chi-square ratios greater than 1). To present the relative goodness of fit, the Chi-square ratio for the seven distributions were plotted against each basin for each month. From these figures, the Log Normal (2-parameter), Gamma (2-parameter), and Weibull distributions show reasonable fitting (acceptance), in most cases. For consistency and computational convenience, the Gamma (2-parameter) distribution is selected when it is accepted (χ^2 ratio < 1 for all cases, except eight as depicted in Figures 6 and 7). In addition to the basin name and the selected distribution, Tables D_1 through D_{12} in Appendix D present the rainfall values for five dry return periods, average, and five wet return periods for each month and all rainfall basins.

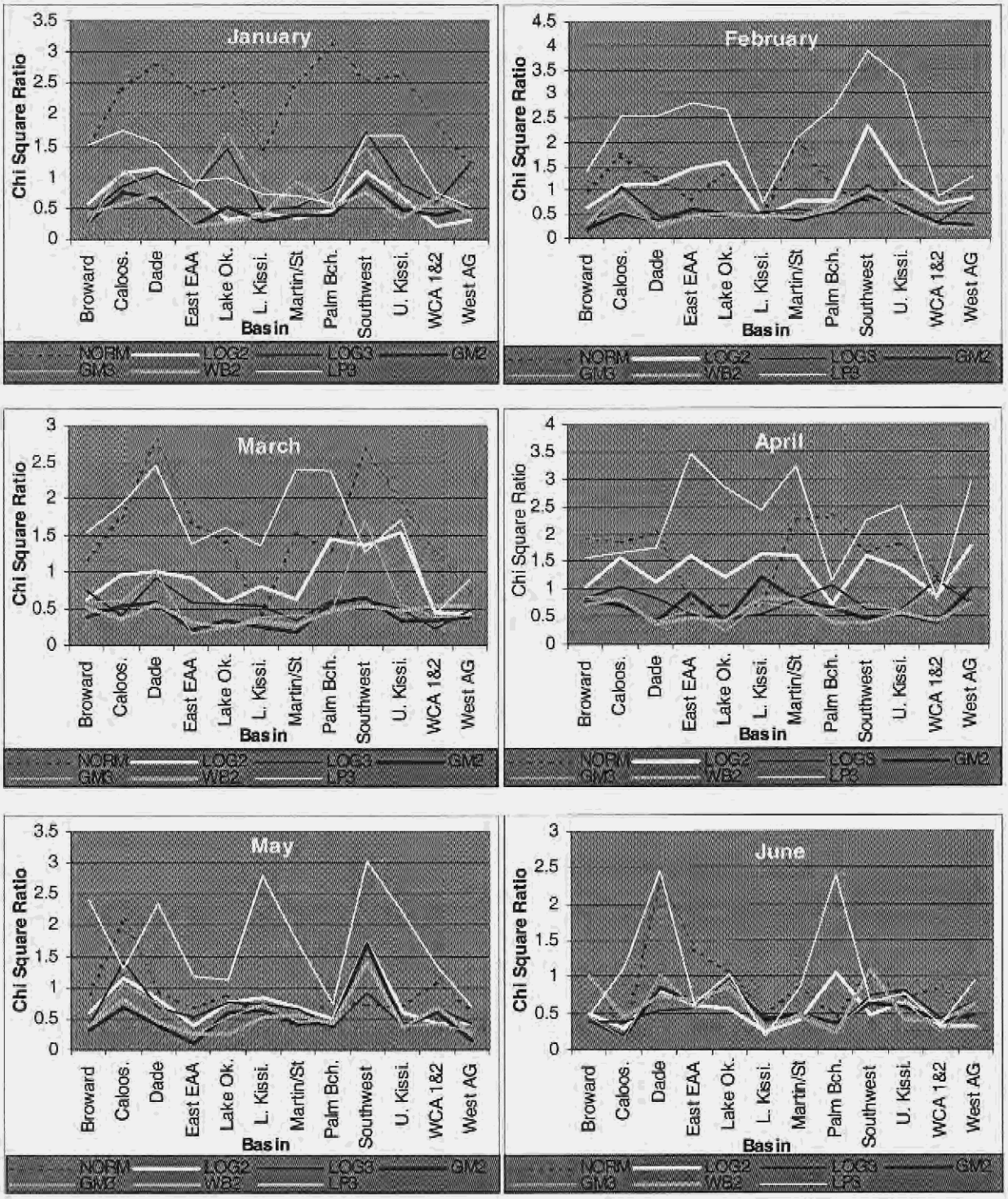

Figure 6. The Value of χ^2 Ratio (computed/tabulated) for Seven Monthly Basin Rainfall Frequency Distributions for January through June

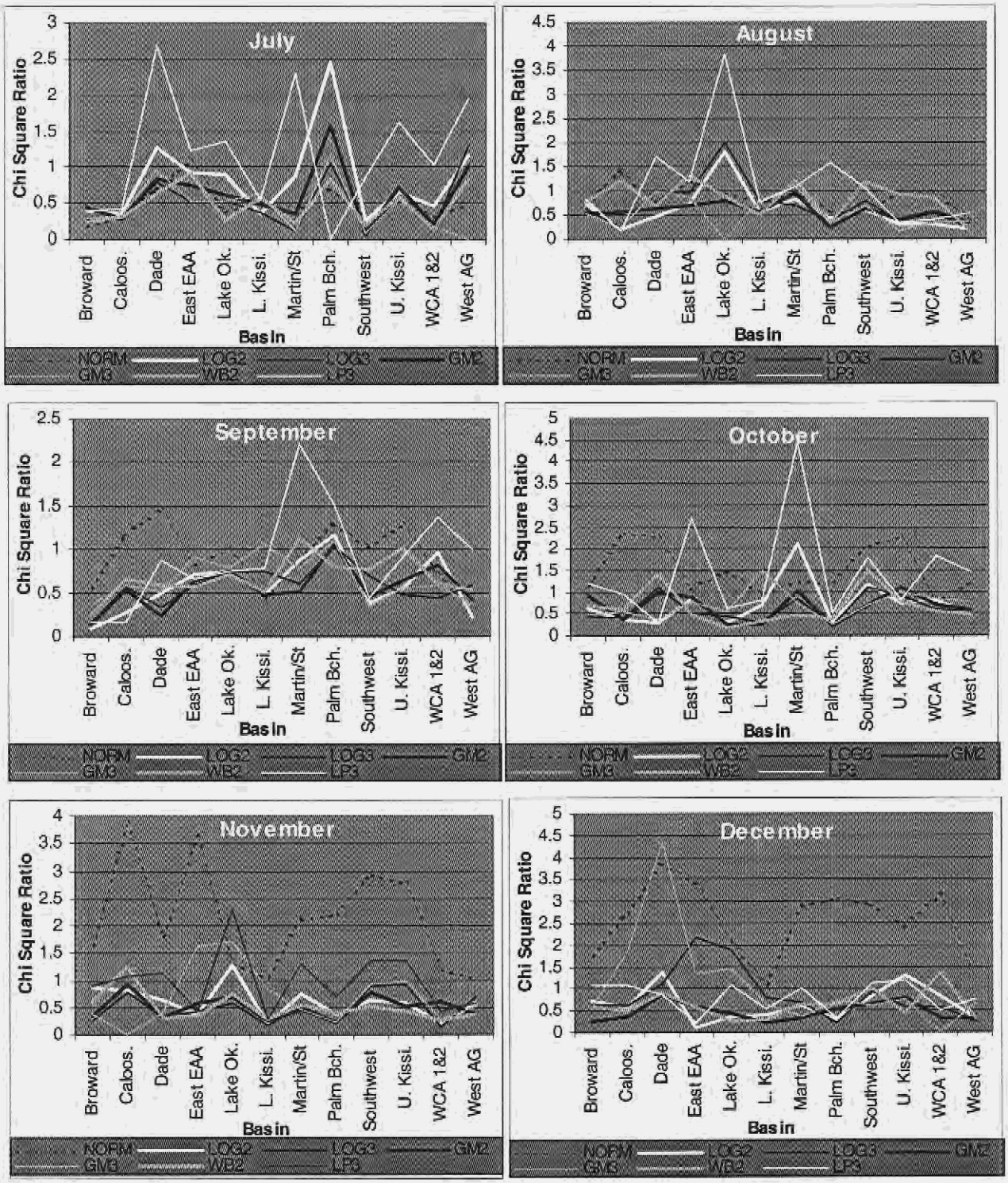

Figure 7. The Value of χ^2 Ratio (computed/tabulated) for Seven Monthly Basin Rainfall Frequency Distributions for July through December (zero values indicate missing data)

Seasonal and Annual Frequency Analysis

From Figures 8 and 9, the Log Normal (2-parameter), Gamma (2-parameter), and Weibull distributions show reasonable fitting for dry, wet, and annual rainfall. Gamma (2-parameter) was selected for the dry and wet seasons (with the exception that the Weibull distribution was selected for the Broward area dry season). The Log Normal distribution was selected for annual rainfall for all areas, except Broward where Gamma (2-parameter) was selected. In addition to the region name and the selected distribution, Tables 3 through 5 present the rainfall values for 5-dry return periods, average, and 5-wet return periods for dry, wet, and annual rainfall.

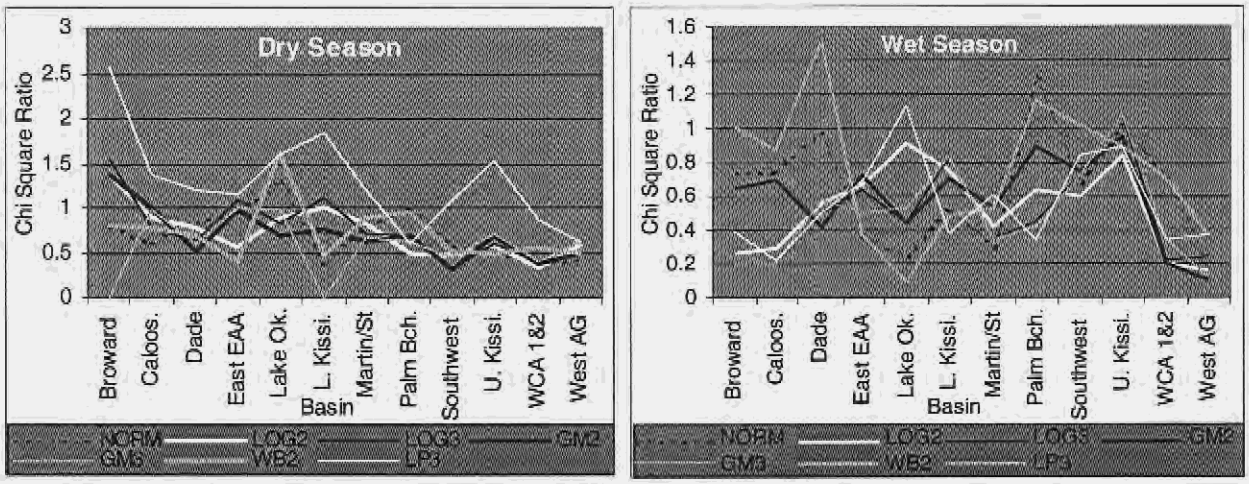

Figure 8. The Value of χ^2 Ratio (computed/tabulated) for Seven Frequency Distributions for Dry and Wet Seasons

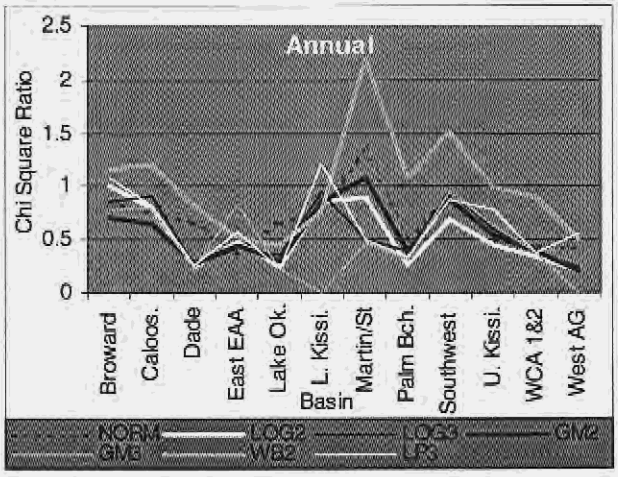

Figure 9. The Value of χ^2 Ratio (computed/tabulated) for Seven Frequency Distributions for Annual Rainfall

Table 3. Dry Season Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	WB2	7.23	8.64	10.34	13.16	15.94	20.72	26.40	28.92	31.50	33.11	34.52
Caloosahatchee	GM2	6.47	7.29	8.29	10.01	11.83	16.36	20.77	23.69	27.09	29.45	31.68
Dade	GM2	7.49	8.52	9.77	11.92	14.22	19.99	25.67	29.45	33.86	36.93	39.85
East EAA	GM2	6.52	7.44	8.56	10.52	12.60	18.06	23.09	26.56	30.63	33.47	36.17
Lake Okeechobee	GM2	6.16	7.00	8.01	9.78	11.65	16.3	21.00	24.08	27.68	30.18	32.56
Lower Kissimmee	GM2	6.31	7.12	8.10	9.79	11.57	16.01	20.35	23.22	26.56	28.88	31.07
Martin/St. Lucie	GM2	7.82	8.87	10.15	12.36	14.71	20.74	26.42	30.27	34.76	37.89	40.86
Palm Beach	GM2	8.92	10.13	11.59	14.13	16.82	23.85	30.25	34.66	39.82	43.41	46.82
Southwest Coast	GM2	5.47	6.29	7.28	9.01	10.88	15.75	20.33	23.48	27.18	29.77	32.23
Upper Kissimmee	GM2	7.67	8.61	9.74	11.68	13.71	18.89	23.67	26.90	30.65	33.24	35.70
WCA 1&2	GM2	6.73	7.73	8.96	11.11	13.42	19.75	25.14	29.05	33.65	36.86	39.92
West AG	GM2	8.19	9.15	10.31	12.28	14.35	18.6	24.38	27.61	31.36	33.95	36.40

(DRP, WRP = Dry and Wet Return Periods in years).

Table 4. Wet Season Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	17.99	19.73	21.78	25.25	28.81	37.41	45.5	50.74	56.75	60.87	64.74
Caloosahatchee	GM2	19.12	20.56	22.24	25.01	27.82	34.32	40.48	44.33	48.69	51.66	54.42
Dade	GM2	20.49	22.06	23.89	26.93	30	37.12	43.9	48.13	52.93	56.2	59.25
East EAA	GM2	20.82	22.23	23.87	26.56	29.26	35.42	41.27	44.88	48.96	51.72	54.28
Lake Okeechobee	GM2	16.63	17.86	19.31	21.7	24.11	29.67	34.96	38.26	42	44.54	46.9
Lower Kissimmee	GM2	17.11	18.22	19.5	21.6	23.7	28.44	32.99	35.76	38.89	41	42.97
Martin/St. Lucie	GM2	19.55	20.88	22.43	24.99	27.55	33.4	38.97	42.41	46.29	48.91	51.36
Palm Beach	GM2	20.7	22.3	24.18	27.29	30.44	37.69	44.71	49.07	54.01	57.38	60.52
Southwest Coast	GM2	22.2	23.75	25.56	28.53	31.52	38.37	44.87	48.9	53.45	56.53	59.4
Upper Kissimmee	GM2	17.89	19.16	20.65	23.09	25.55	31.2	36.57	39.9	43.66	46.21	48.59
WCA 1&2	GM2	15.78	17.26	19.01	21.94	24.96	32.21	39.02	43.41	48.44	51.89	55.13
West AG	GM2	22.14	23.53	25.14	27.78	30.42	36.35	42.05	45.51	49.41	52.04	54.49

(DRP, WRP = Dry and Wet Return Periods in years).

Table 5. Annual Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	33.48	35.89	38.70	43.34	48.01	58.13	68.96	75.30	82.48	87.34	91.88
Caloosahatchee	LOG2	33.62	35.21	37.08	40.16	43.29	50.68	57.64	62.12	67.29	70.85	74.22
Dade	LOG2	35.52	37.49	39.81	43.69	47.67	57.11	66.51	72.57	79.64	84.56	89.25
East EAA	LOG2	35.49	37.17	39.13	42.38	45.66	53.48	60.76	65.48	70.91	74.65	78.18
Lake Okeechobee	LOG2	29.01	30.57	32.40	35.45	38.58	45.97	53.31	58.02	63.49	67.30	70.91
Lower Kissimmee	LOG2	30.38	31.75	33.34	35.97	38.62	44.45	50.70	54.44	58.73	61.68	64.46
Martin/St. Lucie	LOG2	34.71	36.48	38.55	42.00	45.52	54.14	61.89	67.08	73.08	77.24	81.18
Palm Beach	LOG2	38.48	40.59	43.07	47.22	51.47	61.54	71.55	77.99	85.50	90.72	95.70
Southwest Coast	LOG2	34.72	36.51	38.61	42.10	45.66	54.12	62.28	67.54	73.65	77.88	81.90
Upper Kissimmee	LOG2	32.53	34.16	36.07	39.23	42.46	50.09	57.43	62.15	67.62	71.40	74.98
WCA 1&2	LOG2	31.94	33.65	35.66	39.00	42.42	51.96	58.51	63.64	69.61	73.76	77.70
West AG	LOG2	38.06	39.75	41.72	44.95	48.22	54.95	63.04	67.61	72.86	76.46	79.85

(DRP, WRP = Dry and Wet Return Periods in years).

SUMMARY

The objective of this study was to utilize monthly rainfall data to provide monthly, seasonal (dry and wet), and annual, representative rainfall statistics and frequency estimates for each basin. Rainfall frequency analysis on the regional scale for the OMD rainfall basins has been presented. Data used in this study are the same data used by Ali et al., 1999. An algorithm has been developed to provide a numerical approximation for Thiessen weighted average rainfall for each basin and each month using rainfall data within that basin. Monthly, seasonal, and annual statistics of the estimated weighted average rainfall have been provided. Monthly, seasonal, and annual regional frequency analyses for each basin were also presented.

The results of this study are mainly sets of Tables and Figures presented in Appendices A through D. These appendices provide detailed information about weighted average rainfall statistics and frequencies within the OMD basins. Appendix E provides information pertaining to rainfall stations used in this study. The computed weighted average monthly rainfall data for each basin and each month are provided in Appendix F. Histograms for these data and statistics such as mean, standard deviation, skewness, and kurtosis are depicted in Appendix A for each basin and each month. Appendix B presents time series of monthly rainfall departures from historical monthly average for each basin and each month. Appendix C presents time series of seasonal and annual rainfall departures from respective historical averages. Appendix D provides average and frequency estimates for monthly rainfall for each basin. Other tables and figures are presented throughout the text of this report.

The results show a significant variation around the historical mean for all basins and all months. The Palm Beach area has the highest cumulative rainfall at any time of the year, while the Lower Kissimmee and Lake Okeechobee areas have the corresponding lowest value. May and October represent transitional months between the dry and wet seasons. June through October are considered wet season months, while November through May the following year are considered dry season months. Histograms and basic statistics show that the Southwest Coast area has the lowest and highest average rainfall for the dry and wet seasons respectively. The Palm Beach area has the highest annual average rainfall, while the Lower Kissimmee and Lake Okeechobee areas have the lowest annual average rainfall. On the average, 35% of District rainfall occurs in the dry season. The percentage of dry season rainfall varies from basin to basin with the lowest in the Southwest Coast (29%) and the highest in Palm Beach (39%).

Monthly, seasonal, and annual regional frequency analyses were performed for each OMD basin. For each weighted average rainfall data set, a distribution testing was performed to select one among seven distributions. Based on Chi^2 ratio plots, the Gamma (2-parameter) distribution fitted all but ten sets of monthly, dry season, and wet season weighted average rainfall. The Weibull (2-parameter) distribution was selected as alternative distribution for all but one set, where the Gamma (2-parameter) distribution failed the Chi^2 testing. The Normal distribution was selected for the remaining one set after forcing the negative values to zero. Similarly, the Log Normal (2-parameter) distribution was selected to fit all, but one, sets of the annual weighted average rainfall. The Weibull (2-parameter) distribution was selected to fit the remaining one set.

Regional frequency analysis performed in this study complements the point frequency analysis conducted by Ali et al., 1999. Point frequency estimate is useful for spatial mapping of rainfall frequency estimates, while regional frequency analysis is useful for a lumped characterization of rainfall frequency over a given area. The frequencies of interest were 5-year, 10-year, 20-year, 50-year, and 100-year dry and wet return periods. Rainfall estimates for dry return periods ≥ 5 years are less than 1.2 inches for any dry season month and any basin. Rainfall estimates for 100-year wet return period range between 15 and 23 inches for the month of June for all basins, and range between 11 and 20 inches for the remaining months of the wet season. Rainfall in the Southwest Coast has unique features: For any dry return period, it is one of the driest basins in any dry season month, and one of the wettest basins in any wet season month. For any wet return period, it is one of the wettest basins in any wet season month. May monthly rainfall over this basin is the only set for which the Normal distribution was selected.

Rainfall analysis provided in this study considered local gaging stations within each OMD basin. Two of the fourteen OMD basins do not contain the required data within their boundaries (Big Cypress Preserve and Water Conservation Area 3). Regional frequency characteristics within any of the two basins may be assessed using properly selected data with the assumption that they belong to that basin, or estimate from the surrounding rainfall basins.

In this study, point and regional monthly rainfall frequency analyses were presented where one-month duration was considered. While such a duration has many hydrologic applications, smaller durations such as one, two, and three days are of great interest to hydrologists, managers, and planners within the SFWMD. The consideration of such durations in subsequent studies is very important in this series of rainfall frequency analysis over Central and South Florida.

REFERENCES

Ali, A., W. Abtew, S. V. Horn and N. Khanal. 1999. Frequency and Spatial Analysis for Monthly Rainfall in Central and South Florida. Technical Publication WRE #371. South Florida Water Management District. West Palm Beach, Florida.

Haan, C. 1977. Statistical Methods in Hydrology, The Iowa State University Press, Ames, Iowa.

Markovic, R. D. 1965. Probability Function of Best Fit to Distribution of Annual Precipitation and Runoff. Hydrology Papers, Colorado State University, Fort Collins, Colorado, No. 8.

Sculley, S. P. 1986. Frequency Analysis of SFWMD Rainfall. Technical Publication 86-6. South Florida Water Management District. West Palm Beach, Florida.

Thiessen, A. H. 1911. Precipitation Averages for Large Areas. Monthly Weather Review 39(7): 1082-1084.

APPENDIX A

Histograms for Monthly Weighted Rainfall for Each Basin

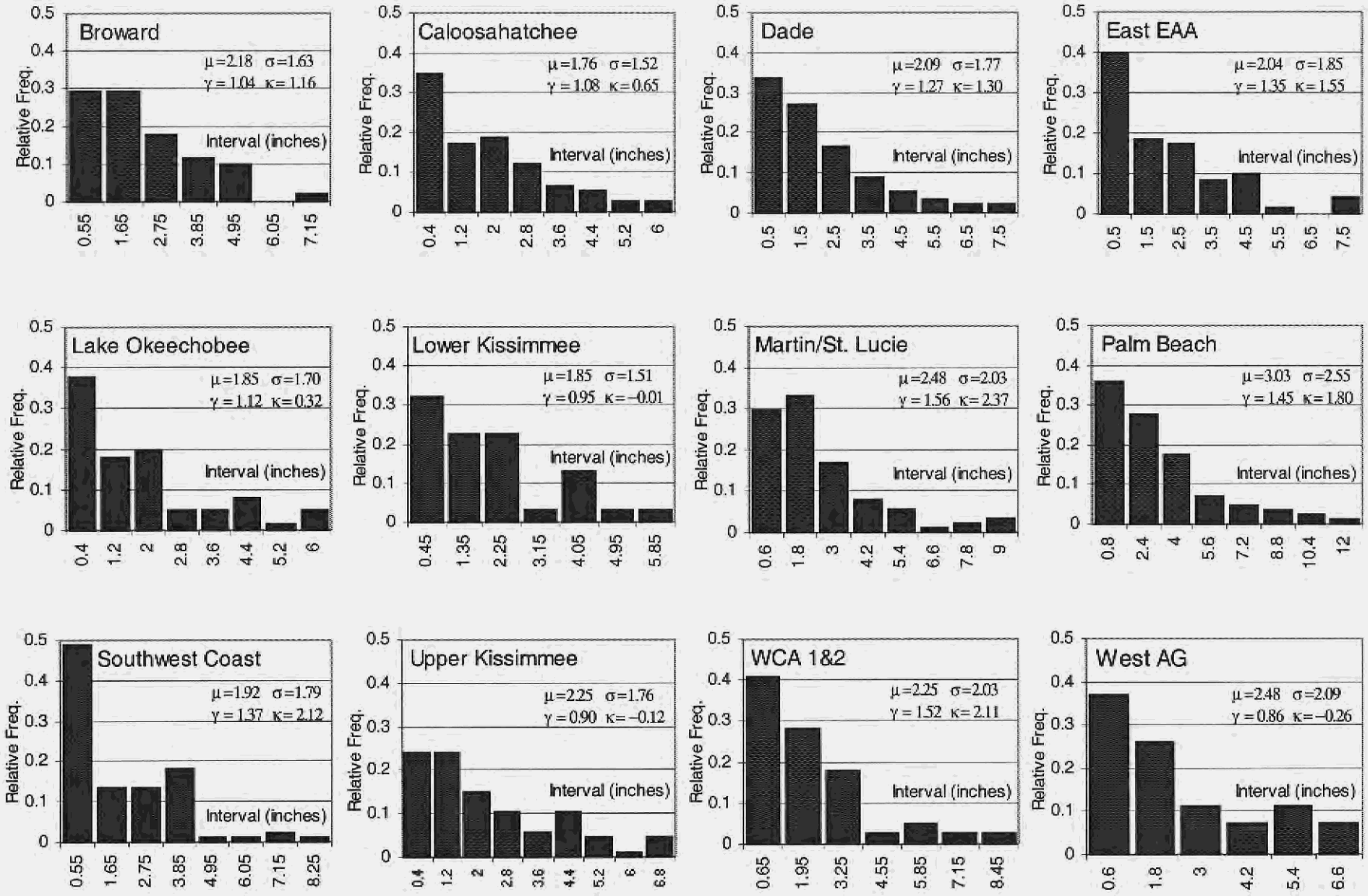

Figure A_1. January Histograms for Monthly Weighted Average Basin Rainfall

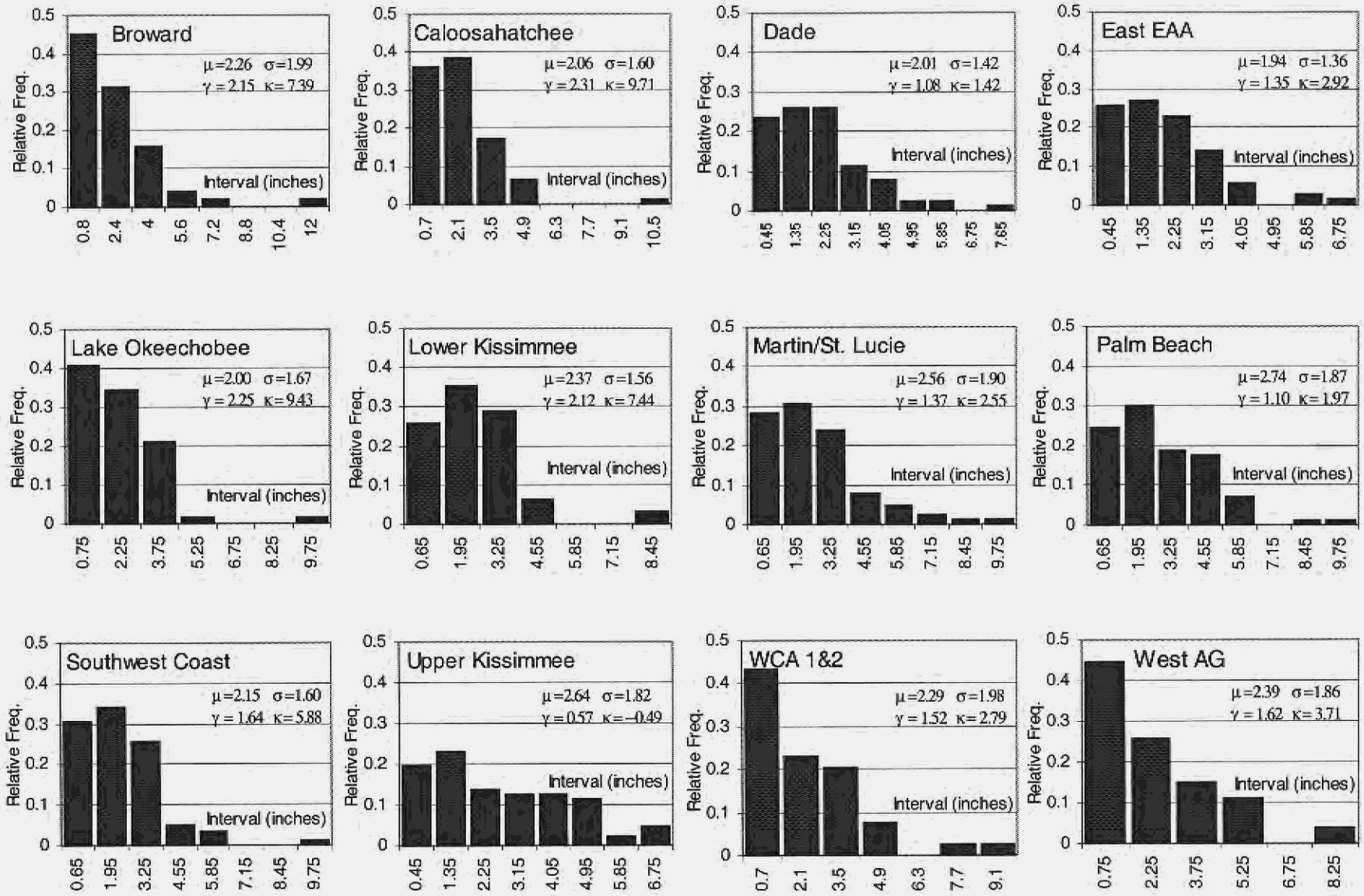

Figure A_2. February Histograms for Monthly Weighted Average Basin Rainfall

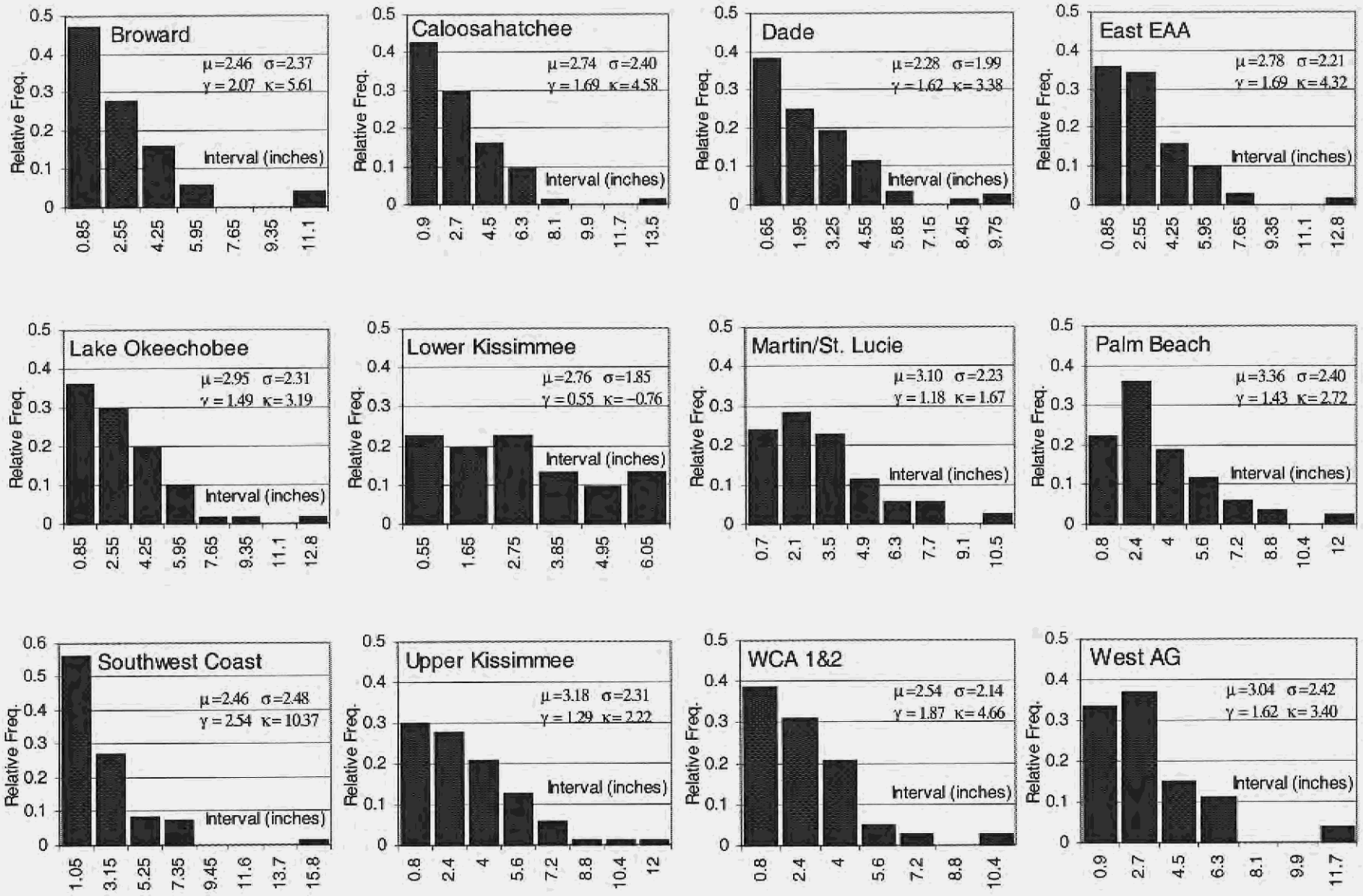

Figure A_3. March Histograms for Monthly Weighted Average Basin Rainfall

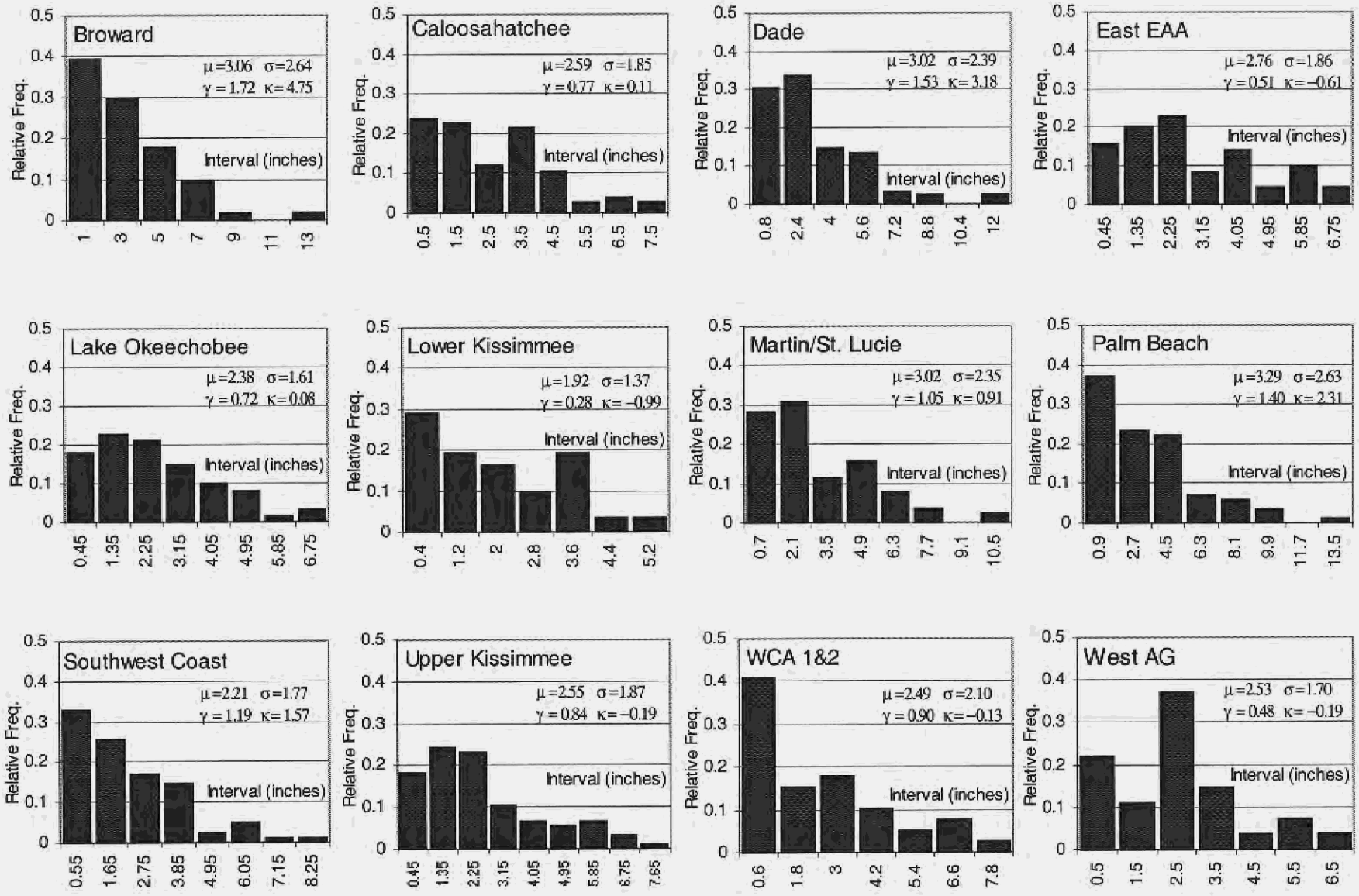

Figure A4. April Histograms for Monthly Weighted Average Basin Rainfall

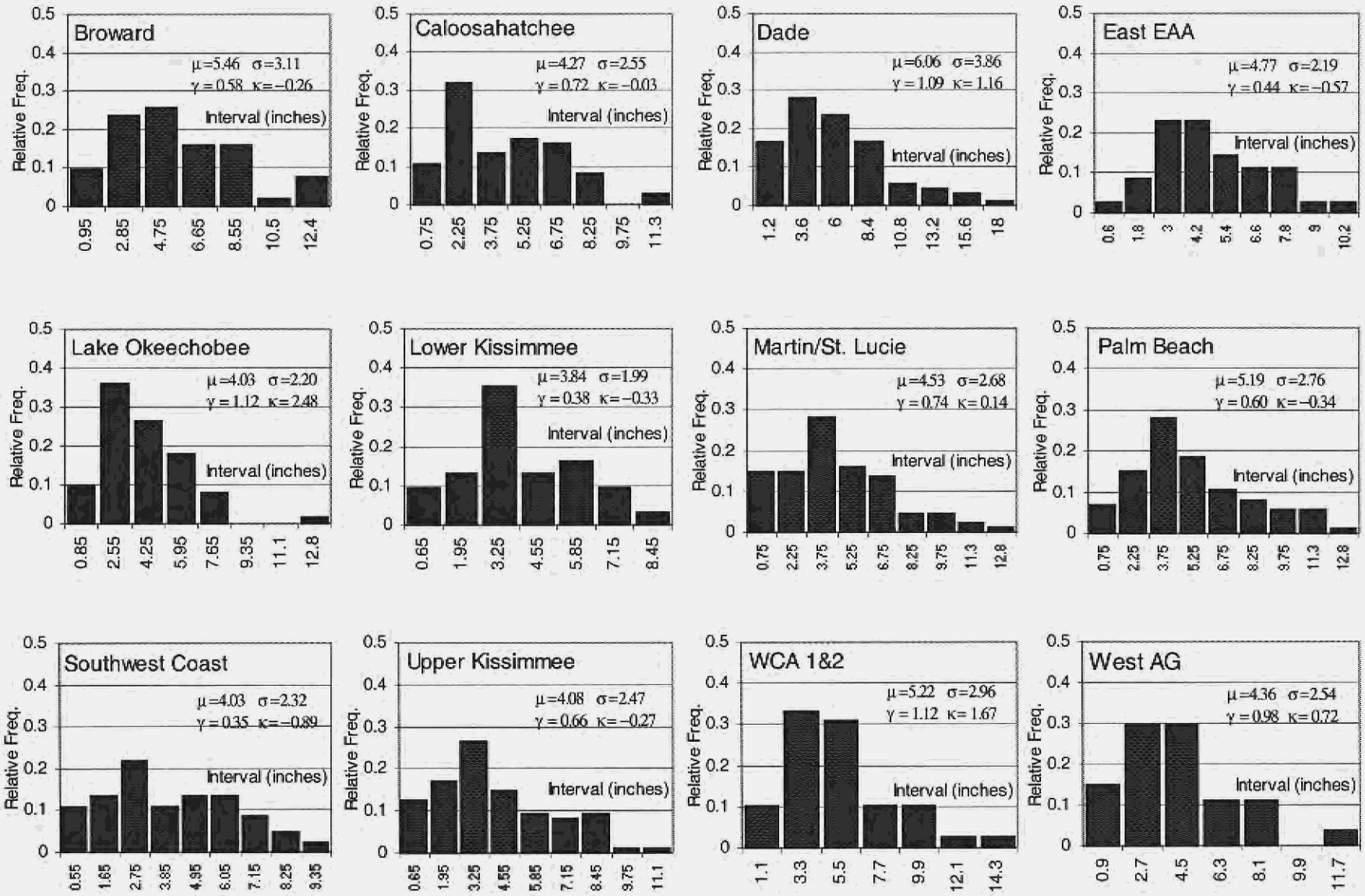

Figure A_5. May Histograms for Monthly Weighted Average Basin Rainfall

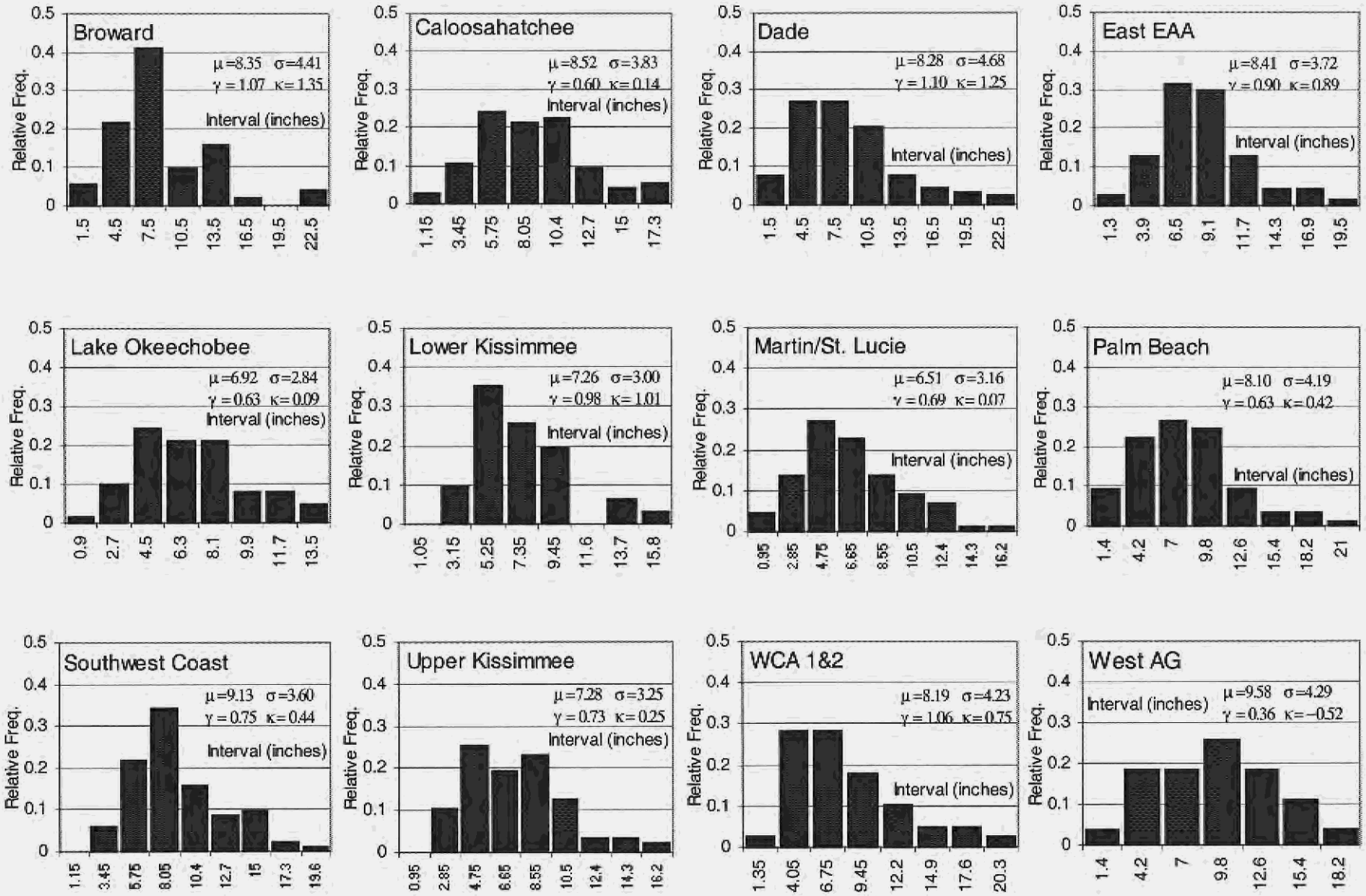

Figure A_6. June Histograms for Monthly Weighted Average Basin Rainfall

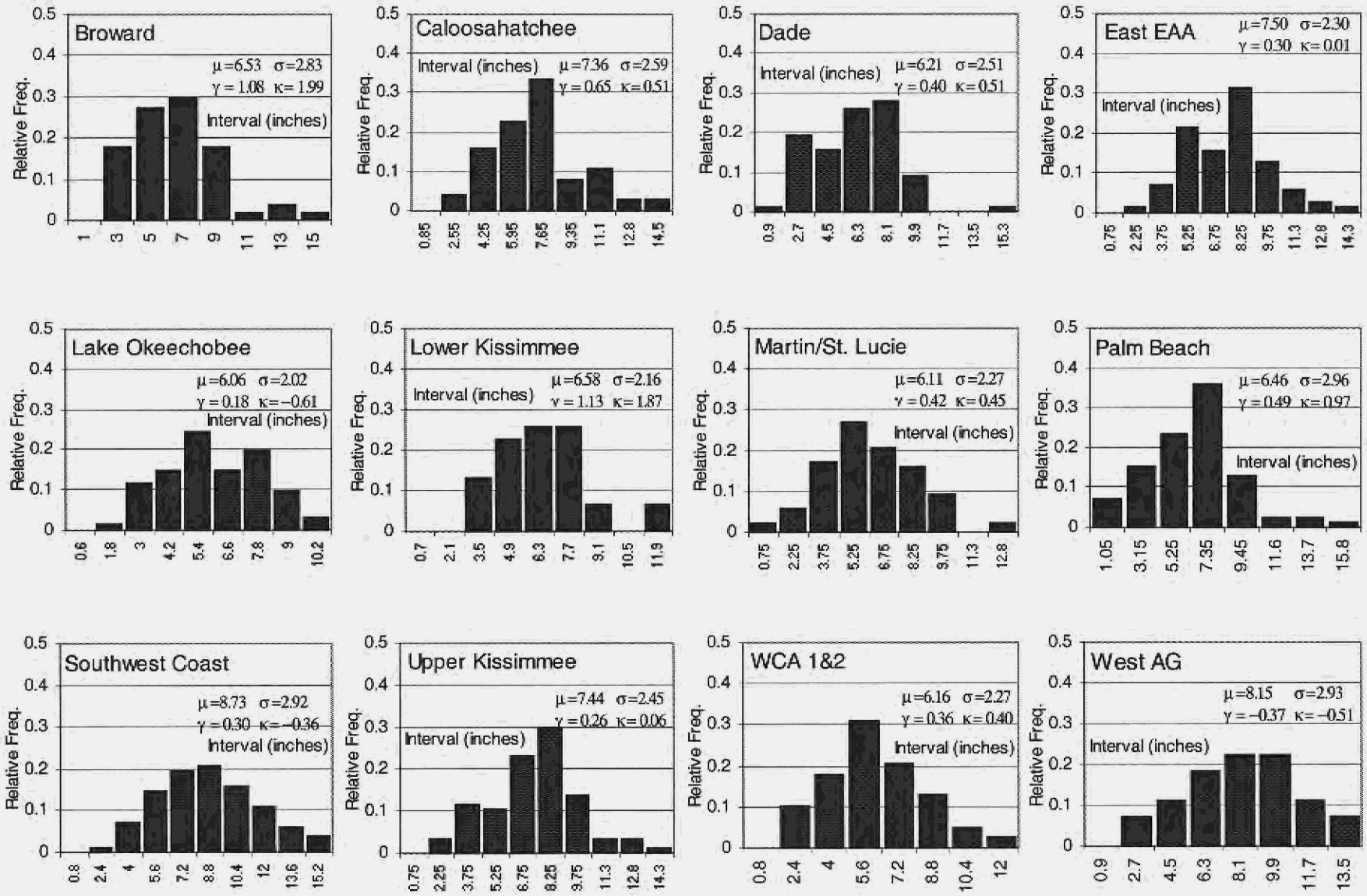

Figure A_7. July Histograms for Monthly Weighted Average Basin Rainfall

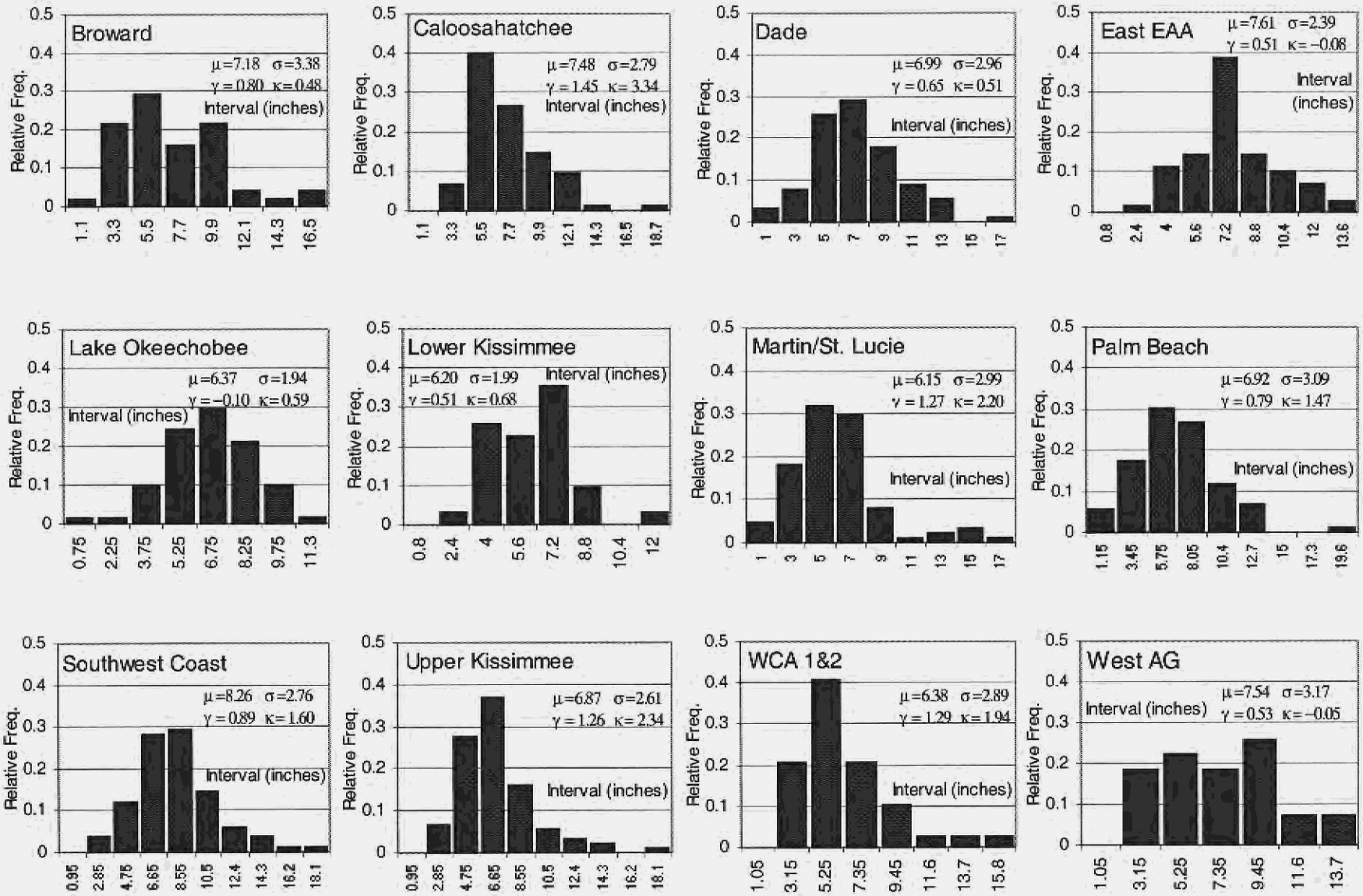

Figure A8. August Histograms for Monthly Weighted Average Basin Rainfall

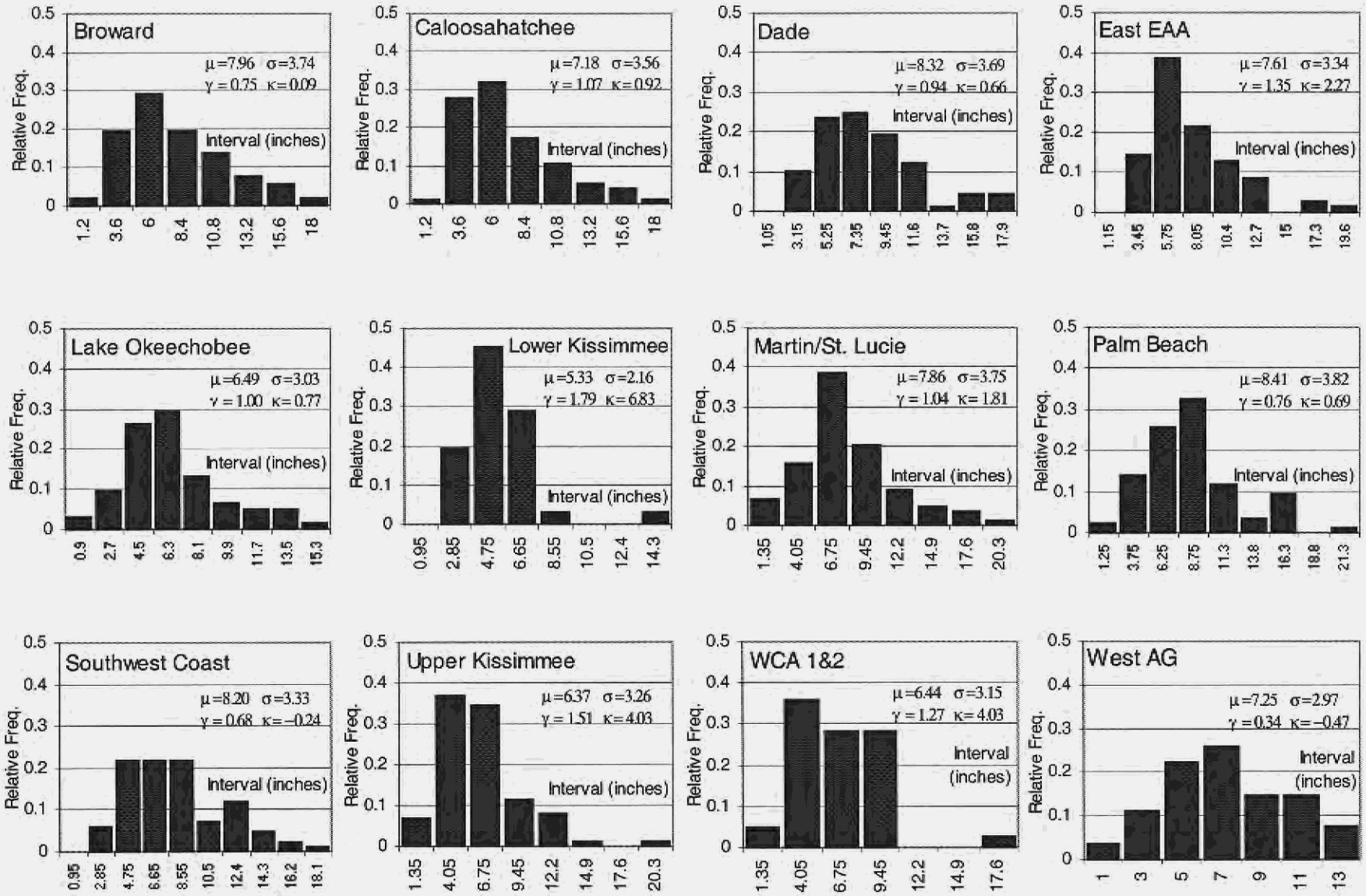

Figure A9. September Histograms for Monthly Weighted Average Basin Rainfall

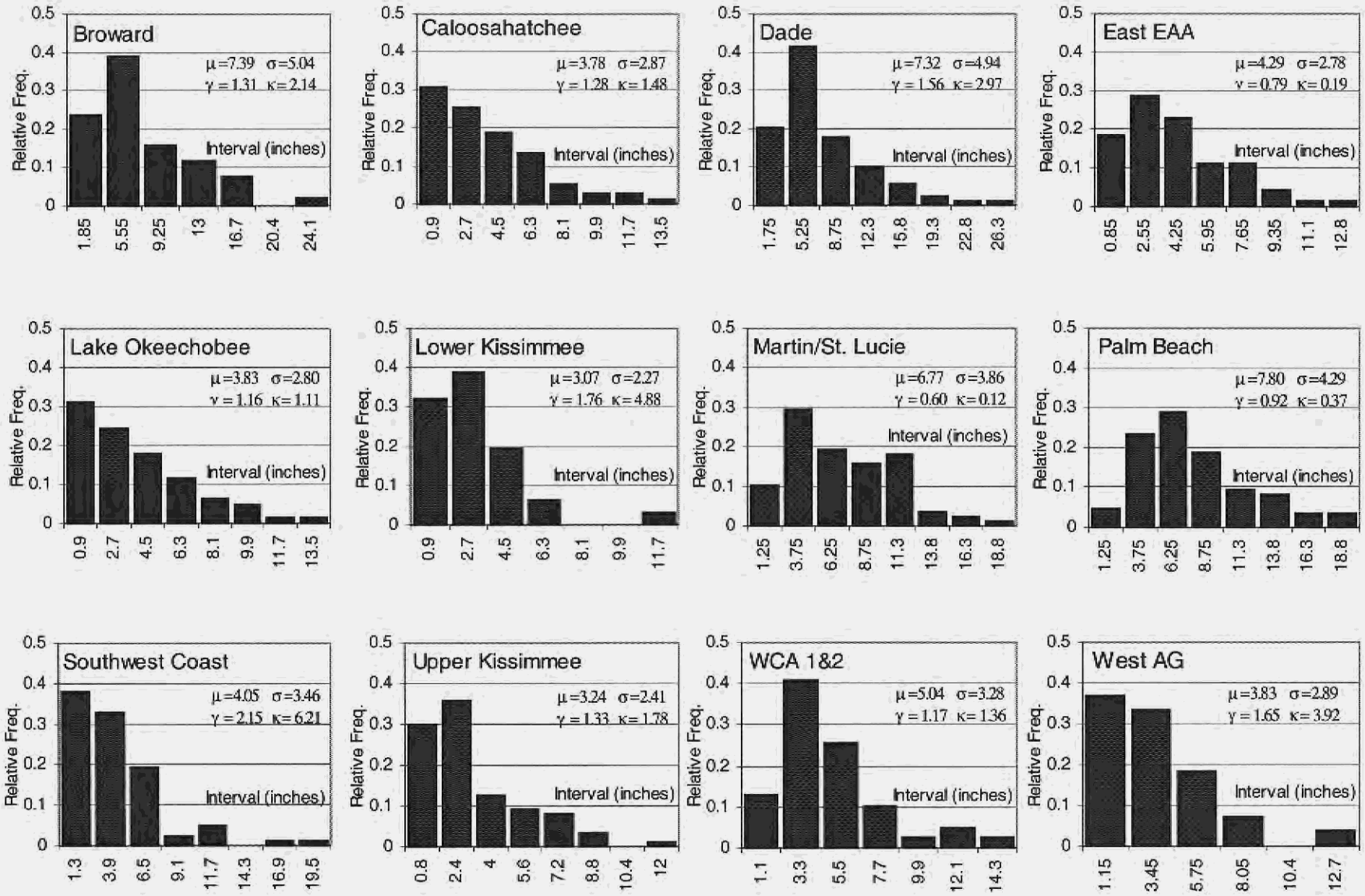

Figure A_{10}. October Histograms for Monthly Weighted Average Basin Rainfall

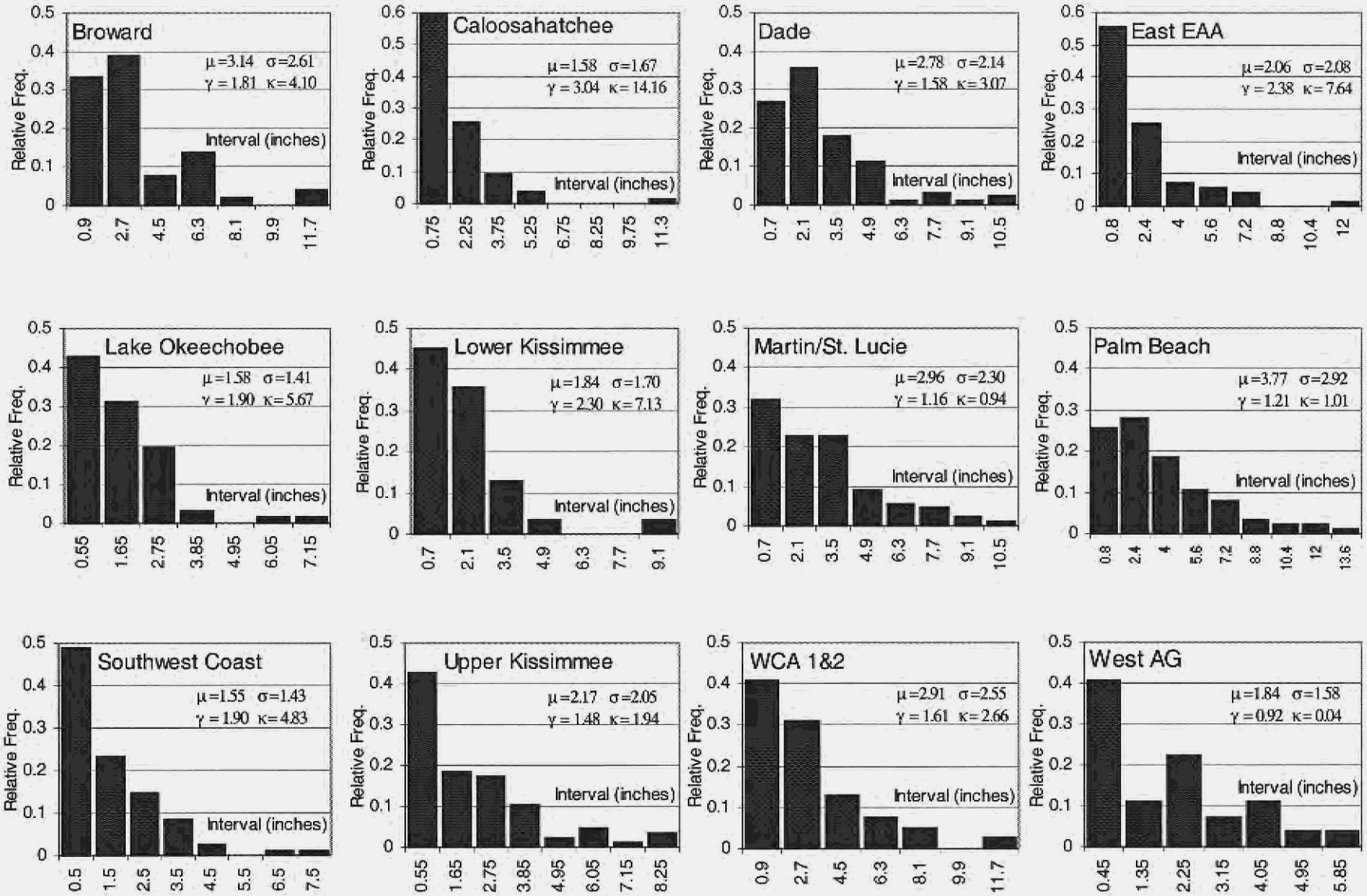

Figure A_{11}. November Histograms for Monthly Weighted Average Basin Rainfall

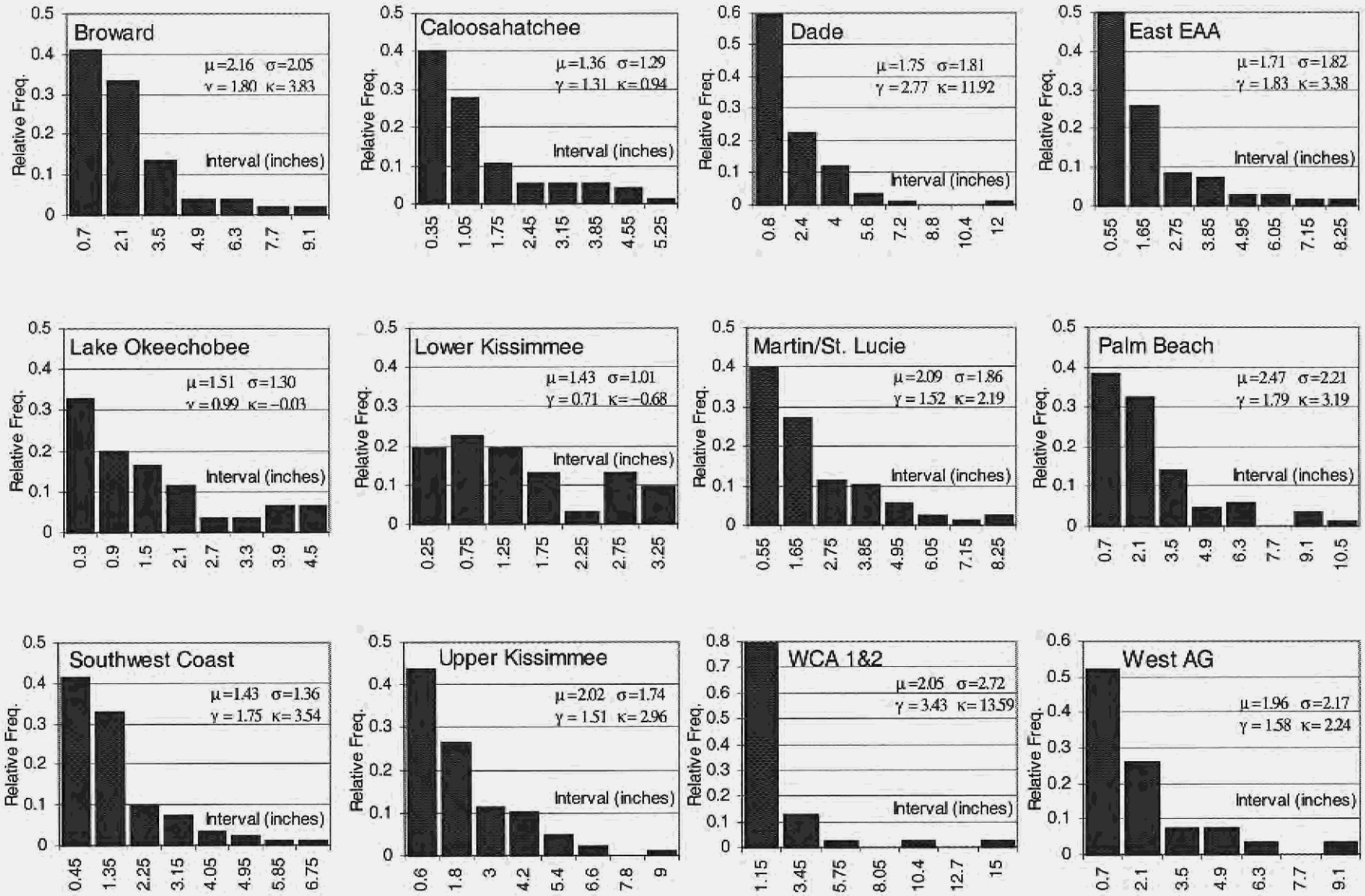

Figure A_{12}. December Histograms for Monthly Weighted Average Basin Rainfall

APPENDIX B

Basin Rainfall Departures from Historical Averages for Each Month

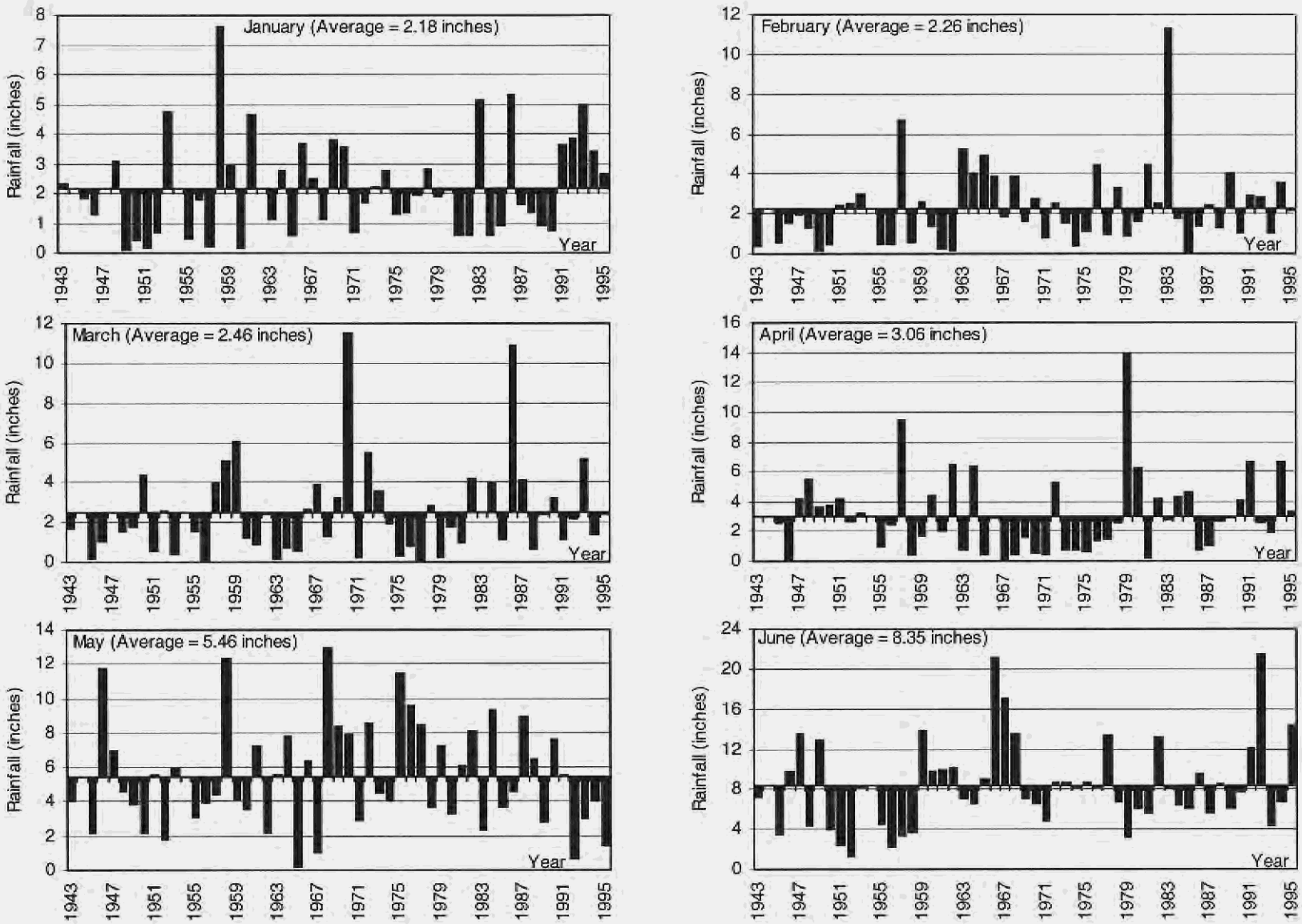

Figure B_{1a}. Broward Rainfall Departures from Historical Averages for the Months of January through June

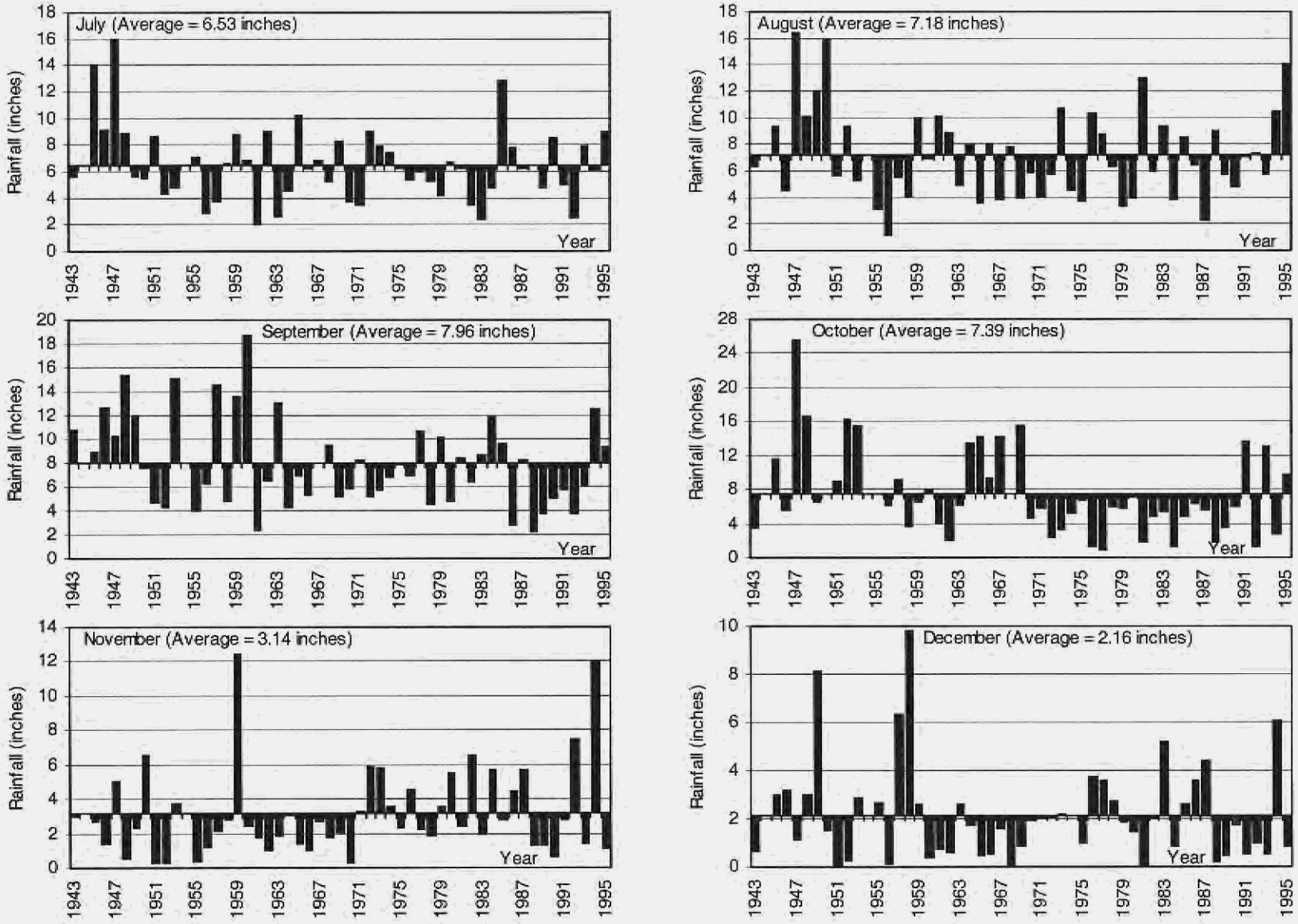

Figure B_{1b}. Broward Rainfall Departures from Historical Averages for the Months of July through December

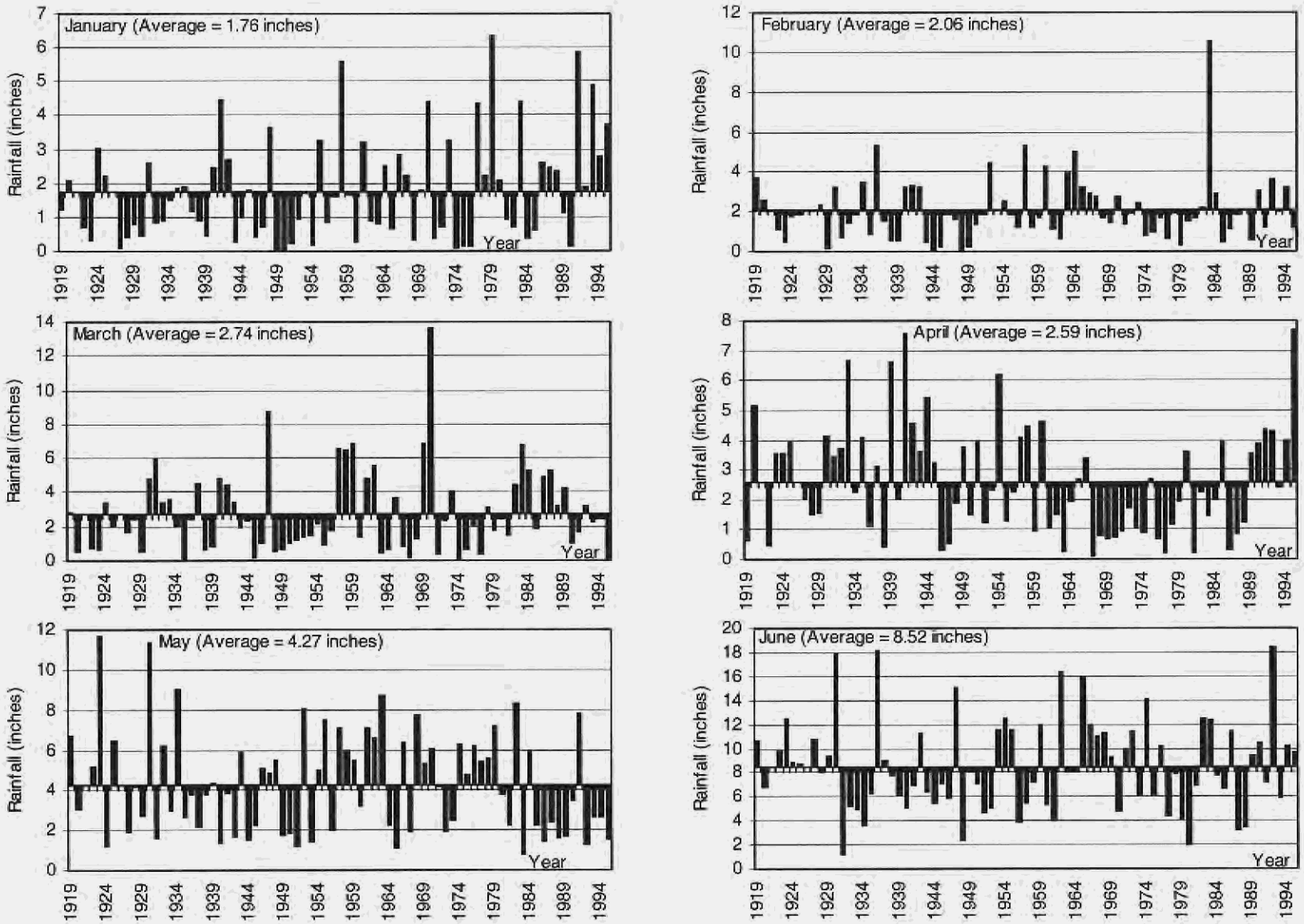

Figure B_{2a}. Caloosahatchee Rainfall Departures from Historical Averages for the Months of January through June

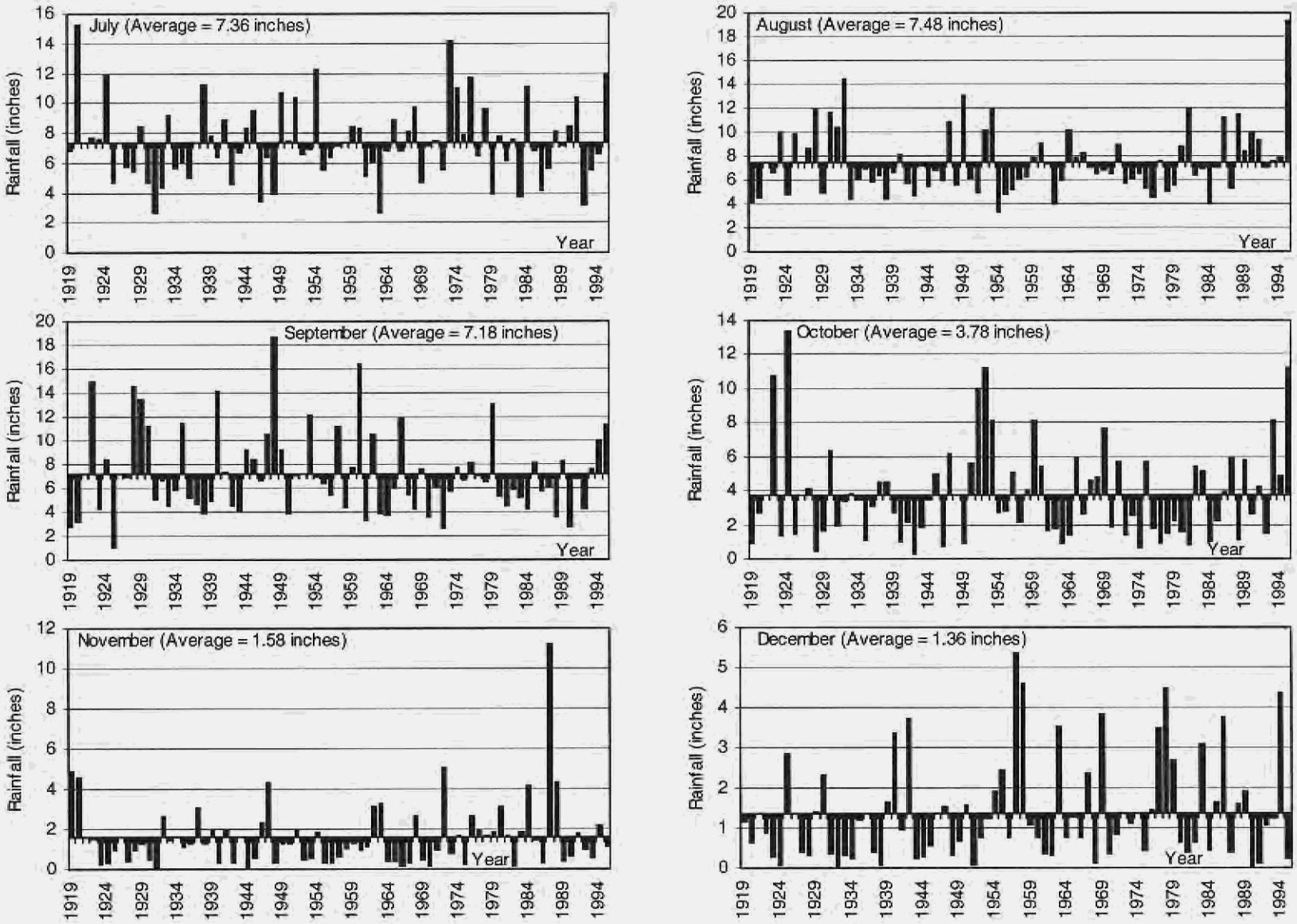

Figure B_{2b}. Caloosahatchee Rainfall Departures from Historical Averages for the Months of July through December

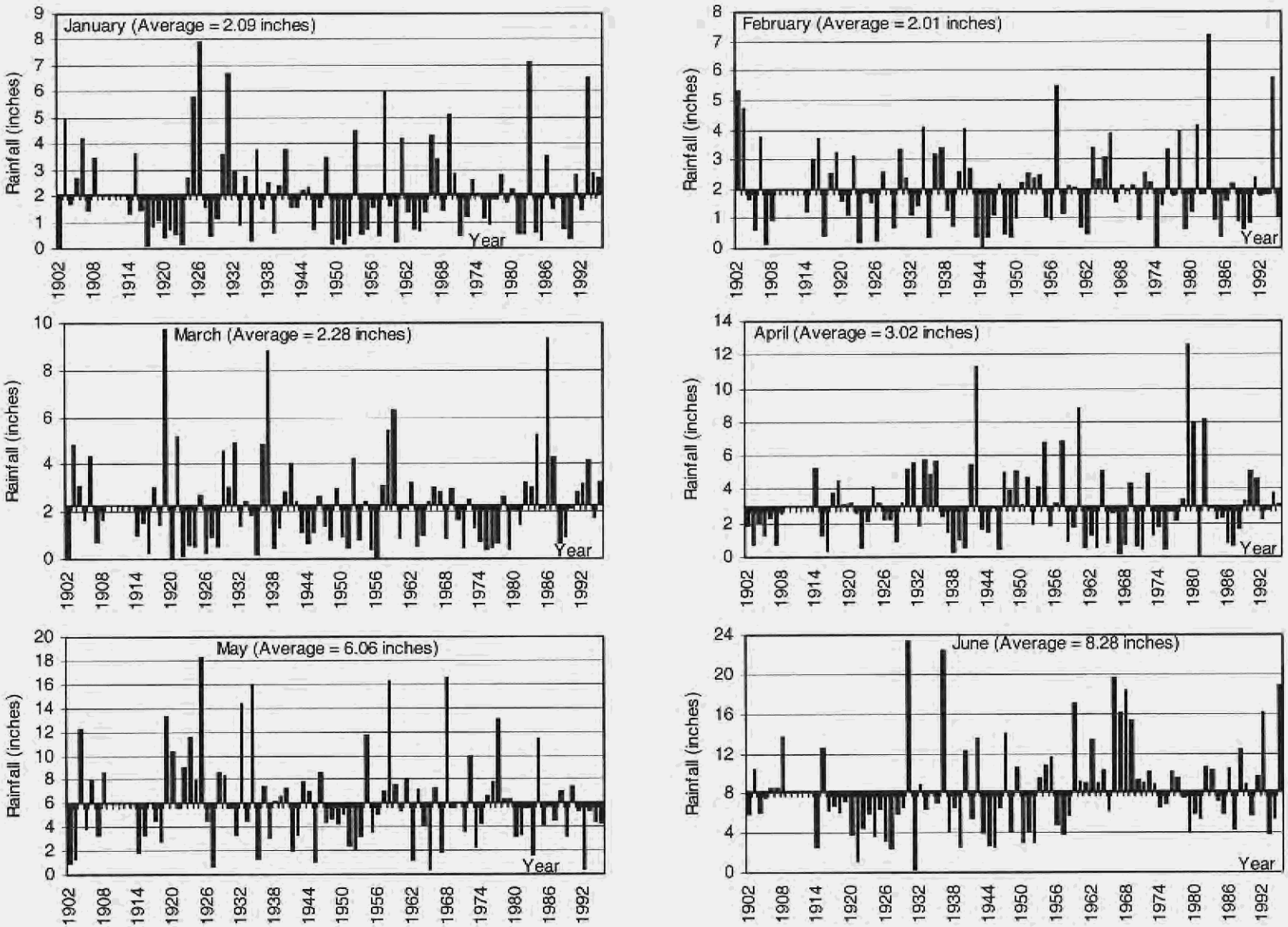

Figure B_{3a}. Dade Rainfall Departures from Historical Averages for the Months of January through June

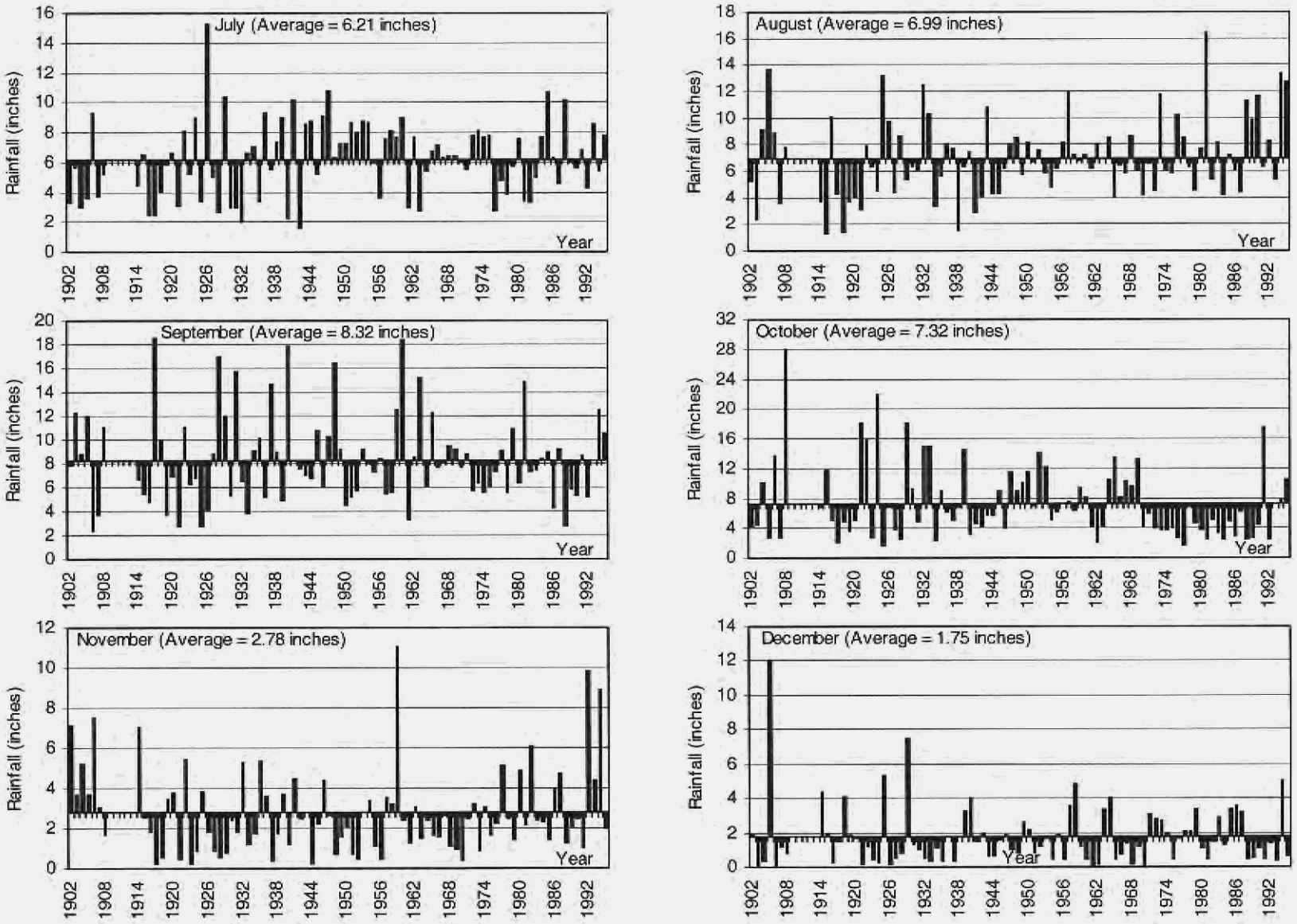

Figure B_{3b}. Dade Rainfall Departures from Historical Averages for the Months of July through December

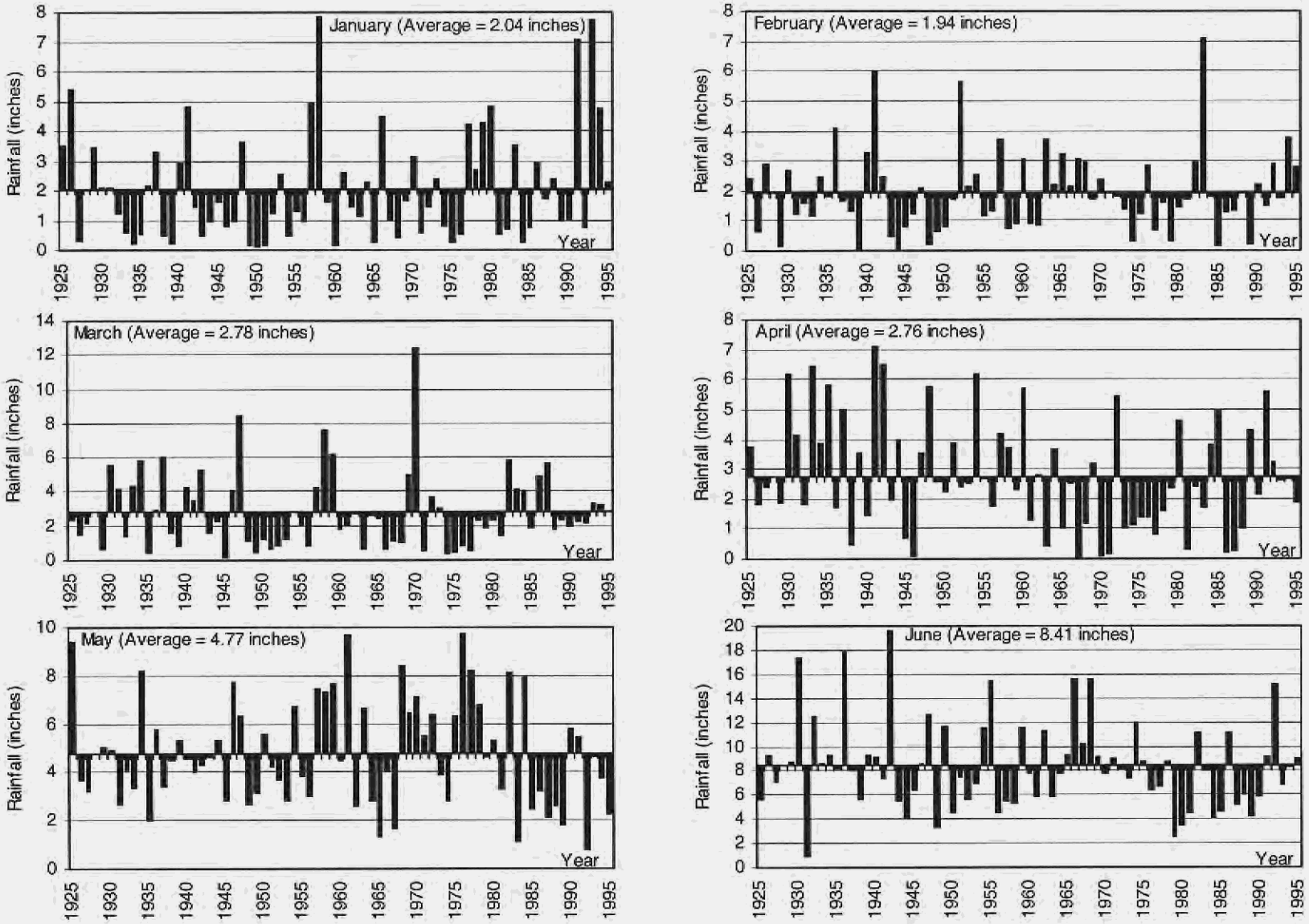

Figure B_{4a}. East EAA Rainfall Departures from Historical Averages for the Months of January through June

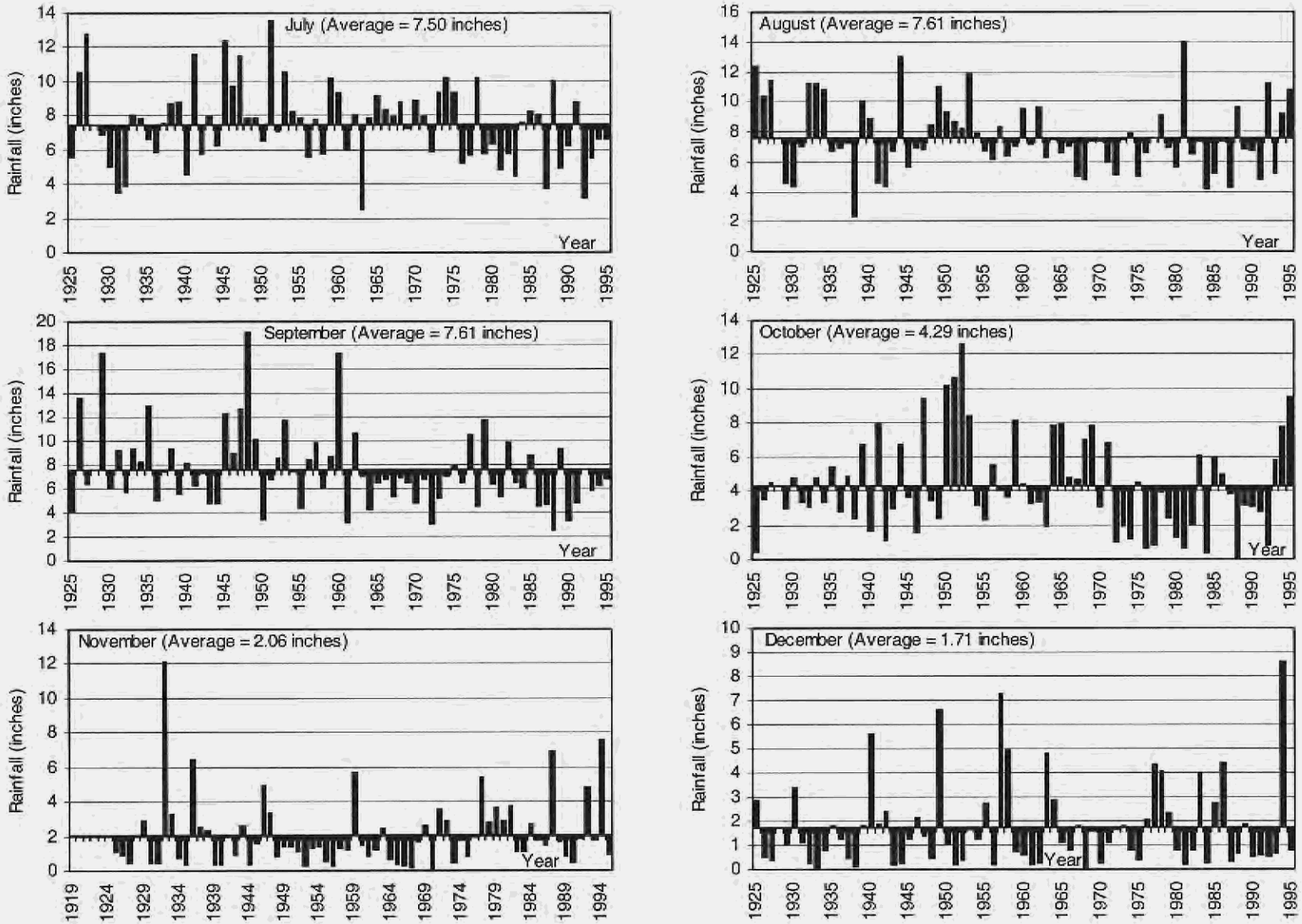

Figure B_{4b}. East EAA Rainfall Departures from Historical Averages for the Months of July through December

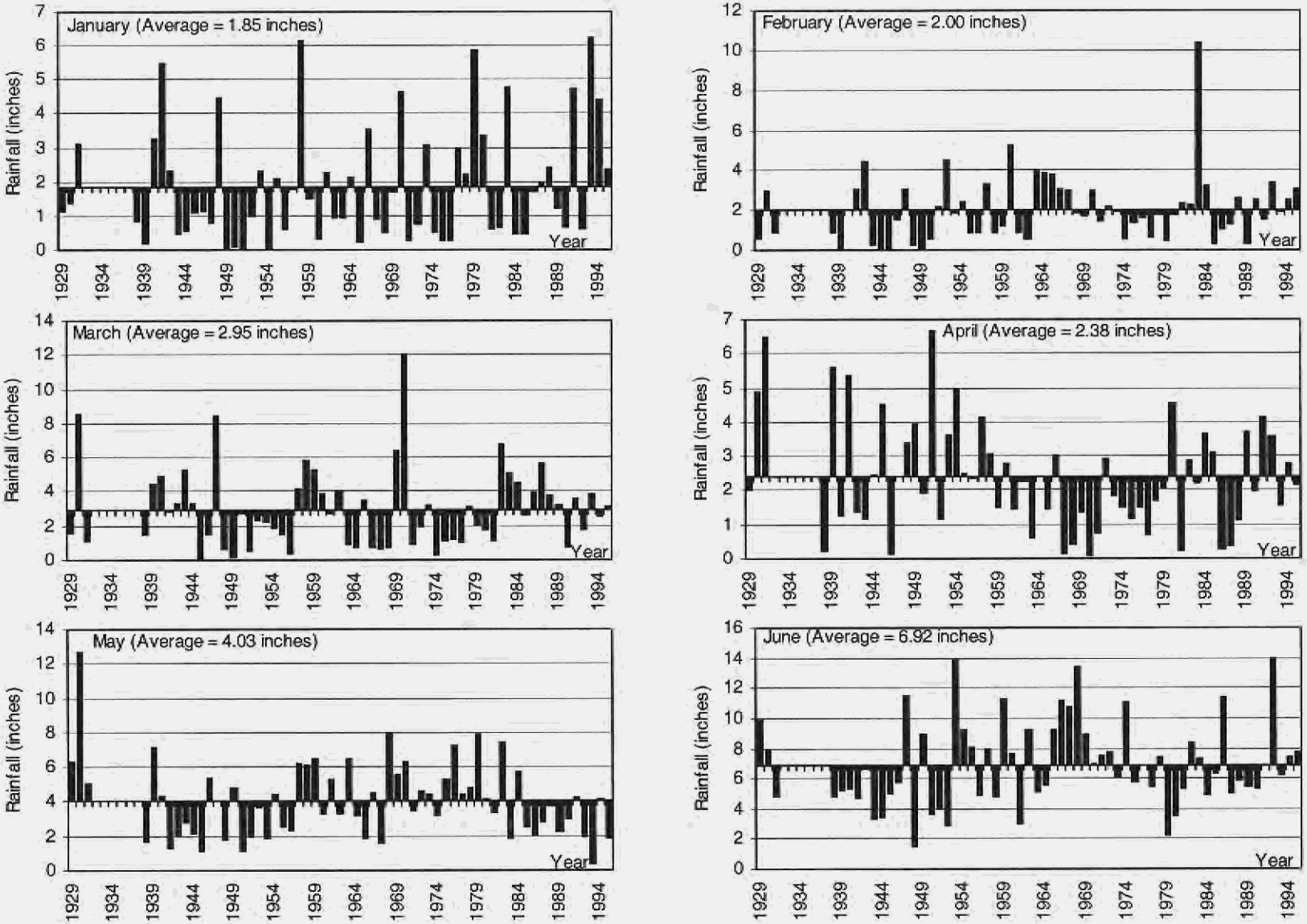

Figure B_{5a}. Lake Okeechobee Rainfall Departures from Historical Averages for the Months of January through June

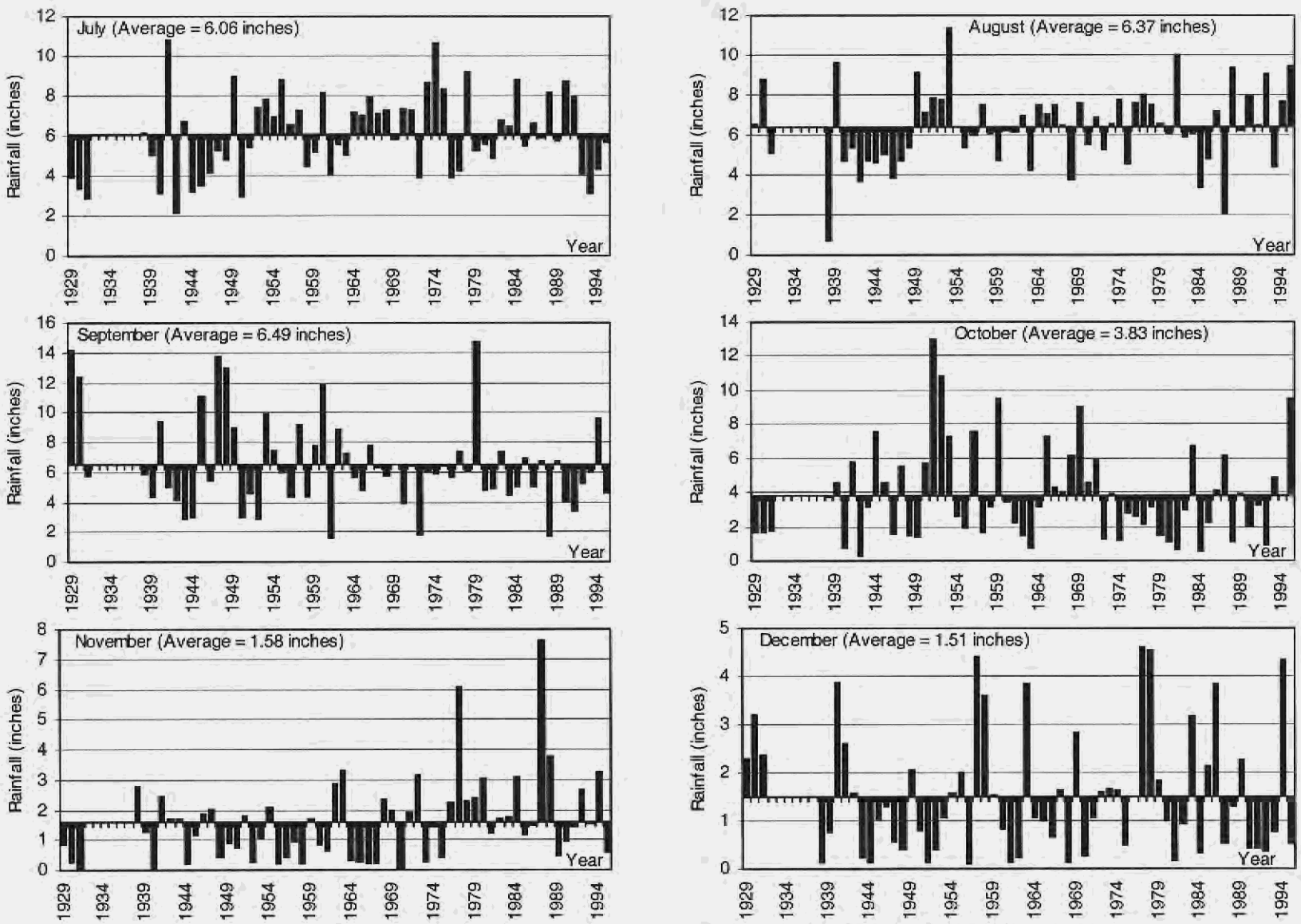

Figure B_{5b}. Lake Okeechobee Rainfall Departures from Historical Averages for the Months of July through December

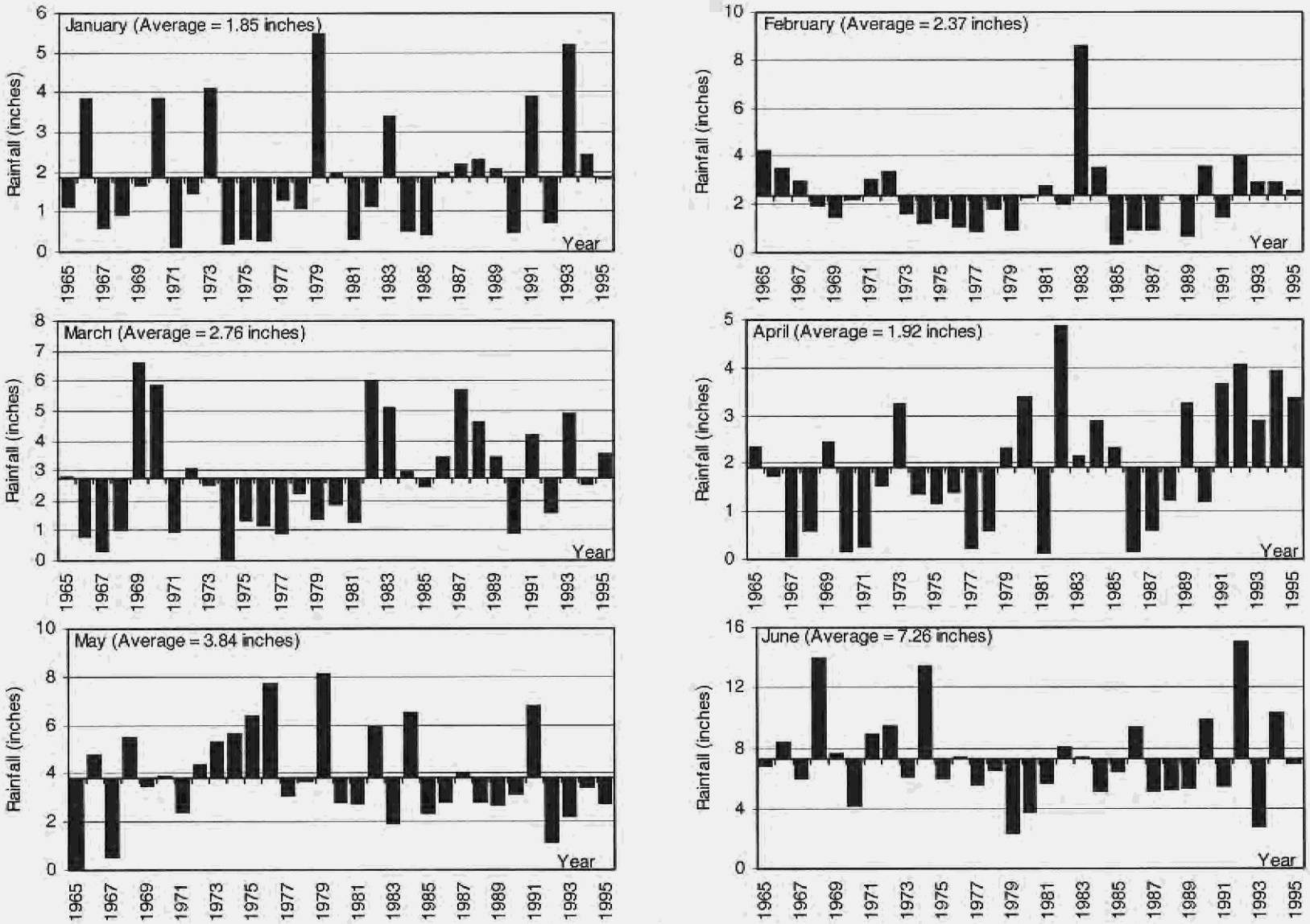

Figure B_{6a}. Lower Kissimmee Rainfall Departures from Historical Averages for the Months of January through June

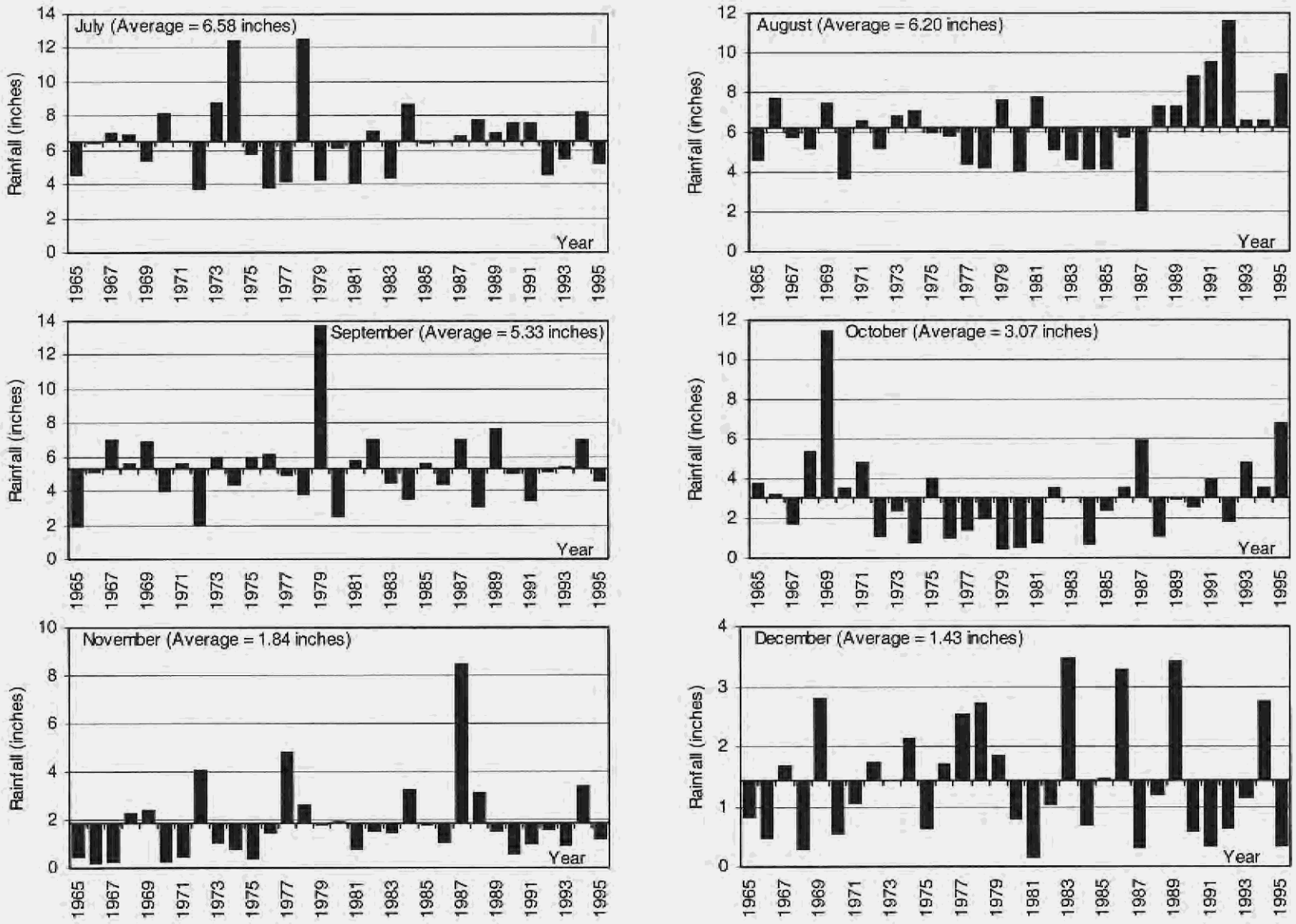

Figure B_{6b}. Lower Kissimmee Rainfall Departures from Historical Averages for the Months of July through December

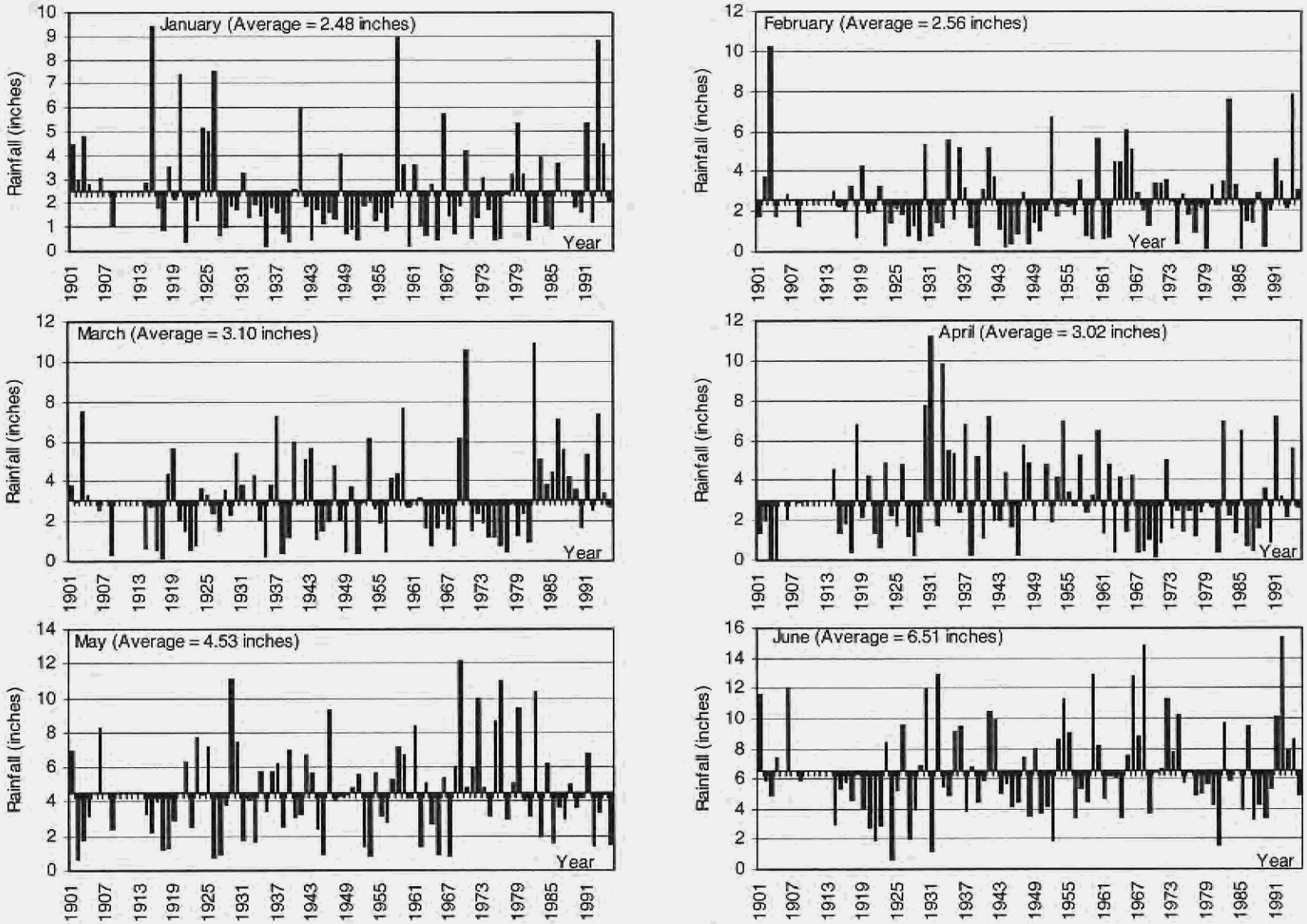

Figure B_{7a}. Martin/St. Lucie Rainfall Departures from Historical Averages for the Months of January through June

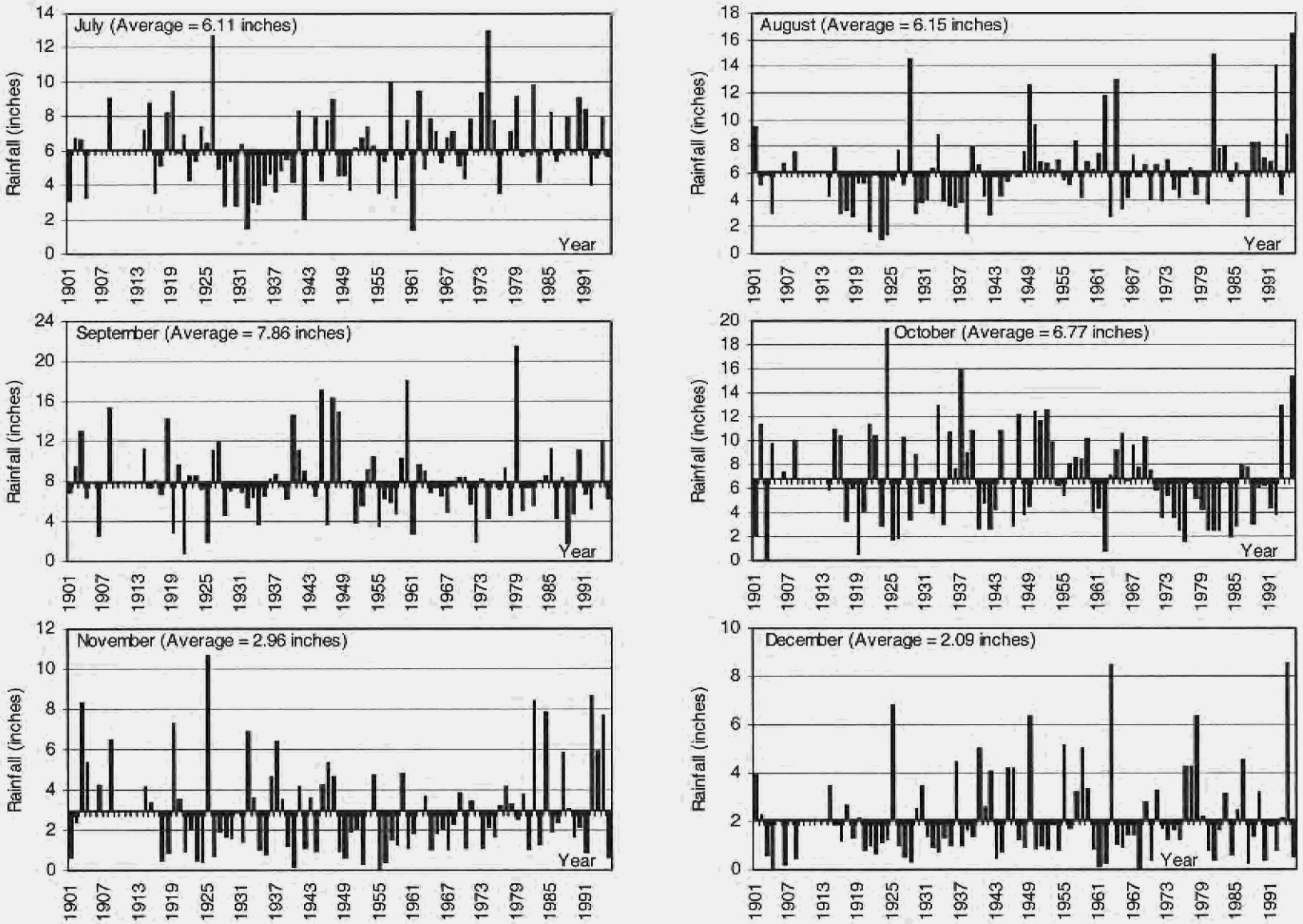

Figure B_{7b}. Martin/St. Lucie Rainfall Departures from Historical Averages for the Months of July through December

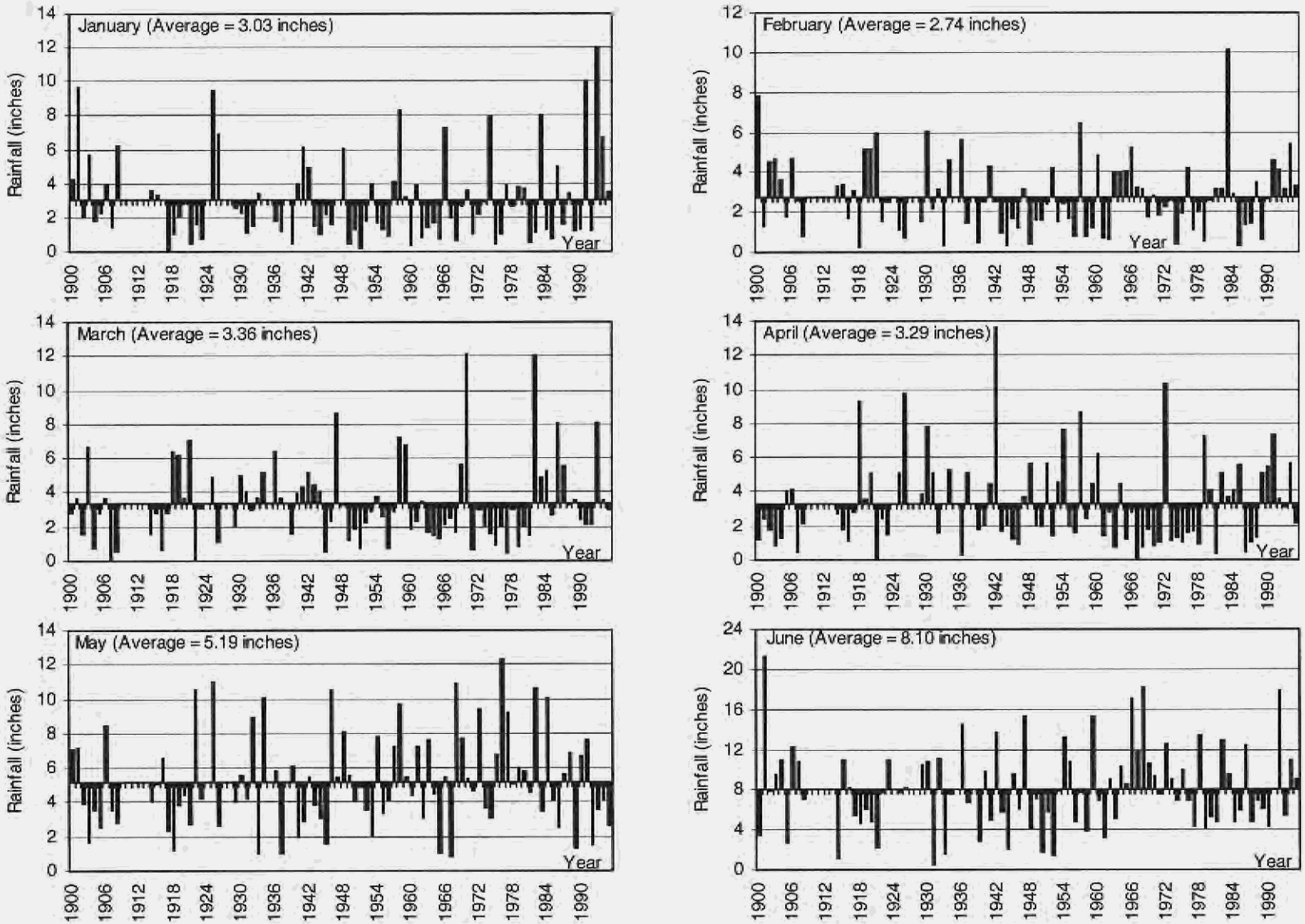

Figure B_{8a}. Palm Beach Rainfall Departures from Historical Averages for the Months of January through June

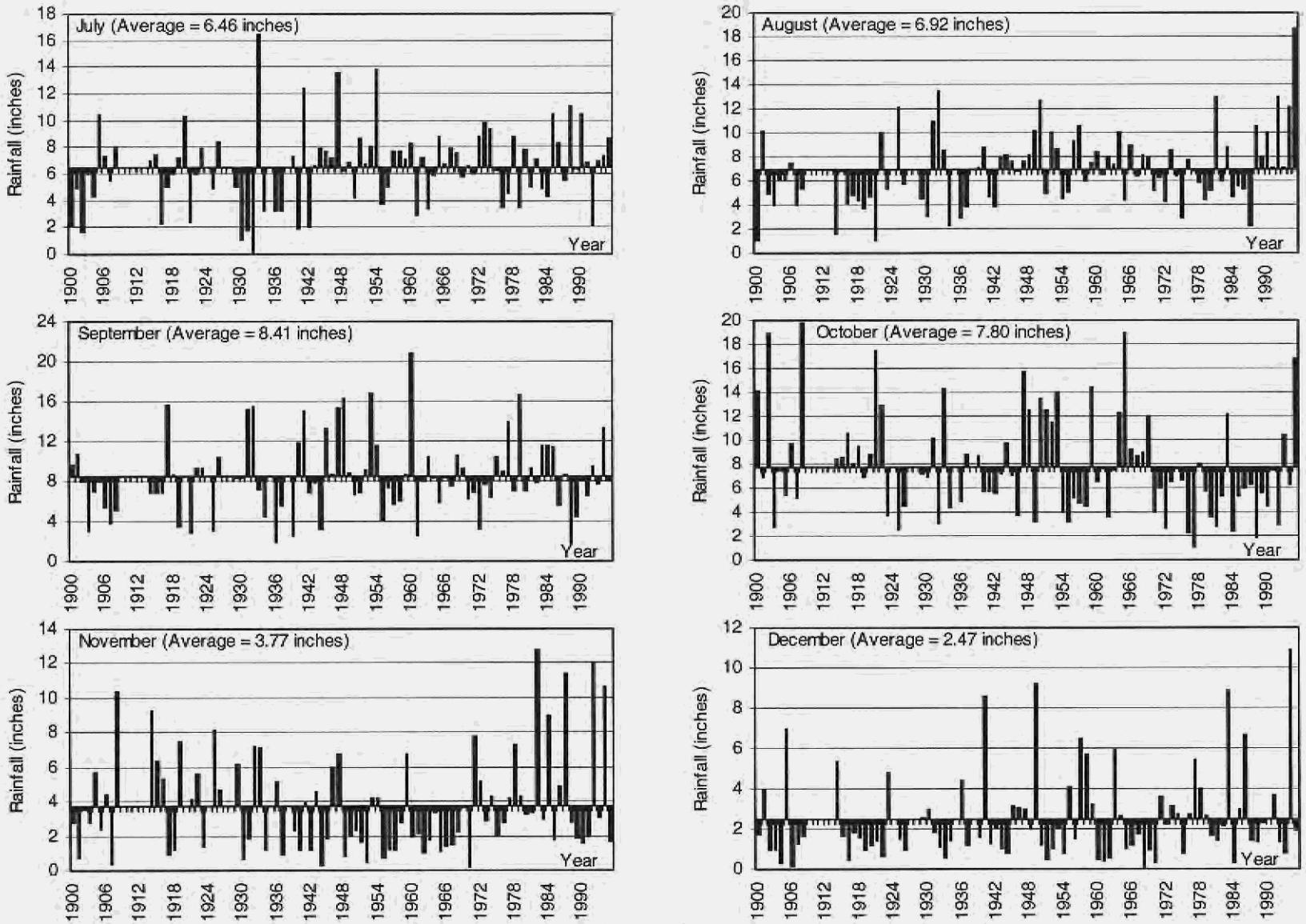

Figure B_{8b}. Palm Beach Rainfall Departures from Historical Averages for the Months of July through December

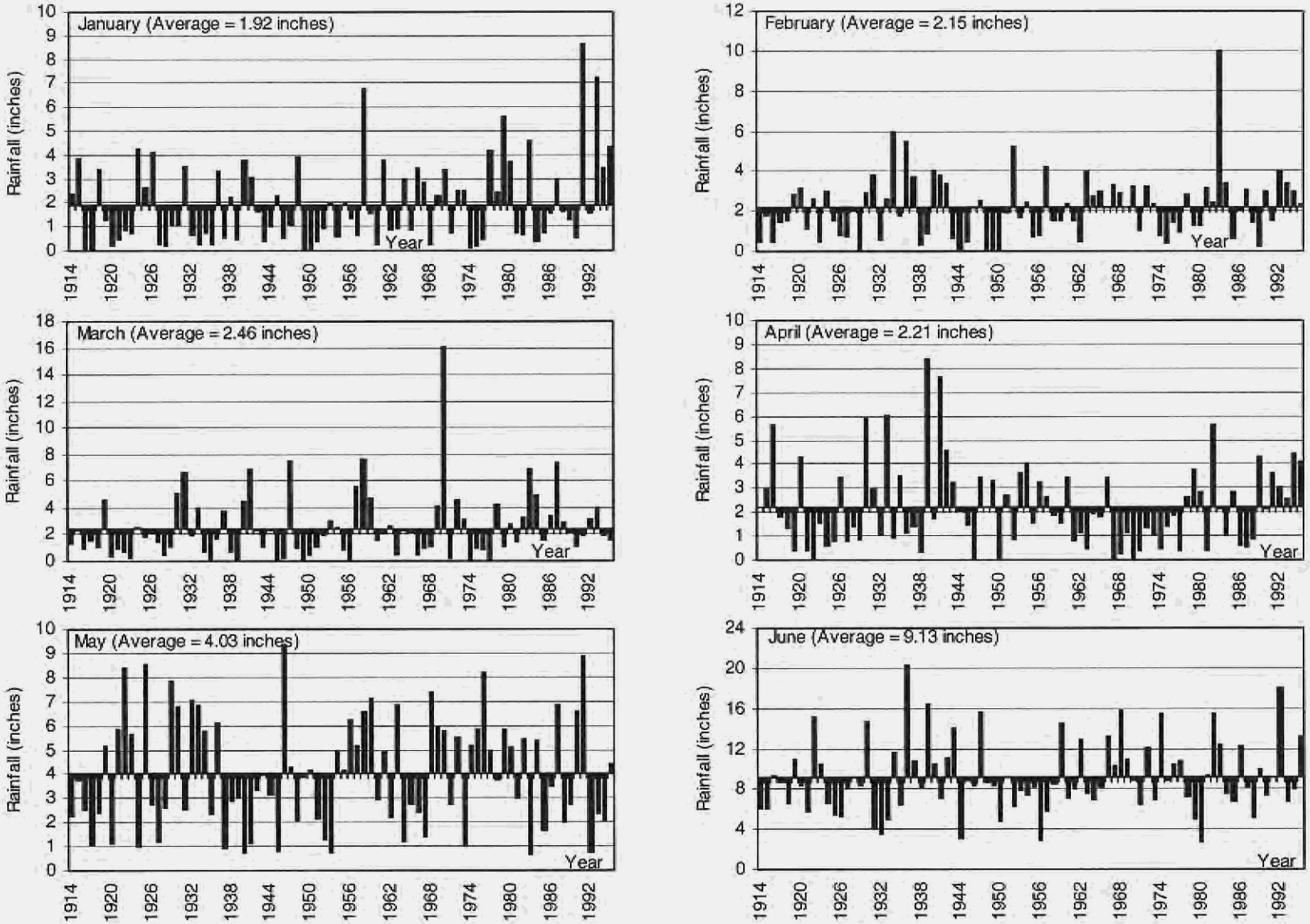

Figure B_{9a}. Southwest Coast Rainfall Departures from Historical Averages for the Months of January through June

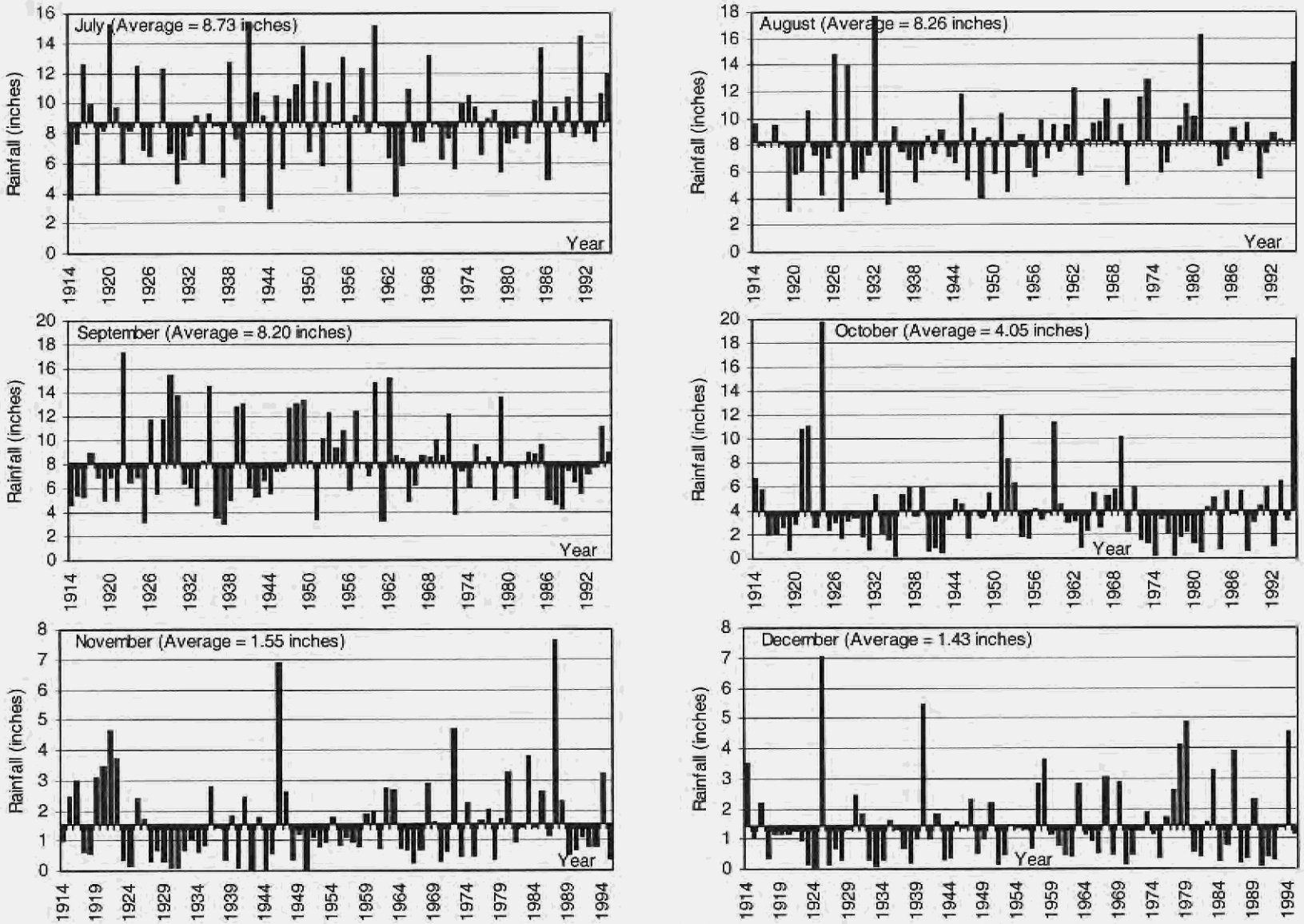

Figure B_{96}. Southwest Coast Rainfall Departures from Historical Averages for the Months of July through December

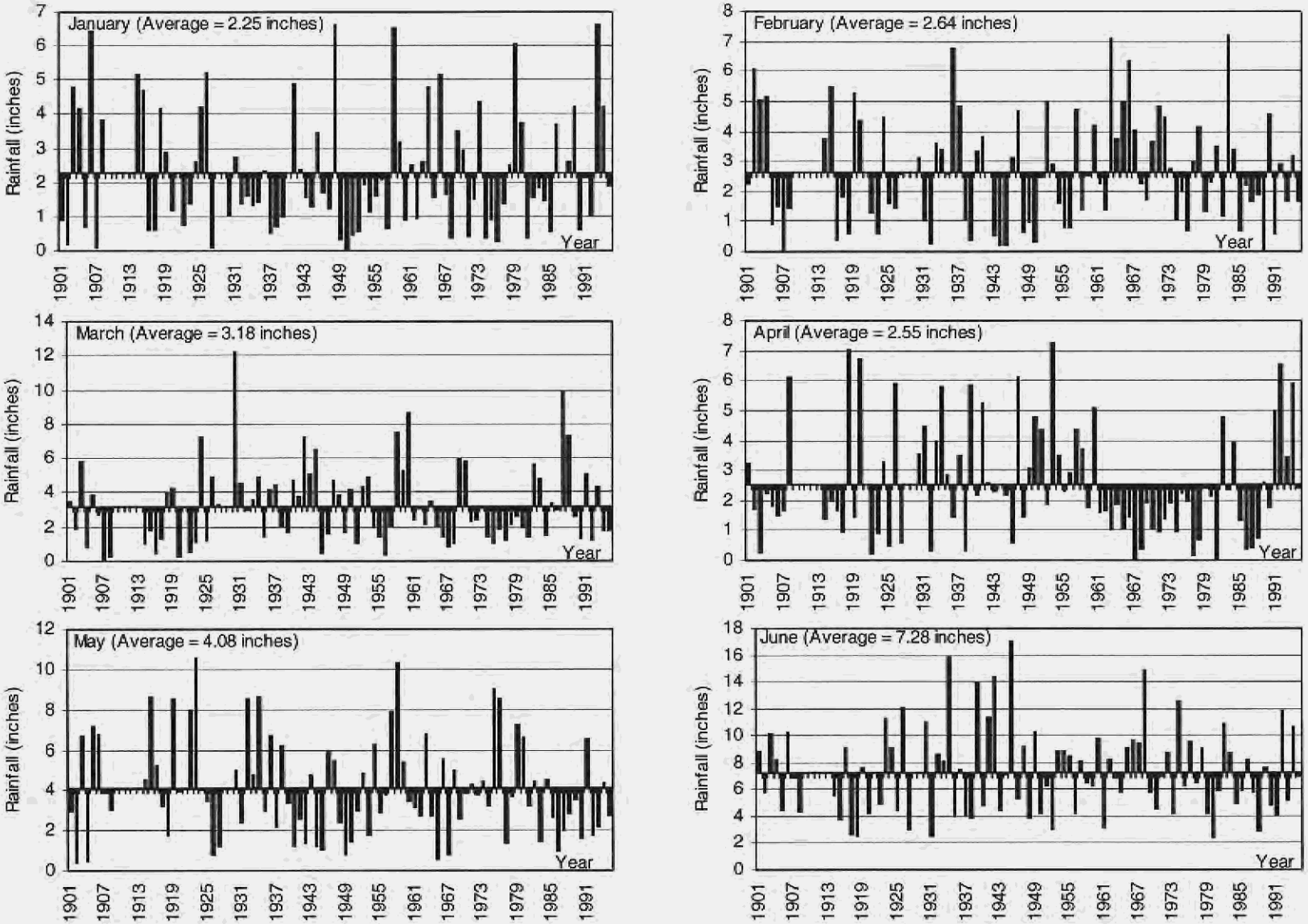

Figure B_{10a}. Upper Kissimmee Rainfall Departures from Historical Averages for the Months of January through June

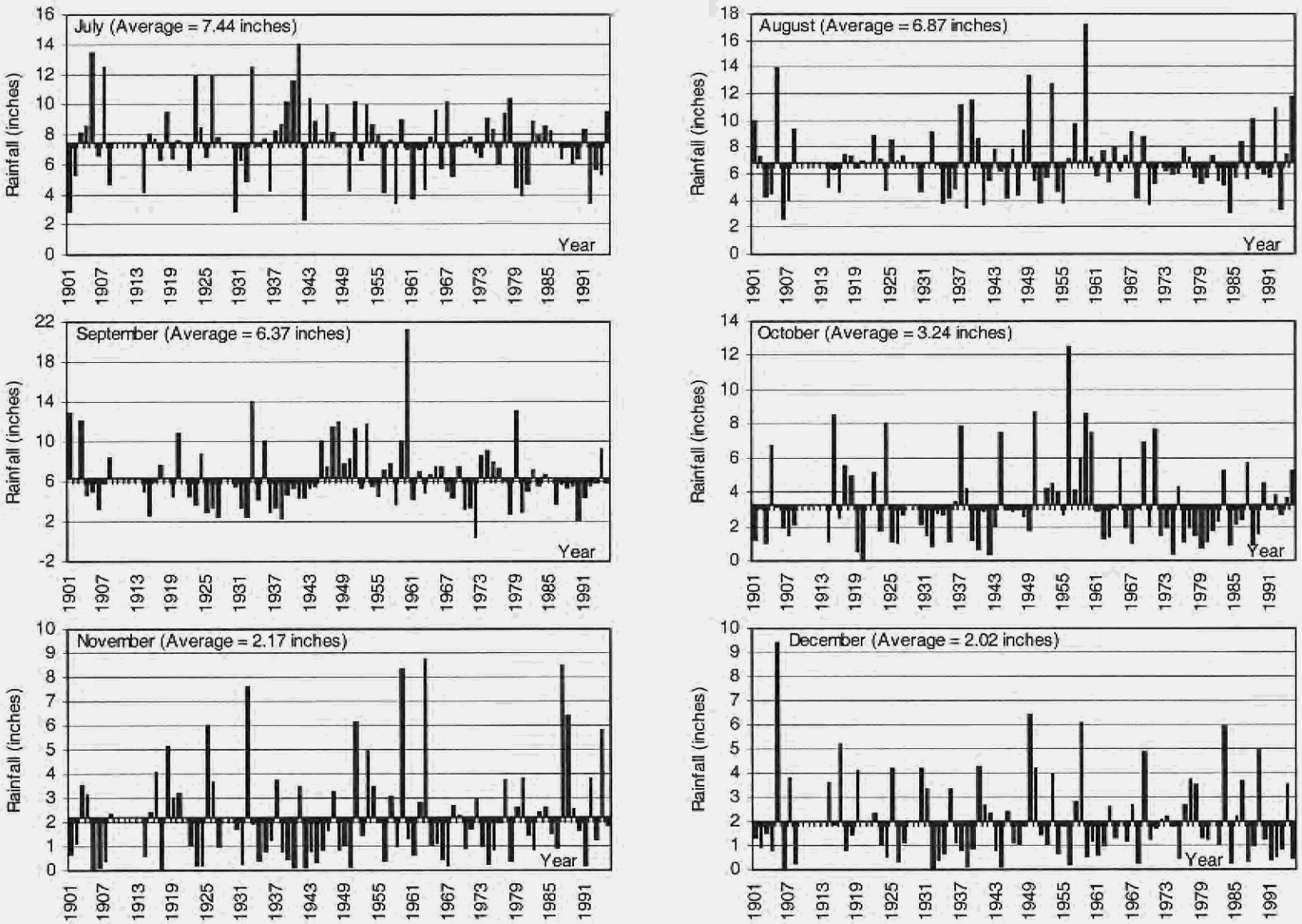

Figure B_{10b}. Upper Kissimmee Rainfall Departures from Historical Averages for the Months of July through December

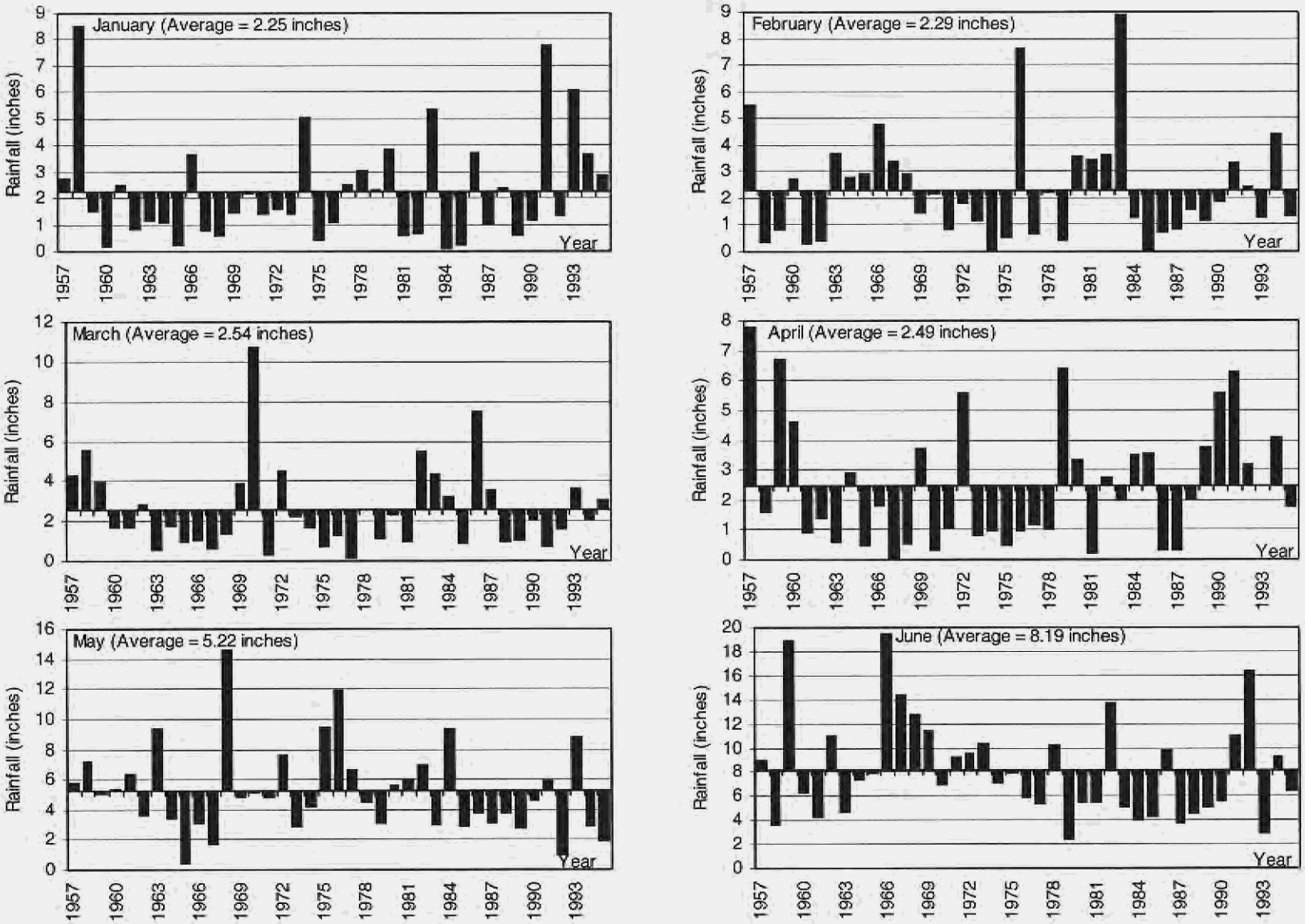

Figure B_{11a}. WCA 1&2 Rainfall Departures from Historical Averages for the Months of January through June

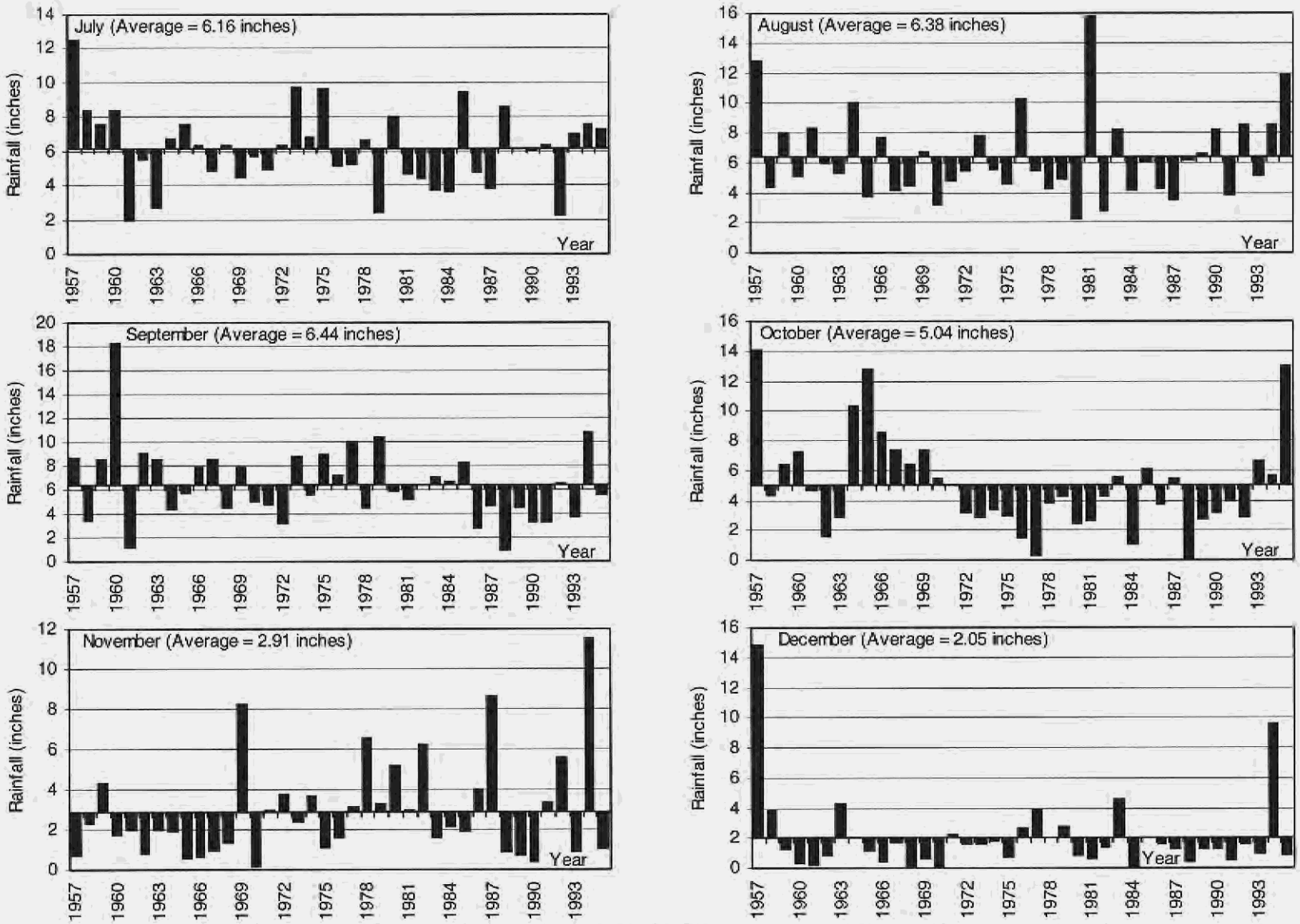

Figure B_{11b}. WCA 1&2 Rainfall Departures from Historical Averages for the Months of July through December

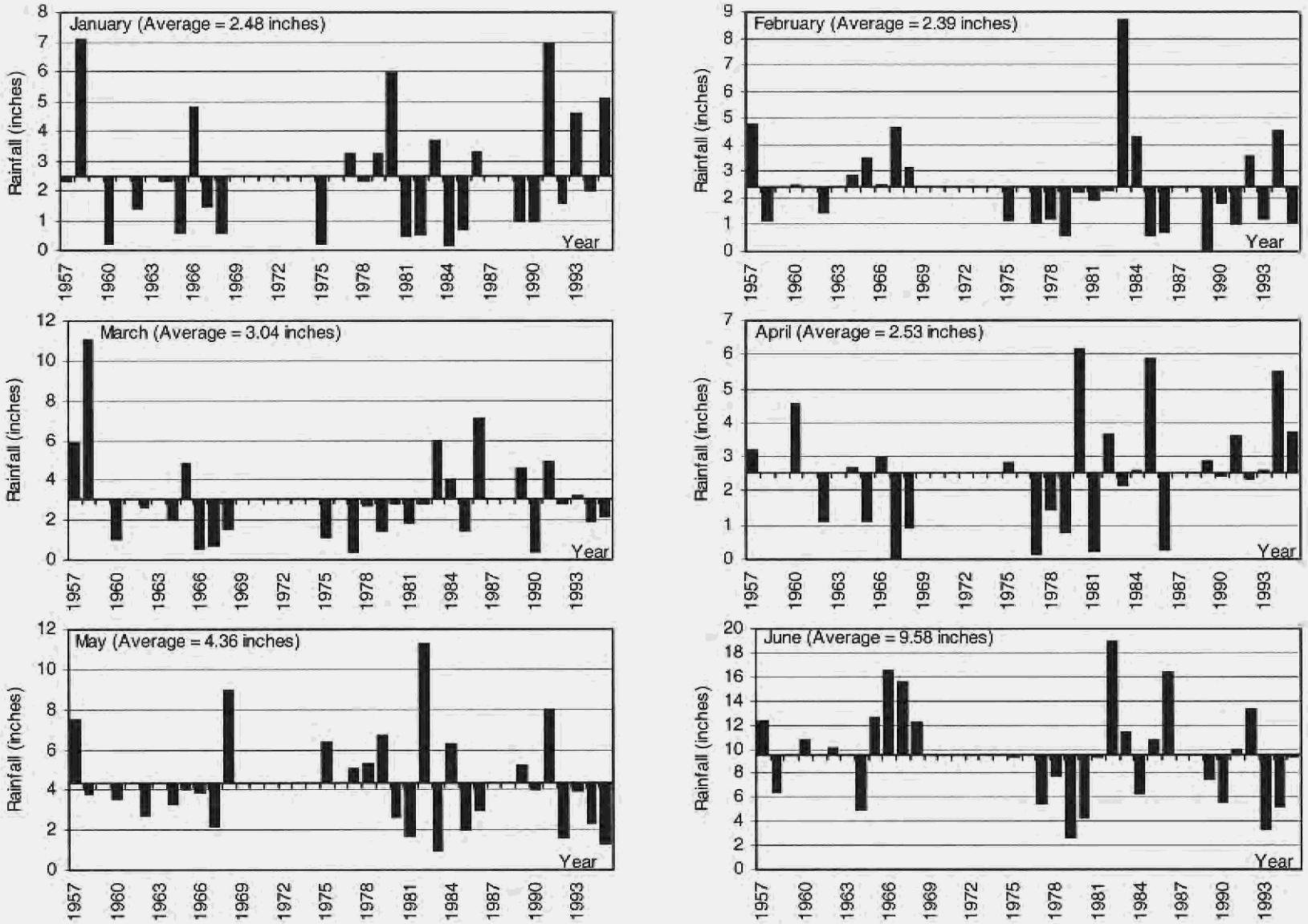

Figure B_{12a}. West AG Rainfall Departures from Historical Averages for the Months of January through June

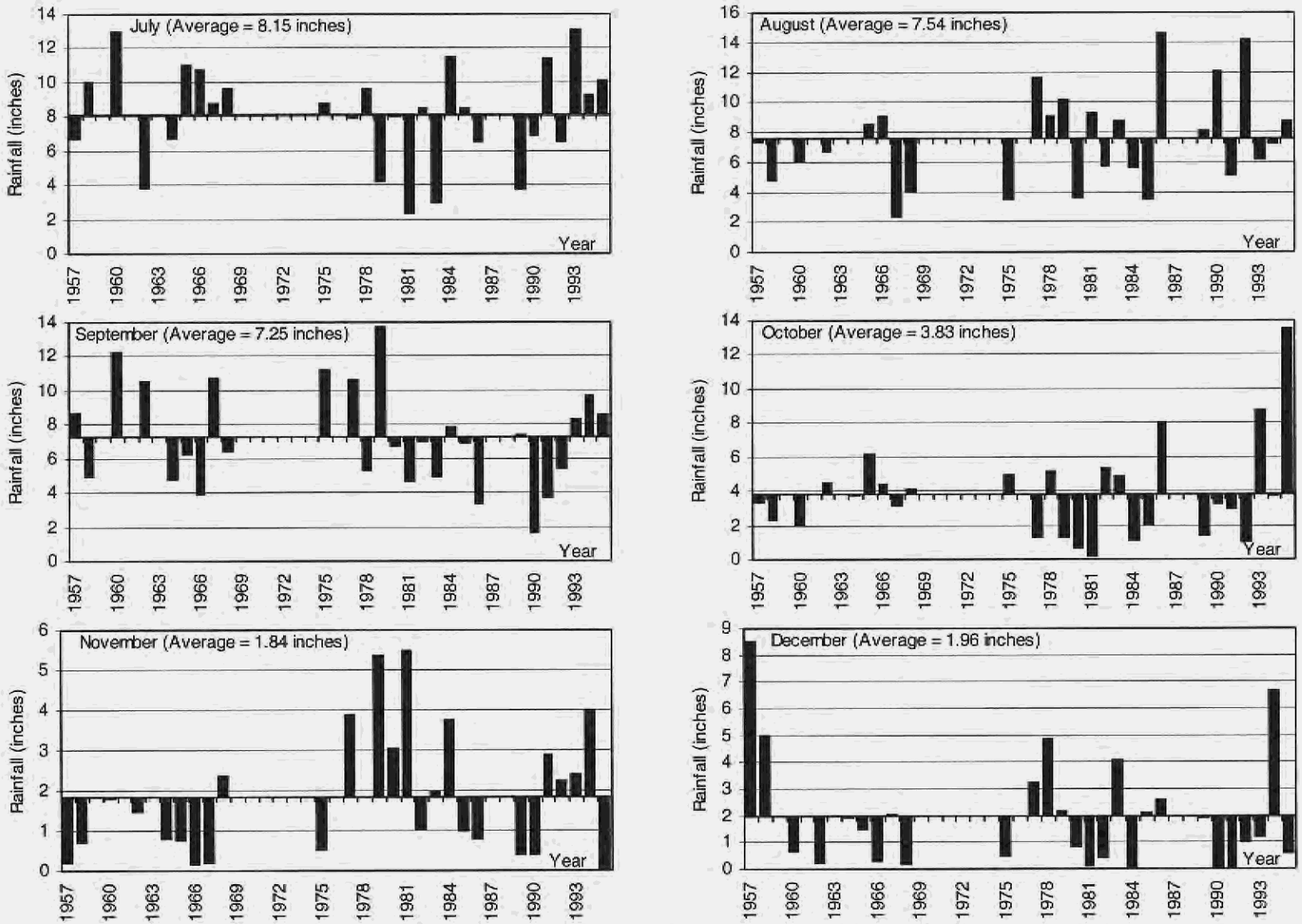

Figure B_{12b}. West AG Rainfall Departures from Historical Averages for the Months of July through December

APPENDIX C

Basin Seasonal (Dry and Wet) and Annual Rainfall Departures from Respective Historical Averages

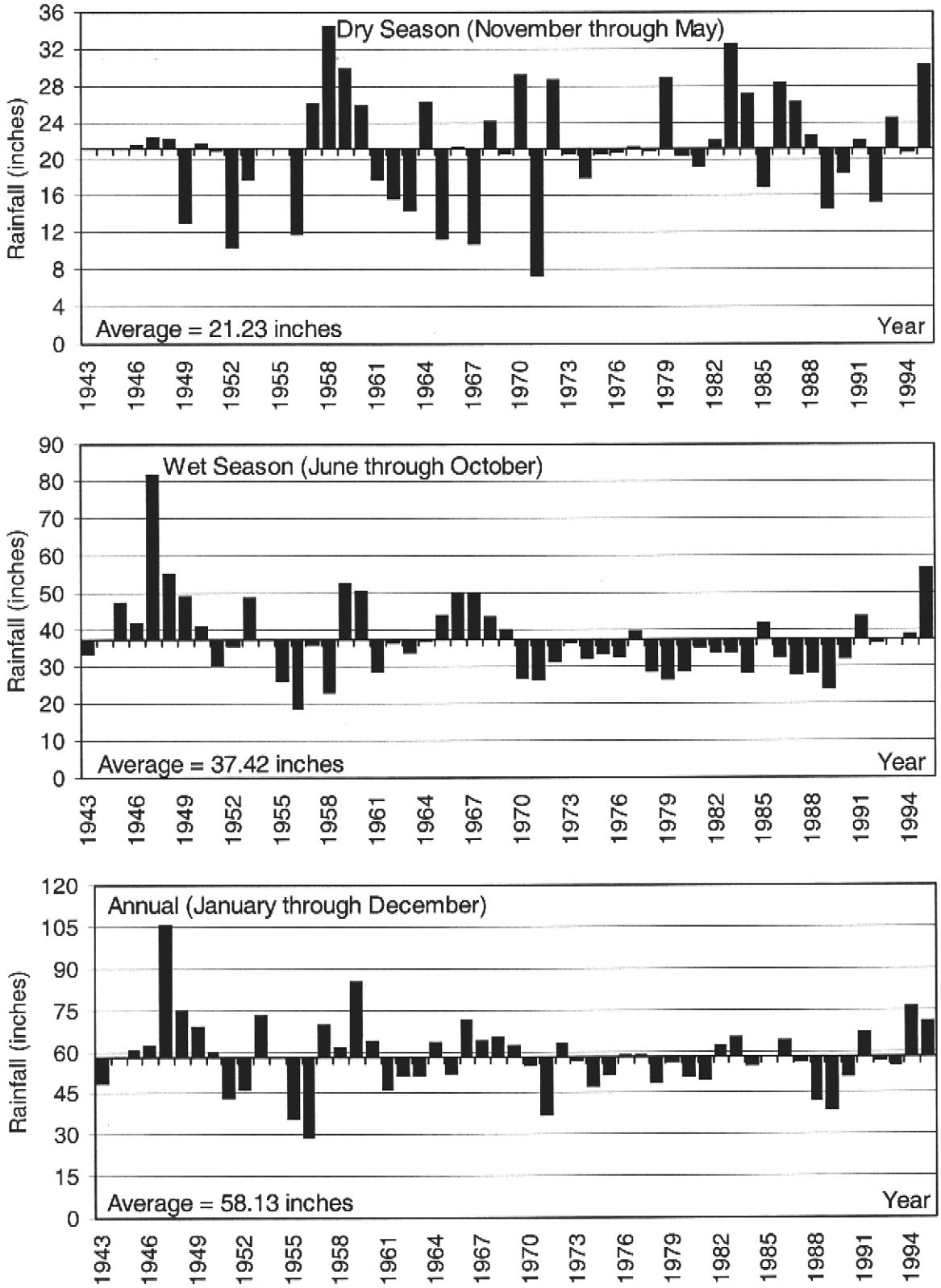

Figure C_1. Broward Seasonal and Annual Rainfall Departures from Respective Historical Averages

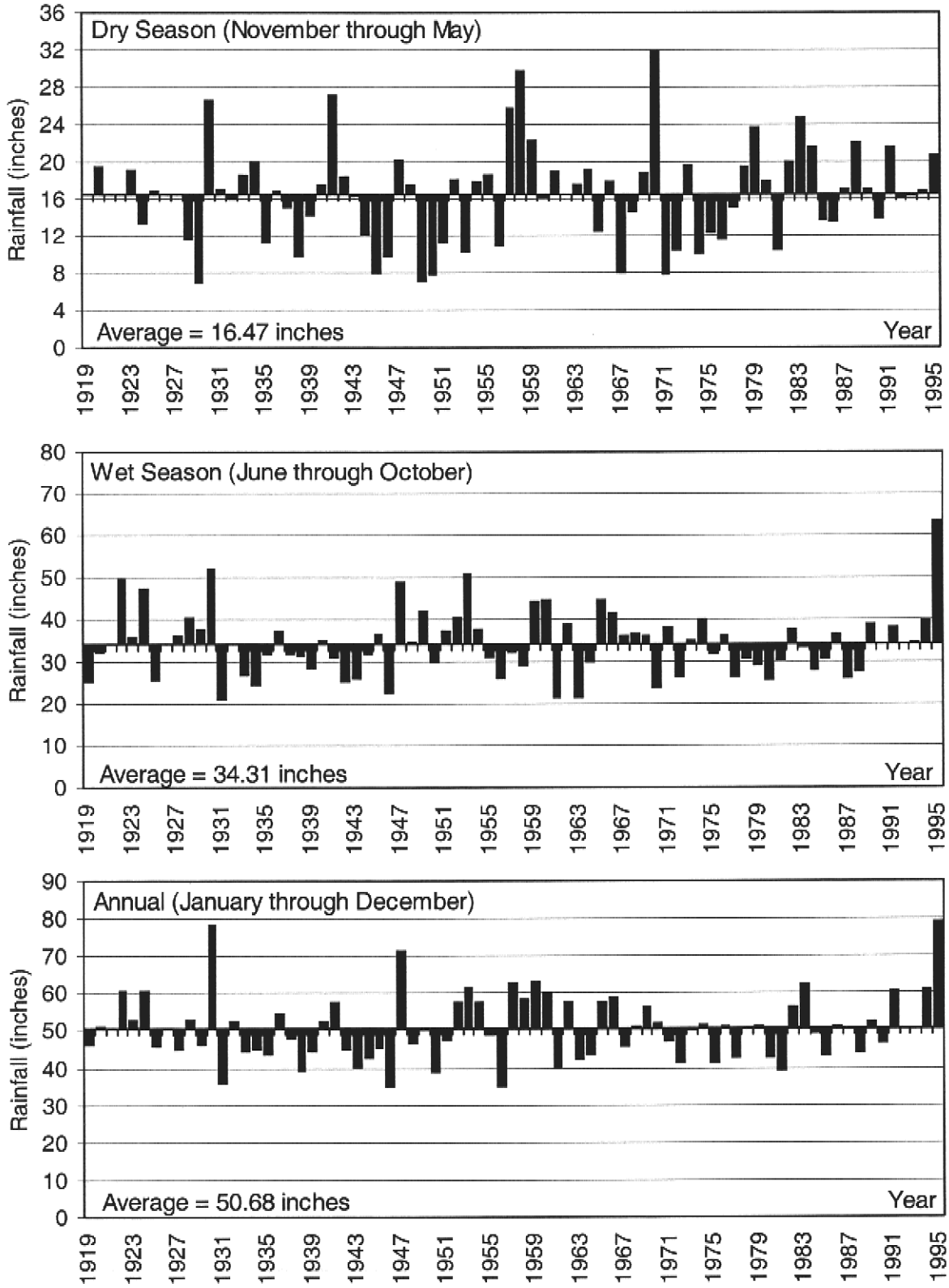

Figure C_2. Caloosahatchee Seasonal and Annual Rainfall Departures from Respective Historical Averages

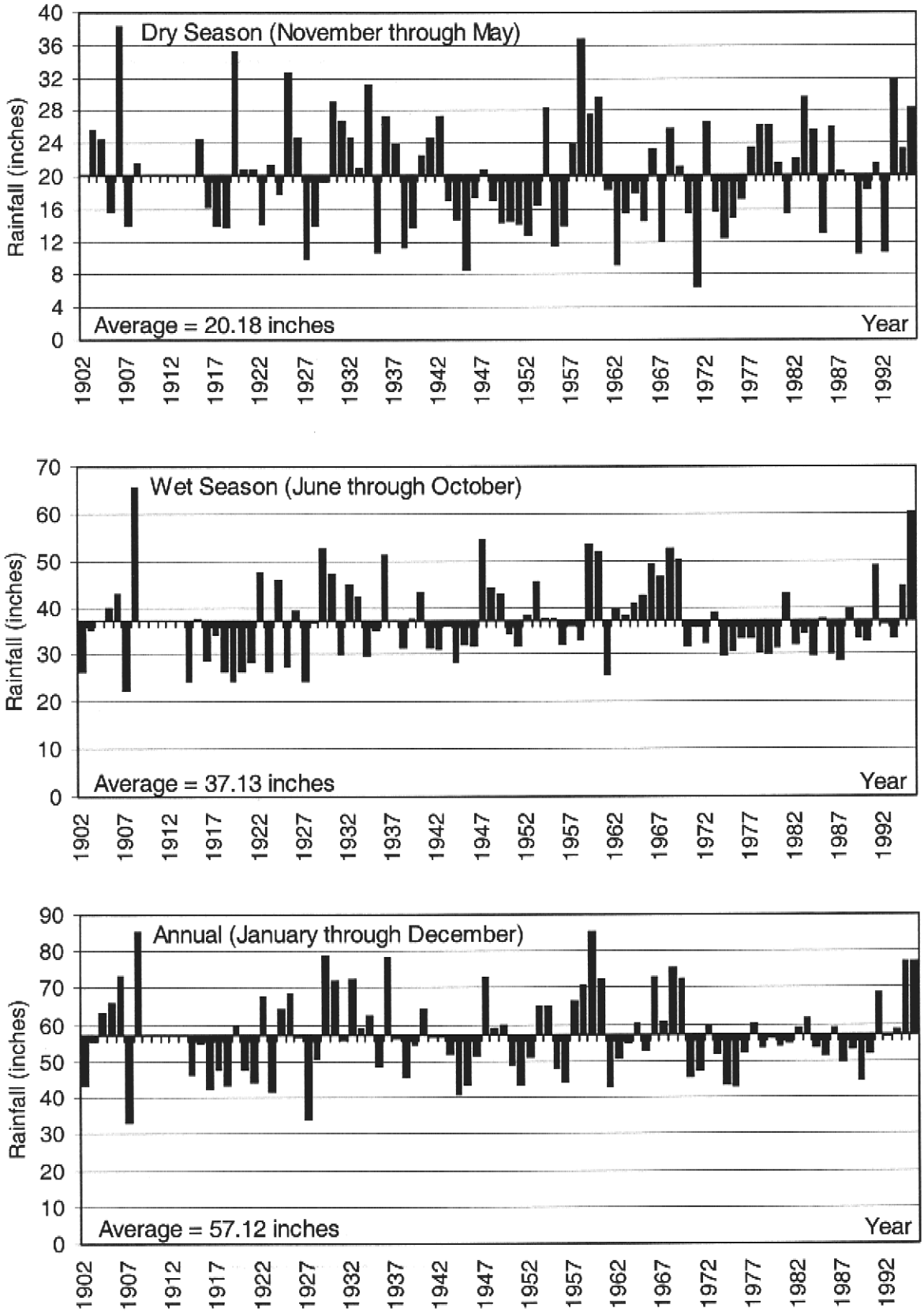

Figure C_3. Dade Seasonal and Annual Rainfall Departures from Respective Historical Averages

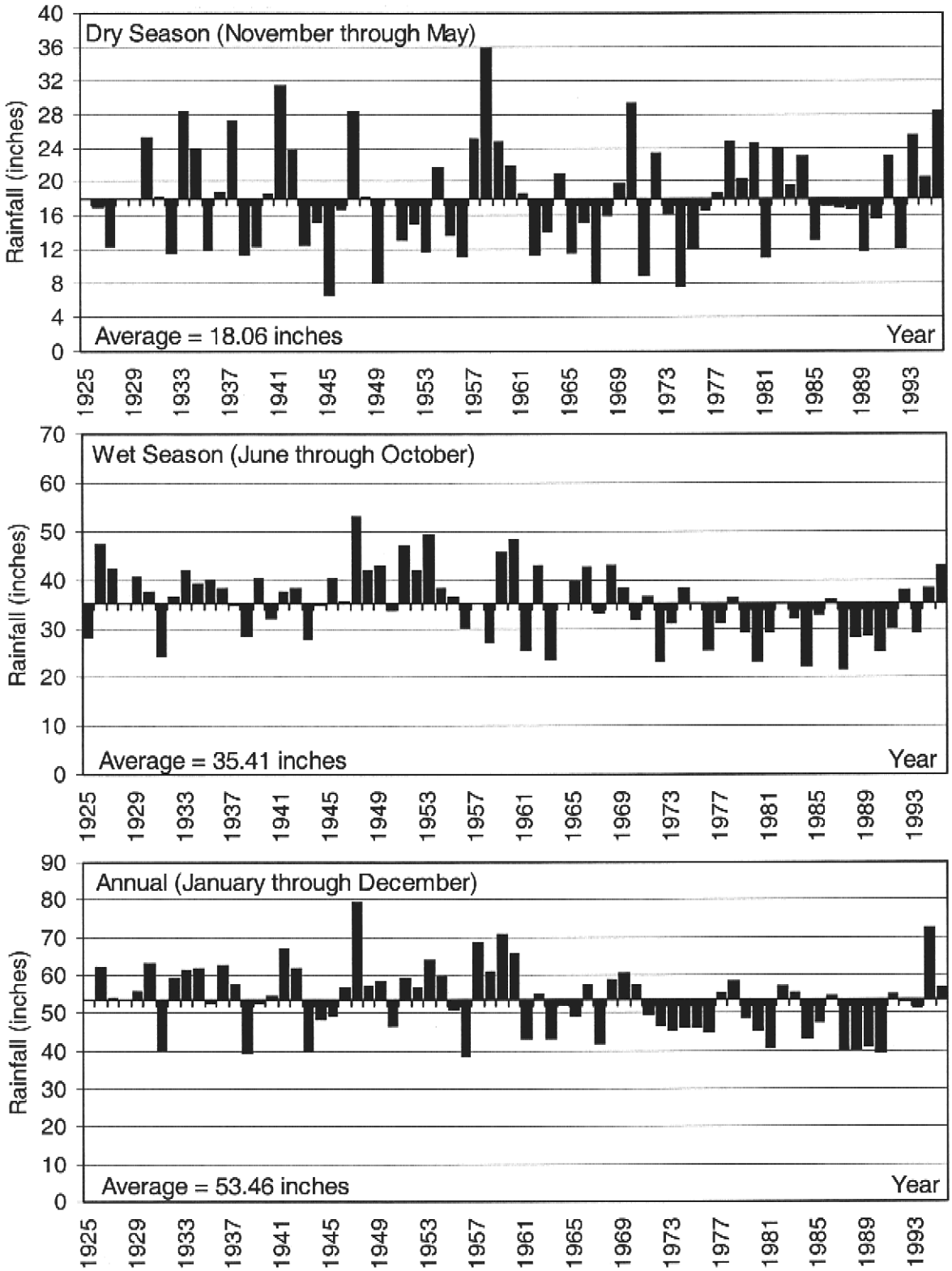

Figure C_4. East EAA Seasonal and Annual Rainfall Departures from Respective Historical Averages

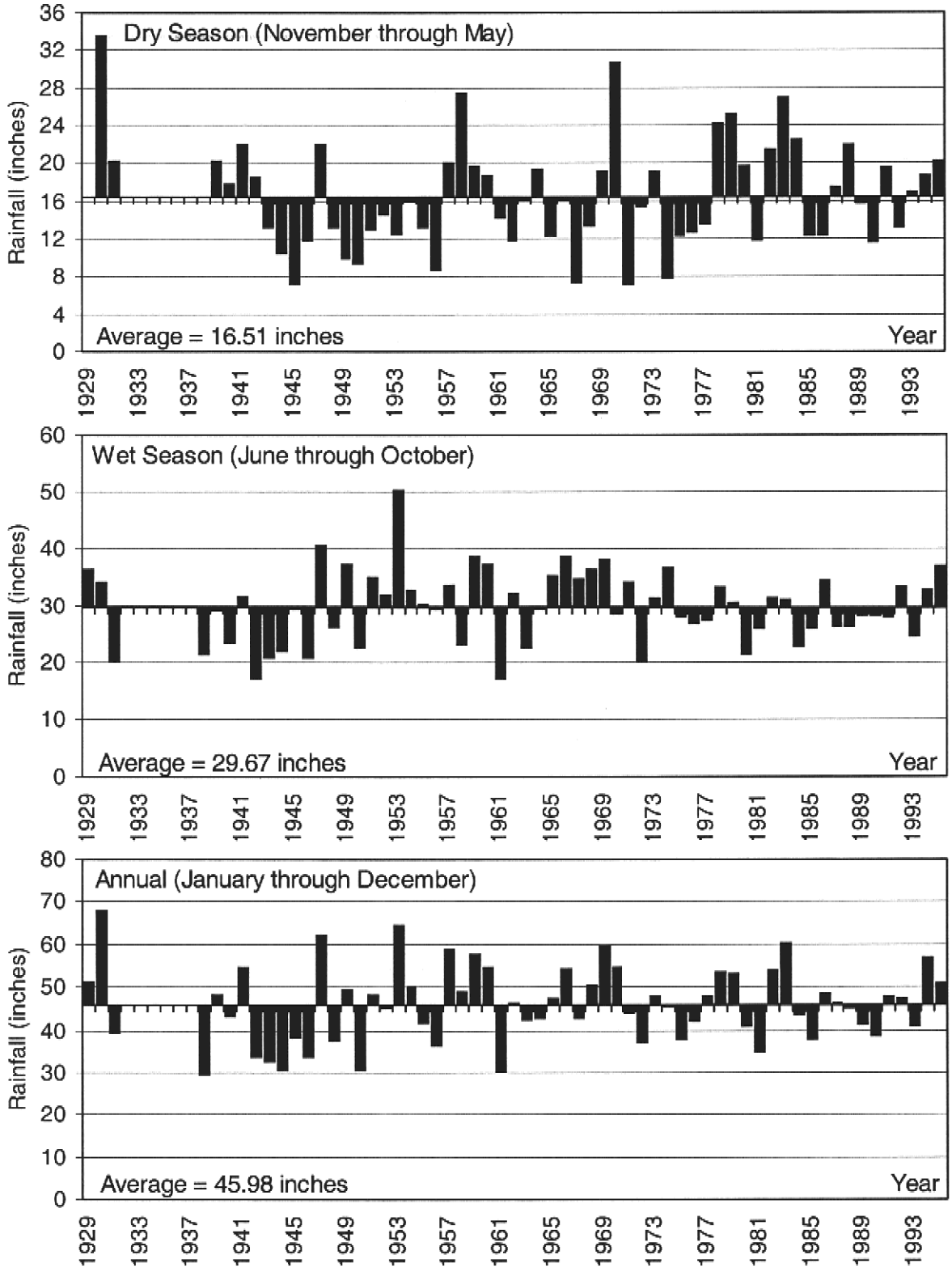

Figure C_5. Lake Okeechobee Seasonal and Annual Rainfall Departures from Respective Historical Averages

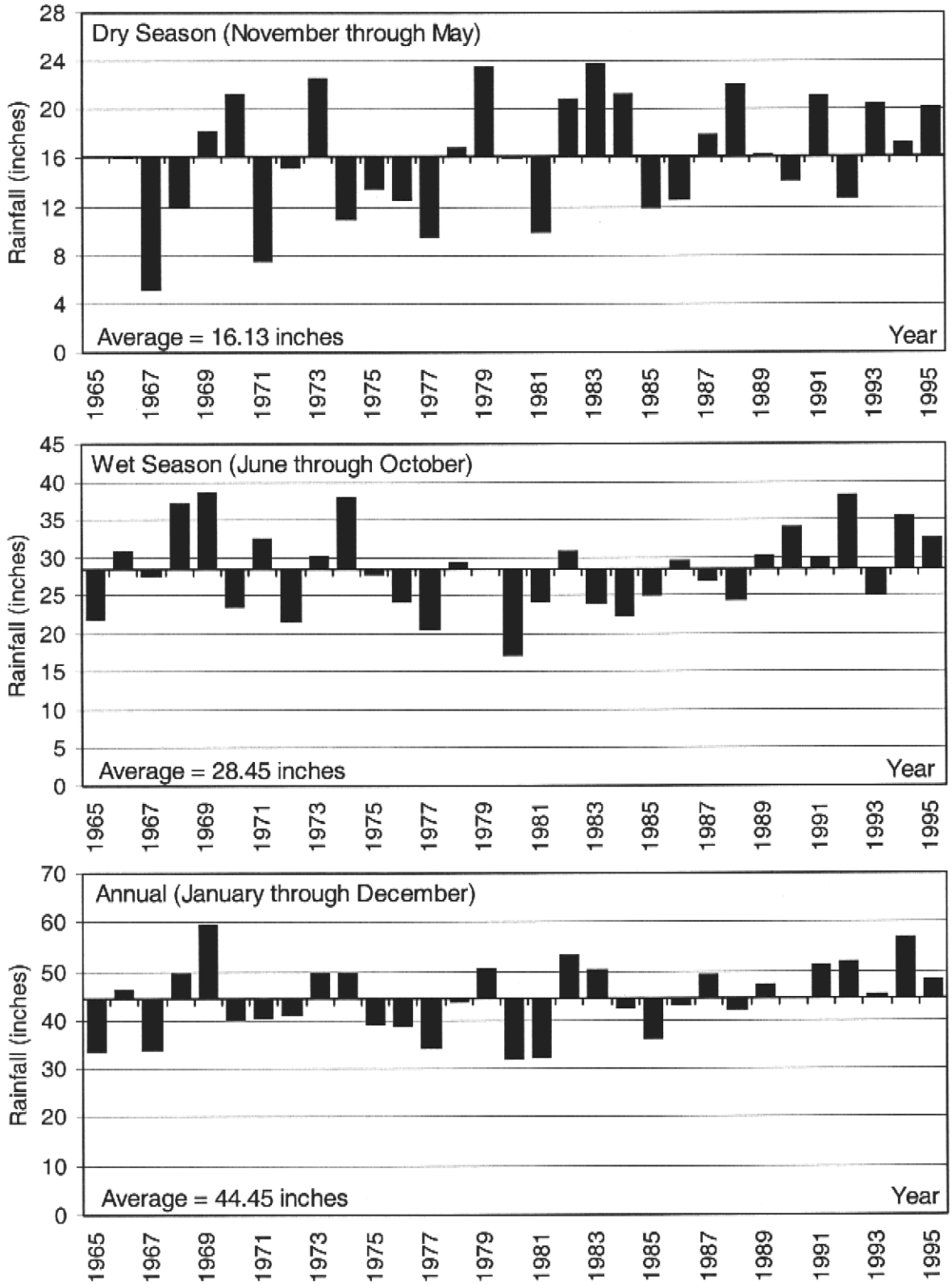

Figure C_6. Lower Kissimmee Seasonal and Annual Rainfall Departures from Respective Historical Averages

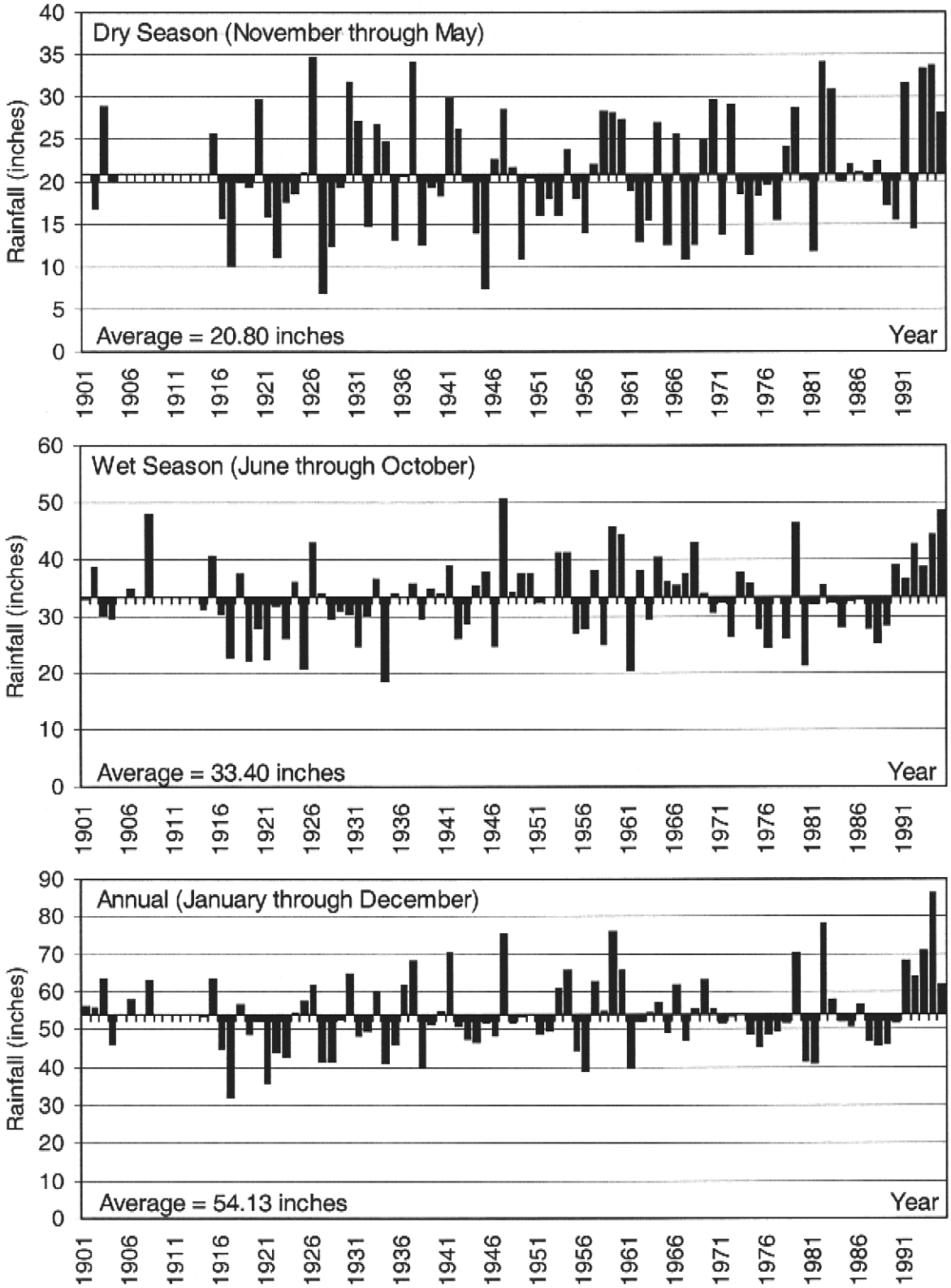

Figure C_7. Martin/St. Lucie Seasonal and Annual Rainfall Departures from Respective Historical Averages

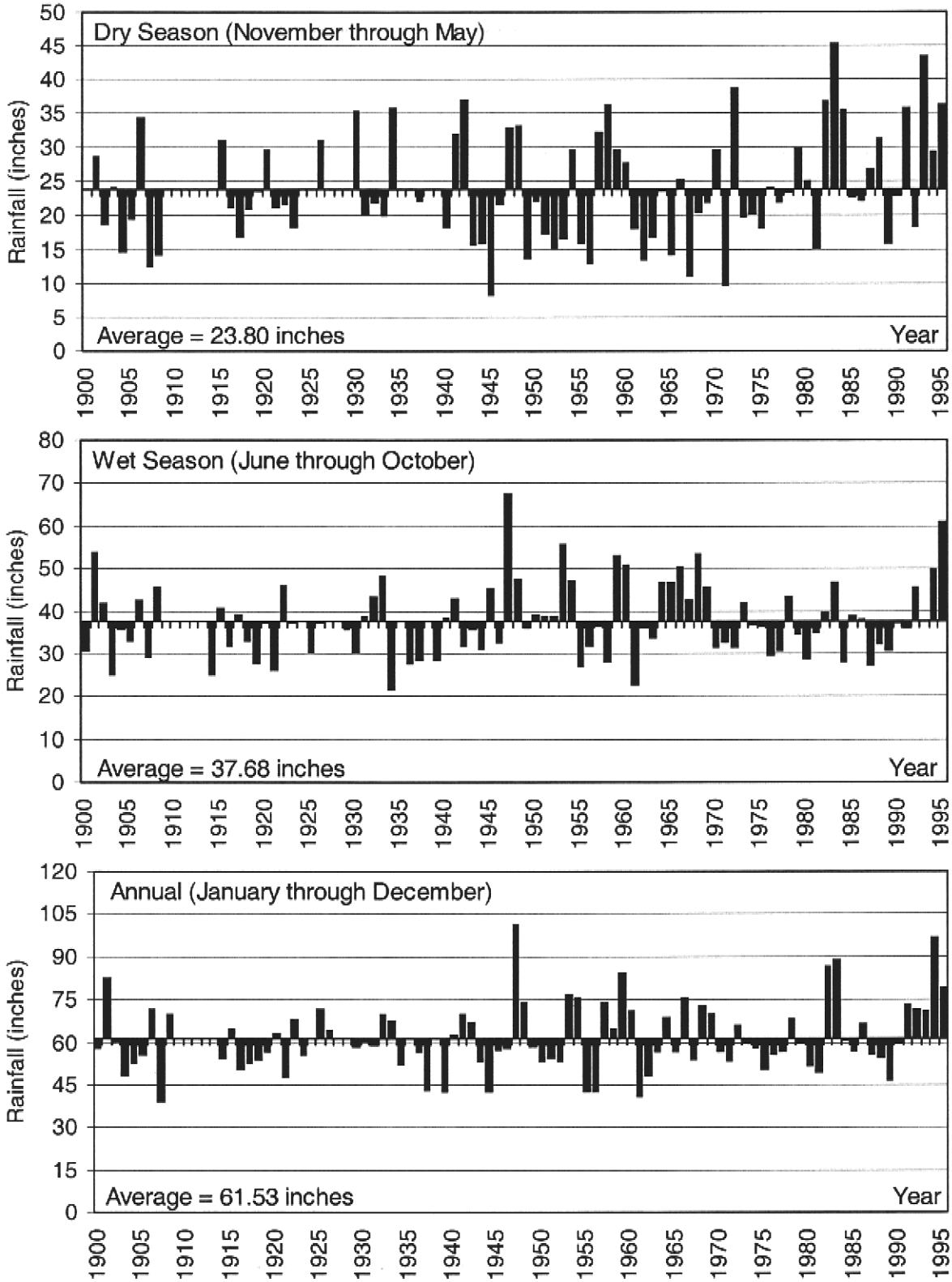

Figure C_8. Palm Beach Seasonal and Annual Rainfall Departures from Respective Historical Averages

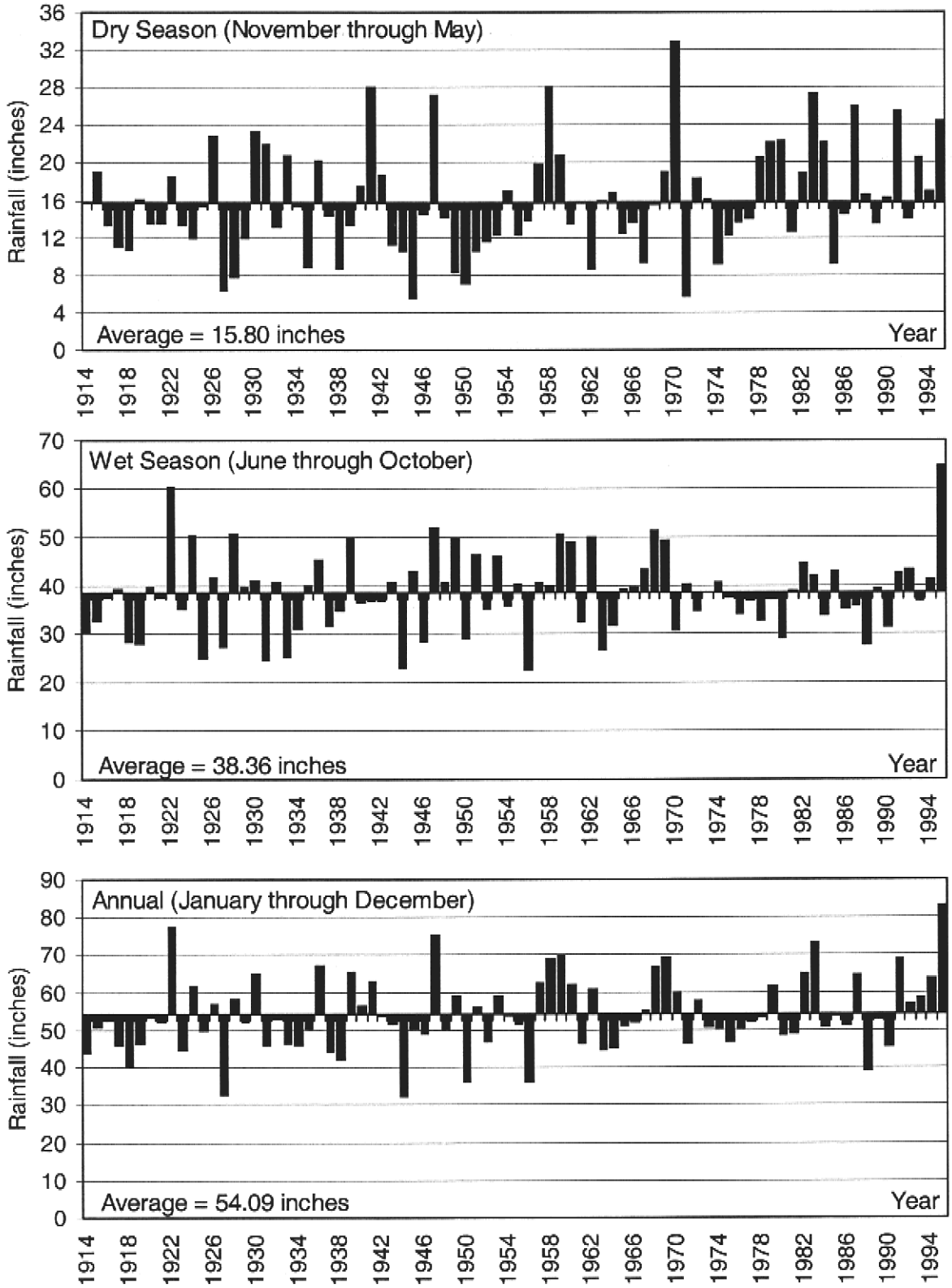

Figure C9. Southwest Coast Seasonal and Annual Rainfall Departures from Respective Historical Averages

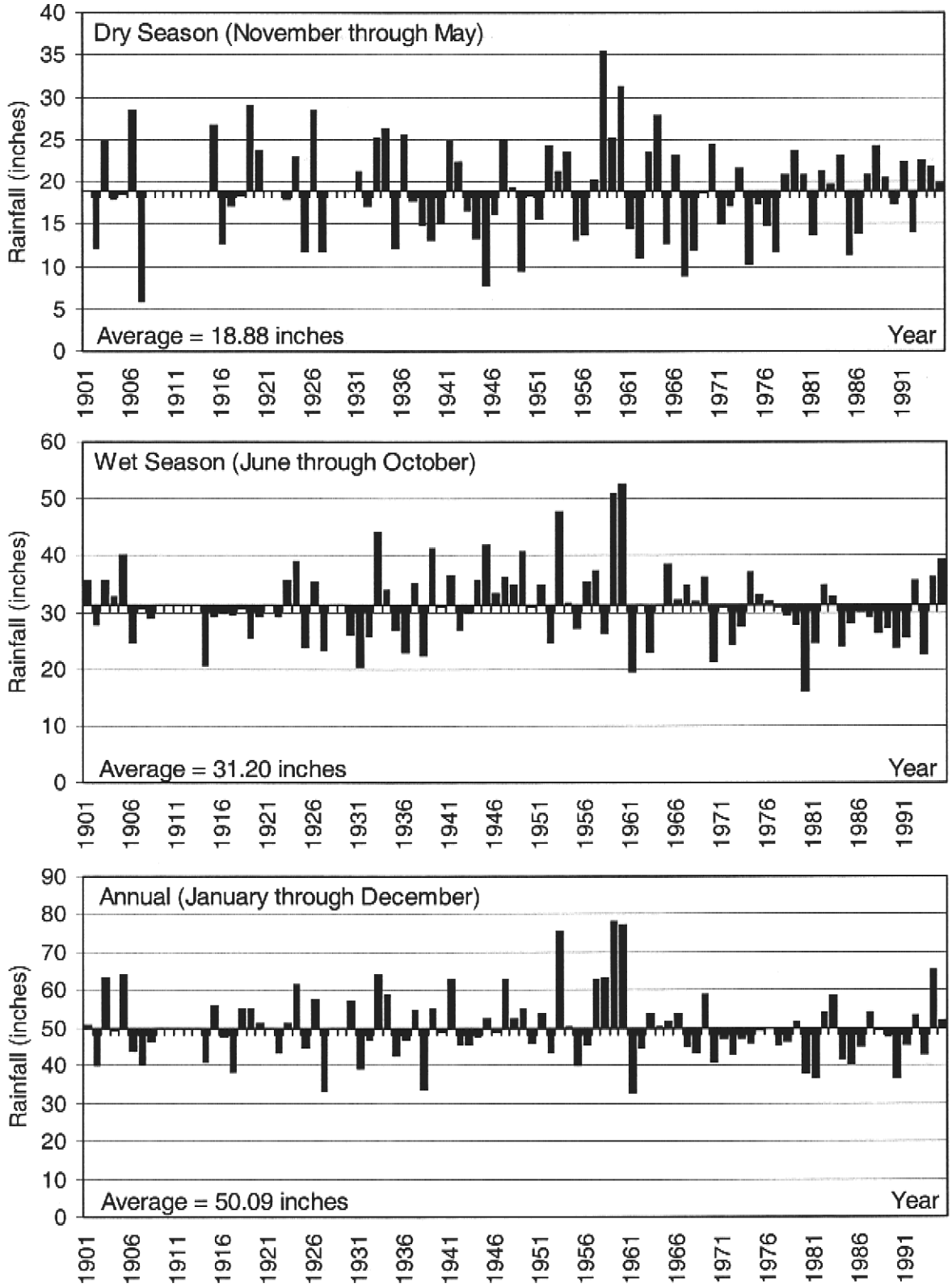

Figure C_{10}. Upper Kissimmee Seasonal and Annual Rainfall Departures from Respective Historical Averages

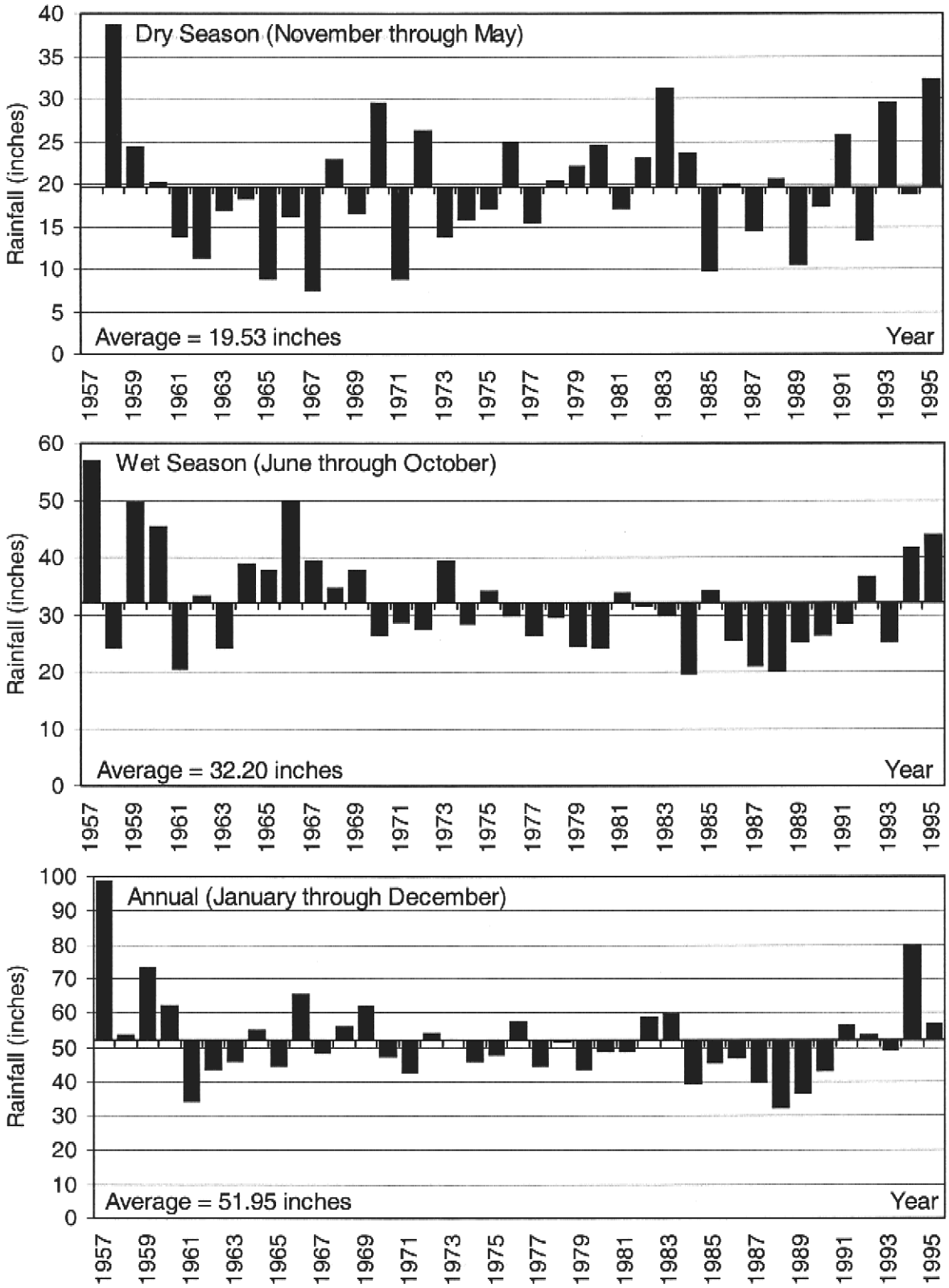

Figure C_{11}. WCA 1&2 Seasonal and Annual Rainfall Departures from Respective Historical Averages

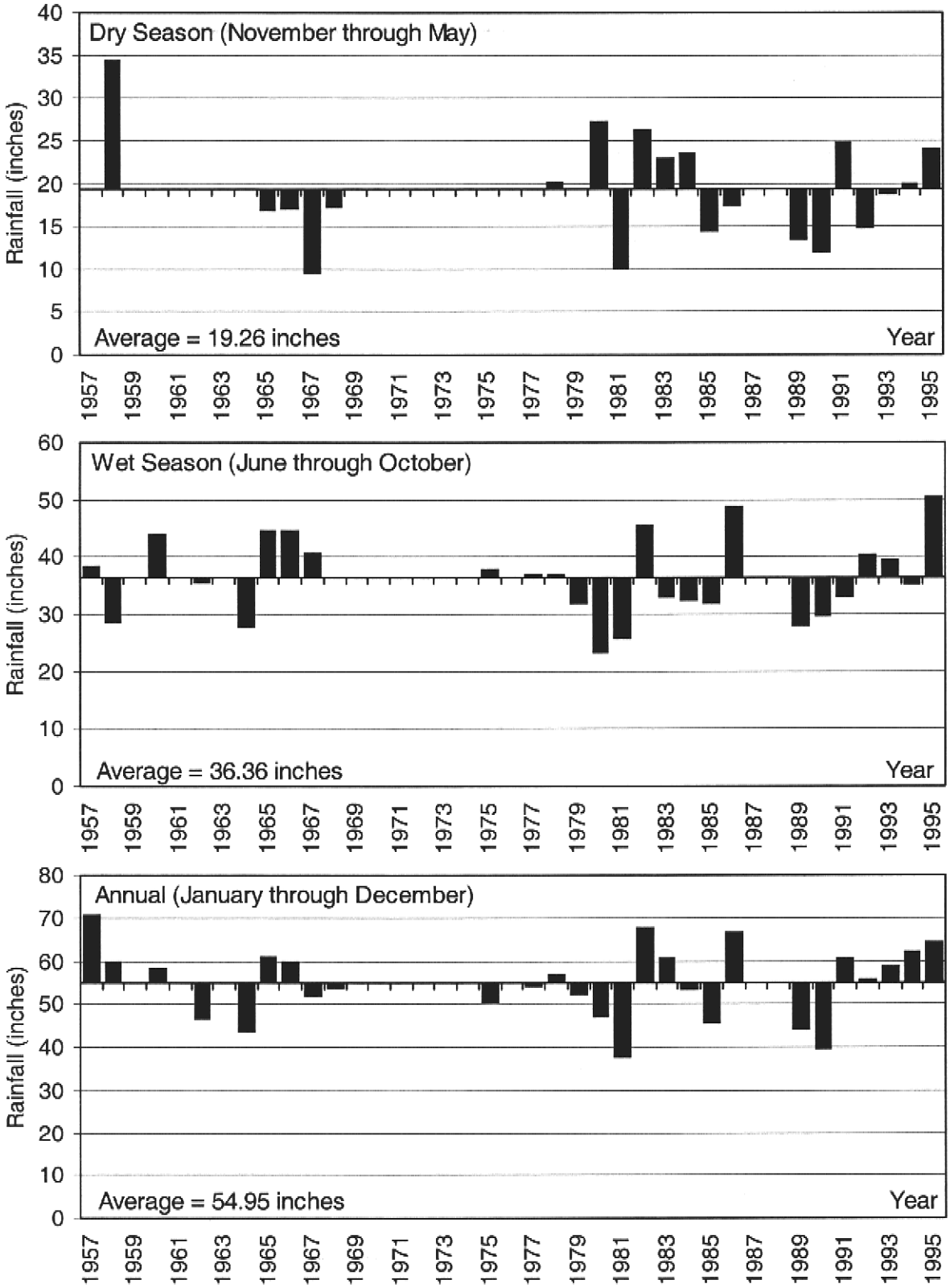

Figure C_{12}. West AG Seasonal and Annual Rainfall Departures from Respective Historical Averages

APPENDIX D

Monthly Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Table D_1. January Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	0.06	0.12	0.22	0.44	0.76	2.18	3.34	4.46	5.92	7	8.09
Caloosahatchee	GM2	0.01	0.03	0.07	0.21	0.44	1.76	2.79	3.92	5.43	6.59	7.75
Dade	GM2	0.03	0.07	0.14	0.33	0.63	2.09	3.27	4.49	6.08	7.28	8.49
East EAA	GM2	0.02	0.05	0.11	0.29	0.57	2.04	3.21	4.44	6.07	7.3	8.55
Lake Okeechobee	GM2	0	0.02	0.06	0.2	0.44	1.85	2.96	4.19	5.83	7.09	8.38
Lower Kissimmee	GM2	0.03	0.07	0.14	0.31	0.58	1.85	2.87	3.91	5.26	6.28	7.3
Martin/St. Lucie	GM2	0.1	0.17	0.29	0.56	0.93	2.48	3.77	4.99	6.55	7.72	8.87
Palm Beach	GM2	0.08	0.16	0.29	0.6	1.05	3.03	4.65	6.23	8.27	9.8	11.32
Southwest Coast	GM2	0	0.01	0.05	0.18	0.42	1.92	3.08	4.41	6.21	7.59	9
Upper Kissimmee	GM2	0.05	0.1	0.19	0.41	0.74	2.25	3.48	4.71	6.3	7.5	8.69
WCA 1&2	GM2	0.03	0.07	0.15	0.36	0.68	2.25	3.52	4.81	6.51	7.8	9.09
West AG	GM2	0.02	0.06	0.14	0.36	0.7	2.48	3.89	5.37	7.32	8.8	10.3

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_2. February Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	0.03	0.07	0.15	0.36	0.68	2.26	3.53	4.83	6.52	7.81	9.1
Caloosahatchee	GM2	0.08	0.14	0.24	0.47	0.77	2.06	3.13	4.14	5.44	6.4	7.36
Dade	GM2	0.07	0.13	0.22	0.44	0.74	2.01	3.06	4.05	5.34	6.29	7.25
East EAA	GM2	0.07	0.13	0.22	0.43	0.71	1.94	2.95	3.91	5.14	6.06	6.97
Lake Okeechobee	GM2	0.02	0.04	0.1	0.27	0.55	2.00	3.15	4.38	5.99	7.22	8.46
Lower Kissimmee	GM2	0.29	0.39	0.54	0.83	1.18	2.37	3.41	4.27	5.33	6.11	6.86
Martin/St. Lucie	GM2	0.11	0.18	0.3	0.58	0.96	2.56	3.88	5.12	6.71	7.9	9.08
Palm Beach	GM2	0.16	0.26	0.4	0.72	1.13	2.74	4.1	5.34	6.9	8.05	9.2
Southwest Coast	GM2	0.04	0.08	0.16	0.37	0.68	2.15	3.34	4.53	6.09	7.27	8.45
Upper Kissimmee	GM2	0.08	0.15	0.26	0.54	0.93	2.64	4.05	5.42	7.19	8.51	9.83
WCA 1&2	GM2	0.01	0.04	0.1	0.29	0.6	2.29	3.62	5.06	6.97	8.43	9.91
West AG	GM2	0.05	0.1	0.19	0.42	0.77	2.39	3.7	5.02	6.73	8.02	9.31

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_3. March Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	0.01	0.05	0.11	0.32	0.65	2.46	3.89	5.43	7.48	9.04	10.61
Caloosahatchee	GM2	0.02	0.05	0.12	0.35	0.72	2.74	4.34	6.05	8.33	10.07	11.83
Dade	GM2	0.02	0.05	0.12	0.31	0.62	2.28	3.59	4.99	6.83	8.23	9.65
East EAA	GM2	0.11	0.2	0.33	0.63	1.04	2.78	4.22	5.57	7.31	8.6	9.89
Lake Okeechobee	GM2	0.09	0.17	0.3	0.61	1.05	2.95	4.51	6.02	7.96	9.41	10.86
Lower Kissimmee	GM2	0.08	0.15	0.27	0.56	0.97	2.76	4.23	5.66	7.51	8.89	10.26
Martin/St. Lucie	GM2	0.14	0.24	0.39	0.73	1.19	3.10	4.69	6.17	8.06	9.47	10.87
Palm Beach	GM2	0.11	0.2	0.35	0.7	1.2	3.36	5.14	6.84	9.04	10.69	12.33
Southwest Coast	GM2	0	0.02	0.08	0.25	0.57	2.46	3.93	5.58	7.79	9.49	11.22
Upper Kissimmee	GM2	0.12	0.21	0.36	0.7	1.18	3.18	4.84	6.42	8.44	9.94	11.44
WCA 1&2	GM2	0.09	0.17	0.28	0.55	0.93	2.54	3.87	5.14	6.77	7.98	9.19
West AG	GM2	0.13	0.23	0.37	0.71	1.16	3.04	4.6	6.06	7.92	9.31	10.69

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_4. April Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	0.02	0.06	0.15	0.4	0.82	3.06	4.83	6.74	9.25	11.17	13.11
Caloosahatchee	GM2	0.08	0.15	0.27	0.54	0.92	2.59	3.95	5.27	6.96	8.23	9.49
Dade	GM2	0.09	0.17	0.3	0.62	1.06	3.02	4.63	6.19	8.21	9.71	11.22
East EAA	GM2	0.06	0.13	0.24	0.51	0.91	2.76	4.27	5.76	7.7	9.15	10.61
Lake Okeechobee	GM2	0.08	0.15	0.25	0.51	0.86	2.38	3.64	4.84	6.39	7.54	8.69
Lower Kissimmee	WB2	0.09	0.15	0.25	0.49	0.83	1.92	3.31	4.25	5.38	6.16	6.91
Martin/St. Lucie	GM2	0.03	0.08	0.18	0.45	0.87	3.02	4.74	6.53	8.88	10.66	12.46
Palm Beach	GM2	0.08	0.16	0.29	0.63	1.11	3.29	5.07	6.82	9.09	10.8	12.5
Southwest Coast	GM2	0.01	0.04	0.1	0.29	0.59	2.21	3.49	4.86	6.69	8.08	9.48
Upper Kissimmee	GM2	0.07	0.13	0.24	0.5	0.88	2.55	3.92	5.26	6.99	8.29	9.58
WCA 1&2	GM2	0.01	0.05	0.12	0.32	0.66	2.49	3.93	5.49	7.54	9.11	10.7
West AG	WB2	0.14	0.23	0.36	0.68	1.11	2.53	4.05	5.13	6.39	7.26	8.08

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_5. May Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	0.54	0.77	1.09	1.74	2.56	5.46	7.94	10.07	12.72	14.66	16.56
Caloosahatchee	GM2	0.5	0.69	0.95	1.47	2.11	4.27	6.15	7.71	9.65	11.07	12.45
Dade	GM2	0.5	0.74	1.09	1.8	2.71	6.06	8.91	11.4	14.52	16.81	19.07
East EAA	GM2	1.04	1.28	1.59	2.17	2.82	4.77	6.5	7.83	9.42	10.56	11.66
Lake Okeechobee	GM2	0.64	0.83	1.09	1.58	2.16	4.03	5.67	6.98	8.58	9.74	10.87
Lower Kissimmee	GM2	0.37	0.53	0.76	1.22	1.79	3.84	5.6	7.1	8.98	10.36	11.71
Martin/St. Lucie	GM2	0.48	0.68	0.95	1.5	2.17	4.53	6.55	8.27	10.41	11.96	13.49
Palm Beach	GM2	0.79	1.04	1.36	2	2.75	5.19	7.32	9.04	11.15	12.68	14.16
Southwest Coast	NO2	-1.38	-0.75	-0.05	1.05	2.07	4.03	5.98	7.01	8.1	8.8	9.44
Upper Kissimmee	GM2	0.38	0.55	0.78	1.27	1.88	4.08	5.96	7.58	9.6	11.08	12.54
WCA 1&2	GM2	0.69	0.93	1.26	1.89	2.66	5.22	7.45	9.28	11.54	13.18	14.78
West AG	GM2	0.63	0.83	1.11	1.64	2.28	4.36	6.18	7.65	9.47	10.78	12.06

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_6. June Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	1.51	1.92	2.46	3.48	4.66	8.35	11.61	14.16	17.28	19.51	21.68
Caloosahatchee	GM2	1.96	2.4	2.95	3.98	5.13	8.52	11.56	13.84	16.59	18.55	20.44
Dade	GM2	1.15	1.53	2.05	3.06	4.27	8.28	11.77	14.62	18.13	20.67	23.14
East EAA	GM2	2.12	2.55	3.1	4.1	5.21	8.41	11.29	13.42	15.97	17.78	19.52
Lake Okeechobee	GM2	1.98	2.34	2.78	3.59	4.47	6.92	9.15	10.76	12.67	14.02	15.32
Lower Kissimmee	GM2	2.22	2.6	3.06	3.89	4.8	7.26	9.51	11.12	13.02	14.36	15.63
Martin/St. Lucie	GM2	1.28	1.6	2.03	2.82	3.73	6.51	8.97	10.88	13.19	14.85	16.45
Palm Beach	GM2	1.18	1.56	2.07	3.06	4.24	8.10	11.47	14.2	17.56	19.99	22.36
Southwest Coast	GM2	2.86	3.33	3.92	4.95	6.07	9.13	11.92	13.9	16.24	17.88	19.46
Upper Kissimmee	GM2	1.85	2.23	2.71	3.57	4.53	7.28	9.75	11.58	13.78	15.33	16.82
WCA 1&2	GM2	1.72	2.14	2.67	3.66	4.79	8.19	11.21	13.52	16.31	18.31	20.23
West AG	GM2	2.27	2.76	3.39	4.53	5.82	9.58	12.96	15.49	18.53	20.69	22.77

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_7. July Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	1.82	2.16	2.58	3.34	4.18	6.53	8.66	10.21	12.05	13.35	14.6
Caloosahatchee	GM2	2.67	3.05	3.5	4.3	5.14	7.36	9.39	10.8	12.45	13.59	14.68
Dade	GM2	1.72	2.05	2.45	3.18	3.97	6.21	8.24	9.72	11.47	12.72	13.9
East EAA	GM2	3.09	3.46	3.91	4.67	5.47	7.50	9.38	10.64	12.1	13.12	14.07
Lake Okeechobee	GM2	2.27	2.58	2.95	3.6	4.28	6.06	7.7	8.82	10.14	11.05	11.92
Lower Kissimmee	GM2	2.79	3.11	3.5	4.16	4.85	6.58	8.19	9.27	10.51	11.37	12.18
Martin/St. Lucie	GM2	1.92	2.24	2.63	3.32	4.07	6.11	7.97	9.29	10.85	11.95	12.99
Palm Beach	WB2	1	1.35	1.83	2.76	3.82	6.46	8.96	10.47	12.1	13.16	14.12
Southwest Coast	GM2	3.26	3.7	4.24	5.17	6.16	8.73	11.09	12.72	14.62	15.94	17.19
Upper Kissimmee	GM2	2.79	3.16	3.62	4.42	5.26	7.44	9.46	10.84	12.45	13.57	14.64
WCA 1&2	GM2	1.99	2.31	2.7	3.39	4.14	6.16	8	9.3	10.84	11.92	12.94
West AG	WB2	1.99	2.51	3.16	4.31	5.51	8.15	10.53	11.84	13.22	14.09	14.87

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_8. August Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	1.63	2	2.47	3.33	4.31	7.18	9.76	11.7	14.04	15.7	17.31
Caloosahatchee	GM2	2.8	3.18	3.64	4.43	5.28	7.48	9.5	10.89	12.52	13.65	14.72
Dade	GM2	1.82	2.19	2.64	3.47	4.38	6.99	9.35	11.09	13.16	14.63	16.04
East EAA	GM2	3.15	3.53	3.98	4.75	5.56	7.61	9.51	10.79	12.27	13.29	14.26
Lake Okeechobee	GM2	2.33	2.66	3.05	3.74	4.47	6.37	8.12	9.33	10.75	11.73	12.67
Lower Kissimmee	GM2	2.5	2.81	3.18	3.82	4.49	6.20	7.79	8.86	10.1	10.97	11.78
Martin/St. Lucie	GM2	1.39	1.7	2.1	2.84	3.68	6.15	8.36	10.03	12.04	13.47	14.86
Palm Beach	GM2	1.6	1.96	2.41	3.24	4.18	6.92	9.38	11.22	13.45	15.03	16.55
Southwest Coast	GM2	3.26	3.67	4.17	5.03	5.94	8.26	10.41	11.86	13.56	14.73	15.85
Upper Kissimmee	GM2	2.43	2.79	3.22	3.96	4.76	6.87	8.8	10.14	11.71	12.81	13.85
WCA 1&2	GM2	1.8	2.13	2.54	3.29	4.1	6.38	8.45	9.95	11.73	12.99	14.2
West AG	GM2	2.09	2.48	2.97	3.86	4.82	7.54	10.01	11.8	13.94	15.44	16.89

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_9. September Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	1.87	2.28	2.8	3.75	4.83	7.96	10.78	12.89	15.43	17.23	18.97
Caloosahatchee	GM2	1.59	1.96	2.43	3.29	4.27	7.18	9.78	11.75	14.13	15.82	17.45
Dade	GM2	2.23	2.66	3.2	4.18	5.26	8.32	11.09	13.12	15.54	17.26	18.9
East EAA	GM2	2.24	2.63	3.12	4	4.96	7.61	10.01	11.74	13.8	15.25	16.63
Lake Okeechobee	GM2	1.57	1.9	2.33	3.1	3.97	6.49	8.75	10.44	12.47	13.91	15.3
Lower Kissimmee	GM2	1.76	2.03	2.37	2.96	3.61	5.33	6.91	8.02	9.33	10.24	11.12
Martin/St. Lucie	GM2	1.66	2.06	2.57	3.52	4.61	7.86	10.77	12.99	15.67	17.59	19.44
Palm Beach	WB2	1.32	1.78	2.41	3.61	4.99	8.41	11.63	13.56	15.65	17.01	18.25
Southwest Coast	GM2	2.5	2.93	3.46	4.39	5.41	8.20	10.74	12.55	14.7	16.21	17.66
Upper Kissimmee	GM2	1.3	1.63	2.04	2.81	3.7	6.37	8.75	10.57	12.78	14.36	15.89
WCA 1&2	GM2	1.3	1.62	2.04	2.82	3.72	6.44	8.86	10.73	12.99	14.6	16.16
West AG	GM2	1.99	2.37	2.84	3.69	4.62	7.25	9.63	11.36	13.43	14.89	16.29

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_{10}. October Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	0.59	0.88	1.3	2.17	3.28	7.39	10.88	13.95	17.8	20.63	23.41
Caloosahatchee	GM2	0.18	0.3	0.49	0.91	1.47	3.78	5.7	7.48	9.75	11.44	13.11
Dade	WB2	0.37	0.59	0.94	1.76	2.9	7.32	10.82	13.74	17.17	19.55	21.8
East EAA	GM2	0.26	0.41	0.63	1.12	1.76	4.29	6.41	8.33	10.77	12.58	14.36
Lake Okeechobee	GM2	0.21	0.34	0.53	0.96	1.54	3.83	5.75	7.52	9.75	11.41	13.06
Lower Kissimmee	GM2	0.2	0.31	0.47	0.82	1.28	3.07	4.57	5.93	7.64	8.9	10.15
Martin/St. Lucie	WB2	0.6	0.88	1.3	2.2	3.33	6.77	9.91	12.07	14.53	16.18	17.7
Palm Beach	GM2	1.26	1.64	2.13	3.09	4.21	7.80	10.95	13.46	16.54	18.75	20.91
Southwest Coast	GM2	0.13	0.24	0.42	0.85	1.45	4.05	6.19	8.25	10.9	12.88	14.85
Upper Kissimmee	WB2	0.12	0.2	0.33	0.67	1.15	3.24	4.9	6.37	8.15	9.39	10.59
WCA 1&2	GM2	0.31	0.49	0.75	1.33	2.08	5.04	7.52	9.77	12.62	14.72	16.81
West AG	GM2	0.18	0.3	0.49	0.92	1.49	3.83	5.78	7.6	9.91	11.62	13.33

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_{11}. November Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	0.1	0.19	0.33	0.66	1.13	3.14	4.8	6.4	8.45	9.99	11.52
Caloosahatchee	GM2	0.01	0.04	0.09	0.22	0.44	1.58	2.49	3.45	4.71	5.67	6.64
Dade	GM2	0.13	0.22	0.36	0.66	1.08	2.78	4.2	5.52	7.2	8.46	9.7
East EAA	GM2	0.03	0.07	0.14	0.33	0.62	2.06	3.22	4.4	5.95	7.12	8.3
Lake Okeechobee	GM2	0.01	0.02	0.06	0.18	0.39	1.58	2.5	3.52	4.88	5.91	6.96
Lower Kissimmee	GM2	0.05	0.09	0.17	0.36	0.63	1.84	2.83	3.79	5.04	5.98	6.92
Martin/St. Lucie	GM2	0.09	0.17	0.3	0.61	1.05	2.96	4.53	6.04	7.99	9.45	10.9
Palm Beach	GM2	0.15	0.26	0.44	0.84	1.41	3.77	5.73	7.59	9.96	11.73	13.5
Southwest Coast	GM2	0.01	0.04	0.08	0.22	0.43	1.55	2.43	3.37	4.6	5.54	6.49
Upper Kissimmee	GM2	0.01	0.03	0.08	0.24	0.53	2.17	3.45	4.87	6.76	8.21	9.69
WCA 1&2	GM2	0.07	0.14	0.26	0.56	0.98	2.91	4.49	6.04	8.04	9.55	11.05
West AG	GM2	0	0.02	0.06	0.19	0.42	1.84	2.93	4.17	5.82	7.1	8.39

(DRP, WRP = Dry and Wet Return Periods in years)

Table D_{12}. December Regional Rainfall Frequency Estimates and Historical Averages for Each Rainfall Basin

Basin	Distribution	100 DRP (inches)	50 DRP (inches)	20 DRP (inches)	10 DRP (inches)	5 DRP (inches)	Average (inches)	5 WRP (inches)	10 WRP (inches)	20 WRP (inches)	50 WRP (inches)	100 WRP (inches)
Broward	GM2	0.01	0.03	0.09	0.26	0.55	2.16	3.42	4.8	6.63	8.03	9.44
Caloosahatchee	GM2	0.01	0.02	0.06	0.17	0.35	1.36	2.16	3.03	4.18	5.06	5.95
Dade	GM2	0.01	0.03	0.07	0.21	0.45	1.75	2.77	3.88	5.36	6.49	7.64
East EAA	GM2	0	0.02	0.06	0.19	0.41	1.71	2.72	3.84	5.34	6.49	7.66
Lake Okeechobee	GM2	0.01	0.04	0.09	0.22	0.43	1.51	2.38	3.29	4.48	5.39	6.31
Lower Kissimmee	GM2	0.08	0.12	0.19	0.35	0.57	1.43	2.14	2.8	3.64	4.26	4.88
Martin/St. Lucie	GM2	0.03	0.07	0.15	0.35	0.64	2.09	3.26	4.45	6	7.17	8.35
Palm Beach	GM2	0.06	0.12	0.23	0.48	0.84	2.47	3.8	5.11	6.8	8.07	9.34
Southwest Coast	GM2	0.01	0.03	0.07	0.2	0.39	1.43	2.25	3.12	4.27	5.15	6.03
Upper Kissimmee	GM2	0.03	0.06	0.13	0.32	0.6	2.02	3.16	4.34	5.88	7.05	8.22
WCA 1&2	GM2	0	0.01	0.05	0.19	0.44	2.05	3.28	4.7	6.62	8.09	9.59
West AG	GM2	0	0	0.01	0.08	0.27	1.96	3.18	4.81	7.07	8.85	10.69

(DRP, WRP = Dry and Wet Return Periods in years)

APPENDIX E

Rain Gage Station Information for Each Rainfall Basin

Table E. Rain Gage Station Information for Each Rainfall Basin

DBKEY	STA_NAME	ALT_NAME	SOURCE	BASIN NAME	BASIN AREA (acres)	EASTING (Ft.)	NORTHING (Ft.)
06144	ISLEWORT_R	MRF6024	NOAA	UPPER KISSIMMEE	901226	487045	1508196
06145	L. HART_R	MRF602		UPPER KISSIMMEE	901226	584167	1470744
06278	L. MYRTL_R	MRF8		UPPER KISSIMMEE	901226	594835	1446875
06146	KISS_R	MRF6026	NOAA	UPPER KISSIMMEE	901226	522155	1442109
06305	KISS.FS_R	MRF9	WMD	UPPER KISSIMMEE	901226	511862	1438611
06147	KISS 2_R	MRF602		UPPER KISSIMMEE	901226	521418	1435850
05813	BROOKS	P_R	MRF12	UPPER KISSIMMEE	901226	572262	1423690
05880	ST.	CLAI_R	MRF20	UPPER KISSIMMEE	901226	485723	1369235
05912	SNIVELY_R	MRF24	WMD	UPPER KISSIMMEE	901226	521387	1322741
05940	S65_R	MRF27	WMD	LOWER KISSIMMEE	827996	592092	1261452
05981	S65A_R	MRF32	WMD	LOWER KISSIMMEE	827996	612732	1209083
05999	S65B_R	MRF35	WMD	LOWER KISSIMMEE	827996	592754	1142004
06151	FORT	PIE_R	MRF603	MARTIN/ST. LUCIE	764791	867071	1128877
06047	BASSETT_R	MRF4002	USDA	LAKE OKEECHOBEE	964594	681741	1118741
06049	JUDSON_R	MRF4004	USDA	LAKE OKEECHOBEE	964594	712473	1117863
06048	RAULERS_R	MRF4003	USDA	LAKE OKEECHOBEE	964594	702030	1108055
06031	SCOTTO	G_R	MRF39	MARTIN/ST. LUCIE	764791	834467	1105292
06015	FT.	PIER_R	MRF37	MARTIN/ST. LUCIE	764791	813831	1102884
06051	MOBLEY_R	MRF4006	USDA	LAKE OKEECHOBEE	964594	715838	1097673
06050	DIXIE_R	MRF4005	USDA	LAKE OKEECHOBEE	964594	692037	1093504
06066	S68_R	MRF41	WMD	LOWER KISSIMMEE	827996	573626	1089231
06052	OPAL_R	MRF4007	USDA	LAKE OKEECHOBEE	964594	729113	1086284
06068	S65D_R	MRF43	WMD	LOWER KISSIMMEE	827996	648751	1083493
06046	TAYLC.S7_R	MRF4001	USDA	LAKE OKEECHOBEE	964594	712621	1076867
06070	OKEE	F	2_R	LAKE OKEECHOBEE	964594	725277	1061539
06071	S65E_R	MRF45	WMD	LOWER KISSIMMEE	827996	668304	1051192
06073	HGS6_R	MRF47	COE	LAKE OKEECHOBEE	964594	722507	1044570
06187	STUART	1_R	MRF608	MARTIN/ST. LUCIE	764791	900027	1042722
06205	ARCHBO	2_R	MRF611	LAKE OKEECHOBEE	964594	515088	1035471
06074	S70_R	MRF48	WMD	LOWER KISSIMMEE	827996	605005	1012338
06237	S80_R	MRF7035	NOAA	MARTIN/ST. LUCIE	764791	888834	1010242
06238	VENUS	4S_R	MRF703	LAKE OKEECHOBEE	964594	547775	999728
06077	INDIAN	P_R	MRF50	LAKE OKEECHOBEE	964594	663379	992920
06119	S308_R	MRF51	COE	LAKE OKEECHOBEE	964594	780535	964027
06120	S131_R	MRF52	WMD	LAKE OKEECHOBEE	964594	626835	961628
06093	PALMDALE_R	MRF5022	FS	LAKE OKEECHOBEE	964594	553867	941855
06122	PRATT	AN_R	MRF54	PALM BEACH	528264	883014	935081
06157	CANAL	P2_R	MRF604	EAST EAA	670319	777856	921410
06242	HGS5X_R	MRF7041	NOAA	EAST EAA	670319	776099	919848
05837	PEL	LAK1_R	MRF135	EAST EAA	670319	782221	915465
06125	PEL	LAK2_R	MRF57	EAST EAA	670319	785855	911943
06154	HGS1_R	MRF6038	NOAA	CALOOSAHATCHEE	643401	627704	910942
05838	PAHOKEE1_R	MRF137	WMD	EAST EAA	670319	798481	901483
06128	BENBOW_R	MRF60	USSC	EAST EAA	670319	640925	899525

DBKEY	STA_NAME	ALT_NAME	SOURCE	BASIN NAME	BASIN AREA (acres)	EASTING (Ft.)	NORTHING (Ft.)
06197	LIBERTY_R	MRF61	USSC	EAST EAA	670319	661130	898412
06243	S78_R	MRF7043	NOAA	CALOOSAHATCHEE	643401	557371	892877
05839	PAHOKEE2_R	MRF138	WMD	EAST EAA	670319	811024	890925
06222	PEL	34_R	MRF65	EAST EAA	670319	780947	887392
06155	HGS2_R	MRF6039	NOAA	EAST EAA	670319	682887	880852
06158	LA	BELLE_R	MRF604	CALOOSAHATCHEE	643401	513012	879678
05820	TOWNSITE_R	MRF125C	USSC	EAST EAA	670319	677542	874185
06224	RUNYON_R	MRF67	USSC	EAST EAA	670319	762405	872397
06225	RITTA	-_R	MRF68	EAST EAA	670319	706653	866739
05966	PLANT	IN_R	MRF301	PALM BEACH	528264	962287	866724
05945	BARE	BEA_R	MRF279	EAST EAA	670319	688881	866317
05922	ALVA	FAR_R	MRF250	CALOOSAHATCHEE	643401	450751	865198
06241	HGS4_R	MRF7040	NOAA	EAST EAA	670319	749285	860654
06227	S3_R	MRF69	WMD	LAKE OKEECHOBEE	964594	719086	859789
06181	LOXAHATC_R	MRF6074	NOAA	PALM BEACH	528264	893242	856277
06274	S5A_R	MRF76	WMD	WCA 1&2	275890	862679	855003
06265	MIAMI	LO_R	MRF71C	EAST EAA	670319	719458	853631
06182	WPB	AIRP_R	MRF607	PALM BEACH	528264	946873	853183
06269	SOUTH	SH_R	MRF72	EAST EAA	670319	739506	852959
06270	SOUTH	BA_R	MRF73	EAST EAA	670319	753759	847539
06207	BELLE	GL_R	MRF611	EAST EAA	670319	777083	844671
06276	LWD.GA_R	MRF78	WMD	PALM BEACH	528264	941577	831638
06290	LWD.E1.3_R	MRF81	WMD	PALM BEACH	528264	915907	829048
05885	LEHIGH	1_R	MRF206	SOUTHWEST COAST	1130141	443847	826964
06206	DEVILS_R	MRF6118	NOAA	WEST AG	313886	614212	824829
06263	SR_R	MRF7093	NOAA	SOUTHWEST COAST	1130141	372989	818801
06193	FT	MEYER_R	MRF609	SOUTHWEST COAST	1130141	373709	817787
06180	HYPOLUXO_R	MRF6073	NOAA	PALM BEACH	528264	966813	806877
06299	LWD.E2_R	MRF85	WMD	PALM BEACH	528264	927450	798627
06298	LWD.MIL_R	MRF84	WMD	PALM BEACH	528264	942638	796001
06303	1-8C_R	MRF89	WMD	WCA 1&2	275890	910565	787858
06302	LWD.L28_R	MRF88	WMD	PALM BEACH	528264	916897	786644
06306	LWD.HQ_R	MRF90	WMD	PALM BEACH	528264	943004	782270
06324	S6_R	MRF95	WMD	EAST EAA	670319	837525	777746
06322	LWD.L32_R	MRF93	WMD	PALM BEACH	528264	916226	777552
05915	USDA	IMM_R	MRF242	SOUTHWEST COAST	1130141	513102	773661
06321	LWD.E2.2_R	MRF92	WMD	PALM BEACH	528264	927351	771766
06082	IMMOKA	2_R	MRF500	SOUTHWEST COAST	1130141	519853	753951
05792	LWD.RANG_R	MRF101	WMD	PALM BEACH	528264	916504	747364
05916	CORK.HQ_R	MRF243	WMD	SOUTHWEST COAST	1130141	465261	745582
05793	LWD.POWE_R	MRF102	WMD	PALM BEACH	528264	933191	740705
06258	NNRC.R2_R	MRF7086	NOAA	EAST EAA	670319	807897	727953
06327	S8_R	MRF98	WMD	EAST EAA	670319	730113	726536
06179	POMPANOB_R	MRF6071	NOAA	PALM BEACH	528264	934878	691543

DBKEY	STA_NAME	ALT_NAME	SOURCE	BASIN NAME	BASIN AREA (acres)	EASTING (Ft.)	NORTHING (Ft.)
05796	POMPANOF_R	MRF104	WMD	PALM BEACH	528264	938067	691362
05798	3A-36_R	MRF106	WMD	WCA 1&2	275890	836778	675666
05797	S36_R	MRF105	WMD	BROWARD	204754	925674	669536
06160	NAPLES_R	MRF6047	NOAA	SOUTHWEST COAST	1130141	397120	667593
05800	DIXIE	WA_R	MRF108	BROWARD	204754	918782	643380
05801	G54_R	MRF109	WMD	BROWARD	204754	908769	640795
06178	DANIA	4_R	MRF607	BROWARD	204754	918859	630860
05806	S13_R	MRF113	WMD	BROWARD	204754	915942	630540
05808	S9_R	MRF115	WMD	BROWARD	204754	839532	628428
05807	GILL	REA_R	MRF114	BROWARD	204754	908386	628374
06253	PENNSUCO_R	MRF7067	NOAA	DADE	551652	836365	578843
06175	HIALEAH_R	MRF6066	NOAA	DADE	551652	891064	543668
05810	MIAMI.FS_R	MRF117	WMD	DADE	551652	871876	543366
06174	MIAMI.AP_R	MRF6065	NOAA	DADE	551652	891999	539836
06249	MIAMI	CI_R	MRF705	DADE	551652	894214	502493
06168	COCONUT_R	MRF6058	NOAA	DADE	551652	892327	479262
06268	HOMES.ES_R	MRF7126	NOAA	DADE	551652	821154	424420
05815	HOMES.FS_R	MRF121	WMD	DADE	551652	838139	416209
05816	S20F_R	MRF122	WMD	DADE	551652	871441	410991
05817	S20_R	MRF123	WMD	DADE	551652	862063	376089
05818	S18C_R	MRF124	WMD	DADE	551652	813035	362709

APPENDIX F

Weighted Monthly Average Rainfall for Each Rainfall Basin

Table F_1. Historical Monthly Weighted Average Rainfall for the Broward Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1943	2.35	0.37	1.70	2.97	4.03	7.24	5.58	6.31	10.83	3.53	2.97	0.67
1944												
1945	1.83	0.59	0.20	2.56	2.13	3.49	13.99	9.37	8.92	11.50	2.75	2.98
1946	1.32	1.50	1.08	0.05	11.78	9.82	9.17	4.59	12.66	5.63	1.41	3.22
1947	2.17	1.96	2.47	4.18	6.97	13.58	15.97	16.40	10.21	25.62	5.02	1.13
1948	3.09	1.26	1.56	5.51	4.59	4.36	8.89	10.03	15.37	16.70	0.60	3.00
1949	0.12	0.15	1.75	3.63	3.83	12.89	5.61	12.00	12.00	6.49	2.35	8.15
1950	0.41	0.48	4.33	3.79	2.18	4.07	5.53	15.96	7.61	7.49	6.53	1.55
1951	0.17	2.43	0.59	4.18	5.51	2.49	8.68	5.65	4.70	9.01	0.25	0.06
1952	0.69	2.53	2.59	2.64	1.74	1.31	4.32	9.33	4.30	16.26	0.25	0.25
1953	4.76	3.02	0.37	3.23	5.96	8.25	4.84	5.33	15.01	15.44	3.70	2.89
1954												
1955	0.51	0.47	1.51	1.01	3.09	4.51	7.08	3.15	4.01	7.49	0.36	2.69
1956	1.81	0.50	0.09	2.48	3.94	2.29	2.91	1.21	6.28	6.14	1.21	0.16
1957	0.21	6.71	3.93	9.49	4.41	3.32	3.70	5.50	14.57	9.06	2.15	6.36
1958	7.61	0.54	5.05	0.39	12.27	3.66	6.58	4.13	4.77	3.79	2.79	9.77
1959	2.94	2.58	6.04	1.71	4.09	13.90	8.74	9.96	13.59	6.47	12.43	2.59
1960	0.18	1.40	1.22	4.42	3.57	9.80	6.81	6.98	18.64	8.07	2.40	0.38
1961	4.66	0.24	0.91	2.02	7.24	9.99	2.05	10.07	2.44	4.11	1.76	0.71
1962	2.15	0.14	2.38	6.49	2.16	10.16	8.99	8.89	6.51	1.98	1.00	0.61
1963	1.15	5.23	0.15	0.80	5.55	7.05	2.68	4.97	13.12	6.17	1.84	2.61
1964	2.73	4.05	0.73	6.37	7.83	6.64	4.53	7.96	4.29	13.37	3.04	1.71
1965	0.59	4.90	0.59	0.38	0.21	8.95	10.24	3.56	6.95	14.22	1.36	0.49
1966	3.67	3.87	2.69	2.88	6.43	21.17	6.28	8.06	5.29	9.41	1.01	0.52
1967	2.51	1.88	3.86	0.03	1.01	17.04	6.84	3.84	8.00	14.27	2.73	1.63
1968	1.15	3.86	1.31	0.48	12.95	13.48	5.23	7.83	9.45	7.43	1.80	0.06
1969	3.77	1.65	3.26	1.66	8.39	7.14	8.27	3.94	5.26	15.50	2.08	0.85
1970	3.59	2.77	11.49	0.57	7.88	6.58	3.71	5.86	5.89	4.74	0.28	1.92
1971	0.68	0.81	0.28	0.38	2.93	4.86	3.50	4.13	8.21	5.86	3.30	1.97
1972	1.69	2.47	5.50	5.21	8.59	8.63	9.05	5.77	5.24	2.44	5.86	2.10
1973	2.22	1.53	3.57	0.78	4.49	8.67	7.86	10.69	5.77	3.39	5.79	2.22
1974	2.75	0.43	1.97	0.71	4.05	8.19	7.44	4.61	6.79	5.14	3.53	2.13
1975	1.28	1.14	0.35	0.68	11.51	8.76	6.29	3.72	7.84	6.81	2.32	0.98
1976	1.34	4.40	0.83	1.41	9.58	8.26	5.46	10.37	6.99	1.34	4.62	3.72
1977	1.92	0.98	0.07	1.51	8.50	13.42	5.96	8.72	10.71	0.87	2.25	3.59
1978	2.80	3.28	2.81	2.61	3.70	6.76	5.29	6.38	4.52	5.95	1.91	2.75
1979	1.87	0.86	0.24	13.93	7.25	3.20	4.17	3.41	10.19	5.76	3.57	1.89
1980	2.10	1.65	1.76	6.25	3.31	6.13	6.74	4.02	4.86	7.05	5.51	1.46
1981	0.58	4.45	0.93	0.18	6.11	5.61	6.23	12.96	8.40	1.96	2.43	0.10
1982	0.58	2.53	4.21	4.20	8.05	13.15	3.53	5.98	6.35	4.86	6.50	2.01
1983	5.16	11.27	2.52	2.75	2.37	8.12	2.37	9.41	8.67	5.38	1.97	5.17
1984	0.60	1.81	3.95	4.31	9.33	6.45	4.75	3.86	11.88	1.38	5.74	0.88
1985	0.93	0.04	1.10	4.64	3.67	6.09	12.80	8.50	9.66	4.90	2.78	2.62
1986	5.28	1.36	10.86	0.80	4.63	9.44	7.80	6.46	2.74	6.27	4.45	3.60
1987	1.63	2.43	4.08	1.05	8.91	5.61	6.26	2.25	8.32	5.51	5.73	4.38
1988	1.33	1.29	0.65	2.68	6.48	8.48	6.47	9.02	2.33	1.92	1.28	0.19
1989	0.90	4.04	2.43	2.94	2.85	6.14	4.82	5.71	3.67	3.49	1.28	0.49
1990	0.77	1.03	3.26	4.05	7.59	7.77	8.55	4.82	5.02	5.93	0.62	1.75

1991	3.62	2.88	1.11	6.61	5.50	12.09	4.98	7.08	5.74	13.60	2.79	0.51
1992	3.83	2.82	2.20	2.58	0.66	21.39	2.51	7.38	3.70	1.38	7.44	1.02
1993	4.95	1.02	5.19	1.94	2.98	4.29	7.97	5.77	6.10	13.15	1.37	0.55
1994	3.42	3.52	1.36	6.61	4.05	6.74	6.10	10.43	12.52	2.83	12.04	6.08
1995	2.63	2.15	2.45	3.37	1.45	14.41	8.99	14.05	9.30	9.69	1.10	0.88

Table F_2. Historical Monthly Weighted Average Rainfall for the Caloosahatchee Area

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1919	1.25	3.70	2.83	0.62	6.70	10.59	6.88	4.12	2.78	0.90	4.86	1.15
1920	2.10	2.59	0.53	5.13	3.05	6.84	15.21	4.51	3.18	2.72	4.54	0.63
1921												
1922	0.70	1.10	0.74	0.46	5.14	9.82	7.63	6.72	14.93	10.70	1.56	0.89
1923	0.32	0.49	0.62	3.55	11.70	12.52	7.54	10.04	4.23	1.39	0.21	0.28
1924	3.05	1.75	3.38	3.55	1.21	8.86	11.84	4.76	8.41	13.39	0.30	0.09
1925	2.21	1.88	2.04	3.92	6.43	8.69	4.68	9.83	1.08	1.54	0.93	2.83
1926												
1927	0.11	2.09	1.70	2.02	1.94	10.79	5.79	8.61	6.99	4.12	0.38	0.39
1928	0.42	2.31	2.46	1.52	4.19	8.12	5.43	11.82	14.60	0.47	0.97	0.31
1929	0.82	0.14	0.52	1.55	2.73	9.35	8.44	4.93	13.45	1.71	1.27	1.39
1930	0.49	3.23	4.76	4.12	11.33	17.85	4.72	11.61	11.26	6.33	0.45	2.33
1931	2.58	0.76	5.90	3.44	1.59	1.20	2.68	10.34	5.06	1.94	0.08	0.35
1932	0.85	1.47	3.38	3.69	6.21	5.29	4.41	14.36	6.63	3.39	2.68	0.03
1933	0.91	1.82	3.53	6.68	2.94	4.93	9.20	4.35	4.56	3.86	1.43	0.33
1934	1.50	3.46	2.06	2.25	8.98	3.60	5.68	6.15	5.92	3.45	1.62	0.24
1935	1.83	0.92	0.01	4.07	2.66	6.29	6.10	6.94	11.44	1.15	1.11	1.19
1936	1.90	5.34	2.41	1.11	3.75	18.17	5.01	5.91	5.20	3.10	1.26	1.37
1937	1.20	1.55	4.49	3.13	2.17	8.93	7.40	6.44	4.64	4.49	3.01	0.40
1938	0.90	0.60	0.67	0.41	3.79	7.74	11.16	4.41	3.84	4.50	1.32	0.09
1939	0.49	0.59	0.81	6.58	4.31	6.23	7.80	6.68	4.90	2.72	1.96	1.66
1940	2.47	3.25	4.80	2.04	1.36	5.15	6.40	8.16	14.17	1.00	0.28	3.36
1941	4.44	3.28	4.37	7.55	3.83	7.04	8.88	5.76	7.38	2.12	1.90	0.95
1942	2.68	3.21	3.42	4.56	1.70	11.30	4.60	4.68	4.54	0.25	0.31	3.73
1943	0.29	0.46	2.02	3.59	5.91	6.41	6.74	7.16	4.14	1.87	1.60	0.25
1944	0.98	0.12	2.35	5.41	1.52	5.50	8.36	5.42	9.23	3.47	0.07	0.27
1945	1.82	0.27	0.17	3.20	2.22	7.07	9.47	6.86	8.38	4.92	0.53	0.57
1946	0.41	1.86	1.00	0.30	5.06	5.85	3.43	5.96	6.70	0.75	2.32	1.38
1947	0.70	1.64	8.73	0.55	4.80	15.02	6.43	10.74	10.57	6.18	4.33	1.51
1948	3.65	0.06	0.55	1.89	5.51	2.38	3.99	5.62	18.72	3.73	0.35	0.31
1949	0.02	0.23	0.70	3.76	1.80	8.11	10.67	13.01	9.22	0.89	1.30	0.68
1950	0.02	1.35	1.06	1.52	1.89	7.13	7.47	6.07	3.87	5.57	1.27	1.55
1951	0.22	1.82	1.25	3.99	1.24	4.72	10.31	4.99	7.12	10.01	1.94	0.08
1952	0.96	4.41	1.39	1.26	8.02	5.12	6.66	10.16	7.25	11.23	0.48	0.75
1953	1.72	2.11	1.49	2.33	1.41	11.58	6.98	11.84	12.20	8.13	0.58	1.25
1954	0.20	2.53	2.12	6.18	5.01	12.45	12.27	3.38	6.87	2.69	1.87	1.94
1955	3.25	1.87	0.91	1.31	7.50	11.49	5.59	4.81	6.35	2.83	0.33	2.44
1956	0.83	1.18	1.82	2.26	2.04	3.87	6.36	5.25	5.44	5.05	0.31	0.76
1957	1.62	5.34	6.60	4.08	7.05	5.52	7.17	6.09	11.21	2.16	0.67	5.35
1958	5.57	1.18	6.50	4.46	5.97	7.22	7.32	6.33	4.37	3.98	1.01	4.62
1959	1.67	1.72	6.86	0.95	5.48	11.96	8.48	7.82	7.80	8.14	1.29	1.08
1960	0.30	4.25	1.43	4.62	3.24	5.32	8.30	9.06	16.43	5.43	1.00	0.78

1961	3.21	1.12	4.79	1.05	7.06	4.04	5.07	7.36	3.30	1.66	1.14	0.36
1962	0.88	0.64	5.50	1.48	6.60	16.39	6.09	4.01	10.57	1.82	3.09	0.31
1963	0.80	3.95	0.49	0.27	8.68	8.09	2.67	5.96	3.81	0.93	3.32	3.53
1964	2.49	4.99	0.66	1.91	2.24	8.06	6.82	10.13	3.75	1.37	0.41	0.75
1965	0.65	3.24	3.66	2.66	1.14	15.97	8.82	7.93	6.02	5.85	0.39	1.27
1966	2.86	2.93	0.80	3.40	6.34	11.99	6.88	8.33	11.82	2.60	0.13	0.78
1967	2.21	2.70	0.18	0.10	1.91	11.02	8.07	7.13	5.51	4.53	0.31	2.38
1968	0.31	1.66	1.33	0.80	7.76	11.21	9.76	6.51	4.27	4.80	2.67	0.13
1969	1.79	1.42	6.84	0.69	5.28	9.28	4.73	6.80	7.54	7.62	0.51	3.84
1970	4.42	2.70	13.62	0.75	6.07	4.80	7.10	6.53	3.62	1.88	0.17	0.35
1971	0.38	1.40	0.34	0.96	4.22	9.89	7.46	8.93	6.18	5.73	1.00	0.86
1972	0.70	1.93	2.35	1.70	1.90	11.44	5.53	5.72	2.62	1.39	5.08	1.35
1973	3.27	2.43	4.04	1.08	2.48	6.24	14.18	6.19	5.69	2.52	0.80	1.14
1974	0.08	0.82	0.05	0.92	6.28	14.16	11.00	6.60	7.74	0.62	1.72	1.35
1975	0.15	0.98	0.67	2.67	4.75	6.17	7.92	5.31	6.66	5.68	0.26	0.46
1976	0.13	1.71	2.11	0.68	6.24	10.14	11.71	4.49	8.17	1.73	2.67	1.43
1977	4.34	0.68	0.34	0.22	5.42	4.44	6.53	7.56	7.11	0.92	1.89	3.48
1978	2.24	1.95	3.08	1.17	5.59	7.90	9.64	5.07	6.57	1.49	1.65	4.47
1979	6.33	0.34	1.75	1.91	7.18	4.17	3.93	5.66	13.13	2.25	1.85	2.67
1980	2.07	1.51	2.48	3.60	3.78	2.06	7.78	8.84	5.38	1.58	3.15	0.65
1981	0.95	1.67	1.53	0.20	2.28	7.01	6.18	12.06	4.48	0.84	1.72	0.41
1982	0.70	2.20	4.42	2.27	8.26	12.47	7.56	6.34	5.81	5.45	0.19	0.66
1983	4.38	10.57	6.72	1.44	0.81	12.35	3.77	6.91	5.22	5.18	1.88	3.10
1984	0.40	2.93	5.28	1.98	5.92	7.73	11.08	3.99	4.29	0.99	4.17	0.44
1985	0.63	0.47	1.86	3.93	2.26	6.66	6.83	7.08	8.07	2.22	1.42	1.66
1986	2.61	1.16	4.92	0.30	1.43	11.43	4.15	11.20	5.67	3.91	0.32	3.77
1987	2.48	1.85	5.30	0.86	2.43	3.16	5.64	5.27	6.16	5.87	11.21	0.41
1988	2.37	2.08	3.23	1.23	1.60	3.45	8.12	11.50	3.59	1.12	4.33	1.62
1989	1.12	0.53	4.24	3.57	1.69	9.36	7.20	8.42	8.21	5.79	0.37	1.94
1990	0.12	3.10	1.02	3.89	3.48	10.49	8.42	10.05	2.81	2.60	0.64	0.06
1991	5.87	1.18	1.65	4.34	7.85	7.31	10.35	9.37	6.76	4.21	1.75	0.12
1992	1.90	3.63	3.15	4.28	1.26	18.33	3.18	7.07	4.22	1.50	0.96	1.07
1993	4.88	1.99	2.30	2.39	2.69	5.85	5.50	7.61	7.59	8.14	0.59	1.25
1994	2.81	3.22	2.45	3.96	2.64	10.26	6.58	7.87	9.97	4.89	2.16	4.38
1995	3.73	1.17	0.05	7.68	1.55	9.70	11.94	19.32	11.31	11.24	1.14	0.26

Table F_3. Historical Monthly Weighted Average Rainfall for the Dade Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1902	0.01	5.30	0.01	1.85	0.94	6.01	3.28	5.33	7.81	4.17	7.12	1.86
1903	4.99	4.70	4.82	0.77	1.35	10.48	5.63	2.35	12.24	4.48	3.70	0.01
1904	1.70	1.65	3.10	2.04	12.28	6.16	2.94	9.15	8.76	10.08	5.21	0.40
1905	2.65	0.64	1.69	1.32	3.93	7.61	3.63	13.71	12.03	2.88	3.65	12.08
1906	4.20	3.78	4.38	2.33	7.89	8.60	9.26	8.94	2.39	13.68	7.56	0.01
1907	1.48	0.16	0.72	0.73	3.41	8.47	3.78	3.60	3.76	2.77	3.08	1.19
1908	3.46	0.97	1.66	2.63	8.53	13.65	5.21	7.76	11.02	27.86	1.65	0.86
1909												
1910												
1911												
1912												
1913												

1914	1.35	1.21	0.99	5.24	1.83	2.57	4.52	3.77	6.68	6.92	7.06	4.43
1915	3.64	3.01	1.57	1.32	3.32	12.53	6.54	1.37	5.47	11.65	2.54	2.00
1916	1.44	3.69	0.28	0.39	5.99	6.36	2.49	10.10	4.81	5.03	1.85	0.25
1917	0.11	0.45	3.03	3.74	4.62	6.71	2.48	4.32	18.55	2.11	0.24	1.45
1918	0.85	2.51	1.48	4.49	2.80	6.17	4.01	1.43	10.06	4.82	0.60	4.11
1919	1.07	3.20	9.74	3.07	13.31	7.26	5.90	3.73	3.72	3.73	3.48	1.83
1920	0.41	1.60	0.06	3.15	10.33	3.90	6.61	4.12	6.94	5.04	3.73	1.72
1921	0.73	1.15	5.15	2.63	5.60	1.14	3.09	3.14	2.81	18.20	0.50	0.23
1922	0.55	3.14	0.13	0.54	9.06	4.50	8.16	7.97	11.04	15.85	5.44	1.19
1923	0.21	0.24	0.58	2.15	11.48	5.94	5.20	6.34	6.21	2.77	0.27	0.46
1924	2.67	1.89	0.52	4.13	7.92	3.76	8.94	4.52	6.80	21.98	0.85	0.31
1925	5.78	1.55	2.70	3.16	18.31	6.45	3.43	13.18	2.74	1.81	3.83	5.35
1926	7.93	0.29	0.28	2.29	4.63	3.24	15.22	9.69	4.10	6.92	1.84	0.23
1927	1.60	2.57	0.93	2.23	0.68	2.40	5.00	4.40	8.83	3.78	0.90	0.52
1928	0.51	1.96	0.55	0.93	8.65	6.00	2.65	8.68	16.96	2.65	0.58	0.81
1929	1.15	0.70	4.56	3.24	8.32	6.64	10.33	5.42	12.01	18.05	0.83	7.47
1930	3.59	3.33	3.00	5.16	5.60	23.39	3.02	6.39	5.38	9.16	2.43	1.32
1931	6.68	2.37	4.92	5.58	3.40	0.32	3.00	6.14	15.70	4.84	1.86	1.02
1932	2.90	1.11	1.40	1.91	14.33	8.89	2.02	12.46	6.59	15.04	5.28	0.53
1933	0.89	1.46	2.42	5.77	4.58	6.40	6.64	10.31	3.88	14.87	1.23	0.34
1934	2.73	4.09	1.86	4.85	15.96	7.99	7.02	3.38	9.09	2.42	1.74	1.10
1935	0.31	0.39	0.20	5.60	1.34	7.06	3.44	5.65	10.09	8.98	5.33	0.41
1936	3.75	3.15	4.81	2.46	7.43	22.45	9.26	8.09	5.14	6.23	3.63	1.78
1937	1.51	3.38	8.80	1.55	3.13	4.19	5.53	7.66	14.61	5.20	0.37	0.42
1938	2.47	1.28	0.47	0.29	6.14	6.67	7.36	1.54	9.00	6.76	1.75	1.80
1939	0.60	0.75	1.31	1.05	6.57	2.54	8.96	6.38	4.96	14.61	3.65	3.30
1940	2.38	2.56	2.79	0.60	7.31	12.25	2.28	7.45	17.84	3.30	1.20	4.03
1941	3.79	4.03	4.05	5.47	2.01	5.49	10.17	2.87	8.33	4.62	4.51	1.46
1942	1.60	2.71	2.40	11.28	3.35	13.48	1.56	4.11	7.66	4.29	2.51	1.98
1943	1.60	0.38	1.16	1.72	7.72	3.98	8.56	10.80	7.02	5.79	2.82	0.63
1944	2.16	0.03	0.66	1.55	6.95	2.77	8.80	4.31	6.83	5.83	0.26	0.62
1945	2.29	0.38	1.15	2.89	1.03	2.65	5.25	4.38	10.79	8.97	2.27	1.60
1946	0.75	1.15	2.59	0.47	8.65	6.54	9.05	6.19	6.10	4.05	4.41	1.85
1947	1.56	2.16	1.39	4.97	4.47	13.96	10.75	8.08	10.33	11.55	2.68	1.07
1948	3.47	0.49	0.79	3.92	4.71	4.18	6.26	8.56	16.34	8.86	0.69	0.83
1949	0.19	0.39	2.92	5.07	4.24	10.70	7.27	5.81	9.17	10.03	1.58	2.57
1950	0.34	1.04	0.97	3.07	5.05	3.12	7.21	8.20	4.54	11.45	2.08	2.14
1951	0.20	2.20	0.47	4.73	2.40	4.23	8.63	6.77	5.22	6.97	0.75	0.80
1952	0.47	2.55	4.20	1.95	2.14	3.04	7.95	7.54	5.73	14.00	0.45	1.17
1953	4.50	2.36	0.80	4.09	3.26	9.47	8.72	5.91	9.20	12.21	2.80	1.65
1954	0.56	2.45	2.41	6.74	11.69	10.85	8.65	4.77	8.00	5.16	3.37	0.46
1955	0.76	1.06	0.43	1.88	3.64	11.60	5.94	6.26	7.40	6.20	1.10	1.91
1956	1.61	0.99	0.02	3.23	5.14	4.83	3.65	8.16	8.39	7.17	0.52	0.48
1957	0.48	5.49	3.06	6.87	7.03	3.79	7.57	11.99	5.46	7.52	3.54	3.51
1958	5.94	1.16	5.42	0.98	16.18	5.75	8.16	7.16	5.64	6.33	3.23	4.84
1959	1.63	2.09	6.33	1.80	7.58	17.10	7.71	6.87	12.52	9.30	11.04	1.23
1960	0.22	2.02	0.90	8.86	5.39	9.20	8.96	7.26	18.42	8.21	2.42	0.45
1961	4.19	0.69	2.16	0.52	8.04	9.10	2.99	6.21	3.27	4.33	1.28	0.13
1962	1.42	0.51	3.25	1.31	1.27	13.35	7.65	8.01	8.54	2.09	3.04	0.22
1963	0.74	3.39	0.56	0.54	7.08	9.08	2.74	6.91	15.15	4.20	1.55	3.39

1964	0.66	2.32	1.04	5.05	4.11	10.28	5.40	8.47	6.15	10.54	2.41	4.05
1965	1.39	3.07	2.40	0.87	0.38	6.26	6.76	4.06	12.26	13.34	1.71	0.44
1966	4.34	3.85	3.01	2.64	7.26	19.73	7.12	6.50	7.75	8.03	1.58	0.75
1967	3.41	1.56	2.79	0.21	1.83	16.16	6.26	5.90	8.13	10.17	2.66	1.43
1968	1.44	2.10	0.86	0.73	16.52	18.38	6.40	8.66	9.47	9.68	1.09	0.17
1969	5.11	1.95	2.94	4.29	5.66	15.32	6.35	6.12	9.20	13.20	0.96	1.19
1970	2.86	2.12	1.71	0.66	6.08	9.32	6.12	4.16	7.80	4.26	0.41	0.11
1971	0.47	0.97	0.44	0.44	3.69	9.07	5.55	6.57	8.79	5.94	2.47	3.09
1972	1.22	2.52	2.47	4.91	9.87	10.21	7.82	4.53	5.80	4.08	3.23	2.78
1973	2.62	2.22	1.37	1.33	2.24	8.87	8.12	11.80	6.40	3.78	0.89	2.67
1974	1.99	0.04	0.77	1.74	4.34	6.57	7.68	6.13	5.55	3.79	3.08	1.95
1975	1.17	1.47	0.40	0.46	6.55	6.97	7.76	5.84	6.17	4.11	1.72	0.44
1976	0.90	3.35	0.48	2.69	7.82	10.21	2.76	10.23	7.34	2.87	2.27	1.64
1977	1.87	1.78	0.68	2.17	12.99	9.51	4.76	8.50	9.13	1.62	5.12	2.08
1978	2.82	3.94	2.61	3.35	6.28	7.63	3.82	6.42	5.61	6.93	2.49	2.02
1979	1.75	0.62	0.38	12.55	6.34	3.96	5.81	4.57	10.96	4.80	1.48	3.39
1980	2.23	1.24	2.06	8.00	3.16	5.91	7.61	7.69	6.38	3.85	4.89	1.13
1981	0.52	4.15	1.46	0.09	3.31	5.48	3.46	16.47	14.83	2.54	2.17	0.44
1982	0.55	1.81	3.22	8.19	5.67	10.70	3.31	5.46	7.36	5.21	6.07	1.49
1983	7.13	7.22	3.02	2.93	1.66	10.33	5.06	8.15	7.50	3.37	2.41	2.90
1984	0.59	0.95	5.22	2.24	11.36	7.17	7.63	4.16	8.40	2.46	2.32	1.34
1985	0.30	0.39	2.16	2.33	4.20	5.90	10.67	7.20	8.88	5.00	1.44	3.34
1986	3.51	1.63	9.31	0.84	5.83	10.47	6.30	6.18	4.29	3.06	3.97	3.58
1987	1.49	2.15	4.28	0.65	4.51	4.31	4.64	4.45	9.23	6.09	4.74	3.22
1988	1.96	0.90	0.66	1.73	7.03	12.43	10.16	11.34	2.79	2.66	1.32	0.50
1989	0.70	0.63	0.94	3.25	3.17	8.89	6.11	9.81	5.88	2.80	2.11	0.60
1990	0.36	0.88	2.15	5.09	7.34	5.76	5.62	11.67	5.40	4.39	2.50	1.13
1991	2.80	2.36	2.84	4.57	5.42	9.61	6.85	6.35	8.69	17.40	1.08	0.51
1992	1.48	1.76	3.16	2.29	0.46	16.14	4.31	8.22	5.23	2.52	9.85	1.38
1993	6.50	1.85	4.14	2.78	5.31	3.86	8.56	5.37	8.28	7.29	4.40	0.37
1994	2.87	5.73	1.73	3.76	4.44	5.53	5.40	13.29	12.58	7.65	8.92	5.00
1995	2.66	1.05	3.20	3.08	4.27	18.80	7.80	12.68	10.60	10.39	2.03	0.68

Table F_4. Historical Monthly Weighted Average Rainfall for the East EAA Area

Year	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1925	3.53	2.43	2.37	3.78	9.38	5.61	5.56	12.36	4.17	0.49	1.14	2.84
1926	5.39	0.66	1.48	1.81	3.69	9.29	10.57	10.40	13.60	3.58	0.91	0.55
1927	0.32	2.90	2.18	2.44	3.19	7.06	12.77	11.45	6.41	4.50	0.43	0.42
1928												
1929	3.45	0.14	0.62	1.90	5.01	8.68	6.95	4.58	17.34	2.96	2.85	1.04
1930	2.10	2.68	5.58	6.18	4.89	17.33	5.08	4.40	6.08	4.75	0.48	3.40
1931	2.10	1.22	4.16	4.16	2.71	0.98	3.58	7.03	9.21	3.39	0.43	1.12
1932	1.27	1.59	1.45	1.80	4.09	12.51	3.94	11.25	5.80	3.11	12.11	0.30
1933	0.59	1.18	4.30	6.43	3.36	8.59	8.02	11.18	9.40	4.76	3.27	0.10
1934	0.21	2.49	5.83	3.84	8.16	9.23	7.86	10.74	8.28	3.37	0.72	0.80
1935	0.52	1.82	0.43	5.81	1.98	8.25	6.62	6.70	12.98	5.46	0.40	1.82
1936	2.18	4.06	2.87	1.71	5.74	17.81	5.91	6.91	5.06	2.76	6.42	1.29
1937	3.28	1.69	5.98	4.99	3.44	8.04	7.55	7.21	7.45	4.84	2.51	0.48
1938	0.47	1.34	1.62	0.46	4.52	5.67	8.71	2.38	9.37	2.44	2.32	0.16
1939	0.20	0.06	0.86	3.57	5.33	9.30	8.78	10.04	5.58	6.71	0.34	1.77

1940	2.90	3.30	4.20	1.44	4.58	9.10	4.57	8.81	8.07	1.66	0.39	5.59
1941	4.83	5.95	3.48	7.07	4.03	7.44	11.56	4.57	6.30	7.92	1.93	1.88
1942	1.45	2.45	5.29	6.47	4.30	19.59	5.82	4.39	7.34	1.09	0.96	2.39
1943	0.49	0.50	1.59	2.00	4.63	5.44	7.92	6.74	4.81	3.02	2.59	0.17
1944	1.00	0.06	2.26	4.00	5.30	4.20	6.30	12.96	4.80	6.70	0.40	0.25
1945	1.64	0.79	0.22	0.69	2.79	6.45	12.37	5.65	12.28	3.62	1.58	1.29
1946	0.80	1.25	4.03	0.10	7.71	8.54	9.67	6.97	8.97	1.55	4.94	2.15
1947	0.95	2.12	8.44	3.52	6.30	12.64	11.49	6.87	12.69	9.41	3.34	1.40
1948	3.62	0.23	1.11	5.77	2.69	3.41	7.84	8.38	19.03	3.49	0.80	0.47
1949	0.18	0.67	0.44	2.57	3.17	11.71	7.81	10.97	10.15	2.43	1.43	6.60
1950	0.13	0.78	1.18	2.28	5.54	4.62	6.52	9.32	3.48	10.18	1.42	1.09
1951	0.17	1.74	0.65	3.89	4.20	7.51	13.52	8.66	6.74	10.68	1.16	0.17
1952	1.24	5.62	0.82	2.44	3.69	5.61	7.14	8.24	8.58	12.56	0.27	0.40
1953	2.52	2.17	1.20	2.53	2.81	6.99	10.51	11.83	11.78	8.39	1.27	1.67
1954	0.50	2.55	2.82	6.17	6.70	11.52	8.22	7.91	7.49	3.22	1.38	1.26
1955	1.28	1.20	2.05	2.71	3.84	15.43	7.84	6.69	4.38	2.36	0.57	2.75
1956	0.98	1.35	0.80	1.79	3.05	4.50	5.63	6.17	8.41	5.52	0.32	0.20
1957	4.90	3.72	4.24	4.20	7.48	5.51	7.75	8.33	9.83	4.00	1.35	7.25
1958	7.86	0.74	7.59	3.69	7.34	5.34	5.78	6.42	6.20	3.65	1.19	4.93
1959	1.62	0.90	6.18	2.31	7.64	11.52	10.18	7.09	8.69	8.09	5.71	0.76
1960	0.15	3.04	1.83	5.71	4.53	7.85	9.32	9.49	17.35	4.38	1.47	0.61
1961	2.62	0.89	2.07	1.31	9.68	5.88	6.03	7.13	3.26	3.27	0.86	0.19
1962	1.46	0.86	2.73	2.79	2.60	11.32	7.99	9.59	10.61	3.36	1.25	0.25
1963	1.11	3.71	0.68	0.44	6.64	5.88	2.54	6.26	7.04	1.92	2.40	4.79
1964	2.26	2.21	2.62	3.67	2.84	7.78	7.87	7.50	4.22	7.88	0.66	2.86
1965	0.25	3.23	2.42	1.02	1.32	9.24	9.15	6.64	6.57	7.93	0.38	1.13
1966	4.48	2.17	0.63	2.51	4.05	15.55	8.32	7.06	6.85	4.77	0.26	0.79
1967	1.03	3.07	1.17	0.03	1.66	10.18	7.97	5.04	5.35	4.69	0.18	1.82
1968	0.43	2.95	1.04	1.20	8.42	15.62	8.80	4.79	6.97	6.97	1.65	0.07
1969	1.69	1.70	5.01	3.18	6.47	9.18	7.29	7.40	6.60	7.83	2.57	1.59
1970	3.14	2.34	12.40	0.09	7.13	7.77	8.88	7.37	4.78	3.11	0.14	0.28
1971	0.60	1.91	0.55	0.14	5.47	9.01	7.93	6.00	6.79	6.80	3.56	1.11
1972	1.45	1.82	3.68	5.41	6.38	8.18	5.84	5.17	3.01	1.02	2.92	1.64
1973	2.39	1.40	2.97	1.00	3.89	7.40	9.32	7.51	5.19	1.98	0.44	1.77
1974	0.81	0.33	0.34	1.12	2.84	11.90	10.17	7.92	7.01	1.23	1.82	0.79
1975	0.25	1.24	0.47	1.38	6.33	8.72	9.33	5.03	7.91	4.44	0.85	0.38
1976	0.55	2.86	0.82	1.37	9.75	6.48	5.24	6.64	6.59	0.67	1.95	2.07
1977	4.21	0.71	0.59	0.79	8.18	6.65	5.67	7.61	10.49	0.85	5.38	4.36
1978	2.68	1.59	2.33	1.62	6.79	8.70	10.20	9.05	4.50	3.92	2.83	4.08
1979	4.29	0.31	1.88	2.36	4.63	2.53	5.76	6.90	11.76	2.39	3.63	2.32
1980	4.82	1.44	2.34	4.64	5.33	3.51	6.33	5.69	6.43	1.33	2.92	0.80
1981	0.55	1.74	1.41	0.34	3.26	4.51	4.84	13.99	5.31	0.62	3.75	0.20
1982	0.71	2.93	5.78	2.42	8.15	11.13	5.75	6.55	9.87	2.04	1.08	0.80
1983	3.50	7.11	4.18	1.70	1.15	8.08	4.48	7.32	6.47	6.11	1.12	4.01
1984	0.26	1.85	4.00	3.81	7.91	4.21	7.59	4.14	6.17	0.39	2.68	0.28
1985	0.74	0.16	1.88	4.95	2.47	4.64	8.26	5.24	8.78	5.94	1.80	2.72
1986	2.93	1.29	4.93	0.21	3.25	11.12	8.01	7.33	4.48	4.91	1.50	4.37
1987	1.73	1.33	5.67	0.27	2.14	5.30	3.75	4.23	4.71	3.79	6.87	0.34
1988	2.39	1.91	1.76	1.04	2.62	5.99	9.95	9.63	2.53	0.13	1.66	0.65
1989	0.97	0.21	2.33	4.31	1.80	4.34	4.93	6.83	9.35	3.16	0.85	1.88

1990	1.03	2.18	1.96	2.13	5.75	5.93	6.24	6.74	3.30	3.06	0.50	0.55
1991	7.10	1.49	2.25	5.57	5.44	9.16	8.82	4.80	4.82	2.76	1.84	0.61
1992	0.78	2.90	2.14	3.22	0.81	15.11	3.14	11.25	7.54	0.85	4.87	0.56
1993	7.72	1.75	3.26	2.62	4.60	6.88	5.48	5.23	5.90	5.75	1.74	0.66
1994	4.74	3.76	3.16	2.69	3.75	8.36	6.59	9.21	6.30	7.75	7.60	8.61
1995	2.26	2.80	2.82	1.86	2.31	9.06	6.65	10.81	6.85	9.50	0.92	0.82

Table F_5. Historical Monthly Weighted Average Rainfall for the Lake Okeechobee Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1929	1.13	0.54	1.62	2.01	6.32	9.84	3.96	6.59	14.18	1.70	0.86	2.29
1930	1.37	2.98	8.53	4.87	12.64	7.94	3.36	8.79	12.37	1.68	0.29	3.21
1931	3.13	0.86	1.15	6.50	5.09	4.82	2.85	5.15	5.75	1.73	0.01	2.36
1932												
1933												
1934												
1935												
1936												
1937												
1938	0.83	0.90	1.55	0.23	1.66	4.83	6.19	0.75	5.86	3.72	2.77	0.12
1939	0.20	0.04	4.37	5.60	7.10	5.24	5.04	9.63	4.42	4.55	1.27	0.78
1940	3.24	2.05	4.90	1.26	4.33	5.36	3.10	4.75	9.41	0.76	0.01	3.87
1941	5.48	3.03	2.85	5.37	1.35	4.74	10.78	5.33	4.99	5.80	2.47	2.59
1942	2.32	4.40	3.32	1.36	2.07	6.66	2.18	3.71	4.19	0.25	1.70	1.57
1943	0.47	0.27	5.24	1.16	2.85	3.34	6.72	4.76	2.87	3.14	1.70	0.23
1944	0.59	0.01	3.32	2.43	2.20	3.41	3.21	4.61	3.02	7.60	0.20	0.12
1945	1.08	0.06	0.14	4.52	1.09	5.07	3.49	5.06	11.05	4.58	1.19	1.04
1946	1.14	1.51	1.51	0.12	5.35	5.81	4.19	3.82	5.42	1.62	1.89	1.29
1947	0.80	3.03	8.48	2.38	4.06	11.51	5.30	4.69	13.75	5.55	2.04	0.57
1948	4.46	0.25	0.67	3.39	1.80	1.47	4.81	5.39	12.98	1.53	0.44	0.40
1949	0.05	0.03	0.20	3.96	4.81	8.88	8.98	9.16	8.94	1.36	0.89	2.08
1950	0.10	0.54	2.77	1.91	1.17	3.69	2.98	7.09	3.04	5.71	0.74	0.81
1951	0.01	2.18	0.58	6.66	1.99	4.01	5.47	7.87	4.58	12.97	1.80	0.12
1952	1.00	4.47	2.36	1.19	3.67	2.91	7.42	7.78	2.92	10.86	0.27	0.39
1953	2.33	1.87	2.23	3.61	1.87	13.87	7.81	11.38	9.95	7.29	1.09	1.06
1954	0.06	2.39	1.87	4.98	4.46	9.20	7.00	6.42	7.47	2.59	2.08	1.57
1955	2.06	0.90	1.54	2.47	2.55	8.08	8.77	5.38	5.96	1.96	0.22	1.99
1956	0.60	0.86	0.42	2.37	2.32	4.98	6.54	6.01	4.35	7.52	0.41	0.10
1957	1.79	3.30	4.16	4.12	6.24	7.90	7.32	7.51	9.18	1.70	0.97	4.41
1958	6.15	0.86	5.82	3.04	6.12	4.87	4.52	6.11	4.33	3.13	0.19	3.61
1959	1.51	1.20	5.22	1.48	6.53	11.28	5.23	4.75	7.83	9.48	1.70	1.52
1960	0.35	5.23	3.85	2.78	3.33	7.63	8.15	6.25	11.81	3.49	0.83	0.82
1961	2.27	0.90	2.73	1.45	5.26	2.98	4.06	6.14	1.61	2.24	0.62	0.12
1962	0.93	0.55	4.03	2.25	3.31	9.21	5.63	7.00	8.84	1.48	2.86	0.25
1963	0.94	4.04	0.98	0.60	6.49	5.12	5.07	4.26	7.22	0.72	3.31	3.84
1964	2.12	3.83	0.75	2.39	3.19	5.62	7.24	7.53	5.62	3.14	0.33	1.08
1965	0.25	3.81	3.51	1.44	1.88	9.19	7.08	7.02	4.84	7.25	0.26	1.01
1966	3.55	3.10	0.76	3.00	4.47	11.15	7.92	7.51	7.77	4.27	0.20	0.68
1967	0.91	3.02	0.69	0.16	1.64	10.75	7.14	6.50	6.32	4.00	0.19	1.65
1968	0.51	1.83	0.73	0.44	7.99	13.44	7.31	3.80	5.73	6.13	2.34	0.13
1969	1.72	1.69	6.36	1.38	5.52	8.91	5.85	7.62	6.53	9.07	1.95	2.85

1970	4.65	2.94	12.02	0.09	6.25	7.01	7.33	5.51	3.96	4.61	0.07	0.28
1971	0.29	1.48	0.96	0.74	3.46	7.57	7.29	6.90	6.41	5.91	1.93	1.06
1972	0.77	2.21	1.95	2.89	4.61	7.74	3.93	5.30	1.82	1.27	3.14	1.61
1973	3.08	1.90	3.19	1.84	4.45	6.16	8.62	6.60	5.99	3.93	0.25	1.68
1974	0.53	0.60	0.24	1.48	3.16	11.05	10.61	7.75	5.90	1.24	1.45	1.65
1975	0.29	1.40	1.14	1.18	5.24	5.83	8.33	4.57	6.36	2.80	0.41	0.49
1976	0.28	1.61	1.20	1.48	7.20	6.86	3.93	7.62	5.65	2.60	2.23	1.51
1977	2.99	0.68	0.99	0.70	4.45	5.53	4.21	8.00	7.33	2.14	6.09	4.60
1978	2.21	1.77	3.12	1.67	4.75	7.40	9.17	7.51	6.03	3.20	2.29	4.52
1979	5.88	0.49	2.09	2.07	7.88	2.28	5.27	6.56	14.74	1.50	2.38	1.83
1980	3.36	1.75	1.76	4.55	4.14	3.57	5.64	6.07	4.79	1.13	3.02	1.01
1981	0.63	2.34	1.13	0.23	3.39	5.33	4.85	10.01	4.93	0.65	1.22	0.18
1982	0.67	2.29	6.74	2.87	7.40	8.33	6.77	5.91	7.36	2.97	1.72	0.93
1983	4.79	10.41	5.03	2.20	1.86	7.26	6.45	6.10	4.51	6.70	1.77	3.17
1984	0.47	3.22	4.49	3.67	5.70	4.99	8.81	3.40	4.99	0.53	3.09	0.33
1985	0.46	0.30	2.59	3.09	2.54	6.30	5.53	4.82	6.91	2.21	1.15	2.13
1986	1.72	1.02	3.95	0.26	2.11	11.34	6.62	7.17	5.05	4.11	1.47	3.84
1987	1.98	1.32	5.63	0.37	2.80	5.05	5.94	2.12	6.71	6.20	7.63	0.55
1988	2.39	2.61	3.77	1.14	3.79	5.95	8.15	9.38	1.70	1.11	3.81	1.31
1989	1.22	0.33	3.17	3.70	2.24	5.45	5.80	6.26	6.67	3.94	0.46	2.26
1990	0.67	2.47	0.76	1.98	3.01	5.36	8.75	7.92	4.10	2.09	0.98	0.43
1991	4.75	1.55	3.54	4.12	4.19	6.83	7.93	6.48	3.42	3.24	1.45	0.43
1992	0.62	3.38	1.74	3.56	1.99	13.96	4.09	9.03	5.24	0.90	2.68	0.38
1993	6.22	1.92	3.81	1.57	0.39	6.23	3.09	4.41	5.95	4.88	1.56	0.77
1994	4.40	2.46	2.58	2.78	4.15	7.37	4.31	7.67	9.58	3.83	3.28	4.32
1995	2.38	3.09	3.08	2.15	1.89	7.69	5.66	9.43	4.64	9.49	0.60	0.55

Table F_6. Historical Monthly Weighted Average Rainfall for the Lower Kissimmee Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1965	1.13	4.25	2.81	2.36	0.09	6.92	4.56	4.65	1.97	3.76	0.48	0.84
1966	3.86	3.52	0.82	1.74	4.76	8.42	6.45	7.65	5.18	3.18	0.17	0.48
1967	0.60	2.96	0.32	0.08	0.57	6.04	7.01	5.77	6.96	1.76	0.26	1.67
1968	0.92	1.96	1.01	0.59	5.48	13.95	6.92	5.22	5.63	5.38	2.27	0.30
1969	1.66	1.47	6.58	2.45	3.49	7.60	5.37	7.45	6.88	11.41	2.38	2.80
1970	3.85	2.24	5.86	0.17	3.91	4.21	8.12	3.69	4.03	3.51	0.27	0.55
1971	0.11	3.02	0.94	0.26	2.40	8.88	6.51	6.57	5.63	4.82	0.50	1.06
1972	1.45	3.38	3.05	1.53	4.35	9.49	3.70	5.17	2.09	1.14	4.05	1.74
1973	4.11	1.61	2.55	3.24	5.27	6.17	8.76	6.82	6.00	2.38	1.06	1.43
1974	0.22	1.24	0.02	1.38	5.64	13.38	12.40	7.03	4.38	0.79	0.81	2.14
1975	0.33	1.38	1.35	1.16	6.36	5.96	5.83	6.03	5.94	4.00	0.38	0.65
1976	0.27	1.08	1.16	1.41	7.69	7.42	3.81	5.82	6.20	1.03	1.45	1.72
1977	1.29	0.90	0.91	0.23	3.10	5.62	4.16	4.38	4.94	1.42	4.81	2.54
1978	1.11	1.83	2.28	0.61	3.69	6.57	12.53	4.23	3.85	2.04	2.58	2.72
1979	5.48	0.96	1.39	2.30	8.11	2.39	4.31	7.60	13.74	0.45	1.80	1.85
1980	1.94	2.31	1.86	3.40	2.84	3.73	6.19	4.07	2.52	0.58	1.91	0.79
1981	0.33	2.72	1.28	0.14	2.77	5.68	4.07	7.75	5.77	0.84	0.79	0.16
1982	1.15	2.03	6.01	4.85	5.88	8.07	7.12	5.13	6.98	3.53	1.52	1.05
1983	3.41	8.59	5.12	2.16	1.95	7.40	4.36	4.61	4.52	3.03	1.45	3.48
1984	0.52	3.46	2.93	2.87	6.53	5.19	8.70	4.15	3.56	0.71	3.28	0.70

1985	0.46	0.35	2.49	2.33	2.34	6.48	6.45	4.15	5.59	2.37	1.78	1.46
1986	1.93	0.97	3.43	0.16	2.82	9.34	6.49	5.79	4.42	3.54	1.10	3.28
1987	2.18	0.97	5.69	0.62	4.04	5.19	6.80	2.10	7.00	5.93	8.50	0.31
1988	2.31	2.33	4.62	1.23	2.79	5.25	7.79	7.30	3.07	1.10	3.13	1.21
1989	2.06	0.66	3.41	3.25	2.66	5.36	7.02	7.27	7.65	2.94	1.51	3.41
1990	0.50	3.57	0.90	1.22	3.14	9.91	7.57	8.80	5.05	2.59	0.59	0.60
1991	3.89	1.45	4.21	3.65	6.77	5.47	7.54	9.56	3.50	3.93	0.98	0.35
1992	0.72	3.98	1.61	4.05	1.11	15.05	4.54	11.63	5.14	1.82	1.62	0.65
1993	5.18	2.91	4.89	2.88	2.24	2.74	5.48	6.58	5.41	4.82	0.93	1.15
1994	2.44	2.90	2.53	3.91	3.45	10.28	8.19	6.53	7.03	3.49	3.42	2.74
1995	1.82	2.52	3.54	3.35	2.76	7.02	5.24	8.85	4.60	6.84	1.18	0.35

Table F_7. Historical Monthly Weighted Average Rainfall for the Martin/St. Lucie Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1901	4.47	1.79	3.81	1.33	6.92	11.64	3.04	9.43	6.84	2.18	0.66	3.91
1902	2.99	3.72	2.95	2.00	0.62	5.92	6.74	5.11	9.47	11.37	2.42	2.26
1903	4.78	10.19	7.53	0.01	1.77	4.93	6.60	5.82	12.93	0.01	8.36	0.60
1904	2.74	1.81	3.27	0.01	3.24	7.39	3.27	2.98	6.42	9.75	5.40	0.08
1905												
1906	3.07	2.85	2.55	2.07	8.26	12.05	6.04	6.70	2.61	7.34	4.27	0.21
1907												
1908	1.10	1.28	0.33	2.92	2.44	5.93	9.10	7.51	15.44	10.05	6.45	0.45
1909												
1910												
1911												
1912												
1913												
1914	2.86	2.95	0.62	4.53	3.29	3.05	7.17	4.28	11.13	5.93	4.18	3.44
1915	9.36	2.24	2.74	1.36	2.25	5.41	8.81	7.91	7.44	10.88	3.35	1.89
1916	1.83	2.05	0.60	1.84	4.04	5.75	3.53	2.98	8.06	10.34	2.94	1.19
1917	0.90	3.23	0.19	0.44	1.18	4.66	5.09	3.18	6.67	3.37	0.49	2.65
1918	3.51	0.69	4.38	6.74	1.35	6.30	8.21	2.74	14.22	6.02	0.89	1.31
1919	2.16	4.30	5.64	2.15	2.94	4.13	9.43	5.33	2.82	0.60	7.32	2.14
1920	7.38	1.97	2.13	4.22	4.50	2.83	5.91	5.32	9.67	4.14	3.50	0.78
1921	0.43	1.99	1.56	1.36	6.26	1.96	6.90	1.63	0.75	11.31	0.98	1.02
1922	2.18	3.19	0.60	0.65	2.54	2.94	4.34	5.88	8.44	10.46	2.10	0.67
1923	1.28	0.30	0.79	4.84	7.72	8.40	5.39	1.09	8.50	2.93	0.46	1.12
1924	5.16	1.47	3.63	2.22	4.42	0.69	7.38	1.41	7.19	19.31	0.38	1.28
1925	4.99	2.15	3.31	1.75	7.16	5.21	6.44	5.49	1.91	1.79	10.65	6.77
1926	7.48	1.84	2.40	4.75	0.72	9.52	12.74	7.74	11.07	1.88	0.71	1.03
1927	0.65	0.78	1.56	1.21	0.92	2.00	4.93	5.13	11.81	10.27	1.95	0.56
1928	1.04	1.27	3.56	0.25	3.88	3.98	2.84	14.57	4.72	3.50	1.70	0.35
1929	1.89	0.59	2.32	1.46	11.09	6.85	5.45	3.04	6.97	8.76	1.60	2.51
1930	1.78	5.28	5.43	7.72	7.41	11.88	2.78	3.84	7.34	4.78	2.90	3.49
1931	3.27	0.79	3.76	11.16	1.80	1.17	6.39	4.12	6.89	6.37	1.48	1.37
1932	1.45	1.44	3.04	1.74	4.16	12.90	1.48	6.41	5.44	4.05	6.86	0.94
1933	1.98	1.18	4.23	9.86	1.65	5.45	2.98	8.87	6.36	12.97	3.62	0.75
1934	1.49	5.54	2.12	5.44	5.72	4.97	2.89	4.00	3.68	3.09	1.06	1.32
1935	0.22	1.61	0.27	5.31	3.44	9.15	4.00	3.57	6.53	10.63	0.77	0.99
1936	1.85	5.18	3.82	2.41	5.73	9.49	4.70	3.46	8.24	7.62	4.67	4.49

1937	1.63	3.13	7.26	6.77	6.21	3.90	3.66	3.82	8.64	15.83	6.40	1.00
1938	0.75	1.22	0.43	0.23	2.56	6.74	4.85	1.57	7.49	8.94	3.52	1.68
1939	0.41	0.31	1.23	5.16	6.93	4.54	5.54	7.94	6.22	10.75	1.20	1.41
1940	2.57	3.03	5.94	1.09	3.09	5.94	4.23	6.62	14.52	2.67	0.19	5.01
1941	6.04	5.15	2.88	7.18	3.32	10.37	8.28	4.37	11.04	4.84	4.20	2.62
1942	1.86	3.71	5.07	2.00	6.71	9.87	2.01	2.90	8.93	2.64	1.15	4.07
1943	0.50	1.14	5.66	2.01	5.64	5.01	6.08	5.78	7.67	4.23	3.60	0.45
1944	1.74	0.26	1.09	4.32	2.44	5.72	7.93	4.27	6.63	10.79	1.00	0.73
1945	1.16	0.37	1.51	1.69	0.98	4.23	4.32	5.38	17.05	6.74	4.28	4.17
1946	1.63	0.87	1.99	0.27	9.29	4.54	7.74	5.97	3.61	2.91	5.38	4.21
1947	1.35	2.93	4.77	5.68	4.12	7.41	8.96	5.78	16.29	12.09	4.66	1.29
1948	4.06	0.44	2.07	4.81	4.34	3.51	4.58	7.50	14.87	3.85	0.99	0.95
1949	0.74	1.41	0.51	2.00	4.38	7.91	4.53	12.58	7.85	4.59	0.65	6.32
1950	0.96	1.06	3.67	3.02	4.82	3.75	3.71	9.62	8.08	12.41	1.96	0.84
1951	0.49	2.09	0.41	4.76	5.53	4.17	6.20	6.81	3.84	11.56	2.07	1.00
1952	1.92	6.67	2.99	1.97	1.40	1.90	6.69	6.75	5.67	12.55	0.33	0.87
1953	2.08	1.80	6.10	4.13	0.83	8.58	7.33	6.23	9.17	9.87	2.99	1.86
1954	1.31	2.42	2.63	6.94	5.66	11.24	6.28	6.95	10.41	6.26	4.76	0.83
1955	1.60	2.23	1.93	3.38	3.22	9.02	3.53	5.48	3.57	5.50	0.07	5.13
1956	0.86	1.83	0.48	2.74	2.84	3.47	5.38	5.14	6.18	7.96	0.42	1.71
1957	1.81	3.58	4.07	5.26	5.22	5.38	9.99	8.35	5.85	8.47	1.55	3.21
1958	8.92	0.78	4.33	2.41	7.18	4.53	3.28	4.15	4.73	8.34	1.27	5.01
1959	3.59	0.64	7.66	3.26	6.69	12.93	5.48	6.81	10.28	10.15	4.80	3.36
1960	0.22	5.65	2.73	6.43	4.22	8.13	7.79	6.20	18.05	4.08	1.09	0.84
1961	3.57	0.68	3.08	1.36	8.37	4.75	1.37	7.40	2.68	4.42	1.86	0.15
1962	1.06	0.73	3.15	4.75	1.40	6.25	9.44	11.78	9.60	0.84	2.94	0.29
1963	0.67	4.42	1.68	0.37	5.12	6.07	4.91	2.80	9.02	7.05	3.72	8.47
1964	2.74	4.42	0.82	4.11	2.70	3.43	7.85	12.91	6.86	9.21	1.02	1.09
1965	0.50	6.03	1.69	1.42	0.95	7.56	7.10	3.31	7.42	10.60	1.87	0.91
1966	5.75	5.11	2.42	4.18	5.35	12.77	5.31	4.18	6.64	6.63	2.12	1.45
1967	1.47	2.91	1.63	0.39	0.86	8.83	6.72	7.30	5.02	9.66	1.04	1.45
1968	0.76	2.06	0.77	0.49	6.05	14.77	7.08	5.76	7.48	7.67	2.30	0.03
1969	1.86	1.31	6.12	1.07	12.11	3.74	5.09	6.65	8.32	10.26	3.82	2.78
1970	4.16	3.41	10.57	0.13	4.77	6.46	4.43	4.04	8.27	7.53	1.13	0.38
1971	0.51	3.38	1.56	0.86	5.94	6.68	7.87	6.59	5.69	5.85	3.48	3.29
1972	1.45	3.55	2.41	4.96	9.92	11.30	5.94	3.97	1.94	3.54	2.95	1.75
1973	3.07	2.47	1.95	1.61	4.79	7.78	9.33	6.96	8.24	5.42	1.14	1.24
1974	1.79	0.42	1.22	2.50	3.19	10.19	13.02	4.76	4.26	3.56	2.19	1.66
1975	0.44	2.81	1.19	1.42	8.62	5.79	7.78	4.15	7.78	2.53	1.70	1.29
1976	0.54	1.83	0.82	2.53	11.02	6.43	3.54	5.80	7.27	1.61	3.24	4.28
1977	2.38	0.97	0.47	1.23	3.01	4.99	6.08	6.32	9.35	6.59	4.14	4.25
1978	3.19	2.21	2.87	2.40	5.10	5.01	7.07	4.50	4.65	5.18	3.25	6.36
1979	5.34	0.20	1.25	2.87	9.42	5.74	9.13	5.81	21.41	4.26	2.57	2.20
1980	3.19	3.31	2.43	2.65	4.02	4.30	5.65	3.72	5.17	2.53	3.76	0.79
1981	0.48	2.36	0.95	0.37	3.22	1.60	5.94	14.83	7.37	2.56	1.02	0.39
1982	1.19	3.50	10.86	6.89	10.31	9.69	9.78	7.82	5.57	2.48	8.43	1.65
1983	3.92	7.56	5.06	2.25	1.96	5.92	4.16	7.98	8.02	6.54	1.27	3.12
1984	1.07	3.32	3.81	1.35	6.20	6.50	5.97	5.35	8.48	1.96	7.86	0.58
1985	0.96	0.18	4.40	6.41	1.64	3.99	8.21	6.73	11.16	2.87	1.90	2.44
1986	3.67	1.56	7.05	0.71	3.71	9.44	5.40	6.06	4.26	7.87	2.39	4.55

1987	2.53	1.47	5.54	0.48	3.05	3.37	5.92	2.75	8.29	7.79	5.88	0.26
1988	2.53	2.91	4.17	1.63	5.02	4.32	7.94	8.29	1.78	3.07	3.02	1.38
1989	1.85	0.24	3.52	3.56	3.68	3.47	5.97	8.34	4.77	6.16	1.69	3.21
1990	1.64	2.11	1.67	0.87	4.23	5.40	9.05	7.05	11.03	6.31	2.17	0.41
1991	5.34	4.57	5.28	7.13	6.73	10.05	8.42	6.85	6.79	4.46	0.89	1.78
1992	1.23	3.45	2.55	3.17	1.42	15.32	4.05	14.01	5.24	3.82	8.64	0.82
1993	8.79	2.19	7.29	2.20	3.36	7.86	5.62	4.50	7.79	12.91	5.90	2.12
1994	4.43	7.81	3.36	5.58	4.43	8.63	7.94	8.90	12.04	6.78	7.66	8.54
1995	2.11	3.04	2.71	2.64	1.50	4.90	5.72	16.48	6.22	15.28	0.64	0.53

Table F_8. Historical Monthly Weighted Average Rainfall for the Palm Beach Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1900	4.29	7.83	2.79	1.18	7.05	3.47	2.17	1.03	9.67	14.20	2.79	1.73
1901	9.62	1.25	3.62	2.43	7.11	21.28	4.90	10.07	10.66	7.00	0.79	3.94
1902	2.10	4.54	1.62	1.81	3.98	7.88	1.72	4.96	7.98	18.99	3.58	1.00
1903	5.70	4.70	6.69	0.83	1.66	9.51	5.94	3.94	3.03	2.78	2.76	0.98
1904	1.76	3.66	0.71	1.30	3.58	10.95	4.30	6.12	6.97	7.43	5.72	0.30
1905	2.29	1.75	2.80	4.06	2.51	2.72	10.46	6.16	8.02	5.45	2.47	7.00
1906	3.98	4.67	3.70	4.14	8.42	12.30	7.31	7.47	5.44	9.76	4.40	0.16
1907	1.39	2.60	0.01	0.50	3.58	10.80	5.52	4.06	3.80	5.18	0.35	1.31
1908	6.26	0.79	0.59	2.19	2.86	7.06	8.09	5.33	5.17	19.67	10.38	1.68
1909												
1910												
1911												
1912												
1913												
1914	3.55	3.28	1.63	2.69	4.08	1.10	6.95	1.54	6.85	8.43	9.23	5.37
1915	3.32	3.37	2.83	1.78	5.08	10.88	7.46	6.86	6.81	8.60	6.35	1.71
1916	3.07	1.72	0.64	1.15	6.54	8.29	2.22	4.08	6.81	10.51	5.30	0.48
1917	0.13	3.05	2.85	2.82	2.39	5.55	5.08	4.76	15.69	8.03	0.89	1.82
1918	1.01	0.27	6.43	9.30	1.23	4.63	6.04	4.36	8.57	9.41	1.24	1.57
1919	2.05	5.12	6.24	3.56	3.88	6.12	7.16	3.80	3.48	6.93	7.46	0.94
1920	2.82	5.12	3.69	5.09	4.39	4.91	10.27	4.66	8.55	8.86	3.77	1.19
1921	0.43	5.92	7.07	0.10	2.69	2.24	2.44	1.13	2.86	17.44	4.07	1.45
1922	1.63	1.52	0.01	2.47	10.51	7.69	6.01	10.03	9.22	12.98	5.59	0.66
1923	0.71	2.48	3.09	1.52	4.20	11.03	7.95	5.27	9.36	3.67	1.38	4.84
1924												
1925	9.47	1.11	4.93	5.10	10.95	7.67	4.94	12.17	3.08	2.59	8.13	1.50
1926	6.95	0.76	1.12	9.79	2.60	8.14	8.36	5.74	10.37	4.48	4.71	0.99
1927												
1928												
1929	2.55	1.52	2.05	3.84	4.06	10.49	4.98	4.58	8.36	7.23	6.13	2.60
1930	2.29	6.01	4.97	7.80	5.51	10.83	1.13	3.03	8.28	6.94	0.65	2.96
1931	1.15	2.14	4.03	5.11	4.26	0.52	1.79	10.95	15.24	10.09	1.85	1.86
1932	1.54	3.18	2.96	1.61	8.88	11.16	0.14	13.42	15.58	3.08	7.18	1.12
1933	3.37	0.35	3.62	3.28	1.07	1.61	16.40	8.54	7.27	14.30	7.10	0.57
1934	3.04	4.59	5.14	5.27	10.03	7.50	3.20	2.26	4.43	4.39	1.18	1.42
1935												
1936	1.77	5.60	6.36	0.30	5.83	14.52	3.19	2.97	1.93	4.99	5.15	4.40

1937	1.25	1.47	3.62	5.12	1.08	6.78	3.18	3.92	5.67	8.74	0.93	1.24
1938												
1939	0.43	0.47	1.56	1.83	6.07	2.90	7.33	7.03	2.64	8.61	2.36	1.62
1940	3.94	2.47	3.91	2.04	1.99	9.84	1.96	8.85	11.92	5.70	1.21	8.59
1941	6.18	4.29	4.34	4.39	2.90	5.02	12.30	4.72	15.02	5.69	3.95	1.29
1942	4.88	2.51	5.21	13.66	5.43	13.68	2.06	3.87	6.86	5.56	1.25	2.08
1943	1.55	0.94	4.42	1.65	3.86	5.77	6.64	7.91	7.92	7.22	4.54	1.01
1944	1.03	0.29	4.01	2.04	3.06	2.16	7.88	8.15	3.14	9.75	0.31	0.81
1945	2.16	1.69	0.52	1.21	1.62	9.44	7.70	7.66	13.36	7.05	1.86	3.11
1946	1.63	1.21	2.34	0.93	10.55	6.15	7.16	6.83	8.68	3.79	5.99	3.02
1947	3.02	3.16	8.61	3.65	5.45	15.33	13.59	7.55	15.30	15.74	6.74	2.96
1948	6.02	0.43	3.27	5.67	8.06	4.23	6.24	8.17	16.31	12.50	0.83	2.03
1949	0.48	1.59	1.23	2.03	5.57	7.13	6.88	10.14	8.77	3.23	2.10	9.17
1950	1.30	1.63	1.88	2.01	4.05	1.82	4.20	12.64	6.73	13.53	2.34	1.24
1951	0.22	2.38	0.74	5.63	4.85	5.74	8.66	4.90	6.93	12.60	1.65	0.48
1952	1.76	4.22	2.21	1.37	3.60	1.39	6.67	9.97	9.17	11.49	0.43	1.07
1953	4.00	1.56	2.92	4.54	2.09	7.97	8.05	8.64	16.88	14.01	4.16	2.09
1954	1.67	2.40	3.77	7.64	7.82	13.27	13.82	4.56	11.55	3.94	4.23	0.77
1955	1.34	1.73	2.67	1.98	3.35	10.80	3.68	5.04	4.13	3.26	0.78	4.10
1956	0.96	0.79	0.75	1.64	4.13	4.79	5.02	9.34	7.41	5.14	1.20	1.55
1957	4.05	6.46	2.95	8.69	7.21	7.80	7.63	10.60	5.71	4.78	1.26	6.51
1958	8.32	0.80	7.28	2.41	9.67	3.86	7.65	5.94	6.02	4.53	2.77	5.69
1959	3.18	1.21	6.79	4.45	5.49	15.26	7.14	7.52	8.63	14.40	6.69	3.23
1960	0.39	4.81	1.91	6.20	4.37	6.99	8.25	8.34	20.81	6.60	2.00	0.46
1961	3.91	0.71	2.38	1.39	7.25	3.28	2.84	6.54	2.59	7.56	2.11	0.44
1962	0.85	0.63	3.52	2.86	3.14	9.07	7.21	8.01	7.99	3.63	1.05	0.57
1963	1.40	3.94	1.67	0.76	7.60	5.13	3.38	7.29	10.43	7.48	1.73	5.90
1964	1.68	3.98	1.47	4.37	4.47	10.38	5.83	9.97	8.31	12.29	3.38	2.64
1965	0.71	3.99	1.32	1.20	1.08	8.59	8.73	4.37	5.90	18.99	1.16	1.05
1966	7.29	5.27	2.16	2.80	5.45	17.04	6.73	9.00	8.31	9.23	1.44	1.19
1967	1.94	3.26	2.57	0.02	0.80	11.81	7.96	6.45	7.54	8.61	1.53	1.77
1968	0.64	3.11	1.73	0.79	10.94	18.21	7.55	8.18	10.54	8.94	2.24	0.08
1969	2.66	1.74	5.67	1.83	7.68	10.59	5.71	7.92	9.34	11.96	3.65	1.00
1970	3.61	2.84	12.14	0.88	5.37	9.33	6.58	5.18	6.20	4.05	0.23	0.35
1971	1.02	1.85	0.65	0.99	4.74	7.62	5.96	6.24	6.96	5.98	7.79	3.62
1972	2.14	2.26	3.05	10.30	9.38	12.54	8.72	4.27	3.22	2.61	5.17	2.22
1973	2.95	2.55	2.04	1.14	3.69	8.94	9.87	8.47	7.65	6.59	2.89	3.16
1974	7.92	0.38	1.58	1.28	3.12	6.94	9.40	6.40	6.35	7.56	4.28	2.71
1975	0.49	1.90	0.97	1.01	6.78	10.01	6.21	2.99	10.43	6.72	2.04	0.81
1976	1.01	4.16	2.06	1.56	12.29	6.98	3.46	7.71	9.02	2.22	2.77	2.74
1977	3.86	1.14	0.50	1.72	9.21	4.37	4.51	6.80	13.91	1.10	4.21	5.42
1978	2.64	2.05	2.96	0.94	5.03	13.42	8.71	5.88	6.98	8.06	7.29	4.01
1979	3.75	0.53	0.86	7.24	5.99	4.24	3.46	4.43	16.59	5.78	4.26	2.64
1980	3.71	2.54	2.04	4.05	5.83	5.37	7.75	5.17	6.98	3.58	3.28	1.71
1981	0.56	3.12	1.55	0.35	4.61	4.81	5.00	12.93	9.23	2.78	3.32	1.41
1982	1.18	3.17	12.05	5.04	10.60	12.90	7.10	6.05	7.88	5.38	12.81	2.15
1983	8.06	10.17	4.86	3.65	3.47	9.45	4.90	8.76	11.55	12.09	3.02	8.90
1984	1.36	2.92	5.29	4.02	10.02	4.88	4.34	4.66	11.58	2.43	8.92	0.29
1985	0.73	0.32	2.71	5.56	4.18	5.89	10.39	5.63	11.33	5.29	1.79	2.95
1986	5.05	1.37	8.12	0.45	2.50	12.40	8.28	5.40	5.59	6.06	4.84	6.61

1987	1.64	1.45	5.58	1.02	5.61	4.79	5.51	2.25	8.63	6.22	11.40	1.48
1988	3.42	3.47	3.27	1.31	6.84	6.89	11.00	10.60	1.77	1.92	2.84	1.37
1989	1.21	0.65	3.58	5.04	1.33	6.17	6.32	8.03	4.43	5.65	1.91	2.35
1990	1.36	2.63	2.46	5.45	6.63	4.30	10.46	9.99	7.93	4.54	1.58	2.45
1991	10.04	4.57	2.20	7.31	7.57	7.98	6.79	7.10	6.60	7.52	1.95	3.67
1992	1.25	4.09	2.19	3.61	1.52	17.83	2.12	12.90	9.49	3.00	12.06	1.35
1993	12.03	3.13	8.06	3.11	3.53	5.49	6.91	7.12	7.71	10.36	3.06	0.81
1994	6.69	5.39	3.53	5.67	4.18	10.90	7.30	12.10	13.22	6.27	10.62	10.87
1995	3.51	3.33	2.96	2.17	2.65	8.99	8.61	18.65	7.98	16.79	1.70	1.92

Table F_9. Historical Monthly Weighted Average Rainfall for the Southwest Coast Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1914	2.34	0.50	1.28	2.24	2.31	6.15	3.65	9.55	4.63	6.66	1.03	3.50
1915	3.86	1.76	2.26	2.97	3.73	6.18	7.39	8.05	5.47	5.67	2.46	1.08
1916	0.05	0.51	1.01	5.61	2.53	9.36	12.56	8.22	5.34	2.05	3.01	2.18
1917	0.01	1.46	1.54	1.84	1.06	8.77	9.92	9.54	8.97	2.08	0.65	0.35
1918	3.39	1.53	1.06	1.36	2.43	6.68	3.93	8.20	6.99	2.63	0.61	1.17
1919	1.29	2.78	4.64	0.40	5.18	10.89	8.21	3.12	5.04	0.81	3.09	1.17
1920	0.22	3.14	0.39	4.29	1.14	8.40	15.22	5.84	6.98	3.00	3.47	1.19
1921	0.49	1.11	0.93	0.40	5.86	5.77	9.70	6.10	5.01	10.80	4.63	1.27
1922	0.86	2.55	0.72	0.02	8.42	15.11	6.07	10.51	17.35	11.08	3.71	0.95
1923	0.73	0.50	0.25	1.56	5.64	10.49	8.25	7.31	6.55	2.72	0.39	0.18
1924	4.25	2.99	2.54	0.61	0.99	6.57	12.53	4.32	6.96	19.70	0.14	0.01
1925	2.62	1.55	1.82	0.81	8.49	5.52	6.89	7.14	3.24	2.43	2.41	7.04
1926	4.15	0.83	2.14	3.41	2.78	5.31	6.56	14.81	11.79	3.07	1.73	0.15
1927	0.30	0.76	1.42	0.80	1.23	8.04	8.78	3.14	5.59	1.78	0.30	0.71
1928	0.23	2.05	0.51	1.44	2.61	9.25	12.26	13.95	11.78	3.22	0.71	0.30
1929	1.09	0.08	1.03	0.88	7.82	8.30	6.68	5.56	15.44	3.42	0.30	1.31
1930	1.09	2.88	5.08	5.89	6.80	14.61	4.65	5.97	13.73	1.88	0.13	2.45
1931	3.53	3.76	6.64	2.92	2.58	3.96	6.33	7.27	6.44	0.86	0.09	1.83
1932	0.70	0.53	1.93	1.06	7.03	3.59	7.91	17.64	6.08	5.37	0.71	0.30
1933	0.25	2.60	3.93	6.06	6.86	5.02	9.20	4.51	4.63	2.08	1.09	0.13
1934	0.76	5.93	0.75	0.92	5.78	11.56	6.09	3.55	8.30	1.59	0.66	0.31
1935	0.24	1.81	0.01	3.50	2.36	6.42	9.30	9.38	14.49	0.30	0.83	1.58
1936	3.33	5.50	1.69	1.14	6.11	20.25	8.54	7.50	3.56	5.39	2.78	1.34
1937	0.52	3.68	3.74	1.38	0.94	10.75	5.13	7.00	3.04	5.88	1.44	0.72
1938	2.20	0.34	0.70	0.33	2.91	8.24	12.71	5.28	5.12	3.57	0.39	0.21
1939	0.45	0.87	0.04	8.42	3.01	16.43	7.69	6.97	12.83	5.81	1.80	1.01
1940	3.79	4.00	4.41	1.73	0.73	10.52	3.50	8.69	13.02	0.61	0.13	5.42
1941	3.02	3.82	6.88	7.66	1.16	7.12	15.28	7.46	6.09	0.96	2.48	0.99
1942	1.60	3.35	2.31	4.54	3.38	11.15	10.66	9.18	5.37	0.50	0.08	1.80
1943	0.39	0.68	1.13	3.19	3.93	14.05	9.19	7.22	6.62	3.38	1.74	0.30
1944	1.01	0.04	2.26	2.11	3.13	3.02	2.99	6.74	5.60	4.91	0.03	0.36
1945	2.32	0.49	0.05	1.45	0.78	8.89	10.45	11.74	7.47	4.47	0.58	1.53
1946	0.57	2.21	0.21	0.01	9.36	8.37	5.65	5.41	7.44	1.72	6.88	1.41
1947	1.09	2.52	7.48	3.44	4.28	15.68	10.28	9.22	12.64	3.95	2.61	2.32
1948	3.89	0.03	0.99	2.21	2.06	8.63	11.21	4.08	13.06	3.45	0.39	0.55
1949	0.01	0.04	0.15	3.26	3.91	8.39	13.75	8.55	13.27	5.45	1.23	1.00

1950	0.01	0.08	0.49	0.08	4.14	4.84	6.83	5.93	8.32	3.26	0.02	2.20
1951	0.38	1.96	1.13	2.71	2.14	9.19	11.44	10.30	3.48	11.91	1.14	0.14
1952	0.92	5.26	1.99	0.89	1.28	6.33	5.83	4.55	10.14	8.27	0.78	0.49
1953	1.93	1.70	2.96	3.64	0.71	7.83	11.35	7.96	12.33	6.30	0.96	1.45
1954	0.59	2.44	2.54	4.04	4.98	7.36	8.66	8.80	9.31	1.83	1.74	1.37
1955	2.04	0.69	0.82	1.55	4.13	8.21	13.01	6.34	10.79	1.78	0.86	1.34
1956	1.36	0.82	0.05	3.20	6.21	2.95	4.15	5.58	5.83	4.11	1.13	0.69
1957	0.66	4.17	5.56	2.60	5.17	5.84	9.21	9.86	12.39	3.28	0.98	2.82
1958	6.73	1.49	7.67	1.85	6.58	8.50	12.29	7.10	8.18	3.93	0.79	3.63
1959	1.53	1.53	4.68	1.54	7.12	14.42	8.12	9.54	7.10	11.30	1.85	1.17
1960	0.30	2.31	1.59	3.39	2.94	7.04	15.17	7.51	14.74	4.47	1.95	0.78
1961	3.77	1.49	2.01	0.83	4.88	8.06	8.50	9.47	3.28	3.12	0.73	0.48
1962	0.87	0.45	2.66	1.15	2.23	12.93	6.40	12.20	15.25	3.23	2.70	0.45
1963	0.94	3.94	0.52	0.45	6.84	7.51	3.85	5.77	8.69	0.98	2.65	2.83
1964	2.96	2.73	2.33	1.97	1.24	6.88	5.88	8.35	8.34	2.45	0.77	1.17
1965	0.85	2.95	2.12	1.83	2.72	8.29	10.83	9.66	4.87	5.52	0.71	0.96
1966	3.42	2.20	0.43	3.45	2.43	13.19	7.51	9.76	6.22	2.71	0.29	0.53
1967	2.82	3.32	0.98	0.01	1.39	10.30	7.47	11.44	8.66	5.21	0.69	3.04
1968	0.25	2.86	1.07	0.30	7.38	15.82	13.17	8.15	8.48	5.75	2.90	0.46
1969	2.29	2.14	4.11	1.12	6.00	10.95	8.64	9.53	10.03	10.07	1.59	2.86
1970	3.39	3.25	16.07	0.06	5.74	8.81	6.26	5.01	8.66	2.22	0.31	0.17
1971	0.77	1.06	0.25	0.42	2.78	6.46	7.63	8.26	12.15	5.83	0.62	0.49
1972	2.51	3.24	4.56	1.34	5.50	12.12	5.65	11.49	3.84	1.57	4.71	1.28
1973	2.53	2.30	3.17	1.10	0.98	6.99	9.92	12.81	7.47	1.30	0.46	1.86
1974	0.16	0.79	0.18	0.49	5.17	15.42	10.43	8.22	6.10	0.22	2.25	1.15
1975	0.17	0.39	1.02	1.38	5.86	8.86	9.72	5.99	9.55	3.28	0.47	0.37
1976	0.49	1.45	0.85	1.88	8.19	10.55	6.60	6.74	8.05	2.15	1.68	1.71
1977	4.19	0.94	0.13	0.40	5.00	10.76	8.94	8.30	8.56	0.33	2.05	2.62
1978	2.44	2.84	4.19	2.60	3.79	7.22	9.50	9.31	5.03	1.84	0.38	4.13
1979	5.63	1.31	1.11	3.76	5.85	4.93	5.48	11.06	13.58	2.26	1.70	4.87
1980	3.72	1.31	2.78	2.79	5.13	2.67	7.38	10.05	7.86	1.31	3.26	0.61
1981	0.72	3.17	1.39	0.39	3.01	9.37	7.63	16.23	5.21	0.51	0.95	0.45
1982	0.69	2.43	3.27	5.62	5.43	15.47	8.56	8.25	8.02	4.28	1.43	1.57
1983	4.60	9.98	6.91	2.16	0.66	12.44	7.37	8.03	8.88	5.09	3.77	3.25
1984	0.40	3.40	5.01	1.03	5.36	7.49	10.18	6.49	8.80	0.85	1.42	0.25
1985	0.74	0.61	1.58	2.84	1.69	6.82	13.69	6.97	9.64	5.65	2.60	0.80
1986	1.53	2.01	3.43	0.63	3.47	12.20	4.95	9.23	5.06	3.69	1.18	3.88
1987	2.98	3.10	7.41	0.54	6.86	8.28	9.66	7.60	4.66	5.62	7.62	0.23
1988	1.63	1.45	2.93	0.84	2.00	5.08	8.07	9.64	4.27	0.66	2.32	0.36
1989	1.30	0.24	2.19	4.32	2.76	10.02	10.40	8.22	7.46	3.13	0.55	2.32
1990	0.54	2.97	1.14	2.12	6.58	7.46	7.75	5.52	6.51	4.40	0.69	0.09
1991	8.63	1.51	1.92	3.65	8.89	9.15	14.39	7.48	5.65	5.90	1.10	0.42
1992	1.55	3.97	3.15	3.04	0.71	18.01	8.01	8.88	7.21	1.04	0.80	0.33
1993	7.22	3.35	3.99	2.57	2.37	6.83	7.51	8.42	7.69	6.40	0.82	1.36
1994	3.44	2.97	1.93	4.42	2.09	8.12	10.55	8.22	11.11	3.14	3.22	4.52
1995	4.30	2.34	1.54	4.12	4.41	13.13	11.81	14.14	8.92	16.64	0.39	1.16

Table F_{10}. Historical Monthly Weighted Average Rainfall for the Upper Kissimmee Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1901	0.92	2.26	3.51	3.23	2.96	8.78	2.84	9.91	12.95	1.18	0.67	1.35
1902	0.19	6.07	1.88	1.73	0.37	5.85	5.36	7.27	6.35	3.07	1.15	0.96
1903	4.76	5.04	5.84	0.25	6.68	10.12	8.07	4.31	12.06	1.02	3.56	1.51
1904	4.16	5.16	0.8	2.25	0.51	8.19	8.56	4.53	4.66	6.75	3.15	0.8
1905	0.7	0.91	3.88	1.82	7.15	4.46	13.45	13.9	5.04	3.19	0.01	9.43
1906	6.43	1.49	2.74	1.48	6.77	10.21	6.65	2.59	3.26	2	0.16	0.04
1907	0.1	0.05	0.01	1.66	3.89	6.91	12.51	4.06	5.79	1.45	0.4	3.81
1908	3.81	1.46	0.26	6.13	3.08	4.32	4.74	9.4	8.48	2.18	2.36	0.26
1909												
1910												
1911												
1912												
1913												
1914	5.14	3.75	1	1.38	4.5	5.53	4.19	4.98	5.1	1.1	0.6	3.6
1915	4.7	5.45	1.8	1.99	8.62	3.75	8.05	6.4	2.59	8.45	2.37	1.9
1916	0.63	0.39	0.49	1.69	5.22	9.02	7.63	4.67	6.08	2.56	4.08	5.21
1917	0.63	1.8	1.32	0.97	3.21	2.65	6.34	7.42	7.56	5.48	0.09	0.8
1918	4.14	0.6	3.93	7.06	1.75	2.53	9.54	7.33	6.39	4.95	5.11	1.49
1919	2.9	5.25	4.2	1.47	8.55	7.64	6.42	6.53	4.49	0.58	3	4.15
1920	1.17	4.35	0.27	6.69	3.97	4.23	7.54	6.9	10.75	0.01	3.22	1.98
1921												
1922	0.75	1.27	0.55	0.2	7.98	4.99	5.65	8.88	4.57	5.14	1.08	2.36
1923	1.36	0.59	1.1	0.89	10.52	11.21	11.81	7.06	3.79	1.75	0.21	1.1
1924	2.6	4.46	7.2	3.25	4	9.06	8.47	4.82	8.65	8	0.2	0.54
1925	4.2	1.62	1.25	0.5	3.45	4.53	6.54	8.58	2.99	1.14	5.99	4.17
1926	5.18	1.43	4.88	5.91	0.8	12.11	11.79	6.92	3.47	1.02	3.7	0.36
1927	0.1	2.59	3.25	0.6	1.2	3	7.75	7.33	2.48	2.68	1.01	1.11
1928												
1929												
1930	1.05	3.13	12.26	3.52	5.02	10.95	2.92	4.72	5.55	2.13	1.76	4.2
1931	2.72	1.04	4.51	4.47	2.42	2.52	6.27	6.78	3.41	1.5	0.26	3.35
1932	1.35	0.26	2.98	0.34	8.56	8.55	4.95	9.14	2.4	0.8	7.57	0.03
1933	1.62	3.62	3.54	3.99	4.74	8.07	12.43	6.72	14.06	2.78	1.96	0.41
1934	1.31	3.4	4.87	5.78	8.59	15.77	7.3	3.85	4.18	2.72	0.41	0.64
1935	1.4	2.57	1.42	2.87	2.96	4.04	7.69	4.2	10.05	1.16	0.78	3.32
1936	2.31	6.77	4.17	1.44	6.67	7.51	4.23	4.87	2.93	3.44	1.28	1.11
1937	0.51	4.84	4.39	3.47	2.18	4.14	8.22	11.17	3.49	7.85	3.73	0.77
1938	0.7	1.09	2.05	0.3	6.17	3.89	8.63	3.46	2.38	4.22	0.78	0.11
1939	1.01	0.4	1.66	5.84	3.39	13.86	10.11	11.49	4.67	1.19	0.48	0.9
1940	2.26	3.32	4.69	2.19	1.17	4.84	11.53	8.66	5.33	0.65	0.11	4.27
1941	4.88	3.83	3.78	5.24	2.59	11.37	13.96	3.74	4.45	2.93	3.47	2.65
1942	2.38	2.65	7.24	2.57	1.39	14.33	2.34	5.57	4.46	0.36	0.12	2.35
1943	1.54	0.52	5.06	2.3	4.72	4.48	10.31	7.81	5.36	2.02	0.8	0.79
1944	1.27	0.2	6.49	2.53	1.17	7.18	8.9	6.29	5.55	7.51	0.35	0.16
1945	3.45	0.19	0.43	2.2	1.01	17.01	7.6	4.24	10.08	3.01	0.89	2.38
1946	1.69	3.11	1.6	0.59	5.99	5.33	9.95	7.85	7.38	2.88	1.66	1.15
1947	1.22	4.65	4.7	6.13	5.47	9.22	8.1	4.49	11.45	2.97	3.26	1.06
1948	6.6	0.65	3.83	1.45	2.45	3.84	7.24	9.25	11.92	2.57	0.88	1.79

1949	0.32	0.95	1.73	3.06	0.83	10.28	7.5	13.37	7.84	1.77	1.07	6.38
1950	0.07	0.34	4.17	4.76	1.46	4.19	4.22	5.57	8.28	8.69	0.14	4.21
1951	0.47	2.46	1.08	4.33	2.97	6.24	10.12	3.87	11.24	3.26	6.14	1.44
1952	0.58	4.97	4.28	1.9	4.82	2.96	6.33	5.78	5.33	4.23	1.46	1.08
1953	1.93	2.89	4.85	7.23	1.77	8.85	9.88	12.77	11.84	4.48	4.94	3.96
1954	1.15	1.61	1.94	3.5	6.25	8.86	8.67	4.65	5.49	4.02	3.48	0.7
1955	1.61	0.83	1.41	2.29	2.91	8.41	7.88	3.87	4.5	2.67	1.99	1.8
1956	2.08	0.79	0.39	2.88	3.78	4.19	4.13	7.13	7.16	12.55	0.37	0.21
1957	0.66	4.72	2.1	4.36	7.86	8.15	7.58	9.68	7.72	4.11	3.08	2.82
1958	6.51	1.41	7.51	3.71	10.31	6.49	3.38	6.98	3.7	6.01	1.01	6.09
1959	3.17	2.5	5.26	1.78	5.36	6.32	8.93	17.14	10.02	8.59	8.35	0.51
1960	0.89	4.18	8.66	5.1	3.49	9.77	7	7.15	21.16	7.43	1.31	1.19
1961	2.52	2.27	2.45	1.6	3.18	3.14	3.69	5.87	4.19	2.86	0.65	0.58
1962	0.94	1.38	3.08	1.66	2.76	8.2	7.03	7.64	7	1.28	2.81	1
1963	2.59	7.07	2.16	1	6.79	6.83	4.42	5.39	4.96	1.4	8.72	2.57
1964	4.79	3.75	3.47	1.86	2.74	5.82	7.77	7.88	6.72	3.06	1.08	1.35
1965	1.55	4.98	2.05	1.06	0.6	9.11	9.56	6.23	7.37	5.99	1.15	1.99
1966	5.14	6.31	1.41	1.44	5.56	9.66	5.73	7.3	7.43	1.96	0.49	1.17
1967	1.64	4.02	0.85	0.06	0.79	9.42	10.17	9.15	5.02	1.04	0.23	2.66
1968	0.39	2.24	1.07	0.39	4.96	14.85	5.19	4.18	4.44	3.1	2.67	0.24
1969	3.49	1.72	5.95	1.94	2.58	5.84	7.23	8.76	7.43	6.89	2.27	4.86
1970	2.91	3.64	5.82	1.08	3.89	4.6	7.57	3.75	3.31	2.01	0.91	1.29
1971	0.44	4.82	2.36	0.99	4.3	6.99	7.77	5.28	3.41	7.61	1.76	1.74
1972	1.53	4.48	2.46	1.41	3.8	8.7	6.86	6.79	0.45	1.53	3	2.06
1973	4.34	2.72	3.07	1.92	4.41	4.27	6.55	6.27	8.51	2	1.02	2.21
1974	0.38	1.07	1.4	0.98	3.19	12.59	9.03	5.95	9.03	0.38	0.28	1.81
1975	0.91	1.99	1.04	2.26	9.02	6.31	8.34	6.08	7.98	4.3	0.9	0.5
1976	0.3	0.68	1.91	1.98	8.52	9.52	6.04	7.9	7.24	1.16	1.97	2.67
1977	1.37	2.95	1.21	0.17	1.39	6.49	9.35	7.18	6.03	1.99	3.74	3.76
1978	2.53	4.14	2.12	0.68	3.7	9.06	10.4	5.79	2.73	1.49	0.43	3.54
1979	6.04	1.34	2.6	2.4	7.28	4.18	4.49	5.34	13.05	0.79	2.62	1.33
1980	3.72	2.29	1.97	2.13	6.62	2.42	3.9	5.79	2.98	1.1	3.83	1.29
1981	0.38	3.47	1.38	0.08	3.26	5.89	4.72	7.36	5.04	1.8	1.49	1.98
1982	1.56	1.16	5.65	4.77	4.45	10.89	8.89	5.49	7.14	2.38	0.9	1.09
1983	1.86	7.18	4.83	2.35	1.44	8.69	7.91	5.13	5.57	5.27	2.39	5.92
1984	1.45	3.4	1.46	3.93	4.54	4.91	8.49	3.14	6.7	0.97	2.63	0.27
1985	0.57	0.72	3.35	1.33	2.63	5.86	8.24	5.74	6.25	2.12	1.52	2.2
1986	3.68	2.2	3.05	0.38	0.96	8.17	7.49	8.37	3.75	2.41	0.92	3.66
1987	2.25	1.65	9.9	0.43	2	5.76	6.39	5.67	5.71	5.7	8.45	0.33
1988	2.58	1.87	7.29	0.77	2.84	2.89	7.19	10.06	5.41	0.95	6.4	1.03
1989	4.19	0.06	2.63	2.57	3.57	7.64	6.13	6.37	5.5	1.58	2.55	4.95
1990	0.62	4.56	1.34	1.78	1.59	4.79	6.45	6.04	2.1	4.47	1.67	1.26
1991	2.13	0.6	5.1	5.02	6.5	4.14	8.3	5.76	4.41	3.01	0.22	0.38
1992	1.04	2.91	1.24	6.54	1.81	11.86	3.4	10.92	5.57	3.79	3.82	0.51
1993	6.62	1.65	4.35	3.41	2.16	5.19	5.63	3.41	5.91	2.73	1.27	0.9
1994	4.22	3.18	1.82	5.91	4.36	10.63	5.34	7.42	9.18	3.68	5.81	3.56
1995	1.9	1.66	1.74	2.39	2.71	7	9.49	11.81	5.78	5.2	1.84	0.44

Table F_{11}. Historical Monthly Weighted Average Rainfall for the WCA 1 & 2 Area

1957	2.75	5.49	4.28	7.76	5.78	8.95	12.51	12.81	8.68	14.07	0.72	14.78
1958	8.49	0.39	5.56	1.62	7.2	3.56	8.43	4.4	3.51	4.34	2.32	3.89
1959	1.49	0.87	3.97	6.71	5.02	18.9	7.6	8.02	8.6	6.43	4.35	1.27
1960	0.19	2.71	1.73	4.61	5.37	6.37	8.42	5.09	18.32	7.25	1.76	0.37
1961	2.52	0.28	1.67	0.89	6.37	4.25	2	8.35	1.19	4.72	1.98	0.19
1962	0.88	0.4	2.78	1.42	3.64	10.95	5.52	5.98	9.08	1.59	0.79	0.81
1963	1.18	3.7	0.59	0.57	9.32	4.69	2.73	5.37	8.52	2.92	2.01	4.25
1964	1.12	2.79	1.8	2.9	3.46	7.42	6.71	10.07	4.37	10.33	1.95	2.04
1965	0.24	2.91	0.93	0.47	0.38	7.88	7.57	3.71	5.7	12.84	0.59	1.15
1966	3.67	4.76	1.04	1.85	3.15	19.51	6.33	7.67	7.83	8.58	0.63	0.43
1967	0.81	3.38	0.66	0.02	1.68	14.38	4.9	4.16	8.49	7.4	0.98	1.71
1968	0.61	2.9	1.39	0.55	14.6	12.78	6.38	4.49	4.56	6.45	1.34	0.02
1969	1.47	1.42	3.9	3.72	4.78	11.45	4.48	6.69	7.84	7.32	8.25	0.59
1970	2.17	2.2	10.7	0.33	5.14	6.99	5.72	3.2	5.1	5.43	0.16	0.14
1971	1.41	0.87	0.35	1.08	4.88	9.25	4.99	4.78	4.81	5.03	2.95	2.28
1972	1.56	1.82	4.47	5.56	7.65	9.55	6.39	5.46	3.14	3.2	3.75	1.55
1973	1.38	1.15	2.27	0.82	2.9	10.27	9.75	7.8	8.82	2.89	2.38	1.59
1974	5.03	0.05	1.67	0.95	4.14	7.16	6.85	5.5	5.56	3.46	3.66	1.81
1975	0.45	0.54	0.76	0.51	9.49	7.93	9.64	4.64	9	2.99	1.15	0.79
1976	1.07	7.62	1.27	0.99	11.93	5.91	5.11	10.25	7.2	1.45	1.59	2.71
1977	2.47	0.66	0.14	1.19	6.71	5.39	5.21	5.46	10.05	0.33	3.1	3.85
1978	3.07	2.21	2.54	1.04	4.5	10.26	6.59	4.29	4.59	3.79	6.59	2.02
1979	2.34	0.4	1.15	6.39	3.14	2.45	2.47	4.91	10.37	4.25	3.25	2.73
1980	3.85	3.56	2.36	3.33	5.54	5.52	8.04	2.23	5.87	2.49	5.22	0.81
1981	0.62	3.42	0.98	0.19	6	5.45	4.66	15.8	5.18	2.65	2.97	0.69
1982	0.65	3.64	5.49	2.74	6.93	13.72	4.4	2.78	6.43	4.23	6.24	1.38
1983	5.36	8.89	4.35	1.98	2.97	5.07	3.78	8.24	7.09	5.58	1.57	4.63
1984	0.11	1.26	3.23	3.48	9.39	4.08	3.6	4.11	6.72	1.07	2.18	0.08
1985	0.23	0.01	0.86	3.54	2.94	4.32	9.42	6.11	8.24	6.08	1.96	1.99
1986	3.72	0.74	7.45	0.31	3.74	9.86	4.78	4.27	2.82	3.78	4.02	1.56
1987	1.06	0.82	3.58	0.33	3.1	3.79	3.82	3.48	4.71	5.39	8.65	1.23
1988	2.35	1.56	1	2.04	3.79	4.54	8.58	6.18	0.99	0.12	0.89	0.38
1989	0.62	1.14	1.02	3.76	2.76	5.16	6.16	6.59	4.52	2.8	0.75	1.33
1990	1.16	1.89	2.12	5.58	4.61	5.61	6.03	8.24	3.36	3.16	0.37	1.27
1991	7.78	3.32	0.72	6.28	5.94	10.96	6.38	3.81	3.34	3.97	3.4	0.49
1992	1.32	2.44	1.61	3.17	0.98	16.36	2.28	8.58	6.51	2.85	5.63	1.56
1993	6.08	1.24	3.61	2.46	8.85	2.92	7.01	5.07	3.71	6.58	0.92	0.92
1994	3.67	4.38	2.07	4.06	2.89	9.23	7.6	8.49	10.78	5.65	11.53	9.65
1995	2.85	1.33	3.1	1.79	1.95	6.39	7.29	11.79	5.59	13.01	1.01	0.88

Table F_{12}. Historical Monthly Weighted Average Rainfall for the West AG Area

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1957	2.35	4.75	5.87	3.20	7.51	12.40	6.75	7.33	8.66	3.32	0.20	8.50
1958	7.10	1.13	11.07	2.52	3.78	6.46	9.98	4.84	4.98	2.30	0.72	4.95
1959												
1960	0.22	2.49	1.03	4.58	3.52	10.76	12.95	6.04	12.21	2.02	1.82	0.69
1961												
1962	1.43	1.47	2.68	1.12	2.76	10.06	3.79	6.71	10.59	4.47	1.48	0.26

1963												
1964	2.35	2.85	2.01	2.68	3.33	5.00	6.75	7.53	4.76	3.70	0.82	1.94
1965	0.61	3.50	4.80	1.15	4.04	12.58	10.99	8.52	6.25	6.18	0.77	1.51
1966	4.81	2.50	0.59	2.94	3.88	16.55	10.71	9.12	3.94	4.38	0.14	0.32
1967	1.48	4.68	0.75	0.05	2.21	15.60	8.80	2.32	10.71	3.20	0.19	2.07
1968	0.61	3.13	1.49	0.92	8.90	12.16	9.58	4.10	6.46	4.11	2.36	0.17
1969												
1970												
1971												
1972												
1973												
1974												
1975	0.24	1.12	1.14	2.80	6.40	9.41	8.80	3.48	11.17	4.95	0.52	0.50
1976												
1977	3.24	1.07	0.39	0.16	5.07	5.55	7.90	11.58	10.68	1.32	3.87	3.25
1978	2.35	1.18	2.74	1.44	5.32	7.77	9.64	9.05	5.34	5.14	1.83	4.85
1979	3.22	0.61	1.44	0.78	6.70	2.64	4.17	10.12	13.76	1.31	5.37	2.15
1980	5.92	2.21	2.79	6.17	2.69	4.25	8.04	3.63	6.70	0.67	3.04	0.84
1981	0.48	1.94	1.82	0.25	1.71	9.38	2.35	9.28	4.67	0.21	5.50	0.13
1982	0.52	2.29	2.85	3.65	11.30	18.87	8.46	5.79	7.00	5.31	1.05	0.44
1983	3.69	8.68	5.98	2.15	0.95	11.42	3.00	8.77	4.98	4.89	1.98	4.09
1984	0.17	4.31	3.99	2.60	6.26	6.33	11.52	5.68	7.83	1.12	3.76	0.01
1985	0.68	0.60	1.48	5.85	1.99	10.78	8.50	3.53	6.95	2.10	1.00	2.10
1986	3.30	0.72	7.06	0.30	3.02	16.40	6.51	14.58	3.40	8.00	0.80	2.60
1987												
1988												
1989	0.95	0.01	4.58	2.85	5.20	7.45	3.70	8.13	7.40	1.39	0.40	1.90
1990	1.00	1.80	0.40	2.45	4.03	5.61	6.95	12.10	1.70	3.30	0.40	0.05
1991	6.90	1.02	4.90	3.60	8.00	10.00	11.40	5.10	3.70	3.00	2.90	0.05
1992	1.55	3.57	2.80	2.35	1.60	13.33	6.50	14.17	5.40	1.00	2.26	1.00
1993	4.60	1.20	3.25	2.60	3.91	3.30	13.05	6.20	8.28	8.80	2.40	1.20
1994	2.00	4.56	1.90	5.50	2.30	5.30	9.20	7.30	9.70	3.70	4.00	6.65
1995	5.10	1.10	2.20	3.70	1.30	9.40	10.10	8.70	8.60	13.57	0.01	0.60