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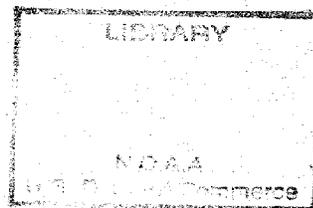


JAMAICA  
WEST INDIES

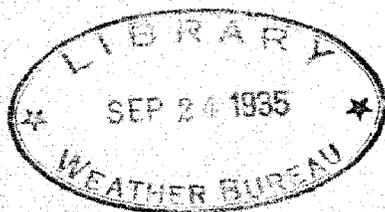
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987  
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1925/1934

PARISH RAINFALL

FOR DECADE  
1925 to 1934



With Map.



# **National Oceanic and Atmospheric Administration**

## **Climate Database Modernization Program**

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### THE PARISHES RAINFALL, YEARS 1925-1934.

Up to the year 1924 the Jamaica Weather Reports, when tabulating the data concerning the Rainfall of the Island, confined, for meteorological purposes, the boundaries relative to the partiality of precipitation, in order to establish well-selected Divisions. There are four such divisions, embracing the North-Eastern, the Northern, the West-Central and the Southern where the climatic conditions varied from each other. The North-Eastern Division nearly always maintained an excess of annual rainfall. Then, on the other hand, the Northern and Southern Divisions which cover an extensive coastline, were for the most part situated in a region where the precipitation was consistently much below the North-Eastern. And, finally, the West-Central Division, nearly altogether confined to inland area, recorded an intermediate amount of precipitation.

Owing to the rapid advance of cultivated districts over the island it was deemed expedient and essential in the year 1925 that Tables referring to the Parish Rainfall should be also, separately, prepared so as to permit studies of the incidence of precipitation in these more limited parish areas, to be better pursued. The advantage gained will be realized when it is considered that rainfall particulars of each of the fourteen parishes ought to furnish more concrete data than those derived from the tables prepared for the four extensive Divisions of the Island.

In the year 1925 this special, or auxiliary, Table of the Parish Rainfall, commenced to appear in the monthly Weather Reports, and has so continued up to the present date.

As the first decade, 1925-1934, is now covered, a Table II comprising all of the fourteen parishes, with their respective mean rainfalls, for each year and for each month, has been compiled.

Although this decade embraces only one-sixth of the period of the 60-year rainfall data, it is found that the annual mean for this decade gives 72.62 inches, as against the 60-year of 73.87 inches; shewing a close agreement, which suggests that this 10-year period should be fairly representative to serve as a reliable guide for statistics concerning the general distribution of the parish averages of rainfall, in addition to those of the four Division Tables, already published. The mean, however, for the decade 1925-1934, under review, as given in the Weather Reports for the four Divisions gives 74.98 ins. as against the parish figure 72.62 ins.

By referring to Table I following, it will be at once apparent there is a wide range of annual rainfall experienced, when comparing the different parishes. Here we have the parish of Portland presenting the greatest, with 136 inches, and the parish of Kingston, the least, with only 30 inches. By arranging these totals in numerical sequence, starting with the greatest total and ending with the least, the following results are obtained:—

TABLE I.

The Parish Mean Annual Rainfall, arranged in consecutive order, from the greatest to the least, with the corresponding areas in square miles, also the number of Rain-gauges in each parish, &c.  
Decade 1925 to 1934.

Parish.	Mean annual Rainfall, Ins.	Range, Ins. in round numbers.	Parish area, in square miles.	Aggregate area, square miles in group.	Number of Gauges in each parish.	Square miles per Rain-gauge.
Portland	136.13	136	338	338	21	16.1
Westmoreland	83.75	80 to 84	320	1,046	14	22.9
St. Mary	83.72		251		17	14.9
Hanover	81.25		177		16	11.1
St. Thomas	79.95		298		14	21.3
Manchester	70.82	60  to 70	337	3,058	18	18.7
St. Andrew	68.47		183		25	7.3
St. Ann	65.76		487		24	20.3
St. Elizabeth	65.74		474		18	26.2
St. Catherine	64.75		498		24	20.7
St. James	64.22		239		19	12.6
Trelawny	61.52		353		14	25.2
Clarendon	59.98		487		19	25.6
Kingston	30.46	30	8	8	3	2.7
Means	72.61	..	..	..	..	18.1
Totals	..	..	4,450	4,450	246	..

By the above it will be gathered that there are eight parishes out of a total of fourteen giving a mean total annual rainfall, during this decade, ranging from about 60 to 70 inches, and these comprise Manchester, St. Andrew, St. Ann, St. Elizabeth, St. Catherine, St. James, Trelawny and Clarendon, followed by four parishes, namely, Westmoreland, St. Mary, Hanover and St. Thomas, which claim a mean total annual rainfall ranging from about 80 to 84 inches. The eight parishes named above cover an aggregate area of 3,058 square miles, representing somewhat less than three-quarters of the entire area of the island in square miles, followed by the four parishes already mentioned, with 1,046 square miles, or less than one-quarter of the Island area of 4,450 square miles. The parish of Portland, situated to the north-east of Jamaica, stands out conspicuously with 136 inches. This parish is much exposed to the NE and Easterly Trade Winds, and bounded to the south by high mountain ranges, which must induce greater relative precipitation. On the other hand the parish of Kingston, situated to the south-west of Portland, with the Blue Mountain Range intervening, shews merely 30½ ins. annual rainfall mean, equivalent to about one-quarter of the Portland total, the Blue Mountain Range, as it were, appears to seize by condensation most of the vapour-charged air in favour of Portland, leaving a residue of rain of less than ¼ of Portland rainfall for the benefit of Kingston to the south-west, also some small area in St. Thomas to westward along the coast, known as a dry region.

It must be borne in mind that the mean annual rainfalls for the several parishes do not imply a uniform distribution of rain over the entire area of any parish, and should be accepted as shewing merely a general mean; for example, let the parish of Clarendon be selected, which is situated in the mid-southern portion of the Island, there occurs in the lowland plains, such a station as New Yarmouth, where an annual mean rainfall of 40 ins. is recorded, whereas at a station such as Trout Hall, situated on the hills, to the north about 900 feet above the sea, with 73 ins., shewing a difference of 33 ins. The general mean rainfall, however, for the entire parish, for the year, being 59.98 ins. or, say 60 ins. Less rain must be expected at places near to the coast line, on the lowlands, than those located at higher elevations of country. The object therefore, in furnishing Table II is to present data of rainfall in such manner that may aid the studies in a parochial light, instead of the Tables giving the four large Divisions appearing in the 60-year Rainfall for Jamaica, published separately.

It may prove equally interesting by the introduction of a table of figures shewing the annual rainfall, for each parish in each year from 1925 to 1934. This is given in Table III. The greatest divergence of the totals, between a minimum and a maximum, in each individual parish, from a year of drought to that of a year with flood rains, will be readily perceived, by the inspection of the table; for example in the year 1930 Kingston had a mean of only 16.10 ins., and in the year 1933 (a year of great rainfall) there was a total of 78.46 ins., or a range of nearly five times as much. And another instance, may be cited, in the case of Portland, in the year 1925 there was a mean total of only 98.78 ins., whereas in the year 1931 so much as 199.49 ins. was recorded; shewing about double that for 1925.

During this decade, 1925-1934, the parishes with a range of from 40% to 80% between the minimum and maximum are those of St. James, Hanover, Westmoreland and St. Elizabeth; and those with a range of from 100% to 200% are Portland, St. Ann, Trelawny, St. Mary, St. Catherine, St. Thomas, Clarendon and Manchester. And two from 270% to 400% are those of St. Andrew and Kingston.

Reverting to Table I on page 1, the 6th column shews the total number of rain-gauges installed throughout each parish, and knowing the number of square miles in each parish, the mean numbers of square miles per rain-gauge can be derived, which are given in the last column. Omitting the parish of Kingston (being of very small relative area) there will be apparent a very wide range of rain-gauge distribution. St. Andrew with 183 square miles has an average of one gauge per 7.3 square miles, whereas the parish of St. Elizabeth with an area of 474 square miles, has an average of only one gauge to every 26.2 square miles, supplying evidence as to the very uneven distribution of location.

The parishes of St. Thomas, St. Ann, Trelawny, Westmoreland, St. Elizabeth, Clarendon and St. Catherine would appreciate a further accession of rain-gauges, especially in the interior parts of the country. On the whole the mean number of square miles of ground per rain-gauge is estimated for the entire island at about 18, equivalent to an average of about 4½ miles square.

At the end of this Report will be found a skeleton map of the Island, shewing the mean annual rainfall in inches (in round numbers, and disregarding fractions) just below each parish name. In the eastern Section it will be noticeable that most of the heavy rainfalls are experienced in the parish of Portland, St. Thomas and St. Mary, and, then, on the western section are Westmoreland and Hanover, all of these parishes giving a mean annual amount of rainfall ranging from about 80 inches to 136 ins.

It may be mentioned that the unequal distribution, of rain-gauges throughout the Island from which the Monthly Reports are compiled, is unavoidable and must be accepted until improvement can be afforded. Similar conditions, of course, prevail at most countries where a rainfall system is established, because, to a large extent rainfall reports are received from voluntary contributors, private property owners and others, and it is, therefore, apparently the only available course that circumstances will permit.

J. F. BRENNAN,  
Government Meteorologist.

Kingston, March 11th, 1935.

TABLE II.

Table giving the Parish Mean 10-year Rainfall, from the year 1925 to 1934, for the fourteen Parishes, for each month of the Decade.—(In inches.)

Parish.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Kingston	0.55	0.61	0.64	1.08	1.90	2.42	3.02	5.61	3.88	6.83	3.10	0.82	30.46
St. Andrew	2.27	2.51	1.82	4.45	5.73	4.21	4.74	7.25	8.42	12.11	11.56	3.40	68.47
St. Thomas	3.43	2.70	1.93	4.67	5.30	8.64	6.90	8.24	9.59	14.56	9.68	4.31	79.95
Portland	10.76	7.77	6.36	10.45	9.96	8.19	9.21	10.48	18.90	13.58	26.04	14.43	136.13
St. Mary	6.27	4.93	4.22	6.63	7.74	4.85	3.95	6.38	6.40	9.17	14.21	8.97	83.72
St. Ann	4.25	3.45	3.17	5.62	6.90	4.67	3.35	4.87	5.59	7.68	10.07	6.14	65.76
Trelawny	2.40	2.76	3.12	5.18	7.45	5.41	3.86	5.36	6.26	8.74	7.73	3.25	61.52
St. James	1.93	2.20	2.52	5.21	8.79	6.85	4.80	6.11	6.31	9.34	7.31	2.85	64.22
Hanover	2.38	1.93	2.78	6.13	11.00	10.83	7.84	8.67	8.84	11.70	6.60	2.55	81.25
Westmoreland	2.46	2.90	3.34	7.85	10.77	8.58	8.93	9.91	9.62	12.17	5.32	1.90	83.75
St. Elizabeth	1.91	3.31	3.04	6.97	6.86	4.46	4.80	7.00	7.84	12.17	5.68	1.70	65.74
Manchester	2.24	3.09	2.49	5.07	5.91	6.62	5.70	8.23	9.28	14.24	6.11	1.84	70.82
Clarendon	1.60	2.26	1.88	4.48	5.67	5.31	5.07	6.81	7.38	12.72	5.26	1.54	59.98
St. Catherine	2.30	2.57	2.45	4.93	6.31	5.71	5.03	7.46	6.70	10.78	7.58	2.98	64.75
Means	3.20	3.07	2.84	5.62	7.17	6.20	5.51	7.31	7.50	11.13	9.02	4.05	72.62

TABLE III.

Giving the Parish Rainfall Mean Totals, for each year, for each Parish, for the Decade.—In Inches.

Parish.	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	Mean for the year.
Kingston	19.22	22.37	28.90	30.92	20.62	16.10	36.26	25.82	78.46	25.95	30.46
St. Andrew	52.84	56.67	71.60	53.39	38.83	49.95	76.33	58.50	143.20	86.39	68.47
St. Thomas	59.22	54.70	54.48	63.69	73.61	68.86	110.81	81.16	145.43	87.68	79.95
Portland	98.78	106.27	127.78	146.74	114.54	116.05	199.49	137.58	183.94	130.19	136.13
St. Mary	59.89	77.32	81.05	71.63	60.70	69.89	119.09	79.06	123.75	94.84	83.72
St. Ann	49.01	60.56	65.50	54.40	51.49	58.64	85.26	65.07	98.15	69.51	65.76
Trelawny	47.36	59.29	56.23	56.45	46.49	54.90	76.99	58.75	90.53	68.18	61.52
St. James	51.90	61.22	54.70	52.96	53.69	53.48	79.47	72.89	91.94	69.97	64.22
Hanover	80.76	86.02	76.18	75.03	72.71	66.80	86.04	75.36	96.41	97.18	81.25
Westmoreland	87.98	92.42	80.10	67.83	79.96	73.57	77.77	77.24	108.91	91.73	83.75
St. Elizabeth	67.48	64.33	76.05	55.38	53.14	55.61	60.27	60.37	91.42	73.32	65.74
Manchester	55.73	66.41	66.55	43.87	57.94	55.58	79.07	90.10	126.31	66.63	70.82
Clarendon	40.96	51.20	54.52	40.62	50.53	43.85	71.29	69.12	113.30	64.41	59.98
St. Catherine	46.62	55.52	63.88	51.07	49.46	47.77	83.08	62.12	115.07	72.92	64.75

MAP OF JAMAICA giving the boundaries of the fourteen Parishes, with the respective Mean Annual Rainfall to the nearest inch shewn below the name of each Parish.  
 (For the Decade 1925 to 1934.)

