

JAMAICA.

MARCH 3, 1891.

No. 128.

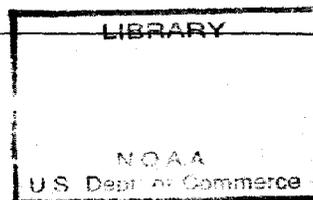
# WEATHER REPORT

FOR THE MONTH OF

QC  
987  
.J25  
W34  
1891

JANUARY, 1891.

Published by Authority.



JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.

# **National Oceanic and Atmospheric Administration**

## **Climate Database Modernization Program**

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March 28, 2002

## METEOROLOGICAL RESULTS FOR JANUARY, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 30.050	in. 29.992	° 68.4	° 83.6	° 68.3	° 68.1	in. 0.582	in. 0.687	84	60
King's House	400	...	...	...	...	...	...	...	...	...	...
Castleton Gardens	580	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation	4,907	...	...	...	...	...	...	...	...	...	...

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	86.6	66.5	20.3	S. E.	53.9	90.4	7th	61.5	27th	28.9	inch. 0.41
King's House	77.7	68.9	8.8	...	...	83.0	31st	66.0	27th	17.0	0.60
Castleton Gardens	76.7	66.5	10.2	...	...	80.0	31st	61.0	5th	19.0	8.70
Cinchona Plantation	69.5	56.3	13.2	...	69.5	70.0	11th	50.0	12th	20.0	2.47

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

## BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.

## THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	JANUARY.	
	1891.	Average.
Infantile diseases not otherwise specified	13	25
Lung diseases,	18	19
Fever	5	5
Dysentery and Diarrhoea	7	7
Various	45	51
Total	88	107

## RAINFALL FOR JANUARY, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1888, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

NORTH-EASTERN DIVISION.

JANUARY.

1891. | Average.

		In.	In.
Morant Point L. H.	St. Thomas	3.25	5.28
Hordley	...	...	5.94
Boston	...	...	...
Cinchona Plantation	St. Andrew	2.47	10.60
New Haven Gap	...	11.11	...
Stony Hill Reformatory	...	3.15	4.82
Castleton Gardens	St. Mary	8.70	9.71
Dover	...	...	...
Quebec	...	...	...
Richmond	...	6.77	...
Port Maria	...	8.65	...
Gayle	...	...	9.50
Bio Hoe	St. Ann	3.33	7.42
Unity Valley	...	3.16	7.43
Moncague	...	3.10	...
Albion	...	4.17	6.15
Averham Park	...	6.99	...
Claremont	...	6.17	...
Drax Hall	...	7.78	7.30
Seville	...	6.99	7.16
Llandevory	...	7.75	5.68
Richmond Estate	...	8.69	5.72
Means		5.40	7.04

NORTHERN DIVISION.

JANUARY.

1891. | Average.

		In.	In.
Home Castle	St. Ann	3.23	...
Richmond Pen	...	1.52	...
Colobis Pen	Trelawny	0.00	...
Mahogany Hall	...	2.82	...
Braco	...	2.27	5.01
Arcadia	...	1.63	...
Harmony Hall	...	2.62	4.32
Lancaster	...	2.81	5.12
Vale Royal	...	2.00	5.39
Hyde	...	2.68	6.05
Georgia	...	...	5.02
Steelfield	...	1.86	5.03
Oxford	...	3.00	...
Cambridge	...	2.77	5.23
Dry Valley	...	2.30	...
Lottery	...	2.02	4.18
Falmouth	...	2.48	...
Holland Pen	...	1.91	...
Golden Grove	...	0.55	4.43
Pembroke	...	...	3.82
Green Park	...	1.82	...
Phoenix	...	2.04	...
Tilston	...	1.95	5.52
Orange Valley	...	2.69	4.79
Kent	...	1.10	4.98
Dundee	...	2.62	5.31
Weston Favel	...	...	...
Gale's Valley	...	7.69	4.47
Greenwood	St. James	0.85	...
Bellfield	...	...	...
Guildsbro'	...	1.60	...
Spring Vale	...	1.15	...
Cinnamon Hall	...	2.28	...
Rose Hall	...	2.52	...
Running Gut	...	1.93	3.78
Leogan	...	2.95	...

NORTHERN DIVISION, contd.

JANUARY.

1891. | Average.

		In.	In.
Ironshore	St. James.	2.53	2.76
Providence	...	...	...
Montego Bay (Market)	...	3.11	...
Catherine Hall	...	3.35	4.43
Catherine Mount	...	2.90	4.86
Fairfield	...	2.17	...
Means		2.59	4.73

WEST CENTRAL DIVISION.

JANUARY.

1891. | Average.

		In.	In.
Linstead	St. Catherine	1.75	2.14
Cave Valley	St. Ann	1.29	2.95
Appleton	St. Elizabeth	3.30	2.08
Windsor Pen	Trelawny	1.13	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	1.45	...
Mount Edgecombe	Westmoreland	1.91	2.45
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	1.10	...
Chester Castle	Hanover	0.79	...
Copse	...	1.10	3.39
Kempshol	St. James	1.93	...
Anchoy	...	2.09	2.90
Wiltshire	...	...	3.75
Egen	...	1.80	...
Round Hill	Hanover	2.60	2.31
Cacoon Castle	...	0.95	4.87
Golden Grove	...	1.43	3.57
Flint River	...	0.91	...
Tryall	...	0.47	2.13
Sweet River	Westmoreland	1.86	...
Windsor (Sav.-la-Mar)	...	...	1.89
Kew	Hanover	...	...
Three Mile River	Westmoreland	2.30	...
George's Plain Estate	...	1.07	...
Fontabelle	...	...	...
Belle Isle	...	2.60	...
King's Valley	...	1.15	...
Orange Cove	Hanover	0.85	3.96
Abingdon	...	0.45	...
Means		1.57	3.03

SOUTHERN DIVISION.

JANUARY.

1891. | Average.

		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	1.70	...
Halberstadt	St. Andrew	...	...
Woodford	...	2.06	...
Hope Plantation	St. Andrew	...	2.90
Hope Reservoirs	...	...	...
Cherry Garden	...	...	...
Constant Spring	...	...	...
Shortwood	...	...	...
Camperdown	St. Andrew.	0.79	...
King's House	...	0.60	1.72
Monaltrie	...	1.34	1.56
Public Works Office	Kingston	0.57	1.78
Plumb Point L. H.	...	0.41	1.16
Spanish Town	St. Catherine	2.92	1.77
Windsor Park	...	...	...
Hog Hole Pen	...	2.81	2.02

SOUTHERN DIVISION, *contd.*

## JANUARY.

		1891.   Average.	
		In.	In.
Headworks, R. C. C.	...	0.74	2.80
Old Harbour	...	5.39	...
Farm Plantation	Manchester	5.23	2.65
Stone's Hope	...	2.15	...
Brokenhurst Pen	...	...	...
Pepper	St. Elizabeth	1.80	1.47
Long Hill	...	1.19	2.00
Potsdam	...	2.22	...
Gilnock Hall	...	...	...
Santa Cruz Poor-house	...	0.00	...
Black River	...	...	1.76
<b>Means</b>		<b>1.76</b>	<b>1.89</b>

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.29 and 0.41 of an inch respectively

COMPARATIVE TABLE OF RAINFALL.  
(Based upon the "Average" Stations only.)

		JANUARY.	
		1891.   Average.	
		In.	In.
North Eastern Division		5.40	7.04
Northern	"	2.59	4.73
West Central Division		1.57	3.03
Southern	"	1.76	1.89
The Island		2.83	4.17

The largest fall viz., 11.11 inches was recorded at New Haven Gap, and no rain fell at Colchis Pen in the Parish of Trelawny.

The Rainfall for each Division of the Island was much below the average.

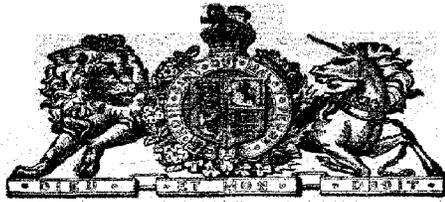
The Record for the Month on the whole was nearly two-thirds the average.

A slight shock of Earthquake was felt in this City at about 6.30 a.m. on the 27th January.

Dr. Manners reports from the Abbey that a shock of Earthquake was experienced at about 5 a.m. on the 7th January, also a slight shock between 7 and 8 a.m. on the 28th January.

Kingston, 25th February, 1891.

J. F. BRENNAN.



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JAMAICA.

APRIL 7, 1891.

No. 129.

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# WEATHER REPORT

FOR THE MONTH OF

FEBRUARY, 1891.

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*Published by Authority.*

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.

## METEOROLOGICAL RESULTS FOR FEBRUARY, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston	60	30.052	29.975	69.8	85.9	62.7	66.1	0.570	0.641	79	55
King's House	400	...	...	68.8	79.4	63.6	66.6	0.588	0.652	83	65
Castleton Gardens	580	...	...	63.4	79.9	61.0	67.7	0.537	0.678	92	67
Cinchona Plantation	4,907	...	...	56.9	57.4	52.3	55.5	0.393	0.441	84	93

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°			inch.
Kingston	86.7	66.9	19.8	S. E.	127.1	90.2	1st	63.6	5th	26.0	0.27
King's House	81.3	70.2	11.1	...	...	84.0	16th	67.0	14th	17.0	...
Castleton Gardens	79.9	63.3	16.6	...	...	84.0	22nd	57.0	7th*	27.0	0.41
Cinchona Plantation	68.4	59.0	9.4	...	...	75.0	17th	51.0	4th	29.0	2.03

\*and 1 other day.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

## BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3.20 p.m.	62	42	50	12.05	Heavy clouds on all sides.	B. S. G.

## THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	FEBRUARY.	
	1891.	Average.
Infantile diseases not otherwise specified	25	27
Lung diseases]	19	14
Fever	4	7
Dysentery and Diarrhoea	12	8
Various	46	52
Total	106	108

## RAINFALL FOR FEBRUARY, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

NORTH-EASTERN DIVISION. FEBRUARY.

		1891.   Average.	
		In.	In.
Morant Point L. H.	St. Thomas	3.06	2.98
Hordley	...	8.50	4.40
Boston	...	...	...
Cinchona Plantation	St. Andrew	...	2.56
New Haven Gap	...	...	...
Stony Hill Reformatory	...	1.04	2.65
Castleton Gardens	St. Mary	...	2.09
Dover	...	...	...
Quebec	...	...	...
Richmond	...	1.85	...
Port Maria	...	6.22	...
Gayle	...	...	6.51
Rio Hoe	St. Ann	0.07	3.69
Unity Valley	...	0.43	2.34
Moneague	...	0.90	...
Albion	...	1.93	3.30
Averham Park	...	1.44	...
Claremont	...	...	...
Drax Hall	...	1.59	4.52
Seville	...	...	4.16
Llandoverly	...	...	3.32
Richmond Estate	...	2.45	3.65
Means		2.39	3.44

NORTHERN DIVISION.

FEBRUARY.

		1891.   Average.	
		In.	In.
Home Castle	St. Ann	0.48	...
Richmond Pen	...	0.80	...
Colchis Pen	Trelawny	0.37	...
Mahogany Hall	...	1.05	1.74
Braço	...	0.53	2.21
Arcadia	...	0.73	...
Harmony Hall	...	...	...
Lancaster	...	1.24	2.32
Vale Royal	...	0.50	2.73
Hyde	...	1.07	2.28
Georgia	...	...	2.53
Steelfield	...	0.59	1.77
Oxford	...	0.80	...
Cambridge	...	0.82	2.69
Dry Valley	...	0.65	...
Lottery	...	1.01	2.02
Falmouth	...	2.22	...
Holland Pen	...	0.57	...
Golden Grove	...	0.90	3.07
Pembroke	...	...	1.42
Green Park	...	...	1.58
Phoenix	...	1.88	...
Tilston	...	1.40	1.40
Orange Valley	...	1.09	2.57
Kent	...	1.02	2.68
Dundee	...	1.45	2.57
Weston Favel	...	...	...
Gale's Valley	...	1.55	1.97
Greenwood	St. James	1.30	...
Bellfield	...	...	...
Guilabro'	...	1.05	...
Spring Vale	...	...	2.04
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	...
Leogan	...	...	...

NORTHERN DIVISION, contd.

FEBRUARY.

		1891.   Average.	
		In.	In.
Ironshore	St. James.	1.64	2.86
Providence	...	...	...
Montego Bay (Market)	...	1.15	...
Catherine Hall	...	2.03	1.92
Catherine Mount	...	1.76	1.63
Fairfield	...	1.62	...
Means		1.16	2.26

WEST CENTRAL DIVISION.

FEBRUARY.

		1891.   Average.	
		In.	In.
Linstead	St. Catherine	0.70	2.54
Oave Valley	St. Ann	0.97	2.66
Appleton	St. Elizabeth	0.49	4.12
Windsor Pen	Trelawny	0.86	...
Maroon Town	St. James	1.56	...
Kepp	St. Elizabeth	2.26	6.56
Mount Edgecombe	Westmoreland	0.40	3.05
Windsor Forest	...	...	...
Woodstock	...	...	...
Straie	...	...	...
Kew Park	...	2.79	...
Chester Castle	Hanover	2.78	...
Copse	...	2.61	1.88
Kempshot	St. James	1.95	...
Anchovy	...	1.94	1.41
Wiltshire	...	...	2.60
Eden	...	1.69	...
Round Hill	Hanover	2.00	1.25
Cocoon Castle	...	2.65	1.64
Golden Grove	...	4.54	...
Fliet River	...	2.91	...
Tryall	...	2.55	1.23
Sweet River	Westmoreland	2.36	...
Windsor (Sav.-la-Mar)	...	1.29	2.59
Kew	Hanover	...	...
Three Mile River	Westmoreland	...	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
Belle Isle	...	3.25	...
King's Valley	...	...	...
Orange Cove	Hanover	1.78	2.49
Abingdon	...	2.55	...
Means		1.65	2.59

SOUTHERN DIVISION.

FEBRUARY.

		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	7.40	...
Halberstadt	St. Andrew	...	...
Woodford	...	2.48	...
Hope Plantation	St. Andrew	...	...
Hope Reservoirs	...	...	1.13
Cherry Garden	...	...	...
Constant Spring	...	...	...
Shortwood	...	...	...
Camperdown	St. Andrew.	8.08	...
King's House	...	...	...
Monaltrie	...	0.18	1.21
Public Works Office	Kingston	...	1.03
Plumb Point L. H.	...	3.11	1.04
Spanish Town	St. Catherine	1.27	2.07
Windsor Park	...	...	...
Hog Hole Pen	...	3.81	2.38

SOUTHERN DIVISION, *contd.*

## FEBRUARY.

		1891.   Average.	
		In.	In.
Headworks, R. C. C.	...	1.71	2.11
Old Harbour	...	1.47	...
Farm Plantation	Manchester	4.65	2.61
Stone's Hope	...	2.25	...
Brokenhurst Pen	...	5.72	...
Pepper	St. Elizabeth	...	1.58
Long Hill	...	...	1.46
Potsdam	...	2.49	...
Gilnock Hall	...	...	...
Santa Cruz Poor-house	...	0.00	...
Black River	...	...	1.85
Means		2.45	1.90

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.02 and 0.03 of an inch respectively

COMPARATIVE TABLE OF RAINFALL.  
(Based upon the "Average" Stations only.)

		FEBRUARY.	
		1891.   Average.	
		In.	In.
North Eastern Division		2.39	3.44
Northern	"	1.16	2.26
West Central Division		1.91	2.59
Southern	"	2.45	1.90
The Island		1.91	2.55

The largest fall viz., 8.50 inches was recorded at Hordley in the Parish of St. Thomas, and no rain fell at Santa Cruz Poor House.

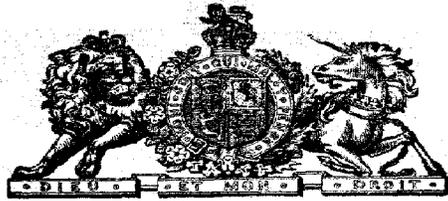
The Rainfall for the month for the whole Island was deficient.

Dr. Manners reports from the Abbey that a slight shock of earthquake was felt at about 2.30 a.m. on the 17th February.

A slight shock of Earthquake was also felt in this City at about 3 a.m. on Monday 16th February.

Kingston, 21st March, 1891.

J. F. BRENNAN.



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JAMAICA.

APRIL 29, 1891.

No. 130.

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# WEATHER REPORT

FOR THE MONTH OF

MARCH, 1891.

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**Published by Authority.**

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.

## METEOROLOGICAL RESULTS FOR MARCH, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 30.024	in. 29.954	° 70.4	° 82.9	° 63.6	° 67.2	in. 0.588	in. 0.666	80	59
King's House	400	...	...	72.6	81.5	63.7	69.9	0.590	0.731	74	68
Castleton Gardens	580	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation	4,907	...	...	...	...	...	...	...	...	...	...

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	85.8	67.4	18.4	S. E.	73.5	91.4	15	63.2	3	28.2	inch. 0.04
King's House	82.2	66.7	15.5	...	...	85.0	26	62.0	6*	23.0	...
Castleton Gardens	...	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation	...	...	...	...	...	...	...	...	...	...	...

\*and 2 other days.

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

## BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3.20 p.m.	62	42	50	12.05	Heavy clouds on all sides.	B. S. G.
March 26th	6.35 a.m.	74	36	47	3.31	Clear on all sides.	M. F. B.

## THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	MARCH.	
	1891.	Average.
Infantile diseases not otherwise specified	15	37
Lung diseases	16	15
Fever	11	5
Dysentery and Diarrhoea	20	12
Various	68	74
<b>Total</b>	<b>130</b>	<b>142</b>

## RAINFALL FOR MARCH, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

NORTH-EASTERN DIVISION.

MARCH.

		1891.   Average.	
		In.	In.
Morant Point L. H.	St. Thomas	0.96	2.14
Hordley	...	...	3.78
Boston	...	...	...
Cinchona Plantation	St. Andrew	...	8.88
New Haven Gap	...	...	...
Stony Hill Reformatory	...	0.00	4.14
Castleton Gardens	St. Mary	...	4.73
Dover	...	...	...
Quebec	...	...	...
Richmond	...	0.25	...
Port Maria	...	1.49	...
Gayle	...	...	5.37
Bio Hoe	St. Ann	0.36	5.46
Unity Valley	...	0.55	4.97
Moneague	...	0.89	...
Albion	...	0.82	4.18
Averham Park	...	0.59	...
Claremont	...	0.24	...
Drax Hall	...	0.85	4.04
Seville	...	...	4.82
Llandoverly	...	...	2.05
Richmond Estate	...	1.09	2.58
Means		0.66	3.93

NORTHERN DIVISION.

MARCH.

		1891.   Average.	
		In.	In.
Home Castle	St. Ann	1.22	...
Richmond Pen	...	0.15	...
Colchis Pen	Trelawny	0.00	...
Mahogany Hall	...	0.17	1.68
Braco	...	0.84	2.10
Arcadia	...	0.45	...
Harmony Hall	...	0.60	1.96
Lancaster	...	0.05	2.56
Vale Royal	...	0.46	2.66
Hyde	...	0.36	4.17
Georgia	...	...	2.42
Steelfield	...	0.08	2.52
Oxford	...	0.20	...
Cambridge	...	0.03	2.57
Dry Valley	...	0.35	...
Lottery	...	0.12	2.30
Falmouth	...	0.80	...
Holland Pen	...	0.18	...
Golden Grove	...	0.00	5.43
Pembroke	...	...	...
Green Park	...	0.28	...
Phoenix	...	...	...
Tilston	...	1.40	4.59
Orange Valley	...	0.15	2.28
Kent	...	0.00	1.93
Dundee	...	0.00	3.22
Weston Favel	...	...	...
Gale's Valley	...	0.00	2.35
Greenwood	St. James	0.20	...
Bellfield	...	...	...
Gullsbro'	...	0.00	...
Spring Vale	...	0.54	...
Cinnamon Hall	...	1.28	...
Rose Hall	...	0.70	...
Running Gut	...	...	...
Leogan	...	...	...

NORTHERN DIVISION, contd.

MARCH.

		1891.   Average.	
		In.	In.
Ironshore	St. James.	0.66	...
Providence	...	...	1.39
Montego Bay (Market)	...	0.93	...
Catherine Hall	...	0.14	2.03
Catherine Mount	...	0.26	1.77
Fairfield	...	0.14	...
Means		0.34	2.90

WEST CENTRAL DIVISION.

MARCH.

		1891.   Average.	
		In.	In.
Linstead	St. Catherine	2.85	1.87
Cave Valley	St. Ann	1.84	4.51
Appleton	St. Elizabeth	1.14	5.10
Windsor Pen	Trelawny	...	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	2.45	2.34
Mount Edgewcombe	Westmoreland	0.33	2.70
Windsor Forest	...	...	...
Woodstock	...	0.62	...
Struie	...	0.00	...
Kew Park	...	0.19	...
Chester Castle	Hanover	0.27	...
Copse	...	0.00	2.74
Kempshot	St. James	...	...
Anchovy	...	0.00	2.14
Wiltshire	...	...	3.26
Eden	...	0.35	...
Round Hill	Hanover	0.10	2.38
Cacoon Castle	...	...	2.76
Golden Grove	...	0.33	3.42
Flint River	...	0.13	...
Tryall	...	0.11	0.99
Sweet River	Westmoreland	0.10	...
Windsor (Sav.-la-Mar)	...	0.49	2.89
Kew	Hanover	...	...
Three Mile River	Westmoreland	2.20	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
Belle Isle	...	0.85	...
King's Valley	...	1.60	...
Orange Cove	Hanover	0.13	2.64
Abingdon	...	...	...
Means		0.81	2.81

SOUTHERN DIVISION.

MARCH.

		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	...	...
Halberstadt	St. Andrew	...	...
Woodford	...	0.37	...
Hope Plantation	St. Andrew	0.00	...
Hope Reservoirs	...	...	...
Cherry Garden	...	...	...
Constant Spring	...	...	...
Shortwood	...	0.03	...
Cimperdown	St. Andrew.	0.05	...
King's House	...	...	1.61
Mhnaltrie	...	0.14	1.60
Public Works Office,	Kingston	0.04	1.47
Plumb Point L. H.	...	0.00	0.84
Spanish Town	St. Catherine	0.23	3.15
Windsor Park	...	...	...
Hog Hole Pen	...	0.50	3.35

SOUTHERN DIVISION, *contd.*

	MARCH.	
	1891.	Average.
	In.	In.
Headworks, R. C. C. St. Catherine	0.25	4.97
Old Harbour	1.10	...
Farm Plantation Manchester	1.54	3.15
Stone's Hope	1.49	...
Brokenhurst Pen	1.83	...
Pepper St. Elizabeth	5.25	4.41
Long Hill	0.85	2.66
Potsdam	2.10	...
Gilnock Hall	...	...
Santa Cruz Poor-house	2.31	...
Black River	...	2.44
Means	0.98	2.79

At the Plumb Point Light House the upper gauge is 68 feet above the lower; no rain was registered by either of these gauges.

COMPARATIVE TABLE OF RAINFALL.  
(Based upon the "Average" Stations only.)

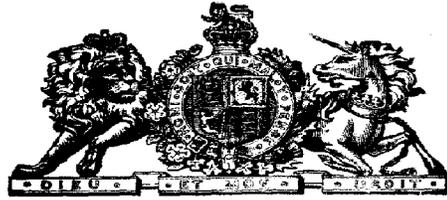
	MARCH.	
	1891.	Average.
	In.	In.
North Eastern Division	0.66	3.93
Northern	0.34	2.90
West Central Division	0.81	2.81
Southern	0.98	2.79
The Island	0.70	3.11

The largest fall viz., 5.25 inches was recorded at Pepper in the Parish of St. Elizabeth, and no rain at the following twelve stations in the Divisions stated: North Eastern Division, Stony Hill Reformatory, Northern Division, Colchis Pen, Golden Grove, Kent, Dundee, Gales Valley, Guilsboro, West Central Division, Straic, Copse, Anchovy, Southern Division Hope, Plantation, Plumb Point Lighthouse.

The Rainfall for the Island was only one fourth of the average, the deficiency being greatest in the Northern Division.

ROBT. JOHNSTONE.

Kingston, 20th April, 1891.



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JAMAICA.

MAY 25, 1891.

No. 131.

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# WEATHER REPORT

FOR THE MONTH OF

APRIL, 1891.

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*Published by Authority.*

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.

METEOROLOGICAL RESULTS FOR APRIL, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 29.995	in. 29.934	° 74.9	° 84.6	° 67.5	° 69.5	in. 0.673	in. 0.721	78	61
King's House	400	...	...	75.0	82.1	68.1	74.1	0.687	0.843	79	78
Castleton Gardens	580	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation	4,907	...	...	58.9	62.6	54.9	59.5	0.431	0.509	86	89

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	86.3	71.9	14.4	S.E.	70.0	89.1	25	68.4	2 and 3	20.7	inch. 1.25
King's House	83.2	69.6	13.6	...	...	86.0	28	68.0	1 and 7	18.0	0.80
Castleton Gardens	...	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation	67.6	57.6	10.0	...	...	71.9	25 26	53.2	21	18.7	5.16

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3 20 p.m.	62	42	50	12.65	Heavy clouds on all sides.	B. S. G.
March 25th	6.35 a.m.	74	36	47	9.31	Clear on all sides.	M. F. B.
April 25th	2.45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.

THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	APRIL.	
	1891.	Average.
Infantile diseases not otherwise specified	...	29
Lung diseases	...	15
Fever	...	3
Dysentery and Diarrhoea	...	9
Various	...	52
Total	...	108

RAINFALL FOR APRIL, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1888, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

NORTH-EASTERN DIVISION.		APRIL.	
		1891.   Average.	
		In.	In.
Morant Point L. H.	St. Thomas	...	3.90
Hordley	...	4.85	3.38
Boston	...	...	...
Cinchona Plantation	St. Andrew	5.16	9.34
New Haven Gap	...	...	...
Stony Hill Reformatory	...	14.60	5.75
Castleton Gardens	St. Mary	...	6.14
Dover	...	...	...
Quebec	...	...	...
Richmond	...	14.04	...
Port Maria	...	7.39	...
Gayle	...	13.49	2.87
Rio Hoe	St. Ann	17.62	3.82
Unity Valley	...	11.37	5.22
Moneague	...	13.31	...
Albion	...	10.75	4.19
Averham Park	...	13.96	...
Claremont	...	14.09	...
Drax Hall	...	9.23	2.43
Seville	...	10.65	...
Llandoverly	...	10.43	...
Richmond Estate	...	11.78	...
Southfield	...	10.10	...
Means		10.87	4.63

NORTHERN DIVISION.		APRIL.	
		1891.   Average.	
		In.	In.
Home Castle	St. Ann	13.30	...
Richmond Pen	...	9.55	...
Colchis Pen	Trelawny	9.12	...
Mahogany Hall	...	11.61	2.43
Braco	...	9.58	2.38
Arcadia	...	7.26	...
Harmony Hall	...	7.85	...
Lancaster	...	8.99	2.14
Vale Royal	...	6.87	2.89
Hyde	...	12.00	2.73
Georgia	...	...	2.19
Steelfield	...	6.13	2.35
Oxford	...	4.27	...
Cambridge	...	6.91	2.11
Dry Valley	...	5.45	...
Lottery	...	6.16	2.05
Falmouth	...	9.56	1.08
Falmouth P. W. Office	...	8.80	...
Holland Pen	...	8.83	...
Golden Grove	...	...	2.13
Pembroke	...	...	2.77
Green Park	...	9.99	...
Phoenix	...	13.25	...
Tilston	...	...	2.39
Orange Valley	...	...	2.20
Kent	...	...	2.65
Dundee	...	...	2.50
Weston Favel	...	...	...
Gale's Valley	...	...	2.06
Greenwood	St. James	...	...
Bellfield	...	...	...
Gullsbro'	...	...	...
Spring Vale	...	11.05	...
Cinnamon Hall	...	6.26	...
Rose Hall	...	5.68	...

NORTHERN DIVISION, contd.		APRIL.	
		1891.   Average.	
		In.	In.
Running Gut	St. James.	5.75	...
Leogan	...	...	...
Ironshore	...	...	2.02
Providence	...	...	...
Montego Bay (Market)	...	10.30	...
Montego Bay P. W. Office	...	8.80	...
Catherine Hall	...	...	2.04
Catherine Mount	...	6.73	2.99
Fairfield	...	6.04	...
Means		8.45	2.31

WEST CENTRAL DIVISION.		APRIL.	
		1891.   Average.	
		In.	In.
Linstead	St. Catherine	6.32	3.67
Cave Valley	St. Ann	7.43	4.56
Appleton	St. Elizabeth	14.01	9.93
Windsor Pen	Trelawny	17.41	...
Maroon Town	St. James	11.92	...
Kepp	St. Elizabeth	7.71	9.65
Peter's Ville	Westmoreland	5.89	...
Mount Edgecombe	...	3.19	5.08
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	13.44	...
Chester Castle	Hanover	9.55	...
Copse	...	1.60	7.13
Keppshot	St. James	10.03	...
Anchovy	...	8.76	3.03
Wiltshire	...	...	3.66
Eden	...	9.83	...
Round Hill	Hanover	...	1.58
Cacoon Castle	...	...	...
Golden Grove	...	8.89	7.93
Flint River	...	4.44	...
Tryall	...	6.66	2.20
Sweet River	Westmoreland	4.42	...
Windsor (Sav.-la-Mar)	...	4.11	5.11
Sav.-la-Mar P. W. Office	...	3.20	...
Kew	Hanover	...	...
Lucea P. W. Office	...	2.82	...
Three Mile River	Westmoreland	...	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
Belle Isle	...	11.20	...
King's Valley	...	...	...
Orange Cove	Hanover	6.10	3.31
Abingdon	...	5.10	...
Means		7.62	5.60

SOUTHERN DIVISION.		APRIL.	
		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	1.05	...
Halberstadt	St. Andrew	...	...
Woodford	...	8.75	...
Hope Plantation	...	...	...
Hope Reservoirs	...	...	...
Cherry Garden	...	8.22	...
Constant Spring	...	...	...
Shortwood	...	5.23	...
Camperdown	...	1.75	...
King's House	...	0.80	3.05

SOUTHERN DIVISION, *contd.*

APRIL.

		1891.   Average.	
		In.	In.
Monaltrie	St. Andrew	1.57	1.48
Public Works Office,	Kingston	1.25	1.19
Plumb Point L. H.	...	1.01	1.13
Spanish Town	St. Catherine	3.13	1.99
Windsor Park	...	...	...
Hog Hole Pen	...	7.35	2.14
Headworks, R. C. C.	...	5.15	2.00
Old Harbour	...	8.33	...
Farm Plantation	Manchester	7.57	2.82
Stone's Hope	...	...	...
Brokenhurst Pen	...	5.60	...
Pepper	St. Elizabeth	6.45	6.45
Long Hill	...	5.36	8.93
Potsdam	...	4.20	...
Gilnock Hall	...	...	...
Santa Cruz Poor-house	...	6.90	...
Black River	...	...	3.10
Means		3.96	3.11

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 0.79 and 1.01 inches.

COMPARATIVE TABLE OF RAINFALL.  
(Based upon the "Average" Stations only.)

		APRIL.	
		1891.   Average.	
		In.	In.
North Eastern Division		10.87	4.63
Northern	"	8.45	2.31
West Central Division		7.62	5.60
Southern	"	3.96	3.11
The Island		7.72	3.91

The Rainfall in the North Eastern Division was twice the average, and in the Northern Division nearly four times the average; in the West Central it was one and a half times and in the Southern Division a little over the average.

The greatest fall, viz. 17.62 inches was recorded at Rio Hoe in St. Ann, being very little more than the fall of 17.41 inches at Windsor Penn, Trelawny, and the smallest fall 0.82 was recorded at King's House.

Mr. P. Williams reports a sharp shock of earthquake at Bethel Town near Chester Castle at 7.15 a.m. on the 27th, which was also felt by Mr. Maxwell Hall at Montego Bay, the time there being noted as 7.10 a.m.

The Thermometer at Cinchona Plantation which is 6 ft. underground registered a temperature of 61° 2

At New Haven Gap the rain recorded amounted to 12.75 inches and the maximum and minimum Thermometers registered 70° 2 and 47° 5 respectively.

ROBT. JOHNSTONE.

Kingston, 19th May, 1891.



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JAMAICA.

JUNE 29, 1891.

No. 132.

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# WEATHER REPORT

FOR THE MONTH OF

MAY, 1891.

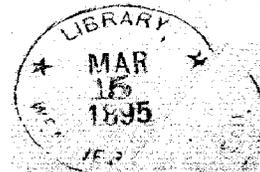
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*Published by Authority.*

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.



## METEOROLOGICAL RESULTS FOR MAY, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston	60	29.980	29.930	77.1	85.2	69.7	71.3	0.726	0.766	76	63
King's House	400	...	...	76.8	82.5	73.4	77.2	0.823	0.934	89	84
Castleton Gardens	580	...	...	...	...	...	...	...	...	...	...
Onchona Plantation	4,907	25.228	25.227	62.6	64.6	57.6	61.5	0.475	0.546	84	90

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°			inch.
Kingston	87.0	73.1	13.9	S.E.	64	91.0	30	69.9	23	21.1	2.08
King's House	83.5	72.3	11.2	...	...	86	26*	68	4&27	18	5.10
Castleton Gardens	...	...	...	...	...	...	...	...	...	...	...
Onchona Plantation	70.8	61.9	8.9	...	...	72	27&30	55	23&24	17	12.67

\* and 2 following days.

Note.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

## BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3 20 p.m.	62	42	50	12.65	Heavy clouds on all sides.	B. S. G.
March 25th	6.35 a.m.	74	36	47	3.31	Clear on all sides.	M. F. B.
April 25th	2.45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.
May 31st	2.30 p.m.	73	41	62	16.22	Fair, clouds and rain at intervals	M. F. B.

## THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of Diseases, compared with the average number for the month for a few years past:—

	MAY.	
	1891.	Average.
Infantile diseases not otherwise specified	31	24
Lung diseases	11	14
Fever	7	4
Dysentery and Diarrhoea	21	5
Various	54	58
Total	124	105

## RAINFALL FOR MAY, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883 as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

## NORTH-EASTERN DIVISION.

MAY.

		1891.   Average.	
		In.	In.
Morant Point L. H.	St. Thomas	6.83	9.26
Hordley	...	11.15	11.85
Boston	...	16.35	...
Cinchona Plantation	St. Andrew	12.67	9.72
New Haven Gap	...	13.13	...
Stony Hill Reformatory	...	11.37	9.39
Castleton Gardens	St. Mary	18.77	12.28
Dover	...	...	...
Quebec	...	...	...
Richmond	...	14.87	...
Port Maria	...	9.19	...
Gayle	...	15.65	8.78
Rio Hoe	St. Ann	14.80	11.56
Unity Valley	...	16.66	11.15
Moneague	...	...	...
Albion	...	19.08	8.62
Averham Park	...	20.92	...
Claremont	...	16.48	...
Drax Hall	...	16.32	7.74
Seville	...	...	6.80
Llandoverry	...	...	6.17
Richmond Estate	...	15.20	...
Southfield	...	16.05	...
Means		14.33	9.84

## NORTHERN DIVISION.

MAY.

		1891.   Average.	
		In.	In.
Home Castle	St. Ann	9.13	...
Richmond Pen	...	11.65	...
Colchis Pen	Trelawny	9.64	...
Mahogany Hall	...	13.06	8.50
Braco	...	7.20	6.74
Arcadia	...	7.17	...
Harmony Hall	...	9.09	6.86
Lancaster	...	9.07	...
Vale Royal	...	10.27	8.00
Hyde	...	14.08	10.86
Georgia	...	...	7.99
Steechfield	...	8.89	7.55
Oxford	...	9.25	...
Cambridge	...	12.11	7.66
Dry Valley	...	13.25	...
Lottery	...	11.43	8.15
Falmouth	...	11.33	6.51
Falmouth P. W. Office	...	...	...
Hotland Pen	...	6.59	...
Golden Grove	...	12.35	8.37
Pembroke	...	...	7.25
Green Park	...	7.22	8.30
Phoenix	...	12.42	...
Tilston	...	9.40	8.94
Orange Valley	...	11.22	6.70
Kent	...	9.00	6.21
Dundee	...	7.07	6.05
Weston Favel	...	13.24	...
Gale's Valley	...	12.49	8.16
Greenwood	St. James	11.97	...
Bellfield	...	...	...
Guilbro'	...	16.05	...
Spring Vale	...	18.37	12.02
Cinnamon Hall	...	15.17	...
Rose Hall	...	14.23	...

## NORTHERN DIVISION, contd.

MAY.

		1891.   Average.	
		In.	In.
Running Gut*	St. James.	16.18	...
Leogan	...	...	...
Ironshore	...	...	4.94
Providence	...	14.10	...
Montego Bay (Market)	...	11.22	...
Montego Bay P. W. Office	...	...	...
Catherine Hall	...	10.65	7.53
Catherine Mount	...	12.23	8.43
Fairfield	...	11.54	...
Means		10.92	7.98

## WEST CENTRAL DIVISION.

MAY.

		1891.   Average.	
		In.	In.
Linstead	St. Catherine	9.61	7.29
Cave Valley	St. Ann	15.45	11.93
Appleton	St. Elizabeth	11.84	...
Windsor Pen	Trelawny	24.56	...
Maroon Town	St. James	25.58	...
Kepp	St. Elizabeth	14.08	14.89
Peter's Ville	Westmoreland	12.36	...
Mount Edgecombe	...	5.94	5.48
Windsor Forest	...	...	...
Woodstock	...	...	...
Struis	...	...	...
Kew Park	...	...	...
Chester Castle	Hanover	17.87	...
Copse	...	14.27	11.91
Kempshot	St. James	21.73	...
Anchovy	...	12.04	10.84
Wiltshire	...	...	1.16
Eden	...	11.55	...
Road Hill	Hanover	11.85	6.87
Cacoon Castle	...	13.24	13.42
Golden Grove	...	...	15.98
Flint River	...	5.94	...
Tryall	...	8.64	5.46
Sweet River	Westmoreland	12.51	...
Windsor (Say-la-Mar)	...	...	11.06
Say-la-Mar P. W. Office	...	...	...
Kew	Hanover	...	...
Lucea P. W. Office	...	6.92	...
Three Mile River	Westmoreland	16.00	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
Belle Isle	...	12.20	...
King's Valley	...	14.43	...
Orange Cove	Hanover	9.16	8.49
Abingdon	...	10.43	...
Means		11.41	9.86

## SOUTHERN DIVISION.

MAY.

		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	5.00	...
Halberstadt	St. Andrew	...	...
Woodford	...	13.85	...
Hope Plantation	...	...	...
Hope Reservoirs	...	...	...

\* 3.60 inches in one hour and a quarter on the 10th.

SOUTHERN DIVISION, *contd.*

MAX.

		1891.   Average.	
		In.	In.
Cherry Garden	St. Andrew	8.42	...
Constant Spring	...	...	...
Shortwood	...	...	...
Camperdown†	...	7.24	...
King's House	...	5.10	...
Monaltria	...	3.47	4.92
Public Works Office, Kingston	...	2.08	4.82
Plumb Point L. H.	...	1.25	4.61
Spanish Town	St. Catherine	6.00	5.73
Windsor Park	...	...	...
Hog Hole Pen	...	8.19	6.89
Headworks, R. C. C.	...	4.01	8.81
Old Harbour	...	7.75	...
Farm Plantation	Manchester	7.31	10.02
Stone's Hope	...	5.11	...
Brokenhurst Pen	...	...	...
Pepper	St. Elizabeth	21.75	11.27
Long Hill	...	19.87	9.46
Potsdam	...	5.54	...
Gilnock Hall	...	...	...
Santa Cruz Poor-house	...	11.05	...
Black River	...	...	6.95
Means		8.15	7.49

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 1.01 and 1.25 inches.

† The rainfall at this place for February, 1891, was erroneously put at 8.08 inches, it should have been 0.08 in.

COMPARATIVE TABLE OF RAINFALL.  
(Based upon the "Average" Stations only.)

	MAX.	
	1891.   Average.	In.
North Eastern Division	11.33	9.84
Northern "	10.92	7.98
West Central Division	11.41	9.86
Southern "	8.15	7.40
The Island	11.20	8.77

In every Division therefore taken as a whole, the rainfall was considerably above the average, the Southern Division alone having places where the fall failed to come up to the average.

The greatest fall, viz. 25.58 inches was recorded at Maroon Town in St. James, and the smallest fall 1.25 inches was recorded at the Plumb Point Light House.

Mr. Taylor Domville writes from Running Gut Estate in St. James that the May Rains in that quarter were the heaviest for many years and that the gullies came down on several occasions and did damage to the Works of the Estate as well as to the main road which was out in three places on several occasions.

Mr. W. D. Hill reports a violent squall of rain and thunder at Windsor Pen in Trelawny on the 28th lasting about half an hour which did some damage in uprooting and breaking trees, and during which the rainfall was 2.05 inches, and "a strong wind which damaged trees, suckers, &c.," is reported from Dry Valley in the same parish on the 27th.

At this latter place, Dry Valley, a bright meteor was seen to the westward on the 24th at about 4.30 a.m.

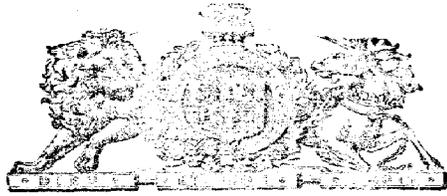
Mr. P. Williams reports a shock of earthquake at Bethel Town near Chester Castle at 6.30 a.m. on the 20th May.

The Thermometer at Cinchona Plantation which is 6 ft. underground registered a temperature of 61° 2

At New Haven Gap the rain recorded amounted to 13.13 inches and the maximum and minimum Thermometers registered 77° 5 and 50° respectively.

ROBT JOHNSTONE.

Kingston, 22nd June, 1891.



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JAMAICA.

JULY 31, 1891.

No. 133.

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# WEATHER REPORT

FOR THE MONTH OF

JUNE, 1891.

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*Published by Authority.*

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT 79 DUKE STREET, KINGSTON.

1891.

## METEOROLOGICAL RESULTS FOR JUNE, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 29.964	in. 29.916	° 79.0	° 85.9	° 70.6	° 72.6	in. 0.749	in. 0.801	76	66
King's House	400	...	...	77.5	86.6	75.5	77.4	0.883	0.940	94	77
Castleton Gardens	580	...	...	71.4	82.8	69.6	71.4	0.723	0.769	93	68
Cinchona Plantation	4,907	...	...	64.0	66.6	...	...	...	...	...	...

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	87.7	74.9	12.8	S.E.	112.7	90.9	5	72.2	8	18.7	inch. 6.47
King's House	84.3	74.6	9.7	...	...	87	8	73	7*	14	4.80
Castleton Gardens	...	...	...	...	...	...	...	...	...	...	11.31
Cinchona Plantation	70.2	59.8	10.4	...	...	75	21	54	11†	19	11.03

\* and 3 other days.

† also 12 and 13.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

## BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3 20 p.m.	62	42	50	12.05	Heavy clouds on all sides.	B. S. G.
March 25th	6.35 a.m.	74	36	47	3.31	Clear on all sides.	M. F. B.
April 25th	2.45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.
May 31st	2.30 p.m.	73	41	62	16.22	Fair, clouds and rain at intervals	M. F. B.
June 28th	2.15 p.m.	73	45	60	21.60	Fine but inclined to storms	M. F. B.

## THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	JUNE.	
	1891.	Average.
Infantile diseases not otherwise specified	25	19
Lung diseases	15	14
Fever	14	7
Dysentery and Diarrhoea	14	7
Various	48	53
Total	116	100

## RAINFALL FOR JUNE, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883 as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

## NORTH-EASTERN DIVISION.

JUNE.

		1891.   Average.	
		In.	In.
Merant Point L. H.	St. Thomas	4.35	6.24
Hordley	...	11.62	7.80
Boston	...	17.62	...
Cinchona Plantation	St. Andrew	11.03	6.33
New Haven Gap	...	...	...
Stony Hill Reformatory	...	8.78	6.01
Castleton Gardens	St. Mary	11.31	8.24
Dover	...	...	...
Quebec	...	...	...
Richmond	...	6.25	...
Port Maria	...	2.15	...
Gayle	...	11.10	5.85
Kio Hoe	St. Ann	4.70	9.97
Unity Valley	...	10.33	8.70
Monaguac	...	...	...
Albion	...	8.06	5.58
Averham Park	...	7.91	...
Claremont	...	9.99	...
Drax Hall	...	6.68	...
Seville	...	7.29	3.78
Llandoverly	...	4.95	3.24
Richmond Estate	...	6.01	3.25
Southfield	...	6.89	...
Means		8.29	6.25

## NORTHERN DIVISION.

JUNE.

		1891.   Average.	
		In.	In.
Home Castle	St. Ann	5.05	...
Richmond Pen	...	5.28	...
Colchis Pen	Trelawny	2.89	...
Mahogany Hall	...	7.49	2.77
Braco	...	5.45	...
Arcadia	...	4.66	...
Harmony Hall	...	4.64	1.68
Lancaster	...	5.27	...
Vale Royal	...	6.15	...
Hyde	...	5.17	...
Georgia	...	...	...
Steelfield	...	4.59	...
Oxford	...	3.95	...
Cambridge	...	4.11	...
Dry Valley	...	3.93	...
Lottery	...	4.60	...
Falmouth	...	8.28	2.01
Falmouth P. W. Office	...	5.00	...
Holland Pen	...	8.14	...
Golden Grove	...	7.70	5.79
Pembroke	...	...	...
Green Park	...	8.57	2.68
Phoenix	...	12.73	...
Tilston	...	9.80	4.34
Orange Valley	...	8.65	2.80
Kent	...	5.51	2.89
Dundee	...	7.30	3.26
Weston Favel	...	...	...
Gale's Valley	...	15.20	5.66
Greenwood	St. James	5.57	...
Bellfield	...	...	...
Guilfbro	...	11.25	...
Spring Vale	...	15.94	9.21
Cinnamon Hall	...	6.87	...
Rose Hall	...	6.35	...

## NORTHERN DIVISION, contd.

JUNE.

		1891.   Average.	
		In.	In.
Running Gut	St. James.	7.29	...
Teogan	...	...	...
Ironshore	...	8.15	4.16
Providence	...	...	...
Montego Bay (Market)	...	13.58	...
Montego Bay P. W. Office	...	12.20	...
Catherine Hall	...	11.65	6.05
Catherine Mount	...	12.32	6.55
Fairfield	...	14.41	...
Means		9.37	4.28

## WEST CENTRAL DIVISION.

JUNE.

		1891.   Average.	
		In.	In.
Linstead	St. Catherine	9.73	6.80
Cave Valley	St. Ann	7.88	...
Appleton	St. Elizabeth	7.14	7.20
Windsor Pen	Trelawny	11.87	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	9.97	7.25
Peter's Ville	Westmoreland	9.56	...
Mount Edgecombe	...	9.13	5.61
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	15.71	...
Chester Castle	Hanover	12.12	...
Copse	...	14.09	8.85
Kempshot	St. James	13.19	...
Anchoy	...	10.58	7.12
Wiltshire	...	...	8.21
Eden	...	10.11	...
Round Hill	Hanover	9.86	6.20
Cacoon Castle	...	11.56	10.51
Golden Grove	...	26.57	10.92
Flint River	...	8.38	...
Tryall	...	9.32	7.93
Sweet River	Westmoreland	10.92	...
Windsor (Sav. la-Mar)	...	...	6.68
Sav. la-Mar P. W. Office	...	12.48	...
Kew	Hanover	...	...
Lucea P. W. Office	...	11.30	...
Three Mile River	Westmoreland	...	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
Belle Isle	...	15.50	...
King's Valley	...	...	...
Orange Cove	Hanover	13.42	...
Abington	...	19.35	...
Means		11.82	7.84

## SOUTHERN DIVISION.

JUNE.

		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	16.11	...
Halberstadt	St. Andrew	...	...
Woodford	...	6.08	...
Hope Plantation	...	6.12	...
Hope Reservoirs	...	...	...
Cherry Garden	...	5.31	...
Constant Spring	...	...	...
Shortwood	...	...	...

SOUTHERN DIVISION, *contd.*

JUNE

		1891.   Average.	
		In.	In.
Camperdown	St. Andrew	4.74	...
King's House	...	4.80	3.12
Monaltrie	...	9.99	3.53
Public Works Office, Kingston	...	5.84	3.32
Plumb Point L. H.	...	4.04	3.79
Spanish Town	St. Catherine	6.79	3.74
Windsor Park	...	...	...
Hog Hole Pen	...	8.97	3.90
Headworks, R. C. C.	...	5.11	5.50
Old Harbour	...	8.51	...
Farm Plantation	Manchester	13.14	6.70
Stone's Hope	...	13.34	...
Brokenhurst Pen	...	16.35	...
Pepper	St. Elizabeth	7.95	2.68
Long Hill	...	6.55	2.92
Potsdam	...	7.92	...
Gilnock Hall	...	...	...
Santa Cruz Poor-house	...	4.66	...
Black River	...	...	2.68
Means		7.32	3.92

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 3.65 and 4.04 inches.

## COMPARATIVE TABLE OF RAINFALL.

(Based upon the "Average" Stations only.)

		JUNE.	
		1891.   Average.	
		In.	In.
North Eastern Division		8.29	6.25
Northern	"	9.37	4.28
West Central Division		11.82	7.84
Southern	"	7.32	3.92
The Island		9.20	5.57

The Rainfall exceeded the average in every division of the Island.

The greatest fall, viz. 26.57 inches was recorded at Golden Grove in Hanover, and the smallest viz. 2.18 inches was recorded at Port Maria.

Mr. Francis Dod reports that a filly was found dead in one of the Abingdon pastures in Hanover and that it was supposed to have been struck with lightning.

The "Jamaica Post" of the 11th June, had in it a statement from a correspondent that in Manchester during the previous week "hail, or rather pieces of ice" about half an inch in length fell for some time. "Some damage was sustained by the crops and not a few panes of glass were destroyed."

The Thermometer at Cinchona Plantation which is 6 ft. underground registered a temperature of 61°7.

At New Haven Gap the rain recorded amounted to 6.59 inches and the maximum and minimum Thermometers registered 80.5 and 51 respectively.

ROBT. JOHNSTONE.

Kingston, 21st July, 1891.

## KINGSTON MERIDIAN MARK.

In the Parade Gardens in Kingston there is a long and low cement concrete wall in which plates of bronze are inserted forming a Standard Measure of length so that the length of chains used by land-surveyors may readily be tested.

There is a cement concrete pier at each end of this construction: on the top of the southern pier there is a cross cut in a piece of marble imbedded therein and in the wall of the building to the North of the pier, at a distance of about three and one-half chains, there is another mark. This mark in the wall is due North of the mark on the pier.

If therefore a Magnetic Instrument be placed on the pier so that its centre is exactly above the centre of the cross, the mark in the wall will be true north of the instrument, and the Magnetic declination, or variation, as it is often called, may be at once ascertained for that particular instrument. Each instrument has, of course, its own errors of construction &c. and land-surveyors have thus the means of testing their Magnetic instruments as often as they please.

The North mark in the wall was determined by the passage of the Pole-star across the meridian; as the star moves but slowly on its small circle round the true Pole of the heavens, a chronometer giving correct time within 15 or 20 seconds will, with the aid of an Almanac giving the Right Ascension of the Pole star, indicate when the star is on the meridian with sufficient accuracy for this purpose.

The general scope of this and the following work I arranged on June 2nd, this year, time being supplied by Messrs. J. O. Milke, & Co., of Harbour Street; but the final adjustment of the mark by repeated observations was performed by Mr. J. F. Brennan of the Public Works Department.

## THE MAGNETIC DECLINATION

or Variation of the Magnetic needle in Kingston.

In Sept. 1889, a series of observations made at the Kempshot Observatory with an instrument belonging to the R. Astr. Society, showed that the Declination was 3° 11' East (See Weather Report No. 110).

The same instrument was placed on the pier in the Kingston Parade Gardens; and by means of the Meridian mark described above Mr. J. F. Brennan obtained the following results:—

1891.	First Set	Second Set.
June 26th.	2° 14'	2° 15'
27th.	2 15	2 17
28th.	2 17	2 16
30th.	2 17	2 16
July 1st.	2 16	2 17
2nd.	2 16	2 17
3rd.	2 15	2 15
4th.	2 15	2 15
Means	2 16	2 16

The two sets were taken at about 8 a. m. each day; and there can be no doubt that

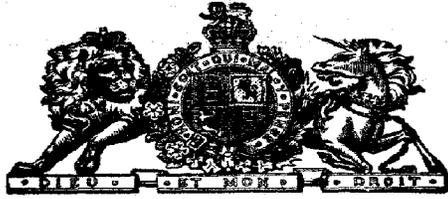
2° 16' E,

is the Magnetic declination at present.

There is a considerable difference between this and the result for Kempshot; but unless I am mistaken the Magnetic declination will be found to vary considerably in different parts of the Island. I have been informed that there are certainly two centres of Magnetic disturbance, one near the Great Pedro Bluff in St. Elizabeth, and the other near the N. W. point, or Point Pedro, in Hanover; and further, I have been informed that the Magnetic disturbances are so large as to materially affect the compasses of vessels passing along the coast near these Pedro points! The subject therefore is not without practical utility as well as scientific interest.

MAXWELL HALL.





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JAMAICA.

*Regular Issue*  
AUGUST 11, 1891.

No. 134.

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# WEATHER REPORT

FOR THE MONTH OF

JULY, 1891.

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**Published by Authority.**

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.

METEOROLOGICAL RESULTS FOR JULY, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 30.009	in. -29.960	° 78.6	° 88.6	° 68.8	° 70.6	in. 0.704	in. 0.749	72	56
King's House	400	...	...	78.4	86.7	75.0	82.4	0.868	1.106	89	87
Castleton Gardens	580	...	...	72.0	84.5	70.9	76.1	0.756	0.909	96	76
Cinchona Plantation	4,907	...	...	63.4	67.6	56.2	61.9	0.453	0.554	78	82

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	90.4	75.0	15.4	S.E.	116.7	96.1	3	72.0	1	24.1	inch. 0.49
King's House	86.2	74.2	12.0	...	...	89.0	4*	70.0	22	19.0	3.00
Castleton Gardens	86.6	71.0	15.6	...	...	92.0	16	68.0	4†	24.0	2.09
Cinchona Plantation	72.8	60.6	12.2	...	91.9	76	21	55	13‡	21	4.29

\*and 2 other days. †and 4 other days. ‡and 3 other days.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3 20 p.m.	62	42	50	12.45	Heavy clouds on all sides.	B. S. G.
March 25th	6.35 a.m.	74	36	47	3.31	Clear on all sides.	M. F. B.
April 26th	2.45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.
May 31st	2.30 p.m.	73	41	62	16.22	Fair, clouds and rain at intervals	M. F. B.
June 28th	2.15 p.m.	73	45	60	21.60	Fine but inclined to storms	M. F. B.
August 1st	2.35 p.m.	70	46	65	9.00	Fine clear and sunny	M. F. B.

THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	JULY.	
	1891.	Average.
Infantile diseases not otherwise specified	17	18
Lung diseases	17	18
Fever	9	11
Dysentery and Diarrhoea	17	7
Various	41	57
Total	101	111

RAINFALL FOR JULY, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1888 as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

## NORTH-EASTERN DIVISION.

JULY.

		1891.   Average.	
		In.	In.
Mccant Point L. H.	St. Thomas	1.18	3.48
Hordley	...	3.03	6.29
Boston	...	...	...
Cinchona Plantation	St. Andrew	4.29	4.78
New Haven Gap	...	3.75	...
Stony Hill Reformatory	...	4.19	4.80
Castleton Gardens	St. Mary	2.09	7.32
Dover	...	...	...
Quebec	...	...	...
Richmond	...	...	...
Port Maria	...	5.79	...
Gayle	...	2.00	...
Bio Hoe	St. Ann	2.5	5.05
Unity Valley	...	4.64	6.91
Moneague	...	...	...
Albion	...	4.54	4.13
Averham Park	...	2.24	...
Claremont	...	3.97	...
Drax Hall	...	2.55	2.91
Seville	...	...	2.02
Llandoverly	...	...	1.00
Richmond Estate	...	2.49	...
Southfield	...	0.50	...
Means		3.17	5.07

## NORTHERN DIVISION.

JULY.

		1891.   Average.	
		In.	In.
Home Castle	St. Ann	0.90	...
Richmond Pen	...	3.00	...
Colchis Pen	Trelawny	3.96	...
Mahogany Hall	...	3.96	5.04
Braco	...	0.77	2.41
Arcadia	...	1.91	...
Harmony Hall	...	1.19	...
Lancaster	...	1.86	2.66
Vale Royal	...	3.02	3.48
Hyde	...	6.95	6.21
Georgia	...	...	2.92
Steelfield	...	2.85	3.07
Oxford	...	2.93	...
Cambridge	...	3.95	3.75
Dry Valley	...	...	...
Lottery	...	3.16	2.40
Falmouth	...	2.75	1.49
Falmouth P. W. Office	...	3.13	...
Holland Pen	...	1.82	...
Golden Grove	...	1.60	5.70
Pembroke	...	...	3.06
Green Park	...	2.30	...
Phoenix	...	4.42	...
Tilston	...	3.20	4.44
Orange Valley	...	2.20	2.84
Kent	...	1.63	1.87
Dundee	...	1.34	3.91
Weston Favel	...	...	...
Gale's Valley	...	5.60	5.30
Greenwood	St. James	1.34	...
Bellfield	...	...	...
Guildbro'	...	7.60	...
Spring Vale	...	10.55	...
Cinnamon Hall	...	1.05	...
Rose Hall	...	0.75	...

## NORTHERN DIVISION, contd.

JULY.

		1891.   Average.	
		In.	In.
Running Gut	St. James.	1.00	...
Jeogan	...	...	...
Ironshore	...	1.33	2.06
Providence	...	...	...
Montego Bay (Market)	...	2.71	...
Montego Bay P. W. Office	...	...	...
Catherine Hall	...	3.75	3.33
Catherine Mount	...	4.48	4.89
Fairfield	...	3.44	...
Means		3.02	3.57

## WEST CENTRAL DIVISION.

JULY.

		1891.   Average.	
		In.	In.
Linstead	St. Catherine	5.15	5.05
Cave Valley	St. Ann	5.14	5.15
Appleton	St. Elizabeth	6.44	7.54
Windsor Pen	Trelawny	9.03	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	11.14	5.31
Peter's Ville	Westmoreland	6.18	...
Mount Edgecombe	...	5.34	7.11
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	16.20	...
Chester Castle	Hanover	10.21	...
Copse	...	9.41	8.66
Kempshot	St. James	6.47	...
Anchoy	...	8.98	5.25
Wiltshire	...	...	6.27
Eden	...	10.74	...
Round Hill	Hanover	7.37	4.70
Cacoon Castle	...	7.24	7.75
Golden Grove	...	9.89	7.92
Flint River	...	9.23	...
Tryall	...	8.64	5.56
Sweet River	Westmoreland	7.26	...
Windsor (Sav.-la-Mar)	...	...	7.59
Sav.-la-Mar P. W. Office	...	9.51	...
Kew	Hanover	...	...
Lucea P. W. Office	...	3.24	...
Three Mile River	Westmoreland	10.00	...
George's Plain Estate	...	7.68	...
Fonsabelle	...	...	...
Belle Isle	...	10.25	...
King's Valley	...	10.35	...
Orange Cove	Hanover	4.87	6.62
Abingdon	...	18.15	...
Means		7.47	6.63

## SOUTHERN DIVISION.

JULY.

		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	8.50	...
Halberstadt	St. Andrew	...	...
Woodford	...	...	...
Hope Plantation	...	1.98	...
Hope Reservoirs	...	...	...
Cherry Garden	...	...	...
Constant Spring	...	...	...
Shortwood	...	...	...

SOUTHERN DIVISION, *contd.*

		JULY.	
		1891.	Average.
		In.	In.
Camperdown	St. Andrew	2.23	...
King's House	...	3.00	...
Monaltrie	...	1.57	2.78
Public Works Office, Kingston	...	...	2.03
Plumb Point L. H.	...	0.44	2.17
Spanish Town	St. Catherine	0.51	1.84
Windsor Park	...	...	...
Hog Hole Pen	...	1.27	2.41
Headworks, R. C. C.	...	1.40	3.94
Old Harbour	...	1.73	...
Farm Plantation	Manchester	8.60	3.67
Stone's Hope	...	5.66	...
Brokenhurst Pen	...	10.67	...
Pepper	St. Elizabeth	5.40	2.71
Long Hill	...	3.93	4.31
Potsdam	...	2.29	...
Gilnock Hall	...	...	...
Santa Cruz Poor-house	...	4.30	...
Black River	...	...	5.16
Means		2.89	2.98

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 0.30 and 0.44 inches.

COMPARATIVE TABLE OF RAINFALL.

(Based upon the "Average" Stations only.)

		JULY.	
		1891.	Average.
		In.	In.
North Eastern Division		3.17	5.07
Northern	"	3.02	3.57
West Central Division		7.47	6.63
Southern	"	2.89	2.98
The Island		4.14	4.56

The Rainfall over the Island generally was thus about the average.

The greatest fall, viz. 18.15 inches was recorded at Abingdon in Hanover, and the smallest viz. 0.44 inches was recorded at the Plumb Point Light House.

ROBT. JOHNSTONE.

Kingston, 9th September, 1891.

JAMAICA WEATHER SERVICE, 1891.

**NOTICE**—It is requested that all letters and communications such as Rainfall returns, and all telegrams respecting the weather, be addressed to the "Weather Office, Kingston," where they will receive due attention. MAXWELL HALL.  
Montego Bay, 21st August, 1891.

THE JAMAICA WEATHER SERVICE.

Notice for the Hurricane Season of 1891.

(1) During the hurricane months of August, September, and October, the weather will be considered disturbed when the barometer is falling and when it has fallen between one and two tenths of an inch below its mean value for the time of day and year, all due corrections having been applied.

(2) Should the weather during these months be disturbed at any time, a circular telegram will be despatched as soon as possible, and copies of this telegram will be posted at all the telegraph stations in the Island.

(3) Each circular telegram will give the hour of despatch, the reading of the barometer corrected and reduced, the temperature of the air, the direction and force of the wind, the weather, and any remarks which may be necessary. The forms used in posting copies of the telegram are printed on red paper.

(4) After the first circular telegram has been despatched, a second circular telegram will be sent either to convey special warning, or to relieve unnecessary alarm, as soon as the position and motion of the centre of the disturbance can be ascertained by an exchange of telegrams between the observers at Kingston and Montego Bay.

(5) The first circular telegram is intended to call public attention to the disturbed state of the weather as soon as possible; the second circular telegram is intended to give definite information, and warning when necessary. But due care should always be taken after the issue of the first telegram; for the telegraph wires may be broken before the second can be despatched; or two cyclones, or the curvature of a single cyclone on its course, may confuse the indications.

(6) In order to render the Weather Service effective in warning the shipping in the different ports of the Island, copies of the telegrams referred to above will be given to the harbour-masters at Milk River, Black River, Sav-la-Mar, Lucoa, Montego Bay, Falmouth, St. Ann's Bay, Port Maria, Port Antonio and Morant Bay, who, upon the receipt of the first telegram, will keep themselves in readiness to warn the shipping in harbour should the second telegram render such warning necessary.

(7) Warnings will be given by means of flags and lamps; the flags are six feet square, having red borders enclosing black centres, two feet square: the lamps, for use at night, emit a strong red light.

(8) The hurricane signals will be hoisted only under the following circumstances:—when specially ordered by warning telegrams, or when the telegraph wires are broken and a storm is clearly approaching.

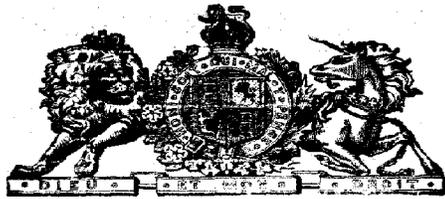
(9) With the aid of the harbour master of Kingston special arrangements have been made as last year for warning the shipping in that port. As heretofore, notices will be posted during the day, when necessary, at the Colonial Secretary's Office, the Merchants' Exchange in Duke Street, and Mr. McDonald's Store in Harbour Street; and, if necessary, hurricane flags will be hoisted at the two former places. Such notices will be signed by Mr. Robert Johnstone who has charge of the meteorological instruments in Kingston.

(10) Arrangements have been made with the Jamaica Post Office, so that when under special circumstances due notice can be given to the Postmaster for Jamaica, the wires may be kept open between 5 p.m. and 7 a.m., and also on Sundays.

(11) Since the establishment of the service in 1880, twenty-six cyclonic disturbances have passed within barometric range of Jamaica, and information respecting them has been telegraphed round the Island without causing unnecessary alarm in a single case, for on three occasions only, namely, before the hurricanes of August 18th, 1880, and August 20th, 1886, and before the conflicting cyclones of Sept. 15th, 1889, have orders been given to hoist the hurricane signals.

We may therefore expect that two or three disturbances will, on an average, be telegraphed around the Island each hurricane season.

The telegraph clerks may be assured that their services will never be asked for beyond the usual working hours, except when absolutely necessary from a meteorological point of view. MAXWELL HALL.  
Montego Bay, July 30th, 1891.



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JAMAICA.

SEPTEMBER 29, 1891.

No. 135.

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# WEATHER REPORT

FOR THE MONTH OF

AUGUST, 1891.

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**Published by Authority.**

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.

## METEOROLOGICAL RESULTS FOR AUGUST, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 30.002	in. 29.960	° 76.8	° 85.6	° 69.8	° 72.8	in. 0.728	in. 0.807	79	66
King's House	400	39.95	29.91	77.2	83.0	72.3	75.3	0.793	1.877	85	78
Castleton Gardens	580	...	...	71.1	79.3	70.2	73.4	0.738	0.823	97	82
Cinchona Plantation	4,907	...	...	64.5	67.1	55.3	64.0	0.437	0.596	72	90

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	91.2	74.5	16.7	S.E.	69.8	96.7	20	70.0	29	26.7	inch. 3.08
King's House	...	73.7	...	...	...	...	...	72	12†	...	7.40
Castleton Gardens	84.5	70.8	13.7	...	...	91	2	67	29	24	8.96
Cinchona Plantation	72.5	...	...	...	...	76.5	20	...	...	...	3.75

†and 2 other days.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32° that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

## BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3 20 p.m.	62	42	50	12.45	Heavy clouds on all sides.	B. S. G.
March 25th	6 35 a.m.	74	36	47	3.31	Clear on all sides.	M. F. B.
April 25th	2 45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.
May 31st	2 30 p.m.	73	41	62	16.22	Fair, clouds and rain at intervals	M. F. B.
June 28th	2 15 p.m.	73	45	60	21.60	Fine but inclined to storms	M. F. B.
August 1st	2 35 p.m.	70	46	65	9.00	Fine clear and sunny	M. F. B.
August 29th	3 30 p.m.	72	47	50	9.00	Fine, but heavy rain all the morning	M. F. B.

## THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	AUGUST.	
	1891.	Average.
Infantile diseases not otherwise specified	14	12
Lung diseases	12	16
Fever	7	4
Dysentery and Diarrhoea	4	3
Various	35	43
Total	72	78

## RAINFALL FOR AUGUST, 1891.

The first column contains all the Rainfall Returns sent in for publication up to the date of this report; the second column contains the corresponding average Rainfall according to the Tables published in October, 1888 as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first column, only those Stations are considered for which the average Rainfall has been given in the second column; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

## NORTH-EASTERN DIVISION.

AUGUST.

		1891.   Average.	
		In.	In.
Merant Point L. H.	St. Thomas	6.76	5.46
Hordley	...	7.82	10.78
Boston	Portland	...	...
Cinchona Plantation	St. Andrew	3.75	8.18
New Haven Gap	...	...	...
Buff Bay	Portland	2.10	...
Anotto Bay	St. Mary	6.65	...
Stony Hill Reformatory	...	...	12.66
Castleton Gardens	St. Mary	8.96	10.48
Dover	...	...	...
Quebec	...	...	...
Richmond	...	5.31	...
Port Maria	...	4.01	...
Gayle	...	2.15	6.26
Rio Hoe	St. Ann	6.13	8.56
Unity Valley	...	5.19	5.33
Moneague	...	4.48	...
Claremont*	St. Ann	11.28	...
Albion	...	5.82	5.85
Averham Park	...	6.03	...
Claremont	...	...	...
Drax Hall	...	4.47	3.81
Seville	...	4.87	3.63
Llandovery	...	...	2.29
Richmond Estate	...	5.30	...
Southfield	...	6.90	...
Means		5.59	6.83

## NORTHERN DIVISION.

AUGUST.

		1891.   Average.	
		In.	In.
Home Castle	St. Ann	5.24	...
Richmond Pen	...	7.75	...
Colchis Pen	Trelawny	5.36	...
Mahogany Hall	...	8.99	6.34
Braco	...	4.96	3.88
Arcadia	...	4.28	...
Harmony Hall	...	5.80	2.82
Lancaster	...	5.25	3.87
Vale Royal	...	4.39	5.44
Hyde	...	2.63	7.12
Georgia	...	...	4.64
Steelfield	...	4.90	4.66
Oxford	...	3.82	...
Cambridge	...	2.87	4.17
Dry Valley	...	4.60	...
Lottery	...	1.98	3.96
Falmouth	...	4.95	3.00
Falmouth P. W. Office	...	1.27	...
Holland Pen	...	2.63	...
Golden Grove	...	5.50	5.50
Pembroke	...	...	5.26
Green Park	...	...	3.79
Phoenix	...	6.22	...
Tilston	...	4.35	5.94
Orange Valley	...	3.05	3.57
Kent	...	2.13	3.90
Dundee	...	3.70	5.36
Weston Favel	...	...	...
Gale's Valley	...	6.40	6.88

\* Heavy thunderstorm on 11th.

## NORTHERN DIVISION, contd.

August.

		1891.   Average.	
		In.	In.
Greenwood	St. James	2.85	...
Bellfield	...	...	...
Guildsbro'	...	5.74	...
Spring Vale	...	...	12.34
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	1.74	...
Ieogan	...	6.23	...
Ironshore	...	3.71	4.41
Providence	...	...	...
Montego Bay (Market)	...	4.74	...
Montego Bay P. W. Office	...	...	...
Catherine Hall	...	5.70	6.40
Catherine Mount	...	4.98	8.31
Fairfield	...	4.86	...
Means		4.54	4.97

## WEST CENTRAL DIVISION.

AUGUST.

		1891.   Average.	
		In.	In.
Bog Walk	St. Catherine	5.76	...
Linstead	...	3.03	7.41
Chapelton	Clarendon	8.43	...
Cave Valley	St. Ann	12.02	8.68
Watson's Gate	Manchester	8.97	...
Mandeville	...	16.45	...
Appleton	St. Elizabeth	13.73	12.48
Windsor Pen	Trelawny	8.62	...
Maroon Town	St. James	11.61	...
Kepp	St. Elizabeth	13.11	11.32
Peter's Ville	Westmoreland	8.94	...
Mount Edgecombe	...	9.02	5.96
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	12.77	...
Chester Castle	Hanover	12.11	...
Copse	...	13.16	12.70
Kempshot	St. James	9.41	...
Anchoy	...	12.03	8.83
Wiltshire	...	...	8.57
Eden	...	7.90	...
Round Hill	Hanover	4.50	5.45
Cacoon Castle	...	10.73	10.86
Golden Grove	...	14.39	11.04
Flint River	...	4.29	...
Tryall	...	5.96	6.06
Sweet River	Westmoreland	10.41	...
Windsor (Sav.-la-Mar)	...	...	7.17
Sav.-la-Mar P. W. Office	...	6.97	...
Kew	Hanover	...	...
Lucea P. W. Office	...	8.50	...
Three Mile River	Westmoreland	7.20	...
George's Plain Estate	...	13.54	...
Fontabelle	...	...	...
Belle Isle	...	11.95	...
King's Valley	...	12.90	...
Orange Cove	Hanover	12.27	7.45
Abingdon	...	11.50	...
Means		10.33	9.02

SOUTHERN DIVISION.

		AUGUST.	
		1891.	Average.
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	...	...
Halberstadt	St. Andrew	...	...
Woodford	...	...	...
Hope Plantation	...	5.66	...
Hope Reservoirs	...	...	...
Cherry Garden	...	7.43	...
Constant Spring	...	...	...
Shortwood <sup>19</sup>	...	8.85	...
Camperdown	St. Andrew	8.50	...
King's House	...	7.40	7.75
Monaltrie	...	5.57	6.36
Public Works Office,	Kingston	3.03	6.01
Plumb Point L. H.	...	5.86	5.32
Spanish Town	St. Catherine	4.51	7.28
Windsor Park	...	...	...
Hog Hole Pen	...	4.16	7.24
Headworks, R. C. C.	...	2.94	8.14
Old Harbour	...	6.85	...
Farm Plantation	Manchester	3.90	10.15
Stone's Hope	...	6.18	...
Brokenhurst Pen	...	8.20	...
Pepper	St. Elizabeth	6.65	7.61
Long Hill	...	11.12	5.69
Potsdam	...	6.99	...
Gilnock Hall	...	...	...
Santa Cruz Poor-house	...	7.05	...
Black River	...	...	7.21
Means		5.51	7.15

With regard to the upper gauge at Plumb Point Light House the Superintendent sends the following note:—

"On the 15th August the flagstaff on Light House with upper rain-gauge attached was removed by order of the Director of Public Works so that in future only the lower gauge will be given."

COMPARATIVE TABLE OF RAINFALL.

(Based upon the "Average" Stations only.)

		AUGUST.	
		1891.	Average.
		In.	In.
North Eastern Division		5.59	6.83
Northern	"	4.54	4.97
West Central Division		10.33	9.02
Southern	"	5.51	7.15
The Island		6.49	6.99

The Rainfall over the Island generally was thus about the average.

The greatest fall, viz. 14.39 inches was recorded at Golden Grove in Hanover, and the smallest viz. 1.27 inches was recorded at the P. W. Office, Falmouth.

In this month was recorded the highest temperature felt in Kingston since these observations were commenced in June, 1880. The temperature of 96.1° on the

\* August 29th, gauge blown down and average of neighbouring records taken.

12th September, 1880, only equalled once since then, viz., on 13th July, 1891, was exceeded on the 20th August, 1891, by the temperature of 96.7 then recorded.

BAROMETRIC DEPRESSIONS, AUGUST, 1891.

There was only one depression within barometric range of Jamaica during August, and that was the very destructive cyclone which passed over Martinique on the night of the 18th exactly eleven years after the disastrous cyclone which passed over Kingston in 1880. The Kingston papers of the 20th ultimo contained brief telegraphic accounts of the hurricane at Martinique, and during that day our pressure gave way to it; the fall of the barometer, however, was not very much, and owing to the absence of any upper cloud drift here, and the insufficiency of the telegraphic information from "the Islands" it was difficult to say for certain on the afternoon of the 20th in which direction the cyclone had travelled. A notice to this effect was sent to the papers, but it was at the same time stated that it was probable that the cyclone would pass us the day after far to the North-Eastward. Readings of the barometer were constantly taken, and the weather carefully watched, as usual on such occasions, and telegrams were exchanged between Kingston, Montego Bay, and Santiago de Cuba on the following morning (21st). The indications on that day confirmed the supposition of the previous afternoon, and placed the cyclone far to the N. E., and a notice to this effect was duly issued on the afternoon of the 21st. Subsequent accounts fully verified these notices, for it appears that after leaving Martinique the cyclone travelled West-North-West skirting the East end of Santo Domingo and passing over the Mona passage, where it wrecked a vessel, and that soon after passing to the Northward of Turks Islands, where it also did some damage, it recurved and travelled North-Eastward to the Bermudas. There is some reason to believe that this storm continued its course across the North Atlantic, and was felt over the whole of the British Isles about a fortnight after passing over Martinique. The damage done in Martinique was very considerable, one authority placing the loss of life at over 300 persons, and the destruction of property at two million sterling. No detailed meteorological report has as yet been received from Martinique but one of the Royal Mail Steamers brought the news of a most extraordinary report that the barometer at that place fell three inches in an hour and a half! If this report should prove correct this cyclone will be one of the most noteworthy on record for both exceptional depth and rapidity of fall of the barometer.

There was a very heavy squall experienced over Kingston Harbour about 1 p.m. on the 28th in which the force of the wind was for a time very great; the rain also was very heavy and in some places in the lower part of the city hail fell. During and after this squall the barometer went up considerably as is often the case, but the reaction was rather greater than usual, the fall between 3 and 6 p.m. being nearly a tenth of an inch, after which however the barometer soon began to rise again. This fall attended with other circumstances might have been alarming.

ROBT. JOHNSTON.

Kingston, 25th September, 1891.



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JAMAICA.

OCTOBER 27, 1891.

No. 136.

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# WEATHER REPORT

FOR THE MONTH OF

SEPTEMBER, 1891.

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**Published by Authority.**

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.

## METEOROLOGICAL RESULTS FOR SEPTEMBER, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 29.975	in. 29.922	° 76.9	° 85.6	° 70.3	° 74.4	in. 0.741	in. 0.851	80	69
King's House	400	...	...	76.3	82.5	71.3	74.5	0.766	0.854	85	77
Castleton Gardens	580	...	...	70.3	80.5	69.2	74.6	0.713	0.857	96	82
Cinchona Plantation	4,907	...	...	64.7	66.8	68.5	65.5	0.491	0.628	80	96

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	89.4	74.4	15.0	S.E.	41.6	91.7	25	70.5	7	21.2	inch. 1.54
King's House	85.7	73.9	11.8	...	...	88	3 & 6	72	2†	16	4.25
Castleton Gardens	85.8	69.7	16.1	...	...	90	23	66	27	24	12.71
Cinchona Plantation	71.3	62.5*	8.8	...	36.8	74	1 & 26	59	21‡	15	9.42

\* 16 days only.

† also 5 and 8.

‡ and 4 other days.

Note—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

## BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3.20 p.m.	62	42	50	12.05	Heavy clouds on all sides.	B. S. G.
March 25th	6.35 a.m.	74	36	47	3.31	Clear on all sides.	M. F. B.
April 25th	2.45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.
May 31st	2.30 p.m.	73	41	62	16.22	Fair, clouds and rain at intervals	M. F. B.
June 28th	2.15 p.m.	73	45	60	21.60	Fine but inclined to storms	M. F. B.
August 1st	2.35 p.m.	70	46	65	9.00	Fine clear and sunny	M. F. B.
August 29th	3.30 p.m.	72	47	50	9.00	Fine, but heavy rain all the morning	M. F. B.
September 27th	10.45 a.m.	76	48	52	3.30	High wind and rainy	M. F. B.

## THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the Month for a few years past:—

	SEPTEMBER.	
	1891.	Average.
Infantile diseases not otherwise specified	14	11
Lung diseases	9	13
Fever	9	5
Dysentery and Diarrhoea	8	2
Various	31	39
Total	71	70

## RAINFALL FOR SEPTEMBER, 1891.

The first column contains all the Rainfall Returns sent in for publication up to the date of this report; the second column contains the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first column, only those Stations are considered for which the average Rainfall has been given in the second column; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

NORTH-EASTERN DIVISION. SEPTEMBER.

		1891.   Average.	
		In.	In.
Morant Point L. H.	St. Thomas	4.22	7.64
Hordley	...	6.71	12.78
Boston	Portland	8.47	...
Cinchona Plantation	St. Andrew	9.42	13.21
New Haven Gap	...	...	...
Buff Bay	Portland	...	...
Annotto Bay	St. Mary	...	...
Stony Hill Reformatory	...	13.12	10.26
Castleton Gardens	St. Mary	...	11.22
Dover	...	...	...
Quebec	...	...	...
Richmond	...	4.14	...
Port Maria	...	1.18	...
Gayle	...	7.75	...
Rio Hoe	St. Ann	4.80	6.51
Unity Valley	...	7.38	7.62
Moneague	St. Ann	6.11	...
Claremont	St. Ann	...	...
Pedro	...	5.37	...
Albion	...	6.06	6.36
Averham Park	...	2.56	...
Claremont	...	2.75	...
Drax Hall	...	5.17	4.21
St. Anns Bay	...	1.70	...
Seville	...	...	4.22
Llandovery	...	...	4.70
Richmond Estate	...	4.90	5.69
Southfield	...	1.85	...
Means		6.86	8.25

NORTHERN DIVISION. SEPTEMBER.

		1891.   Average.	
		In.	In.
Brown's Town	St. Ann	4.81	...
Home Castle	...	1.24	...
Richmond Pen	...	2.65	...
Colchis Pen	Trelawny	2.25	...
Mahogany Hall	...	3.32	...
Braco	...	2.32	4.55
Arcadia	...	3.57	...
Harmony Hall	...	2.74	4.61
Lancaster	...	2.98	4.80
Vale Royal	...	2.76	4.98
Hyde	...	3.12	7.03
Georgia	...	...	4.08
Steelfield	...	3.22	4.51
Oxford	...	1.53	...
Cambridge	...	1.70	4.56
Dry Valley	...	1.30	...
Lottery	...	1.12	4.77
Falmouth	...	3.80	...
Falmouth P. W. Office	...	1.36	...
Holland Pen	...	1.95	3.29
Golden Grove	...	3.60	6.90
Pembroke	...	...	5.72
Green Park	...	...	...
Phoenix	...	4.90	...
Tilston	...	3.25	4.26
Orange Valley	...	2.65	2.73
Kent	...	2.11	4.49
Dundee	...	2.60	3.98
Weston Favel	...	...	...
Gale's Valley	...	1.90	5.73

NORTHERN DIVISION, contd. SEPTEMBER.

		1891.   Average.	
		In.	In.
Greenwood	St. James	1.58	...
Bellfield	...	...	...
Guildsbro'	...	3.75	...
Spring Vale	...	...	9.72
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	3.48	3.66
Jeogan	...	8.07	...
Ironshore	...	3.26	4.75
Providence	...	...	...
Montego Bay (Market)	...	...	...
Montego Bay P. W. Office	...	...	...
Catherine Hall	...	5.15	7.77
Catherine Mount	...	3.81	6.10
Fairfield	...	4.06	...
Means		2.83	4.92

WEST CENTRAL DIVISION. SEPTEMBER.

		1891.   Average.	
		In.	In.
Dove Hall	St. Catherine	8.78	...
Linstead	...	2.49	...
Chapelton	Clarendon	2.17	...
Cave Valley	St. Ann	7.86	7.36
Watson's Gate	Manchester	7.42	...
Mandeville	...	6.39	...
Appleton	St. Elizabeth	14.36	11.55
Windsor Pen	Trelawny	6.87	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	10.26	11.91
Peter's Ville	Westmoreland	6.91	...
Mount Edgecombe	...	5.42	9.43
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	17.30	...
Chester Castle	Hanover	15.05	...
Copse	...	10.82	10.79
Kempshot	St. James	5.44	...
Anchovy	...	5.71	7.79
Wiltshire	...	...	8.65
Eden	...	5.10	...
Round Hill	Hanover	...	5.87
Cacoon Castle	...	9.90	9.32
Golden Grove	...	19.67	...
Flint River	...	3.10	...
Tryall	...	3.70	4.67
Sandy Bay	...	4.42	...
Sweet River	Westmoreland	7.56	...
Windsor (Sav.-la-Mar)	...	...	6.93
Sav.-la-Mar P. W. Office	...	1.93	...
Kew	Hanover	11.07	...
Lucea P. W. Office	...	3.93	...
Three Mile River	Westmoreland	...	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
Belle Isle	...	10.45	...
King's Valley	...	...	...
Orange Cove	Hanover	5.39	8.19
Abingdon	...	17.60	...
Means		8.16	9.00

## SOUTHERN DIVISION.

SEPTEMBER.

		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	4.15	...
Halberstadt	St. Andrew	...	...
Gordon Town	...	6.04	...
Woodford	...	...	...
Hope Plantation	...	7.06	...
Hope Reservoirs	...	...	...
Cherry Garden	...	...	...
Constant Spring	...	...	...
Shortwood	...	6.04	...
Camperdown	...	...	...
King's House	...	4.25	...
Monaltrie	...	2.67	7.20
Public Works Office, Kingston	...	1.23	5.03
Plumb Point L. H.	...	0.23	4.30
Spanish Town	St. Catherine	2.20	...
Windsor Park	...	2.39	...
Hog Hole Pen	...	3.14	...
Headworks, R. C. C.	...	3.75	...
Old Harbour	...	1.91	...
Farm Plantation	Manchester	3.52	7.65
Stone's Hope	...	3.56	...
Brokenhurst Pen	...	8.70	...
Pepper	St. Elizabeth	4.75	...
Long Hill	...	4.50	9.20
Potsdam	...	2.70	...
Gilnock Hall	...	...	...
Santa Cruz Poor-house	...	4.10	...
Black River	...	...	5.07
Means		2.43	6.08

## COMPARATIVE TABLE OF RAINFALL.

(Based upon the "Average" Stations only.)

		SEPTEMBER.	
		1891.   Average.	
		In.	In.
North Eastern Division		6.86	8.25
Northern	"	2.83	4.92
West Central D	"	8.16	9.00
Southern	"	2.43	6.08
The Island		5.07	7.05

The Rainfall in each Division was therefore below the average.

The greatest fall, viz. 19.67 inches was recorded at Golden Grove in Hanover, and the smallest viz., 0.23 inches was recorded at the Plumb Point Light House.

At Newhaven Gap the rainfall for August and September amounted to 13.63 inches and the Thermometer at Cinchona 6ft underground, registered 63.8.

## ACCIDENTS CAUSED BY LIGHTNING.

In the month of September each year a large number of accidents caused by Lightning are generally reported; the number this year is unusually large, and we can refer to only the two following.

Chester Castle house.—On Thursday, Sept. 10th, Chester Castle, Hanover, the residence of Dr. E. H. Cooke, was struck by lightning in a most appalling manner. There was an imperfect lightning-conductor on the roof unconnected with the metal-work, and almost unconnected with the ground; the lightning struck the top of the conductor, but failing to reach "earth," it branched in two directions; the first branch went down the conductor until it was about two feet from the ground, when it dashed through a bed-room, one of the walls being of mason work two feet thick, along the trellis work of a verandah, turned a corner sharply and went to earth in a large hole which it dug in the garden in front of the drawing-room door. The other branch went down some metal-work in the roof as far as it could, and then split off in every direction doing damage to several rooms, as for instance sending the wood-work of a window flying 80 or 40 yards away from the house, and generally, breaking the glass, smashing the facings, and cracking the plaster.

There were several ladies and gentlemen in the house at the time, among the latter being His Lordship the Bishop of Jamaica; but although most of them received severe shocks, yet none of them were actually struck by the lightning. Dr. Cooke describes the general effect as that of an explosion caused by dynamite.

As it was raining at the time, and as the ground was very damp as usual at Chester Castle at that time of the year, it is difficult to understand why the lightning could not have made "earth" more easily; but still, when lightning *does* strike a building, it generally exhibits all the freaks and violence described above.

Shettlewood Pen.—On Thursday the 24th Sept., eight fine and valuable steers were killed by a flash of lightning in the Shettlewood pastures, Hanover. The animals were in an irregular line, and the strange part about the occurrence is that the lightning did not make "earth" at either one end or the other of the line, but somewhere about the middle. A ninth animal, about 80 feet from the line was found to be paralyzed at the time, but afterwards recovered.

## BAROMETRIC DEPRESSIONS IN SEPTEMBER.

These were no depressions concerning which it was considered necessary to warn the public during September. On the 17th the barometer began to fall slightly and, the fall continuing, it was considered advisable to exchange telegrams between Kingston and Montego Bay on the 19th when the fall was about the tenth of an inch below the mean. It appeared however from the upper cloud drift which was from the West in both places and from the barometer which was also practically the same at Montego Bay and Kingston that the depression was owing to a cyclone far to the North of Jamaica probably near to the Bahamas. It therefore did not seem necessary to take any further action, the danger being far removed from and never threatening Jamaica. Confirmation would seem to have been since received of the above in the shape of telegraphic reports that on the 20th September a cyclone was passing over or near to Bermuda.<sup>c</sup>

ROBT. JOHNSTONE.

Kingston, 15th October, 1891.

## ON THE PROTECTION OF BUILDINGS FROM LIGHTNING.

A few years ago a conference was held in England on this subject: the Report† was drawn up by a

\* See "The Telegram" Colon 1st October, 1891.

† Report of the Lightning Rod Conference, edited by the Secretary, G. J. Simons, F. R. S., London, Spon., 16 Charing Cross; 1892.

Committee composed of eminent electricians, architects, engineers, meteorologists and makers of lightning-rods; and as may be supposed, the Report is both valuable and conclusive.

The following remarks are not based solely upon that Report; they are rather the results of my experience in Jamaica, and as such may have some small independent weight of their own.

In order to protect any building from lightning a copper rod should be attached to the roof or chimney so that the top of the rod may reach a few feet above the highest part of the roof or chimney; this copper rod should be continued down to the ground by other rods or by ropes or strips of copper; and the lower end of this conductor should be fastened to a large plate of copper buried deep in the ground.

The highest part of this conductor which projects above the roof or chimney is called the *terminal*; the terminal should be pointed; and a few curved spikes of copper should be firmly attached and soldered to the terminal about nine inches below its point; these spikes should be about six inches in length, they should have sharp points and they should be neatly arranged so as to form a kind of plume. These spikes and points should not be painted; they may be gilded; but gilding is not necessary.

The points allow a slow but continual discharge of electricity from the ground into the air (supposing that the ground and air are not in electric equilibrium; and by thus quietly discharging the ground they tend to prevent the passage of lightning from the clouds to the ground discharged).

The terminal should be a round copper rod not less than half an inch in diameter;\* it should not project more than three or four feet above the roof or chimney, or it will injure the building by swaying with the wind; and it should be attached by clamps of metal, or of wood, or of both.

The terminal should be connected with the earth-plate by similar rods carried outside the building; the ends of the rods should be filed so that they may form a neat over-lapping joint three inches in length; then the joints should be rivetted with copper rivets; and finally the joints should be carefully soldered.

But the terminal may be connected with the earth-plate by a copper rope or tape; if a rope be used, it should not be less than five-eighths of an inch in diameter; if a tape it should be an eighth of an inch in thickness and its breadth should not be less than an inch and a half.

Ropes and tapes are sometimes more convenient than rods; but rods can always be bent so as to follow the outlines of the building; and unless the greatest care is taken in connecting the rope or tape with the foot of the terminal, there will always be anxiety as to the condition of the joint.

All metal-work about the roofs and walls, such as gutters and water-pipes, should be connected with the conductor by strips of copper or Muntz-metal.

The conductor may be attached to the outside of the roof and walls by any kind of clamps, and it may be painted or not.

The earth-plate should be a sheet of copper not less than three feet square; it should be buried so deep in the ground that the earth in contact is always damp. Perhaps a depth of four or five feet will generally be sufficient. In case of rock, a trench five or six yards in length should be cut so as to lead the foot of the conductor away from the building, and the trench should become deeper and deeper so that the conductor may lead downwards. If the lower end of the conductor be buried in this trench with small strips of copper attached here and there so as to take advantage of interstices in the rock, it will be found to act as well

as the earth-plate proper; but in this case plenty of charcoal should be buried in the trench to assist conduction. Generally speaking, charcoal should always be buried with the earth-plate: it assists conduction and preserves the metal from oxidization. Of course the greatest care should be taken to attach the earth-plate firmly to the conductor, and to solder the joint so that no oxidization may produce resistance to electric currents.

The importance of well-made joints, soldered while the metal is bright from the file, is very great; for if the joints are in perfect or rusty, the slow discharge from the ground upwards cannot take place; and passing from one extreme to the other, the rapidity of action of a flash of lightning is such that any resistance may produce disastrous results.

It may be asked, assuming that the lightning conductor has been properly made, do not flashes of lightning occur where the discharge is so great that no rod could insure safety? And the reply is, No; "there is no authentic case on record where a properly constructed conductor failed to do its duty."† The thickest copper rod which has been fused by lightning was one-third of an inch in diameter; and the recommendations above as to the thickness of rods, ropes and tapes, are far above this limit. When the tension of the electricity in a cloud reaches a point sufficient to overcome the resistance of the intervening air, a flash passes to the ground; the tension is at once relieved, but perhaps it again increases, when another flash passes; and so on; the electricity in a cloud does not therefore increase beyond a certain limit measured by the resistance of the intervening air.

The next point for discussion is the extent of area protected by the rod; the old rule was that the rod protected an area whose radius was twice the height of the rod. In many cases in Europe this rule has been known to fail; but for Jamaica where the flashes generally come straight down from the clouds at a great height above the ground I am inclined to think that the rule holds good.

The small extent of the area protected shows that rods do not "attract" lightning, as is often supposed; they merely allow such flashes as would otherwise fall within the defined area to pass below ground without doing any damage.

By means of this rule we can determine whether one rod is sufficient to protect a large building, or whether two or more are required, or whether one rod on a house is sufficient to protect the yard.

With regard to country houses in Jamaica I would recommend a moderately high lightning rod attached to a pole so placed as to protect the yard, and another rod attached to the dwelling house, the latter being a good deal the lower of the two; the effect being that the higher rod in the yard receives all the flashes as a rule, while the house is in perfect safety. The rod in the yard might of course be made high enough to protect both the house and its surroundings; but this would be difficult; and even then all the metal-work of the house should be connected with the ground. So that a moderately high rod in the yard, and a lower one for the house, will most easily meet all the requirements.

I might here mention that all the old rusty iron rods formed of bars of iron clumsily hooked together, and having little or no connection with the ground, should be pulled down as a source of danger rather than otherwise; and that all good iron rods properly jointed, whose diameters are not less than an inch and a quarter, such as are often attached to Churches, Court houses, &c., should be examined from time to time to insure their proper connection with their earth-plates; for if the latter are of copper, galvanic action soon removes

\* The Kempshot rod is nine-sixteenths of an inch in diameter.

† Report of the Lightning Rod Conference, p. 3.

the connection ; if they are of iron, the iron soon rusts away ; and then the rods become a source of danger.

This leads us to the subject of testing lightning rods, a subject not overlooked by the Lightning Rod Conference, but from the few remarks made one might suppose that the subject was very difficult.

In the above system proposed for country houses we have two earth plates, so that by means of a single cell of any battery, Smee's for instance, a small tangent galvanometer, and a few yards of copper wire, costing altogether a few shillings, we can easily test both rods at once. From the top of the higher rod a wire is brought down to one binding screw of the cell ; from the top of the lower rod a wire is brought down to one binding screw of the galvanometer ; and by a short piece of wire the other binding screw of the cell is connected with the other binding screw of the galvanometer : the galvanic current then passes through

these wires, the galvanometer, the cell, the earth-plates, and the earth itself, as in the case of the ordinary telegraph ; and the resistance of so many yards of copper wire having been found by direct experiment, the resistance of the rods and earth-plates may be ascertained in terms of yards of copper wire.

This is the system adopted at Kempshot ; before each lightning season the two rods are thus tested, and no accident from lightning has occurred although the higher rod is frequently struck, often twice within a minute ; I am not aware that the lower rod on the house has ever been struck ; before it was erected many years ago the house was often electrified in a most disagreeable manner ; but since the rod was put up, and all the metal-work attached, those effects have all disappeared.

MAXWELL HALL.

Oct. 7th, 1891.



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JAMAICA.

NOVEMBER 30, 1891.

No. 137.

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# WEATHER REPORT

FOR THE MONTH OF

OCTOBER, 1891.

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*Published by Authority.*

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GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1891.

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Kingston	ft. 60	in. 29.920	in. 29.867	° 75.6	° 83.2	° 70.4	° 72.6	in. 0.744	in. 0.801	84	71
King's House	400	29.85	29.81	75.9	81.6	71.5	77.2	0.772	0.934	86	87
Castleton Gardens	580	29.61	29.50	71.6	79.4	64.1	73.5	0.598	0.826	77	82
Cinchona Plantation	4,907	...	...	63.4	64.6	59.7	62.8	0.512	0.572	88	94

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King's House	83.6	72.7	10.9	...	...	85	11 15 25	70	16 & 24	15	11.50
Castleton Gardens	83.6	70.4	13.2	...	...	86	3*	67	2	19	32.71
Cinchona Plantation	69.0	62.7	6.3	...	82.9	73	13 & 23	54	29	19	23.47

\* and three other occasions.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

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February 28th	3 20 p.m.	62	42	50	12.05	Heavy clouds on all sides.	B. S. G.
March 25th	6.35 a.m.	74	36	47	3.31	Clear on all sides.	M. F. B.
April 25th	2.45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.
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August 29th	3.30 p.m.	72	47	50	9.00	Fine, but heavy rain all the morning	M. F. B.
September 27th	10.45 a.m.	76	48	52	3.30	High wind and rainy	M. F. B.
October 31st	11.0 a.m.	72	45	57	35.12	Cloudy, inclined to rain, high wind.	M. F. B.

THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the Month for a few years past:—

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Infantile diseases not otherwise specified	23	13
Lung diseases	11	12
Fever	4	5
Dysentery and Diarrhoea	9	3
Various	29	46
Total	76	79

RAINFALL FOR OCTOBER, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

NORTH-EASTERN DIVISION.		OCTOBER.	
		1891.   Average.	
		In.	In.
Morant Point L. H.	St. Thomas	19.41	13.40
Hordley	...	23.07	14.55
Boston	Portland	...	...
Cinchona Plantation	St. Andrew	23.47	20.58
New Haven Gap	...	...	...
Buff Bay	Portland	...	...
Annotto Bay	St. Mary	...	...
Stony Hill Reformatory	St. Andrew	20.16	15.60
Castleton Gardens	St. Mary	32.71	12.49
Lawrence's Tavern	St. Andrew	16.73	...
Dover	...	...	...
Quebec	...	...	...
Richmond	...	19.24	...
Port Maria	...	19.58	...
Gayle	...	17.25	13.98
Rio Hoe	St. Ann	16.76	13.07
Unity Valley	...	16.44	7.85
Moneague	...	16.32	...
Claremont*	...	18.86	...
Pedro	...	...	...
Albion	...	18.54	7.88
Averham Park	...	20.71	...
Alderton	...	17.55	...
Drax Hall	...	20.63	7.30
St. Anns Bay	...	19.23	...
Seville	...	19.20	6.86
Llandoverly	...	...	8.17
Richmond Estate	...	19.14	9.28
Southfield	...	22.17	...
Means		20.56	11.90

NORTHERN DIVISION.		OCTOBER.	
		1891.   Average.	
		In.	In.
Brown's Town	St. Ann	13.55	...
Home Castle	...	13.72	...
Richmond Pen	...	6.95	...
Colchis Pen	Trelawny	11.87	...
Mahogany Hall	...	10.11	5.02
Braco	...	12.46	4.81
Arcadia	...	13.85	...
Harmony Hall	...	12.13	4.14
Lancaster	...	12.53	5.10
Vale Royal	...	11.91	5.91
Hyde	...	11.19	7.59
Georgia	...	...	5.29
Steelfield	...	11.73	5.98
Oxford	...	11.74	...
Cambridge	...	11.47	4.86
Dry Valley	...	12.40	...
Lottery	...	8.88	6.12
Falmouth	...	14.25	...
Falmouth P. W. Office	...	11.77	...
Holland Pen	...	10.56	...
Golden Grove	...	7.17	6.66
Pembroke	...	...	5.17
Green Park	...	...	...
Phoenix	...	11.12	5.95
Tilston	...	8.15	6.69
Orange Valley	...	14.73	5.81
Kent	...	10.23	5.65
Dundee	...	10.62	5.70
Weston Favel	...	...	...
Gale's Valley	...	12.15	7.43

\* Gauge overflowed on night of 29th with a probable loss of one inch, which is included in above total.

NORTHERN DIVISION, contd.		OCTOBER.	
		1891.   Average.	
		In.	In.
Greenwood	St. James	11.86	...
Bellfield	...	...	...
Gullsbro'	...	7.77	...
Spring Vale	...	...	8.62
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	5.63
Jeogan	...	9.60	...
Ironshore	...	10.06	5.25
Friendship	...	11.90	...
Providence	...	...	...
Montego Bay (Market)	...	...	...
Montego Bay P. W. Office	...	...	...
Catherine Hall	...	13.95	6.73
Catherine Mount	...	10.97	7.67
Fairfield	...	11.54	...
Means		11.18	5.93

WEST CENTRAL DIVISION.		OCTOBER.	
		1891.   Average.	
		In.	In.
Dove Hall	St. Catherine	12.12	...
Linstead	...	9.61	9.16
Ewarton	...	14.90	...
Chapelton	Clarendon	12.62	...
Cave Valley	St. Ann	11.59	10.41
Watson's Gate	Manchester	21.60	...
Mandeville	...	22.88	...
Balaclava	St. Elizabeth	14.18	...
Appleton	...	14.20	12.10
Windsor Pen	Trelawny	8.17	...
Maroon Town	St. James	14.46	...
Kepp	St. Elizabeth	13.83	11.30
Peter's Ville	Westmoreland	12.42	...
Mount Edgecombe†	...	16.25	8.93
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	9.97	...
Chester Castle	Hanover	8.51	...
Copse	...	7.73	10.94
Kempshot	St. James	8.69	...
Anchovy	...	13.89	7.13
Wiltshire	...	...	7.90
Eden	...	7.93	...
Round Hill	Hanover	9.75	5.45
Cacoon Castle	...	...	8.11
Golden Grove	...	14.65	9.74
Flint River	...	13.59	...
Tryall	...	13.60	6.85
Sandy Bay	...	13.56	...
Sweet River	Westmoreland	14.01	...
Windsor (Sav.-la-Mar)	...	...	8.42
Sav.-la-Mar P. W. Office	...	13.07	...
Kew	Hanover	9.47	...
Lucea P. W. Office	...	10.63	...
Three Mile River	Westmoreland	...	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
King's Valley	...	15.75	...
Orange Cove	Hanover	13.53	9.06
Abingdon	...	13.35	...
Means		12.60	9.19

† Includes an addition of 3 inches on account of overflowing of gauge.—See post.

SOUTHERN DIVISION.

OCTOBER.

		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey*	...	13.50	...
Halberstadt	St. Andrew	...	...
Gordon Town	...	17.51	...
Woodford	...	...	...
Hope Plantation	...	14.53	...
Hope Reservoirs	...	...	9.56
Cherry Garden	...	12.38	...
Constant Spring	...	...	...
Shortwood	...	11.74	...
Camperdown	...	9.65	...
King's House	...	11.50	12.19
Monatrie	...	14.69	11.64
Public Works Office, Kingston	...	8.52	10.28
Plumb Point L. H.	...	9.15	9.96
Spanish Town	St. Catherine	11.98	8.52
Windsor Park	...	13.42	...
Hog Hole Pen	...	13.73	8.09
Headworks, R. C. O.	...	12.98	10.24
Old Harbour	...	12.04	...
Farm Plantation	Manchester	15.34	14.32
Stone's Hope	...	19.87	...
Brokenhurst Pen	...	18.50	...
Pepper	St. Elizabeth	16.05	10.07
Long Hill	...	21.54	8.85
Potsdam	...	15.66	...
Gilnock Hall	...	...	...
Santa Cruz Poorhouse	...	16.14	...
Black River	...	...	9.32
Means		13.55	10.42

COMPARATIVE TABLE OF RAINFALL.

(Based upon the "Average" Stations only.)

		OCTOBER.	
		1891.   Average.	
		In.	In.
North Eastern Division		20.56	11.90
Northern	"	11.13	5.93
West Central D	"	12.60	9.19
Southern	"	13.55	10.42
The Island		14.46	9.36

The Rainfall in the North-eastern and Northern Divisions was about double the average, and in the West, Central and Southern Divisions about one-and-a-third times the average fall.

The greatest fall, viz.: 32.71 inches was recorded at the Castleton Gardens, and the smallest, viz.: 6.95 inches was recorded at Richmond Pen in St. Ann. The Rainfall at Blue Mountain Peak, however, from 27th September to 31st October, was 35.12 in.

\* 3.80 Inches fell in 4 hours on 25th.

It will thus be seen that the October "Seasons" have been experienced generally over the whole Island, being in many cases far in excess of the average. This excess occurred chiefly in the North-eastern Division (although the Northern Division ran it close), the fall in some cases being between two and a half and three times the average and in this Division consequently very considerable damage has been done to the roads. It is also reported that damage has been done to the newly constructed bridges in Portland, and to their approaches, in one case the river changing its course and rendering the bridge temporarily useless; in this region too numerous and large landslips have taken place, in one case a hut being carried bodily down with the result that a man inside, unconscious of his danger, lost his life.

From Mount Edgecombe in the West-Central Division Mr. C. B. Vickers writes as follows:—"The rain on 4th to 5th Oct.—7 a.m. of 4th to 7 a.m. of 5th was the heaviest 24 hours rain for at least 20 years.\* I emptied the gauge at 10 p.m. of 4th with 2.59 inches, seeing that the night looked stormy and next morning the gauge was overflowing—the full jar giving 3.80 which with the above 2.59 gives a total of 6.39 recorded, but how much was lost by the overflow I cannot tell—probably the 24 hours rain was about 9 to 10 inches, for the rain in the night was incessant. During the time I have kept a rain-gauge—from August 1879—I have had it overflowing seven times. The capacity of 3.60 inches is insufficient for this country."

ACCIDENT CAUSED BY LIGHTNING.

The following has come to hand from Dr. J. H. Clark of Santa Cruz:—

St. Elizabeth, Sunday Oct. 18, 1891, at 1.30 p.m. "Meribah House" struck by lightning. Two glass windows and two jalousies with the "facings" blown to pieces: the mason worked walls had port holes made through them; the plaster flying in all directions. In this room 3 ladies and 3 children were sitting, all were knocked down: one lady and an infant receiving nasty wounds: one child was insensible for half-an-hour: all suffered from shock. The lightning dashed through the roof into a bed-room on the opposite side smashing large beams of wood, and the roof in two: a hen on a nest was killed and the eggs exploded in all directions. No lives were lost. There was no lightning conductor. The house is exposed on top of a Hill. It was raining hard at the time.

SQUALL AT SAV.-LA-MAR.

A sharp squall occurred at Sav.-la-Mar between 4.30 and 5 p.m., October 10th. The squall was from the south, and the wind blew hard for 4 or 5 minutes, with the unfortunate result that some canoes were upset and two women drowned.

EARTHQUAKE OF 27TH OCTOBER, 1891.

There was felt a shock of earthquake over the whole Island at about 1.40 a.m. on the 27th October, which, in some cases, was felt as a double shock. With regard to its action in Kingston, I am unable to say much, from my own personal observation, as by the time I had become properly awake, the shock was just coming to an end, and I had opportunity only to observe the time, viz.: 1.40 a.m., by the Parish Church Clock. I am inclined to think that the whole thing could not have lasted longer than twenty seconds, and that it was probably less, although many people at the time put it at much more than that; but, in the case of an earthquake, it is very difficult to judge from one's feelings alone, and the actual timing of a shock by a watch, from first to last, generally reduces very considerably the apparent duration of it. The following are notes which have been received of this shock; it will be noticed that the times given vary, but in most cases the difference is not very

† This of course refers only to Mount Edgecombe.—R.J.

much, and can be accounted for by errors in clocks and watches. There are also discrepancies as to the nature of the shock, some people considering it to have been a very severe one, and others not reporting it as such. The fact that most people were rudely aroused from their sleep by it will probably account for this. On the other hand, some people slept through it.

*Kingston.*—Shock of earthquake at 1.49 a.m., 27th October, of about 12 seconds' duration apparently from the S.E. Three shocks were felt. Bar. at time of shocks 29.933 in and afterwards at 2 a.m. 29.934 No. 2 shock apparently the strongest: there was no wind at the time. Hazy and long strato-cumulus clouds at the East, a light N wind rose at 2 a.m.—(J. F. BRENNAN.)

*Shortwood College, St. Andrew.*—A sharp shock of earthquake on Tuesday the 27th at 1.45 a.m., followed by a much slighter one at 3.30 a.m.—(A. C. JOHNSON.)

*Stony Hill.*—Felt here by Mr. H. Washington, who gives the time as 1.45.

*Cinchona Plantation.*—A shock of earthquake was felt here about 1.35 this morning (27th). It awoke me, and, as far as I could judge, appeared to last longer than usual.—(W. FAWCETT.)

*The Abbey, St. Thomas.*—Heavy shock of earthquake about 2 a.m.—(T. P. MANNERS.)

*Claremont, St. Ann.*—Earthquake on 27th at 1.35 a.m., not preceded by rumbling as usual: first shock apparently horizontal from south to north before the upheaval.—(C. W. STEER.)

*Windsor Pen, Trelawny.*—At 1.50 a.m. (local time) on 27th, a double shock of earthquake occurred.—(W.D.H.)

*Mahogany Hall, Trelawny.*—Two shocks of earthquake at 1.20 a.m.—(J. W. FISHER.)

*Falmouth.*—Earthquake, twenty minutes to two o'clock on the 27th.—(W. T. ATKINSON.)

*Bellfield Estate, St. James.*—A smart shock of earthquake at about 1.40 a.m.—(W.O.)

*Montego Bay.*—Two slight shocks separated by 4 or 5 seconds of time were felt at 1.35 a.m. by the Church clock. The first was an upheaval, the second a series of horizontal vibrations which made all the windows rattle.—(MAXWELL HALL.)

*Golden Grove, Hanover.*—A shock of earthquake was here between 1 and 2 a.m., 27th, it was the most terrific since 1864, seventeen years ago, its duration being 15 to 18 seconds.—(JOHN A. TAYLOR.)

*Kings Valley Westmoreland.*—A severe shock of earthquake felt here at 10 to 2 Tuesday morning 27th October.—(C. H. ALDER.)

*Mount Edgecombe, Westmoreland.*—There was a shock of earthquake here at 1.50 a.m. of Tuesday, 27th Oct. It was rather prolonged but not severe. The direction seemed to be from west to east.—(CHAS. B. VICKERS.)

*Long Hill, St. Elizabeth.*—At 1.37 a.m. Tuesday the 27th October, at Loughill two shocks of earthquake felt. The first shock light, but immediately followed by a sharper shock of some three seconds duration. Direction, North to South. No danger done.—(J. H. CLARK.)

*Potsdam, St. Elizabeth.*—At 1.38 a.m. two severe shocks of earthquake were felt. The second, which was more violent, followed after an interval of more than ten seconds. Direction, apparently from S.E.—no rumbling heard.—(W. D. PEARMAN.)

*The Alley, Clarendon.*—On Tuesday morning, at 1.45 a.m., we had a pretty sharp shock of earthquake here. It lasted for quite half-a-minute, and the direction was from the East to West.—(G. MOULD.)

#### BAROMETRIC DEPRESSIONS IN OCTOBER, 1891.

On the 30th October, telegrams were exchanged between Lucea (where Mr. Maxwell Hall now resides) and Kingston, from which it appeared that between 2 and 7 on that morning a small depression passed rapidly westward from Lucea giving at 2 a.m. at that place rain squalls and a high E.N.E. wind. At 7 the bar. had risen and the sky had cleared, the weather being fair and the wind fresh from E.S.E. In Kingston only steady rain was experienced, the weather beginning to clear up about 1 p.m. This small depression, which formed over the West End may perhaps, as has happened in previous cases during October "seasons," have developed on its path to the Westward into a fully formed cyclone. A notice to the above effect was duly issued with the Daily Weather Report for the 30th October.

ROBT. JOHNSTON.  
Kingston, 21st November, 1891.



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JAMAICA.

DECEMBER 30, 1891.

No. 138.

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# WEATHER REPORT

FOR THE MONTH OF

NOVEMBER, 1891.

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**Published by Authority.**

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JAMAICA:  
GOVERNMENT PRINTING ESTABLISHMENT 79 DOKE STREET, KINGSTON.

1891.

## METEOROLOGICAL RESULTS FOR NOVEMBER, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 29.964	in. 29.908	° 72.7	° 83.6	° 69.2	° 70.8	in. 0.713	in. 0.754	88	66
King's House	400	29.87	29.82	74.3	79.9	69.1	73.0	0.711	0.812	84	80
Castleton Gardens	580	...	...	70.1	77.8	68.2	72.2	0.689	0.790	94	83
Cinchona Plantation	4,907	...	...	69.8	65.9	57.1	62.3	0.467	0.562	88	86

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	84.1	69.3	14.8	Var.	63.1	89.9	9	66.8	29	23.0	in. 2.05
King's House	80.5	70.8	9.7	...	...	82	1*	66	29	16	5.40
Castleton Gardens	80.8	69.0	11.8	...	...	84	3	61	25	23	19.80
Cinchona Plantation	68.8	61.1	7.7	...	70.2	72	14 & 25	53	26 & 27	19	16.52

\* and several other days.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

## BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3.20 p.m.	62	42	50	12.05	Heavy clouds on all sides.	B. S. G.
March 25th	6.35 a.m.	74	36	47	3.31	Clear on all sides.	M. F. B.
April 25th	2.45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.
May 31st	2.30 p.m.	73	41	62	16.22	Fair, clouds and rain at intervals	M. F. B.
June 28th	2.15 p.m.	73	45	60	21.60	Fine but inclined to storms	M. F. B.
August 1st	2.35 p.m.	70	46	65	9.00	Fine clear and sunny	M. F. B.
August 29th	3.30 p.m.	72	47	50	9.00	Fine, but heavy rain all the morning	M. F. B.
September 27th	10.45 a.m.	76	48	52	3.30	High wind and rainy	M. F. B.
October 31st	11.0 a.m.	72	46	57	35.12	Cloudy, inclined to rain, high wind.	M. F. B.
November 28th	2.5 p.m.	69	42	64	33.27	Fine, sunny, cool.	M. F. B.

## THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the Month for a few years past:—

	NOVEMBER.	
	1891.	Average.
Infantile diseases not otherwise specified	18	14
Lung diseases	15	14
Fever	8	8
Dysentery and Diarrhoea	7	3
Various	46	55
Total	94	94

## RAINFALL FOR NOVEMBER, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

**NORTH-EASTERN DIVISION. NOVEMBER.**

		1891.   Average.	
		In.	In.
Morant Point L. H.	St. Thomas	10.20	8.72
Herdley	...	12.43	10.19
Boston	Portland	...	...
Cinchona Plantation	St. Andrew	16.52	13.66
New Haven Gap	...	...	...
Buff Bay	Portland	...	...
Annotto Bay	St. Mary	...	...
Stony Hill Reformatory	St. Andrew	6.75	8.65
Castleton Gardens	St. Mary	19.80	10.68
Lawrence's Tavern	St. Andrew	5.02	...
Dover	St. Mary	...	...
Quebec	...	...	...
Richmond	...	12.66	...
Port Maria	...	10.30	...
Gayle	...	11.60	...
Lucky Hill	...	10.01	...
Bio Hoe	St. Ann	9.15	8.83
Unity Valley	...	11.02	7.59
Moneague	...	9.80	...
Claremont <sup>a</sup>	...	13.40	...
Pedro	...	...	...
Albion	...	14.81	10.23
Averham Park	...	14.48	...
Alderton	...	12.78	...
Drax Hall	...	...	11.06
St. Anns Bay	...	11.19	...
Seville	...	10.33	9.31
Llandoverly	...	...	7.51
Richmond Estate	...	...	8.45
Southfield	...	16.76	...
<b>Means</b>		<b>12.33</b>	<b>9.76</b>

**NORTHERN DIVISION. NOVEMBER.**

		1891.   Average.	
		In.	In.
Brown's Town	St. Ann	11.58	...
Home Castle	...	...	...
Richmond Pen	...	...	...
Colchis Pen	Trelawny	...	...
Mahogany Hall	...	5.11	4.19
Braco	...	...	6.13
Arcadia	...	...	...
Harmony Hall	...	6.46	...
Lancaster	...	...	6.76
Vale Royal	...	...	7.05
Hyde	...	...	7.52
Georgia	...	...	6.10
Steelfield	...	...	5.74
Oxford	...	...	...
Cambridge	...	...	4.64
Dry Valley	...	5.55	...
Lottery	...	...	...
Falmouth	...	4.15	4.93
Falmouth P. W. Office	...	3.79	...
Holland Pen	...	...	...
Golden Grove	...	3.60	5.71
Pembroke	...	...	5.23
Green Park	...	...	6.15
Phoenix	...	8.62	...
Tilston	...	4.25	5.04
Orange Valley	...	6.15	5.24
Kent	...	5.30	4.00
Dundee	...	6.09	7.50
Weston Favel	...	...	...
Gale's Valley	...	8.29	4.73

**NORTHERN DIVISION, contd. NOVEMBER.**

		1891.   Average.	
		In.	In.
Greenwood	St. James	6.05	...
Bellfield	...	...	...
Guildsbro'	...	5.95	...
Spring Vale	...	...	5.03
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	8.79	...
Ieogan	...	8.40	...
Ironshore	...	7.81	3.20
Friendship	...	4.15	...
Providence	...	...	...
Montego Bay (Market)	...	...	...
Montego Bay P. W. Office	...	...	...
Catherine Hall	...	8.00	3.40
Catherine Mount	...	6.55	4.16
Fairfield	...	6.40	...
<b>Means</b>		<b>5.94</b>	<b>4.74</b>

**WEST CENTRAL DIVISION. NOVEMBER.**

		1891.   Average.	
		In.	In.
Dove Hall	St. Catherine	5.88	...
Linstead	...	3.78	4.89
Ewarton	...	3.55	...
Chapelton	Clarendon	...	...
Savoy	...	3.18	...
Cave Valley	St. Ann	...	5.26
Watson's Gate	Manchester	5.17	...
Mandeville	...	6.46	...
Balaclava	St. Elizabeth	...	...
Appleton	...	3.18	6.03
Windsor Pen	Trelawny	5.96	...
Maroon Town	St. James	5.50	...
Kepp	St. Elizabeth	...	5.93
Peter's Ville	Westmoreland	5.60	...
Mount Edgecombe	...	4.00	4.72
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	...	...
Chester Castle	Hanover	2.81	...
Copse	...	4.83	7.61
Kempshot	St. James	9.70	...
Anchovy	...	6.67	3.77
Wiltshire	...	...	5.53
Eden	...	4.24	...
Round Hill	Hanover	5.70	3.50
Caccen Castle	...	5.17	5.89
Golden Grove	...	5.69	6.89
Flint River	...	5.78	...
Tryall	...	6.04	3.64
Sandy Bay	...	6.10	...
Sweet River	Westmoreland	2.36	...
Windsor (Sav.-la-Mar)	...	...	4.62
Sav.-la-Mar P. W. Office	...	1.82	...
Kew	Hanover	6.90	...
Lucea P. W. Office	...	8.07	...
Haughton Grove	...	4.18	...
Three Mile River	Westmoreland	...	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
King's Valley	...	3.85	...
Orange Cove	Hanover	...	...
Abingdon	...	...	...
<b>Means</b>		<b>5.01</b>	<b>5.10</b>

## SOUTHERN DIVISION.

## NOVEMBER.

		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey*	...	2.15	...
Bull Bay	St. Andrew	3.24	...
Halberstadt	...	...	...
Gordon Town	...	5.21	...
Woodford	...	...	...
Hope Plantation	...	4.93	...
Hope Reservoirs	...	...	9.56
Cherry Garden	...	5.84	...
Constant Spring	...	...	...
Shortwood	...	...	...
Camperdown	...	5.91	...
King's House	...	5.40	2.44
Monaltrie	...	6.99	5.71
Public Works Office, Kingston	...	3.97	3.90
Plumb Point L. H.	...	1.12	3.50
Spanish Town	St. Catherine	5.14	2.56
Windsor Park	...	...	...
Hog Hole Pen	...	1.58	3.52
Headworks, R. O. C.	...	...	5.00
Old Harbour	...	4.24	...
Farm Plantation	Manchester	8.58	5.40
Stone's Hope	...	8.93	...
Brokenhurst Pen	...	11.45	...
Alligator Pond	...	1.00	...
Pepper	St. Elizabeth	...	5.09
Long Hill	...	6.79	3.83
Potsdam	...	7.03	...
Gilnock Hall	...	...	...
Northampton	...	4.50	...
Santa Cruz Poorhouse	...	3.50	...
Black River	...	...	5.43
	Means	4.95	3.86

## COMPARATIVE TABLE OF RAINFALL.

(Based upon the "Average" Stations only.)

		NOVEMBER.	
		1891.   Average.	
		In.	In.
North Eastern Division		12.33	9.76
Northern	"	5.94	4.74
West Central E	"	5.01	5.10
Southern	"	4.95	3.86
	The Island	7.06	5.86

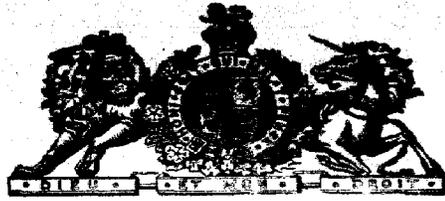
The Rainfall in the North-eastern and Southern Divisions was above the average; in the remaining Divisions it was about the average.

The greatest fall, viz. 19.80 inches was recorded at the Castleton Gardens, and the smallest, viz. 1.12 inches was recorded at the Plumb Point Light House. The Rainfall at Blue Mountain Peak, however, from 31st October to 28th November, was 33.27.

At Cinchona Plantation the Thermometer which is 6 feet underground registered a mean temperature at 7 a.m. of 63.1 degs. and at 3 p.m. of 63.5 degs.

ROBT. JOHNSTONE.

21st December, 1891.



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JAMAICA.

JANUARY 26, 1892.

No. 139.

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# WEATHER REPORT

FOR THE MONTH OF

DECEMBER, 1891.

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Published by Authority.

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JAMAICA:  
GOVERNMENT PRINTING OFFICE, 79 DUKE STREET, KINGSTON.  
1892.

METEOROLOGICAL RESULTS FOR DECEMBER, 1891.

STATION.	ELEVATION.	MEANS FOR THE MONTH.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
Kingston	ft. 60	in. 30.039	in. 29.978	° 69.8	° 84.0	° 64.5	° 68.0	in. 0.607	in. 0.684	83	59
King's House	400	...	...	70.9	78.9	64.6	71.3	0.609	0.766	81	78
Castleton Gardens	580	...	...	67.4	76.2	66.3	69.2	0.646	0.713	96	79
Cinchona Plantation	4,907	...	...	58.1	67.6	58.9	57.1	0.416	0.467	86	69

STATION.	MEANS FOR THE MONTH.					EXTREMES FOR THE MONTH.					TOTAL RAINFALL.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
Kingston	87.1	69.4	17.7	Var.	71.1	89.3	14	63.9	24	25.4	inch. 0.23
King's House	80.8	66.9	13.9	...	...	83	2*	62	15&16	21	1.50
Castleton Gardens	80.0	67.1	12.9	...	...	83	2	56	18	27	11.10
Cinchona Plantation	68.5	58.3	10.2	...	59.4	71	1*	51	18	20	6.20

\* and several other days.

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

DAY.	HOUR.	TEMPERATURE.		Temp.	Rain.	Remarks.	Observer's initials.
		Max.	Min.				
1891.		°	°	°	in.		
January 31st	3 p.m.	73	42	50	58.20	Misty, high wind	B. S. G.
February 28th	3 20 p.m.	62	42	50	12.05	Heavy clouds on all sides.	B. S. G.
March 25th	6.35 a.m.	74	36	47	9.31	Clear on all sides.	M. F. B.
April 25th	2.45 p.m.	76	41	60	10.09	Cold, cloudy, inclined to rain	M. F. B.
May 31st	2.30 p.m.	73	41	62	16.22	Fair, clouds and rain at intervals	M. F. B.
June 28th	2.15 p.m.	73	45	60	21.60	Fine but inclined to storms	M. F. B.
August 1st	2.35 p.m.	70	46	65	9.00	Fine clear and sunny	M. F. B.
August 29th	3.30 p.m.	72	47	50	9.00	Fine, but heavy rain all the morning	M. F. B.
September 27th	10.45 a.m.	76	48	52	3.30	High wind and rainy	M. F. B.
October 31st	11.0 a. m.	72	45	57	35.12	Cloudy, inclined to rain, high wind.	M. F. B.
November 28th	2.5 p.m.	69	42	64	33.27	Fine, sunny, cool.	M. F. B.
January 3rd 1892	11.15 a.m.	70	36	67	23.50	Fine and sunny.	M. F. B.

THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the Month for a few years past:—

	DECEMBER.	
	1891.	Average.
Infantile diseases not otherwise specified	10	17
Lung diseases	12	14
Fever	15	10
Dysentery and Diarrhoea	6	5
Various	60	55
Total	103	101

RAINFALL FOR DECEMBER, 1891.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rain, fall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only these Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

NORTH-EASTERN DIVISION.		DECEMBER.	
		1891.   Average.	
		In.	In.
Morant Point L. H.	St. Thomas	8.90	6.78
Hordley	...	9.97	8.57
Boston	Portland	...	...
Cinchona Plantation	St. Andrew	6.20	13.83
New Haven Gap	...	...	...
Buff Bay	Portland	...	...
Annotto Bay	St. Mary	...	...
Stony Hill Reformatory	St. Andrew	3.63	3.71
Castleton Gardens	St. Mary	11.10	13.07
Lawrence's Tavern	St. Andrew	2.37	...
Dover	St. Mary	...	...
Quebec	...	...	...
Richmond	...	12.10	...
Port Maria	...	6.13	...
Gayle	...	11.45	...
Lucky Hill	...	18.38	...
Bio Hoe	St. Ann	12.75	11.49
Unity Valley	...	11.61	10.74
Moneague	...	13.08	...
Claremont	...	13.59	...
Pedro	...	...	...
Albion	...	13.14	8.07
Averham Park	...	12.80	...
Alderton	...	11.64	...
Drax Hall	...	...	8.57
St. Ann's Bay	...	6.53	...
Seville	...	...	8.10
Llandoverly	...	...	8.47
Richmond Estate	...	...	7.14
Southfield	...	7.55	...
	Means	9.66	9.53

NORTHERN DIVISION.		DECEMBER.	
		1891.   Average.	
		In.	In.
Brown's Town	St. Ann	14.36	...
Home Castle	...	...	...
Richmond Pen	...	...	...
Colchis Pen	Trelawny	...	...
Mahogany Hall	...	7.88	3.76
Braco	...	...	7.20
Arcadia	...	...	...
Harmony Hall	...	...	7.24
Lancaster	...	...	7.57
Vale Royal	...	...	9.29
Hyde	...	...	8.08
Georgia	...	...	8.41
Steelfield	...	...	7.99
Oxford	...	...	...
Cambridge	...	...	6.01
Dry Valley	...	5.17	...
Lottery	...	...	5.83
Falmouth	...	2.57	...
Falmouth P. W. Office	...	2.33	...
Holland Pen	...	...	...
Golden Grove	...	4.82	5.33
Pembroke	...	...	5.26
Green Park	...	...	5.87
Phoenix	...	7.42	...
Tilston	...	7.20	5.67
Orange Valley	...	4.65	6.99
Kent	...	4.11	4.57
Dundee	...	5.38	6.46
Weston-Favel	...	...	...
Gale's Valley	...	6.81	5.60

NORTHERN DIVISION, contd.		DECEMBER.	
		1891.   Average.	
		In.	In.
Greenwood	St. James	2.39	...
Bellfield	...	...	...
Guildbro'	...	4.85	...
Spring Vale	...	...	6.67
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	2.70	5.71
Leogan	...	5.72	...
Ironshore	...	3.70	3.18
Friendship	...	2.95	...
Providence	...	...	...
Montego Bay (Market)	...	...	...
Montego Bay P. W. Office	...	...	...
Catherine Hall	...	3.25	3.32
Catherine Mount	...	2.95	6.74
Fairfield	...	3.00	...
	Means	4.86	5.21

WEST CENTRAL DIVISION.		DECEMBER.	
		1891.   Average.	
		In.	In.
Dove Hall	St. Catherine	...	...
Linstead	...	3.35	2.44
Ewarton	...	3.11	...
Chapelton	Clarendon	...	...
Savoy	...	0.47	...
Cave Valley	St. Ann	...	2.75
Watson's Gate	Manchester	1.36	...
Mandeville	...	1.41	...
Balaclava	St. Elizabeth	...	...
Appleton	...	1.33	3.34
Windsor Pen	Trelawny	4.44	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	3.75	2.98
Peter's Ville	Westmoreland	2.68	...
Mount Edgecombe	...	2.24	3.23
Windsor Forest	...	...	...
Woodstock	...	...	...
Struie	...	...	...
Kew Park	...	2.56	...
Chester Castle	Hanover	2.76	...
Copse	...	1.63	4.67
Kempshot	St. James	...	...
Anchovy	...	3.01	2.48
Wiltshire	...	...	2.81
Eden	...	1.42	...
Round Hill	Hanover	1.50	1.96
Cacoon Castle	...	1.73	6.76
Golden Grove	...	6.91	2.93
Flint River	...	1.30	...
Tryall	...	2.29	2.08
Sandy Bay	...	1.28	...
Sweet River	Westmoreland	1.70	...
Windsor (Sav.-la-Mar)	...	...	2.27
Sav.-la-Mar P. W. Office	...	0.78	...
Kew	Hanover	1.55	...
Lucea P. W. Office	...	1.12	...
Haughton Grove	...	...	...
Three Mile River	Westmoreland	...	...
George's Plain Estate	...	...	...
Fontabelle	...	...	...
King's Valley	...	...	...
Orange Cove	Hanover	...	4.05
Abingdon	...	10.20	...
	Means	2.77	3.29

SOUTHERN DIVISION.		DECEMBER.	
		1891.   Average.	
		In.	In.
Albion Hospital	St. Thomas	...	...
The Abbey	...	1.00	...
Bull Bay	St. Andrew	0.00	...
Halberstadt	...	...	...
Gordon Town	...	1.32	...
Woodford	...	...	...
Hope Plantation	...	...	...
Hope Reservoirs	...	...	...
Cherry Garden	...	...	...
Constant Spring	...	...	...
Shortwood	...	...	...
Camperdown	...	0.33	...
King's House	...	1.50	0.37
Monaltrie	...	1.41	2.37
Public Works Office, Kingston	...	0.31	2.33
Plumb Point L. H.	...	0.49	1.57
Spanish Town	St. Catherine	0.79	1.66
Windsor Park	...	...	...
Hog Hole Pen	...	0.78	2.00
Headworks, R. C. C.	...	0.50	1.76
Old Harbour	...	0.56	...
Farm Plantation	Manchester	2.00	2.46
Stone's Hope	...	1.29	...
Brokenhurst Pen	...	2.85	...
Alligator Pond	...	...	...
Pepper	St. Elizabeth	0.85	1.90
Long Hill	...	2.09	3.40
Potsdam	...	1.46	...
Gilnock Hall	...	...	...
Northampton	...	...	...
Santa Cruz Poorhouse	...	0.00	...
Black River	...	...	2.29
Means		1.08	1.98

COMPARATIVE TABLE OF RAINFALL.  
(Based upon the "Average" Stations only.)

		DECEMBER.	
		1891.   Average.	
		In.	In.
North Eastern Division		9.66	9.53
Northern	"	4.86	5.21
West Central	"	2.77	3.29
Southern	"	1.05	1.98
The Island		4.59	5.00

It will be seen that the Rainfall as a whole for the month of December was nearly the average, the principal departure being in the Southern Division where about half the usual amount only fell.

The greatest fall, viz. 18.33 inches was recorded at Lucky Hill, St. Mary and no rain fell at Bull Bay and the Santa Cruz Poor-house. The Rainfall at Blue Mountain Peak, however, from 28th November to 3rd January was 23.50, and it may be interesting to note here at once that the Rainfall for the year 1891, at the Peak amounted to 234.66 inches, while the Rainfall at Kingston, 16 miles distant as the crow flies, was 23.86 inches.

At Cinchona Plantation the Thermometer which is 6 feet underground registered a mean temperature at 7 a.m. of 62.6 degs. and at 3 p.m. of 63.0 degs.

At New Haven Gap at 1.30 p.m., on the 31st December, the temperature was 53° the maximum and minimum thermometers read respectively 74°3 and 41°5 and the Rainfall from 16th November to 31st December, was 22.90 inches.

Mr. Brennan reports a slight shock of earthquake in Kingston at 6.45 a.m. on the 17th and Dr. Manners also reports that it was felt by him at Bull Bay, giving the time however as 6.50 a.m.

The following Table gives the Island Rainfall actually recorded in 1891 and published in the Monthly Weather Reports, as compared with the average Rainfall:—

ISLAND RAINFALL.			
		Rainfall recorded.	Rainfall average.
1891.	January	2.83	4.17
	February	1.91	2.55
	March	0.70	3.11
	April	7.72	3.91
	May	11.20	8.77
	June	9.20	5.57
	July	4.14	4.56
	August	6.49	6.99
	September	5.07	7.05
	October	14.46	9.36
	November	7.06	5.86
	December	4.59	5.00
The Year		75.37	66.90

The Rainfall for the year for the whole Island has thus been in excess of the average, the chief excesses occurring in April, May, June and October, and the chief deficiencies in March and September.

KINGSTON JAMAICA.—MEAN RESULTS FOR THE YEAR 1891, ELEVATION 60 FEET.

Month.	Means for the Month.												
	Pressure.		Temperature.					Dewpoint.		Vapour.		Humidity.	
	7 a.m.	3 p.m.	7 a.m.	3 p.m.	Max.	Min.	Range.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	In.	In.	°	°	°	°	°	°	°	In.	In.		
January	30.060	29.992	68.4	83.6	86.8	66.5	20.3	63.3	68.1	0.582	0.637	84	60
February	30.062	29.975	69.6	83.9	86.7	66.9	19.8	62.7	66.1	0.570	0.641	79	55
March	30.024	29.954	70.4	82.9	85.8	67.4	18.4	63.6	67.2	0.568	0.666	80	59
April	29.995	29.934	74.9	84.6	86.3	71.9	14.4	67.5	69.5	0.673	0.721	78	61
May	29.980	29.930	77.1	85.2	87.0	73.1	13.9	69.7	71.3	0.726	0.766	78	65
June	29.964	29.916	79.0	85.9	87.7	74.9	12.8	70.6	72.6	0.749	0.801	76	65
July	30.009	29.960	78.6	86.6	90.4	75.0	15.4	68.8	70.6	0.704	0.749	72	66
August	30.002	29.960	76.8	85.6	89.2	74.5	16.7	69.8	72.8	0.728	0.807	79	66
September	29.975	29.922	76.9	86.6	89.4	74.4	15.0	70.3	74.4	0.741	0.861	80	69
October	29.920	29.867	75.6	83.9	87.1	74.0	13.1	70.4	72.6	0.744	0.801	84	71
November	29.964	29.908	72.7	83.6	84.1	69.3	14.8	69.2	70.8	0.713	0.764	88	65
December	30.039	29.978	69.8	84.0	87.1	68.4	17.7	64.5	68.0	0.607	0.654	83	59
Means.	29.998	29.941	74.1	84.7	87.5	71.6	16.0	67.5	70.3	0.673	0.741	80	62

The barometric pressure is the reading of the barometer corrected for instrumental error and reduced to 32° and sea level.

	Means for the Month				Extremes for the Month.				Total Rainfall.	Remarks.	
	Cloud Percentage.		Wind.		Temperature.						
	7 a.m.	3 p.m.	From.	Miles.	Max.	Date.	Min.	Date.			Range.
January ...	13	48	S.E.	53.9	90.4	7	61.5	27	28.9	0.41	Fair, light shock of earthquake, [6 30 a.m. 27th.
February ...	30	40	S.E.	127.1	90.2	1	63.6	5	26.6	0.27	Fair, light shock of earthquake,
March ...	25	42	S.E.	73.5	91.4	15	63.2	3	28.2	0.04	Fair. [3 a.m. 16th.
April ...	31	53	S.E.	70.0	89.1	25	68.4	2&3	20.7	1.25	Fair.
May ...	48	63	S.E.	68.5	91.0	30	69.9	23	21.1	2.03	Fair.
June ...	50	74	S.E.	112.7	90.9	5	72.2	8	18.7	6.47	Fair.
July ...	38	62	S.E.	116.7	96.1	13	72.0	1	24.1	0.49	Fair.
August ...	44	74	S.E.	99.8	96.7	20	76.0	29	26.7	3.08	Fair, Absolute maximum temper-
September ...	56	84	S.E.	41.6	91.7	25	70.5	7	21.2	1.54	Fair. [ature in past 11 years
October ...	74	90	Var.	77.8	91.7	24	70.3	29	21.4	9.10	Average "seasons", sharp shock of
November ...	36	68	Var.	63.1	89.9	8	66.9	29	23.0	3.95	Fair. [earthquake, 1 40 a.m. 27th
December ...	23	61	Var.	71.1	89.3	14	63.9	24	25.4	0.23	Fair, slight shock of earthquake, 6.45 a.m. 17th.
Means.	39	63	S.E.	78.4	91.5		67.7		23.8	28.86	
Totals.											

RERT. JOHNSTONE,  
Kingston, 19th Janu ry, 1892.