

JAMAICA.

OCTOBER 16, 1890.

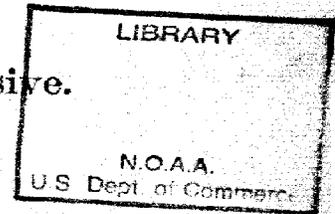
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METEOROLOGICAL RESULTS

FOR THE TEN YEARS

QC
987
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W34
1880-1890

From June, 1880, to May, 1890, inclusive.



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1890.

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NEW SERIES—VOL. XIII.

THURSDAY, OCTOBER 16, 1890.

No. 32.

1880. Kingston: Meteorological Results, &c.

Month.	Barom. Pressure.	Temperatures.				Wind S. E. Miles per diem.	Vapour.			Rainfall.		Infantile Diseases.	Lung Diseases.	Fever.	Dysentery and Diarrhoea.	Various.	Total.	Annual Rate per 1,000.
		Mean.	Max.	Min.	Range.		Dew Point.	Humidity.	Cloud per cent.	Kingston.*	The Island.							
June	30.025	80.6	90.6	72.2	18.4	96	72.7	77	24	0.12	3.09	8	19	10	12	49	98	31.0
July	30.031	79.5	90.4	72.0	18.4	79	72.4	79	34	1.63	3.86	12	23	10	5	49	99	31.3
Aug.†	29.960	79.2	88.8	72.5	16.3	77	72.7	81	53	7.58	9.58	8	22	11	6	43	90	28.5
Sept.	29.978	80.0	90.9	72.0	18.9	106	70.5	74	52	0.73	3.97	9	15	8	0	45	77	24.4
Oct.	29.963	80.1	90.9	71.8	19.1	91	69.9	72	42	0.52	4.00	10	13	7	8	56	94	30.9
Nov.	30.014	79.0	90.7	71.2	19.5	84	68.7	73	34	0.22	2.21	17	13	4	5	77	116	38.7
Dec.	30.012	75.9	86.4	69.6	16.8	67	67.0	75	47	1.60	7.94	19	20	5	5	60	109	34.5
Means	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

1881.

Jan.	30.031	74.6	86.6	66.6	20.0	79	66.3	77	21	0.30	1.22	30	16	8	13	58	125	39.6
Feb.	30.022	74.2	85.0	67.1	17.9	72	66.1	77	34	0.55	4.01	34	20	14	19	80	167	52.9
Mar.	30.006	75.9	85.5	68.2	17.3	91	66.4	73	30	0.95	1.30	50	16	7	29	115	217	68.5
Apr.	30.024	78.5	87.5	71.5	16.0	89	69.1	73	44	0.90	4.63	30	20	4	24	72	150	47.6
May	29.928	79.6	86.9	72.9	14.0	82	71.3	77	61	12.23	10.28	19	20	6	12	64	121	38.3
June	29.976	81.1	88.9	74.2	14.7	120	72.7	77	60	1.08	5.56	12	14	9	17	72	124	39.3
July	30.008	81.1	90.0	74.4	15.6	118	72.3	76	64	4.24	4.77	13	22	9	4	61	109	35.9
Aug.	29.965	80.4	88.3	73.7	14.6	84	72.9	79	56	3.95	6.21	11	18	0	4	44	77	25.1
Sept.	29.947	79.4	88.5	73.7	14.8	86	72.8	83	65	2.09	7.68	10	10	4	1	38	63	20.5
Oct.	29.935	78.3	86.7	72.4	14.3	53	72.5	83	62	6.41	12.08	7	13	5	2	50	77	25.0
Nov.	29.937	77.9	87.0	71.7	15.3	67	71.0	80	53	1.93	7.52	14	12	8	3	46	83	27.2
Dec.	30.013	75.1	85.5	68.5	17.0	55	68.9	82	33	0.33	3.34	14	10	5	1	47	77	25.3
Means	29.982	78.0	87.2	71.2	16.0	83	70.2	78	49	...	...	20	16	7	11	62	116	36.9
Totals	...	...	...	...	...	...	...	...	...	34.96	68.60	...	...	...	...	...	...	...

1882.

Jan.	30.007	74.3	84.8	66.8	18.0	74	66.1	77	28	0.29	2.92	20	17	7	9	34	87	28.6
Feb.	30.091	74.0	84.0	66.6	17.4	82	66.0	78	25	0.13	1.93	21	12	7	1	22	63	20.7
Mar.	30.080	74.8	84.1	67.6	16.5	79	67.4	79	31	1.42	3.54	26	18	5	1	46	96	31.5
Apr.	30.020	77.9	84.7	70.1	14.6	108	69.4	76	26	0.46	3.32	20	6	2	1	25	54	17.7
May	30.004	79.9	85.9	72.8	13.1	134	71.6	77	43	1.95	8.22	26	8	2	1	38	75	24.5
June	30.031	82.2	88.7	74.8	13.9	132	73.5	75	51	0.44	2.33	21	12	4	2	36	75	24.6
July	30.052	81.4	88.4	73.9	14.5	146	73.2	77	41	1.79	3.76	10	20	4	3	59	96	31.5
Aug.	30.023	80.4	88.4	73.6	14.8	101	73.0	79	54	1.22	4.80	17	15	1	2	39	74	24.8
Sept.	29.960	80.3	88.2	74.2	14.0	89	73.4	80	65	4.30	8.78	12	9	6	1	37	65	20.9
Oct.	29.932	78.7	87.2	72.7	14.5	94	73.9	84	55	6.08	8.96	15	10	4	2	40	71	22.8
Nov.	29.964	77.1	86.4	69.9	16.5	67	68.5	76	43	1.13	5.36	10	16	7	4	46	83	26.7
Dec.	29.993	76.8	86.1	70.9	15.2	84	69.1	78	49	0.58	3.96	26	9	10	11	68	124	39.9
Means	30.018	78.2	86.4	71.2	15.2	103	70.4	78	43	...	...	19	13	5	3	41	80	26.2
Totals	...	...	...	...	...	...	...	...	...	18.59	57.87	...	...	...	...	...	...	...

* Public Works Office. † Cyclone passed over Kingston, August 18th.

1883.

Kingston: Meteorological Results, &c.

Month.	Barom. Pressure.	Temperatures.				Wind S. E. Miles per diem.	Vapour.		Cloud per cent.	Rainfall.		Infantile Diseases.	Lung Diseases.	Fever.	Dysentery and Diarrhoea.	Various.	Total.	Annual Rate per 1,000.
		Mean.	Max.	Min.	Range.		Dew Point.	Humidity.		Kingston.	The Island.							
Jan.	30.076	75.6	85.4	69.3	15.6	101	68.2	79	42	2.45	5.49	26	20	2	3	67	113	38.0
Feb.	30.056	75.6	86.4	68.7	17.7	110	66.3	74	28	0.15	3.50	31	15	7	11	62	126	40.5
Mar.	30.038	75.8	84.2	69.0	15.2	98	69.3	82	35	3.15	4.08	57	15	7	14	76	169	53.8
Apr.	29.993	78.2	85.4	70.5	14.9	108	69.5	75	39	0.33	3.34	46	12	2	5	54	123	39.7
May	29.987	79.8	87.5	72.7	14.8	60	71.6	77	46	1.34	5.29	29	17	2	5	83	136	43.3
June	30.020	81.1	88.1	74.4	13.7	125	72.1	75	61	2.32	4.98	22	13	5	1	56	97	30.8
July	30.053	81.5	88.6	73.8	14.8	146	71.5	72	60	0.99	3.15	16	15	5	0	52	88	28.0
Aug.	30.068	80.6	88.5	73.6	14.9	103	74.1	81	41	6.45	5.42	12	14	2	1	47	76	24.2
Sep.	29.972	80.0	88.0	74.0	14.0	89	74.5	84	77	3.57	7.82	10	15	4	4	37	70	22.2
Oct.	29.953	78.2	87.7	72.9	14.8	74	72.9	84	71	3.68	8.15	17	18	3	1	45	84	26.7
Nov.	29.950	76.4	86.0	70.3	15.7	65	70.5	83	44	4.67	5.12	17	11	5	3	52	88	28.0
Dec.	30.010	75.4	85.6	68.3	17.3	67	67.9	78	47	0.40	2.92	18	20	4	2	53	97	30.8
Means	30.010	78.2	86.8	71.5	15.3	96	70.7	79	49	...	...	25	15	4	5	57	103	33.8
Totals	...	...	...	...	...	...	...	...	...	29.30	59.26	...	...	...	...	...	...	...

1884.

Jan.	30.077	74.6	84.8	67.5	17.3	96	66.8	78	32	0.52	4.72	25	23	4	2	45	99	31.5
Feb.	30.064	73.8	83.6	67.0	16.6	94	66.4	79	33	0.16	3.44	22	11	1	3	45	82	26.1
Mar.	30.059	74.6	83.7	67.5	16.2	98	67.9	80	29	0.78	2.51	17	12	3	6	59	97	30.8
Apr.	30.011	77.2	84.3	68.9	15.4	70	70.0	80	30	0.10	1.85	19	21	5	3	59	107	34.0
May	29.993	78.7	85.5	71.5	14.0	70	72.5	82	52	2.05	6.72	23	13	7	4	49	96	30.5
June	29.985	80.1	86.8	73.3	13.5	74	73.1	80	71	1.78	6.89	31	10	5	2	53	101	32.1
July	30.015	81.8	88.8	74.1	14.7	103	71.8	73	52	0.72	2.52	28	12	3	1	48	92	29.2
Aug.	29.981	80.3	88.4	73.5	14.9	72	72.6	78	64	3.70	5.06	13	11	7	1	42	74	23.5
Sept.	29.976	80.3	88.7	74.0	14.7	72	73.2	79	65	3.46	6.23	14	14	4	1	38	71	22.6
Oct.	29.911	78.6	86.7	72.5	14.2	26	72.3	82	72	8.01	9.52	15	8	7	3	40	73	23.2
Nov.	29.967	77.8	87.9	71.2	16.7	48	71.1	81	48	1.76	5.00	10	18	14	1	52	95	30.2
Dec.	30.014	76.0	86.6	67.9	18.7	70	68.6	79	20	0.07	2.44	10	12	19	8	48	97	30.5
Means	30.004	77.8	86.3	70.7	15.6	74	70.5	79	48	...	...	19	14	6	3	48	90	28.7
Totals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

1885.

Jan.	30.074	75.0	85.4	67.3	18.1	94	67.4	78	29	0.09	1.73	26	18	21	12	63	140	44.0
Feb.	30.021	75.3	84.0	68.7	15.3	84	69.8	84	23	0.39	1.49	28	14	2	11	58	113	35.5
Mar.	30.054	76.7	85.5	68.6	16.9	77	69.9	81	24	0.36	1.47	34	20	2	10	64	130	40.5
Apr.	29.999	77.7	85.0	69.5	16.5	29	70.4	79	38	0.57	4.73	27	19	13	8	68	135	42.0
May	29.975	80.6	86.2	72.7	13.5	50	72.3	76	48	2.67	4.90	35	18	10	10	62	133	41.4
June	30.041	81.1	87.0	74.0	13.0	137	73.0	77	53	0.69	3.32	19	14	7	8	49	97	30.2
July	30.033	81.4	88.9	73.3	15.6	98	72.1	73	43	1.07	3.01	30	22	7	9	49	117	36.4
Aug.	29.985	81.5	89.3	73.8	15.5	82	73.0	75	50	1.04	6.19	16	8	13	6	56	99	30.8
Sept.	29.956	81.0	88.7	74.2	14.5	53	73.3	78	61	5.15	6.22	12	11	10	4	33	70	21.8
Oct.	29.933	80.2	88.8	73.0	15.8	34	72.3	78	46	1.94	6.37	18	11	10	10	64	113	35.2
Nov.	29.951	79.9	88.9	75.4	15.5	34	71.7	77	55	0.48	4.74	26	12	17	6	51	112	34.8
Dec.	29.987	76.3	85.2	70.1	15.1	74	68.8	79	48	10.08	15.69	16	19	7	7	48	97	30.2
Means	30.001	78.9	86.9	71.5	15.4	70	71.2	78	43	...	...	24	16	10	8	55	113	35.2
Totals	...	...	...	...	...	...	...	...	...	24.53	59.86	...	...	...	...	...	...	...

1886.

Jan.	30.001	74.5	84.3	67.0	17.3	48	66.7	78	39	3.49	5.23	16	22	4	7	70	119	37.0
Feb.	30.010	75.6	85.1	68.8	16.3	58	67.8	78	39	0.73	4.65	15	16	18	18	60	127	39.5
Mar.	30.017	77.8	86.2	70.3	15.9	79	68.9	75	21	0.16	2.68	15	19	17	29	68	148	45.1
Apr.	29.950	78.0	87.5	70.3	17.2	58	68.7	76	44	3.68	6.39	17	11	16	15	45	104	32.0
May	29.990	80.0	88.5	72.5	16.0	70	71.5	78	71	3.94	5.30	12	14	10	12	48	96	29.5
June	29.982	80.4	88.8	73.9	14.7	127	73.5	82	64	29.20	24.46	5	20	9	12	70	116	35.7
July	29.997	81.2	91.1	73.1	18.0	89	72.5	76	68	1.55	6.22	12	19	10	7	58	134	41.2
Aug.	29.950	80.7	91.8	73.4	18.4	77	74.1	81	63	10.23	13.54	12	12	15	3	77	119	36.3
Sept.	29.948	79.6	93.3	72.6	20.7	48	72.6	79	57	3.31	5.90	12	1	9	4	105	131	40.3
Oct.	29.927	78.8	92.4	72.1	20.3	43	72.0	81	56	4.84	7.98	16	17	13	3	86	135	41.5
Nov.	29.988	77.5	91.9	69.5	22.4	41	69.5	77	30	0.27	3.70	24	17	19	5	100	166	50.8
Dec.	30.018	74.8	87.9	67.9	20.0	43	68.9	83	48	0.48	5.66	19	4	20	11	112	166	51.1
Means	29.980	78.2	89.0	70.9	18.1	65	70.6	78	50	...	...	15	14	13	11	77	130	40.1
Totals	...	...	...	...	...	...	...	...	...	61.88	91.71	...	...	...	...	...	...	...

* Cyclone passed over Kingston, August 20th.
Small-pox appeared in Kingston in May this year and continued until May, 1887; at its height the number of deaths per month was about 50.

1887.

Kingston: Meteorological Results, &c.

Month.	Barom. Pressure.	Temperatures.				Wind S. E. Miles per diem.	Vapour.			Rainfall.		Infantile Diseases.	Lung Diseases.	Fever.	Dysentery and Diarrhoea.	Various.	Total.	Annual Rate per 1,000.
		Mean.	Max.	Min.	Range.		Dew Point.	Humidity.	Cloud per cent.	Kingston.	The Island.							
Jan.	30.060	74.0	87.5	65.9	21.6	53	67.3	81	30	0.46	6.02	11	16	12	14	91	144	44.3
Feb.	30.093	73.8	87.3	65.1	22.2	61	65.6	77	30	0.11	2.32	25	8	7	11	72	123	37.5
March.	30.043	74.6	86.8	64.3	22.5	51	64.4	76	22	0.43	2.38	24	18	6	11	76	135	41.5
Apr.	30.026	77.0	87.3	68.5	18.8	53	68.8	76	50	1.84	4.47	28	12	8	18	50	116	35.3
May	29.977	79.0	88.2	71.1	17.1	50	70.4	76	60	4.33	9.32	25	13	6	23	53	120	36.5
June	29.972	80.0	88.5	73.0	15.5	98	70.9	74	66	4.82	8.89	15	9	3	14	49	90	27.4
July	30.031	80.6	90.3	72.4	17.9	69	71.8	74	54	7.10	7.19	17	8	11	6	45	87	26.8
Aug.	29.956	79.0	89.1	72.1	17.0	40	72.6	82	56	2.89	6.91	8	22	0	4	46	80	24.3
Sept.	29.950	80.0	90.4	72.4	18.0	46	72.6	78	58	2.15	5.78	10	10	1	4	30	55	16.7
Oct.	29.927	77.1	88.0	71.1	16.9	45	71.7	82	58	10.06	8.48	11	17	4	4	36	72	...
Nov.	29.935	76.9	88.6	70.3	18.3	35	70.6	80	44	1.80	8.17	17	19	8	0	31	75	...
Dec.	30.000	74.4	88.0	65.7	22.3	42	66.5	78	25	0.43	0.75	11	25	14	5	42	97	...
Means	29.998	77.2	88.3	69.3	19.0	54	69.4	78	46	...	...	17	15	7	9	52	100	...
Totals	...	...	...	...	...	...	...	...	...	36.42	70.66	...	...	...	...	...	...	...

1888.

Jan.	30.092	73.7	88.3	64.2	24.1	41	65.2	76	20	0.14	1.36	20	12	10	11	41	94	...
Feb.	30.054	74.6	86.1	64.6	21.5	56	65.8	76	24	0.71	1.89	23	15	4	9	39	90	...
Mar.	30.048	76.6	86.7	65.5	20.2	65	66.9	73	35	0.24	1.70	32	20	6	13	46	117	...
Apr.	30.032	79.3	88.4	68.4	20.0	47	68.0	69	32	0.92	3.62	39	14	11	21	47	132	...
May	29.964	77.7	86.1	71.8	14.3	72	71.6	82	77	28.66	21.24	25	13	9	17	53	122	...
June	29.988	81.3	89.0	73.2	15.8	83	72.9	76	55	2.67	6.27	23	18	3	28	21	52	137
July	30.011	82.2	90.9	74.2	16.7	71	74.2	78	47	1.71	2.65	16	17	34	24	60	151	...
Aug.	29.986	81.3	90.4	73.3	17.1	58	72.6	81	61	2.27	5.47	6	6	22	7	44	85	...
Sept.	29.923	80.2	90.1	73.2	16.9	46	74.1	82	66	6.56	8.10	7	12	9	2	33	63	...
Oct.	29.945	80.2	90.8	71.6	19.2	49	73.2	80	55	1.79	4.38	6	13	11	6	42	78	...
Nov.	29.942	78.2	89.3	70.2	21.1	41	70.4	77	39	0.03	4.59	11	18	15	10	50	104	...
Dec.	29.992	76.8	81.3	70.1	19.2	50	69.2	79	44	1.24	10.35	12	12	4	...	...	...	...
Totals	...	...	...	...	...	...	...	...	...	46.94	72.11	...	...	...	...	...	...	...

1889.

Jan.	30.012	75.6	88.5	68.6	19.9	58	67.6	77	24	1.56	4.78	11	21	10	8	48	98	...
Feb.	30.040	76.2	89.1	67.1	22.0	59	67.8	76	14	0.08	0.90	26	12	10	15	44	107	...
Mar.	29.963	77.4	88.6	68.7	19.9	78	68.8	76	33	5.05	4.19	12	14	7	32	42	107	...
Apr.	29.962	79.9	89.0	72.9	16.1	82	70.8	74	53	0.94	6.71	22	17	11	28	51	129	...
May	29.959	80.9	90.4	74.6	15.8	47	72.1	76	55	1.63	7.82	12	18	15	36	59	140	...
June	30.003	80.0	88.4	74.7	13.7	112	74.0	82	68	12.03	12.52	7	19	11	16	57	110	...
July	30.013	80.6	90.0	73.9	16.1	111	73.6	80	52	0.72	6.08	25	20	15	12	59	131	...
Aug.	30.018	80.4	91.1	72.1	19.0	106	71.9	76	52	1.59	5.12	16	20	15	9	61	121	...
Sept.	29.940	79.8	90.5	72.7	17.8	64	73.8	82	56	4.57	8.20	15	18	14	4	77	128	...
Oct.	29.945	78.7	89.7	71.2	18.5	56	71.6	80	64	3.69	10.49	16	20	5	5	79	125	...
Nov.	29.976	77.4	89.9	69.7	20.2	51	69.2	76	52	0.07	4.37	19	14	7	5	63	108	...
Dec.	30.002	75.4	89.1	65.0	24.1	21	65.2	74	18	0.01	2.97	14	29	15	4	64	126	...
Means	29.986	78.5	89.5	70.9	18.6	70	70.5	77	45	...	...	16	18	11	15	59	119	...
Totals	...	...	...	...	...	...	...	...	...	31.94	74.15	...	...	...	...	...	...	...

1890.

Jan.	30.047	74.6	88.9	64.5	24.4	31	65.3	74	26	0.32	5.26	24	23	19	10	60	136	...
Feb.	30.038	73.9	86.9	64.2	23.7	40	65.6	76	22	0.27	2.16	18	16	14	26	46	120	...
Mar.	30.026	74.1	85.5	66.8	18.7	52	65.8	77	30	3.44	4.96	51	21	7	9	88	165	...
Apr.	30.056	75.2	86.3	67.9	13.4	40	66.3	75	30	0.50	2.80	23	14	20	82	166	...	
May	30.012	77.4	87.2	71.0	16.2	101	69.4	77	49	1.19	4.92	14	16	11	17	85	144	...
Means	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* These figures for 1890 are only approximate.

Kingston: Meteorological Results, &c., for the Ten Years.

Month.	Barom. Pressure.	Temperatures.				Wind S. E. Miles per diem.	Vapour.		Cloud per cent.	Rainfall.		Infantile Diseases.	Lung Diseases.	Fever.	Dysentery and Diarrhea.	Various.	Total.	Annual Rate per 1,000.
		Mean.	Max.	Min.	Range.		Dew Point.	Humidity.		Kingston.	The Island.							
	in.	°	°	°	°		°		in.	in.								
Jan.	30.054	74.6	86.4	66.8	19.6	68	66.7	78	29	0.96	3.87	21	19	10	9	58	117	...
Feb.	30.049	74.7	85.8	66.8	19.0	72	66.7	78	27	0.32	2.62	24	14	8	12	53	111	...
Mar.	30.034	75.8	85.7	67.8	17.9	77	67.6	77	29	1.59	2.88	32	17	7	15	68	139	...
Apr.	30.008	77.9	86.5	69.8	16.7	68	69.1	75	39	1.02	4.18	27	16	9	15	55	122	...
May	29.979	79.4	87.2	72.4	14.8	74	71.4	78	56	6.00	8.40	22	15	8	14	60	119	...
June	30.000	80.8	88.5	73.8	14.7	115	72.8	78	57	5.51	7.83	16	14	9	11	54	104	...
July	30.024	81.1	89.7	73.5	16.2	103	72.5	76	52	2.15	4.32	18	18	11	7	57	111	...
Aug.	29.983	80.4	89.4	73.2	16.2	80	73.0	79	55	4.09	6.83	12	16	9	4	50	90	...
Sept.	29.950	80.1	89.7	73.3	16.4	70	73.1	80	62	3.59	6.86	11	12	7	2	47	79	...
Oct.	29.937	78.9	88.9	72.1	16.8	56	72.2	81	58	4.69	7.84	13	14	7	4	54	92	...
Nov.	29.962	77.8	88.9	70.7	18.2	53	70.1	78	44	1.22	5.07	17	15	10	4	57	103	...
Dec.	30.005	75.7	87.0	68.4	18.6	57	68.0	78	38	1.50	5.60	16	16	10	6	59	107	...
Means	29.999	78.1	87.8	70.7	17.1	89	70.3	78	55	...	...	19	15	9	9	56	108	...
Totals	...	...	...	...	...	...	...	...	...	32.64	66.30	...	...	...	...	...	...	...

The Table above contains the results of the observations made at Kingston, Jamaica, between June, 1880, and May, 1890, inclusive. Between June, 1880, and December, 1886, the readings were taken at intervals of eight hours, namely, at 7 a. m., 3 p. m., and 11 p. m., local mean time; the daily means of pressure, temperature, dew-point, humidity, &c., were assumed to be the means of the three eight-hourly readings, but since Jan., 1887, the readings have been taken at 7 a. m. and 3 p. m. only; and the daily means were deduced by applying to the 7 a. m. and 3 p. m. readings their proper reductions; and from the daily means the monthly means given in the Table have finally been deduced.

The readings were taken with great care and regularity, and they were all corrected for instrumental errors.*

In the second column the Barometric Pressure is of course referred to the sea-level.

In the seventh column the Wind is stated to be S. E., and this is in consequence of the regularity of the daily sea-breeze, which is almost invariably S. E. at Kingston.

In the eighth column the Dew-point has been found from the Dry and Wet-bulb thermometers by means of Glaisher's factors; of course Wet-bulb and Tension-of-Vapour columns could have been added, but it seemed useless to fill up the Table with columns easily deducible the one from the other.

In the tenth column the amount of Cloud is given as a percentage of the sky.

In the eleventh and twelfth columns are given for the period in question the average monthly Rainfall at the Public Works Office, Kingston, and for the whole Island,—the latter being deduced from about 150 stations.

The remaining columns give for each month the average number of deaths in Kingston from a few groups of diseases, and the average totals and the annual rate per 1,000; they have been taken from the returns published monthly by Mr. S. P. Smeeton, the Registrar-General.

The following are some of the relations existing among the different columns.

(i.) PRESSURE AND RAINFALL.

If the Barometric Pressure be compared,—not with the Kingston Rainfall on account of its highly local character, but with the general Island Rainfall, it will be seen that a certain relation exists:—

Rainfall = 50 (30.100—pressure), or in words, if the Pressure during any month be subtracted from 30.100, and if the difference be multiplied by 50, the product will not be far from the Rainfall in inches.

This remarkable relation requires much further consideration, for which we have at present neither space nor time.

(ii.) TEMPERATURES.

The mean temperature does not greatly differ from half the sum of the maximum and minimum temperatures. In order to make the agreement closer we must take into account the Range, or difference between the maximum and minimum, the humidity and the amount of cloud which covers the sky.

The maxima and minima given in the Table were deduced from daily readings, and their differences give the daily range; but by picking out of the original record or register the highest and lowest temperatures for each month we get the absolute Max. and Min. To prevent confusion the absolute Max. and Min. were not inserted in the Table; their averages are, however, 4° above and below the Max. and Min. deduced from daily readings.

Again in the interval between June, 1880, and May, 1890, the highest temperature was 96.1° recorded on the 12th September, 1880, and the lowest temperature was 56.7°, recorded on the 4th Dec., 1887.

*The Thermometers were exposed in the Stevenson screens over a grass lawn, four or five feet above the ground.

And lastly the Mean Daily Temperature is here given for each complete year:—

1881	...	78.0	1886	...	78.2
1882	...	78.2	1887	...	77.2
1883	...	78.2	1888	...	78.5
1884	...	77.8	1889	...	78.5
1885	...	78.9			

(iii.) VAPOUR.

The Humidity of the air is the ratio of the amount of vapour present to the amount necessary for saturation,—saturation being taken as 100; so that Humidity indirectly measures the drying power of the air.*

By comparing the Dew-point with the Minimum Temperature we see that there is an almost constant difference of about half a degree. The nights in Kingston therefore cool down until the temperature of the air four or five feet above the ground is a little above the Dew-point; but on the ground the temperature is below the Dew-point, dew is precipitated, latent heat given out, and the further fall of temperature arrested.

We must now consider the connections between these Meteorological results and the number of deaths in Kingston.

(iv.) INFANTILE DISEASES.

Under this heading is given the number of deaths in Kingston each month of the year from infantile diseases *not otherwise specified* in the books of the Registrar-General.

By comparing the numbers in this column with the total monthly numbers in the last column but one, it will be seen that the former are fairly proportional to the latter, although, indeed, their variation from their mean or average is larger.

Consequently whatever cause systematically affects the total monthly numbers, the same cause affects young children rather than adults.

(v.) TOTAL MONTHLY NUMBERS.

The total number of deaths vary on the average with considerable regularity from month to month; the maximum, 139, occurs in March; the minimum, 79, occurs in September.

This variation is intimately connected with the temperature; and remembering that there must always be a considerable interval of time between such a cause and such an effect, it appears that the maximum occurs after the lower temperatures, and that the minimum occurs after the higher temperatures; or in other words, the death-rate greatly increases after our cool season, and greatly diminishes after our warm season.

As in the year 1881, there were in Kingston only 5,000 white people out of a total population of 38,566, it is to the black and colored people that the above result chiefly applies; and again as the fall of temperature during the cooler months is really very small, the large increase in the death-rate must be chiefly due to the fact that it would therefore seem possible to reduce the Kingston death-rate in the course of time.

(vi.)—FEVER.

There are but few deaths from this cause, and they are distributed throughout the year with considerable uniformity. One maximum occurs in July after the May rains, and another occurs in November, December, and January after the October rains. These maxima are due to malaria set free by the drying-up of the ground after heavy rains.

In many countries in the tropical parts of the earth it is dangerous to disturb the soil,—as for instance in the Gold Coast Colony in Africa, because the soil teems with malaria; and so it must have been in the earlier days of Jamaica when the land was first cleared of forests and when the soil was first turned up for the cultivation of the sugar-cane; but now, we, for the most part, only feel the effect of water returning upwards from considerable depths below the surface of the ground; for with the water ascend those specific disease-germs which produce malarial fever when they can secure a footing in the blood and develop specific organisms.

"The germs of these organisms float about in the air from place to place and gain positions enabling them to enter the blood of some animal organism, say man, where they can grow and flourish, provided they are able to successfully encounter their mortal foes, the white corpuscles of the blood. If these white corpuscles are strong and vigorous, they will overpower the foreign growth and kill it. If on the other hand they are weak and feeble, and the germs very numerous, the foreign growth may get a secure footing and spread luxuriantly changing the character of the fluids of the body, coagulating, it may be, the albumen, and otherwise setting-up the unnatural and abnormal display of functions which we call disease."†

We have thus dwelt upon the cause of malaria in places which may be far removed from swamps and morasses, not on account of its importance to Kingston, but because of its widely spread influence in Jamaica.

(vii.)—LUNG DISEASES.

The number of deaths from this cause is tolerably constant throughout the year. A maximum occurs in January, and another in July; but after both these maxima there seems to be a small reaction, and the maxima speedily follow.

* If the drying power of the air were measured from 0 to 100, Humidity plus drying power, would always be 100.

† Nature, Vol. 31, p. 267.

(viii.)—DYSENTERY AND DIARRHŒA.

Deaths from these diseases are intimately connected with the Minimum Temperature; a few cold nights in Kingston are certain to produce either or both these diseases; and their virulence depends upon the extent to which the temperature falls.

But some allusion must be made to predisposing causes, of which rain seems to be the most important in Jamaica,—the people get wet and do not change their clothes,—a cold night sets in, and disease is the immediate consequence.

Thus there were rains in December, 1880, which produced Dysentery and Diarrhœa in January, 1881; but it was not until the cold nights of January, that these diseases became serious and caused the death of 72 persons during the three following months. Again in December, 1881, and the early part of 1882 there were no rains and very little Dysentery and Diarrhœa.

We must not expect to find complete agreement between our Meteorological returns and those of the Registrar General; but we hope that the out-lines of the agreement have been correctly sketched, and that the importance of the subject has been duly pointed out.

MAXWELL HALL.

Oct. 6th, 1890.