



On the Fall of Rain at Jerusalem in the 32 Years from 1861 to 1892; Meteorological Report from, Jerusalem for Year 1884

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To face p. 39.]

TABLE I.—Showing the fall of rain, in inches, at Jerusalem in every month in the years 1861 to 1892.

Months.	YEARS.																																Mean of 32 Years.	
	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.		
January ...	in. 9.66	in. 12.41	in. 9.11	in. 6.89	in. 4.54	in. 5.06	in. 9.25	in. 3.57	in. 7.72	in. 1.24	in. 2.94	in. 3.11	in. 0.13	in. 8.43	in. 6.79	in. 3.42	in. 1.60	in. 13.39	in. 0.98	in. 6.00	in. 1.28	in. 3.03	in. 10.93	in. 6.09	in. 7.79	in. 6.55	in. 12.45	in. 4.63	in. 6.13	in. 11.59	in. 10.23	in. 7.42	in. 6.38	
February ...	6.50	2.27	2.40	1.50	5.08	3.18	6.07	10.93	3.27	0.69	4.42	5.25	6.03	7.22	4.09	4.14	8.75	11.49	2.27	4.04	4.43	12.59	3.79	8.26	2.90	9.51	4.16	1.25	0.83	4.18	6.22	4.09	5.06	
March ...	2.40	0.63	3.70	1.08	0.42	3.46	2.14	3.29	1.95	3.99	6.75	1.43	1.94	10.02	10.52	2.27	0.89	2.35	7.52	5.64	4.36	0.97	5.74	3.75	5.47	5.09	3.78	2.03	3.21	1.87	3.38	1.73	3.56	
April ...	0.32	1.00	2.11	1.65	0.77	0.29	2.01	1.93	2.36	3.72	1.10	0.42	0.89	0.13	1.04	1.97	0.21	0.51	1.52	2.07	2.21	3.65	0.35	2.08	6.52	1.34	0.85	4.74	0.74	4.41	0.25	1.78	1.71	
May ...	0.48	0.00	0.00	0.00	0.37	0.00	0.73	0.14	0.40	0.00	0.19	0.11	0.01	0.00	0.23	0.35	0.00	0.65	0.00	0.10	0.07	0.57	0.00	0.62	0.24	0.43	1.25	0.23	0.00	0.00	0.35	1.04	0.27	
June ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.20	0.00	0.00	0.00	0.01	0.00	
July ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
August ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
September...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.79	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.04	
October ...	0.00	0.00	1.90	0.00	0.00	1.75	0.00	0.00	0.00	2.29	1.93	0.31	0.01	0.00	0.00	0.08	2.18	0.00	0.82	0.40	0.00	0.07	0.31	0.06	0.07	0.43	0.00	0.32	0.00	0.07	0.40	0.03	0.41	
November ...	0.18	2.96	0.19	2.63	1.56	1.84	2.24	1.19	1.47	0.01	0.10	3.39	4.41	2.51	1.12	1.69	5.02	0.03	0.69	0.86	2.43	0.80	7.59	1.08	0.13	5.03	0.60	7.99	0.57	3.48	2.80	6.64	2.29	2.29
December ...	7.75	2.59	7.13	1.65	5.45	2.97	6.93	8.05	1.17	1.45	6.49	6.24	9.30	1.44	3.19	0.49	7.35	3.00	4.24	13.00	1.72	4.99	3.21	2.02	6.27	3.31	6.72	16.40	2.06	9.83	11.09	8.70	5.50	
Sums ...	27.30	21.86	26.54	15.51	18.19	18.55	29.42	29.10	18.61	13.39	23.57	20.26	22.72	29.75	27.01	14.41	26.00	32.21	18.04	32.11	16.50	26.72	31.92	23.96	29.47	31.69	29.81	37.79	13.56	35.51	34.72	31.23	25.23	

See p. 43.]

TABLE III.—Showing the number of days of rain in every month in the years 1861 to 1892.

Months.	Years.																																Mean of 32 Years.
	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	
January ...	14	14	10	8	7	14	11	9	15	9	9	6	4	15	14	7	9	14	6	15	3	11	19	10	19	15	12	12	13	15	16	17	12
February ...	7	7	7	5	8	9	12	18	12	1	11	17	10	12	12	10	13	13	6	12	12	16	13	18	9	10	6	7	4	15	11	11	10
March ...	5	3	8	4	5	9	8	7	4	9	16	7	11	20	14	7	5	7	17	7	10	4	9	10	11	9	8	6	5	9	9	2	8
April ...	1	4	7	6	3	4	3	13	8	13	3	4	2	3	4	8	3	2	3	6	8	12	3	3	7	5	2	8	3	8	5	6	5
May ...	4	0	0	0	3	0	5	1	2	0	1	3	1	0	1	4	0	3	0	1	2	4	0	3	1	5	2	2	0	0	3	5	2
June ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	
July ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
August ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
September...	0	0	0	2	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
October ...	0	0	7	0	0	5	0	0	0	4	2	4	1	0	0	1	5	0	3	1	0	1	3	1	1	2	0	3	0	1	3	1	2
November...	3	9	1	4	11	8	4	7	6	1	1	7	7	6	6	7	11	1	5	5	5	4	11	7	1	9	4	13	5	7	6	12	6
December...	13	7	12	7	11	13	10	13	5	4	13	7	13	6	9	3	13	4	6	15	8	11	12	2	8	8	12	13	10	17	15	9	10
Sums ...	47	44	52	36	48	62	53	68	53	41	56	55	49	62	61	47	59	46	46	62	48	63	70	54	53	63	46	65	41	73	63	63	55

ON THE FALL OF RAIN AT JERUSALEM IN THE 32 YEARS FROM 1861 TO 1892.

By JAMES GLAISHER, F.R.S.

THE series of daily observations of rain was begun by Dr. Chaplin in the year 1861, and was continued by him for the long period of 22 years till the end of 1882: they have since 1883 been continued under the auspices of the Palestine Exploration Fund.

The rain gauge used during the first six years was a float gauge by Newman, and since then a certified 8-inch gauge by Negretti and Zambra. During four years the gauges were placed side by side; the float gauge registered during these four years 88·83 inches, and Negretti and Zambra's gauge 93·25 inches, and the readings by Newman's gauge have been corrected so as to give results in accordance with the 8-inch gauge.

Dr. Chaplin says the position of the gauges was in a garden within the city, about 2,500 feet above the level of the Mediterranean, open on all sides, the houses which bound it on the south and west, being too far removed to influence the fall of rain on the pluviometer.

The results of the observations during the 22 years ending in 1882 have been discussed by Dr. Chaplin in seasons, and the results were published in the *Quarterly Statement* of the Palestine Exploration Fund for January, 1883.

The observations since 1883 have all been made by the 8-inch gauge and in the same position as that adopted by Dr. Chaplin.

Table I shows the fall of rain in every month during the 32 years ending with 1892.

In looking over the table the first thing noticeable is the very great difference in every month of the rainy season, between the falls in the same month in different years; for instance, in January the fall in the year 1873 was 0·13 inch, whilst in 1878 it was 13·39 inches.

Table II (*see next page*) shows the three heaviest and the three lightest falls of rain in every month excepting June, July, and August in the 32 years:—

TABLE II.

Showing the three heaviest falls of rain at Jerusalem in each month in the years 1861 to 1892 inclusive.

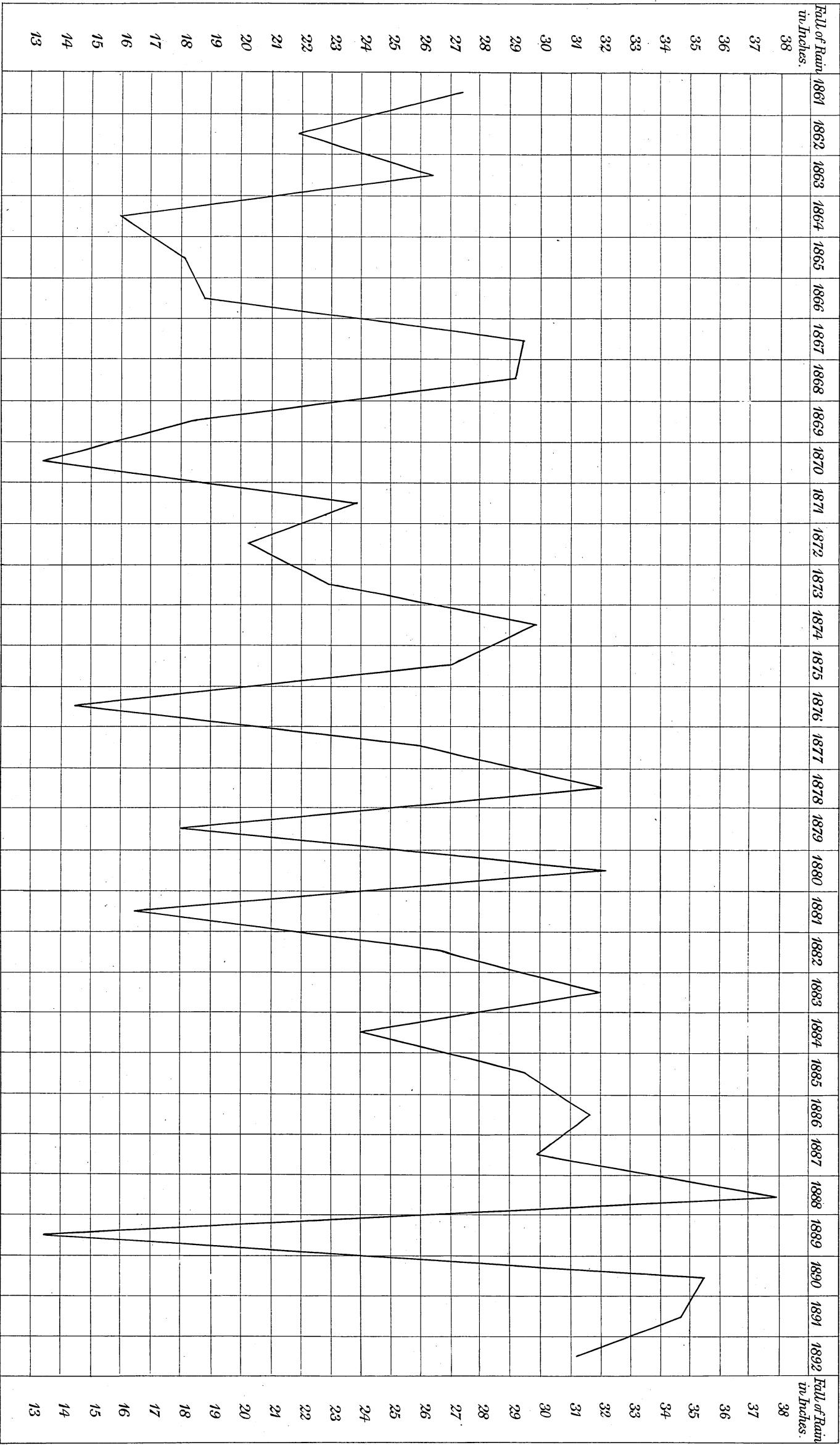
January	..	13·39 inches in 1878
"	..	12·45 " 1887
"	..	12·41 " 1862
February	..	12·59 " 1882
"	..	11·49 " 1878
"	..	10·93 " 1868
March	..	10·52 " 1875
"	..	10·02 " 1874
"	..	7·52 " 1879
April	..	6·52 " 1885
"	..	4·74 " 1888
"	..	4·41 " 1890
May	..	1·25 inch in 1887
"	..	1·04 " 1892
"	..	0·73 " 1867
June	..	0·20 " 1888
"	..	0·08 " 1885
July.		No rain fell in this
August,		0·08 inch in 1890, and no
		31
September	..	0·79 inch in 1878
"	..	0·27 " 1869
"	..	0·09 " 1864
October	..	2·29 inches in 1870
"	..	2·18 " 1877
"	..	1·90 " 1863
November	..	7·99 " 1888
"	..	7·59 " 1883
"	..	6·64 " 1892
December	..	16·40 " 1888
"	..	13·00 " 1880
"	..	11·09 " 1891

Showing the three lightest falls of rain at Jerusalem in each month in the years 1861 to 1892 inclusive.

January	..	0·13 inch in 1873
"	..	0·98 " 1879
"	..	1·24 " 1870
February	..	0·69 " 1870
"	..	0·83 " 1889
"	..	1·25 " 1888
March	..	0·42 " 1865
"	..	0·63 " 1862
"	..	0·89 " 1877
April	..	0·13 " 1874
"	..	0·21 " 1877
"	..	0·25 " 1891
May.		No rain fell in this month in
		11 different years.
June.		No rain fell in this month in
		the remaining 30 years.
		month during the 32 years.
		rain fell in this month in the other
		years.
September.		No rain fell in this month
		in 27 out of the 29 remaining years.
October.		No rain fell in this month
		in 13 different years.
November	..	0·01 inch in 1870
"	..	0·03 " 1878
"	..	0·10 " 1871
December	..	0·49 " 1876
"	..	1·17 " 1869
"	..	1·44 " 1874

These differences are remarkable, and it will be noticed that in every month of the rainy season there are instances of the fall being less than one inch. These cases in the autumnal months must be very serious for the husbandmen, for the ground cannot be in a fit state for the reception of seed. Whilst in the same months in other years the falls have been large, in one case, December, 1888, as large as 16·40 inches, this is the largest fall in one month in the 32 years; the next in order are :—

DIAGRAM SHOWING THE FALL OF RAIN AT JERUSALEM IN INCHES IN EVERY YEAR FROM 1861 TO 1892.



Harrison & Sons, Ltd., 51, Mark Lane, E.C.

1878, January	....	....	....	....	13·39 inches.
1880, December	....	....	....	....	13·00 "
1882, February	....	....	....	....	12·59 "
1887, January	....	....	....	....	12·45 "
1862, January	....	....	....	....	12·41 "
1890, January	....	....	....	....	11·59 "
1878, February	....	....	....	....	11·49 "
1891, December	....	....	....	....	11·09 "
1868, February	....	....	....	....	10·93 "
1875, March	....	....	....	....	10·52 "
1891, January	....	....	....	....	10·23 "
1874, March	....	....	....	....	10·02 "

Of these heavy falls five were in January, three in February, two in March, and three in December; the fall of rain in every other month was less than 10 inches.

There were, however, a good many other heavy falls; there were six exceeding 9 inches, of which three were in January in the years 1861, 1863, and 1867; one in February, 1886, and two in December in the years 1873 and 1890; five exceeding 8 inches, one in January, 1874, two in February in the years 1877 and 1884, and two in December in 1868 and 1892; there were 10 exceeding 7 inches, all between November and January, 18 exceeding 6 inches, 9 exceeding 5 inches, 16 exceeding 4 inches, and 23 exceeding 3 inches.

The largest fall of rain in three consecutive months was 32·23 inches, ending February, 1878; the next in order was 30·52 inches, ending January, 1889; the smallest in three consecutive months was 3·10 inches, ending February, 1870; and the next in order was 3·88 inches, ending January, 1870.

The numbers in the last column of Table I shows the average fall of rain in every month; the largest is in January, the next in order December, then March and April. The number at the foot of each column shows the fall of rain in the year; the three smallest are 13·39 inches in 1870, 13·56 inches in 1889, and 14·41 inches in 1876. The three greatest are 37·79 inches in 1888, 35·51 inches in 1890, and 34·72 inches in 1891. The mean of the three lowest was 11·44 inches below the average; and the three highest was 10·78 inches above the average.

It is remarkable that the fall of rain in the years 1864, 1870, 1876, and 1889 were all less than the fall in the month of December, 1888, and that the fall in the year 1881 was only 0·1 inch larger. It may also be noticed that the fall in the month of January, 1878, was the same in amount with the fall in the year 1870.

The average annual fall of rain is shown at the foot of the last column and is 25·23 inches, being very nearly the same as in London, but how differently distributed! By laying the annual falls down as a diagram the results can be seen at once. The first thing to be noticed is the evident increase of the fall of rain in the later years of the series, and the

next, that up to 1878 no fall of rain had reached 30 inches, the nearest approach being 29·75 inches in 1874 ; but on the diagram in eight years, viz., 1878, 1880, 1883, 1886, 1888, 1890, 1891, and 1892, the points are all well above 30 inches. It is remarkable that the largest fall of all, in 1888, should be followed in 1889 by one so small as 13·56 inches, being, in fact, the lowest but one in the 32 years.

By taking the means of the annual falls in two equal periods of 16 years, the first in the years 1861 to 1876, the mean is 22·26, and in the second, in the years 1877 to 1892, the mean is 28·20 ; therefore, the mean annual fall in the second half of the series is 5·94 inches greater than in the first half. This is very remarkable.

By comparing the average rainfall for each month, as shown in the last column of Table I, with the monthly fall of the same month in every year it will be seen that in every month, for three, four, or five successive years, the fall has been either above or below the mean ; and—

In January in 16 years the fall was above and in 16 years below the mean.

In February in 13 years the fall was above and in 19 years below the mean.

In March in 13 years the fall was above and in 19 years below the mean.

In April in 13 years the fall was above and in 19 years below the mean.

In October in 7 years the fall was above and in 25 years below the mean.

In November in 13 years the fall was above and in 19 years below the mean.

In December in 15 years the fall was above and in 17 years below the mean.

In January of those above the mean there were four successive years, viz., 1861, 1862, 1863, and 1864, and two groups of three each, in 1885, 1886, and 1887, and 1890, 1891, and 1892. Of those below the mean there were two groups of four each, viz., 1870 to 1873 and 1879 to 1882.

In February above the mean there was only one group of three, in the years 1872, 1873, and 1874 ; of those below the mean there were three groups of three and one of four, viz., in the years 1862, 1863, and 1864 ; 1869, 1870, and 1871 ; 1879, 1880, and 1881, and 1887, 1888, 1889, and 1890.

In March of those above the mean there were two groups, one of three and one of five, viz., in the years 1879, 1880, and 1881, and 1883 to 1887. Of those below the mean there were three groups, of six, three, and five years, viz., 1864 to 1869, 1876 to 1878, and 1888 to 1892.

In April above the mean there were two groups, one of four and one of three years, viz., 1867 to 1870, and 1880 to 1882 ; below the

mean there were three groups, two of three and one of five years, viz., 1864 to 1866, 1871 to 1875, and 1877 to 1879.

In November above the mean there were two groups of three, viz., 1872 to 1874, and 1890 to 1892; below the mean there were two groups, one of seven and the other of three years, viz., 1865 to 1871, and 1878 to 1880.

In December above the mean there were two groups of three, viz., in 1871 to 1873, and 1890 to 1892; below the mean there were three groups, two of three and one of four successive years, viz., 1864 to 1866, 1874 to 1876, and 1881 to 1884.

Therefore, in every month of the rainy season the fall has been above the mean for three or four years in succession; once in March it was above for five years. The fall also has been below the mean for three or four years consecutively; once, both in March and April, it extended to five years, and once, also in March, to six years, and in November there were seven in succession below the mean.

Comparing the yearly falls with the average, viz., 25.23 inches, the first group of three below the mean was in the years 1864, 1865, and 1866. The next is a group of five years, viz., from 1869 to 1873, and besides these there are no two years in succession below the mean.

The first two years in succession above the mean was in 1867 and 1868; the next two years, 1874 and 1875, the next 1882 and 1883; then four years, 1885 to 1888, and three years, 1890, 1891, and 1892.

From the long group of five years of deficient rainfall, ending in 1873, no two dry years have come together, and five years only out of the subsequent 19 have been below the average, and the remaining 14 above, made up of three instances of two successive years of excess, one of four, and one of three. From the five dry years, ending 1873, there has been a gradual increase of rain, and future observations will be looked forward to with very great interest indeed, for it is not possible to infer whether the years ending 1873 were the lowest in a cycle of years, or whether the climate is changing.

From Table III it appears that the number of rainy days has varied—

In January from 3 in 1881 to 19 in 1883 and 1888.

February „ 1 „ 1870 „ 18 „ 1868 and 1884.

March „ 2 „ 1892 „ 20 „ 1874.

April „ 1 „ 1861 „ 13 „ 1868 and 1870.

May „ 0 „ several years to 5 in 1867, 1886, and 1892.

September from none in several years to 2 in 1864 and 1878.

October „ „ „ 7 „ 1863.

November „ 1 in several years to 13 in 1888.

December „ 2 in 1884 to 17 in 1890.

In the months of the rainy season the days of rain have been as few as 1, 2, or 3 in some years, and as many as 17 to 20 in other years.

Also from the table it appears that in June rain fell on one day in the years 1885 and 1888, and that in August it fell on one day in the year 1890.

From the numbers in the last column of Table III (*see* p. 39), showing the average number of days of rain, it appears that January has the greatest number, 12, and the next in order are February and December, each 10, then in order March, 8, November, 6, April, 5, and May and October 2 each.

The sum at the foot of each column shows the number of days of rain in that year; the numbers vary from 36 in the year 1864 to 73 in the year 1890.

By taking the means of the first half, viz., from 1861 to 1876, the average value is 52, and of the second half, viz., from 1877 to 1892, the average value is 58. The mean number of days for the whole period is 55.

CROYDON, *November*, 1893.

METEOROLOGICAL REPORT FROM JERUSALEM FOR YEAR 1884.

By JAMES GLAISHER, F.R.S.

THE numbers in column 1 of this table show the highest reading of the barometer in each month; of these the highest appear in the winter, and the lowest in the summer months; the maximum for the year is 27·668 inches in January. In column 2 the lowest in each month are shown; the minimum is 26·997 inches in April. The range of readings in the year was 0·671 inch. The numbers in the 3rd column show the extreme range of readings in each month; the smallest, 0·144 inch, is in August, and the largest, 0·531 inch, in January. The numbers in the 4th column show the mean monthly pressure of the atmosphere; the highest, 27·486 inches, is in December, and the lowest, 27·285 inches, in July. The mean pressure for the year was 27·380 inches; at Sarona the mean pressure for the year was 29·859 inches.

The highest temperature of the air in each month is shown in column 5. The highest in the year was 105° on both the 6th and 9th of August; at Sarona the maximum temperature on these days was 88° and 89° respectively. The first day in the year the temperature reached 90° was on May 29th, and the temperature reached or exceeded 90° on two other days in this month. In June there were 8 days when the temperature reached or exceeded 90°; in July, on 7 days; in August, on 10 days; in September, on 1 day; and in October, on 4 days. Therefore the temperature reached or exceeded 90° on 33 days in the year. At Sarona the temperature reached 90° as early as April 13th, and reached or exceeded 90° on only 14 days in the year; the highest in the year at Sarona,

(To face p. 44.)

MONTHLY METEOROLOGICAL TABLE

Deduced from observations taken at Jerusalem, by JOSEPH GAMBEL, in a garden within the city, about 2,500 feet above the level of the Mediterranean Sea, open on all sides.
Latitude, 31° 46' 40" N., Longitude, 35° 13' 30" E.

Months.	Pressure of atmosphere in month.				Temperature of the air in month.							Mean temperature at 9 a.m.			Vapour at 9 a.m.		Degree of humidity.	Weight of a cubic foot of air.	Wind.						Mean amount of cloud.	Rain.				
																			Relative proportions of.							Number of days on which it fell.	Amount collected.			
	Highest.	Lowest.	Range.	Mean.	Highest.	Lowest.	Range.	Mean of all highest.	Mean of all lowest.	Mean daily range.	Mean.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.			Additional weight required for saturation.	N.	N.E.	E.	S.E.	S.				S.W.	W.	N.W.
1884.	in.	in.	in.	in.	°	°	°	°	°	°	°	°	°	°	grs.	grs.	grs.	grs.	grs.	grs.	grs.	grs.	grs.	grs.	grs.	grs.	grs.	in.	in.	
January	27.668	27.157	0.531	27.442	62.0	28.5	33.5	49.4	33.0	11.4	43.7	44.8	42.2	39.1	.239	2.8	0.6	81	504	2	2	2	5	3	10	3	4	6.7	10	6.09
February	27.630	27.217	0.413	27.386	58.0	34.5	23.5	49.7	33.7	11.0	44.2	45.5	43.8	39.7	.245	2.8	0.7	81	502	1	3	2	3	1	10	8	1	7.6	18	8.26
March	27.619	27.110	0.509	27.381	75.0	34.0	41.0	60.2	43.2	17.0	51.7	53.6	48.5	43.5	.304	3.4	1.2	74	494	2	1	2	5	1	11	4	5	7.3	10	3.75
April	27.510	26.997	0.513	27.348	84.0	41.5	42.5	73.2	53.3	10.9	63.3	65.0	54.9	46.6	.318	3.5	3.3	51	483	1	1	3	5	3	7	6	4	5.9	3	2.03
May	27.434	27.103	0.241	27.355	94.0	44.0	50.0	77.2	55.5	21.7	66.3	70.3	57.8	48.4	.341	3.7	4.3	46	468	1	4	3	6	1	3	5	8	4.4	3	0.62
June	27.460	27.258	0.162	27.237	99.0	53.0	46.0	85.5	62.4	23.1	73.9	78.4	63.3	52.9	.401	4.3	6.1	41	469	1	2	2	5	0	3	8	9	2.0	0	0.00
July	27.443	27.182	0.261	27.285	99.5	56.0	43.5	85.7	61.6	24.1	73.7	76.6	64.3	55.6	.444	4.8	5.0	48	470	3	1	0	1	0	2	8	16	1.2	0	0.00
August	27.378	27.234	0.144	27.297	105.0	55.0	50.0	88.0	63.5	24.5	75.8	78.6	66.0	57.3	.471	5.0	5.4	48	469	2	2	2	3	0	0	10	12	2.0	0	0.00
September	27.453	27.234	0.219	27.373	90.3	54.5	35.8	80.9	57.8	23.1	69.3	71.1	62.3	55.6	.443	4.8	3.7	58	476	6	1	0	3	0	2	7	11	2.8	0	0.00
October	27.599	27.311	0.288	27.449	91.5	48.0	43.5	77.9	57.9	20.0	67.9	70.3	59.3	50.8	.372	4.1	4.0	50	479	5	1	6	2	2	3	4	8	4.0	1	0.06
November	27.631	27.359	0.272	27.470	72.0	41.0	31.0	64.9	48.7	16.2	56.8	60.0	54.2	49.1	.349	3.9	2.1	67	489	0	3	3	4	8	3	6	3	5.3	7	1.03
December	27.637	27.360	0.277	27.486	68.5	41.0	27.5	58.4	46.3	12.1	52.3	53.8	43.9	44.1	.289	3.3	1.5	70	496	1	3	14	7	0	2	0	4	4.8	2	2.02
Means	27.538	27.219	0.319	27.380	83.2	44.2	39.0	70.9	52.2	18.7	61.6	64.0	55.5	48.6	.351	3.9	3.2	60	483	sum. 25	sum. 24	sum. 39	sum. 49	sum. 19	sum. 56	sum. 69	sum. 85	4.5	sum. 54	sur. 23.96
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

viz., 100°, took place on October 16th; on this day the maximum temperature at Jerusalem was 90°·5.

The lowest temperature of the air in each month is shown in column 6. The lowest in the year was 28°·5, on January 23rd; the temperature was below 40°, in January, on 22 nights; in February it was below 40° on 20 nights; and in March, on 8 nights. Therefore the temperature was below 40° on 50 nights in the year. The yearly range of temperature was 76°·5. At Saronā the temperature was below 40° on only 9 nights in the year; the lowest temperature in the year was 32°, on January 22nd and 24th. The yearly range at Saronā was 68°.

The range of temperature in each month is shown in column 7, and these numbers vary from 23°·5 in February, to 50° in both May and August. At Saronā the range of temperature in each month varied from 24° in February to 51° in March.

The mean of all the highest by day, of the lowest by night, and of the average daily ranges of temperature, are shown in columns 8, 9 and 10 respectively. Of the high day temperatures, the lowest, 49°·4, is in January, and the highest, 88°, in August. At Saronā, of the high day temperatures, the lowest, 60°·2, is in January, and the highest, 86°, in August.

Of the low night temperatures, the coldest, 38°·0, is in January, and the warmest, 63°·5, in August. At Saronā, of the low night temperatures, the coldest, 40°·9, is in January, and the warmest, 68°·9, in August.

The average daily range of temperature, as shown in column 10, the smallest, 11°, is in February, and the largest, 24°·5, is in August. At Saronā, the average daily range, the smallest, 14°·1, is in February, and the largest, 24°·4, in April.

In column 11, the mean temperature of each month, as found from observations of the maximum and minimum thermometers only, are shown; the month of the lowest temperature is January, 43°·7, and that of the highest, August, 75°·8. The mean for the year is 61°·6. At Saronā, the mean temperature of each month, the lowest is January, 50°·5, and that of the highest August, 77°·4. The mean for the year at Saronā is 65°·7.

The numbers in columns 12 and 13 are the monthly means of a dry and wet bulb-thermometer, taken daily at 9 a.m., and in column 14 the monthly temperature of the dew-point, or that of the temperature at which dew would have been deposited. The elastic force of vapour is shown in column 15, and in column 16 the water present in a cubic foot of air, in January and February, was as small as 2·8 grains, and as large as 5 grains in August. The numbers in column 18 show the degree of humidity, saturation being considered as 100; the smallest number in this column is in June, and the largest number is in January and February. The weight of a cubic foot of air under its pressure, temperature, and humidity, at 9 a.m., is shown in column 19.

The most prevalent wind in January was S.W., and the least

prevalent winds were N., N.E., and E. In February the most prevalent were S.W. and W., and the least were N., S., and N.W. In March the most prevalent was S.W., and the least were N.E. and S. In April the most prevalent were S.W., W., and S.E., and the least were N. and N.E. In May the most prevalent were N.W. and S.E., and the least were N. and S. In June the most prevalent were N.W. and W., and the least were S. and N. In July the most prevalent was N.W., and the least were E. and S. In August the most prevalent were N.W. and W., and the least S. and S.W. In September the most prevalent was N.W., and the least were E. and S. In October the most prevalent were N.W., E., and N., and the least was N.E. In November the most prevalent were S. and W., and the least was N.; and in December the most prevalent wind was E., and the least prevalent were S. and W.

The most prevalent wind for the year was N.W., which occurred on 85 times during the year, of which 16 were in July, 12 in August, and 11 in September; and the least prevalent wind for the year was S., which occurred on only 19 times in the year, of which 8 were in November. At Sarona the most prevalent wind for the year was S.W., which occurred on 72 times during the year, and the least prevalent wind was E., which occurred on only 8 times during the year.

The numbers in column 28 show the mean amount of cloud in each month; the month with the smallest amount is July, and the largest, February. Of the cumulus, or fine weather cloud, there were 63 instances, of which 15 were in September. Of the nimbus, or rain cloud, there were 46 instances, of which 14 were in February, and 9 in both January and March. Of the cirrus there were 3 instances; of the stratus, 2 instances; of the cumulus stratus, 64 instances; of the cirro stratus, 16 instances; of the cirro cumulus, 54 instances; and 118 instances of cloudless skies, of which 21 were in July, 20 in June, and 15 in August, and 3 only in February. At Sarona there were 74 instances of cloudless skies, of these 16 were in June, 12 in December and 11 in November.

The largest fall of rain for the month in the year was in February, 8.26 inches, of which 1.24 inch fell on the 14th, and 1.22 inch fell on the 9th. The next largest fall for the month was 6.09 inches in January, of which 2.83 inches fell on the 22nd, 1.24 inch on the 21st, and 1.05 inch on the 20th. No rain fell from May 5th to October 30th, making a period of 177 consecutive days without rain. The total fall of rain for the year was 23.96 inches, which fell on 54 days during the year. At Sarona the largest fall of rain for the month in the year was 6.69 inches in January, and the next in order was 6.09 inches in February. No rain fell from May 5th to October 20th, with the exception of June 23rd, when 0.02 inch fell, making a period of 167 consecutive days without rain. At Sarona the total fall for the year was 18.73 inches, which fell on 65 days during the year.
