

SMITHSONIAN MISCELLANEOUS COLLECTIONS

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ON THE 27.0074-DAY CYCLE IN WASHINGTON PRECIPITATION

BY

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Research Associate, Smithsonian Institution



(PUBLICATION 3800)

CITY OF WASHINGTON
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ON THE 27.0074-DAY CYCLE IN WASHINGTON PRECIPITATION

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In my paper "Weather Predetermined by Solar Variation,"¹ table 5 gives the dates in 1944 which were expected to have larger than average daily precipitation in Washington. It was stated (p. 40) that, of the 10 years 1934 to 1943, the dates expected to have larger than average precipitation did in fact have larger average precipitation than the remaining dates in the ratio 1.55, and that only 1 of the 10 years, namely, 1934, failed in this respect. The value of the ratio for 1934 was 0.99.

The year 1944 having now ended, I have computed the average precipitation per day of the "preferred" days, and of the others for each month, and for the entire year. The results are as follows:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Preferred	0.164	0.129	0.256	0.079	0.000	0.036	0.085	0.491	0.249	0.081	0.190	0.018	0.139
Other	0.027	0.050	0.103	0.126	0.073	0.143	0.074	0.016	0.136	0.123	0.048	0.216	0.094
Ratio	6.07	2.58	2.49	0.63	0.00	0.25	1.15	30.7	1.83	0.66	3.96	0.08	1.48

The months April, May, and June, which were regarded in 1944 as "drought" months in Washington, and brought disappointment to "Victory gardeners," and the months October and December, failed to present ratios larger than unity. A heavy thundershower occurred about 9 p. m. on October 20, in which 1.08 inches of rain fell. Had it occurred 3 hours later, falling on October 21, it would have made the October ratio 2.63 instead of 0.66. For the year, 177 preferred days yielded 24.58 inches of precipitation, while 189 other days yielded 17.72 inches. Thus for the year the preferred days gave 1.48 times as much average precipitation per day as the others. The expected ratio, as stated at page 40 of my cited publication, is 1.42. The average observed ratio during the 11 years 1934 to 1944 was 1.55.

The following table gives for the year 1945 the "preferred" dates when greater average precipitation is expected to occur than on the remaining dates. Of course it is understood that precipitation is not expected to occur on every one of the "preferred" dates. On the

¹ Smithsonian Misc. Coll., vol. 104, No. 5, July 3, 1944.

other hand, precipitation is likely to occur on many of the "remaining" dates. But at the end of 1945, as for the preceding 11 years, it is expected that the average daily precipitation at Washington on the "preferred" dates will be found to have exceeded the average daily precipitation on the "remaining" dates.

TABLE I.—*Dates expected to have larger than average precipitation, Washington, 1945*

Preferred days of cycle	Jan.	Feb.	Mar.	Apr.	May	June
1.....	26	22	21	17	14	10
2.....	27	23	22	18	15	11
3.....	1 28	24	23	19	16	12
4.....	2 29	25	24	20	17	13
5.....	3 30	26	25	21	18	14
12.....	10	6	5	1 28	25	21
13.....	11	7	6	2 29	26	22
15.....	13	9	8	4	1 28	24
17.....	15	11	10	6	3 30	26
18.....	16	12	11	7	4 31	27
22.....	20	16	15	11	8	4
26.....	24	20	19	15	12	8
27.....	25	21	20	16	13	9

Preferred days of cycle	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	7	3 30	26	23	19	16
2.....	8	4 31	27	24	20	17
3.....	9	5	1 28	25	21	18
4.....	10	6	2 29	26	22	19
5.....	11	7	3 30	27	23	20
12.....	18	14	10	7	3 30	27
13.....	19	15	11	8	4	1 28
15.....	21	17	13	10	6	3 30
17.....	23	19	15	12	8	5
18.....	24	20	16	13	9	6
22.....	1 28	24	20	17	13	10
26.....	5	1 28	24	21	17	14
27.....	6	2 29	25	22	18	15