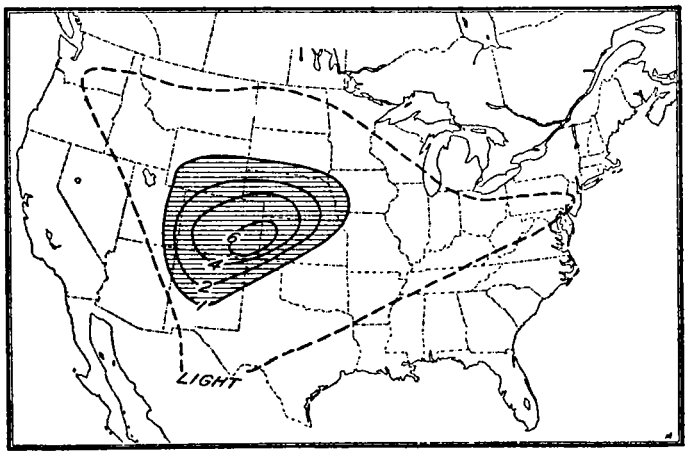
DUSTSTORMS OF MAY 1936 IN THE UNITED STATES

By R. J. MARTIN

[Weather Bureau, Washington, D. C., May 1936]

Duststorms were less frequent during May than in the preceding month, and dense dust occurred over a smaller area. Comparison of the accompanying chart with that



Number of days with duststorms, or dusty conditions, May 1936.

appearing in the April issue of this REVIEW shows that the maximum number of dense duststorms decreased by about 50 percent, while the area covered was considerably smaller, especially from Texas northeastward.

Dense dust was reported in Wyoming, South Dakota, Nebraska, Kansas, Oklahoma, Texas, New Mexico, Arizona, Utah, and Colorado. In several of the States named, only limited areas were affected; this is especially true of Oklahoma, Texas, and Arizona.

Light dust was more widespread in the Northwest than during April; Walla Walla, Wash. reported dust on 8 days and Yakima on 1. Dusty conditions were noted as far east as Reading, Pa., though in large Ohio Valley districts no dust was reported. At Reading, dust was only sufficient to cause colorful sunsets, while Chicago experienced a light mudfall on the 31st.

In central and northern sections there was some property loss from these storms; in portions of Minnesota seeded fields were damaged where grain was not high enough to keep the soil from being blown away, while at other stations only human discomfort resulted. At numerous other stations in these areas dust was reported aloft.

Colorado again had severe duststorms; they were especially frequent in southeastern counties, where the ground was cultivated extensively last year. In parts of Baca County heavy dust was reported blowing from fields an hour or two after rainfalls of one-half inch or more. The storms of the 19th–22d at times reduced visibility to 25 feet, making driving and flying conditions hazardous.

The shaded area on the chart outlines those sections where dense dust was reported.

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SOLAR OBSERVATIONS

SOLAR RADIATION OBSERVATIONS DURING MAY 1936

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For a description of instruments employed and their exposures, the reader is referred to the January 1935 REVIEW, page 24.

Table 1 shows that solar radiation intensities averaged above normal at Washington and Madison, and below normal at Lincoln. No water-vapor clouds were detected on May 15 at Lincoln when the exceedingly low radiation values were obtained. White haze was reported at the station when readings were made; and W. J. Bryan of the university station reports that notes from cooperative observers near Lincoln indicate severe local dust storms, chiefly at high elevation. Several other dust-storms were reported near Lincoln during the month, with resulting effects on the solar radiation receipt, as shown in table 1.

Table 2 shows a very marked excess in the amount of total solar and sky radiation at all stations, with the exception of Fairbanks, Twin Falls, Miami, Blue Hill, Friday Harbor, and Ithaca.

Polarization observations obtained at Washington on 5 days give a mean of 61 percent, with a maximum of 63 percent on the 28th. At Madison, observations made on 7 days give a mean of 60 percent, with a maximum of 67 percent on the 27th. All of these values are slightly higher than the corresponding May normals.

TABLE 1.—*Solar radiation intensities during May, 1936*

[Gram-calories per minute per square centimeter of normal surface]

WASHINGTON, D. C.

Date	Sun's zenith distance										
	8 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon
	75th mer. time	Air mass									Local mean solar time
		A. M.					P. M.				
	e	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e
	mm	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm*
May 1	10.59	0.58	0.67	0.82	0.96	1.39	0.94	------	------	------	10.21
May 5	6.27	------	------	------	------	1.43	------	------	------	------	5.79
May 6	6.27	.57	.71	.86	1.09	1.39	------	------	------	------	6.27
May 14	4.95	.81	.93	1.05	1.22	1.45	1.12	------	------	------	4.97
May 15	7.04	.60	.75	.94	1.09	1.42	1.22	------	------	------	4.75
May 20	5.56	.78	.89	1.05	1.22	1.42	1.18	------	------	------	4.75
May 22	8.18	------	------	------	------	------	.98	------	------	------	5.36
May 23	8.18	------	------	------	1.16	1.36	------	------	------	------	7.29
May 28	5.33	.56	.72	.97	1.32	1.14	------	------	------	------	4.57
May 29	4.95	------	------	------	1.23	1.42	------	------	------	------	4.75
Means	------	.65	.78	.95	1.16	1.41	1.09	------	------	------	------
Departures	------	+.02	+.06	+.12	+.16	+.14	+.16	------	------	------	------

TABLE 1.—*Solar radiation intensities during May, 1936*—Contd.

MADISON, WIS.

Date	Sun's zenith distance										
	8 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon
	75th mer. time	Air mass									Local mean solar time
		A. M.					P. M.				
	e	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e
	mm	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm*
May 5	7.87	------	------	0.72	0.89	------	------	------	------	------	9.83
May 8	10.97	------	------	------	.99	------	------	------	------	------	12.24
May 13	6.50	------	------	------	------	1.52	------	------	------	------	5.56
May 14	4.75	------	0.89	1.01	1.20	1.39	------	------	------	------	5.56
May 19	8.18	------	.59	.76	1.16	1.51	------	------	------	------	6.76
May 21	7.04	------	.77	.88	------	------	------	------	------	------	6.27
May 25	8.48	------	------	------	------	1.36	------	------	------	------	7.87
May 26	10.21	------	------	.92	1.12	------	------	------	------	------	10.97
May 27	11.38	------	------	------	1.27	1.49	------	------	------	------	8.48
May 28	5.36	------	.77	.91	1.10	1.54	------	------	------	------	7.04
May 29	6.50	------	1.04	1.14	1.27	1.49	------	------	------	------	6.50
Means	------	------	.81	.91	1.12	1.47	------	------	------	------	------
Departures	------	------	−.01	.00	+.01	+.10	------	------	------	------	------

LINCOLN, NEBR.

May 4	9.83	------	------	------	------	1.36	1.06	0.88	0.70	0.50	10.59
May 12	10.97	------	------	------	------	------	1.20	1.00	.86	.73	11.38
May 13	6.76	------	.86	1.02	1.19	1.43	------	------	------	------	5.16
May 14	7.04	------	------	------	------	------	------	.92	.78	.67	6.27
May 15	9.47	------	.24	.36	.59	------	1.11	.90	.77	.63	12.24
May 16	13.13	------	------	------	.61	1.20	------	------	------	------	12.24
May 18	7.29	------	------	------	------	------	------	1.04	.89	.78	6.76
May 19	7.87	------	.87	1.01	1.22	1.39	1.10	.93	.79	.66	7.57
May 26	11.81	------	.95	1.12	1.26	1.42	------	------	------	------	12.24
May 27	9.83	------	------	.98	1.14	1.42	------	------	------	------	11.38
May 28	8.81	------	------	------	1.24	1.45	------	------	------	------	8.18
Means	------	------	.73	.90	1.04	1.38	1.12	.94	.80	.66	------
Departures	------	------	−.05	−.03	−.07	.00	+.02	+.04	−.01	−.02	------

BLUE HILL, MASS. (HARVARD UNIVERSITY)

May 1	10.7	------	------	------	0.71	1.10	------	------	------	------	12.3
May 2	10.7	------	------	------	1.14	1.50	1.08	.74	------	------	11.9
Mya 5	6.5	------	------	1.23	1.34	1.46	------	------	------	------	2.9
May 6	5.6	------	------	------	.96	1.18	------	------	------	------	6.5
May 7	8.8	------	------	------	------	1.08	.95	------	------	------	7.6
May 8	10.5	------	------	.71	.77	1.16	------	------	------	------	11.9
May 9	11.5	------	------	------	.76	1.12	.99	------	------	------	11.5
May 10	6.5	------	------	------	------	1.25	.91	------	------	------	7.4
May 11	8.6	------	------	------	.84	1.16	.75	------	------	------	11.9
May 14	6.5	------	------	------	------	1.45	1.18	------	------	------	4.6
May 15	5.6	1.04	1.11	1.21	1.35	1.50	------	------	------	------	3.8
May 16	2.3	------	------	------	1.34	1.53	1.34	1.21	1.15	1.09	3.0
May 17	6.5	------	------	------	------	1.25	1.04	------	------	------	8.6
May 18	13.2	------	------	------	.83	1.20	------	------	------	------	9.6
May 19	13.2	------	------	------	1.11	1.07	------	------	------	------	14.3
May 20	5.0	------	------	------	1.17	1.47	1.21	------	------	------	4.8
May 21	5.6	------	------	1.21	1.43	------	------	------	------	------	3.8
May 22	4.4	------	------	1.15	1.24	1.46	1.02	------	------	------	3.3
May 23	7.4	------	------	------	1.01	1.28	------	------	------	------	7.4
May 24	12.8	------	------	------	.75	1.15	------	------	------	------	13.3
May 25	9.2	------	------	------	1.28	1.38	------	------	------	------	8.6
May 26	6.5	------	------	------	1.10	1.37	1.06	------	------	------	8.2
May 27	9.9	------	------	------	------	------	------	.85	.75	.66	11.1
May 28	6.8	------	------	1.04	1.18	------	------	------	------	------	6.5
May 29	6.3	------	------	------	.86	1.39	------	------	------	------	6.8
May 30	7.6	------	------	------	.88	1.44	------	------	------	------	6.8
May 31	6.5	------	------	------	1.25	1.45	------	------	------	------	6.3
Means	------	1.04	1.11	1.09	1.05	1.31	1.05	.93	.95	.88	------