Hanzlík, S.
Der Luftdruckeffekt der Sonnenfleckenperiode [für die Monate Dezember, Januar, Februar und Juni, Juli, August.] (I. Mitteilung: Jahresmittel.) (II. Mitteilung: I. Dezember, Januar und Februar.) v. p. figs. 22½ cm. (Gerlands Beitr. zur Geophys. Bd. 28, H. 1/3, 1930. Bd. 29, H. 2, 1931.)

Hill, E. Vernon.
Aerology for amateurs and others. Air conditioning fundamentals and test methods. Chicago. [c1930.] v. p. illus. 24½ cm.

Maufe, H. B.
Changes of climate in southern Rhodesia during later geological times. p. 12–16 24½ cm. (So. Afr. geogr. journ. v. 13, Dec., 1930.)

National research council. Subsidiary committee on meteorology.
Meteorology . . . Washington. 1931. xi, 289 p. illus. 25 cm. (Bull. no. 79. Physics of the earth III.)

Schmid, F.
Die Nachtdämmerung. St. Gallen. 1930. p. 227–277. figs. plates (fold.) 22½ cm. (Jahrb. St. Gallischen naturwissensch. Gessell. 65. Bd. (1929 and 1930.))

Trappes, Observatoire Léon Teisserence de Bort. ***Laboratoire actinométrique international.***
Bulletin actinométrique international. n. p. 1930. 30 p. front. 27½ cm. (No. 1.)

Tsukuda, K.
Mean cloudiness in the Far East. Kobe. 1931. p. 75–98. plates. 26½ cm. (Repr.: Mem. Imp. mar. observ., v. 4, no. 2.)

Visher, Stephen S.
Waterspouts. p. 179–187. 25 cm. (Repr.: Bull. geogr. soc. Phila., v. 28, no. 3, July.)

Willett, Hurd C.
Dynamic meteorology. p. 133–233. figs. 25 cm. (Repr.: Bull. nat. research counc., no. 79, Wash., 1931.)

Wolken in Luftmeer. Lichtbilder aufgenommen von deutschen Fliegern während des Krieges . . . Berlin. n. d. 100 p. (incl. plates.) 32 cm.

SOLAR OBSERVATIONS

SOLAR RADIATION MEASUREMENTS DURING MAY, 1931

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For a description of instruments employed and their exposures, the reader is referred to the January, 1931, REVIEW, page 41.

Table 1 shows that solar radiation intensities averaged above the normal intensities for May at Washington, and below the May normals at Madison and Lincoln.

Table 2 shows an excess in the total radiation received on a horizontal surface as compared with the normal amount for May at Lincoln, close to normal at Pittsburgh and Fresno, and a deficiency at all other stations for which normals have been computed.

Skylight polarization measurements obtained on 9 days at Madison, gave a mean of 53 per cent with a maximum of 60 per cent on the 25th. At Washington, measurements obtained on three days give a mean of 56 per cent, with a maximum of 58 per cent on the 27th. These are close to the corresponding May averages for Washington. At Madison, the values were slightly below the corresponding averages.

TABLE 1.—*Solar radiation intensities during May, 1931*

[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] 1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
May 4	4.75	0.68	0.75	0.94	1.12	1.49	1.05				4.57
May 9	9.47				1.03	1.29					8.48
May 22	7.57		0.51	0.65	0.92						7.87
May 27	7.04	0.66	0.79	0.95	1.18	1.31	1.05				6.50
May 28	9.14	0.61	0.74	0.88	1.05	1.28	0.94				8.81
Means		**0.65**	**0.70**	**0.86**	**1.06**	**1.34**	**1.01**				
Departures		**+0.01**	**−0.01**	**+0.04**	**+0.07**	**+0.05**	**+0.02**				

Madison, Wis.

May 1	3.81			0.73	1.00						4.37
May 2	4.75				1.01						5.16
May 4	2.36			0.77	0.98	1.34	0.95				4.17
May 5	5.16				1.04						5.16
May 13	7.04		0.78	0.91	1.11	1.46					6.76
May 15	7.04					1.34	1.08				7.04
May 23	5.79	0.69	0.79	0.94	1.14	1.40					5.16
May 25	8.18	0.72	0.85	0.98	1.15	1.44					7.29
May 26	7.29				0.93						9.14
Means		**(0.70)**	**0.81**	**0.87**	**1.04**	**1.40**	**(1.02)**				
Departures		**−0.07**	**−0.06**	**−0.06**	**−0.06**	**+0.09**	**−0.01**				

TABLE 1.—*Solar radiation intensities during May, 1931*—Contd.

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

Lincoln, Nebr.

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] 1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
May 2	4.37					1.40	1.13	0.93	0.78	0.66	4.57
May 3	4.57	0.57	0.69	0.83	1.03	1.45					4.75
May 14	7.29			0.89	1.17	1.38	1.16	0.95	0.80	0.69	7.57
May 15	7.87	0.68	0.77	0.91	1.12	1.36					9.47
May 20	3.81		0.87	1.01	1.19	1.42					3.81
May 22	5.16		0.82	0.97	1.10						5.79
May 23	11.81						1.04				6.50
May 25	8.81		0.43	0.64	0.87	1.19	0.86	0.64	0.48		10.21
Means		**(0.62)**	**0.72**	**0.88**	**1.08**	**1.37**	**1.05**	**0.84**	**0.69**	**(0.68)**	
Departures		**−0.06**	**−0.08**	**−0.05**	**−0.04**	**−0.01**	**−0.06**	**−0.09**	**−0.10**	**±0.00**	

[1] Extrapolated.

TABLE 2.—*Total solar radiation (direct + diffuse) received on a horizontal surface*

[Gram calories per square centimeter]

Week beginning	Average daily totals											
	Washington	Madison	Lincoln	Chicago	New York	Twin Falls	Pittsburgh	Gainesville	Fresno	La Jolla	Miami	New Orleans
1931	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
Apr. 30	504	534	553	434	437	488	479	523	653	302	208	291
May 7	339	276	344	210	213	721	314	601	595	368	572	393
May 14	441	392	549	388	407	653	433	659	708	403	617	327
May 21	479	516	653	488	221	623	456	621	663	431	633	393
May 28	546	412	557	385	415	596	451	566	685	416	596	440
	Departures from weekly normals											
Apr. 30	+46	+77	+79	+69	+71	−81	+63	−82	+29	−105	----	----
May 7	−116	−179	−136	−164	−149	+107	−94	−52	−48	−60	----	----
May 14	−18	−72	+39	+8	+47	−1	+35	−7	+48	−30	----	----
May 21	−9	+30	+121	+82	−159	−55	+12	−10	−27	−18	----	----
May 28	+35	−79	+32	−38	+15	−87	−3	−30	−19	−46	----	----
Accumulated departures on June 3, 1931	+145	−3,682	+266	−889	−679	+1,044	−423	−506	+119	−2,576	----	----