POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard time	Heliographic			Area		Total area for each day	Observatory
		Diff. in longitude	Longitude	Latitude	Spot	Group		
May 29	11 20	−80.0	279.5	+26.5	46			U. S. Naval.
		−60.0	299.5	+17.0	46			
		−47.0	312.5	−29.5		93	185	
May 30	9 20	−70.0	277.5	+27.0	57			Mount Wilson.
		−48.0	299.5	+17.0		21		
		−33.0	314.5	−27.0	157		235	
May 31	13 14	−56.0	276.0	+26.5		116		U. S. Naval.
		−19.0	313.0	−30.0		154	270	

Mean daily area for 29 days, 232.

PROVISIONAL SUN-SPOT RELATIVE NUMBERS, MAY 1935

(Dependent alone on observations at Zurich and its station at Arosa)

[Data furnished through the courtesy of Prof. W. Brunner, Eidgen. Sternwarte, Zurich, Switzerland]

May 1935	Relative numbers	May 1935	Relative numbers	May 1935	Relative numbers
1	17	11	*aa* 46	21	0
2	26	12	41	22	0
3	*Mc* 46	13	41	23	0
4	*b* 56	14	49	24	17
5	*de* 56	15	32	25	7?
6	56	16		26	*d* 8
7	*Ec* 56	17	8	27	8
8	62	18	0	28	8
9	54	19	0	29	*d* 17
10	41	20	0	30	30
				31	38

Mean, 30 days=27.3.

a=Passage of an average-sized group through the central meridian.
b=Passage of a large group or spot through the central meridian.
c=New formation of a center of activity: *E*, on the eastern part of the sun's disk; *W*, on the western part; *M*, in the central zone.
d=Entrance of a large or average-sized center of activity on the east limb.

AEROLOGICAL OBSERVATIONS

[Aerological Division, D. M. Little, in Charge]

By L. T. SAMUELS

At those stations with a sufficient period of record for the determination of approximate normals, free-air temperatures during May averaged below normal, except at Pensacola and in the higher levels at Sunnyvale and San Diego. (See table 1.) As during April, mean free-air temperatures for May at Seattle and Spokane were higher than those at Boston at and below the 3,000-meter level, but above this level the temperatures at Boston were increasingly the higher.

Free-air relative humidities averaged slightly above normal at most stations, with the largest departures at Omaha. The free-air relative humidities averaged highest over the northern Plateau region.

The resultant winds for the month were in general as follows (see table 2): At the 1,000-meter level the directions contained a greater northerly component than normal over the northeastern section and Lake region, with velocities mostly below normal; elsewhere the directions were mostly close to normal, with velocities preponderantly above normal over the southeastern section. At the 4,000-meter level the directions were generally close to normal, with a slight excess of northerly components at most of the northern stations and on the Pacific coast; velocities were mostly above normal.

TABLE 1.—*Mean free-air temperatures and relative humidities obtained by airplanes during May 1935*

TEMPERATURE (° C.)

Stations	Altitude (meters) m. s. l.																Number of observations
	Surface		500		1,000		1,500		2,000		2,500		3,000		4,000		5,000		
	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	
Billings, Mont.[1] (1,088 m)	6.7						7.9		5.6		2.0		−1.6		−8.2		−15.0		31
Boston, Mass.[2] (6 m)	9.4	−4.1	7.5	−3.9	4.5	−4.5	1.6	−4.7	−0.5	−4.5	−2.3	−4.1	−4.4	−3.6	−8.9	−2.9	−14.8	−2.7	15
Cheyenne, Wyo.[1] (1,873 m)	4.1								3.8		2.2		−0.4		−6.7		−13.4		29
Fargo, N. Dak.[1] (274 m)	5.8		8.9		7.2		4.1		0.9		−2.0		−4.3		−9.0		−15.0		31
Kelly Field (San Antonio), Tex.[3] (206 m)	18.7		19.0		19.0		18.0		15.4		12.9		10.0		3.2		−4.2		26
Lakehurst, N. J.[4] (3 m)	8.8		10.0		7.9		5.5		3.0		0.8		−1.2		−5.1		−10.0		26
Maxwell Field (Montgomery), Ala.[3] (52 m)	19.8		20.6		17.5		14.1		11.6		8.9		5.7		−0.8		−7.0		30
Mitchel Field (Hempstead, L. I.), N. Y.[3] (29 m)	10.3		11.7		8.7		5.8		3.6		1.2		−0.9		−6.0		−12.3		29
Murfreesboro, Tenn.[1] (174 m)	14.8		16.2		15.3		12.3		10.1		7.5		4.5		−1.7		−8.0		31
Norfolk, Va.[4] (10 m)	15.2	−2.7	15.2	−1.9	13.2	−2.0	11.0	−1.5	8.4	−1.3	5.8	−1.1	3.6	−0.5	−1.6	−0.5	−7.3	−0.5	28
Oklahoma City, Okla.[1] (391 m)	15.5		15.3		14.9		13.7		11.8		8.8		5.2		−2.8		−10.9		29
Omaha, Nebr.[1] (300 m)	10.0	−2.9	10.6	−3.1	10.2	−3.5	8.1	−3.5	5.7	−3.6	3.3	−3.2	0.9	−2.6	−4.7	−1.4	−11.4	−1.1	31
Pearl Harbor, Territory of Hawaii[4] (6 m)																			
Pensacola, Fla.[4] (24 m)	23.2	+0.6	21.6	+0.8	18.8	+0.6	16.3	+0.3	13.8	+0.9	11.3	+1.0	9.1	+1.4	3.6	+1.6	−2.4	+2.1	30
San Diego, Calif.[4] (10 m)	15.2	−2.4	12.2	−1.8	11.5	−2.2	10.8	−1.7	11.0	−0.4	8.9	+0.1	6.0	0.0	−0.1	+0.1	−6.7	+0.1	30
Scott Field (Belleville), Ill.[3] (135 m)	12.0		14.8		13.0		10.2		7.6		5.6		3.1		−2.8		−9.1		22
Seattle, Wash.[4] (25 m)	8.1	−5.0	7.4	−2.8	6.4	−1.6	4.1	−1.3	1.3	−1.3	−1.3	−1.2	−3.7	−1.0	−9.3	−0.7	−15.3	−0.7	28
Selfridge Field (Mount Clemens), Mich.[3] (177 m)	6.9		9.6		7.2		5.0		3.0		1.2		−0.8		−6.5		−13.4		31
Spokane, Wash.[5] (596 m)	13.5				10.8		7.8		4.1		0.4		−3.4		−9.8		−17.0		31
Sunnyvale, Calif.[4] (10 m)	14.4	−1.5	10.8	−1.3	10.2	−0.4	11.0	+1.1	8.8	+1.1	6.0	+1.2	3.1	+1.3	−3.5	+1.7	−11.3	+1.7	25
Washington, D. C.[4] (13 m)	10.9	−5.7	10.9	−4.0	9.8	−3.2	7.4	−3.1	5.4	−2.7	3.4	−2.1	1.2	−1.7	−3.4	−1.0	−9.7	−1.0	27
Wright Field (Dayton), Ohio[3] (244 m)	9.5		11.6		11.0		8.7		6.3		3.7		1.0		−4.2		−10.6		29

[1] Weather Bureau. [2] Massachusetts Institute of Technology. [3] Army. [4] Navy. [5] National Guard.