POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard time		Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1939	*h*	*m*		°	°	°	°				
Aug. 25	11	51	6581	−49	23	−12	51	194	11	VG	Mt. Wilson.
			6582	−42	30	−13	56	73	15		
			6579	−3	69	+13	7	242	13		
			6580	−2	70	−21	27	6	4		
			6583	+30	102	−13	36	48	6		
			6576	+42	114	+13	41	145	8		
			6577	+46	118	−32	56	97	1		
			6576	+52	124	+13	61	533	8		
					(72)	(+7)		1,338	66		
Aug. 26	11	40	6585	−73	345	−17	70	436	17	VG	U. S. Naval.
			6584	−60	358	+7	60	24	5		
			(*)	−55	3	−5	54	24	5		
			6581	−34	2[illegible]	−12	37	218	16		
			6582	−28	30	−13	33	97	10		
			6579	+10	68	+13	12	242	12		
			6580	+13	71	−21	29	12	7		
			6576	+53	111	+16	53	48	12		
			6576	+55	113	+12	35	133	3		
			6577	+59	117	−32	65	97	1		
			6576	+66	124	+12	64	582	10		
					(58)	(+7)		1,913	98		
Aug. 27	9	14	6586	−67	340	−9	68	242	19	VG	Mt. Wilson.
			6585	−60	347	−17	62	679	46		
			6584	−47	0	+7	47	36	8		
			6581	−22	25	−12	27	145	25		
			6582	−16	31	−12	25	97	21		
			6579	+23	70	+13	22	145	9		
			6576	+66	113	+12	65	97	4		
			6577	+69	116	−32	73	97	5		
			6576	+79	126	+12	77	388	6		
					(47)	(+7)		1,926	143		
Aug. 28	11	4	6587	−80	312	−8	79	97	2	F	Do.
			6586	−52	340	−9	53	242	16		
			6585	−47	345	−16	50	582	48		
			6581	−9	23	−12	19	48	18		
			6582	−2	30	−11	17	12	8		
			6579	+37	69	+13	37	121	6		
			6576	+80	112	+12	78	73	3		
					(32)	(+7)		1,175	101		
Aug. 29	11	0	6587	−67	312	−8	65	109	2	VG	U. S. Naval.
			(*)	−61	318	+14	72	24	4		
			6585	−43	336	−16	47	12	1		
			6586	−42	337	−9	43	242	2		
			6586	−35	344	−8	36	145	13		
			6585	−33	346	−16	39	1,212	55		
			6581	+7	26	−12	19	48	8		
			6581	+11	30	−9	18	12	2		
			6579	+52	71	+13	52	194	3		
					(19)	(+7)		1,998	90		
Aug. 30	11	0	6587	−53	313	−8	52	97	5	G	Do.
			6586	−28	338	−9	32	242	3		
			6586	−23	343	−8	26	242	22		
			6585	−18	348	−16	27	1,454	70		
			6589	−13	353	+7	12	36	7		
			6589	−8	358	+7	8	24	5		

POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard time		Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1939	*h*	*m*		°	°	°	°				
Aug. 30	11	0	6588	−8	358	+27	23	97	14	G	U. S. Naval.
			(*)	+26	32	−8	27	12	4		
			6579	+66	72	+13	64	194	3		
					(6)	(+7)		2,398	133		
Aug. 31	11	3	6591	−81	272	+5	81	145	1	VG	Do.
			6587	−41	312	−8	43	145	13		
			6586	−15	338	−8	20	194	14		
			6586	−9	344	−8	16	194	45		
			6585	−6	347	−15	22	2,036	74		
			6589	0	353	+7	0	12	3		
			6588	+3	356	+29	23	12	4		
			6588	+7	0	+27	24	48	5		
			6590	+44	37	−5	45	6	1		
			6579	+79	72	+13	78	145	4		
					(353)	(+7)		2,937	164		

Mean daily area for 31 days=2,589.
* Not numbered.
Plate quality: P, poor; F, fair; G, good: VG, very good.

PROVISIONAL SUNSPOT RELATIVE NUMBERS FOR AUGUST 1939

[Dependent alone on observations at Zurich]

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

August 1939	Relative numbers	August 1939	Relative numbers	August 1939	Relative numbers
1	*Ecd* 67	11	*aa* 157	21	*b* 94
2	78	12	*Mac* 170	22	86
3	*Maac* 73	13	*ad* 159	23	*d* 72
4	94	14	*a* 138	24	75
5	*a* 90	15	*Macd* 146	25	*a* 58
6	*d* 112	16	122	26	*d* 69
7	*Mbc* 106	17	128	27	*Ec* 86
8	*Edd* 141	18	111	28	85
9	157	19	*a* 110	29	69
10	*d* 157	20	*d* 104	30	*Mc* 76
				31	*b* 95

Mean, 31 days=105.8

a=Passage of an average-sized group through the central meridian.
b=Passage of a large group through the central meridian.
c=New formation of a group developing into a middle-sized or large center of activity: E, on the eastern part of the sun's disk; W, on the western part; M, in the central-circle 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 B. FRANCIS DASHIELL

Upper-air observations made during August by airplanes and radiosonde are given in tables 1 and 1a, respectively, while those made by pilot balloons are shown in tables 2 and 3. The resultant winds, as well as the mean free-air pressures and temperatures, are shown on charts VIII, IX, X and XI. Isentropic data are given on chart XII and the mean altitudes of the identified tropopauses are shown in table 4. Detailed explanations of these charts and tables will be found in the January 1939 issue of the MONTHLY WEATHER REVIEW.

Table 1 shows that airplane observations are made at 7 stations in the United States. These observations failed to indicate any unusual pressure, temperature or humidity means for August. The highest temperatures prevailed at 1.5, 3, 4 and 5 kilometers on the Pacific coast (Seattle, Wash., and San Diego, Calif.). Mean pressure was highest over Pensacola, Fla., at 1.5 and 3 kilometers, and over San Diego, Calif., at 4 and 5 kilometers. Humidities were highest over Lakehurst, N. J., and Washington, D. C., and lowest over Seattle, Wash.

The radiosonde observations given in table 1a, as well as the airplane flights in table 1, show that below-zero mean temperatures were not encountered until nearly 5 kilometers was reached over all stations, except Miami, Fla. At 5 kilometers lowest mean temperatures occurred over Billings, Mont. (−5.3° C.), while the highest was over Miami, Fla. (+0.8° C.). But above 5 kilometers, where all observations are made by radiosonde (table 1a), the lowest mean temperatures were found at the 16-kilometer level, except at 15 kilometers over Omaha, Nebr.,