TABLE 3.—*Solar radiation measurements and determinations of atmospheric turbidity factor (β), Washington, D. C., August, 1932*

Date and solar hour angle	Solar altitude, *h.*	Air mass, *m.*	I_m	I_y	I_r	β	Blueness of sky	Atmospheric dust particles per cubic centimeter	Notes; skylight polarization, P.; clouds, etc.
Aug. 4									
0:52 p	65–30	1.09	1.413	*0.950*	0.744	0.075		231	Some interference from smoke and gas of experimental P_2O_5 plant.
0:57 p	64–55	1.09	1.390	.954	.747	.090			
3:12 p	43–04	1.46	1.240	.909	.695	.080			
3:15 p	42–29	1.48	1.290	*.912*	.701	.070			
4:26 p	28–50	2.07	1.149	.783	*.604*	.040	5		P=64.
4:48 p	24–32	2.40	1.016	.773	*.586*	.070			
4:52 p	23–45	2.48	1.092	.777	.592	.040			
Aug. 5									
6:00 a	10–32	5.35	.720	*.577*	.478	.055		402	
5:56 a	11–18	5.00	.753	.589	*.489*	.055			
5:36 a	17–00	3.39	.948	*.702*	.574	.060			
5:21 a	18–00	3.21	.962	.769	*.580*	.060			
4:48 a	24–23	2.41	1.102	*.791*	.614	.055			
4:42 a	25–33	2.31	1.114	.800	*.628*	.055	4		P=62.
3:11 a	43–05	1.46	1.254	*.870*	.689	.085			
3:06 a	44–02	1.44	1.270	.882	*.697*	.085			Clouds coming up.
Aug. 9									
5:29 a	15–47	3.65	.780	*.586*	.489	.070		231	
5:23 a	16–52	3.42	.811	.601	*.505*	.080			
4:43 a	24–38	2.39	1.000	.726	*.557*	.055			
4:39 a	25–25	2.31	1.010	*.735*	.544	.060	4		P=62.
3:30 a	38–46	1.59	1.180	*.832*	.655	.095			
3:26 a	39–32	1.57	1.188	.830	*.661*	.095			
0:45 a	64–50	1.10	1.248	.864	*.668*	.140			
0:42 a	65–02	1.10	1.266	*.868*	.674	.125			Clouds coming up.
Aug. 12									
5:24 a	16–12	3.55	.684	*.550*	.448	.110		441	Rather thin haze or incipient clouds all morning.
5:20 a	16–50	3.44	.719	.556	*.454*	.095			
5:04 a	20–04	2.89	.722	.561	*.478*	.145			
5:00 a	20–51	2.80	.765	*.568*	.486	.135			
Aug. 13									
5:20 a	16–43	3.45	.980	*.725*	.583	.045		284	
5:16 a	17–29	3.30	1.021	.732	*.589*	.040			
4:51 a	22–19	2.62	1.129	.790	*.629*	.035			
4:48 a	22–55	2.56	1.129	*.803*	.635	.040			
3:58 a	32–39	1.86	1.250	*.833*	.689	.050	5		P=62.
3:54 a	33–24	1.81	1.260	.842	*.698*	.040			
3:22 a	39–31	1.57	1.310	.871	*.697*	.045			
3:18 a	40–27	1.54	1.311	*.877*	.702	.050			
0:54 a	62–55	1.12	1.390	*.939*	.747	.090			
0:50 a	63–16	1.12	1.420	.945	*.753*	.080			Clouds to west
Aug. 15									
5:07 a	18–56	3.06	0.932	*0.659*	0.531	0.060		624	
5:04 a	19–32	2.98	.979	.667	*.535*	.040			
4:40 a	24–12	2.43	.986	.722	*.571*	.080			
4:37 a	24–17	2.37	.986	*.727*	*.577*	.085	4		P=65.
3:14 a	40–42	1.53	1.166	*.795*	.649	.100			
3:11 a	41–15	1.52	1.166	.801	*.653*	.100			
0:39 a	63–39	1.11	1.260	.867	*.664*	.100			
0:36 a	63–51	1.11	1.258	*.873*	.668	.105			Cumuli.
Aug. 19									
1:40 a	56–18	1.20	1.384	*.942*	.635	.070		231	
1:37 a	56–44	1.19	1.394	.945	*.738*	.070			Clouds.
Aug. 23									
3:28 a	36–24	1.68	1.095	*.756*	.597	.090	4	626	P=54.
3:26 a	36–48	1.67	1.097	.759	*.601*	.090			
2:27 a	47–14	1.36	1.137	.794	*.616*	.135			
2:22 a	48–06	1.34	1.149	*.700*	.623	.135			Cumuli.
Aug. 25									
5:23 a	13–50	4.13	.652	*.494*	.434	.095		239	
4:59 a	18–30	3.13	.777	.583	.493	.105			
4:54 a	19–30	2.98	.816	*.589*	.501	.095			
4:38 a	22–38	2.59	.905	*.634*	.528	.080			
4:35 a	23–10	2.54	.914	.638	*.531*	.080			
4:04 a	29–10	2.05	.987	.708	*.549*	.065			
4:00 a	29–56	2.00	1.012	*.715*	.552	.060	3		P=53.
2:52 a	42–30	1.48	1.024	.789	*.559*	.095			
2:40 a	44–36	1.42	1.114	.803	*.562*	.065			
0:43 a	60–16	1.15	1.214	.761	.595	.085			
2:11 p	49–24	1.32	1.140	*.803*	.530	.140			
2:18 p	48–10	1.34	1.130	.797	.626	.140			Stopped by clouds.
Aug. 26									
5:07 a	16–45	3.45	.821	*.608*	.505	.080		438	
5:04 a	17–20	3.33	.839	.613	*.508*	.070			
4:44 a	21–13	2.75	.954	.682	*.556*	.070			
4:40 a	22–00	2.65	.961	*.688*	.561	.070			
3:44 a	32–14	1.85	1.134	*.750*	.625	.080	4		P=57.
3:40 a	33–50	1.79	1.144	.761	*.621*	.075			
1:54 a	51–53	1.27	1.250	.837	*.662*	.090			
1:49 a	52–29	1.26	1.276	*.840*	.664	.080			
0:29 a	60–41	1.14	1.277	.843	*.664*	.090			
0:26 a	60–51	1.14	1.285	*.845*	.652	.080			
2:07 p	49–47	1.31	1.260	*.872*	.673	.090			
2:12 p	48–59	1.32	1.211	.855	*.673*	.120			Clouds.

TABLE 3.—*Solar radiation measurements and determinations of atmospheric turbidity factor (β), Washington, D. C., August, 1932*—Continued

Date and solar hour angle	Solar altitude, *h.*	Air mass, *m.*	I_m	I_y	I_r	β	Blueness of sky	Atmospheric dust particles per cubic centimeter	Notes; skylight polarization, P.; clouds, etc.
Aug. 31									
3:24 p	35–17	1.73	.101*		.058	.135			89.5% (partial eclipse).
4:30 p	22–03	2.65	.800		.493	.120			

POSITIONS AND AREAS OF SUN SPOTS

[Communicated by Capt. J. F. Hellweg, Superintendent United States Naval Observatory. Data furnished by Naval Observatory in cooperation with Harvard, Yerkes, Perkins, and Mount Wilson Observatories. The differences of longitude are measured from central meridian, positive west. The north latitudes are plus. Areas are corrected for foreshortening and are expressed in millionths of sun's visible hemisphere. The total area, including spots and groups is given for each day in the last column]

Date	Eastern standard civil time		Heliographic: Diff. long.	Heliographic: Longitude	Heliographic: Latitude	Area: Spot	Area: Group	Total area for each day
1932	*h*	*m*	°	°	°			
Aug. 1 (Naval Observatory)	11	24	−11.0	274.2	−10.0	154	------	154
Aug. 2 (Mount Wilson)	12	20	+2.0	273.4	−9.0	208	------	208
Aug. 3 (Mount Wilson)	9	45	+15.0	274.5	−9.5	200	------	200
Aug. 4 (Naval Observatory)	11	18	+29.0	274.5	−10.0	154	------	154
Aug. 5 (Naval Observatory)	11	26	+42.0	274.2	−10.0	154	------	154
Aug. 6 (Naval Observatory)	11	13	+57.0	276.1	−10.0	154	------	154
Aug. 7 (Naval Observatory)	13	44	+70.0	274.5	−10.0	154	------	154
Aug. 8 (Naval Observatory)	11	10	+85.0	277.7	−10.0	154	------	154
Aug. 9 (Naval Observatory)	11	11	No spots			------	------	------
Aug. 10 (Naval Observatory)	12	25	+65.0	230.6	−1.0	------	25	25
Aug. 11 (Naval Observatory)	11	5	+79.0	232.1	−1.0	------	25	25
Aug. 12 (Naval Observatory)	11	42	No spots			------	------	------
Aug. 13 (Naval Observatory)	11	19	No spots			------	------	------
Aug. 14 (Naval Observatory)	12	32	No spots			------	------	------
Aug. 15 (Naval Observatory)	10	42	No spots			------	------	------
Aug. 16 (Naval Observatory)	10	37	No spots			------	------	------
Aug. 17 (Naval Observatory)	14	6	No spots			------	------	------
Aug. 18 (Mount Wilson)	11	30	No spots			------	------	------
Aug. 19 (Naval Observatory)	10	46	No spots			------	------	------
Aug. 20 (Naval Observatory)	13	57	No spots			------	------	------
Aug. 21 (Naval Observatory)	10	8	No spots			------	------	------
Aug. 22 (Naval Observatory)	10	32	No spots			------	------	------
Aug. 23 (Naval Observatory)	11	26	−80.0	274.3	−9.0	62	------	62
Aug. 24 (Naval Observatory)	12	13	−66.0	274.7	−9.0	62	------	62
Aug. 25 (Naval Observatory)	11	30	−53.0	274.8	−9.0	62	------	------
			+3.0	330.8	−7.0	------	93	155
Aug. 26 (Naval Observatory)	12	29	−39.0	275.1	−9.0	62	------	------
			+18.0	332.1	−7.0	------	93	155
Aug. 27 (Naval Observatory)	11	42	−26.0	275.3	−9.0	46	------	------
			+31.0	332.3	−7.0	------	77	123
Aug. 28 (Naval Observatory)	13	54	−11.0	275.9	−9.0	46	------	------
			+48.0	334.9	−7.0	31	------	77
Aug. 29 (Naval Observatory)	11	55	+2.0	276.8	−9.0	31	------	31
Aug. 30 (Naval Observatory)	13	40	+16.0	276.6	−9.0	24	------	24
Aug. 31 (Naval Observatory)	10	38	+28.0	277.1	−9.0	15	------	15
Mean daily area for August								67

PROVISIONAL SUN-SPOT RELATIVE NUMBERS FOR AUGUST, 1932

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

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

August, 1932	Relative numbers	August, 1932	Relative numbers	August, 1932	Relative numbers
1	9	11	8	21	0
2	b–	12	0	22	0
3	9	13	0	23	0
4	10	14	0	24	Mc 13
5	10	15	0	25	a 19
6	9	16	0	26	22
7	8	17	0	27	26
8	8	18	0	28	16
9	0	19	0	29	17
10	0	20	0	30	8
				31	8

Mean: 30 days=6.7.

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.