POSITIONS, AREAS, AND COUNTS OF SUN SPOTS FOR JULY 1941

[Communicated by Capt. J. F. Hellweg, U. S. Navy (Ret.), Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive toward the north. Areas are corrected for foreshortening and expressed in millionths of Sun's hemisphere. For each day, under longitude, latitude, area of spot or group, and spot count, are included assumed longitude of center of the disk, assumed latitude of center of the disk, total area of spots and groups, and total spot count]

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
1941	h	m		°	°	°	°				
July 1	12	58	7218	−29	121	+11	30	436	11	G	U. S. Naval.
			7217	−23	127	+4	23	291	20		
			7220	+7	157	−3	10	24	4		
			7216	+16	166	−7	19	97	9		
			7212	+67	217	+15	68	339	12		
			7211	+83	233	+8	83	48	2		
					(150)	(+3)		1,235	58		
July 2	11	52	7218	−16	121	+11	17	291	10	G	Do.
			7217	−10	127	+4	10	242	16		
			7222	+16	153	+15	20	24	5		
			7216	+27	164	−7	30	24	4		
			7216	+33	170	−7	34	48	11		
			7221	+60	197	+8	60	6	1		
			7212	+80	217	+15	80	242	8		
					(137)	(+3)		877	55		
July 3	12	31	7223	−65	59	−7	66	12	2	VG	Do.
			7218	−2	122	+11	8	291	11		
			7217	+3	127	+4	2	242	15		
			7222	+29	153	+15	31	12	1		
			7221	+73	197	+9	73	97	11		
					(124)	(+3)		654	40		
July 4	8	18	7223	−52	61	−6	54	36	13	VG	Mt. Wilson.
			7218	+10	123	+12	13	291	18		
			7217	+15	128	+4	15	194	11		
			7221	+86	199	+9	86	48	2		
					(113)	(+3)		569	44		
July 5	13	20	7224	−71	26	+2	71	97	1	F	U. S. Naval.
			7223	−38	59	−6	39	97	9		
			7218	+25	122	+12	26	291	13		
			7217	+31	128	+3	31	145	1		
					(97)	(+3)		630	24		
July 6	8	26	7224	−60	26	+4	60	97	1	VG	Mt. Wilson.
			7223	−24	62	−5	26	48	8		
			7225	−12	74	+11	14	24	2		
			7218	+37	123	+12	38	339	26		
			7217	+42	128	+3	42	170	1		
					(86)	(+3)		678	38		
July 7	15	24	7224	−44	25	+3	44	73	1	G	U. S. Naval.
			7223	−11	58	−8	15	48	3		
			7223	−6	63	−4	10	24	2		
			7218	+52	121	+12	53	339	14		
			7217	+59	128	+3	59	194	1		
					(69)	(+4)		678	21		
July 8	11	17	7224	−32	26	+3	32	73	1	F	Do.
			7223	0	58	−7	11	12	2		
			7223	+5	63	−4	10	12	3		
			7225	+15	73	+12	17	12	1		
			7218	+64	122	+12	64	630	12		
			7217	+71	129	+3	71	194	1		
					(58)	(+4)		933	20		
July 9	10	56	7226	−76	329	−16	77	291	5	F	Do.
			7227	−21	24	+12	22	12	1		
			7224	−19	26	+3	19	48	1		
			7223	+15	60	−7	18	24	4		
			7225	+30	75	+13	33	24	1		
			7218	+78	123	+12	78	776	14		
			7217	+85	130	−8	85	194	1		
					(45)	(+4)		1,369	27		
July 10	11	1	7226	−62	330	−16	64	242	3	F	Do.
			7228	−19	13	+6	20	97	5		
			7227	−9	23	+12	12	24	7		
			7224	−6	26	+3	6	48	2		
			7225	+43	75	+13	44	12	1		
					(32)	(+4)		423	18		

*=Not numbered.
VG=Very good; G=Good; F=Fair; P=Poor.

POSITIONS, AREAS, AND COUNTS OF SUN SPOTS FOR JULY 1941—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
1941	h	m		°	°	°	°				
July 11	11	44	7226	−48	330	−16	52	145	10	VG	U. S. Naval.
			7228	−6	12	+5	6	24	7		
			7224	+8	26	+3	8	73	9		
					(18)	(+4)		242	26		
July 12	10	42	7226	−36	330	−16	40	145	12	G	Do.
			7228	+8	14	+6	8	73	9		
			7224	+20	26	+3	20	36	4		
					(6)	(+4)		254	25		
July 13	8	51	7229	−24	329	−8	34	12	3	VG	Mt. Wilson.
			7226	−21	332	−15	27	48	7		
			7224	+33	26	+3	33	24	2		
					(353)	(+4)		84	12		
July 14	8	55	7229	−12	328	−10	20	18	8	VG	Do.
			7226	−7	338	−15	21	48	8		
			(*)	−2	338	−9	13	12	4		
			7230	+2	342	−12	17	12	2		
					(340)	(+4)		90	22		
July 15	12	1	7226	−5	320	−16	21	6	3	VG	U. S. Naval.
			7226	+2	327	−16	20	36	3		
					(325)	(+4)		42	6		
July 16	11	1	7232	−84	229	+15	84	145	1	F	Do.
			7231	−75	238	+7	75	242	1		
			7226	+16	329	−16	25	12	1		
					(313)	(+4)		399	3		
July 17	12	4	7235	−72	227	+9	72	12	1	VG	Do.
			7232	−68	231	+13	68	145	1		
			7231	−61	238	+7	61	97	1		
			7234	+25	324	−15	32	170	15		
			7233	+31	330	+15	33	12	3		
					(299)	(+5)		436	21		
July 18	13	57	7235	−61	224	+9	61	12	2	G	Do.
			7232	−54	231	+13	55	145	1		
			7231	−47	238	+7	47	97	1		
			7234	+40	325	−15	45	412	15		
			7233	+45	330	+15	46	121	7		
					(285)	(+5)		787	26		
July 19	12	36	7235	−50	222	+9	50	12	2	G	Do.
			(*)	−42	230	−6	44	12	4		
			7232	−41	231	+15	42	97	1		
			7231	−35	237	+7	35	73	1		
			7234	+53	325	−15	56	436	10		
			7233	+57	329	+14	58	97	9		
					(272)	(+5)		727	27		
July 20	11	29	7236	−72	187	−9	73	194	1	F	Do.
			7235	−38	221	+10	38	121	12		
			7232	−29	230	+16	31	97	1		
			7231	−22	237	+7	22	73	1		
			7234	+66	325	−15	67	388	5		
			7233	+71	330	+14	71	97	4		
					(259)	(+5)		970	24		
July 21	12	6	7238	−77	169	−6	78	97	8	VG	Do.
			7237	−71	175	+11	71	97	7		
			7236	−60	186	−9	62	242	8		
			7235	−24	222	+10	25	97	12		
			7232	−15	231	+16	19	97	1		
			7231	−8	238	+7	9	48	1		
			7233	+82	328	+14	82	242	4		
					(246)	(+5)		920	41		
July 22	11	38	7238	−63	170	−7	63	388	19	VG	Do.
			7237	−59	174	+11	59	194	12		
			7236	−52	181	−11	54	12	2		
			7236	−47	186	−9	50	97	1		
			7239	−31	202	+18	34	12	4		
			7235	−9	224	+9	10	48	5		
			7232	−2	231	+16	11	97	1		
			7231	+6	239	+7	6	48	1		
					(233)	(+5)		896	45		
July 23	12	11	7238	−49	170	−7	50	630	23	F	Do.
			7237	−47	172	+11	47	170	6		
			7236	−33	186	−9	36	97	1		
			7235	+7	226	+9	8	24	1		
			7232	+11	230	+16	15	97	1		
			7231	+19	238	+7	20	48	1		
					(219)	(+5)		1,066	33		

POSITIONS, AREAS, AND COUNTS OF SUN SPOTS FOR JULY 1941—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
1941	h m		°	°	°	°				
July 24	11 3	7240	−86	121	+11	86	582	2	VG	U. S. Naval.
		7241	−77	130	+2	77	145	1		
		7238	−35	172	−7	37	727	36		
		7237	−33	174	+11	33	97	8		
		7236	−19	188	−9	24	121	8		
		7235	+20	227	+10	21	12	1		
		7232	+25	232	+15	27	73	1		
		7231	+31	238	+7	31	36	1		
				(207)	(+5)		1,793	58		
July 25	10 39	7240	−71	123	+11	71	582	3	VG	Do.
		7241	−64	130	+3	64	121	1		
		7238	−20	174	−6	23	727	36		
		7237	−20	174	+11	21	73	7		
		7236	−7	187	−9	15	121	8		
		7232	+38	232	+15	39	48	1		
		7231	+45	239	+7	45	12	1		
				(194)	(+5)		1,684	57		
July 26	10 46	7240	−59	121	+12	59	679	12	VG	Do.
		7241	−51	129	+3	51	97	3		
		7238	−17	163	−9	22	73	12		
		7237	−9	171	+13	12	73	8		
		7237	−7	173	+11	9	24	9		
		7238	−7	173	−5	12	970	40		
		7236	+8	188	−9	16	121	8		
		7232	+50	230	+16	52	48	4		
				(180)	(+5)		2,085	96		
July 27	9 4	7240	−48	120	+12	49	679	21	G	Mt. Wilson.
		7241	−37	131	+3	37	97	1		
		7238	−3	165	−7	11	97	15		
		7238	+7	175	−5	12	970	70		
		7237	+7	175	+13	11	145	23		
		7236	+20	188	−8	24	121	6		
		7232	+63	231	+16	64	12	4		
				(168)	(+5)		2,121	140		
July 28	11 35	7243	−80	74	−7	80	194	6	VG	U. S. Naval.
		7242	−59	95	+9	59	24	2		
		7240	−33	121	+11	33	679	16		
		7241	−22	132	+3	23	73	1		
		7241	−17	137	+6	17	24	7		
		7238	+20	174	−6	23	1,309	76		
		7237	+20	174	+13	22	194	20		
		(*)	+30	184	+25	35	24	4		
		7236	+36	190	−9	40	48	5		
				(154)	(+6)		2,569	137		
July 29	14 18	7243	−65	74	−6	67	436	20	G	Do.
		7242	−48	91	+9	48	12	3		
		7240	−18	121	+11	19	679	21		
		7241	−8	131	+3	9	73	4		
		7241	−4	135	+7	4	24	9		
		7238	+35	174	−6	37	1,115	50		
		7237	+35	174	+14	35	242	17		
				(139)	(+6)		2,581	124		

POSITIONS, AREAS, AND COUNTS OF SUN SPOTS FOR JULY 1941—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
1941	h m		°	°	°	°				
July 30	11 42	7244	−86	41	+8	86	194	1	G	U. S. Naval.
		7243	−53	74	−6	55	436	24		
		7240	−6	121	+12	8	679	22		
		7241	+5	132	+3	5	97	5		
		7237	+45	172	+14	45	339	20		
		7238	+48	175	−5	50	1,115	45		
				(127)	(+6)		2,860	117		
July 31	12 19	7244	−74	39	+9	74	582	6	G	Do.
		7243	−43	70	−7	46	145	16		
		7243	−35	78	−7	38	194	8		
		7240	+8	121	+12	10	533	12		
		7241	+19	132	+3	19	97	1		
		7245	+23	136	+18	26	12	3		
		7237	+58	171	+14	58	242	9		
		7238	+62	175	−4	63	1,261	30		
				(113)	(+6)		3,066	85		

Mean daily area for 31 days=1,088.

*=Not numbered.
VG=Very good; G=good; F=Fair; P=poor.

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR JUNE 1941

[Based on observations at Zurich and Locarno. Data furnished through the courtesy of Prof. W. Brunner, Eidgenössische Sternwarte, Zurich, Switzerland]

June 1941	Relative numbers	June 1941	Relative numbers	June 1941	Relative numbers
1	37	11	*83	21	40
2	21	12	*a*74	22	*Ec*36
3	*d*47	13	62	23	*d*47
4	*a*53	14	*a*56	24	61
5	*a*61	15	45	25	*a*59
6	70	16	22	26	*Eac*71
7	61	17	*Mc*29	27	*dd*74
8	*Ec*97	18	*Ec*28	28	82
9	*bd*118	19	28	29	*a*94
10	95	20	*Emc*45	30	98

Mean, 30 days 59.8

*=Observed at Locarno.
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.