POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MARCH 1947

By LUCY T. DAY

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Communicated by the 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 Mount Wilson group number, longitude, latitude, area of spot or group, and spot count, are included respectively: number of groups, assumed longitude of center of the disk, assumed latitude of center of the disk, total areas 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
1947	*h m*		°	°	°	°				
Mar. 1	16 26	8435	−81	121	−4	81	145	1	G	Mt. Wilson.
		8434	−38	164	−11	38	267	11		
		8433	−34	168	−16	35	218	1		
		8428	−18	184	−7	18	170	1		
		8425	−9	193	−12	11	61	5		
		8425	−5	197	−11	7	109	6		
		8424	+18	220	+22	33	485	11		
		8423	+20	222	+25	37	48	3		
		8421	+21	223	+19	33	73	2		
		8424	+26	228	+21	38	388	7		
		8416	+67	269	−10	67	48	1		
		8426	+71	273	+16	73	121	1		
		(10)		(202)	(−7)		2,133	50		
2	13 34	8435	−70	120	−4	70	194	1	P	Do.
		8434	−30	160	−12	30	73	3		
		8434	−24	166	−10	24	170	6		
		8433	−22	168	−16	23	242	1		
		8428	−7	183	−7	7	145	1		
		8425	+5	195	−12	7	218	12		
		8424	+30	220	+22	42	436	3		
		8423	+32	222	+25	45	121	4		
		8421	+34	224	+19	43	61	2		
		8424	+37	227	+22	47	339	4		
		(8)		(190)	(−7)		1,999	37		
3	10 29	8438	−88	90	−23	88	388	3	VG	U. S. Naval.
		8438	−87	91	−25	87	582	7		
		8436	−70	108	−19	71	12	6		
		8435	−58	120	−4	58	194	1		
		8434	−18	160	−13	20	36	12		
		8434	−11	167	−10	11	121	4		
		8433	−10	168	−17	14	242	1		
		8428	+6	184	−8	6	145	1		
		8425	+15	193	−12	15	267	35		
		(*)	+38	216	+29	51	12	8		
		8424	+40	218	+22	49	485	13		
		8423	+44	222	+24	53	218	12		
		8421	+48	226	+18	53	36	3		
		8424	+49	227	+22	56	339	4		
		(11)		(178)	(−7)		3,077	110		
4	11 33	8442	−85	80	−15	85	97	1	G	Do.
		8441	−80	85	+13	82	582	4		
		8438	−80	85	−27	80	242	2		
		8438	−75	90	−24	76	1,261	8		
		8438	−65	100	−25	66	12	1		
		8436	−58	107	−19	58	121	3		
		8435	−45	120	−4	45	194	2		
		8440	−13	152	−6	13	12	3		
		8434	+3	168	−10	4	109	3		
		8433	+3	168	−16	10	267	1		
		8437	+16	181	−25	24	36	4		
		8428	+19	184	−8	19	121	1		
		8439	+20	185	+17	31	24	2		
		8425	+26	191	−12	27	121	5		
		8425	+30	195	−10	30	388	5		
		8424	+54	219	+23	60	436	9		
		8423	+58	223	+24	63	145	6		
		8424	+63	228	+23	68	291	1		
		(14)		(165)	(−7)		4,459	61		
5	10 35	8441	−74	78	+12	76	436	2	G	Do.
		8442	−71	81	−15	71	242	1		
		8438	−68	84	−27	69	194	3		
		8441	−66	86	+13	68	873	4		
		8438	−59	93	−24	60	2,133	14		
		8438	−52	100	−26	54	48	4		
		8436	−44	108	−19	45	218	7		
		8435	−31	121	−4	32	194	1		
		8440	−1	151	−8	2	12	4		
		8434	+15	167	−11	15	97	5		
		8433	+15	167	−16	17	315	1		
		8437	+27	179	−26	32	48	7		
		8428	+32	184	−8	32	194	1		
		8439	+33	185	+17	41	145	12		
		8425	+39	191	−12	39	388	10		
		8425	+44	196	−10	44	291	5		
		8424	+67	219	+23	71	485	7		
		8424	+76	228	+23	80	291	1		
		(13)		(152)	(−7)		6,604	89		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MARCH 1947—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
1947	*h m*		°	°	°	°				
Mar. 6	11 29	8445	−81	57	−12	81	97	1	G	U. S. Naval.
		8441	−60	78	+12	63	436	3		
		8442	−56	82	−14	56	194	1		
		8441	−52	86	+13	55	873	12		
		8438	−49	89	−24	50	1,551	8		
		8438	−43	95	−24	45	1,115	4		
		8436	−31	107	−19	33	412	6		
		8435	−18	120	−4	18	194	1		
		8440	+12	150	−7	12	16	1		
		8434	+27	165	−11	27	48	4		
		8433	+29	167	−15	30	339	1		
		8437	+40	178	−26	43	73	3		
		8428	+45	183	−7	45	145	1		
		8439	+46	184	+17	51	194	6		
		8425	+52	190	−11	52	630	10		
		8425	+59	197	−9	59	436	6		
		8424	+88	226	+23	89	97	3		
		(14)		(138)	(−7)		6,850	71		
7	12 51	8446	−71	53	−13	72	145	1	G	Do.
		8445	−69	55	−10	69	145	5		
		8441	−45	79	+13	49	436	5		
		8442	−42	82	−14	42	194	3		
		8444	−41	83	−5	41	6	1		
		8441	−38	86	+14	43	630	6		
		8438	−38	86	−25	41	485	15		
		8438	−37	87	−22	40	1,454	5		
		8441	−34	90	+14	39	436	3		
		8438	−29	95	−24	32	1,600	7		
		8436	−20	104	−20	23	97	2		
		8436	−14	110	−17	17	194	8		
		8435	−4	120	−4	6	194	1		
		8434	+42	166	−11	42	24	4		
		8433	+42	166	−15	42	291	2		
		8439	+59	183	+17	63	242	3		
		8428	+59	183	−7	59	145	1		
		8425	+70	194	−11	70	1,018	16		
		(13)		(124)	(−7)		7,736	88		
8	12 39	8446	−58	53	−16	58	121	1	F	Mt. Wilson.
		8445	−56	55	−10	56	97	8		
		8447	−40	71	−23	42	48	5		
		8441	−32	79	+14	37	291	9		
		8442	−28	83	−15	30	242	11		
		8438	−28	83	−24	32	194	11		
		8441	−26	85	+14	33	582	7		
		8438	−22	89	−23	27	2,279	5		
		8441	−21	90	+14	30	533	12		
		8438	−15	96	−23	22	1,794	3		
		8436	−6	105	−19	13	339	8		
		8435	+10	121	−4	11	194	1		
		8433	+55	166	−15	55	206	1		
		8434	+57	168	−9	57	12	1		
		8439	+73	184	+18	77	242	3		
		8428	+74	185	−6	74	145	1		
		(12)		(111)	(−7)		7,319	87		
9	11 33	8449	−85	14	−19	85	48	1	G	Do.
		8446	−45	54	−16	46	97	1		
		8445	−42	57	−10	42	73	5		
		8447	−27	72	−22	31	24	1		
		8441	−20	79	+13	28	242	15		
		8438	−17	82	−24	24	145	16		
		8442	−15	84	−15	17	218	11		
		8441	−11	88	+14	24	1,261	20		
		8438	−10	89	−23	19	2,327	6		
		8438	−2	97	−23	17	1,939	8		
		8436	+7	106	−19	13	242	10		
		8448	+15	114	−25	23	24	4		
		8435	+23	122	−4	24	194	1		
		8433	+70	169	−15	71	206	1		
		8434	+73	172	−9	73	12	1		
		8437	+76	175	−24	76	48	2		
		8428	+88	187	−7	88	145	1		
		(14)		(99)	(−7)		7,245	104		
10	11 20	8450	−80	6	+16	82	48	1	VG	U. S. Naval.
		8449	−71	15	−19	72	48	1		
		8446	−32	54	−15	33	97	6		
		8445	−27	59	−10	27	24	2		
		8447	−18	68	−24	24	12	2		
		8441	−7	79	+13	22	194	10		
		8442	−4	82	−14	9	194	6		
		8438	−3	83	−23	17	145	17		
		8441	+3	89	+14	22	1,067	19		
		8438	+3	89	−24	18	2,376	7		
		8438	+12	98	−23	20	2,182	11		
		8436	+19	105	−20	22	267	8		
		8448	+29	115	−25	32	12	4		
		8435	+34	120	−5	34	194	1		
		8433	+81	167	−15	81	121	3		
		(12)		(86)	(−7)		6,981	98		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MARCH 1947—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
1947	*h m*		°	°	°	°				
Mar. 11	11 3	8450	−66	7	+16	69	36	1	G	U. S. Naval.
		8449	−58	15	−19	58	97	1		
		8446	−20	53	−13	21	97	1		
		8445	−13	60	−11	13	48	2		
		8447	−3	70	−23	17	145	6		
		8441	+7	80	+13	21	194	11		
		8442	+10	83	−15	12	194	7		
		8438	+10	83	−23	19	145	11		
		8438	+16	89	−22	21	2,376	6		
		8441	+16	89	+14	27	873	13		
		8438	+25	98	−23	29	1,988	10		
		8436	+32	105	−20	34	339	9		
		8435	+48	121	−5	48	194	1		
		(10)		(73)	(−7)		6,726	79		
12	10 58	8450	−52	8	+17	56	24	2	G	Do.
		8449	−45	15	−18	46	97	1		
		8446	−7	53	−13	9	97	7		
		8445	+2	62	−10	3	48	4		
		8447	+10	70	−23	19	121	5		
		8441	+21	81	+13	28	97	9		
		8442	+22	82	−16	22	121	5		
		8438	+27	87	−24	31	2,666	17		
		8441	+29	89	+14	35	630	21		
		8441	+32	92	+12	38	218	4		
		8438	+38	98	−24	41	1,745	2		
		8436	+46	106	−21	47	388	7		
		8435	+61	121	−6	61	194	1		
		(10)		(60)	(−7)		6,446	85		
13	9 51	8450	−39	8	+17	45	12	1	G	Do.
		8449	−31	16	−19	33	97	3		
		8446	+7	54	−13	9	73	1		
		8445	+16	63	−10	16	24	5		
		8447	+23	70	−23	27	97	3		
		8441	+34	81	+13	40	73	7		
		8442	+37	84	−15	38	121	11		
		8438	+40	87	−24	42	2,909	15		
		8441	+42	89	+15	48	436	12		
		8441	+46	93	+13	50	218	1		
		8438	+51	98	−24	52	1,357	7		
		8436	+58	105	−19	59	242	3		
		8435	+75	122	−6	75	194	1		
		(10)		(47)	(−7)		5,853	70		
14	13 34	8449	−18	14	−19	21	73	1	VG	Do.
		8453	−6	26	−18	13	6	1		
		8446	+21	53	−14	22	97	1		
		8445	+29	61	−11	29	24	8		
		8447	+35	67	−25	39	6	1		
		8447	+41	73	−23	43	73	2		
		8441	+50	82	+13	54	73	7		
		8442	+51	83	−15	51	73	8		
		8438	+56	88	−25	57	2,376	10		
		8441	+57	89	+14	60	339	6		
		8441	+61	93	+13	64	218	1		
		8438	+67	99	−24	67	1,454	8		
		8436	+72	104	−19	72	242	1		
		(9)		(32)	(−7)		5,054	55		
15	10 25	8456	−81	299	−19	81	97	2	F	Do.
		8455	−79	301	−13	79	436	3		
		8454	−65	315	−15	65	48	2		
		8449	−6	14	−18	13	97	4		
		8446	+33	53	−13	33	97	5		
		8447	+53	73	−23	54	24	1		
		8441	+61	81	+13	65	48	2		
		8442	+64	84	−15	64	12	1		
		8438	+67	87	−25	68	2,376	7		
		8441	+68	88	+14	70	339	7		
		8441	+73	93	+13	76	194	1		
		8438	+78	98	−24	78	1,406	4		
		8436	+83	103	−19	83	194	1		
		(10)		(20)	(−7)		5,368	40		
16	11 44	8456	−68	298	−19	69	97	1	P	Do.
		8455	−63	303	−14	63	242	1		
		8454	−49	317	−15	49	48	6		
		8449	+9	15	−18	15	97	4		
		8452	+27	33	+22	40	73	2		
		8446	+47	53	−13	47	73	1		
		8438	+81	87	−25	82	1,939	2		
		(7)		(6)	(−7)		2,569	17		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MARCH 1947—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
1947	*h m*		°	°	°	°				
Mar. 17	11 1	8457	−80	274	−11	80	97	1	G	Mt. Wilson.
		8456	−55	299	−19	55	48	2		
		8455	−50	304	−13	50	242	11		
		8454	−36	318	−16	37	36	4		
		8449	+20	14	−19	23	97	2		
		8452	+39	33	+22	48	24	2		
		8446	+60	54	−14	60	73	1		
		(7)		(354)	(−7)		617	23		
18	11 28	8458	−72	268	+18	76	12	1	F	U. S. Naval.
		8457	−67	273	−11	67	48	1		
		8456	−41	299	−18	42	36	1		
		8455	−37	303	−13	37	242	11		
		8449	+33	13	−19	34	73	1		
		8446	+73	53	−13	73	73	3		
		(6)		(340)	(−7)		484	18		
19	10 6	8457	−55	273	−11	55	61	1	F	Do.
		(*)	−32	296	−20	34	16	1		
		8455	−24	304	−13	25	194	1		
		8449	+47	15	−19	48	61	1		
		(4)		(328)	(−7)		332	4		
20	10 53	8461	−68	246	−22	68	48	1	G	Do.
		8457	−42	272	−11	42	48	1		
		(*)	−42	272	+19	49	24	1		
		8455	−10	304	−14	12	206	1		
		8454	+1	315	−17	11	73	11		
		(*)	+57	11	+14	60	12	1		
		8449	+60	14	−19	60	48	1		
		(7)		(314)	(−7)		459	17		
21	10 17	8463	−80	221	+20	82	242	1	G	Do.
		8462	−79	222	+16	80	97	1		
		8461	−54	247	−21	55	12	1		
		8457	−28	273	−11	28	48	1		
		8460	−21	280	−22	25	6	1		
		8459	−9	292	−19	15	24	2		
		8455	+3	304	−14	8	206	4		
		8454	+14	315	−17	17	170	18		
		8449	+72	13	−19	72	24	1		
		(9)		(301)	(−7)		829	30		
22	11 4	8466	−88	200	−12	88	194	1	F	Mt. Wilson.
		8463	−69	219	+17	71	12	1		
		8463	−67	221	+20	72	242	1		
		8462	−63	225	+15	66	24	1		
		8465	−61	227	−13	61	24	3		
		8458	−16	272	+18	31	97	12		
		8457	−14	274	−12	15	48	1		
		8459	+3	291	−18	12	24	6		
		8455	+16	304	−14	18	206	4		
		8454	+28	316	−18	30	533	24		
		(9)		(288)	(−7)		1,404	54		
23	11 5	8466	−75	200	−11	75	291	1	F	U. S. Naval.
		8463	−53	222	+20	59	218	1		
		8462	−50	225	+15	54	24	1		
		8461	−37	238	−21	39	36	3		
		8468	−20	255	−11	21	36	2		
		8458	−4	271	+19	26	24	2		
		8457	−1	274	−12	5	24	1		
		8458	+1	276	+17	24	97	1		
		8455	+30	305	−15	31	97	1		
		8454	+41	316	−18	42	388	11		
		(9)		(275)	(−7)		1,235	24		
24	12 24	8470	−68	193	+14	70	24	1	F	Do.
		8466	−60	201	−10	60	630	1		
		8463	−39	222	+20	46	242	1		
		8462	−37	224	+16	44	24	3		
		8461	−23	238	−21	26	24	3		
		8468	−7	254	−11	7	61	5		
		8458	+10	271	+18	27	24	4		
		8457	+12	273	−12	13	24	2		
		8458	+17	278	+17	30	145	1		
		8469	+20	281	+21	34	12	1		
		8467	+37	298	−8	37	97	7		
		8455	+43	304	−15	43	97	1		
		8454	+52	313	−19	52	242	8		
		8454	+60	321	−17	60	388	1		
		(12)		(261)	(−7)		2,034	39		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MARCH 1947—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
1947	*h m*		°	°	°	°				
Mar. 25	10 10	8470	−62	187	+17	67	24	1	F	U. S. Naval.
		8470	−55	194	+14	59	24	1		
		8466	−48	201	−10	48	630	1		
		8463	−28	221	+20	39	218	1		
		8468	+6	255	−11	7	109	10		
		8457	+25	274	−12	25	12	1		
		8458	+27	276	+17	37	109	1		
		8469	+31	280	+22	42	12	3		
		8467	+48	297	−7	48	36	4		
		8455	+56	305	−15	56	145	1		
		8454	+64	313	−19	64	145	6		
		8454	+74	323	−17	75	339	3		
		(10)		(249)	(−7)		1,803	33		
26	11 26	8473	−77	158	+14	79	97	1	F	Do.
		8472	−60	175	−22	60	97	4		
		8470	−47	188	+17	53	48	1		
		8470	−43	192	+15	48	97	5		
		8466	−34	201	−10	34	630	1		
		8463	−14	221	+20	30	218	1		
		8461	+7	242	−19	14	24	3		
		(*)	+17	252	−22	22	48	5		
		8468	+18	253	−12	19	97	1		
		8471	+20	255	+17	31	109	4		
		8458	+42	277	+17	48	121	1		
		8455	+70	305	−15	70	97	1		
		8454	+77	312	−19	77	97	3		
		(12)		(235)	(−7)		1,780	31		
27	10 24	8473	−64	158	+14	67	97	1	F	Do.
		8472	−50	172	−22	51	97	4		
		8472	−45	177	−21	46	145	1		
		8470	−35	187	+17	43	48	1		
		8470	−29	193	+14	35	121	2		
		8466	−21	201	−10	21	582	3		
		8463	−1	221	+20	27	218	1		
		8461	+19	241	−21	23	145	5		
		8468	+30	252	−12	30	73	1		
		8471	+33	255	+17	41	145	2		
		8458	+56	278	+17	60	97	1		
		8455	+84	306	−15	84	97	1		
		(10)		(222)	(−7)		1,865	23		
28	10 17	8474	−70	139	−26	70	121	4	G	Do.
		8473	−58	151	+12	60	61	3		
		8473	−55	154	+13	59	145	5		
		8472	−37	172	−23	39	97	7		
		8472	−31	178	−21	33	145	3		
		8470	−22	187	+18	33	24	3		
		8470	−15	194	+14	25	97	14		
		8466	−8	201	−10	8	582	4		
		8463	+12	221	+20	30	194	1		
		8461	+32	241	−20	34	242	10		
		8468	+43	252	−12	43	48	1		
		8471	+45	254	+17	51	48	4		
		8471	+51	260	+17	56	73	1		
		8471	+71	280	+17	74	97	1		
		(9)		(209)	(−7)		1,974	61		
29	11 53	8476	−72	123	−4	72	24	1	F	Do.
		8474	−55	140	−27	57	48	3		
		8473	−44	151	+11	47	73	2		
		8473	−39	156	+13	43	145	4		
		8472	−23	172	−23	26	194	8		
		8472	−17	178	−22	22	194	6		
		8470	−9	186	+18	28	24	2		
		8470	−3	192	+14	21	97	7		
		8470	+2	197	+14	21	73	4		
		8466	+7	202	−10	8	630	10		
		8463	+25	220	+20	36	145	1		
		8461	+45	240	−21	46	121	6		
		8471	+65	260	+16	68	97	1		
		(9)		(195)	(−7)		1,865	55		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MARCH 1947—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
1947	*h m*		°	°	°					
Mar.	13 41	8478	−87	94	−24	88	388	1	P	Mt. Wilson.
		8476	−59	122	−5	59	24	1		
		8474	−41	140	−28	44	36	1		
		8475	−33	148	−39	44	73	8		
		8473	−30	151	+11	35	73	3		
		8473	−25	156	+13	31	121	7		
		8472	−7	174	−23	18	145	3		
		8472	−3	178	−22	15	291	7		
		8470	+4	185	+17	25	97	4		
		8470	+12	193	+14	24	242	6		
		8477	+15	196	+23	33	73	2		
		8466	+21	202	−10	21	582	1		
		8463	+39	220	+21	47	97	1		
		8461	+60	241	−20	60	145	1		
		8471	+78	259	+17	79	97	1		
		(12)		(181)	(−7)		2,484	47		
31	11 13	8478	−85	84	−24	85	485	3	F	U. S. Naval.
		8478	−75	94	−23	75	873	2		
		8476	−44	125	−5	44	36	1		
		8474	−27	142	−28	34	12	1		
		8475	−20	149	−39	27	97	5		
		8473	−17	152	+10	24	48	1		
		8473	−12	157	+13	23	121	10		
		8472	+6	175	−22	16	388	14		
		8470	+17	186	+19	32	97	5		
		8470	+25	194	+14	33	339	10		
		8477	+27	196	+24	41	12	1		
		8466	+34	203	−10	34	582	2		
		8463	+51	220	+20	58	194	1		
		8461	+74	243	−20	74	121	1		
		(11)		(169)	(−7)		3,405	57		

Mean daily area for 31 days=3,516
Mean 10g+s for 31 days=154.4

*Not numbered.
VG=very good; G=good; F=fair; P=poor.

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR MARCH 1947

[Dependent on observations at Zurich Observatory and its stations at Locarno and Arosa]

March 1947	Relative numbers	March 1947	Relative numbers	March 1947	Relative numbers
1	103	12	164	23	121
2	134	13	150	24	115
3	106	14	118	25	114
4	163	15	92	26	112
5	165	16	76	27	130
6	198	17	59	28	124
7	208	18	46	29	138
8	210	19	34	30	137
9	212	20	57	31	151
10	194	21	85		
11	206	22	91		

Mean, 31 days=129.8