POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 1947

NOTE: Publication of "Positions, Areas, and Counts of Sunspots" in the MONTHLY WEATHER REVIEW will be *discontinued* with the December 1947 issue. The data will be issued thereafter through publications of the U. S. Naval Observatory, at various times depending on the sunspot activity. Current data will be distributed monthly to a limited number of persons on request addressed to Superintendent, U. S. Naval Observatory, Washington 25, D. C.

By LUCY T. DAY

[Equatorial Division, U. S. Naval Observatory]

[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 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
1947	*h m*		°	°	°	°				
Nov. 1	11 20	8909	−35	173	−11	38	24	7	F	U. S. Naval.
		8909	−32	176	−10	35	145	10		
		8909	−27	181	−9	30	436	1		
		8912	−31	177	+11	32	12	3		
		8908	−16	192	+19	23	206	1		
		8911	0	208	−16	20	24	4		
		8907	+19	227	−16	27	97	1		
		8903	+29	237	−18	36	73	1		
		8901	+40	248	−10	42	194	1		
		8910	+40	248	+19	42	97	10		
		8897	+63	271	−4	64	121	1		
		8896	+70	278	−19	72	12	1		
		(10)		(208)	(+4)		1,441	41		
2	14 10	8909	−20	173	−11	25	24	6	F	Do.
		8909	−15	178	−10	21	97	4		
		8909	−12	181	−8	17	436	2		
		8908	−5	188	+20	17	12	1		
		8908	−1	192	+18	15	194	1		
		8907	+33	226	−16	38	73	1		
		8903	+44	237	−19	50	97	1		
		8910	+54	247	+17	55	73	2		
		8901	+55	248	−11	57	194	3		
		8897	+78	271	−4	78	97	1		
		(7)		(193)	(+4)		1,297	22		
3	10 15	8909	−8	174	−11	17	145	19	F	Mt. Wilson.
		8909	−2	180	−10	14	97	7		
		8909	0	182	−8	12	436	2		
		8914	−7	175	+26	23	36	5		
		8914	−4	178	+25	22	24	1		
		8908	+10	192	+19	18	194	1		
		8907	+46	228	−16	50	61	1		
		8903	+57	239	−18	61	61	1		
		8913	+50	232	+17	52	24	2		
		8901	+68	250	−11	69	109	1		
		(7)		(182)	(+4)		1,187	40		
4	10 47	8914	+6	174	+26	24	73	1	G	U. S. Naval.
		8914	+10	178	+25	24	48	7		
		8909	+9	177	−11	17	97	6		
		8909	+13	181	−9	19	436	3		
		8908	+23	191	+18	26	194	2		
		(*)	+33	201	+15	35	12	2		
		8915	+46	214	−16	50	24	2		
		8907	+58	226	−16	61	97	1		
		8903	+70	238	−18	72	48	1		
		8901	+82	250	−12	82	194	2		
		(8)		(168)	(+4)		1,223	27		
5	10 29	8917	−75	80	−10	75	24	1	F	Do.
		8916	−67	88	−21	70	24	1		
		8914	+18	173	+27	29	48	3		
		8914	+20	175	+26	29	48	1		
		8914	+23	178	+25	30	36	2		
		8909	+26	181	−9	29	388	2		
		8908	+37	192	+18	39	121	1		
		8915	+63	218	−18	66	48	5		
		8907	+72	227	−16	75	97	1		
		(7)		(155)	(+4)		834	17		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 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*		°	°	°	°				
Nov. 6	11 10	8919	−79	63	+20	79	388	1	F	U. S. Naval.
		8917	−62	80	−10	65	36	3		
		8916	−54	88	−21	58	6	1		
		8914	+30	172	+28	38	12	2		
		8914	+32	174	+26	38	48	2		
		8914	+38	180	+25	42	24	1		
		8909	+40	182	−10	42	291	5		
		8908	+50	192	+18	52	97	1		
		8918	+68	210	+23	68	36	2		
		8915	+78	220	−18	78	48	1		
		(8)		(142)	(+4)		986	19		
7	9 48	8922	−80	49	+7	80	194	1	P	Do.
		8919	−66	63	+20	66	291	2		
		8921	−57	72	+10	57	6	1		
		8917	−51	78	−10	53	48	1		
		8917	−47	82	−9	49	48	2		
		8920	+33	162	−15	38	24	2		
		8914	+45	174	+26	49	48	7		
		8909	+53	182	−10	55	291	3		
		8908	+63	192	+18	64	145	1		
		(8)		(129)	(+4)		1,095	20		
8	13 2	8922	−64	50	+8	64	267	1	P	Do.
		8919	−51	63	+20	53	242	2		
		8917	−35	79	−8	37	48	1		
		8917	−30	84	−8	32	48	1		
		8920	+46	160	−17	51	48	1		
		8914	+61	175	+24	62	48	3		
		8909	+68	182	−9	69	291	3		
		8908	+78	192	+18	78	170	1		
		(7)		(114)	(+4)		1,162	13		
9	12 30	8922	−58	43	+9	58	97	3	F	Do.
		8922	−53	48	+8	53	73	3		
		8922	−47	54	+6	47	267	3		
		8919	−38	63	+19	41	291	1		
		8921	−23	78	+8	27	48	5		
		8917	−16	85	−9	21	24	1		
		8914	+75	176	+24	75	48	2		
		8909	+81	182	−9	81	242	1		
		(6)		(101)	(+4)		1,090	19		
10	9 58	8922	−46	44	+9	46	48	2	F	Do.
		8922	−40	50	+8	40	73	3		
		8922	−35	55	+8	35	267	1		
		8919	−26	64	+19	30	267	2		
		8921	−12	78	+9	13	73	6		
		8921	−8	82	+9	11	97	4		
		(3)		(90)	(+3)		825	18		
11	10 56	8922	−32	44	+9	33	73	13	VG	Mt. Wilson.
		8922	−26	50	+8	27	145	11		
		8922	−22	54	+7	22	12	7		
		8922	−21	55	+8	22	242	1		
		8919	−12	64	+19	19	242	1		
		8921	+2	78	+9	6	97	17		
		8921	+6	82	+9	8	218	12		
		8917	+6	82	−9	14	36	11		
		(4)		(76)	(+3)		1,065	73		
12	10 0	8926	−81	342	+19	81	194	1	G	U. S. Naval.
		8924	−78	345	−14	79	194	1		
		8925	−75	348	−21	78	291	3		
		8923	−18	45	+11	20	48	6		
		8922	−12	51	+9	13	121	4		
		8922	−7	56	+8	9	242	3		
		8919	0	63	+19	16	194	2		
		8921	+14	77	+8	15	97	4		
		8921	+17	80	+8	18	109	4		
		8921	+21	84	+8	22	291	1		
		(7)		(63)	(+3)		1,781	29		
13	10 0	8925	−70	340	−21	74	145	1	G	Do.
		8925	−65	345	−21	68	97	6		
		8925	−60	350	−21	63	194	2		
		8926	−69	341	+18	70	194	1		
		8924	−65	345	−14	66	194	1		
		8924	−57	353	−12	60	12	6		
		8929	−46	4	−12	48	24	4		
		8928	−29	21	−12	33	12	3		
		8923	−8	42	+11	11	48	7		
		8922	+1	51	+9	6	61	11		
		8922	+7	57	+7	8	242	2		
		8919	+13	63	+21	22	206	12		
		8921	+27	77	+8	28	158	10		
		8921	+33	83	+8	34	339	7		
		8927	+34	84	−25	42	48	2		
		(10)		(50)	(+3)		1,974	75		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 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*		°	°	°	°				
Nov. 14	10 4	8932	−80	317	+14	80	194	1	F	U. S. Naval.
		8933	−80	317	+22	80	48	1		
		8925	−59	338	−21	63	170	1		
		8925	−51	346	−21	56	121	11		
		8925	−46	351	−21	51	206	1		
		8926	−55	342	+18	56	194	1		
		8924	−51	346	−14	54	194	2		
		8924	−47	350	−12	50	24	2		
		8929	−33	4	−12	36	12	2		
		8923	+3	40	+11	9	48	9		
		8922	+16	53	+8	17	24	8		
		8922	+20	57	+7	20	206	1		
		8919	+27	64	+20	32	170	8		
		8921	+40	77	+8	40	145	7		
		8921	+46	83	+8	46	388	4		
		8927	+47	84	−26	55	36	1		
		8927	+51	88	−25	57	12	20		
		8930	+52	89	−11	54	97	6		
		(12)		(37)	(+3)		2,289	86		
16	12 44	8938	−76	293	−19	78	291	3	P	Mt. Wilson.
		8935	−66	303	−29	70	170	3		
		8933	−57	312	+23	60	48	2		
		8932	−53	316	+14	54	170	1		
		8925	−31	338	−20	37	145	10		
		8925	−22	347	−22	32	242	9		
		8925	−18	351	−22	31	291	2		
		8926	−29	340	+18	32	194	1		
		8924	−24	345	−15	30	194	1		
		8937	−20	349	+14	23	24	6		
		8936	−16	353	−11	21	73	6		
		8929	−4	5	−11	15	48	4		
		8934	+45	54	+32	51	73	3		
		8922	+48	57	+8	48	194	1		
		8919	+53	62	+20	55	12	5		
		(*)	+60	69	+15	61	12	3		
		8921	+70	79	+9	70	97	3		
		8921	+74	83	+9	74	291	1		
		8930	+76	85	−10	77	97	1		
		(16)		(9)	(+3)		2,666	65		
17	10 45	8938	−63	294	−18	67	291	5	F	U. S. Naval.
		8935	−53	304	−29	60	145	2		
		8933	−44	313	+24	47	24	1		
		8932	−40	317	+14	41	194	1		
		8941	−31	326	−6	37	24	2		
		8925	−19	338	−21	31	97	4		
		8925	−13	344	−22	28	267	6		
		8925	−5	352	−22	24	291	1		
		8926	−16	341	+19	22	242	1		
		8924	−10	347	−16	21	145	2		
		8936	−2	355	−12	15	24	1		
		8929	+9	6	−12	17	24	2		
		8939	+27	24	−16	33	24	6		
		8922	+62	59	+6	62	194	1		
		(12)		(357)	(+3)		1,986	35		
18	9 56	8943	−58	286	−9	60	12	1	F	Do.
		8938	−50	294	−19	54	242	6		
		8938	−47	297	−19	52	121	1		
		8942	−43	301	+19	45	61	2		
		8935	−41	303	−29	51	145	5		
		8933	−30	314	+24	35	24	1		
		8932	−27	317	+14	30	194	1		
		8941	−19	325	−6	22	121	5		
		8925	−5	339	−21	25	145	5		
		8925	0	344	−23	26	145	8		
		8925	+1	345	−22	25	61	2		
		8925	+7	351	−22	26	242	1		
		8926	−3	341	+19	17	206	1		
		8924	+3	347	−17	21	145	2		
		8936	+13	357	−12	20	24	3		
		8929	+24	8	−12	28	61	2		
		8939	+42	26	−16	45	145	5		
		8922	+75	59	+6	75	194	1		
		(14)		(344)	(+3)		2,288	52		
19	12 20	8945	−67	263	+19	69	24	1	G	Do.
		8944	−51	279	−19	55	73	2		
		8943	−44	286	−9	46	121	6		
		8938	−36	294	−19	41	339	6		
		8938	−32	298	−19	37	145	1		
		8942	−30	300	+19	34	291	8		
		8935	−28	302	−29	42	121	7		
		8933	−16	314	+23	27	73	4		
		8932	−13	317	+14	17	194	1		
		8941	−5	325	−7	11	121	10		
		8940	−1	329	−16	18	16	9		
		8926	+10	340	+19	20	194	1		
		8925	+12	342	−25	29	218	18		
		8925	+20	350	−23	33	315	2		
		8924	+17	347	−17	26	109	2		
		8939	+55	25	−15	58	73	7		
		8939	+60	30	−16	62	121	8		
		(14)		(330)	(+2)		2,548	93		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 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*		°	°	°	°				
Nov. 20	14 14	8945	−52	263	+18	52	145	7	F	U. S. Naval.
		8944	−38	277	−20	43	48	1		
		8944	−31	284	−19	37	48	2		
		8943	−30	285	−10	32	170	9		
		8938	−22	293	−18	30	291	7		
		8938	−17	298	−19	27	145	1		
		8942	−16	299	+19	23	291	6		
		8935	−14	301	−29	33	97	4		
		8933	−2	313	+23	22	121	9		
		8932	+1	316	+13	12	194	2		
		8941	+8	323	−7	13	97	2		
		8926	+25	340	+18	30	194	1		
		8925	+25	340	−25	35	194	15		
		8925	+35	350	−24	42	339	1		
		8924	+31	346	−18	36	97	2		
		8936	+42	357	−12	43	16	2		
		8939	+72	27	−16	75	388	11		
		(14)		(315)	(+2)		2,875	82		
21	10 24	8945	−39	265	+18	42	145	9	F	Do.
		8945	−34	270	+14	36	12	1		
		8944	−26	278	−20	33	48	6		
		8944	−19	285	−20	28	24	1		
		8943	−19	285	−9	22	194	10		
		8938	−9	295	−18	23	242	10		
		8938	−5	299	−19	22	145	1		
		8942	−4	300	+17	16	291	7		
		8935	−2	302	−29	31	97	4		
		8933	+10	314	+22	22	73	6		
		8932	+13	317	+13	17	194	1		
		8941	+19	323	−8	22	121	7		
		8926	+37	341	+17	40	170	1		
		8925	+37	341	−25	44	145	10		
		8925	+45	349	−24	50	291	2		
		8924	+42	346	−18	46	97	1		
		8939	+84	28	−16	84	291	4		
		(13)		(304)	(+2)		2,580	81		
22	17 46	8946	−52	235	+7	53	48	2	G	Mt. Wilson.
		8945	−22	265	+19	27	121	13		
		8945	−17	270	+14	22	16	1		
		8944	−13	274	−20	27	24	3		
		8943	−3	284	−9	12	242	9		
		8938	+4	291	−18	22	194	12		
		8938	+11	298	−19	23	291	7		
		8942	+11	298	+17	18	291	6		
		8935	+12	299	−29	32	97	7		
		8932	+29	316	+13	31	194	3		
		8941	+34	321	−7	35	194	5		
		8941	+40	327	−6	41	97	7		
		8926	+52	339	+17	54	145	1		
		8925	+52	339	−25	58	170	6		
		8925	+60	347	−23	63	291	1		
		8924	+57	344	−18	60	73	1		
		(12)		(287)	(+2)		2,488	84		
23	15 16	8948	−75	200	+25	76	12	2	F	U. S. Naval.
		8946	−39	236	+9	40	36	1		
		8946	−35	240	+6	35	61	2		
		8945	−14	261	+18	22	145	10		
		8945	−4	271	+15	14	48	4		
		8944	+1	276	−20	22	24	8		
		8943	+11	286	−11	17	145	9		
		8938	+12	287	−20	25	291	17		
		8938	+15	290	−18	25	97	1		
		8938	+24	299	−19	32	170	8		
		8935	+22	297	−29	37	121	3		
		8942	+25	300	+16	28	24	3		
		8942	+27	302	+17	32	339	1		
		8932	+42	317	+12	43	170	1		
		8947	+48	323	+25	52	24	1		
		8941	+50	325	−8	51	339	7		
		8926	+65	340	+17	66	145	1		
		8925	+65	340	−24	68	242	4		
		8925	+70	345	−23	72	218	2		
		8924	+70	345	−18	73	97	1		
		(14)		(275)	(+2)		2,748	86		
24	12 1	8950	−70	194	+19	71	145	1	P	Mt. Wilson.
		8948	−60	204	+23	62	24	2		
		8949	−40	224	+1	40	48	3		
		8946	−29	235	+9	30	24	3		
		8946	−23	241	+7	25	36	1		
		8945	−1	263	+19	17	73	5		
		8945	+7	271	+18	17	73	6		
		8938	+22	286	−19	31	291	3		
		8938	+27	291	−18	33	388	4		
		8938	+37	301	−18	41	194	2		
		8943	+24	288	−11	27	97	5		
		8935	+36	300	−29	47	121	5		
		8942	+37	301	+16	40	24	3		
		8942	+39	303	+17	42	242	1		
		8932	+55	319	+13	56	145	1		
		8947	+58	322	+34	62	24	1		
		8941	+60	324	−7	61	194	2		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 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*		°	°	°	°				
Nov. 24	12 1	8941	+67	331	−7	68	194	7	P	Mt. Wilson.
		8925	+77	341	−24	80	291	2		
		8926	+79	343	+17	80	145	1		
		(14)		(264)	(+2)		2,773	58		
25	11 51	8951	−71	180	+25	73	121	2	G	U. S. Naval.
		8952	−68	183	−7	69	48	3		
		8953	−68	183	−22	70	170	10		
		8950	−57	194	+20	59	97	1		
		8948	−50	201	+27	55	12	2		
		8948	−43	208	+22	47	12	3		
		8949	−26	225	+3	26	121	10		
		(*)	−23	228	−14	27	6	1		
		8946	−15	236	+8	17	6	1		
		8946	−7	244	+6	9	36	1		
		8945	+15	266	+18	22	109	12		
		8938	+34	285	−18	39	339	8		
		8938	+49	300	−18	52	97	8		
		8943	+36	287	−11	38	61	7		
		8942	+49	300	+18	50	291	1		
		8935	+50	301	−29	57	97	4		
		8932	+65	316	+14	66	194	1		
		8941	+70	321	−8	71	242	1		
		8941	+78	329	−7	79	97	7		
		(15)		(251)	(+2)		2,156	83		
26	13 16	8951	−57	180	+26	60	97	3	F	Do.
		8952	−54	183	−7	56	24	1		
		8953	−53	184	−22	56	339	5		
		8950	−43	194	+20	45	61	1		
		8948	−38	199	+27	45	12	5		
		8948	−29	208	+22	35	6	1		
		8948	−29	208	+27	37	12	5		
		8949	−13	224	+3	13	48	5		
		8946	+7	244	+6	10	48	4		
		8954	+10	247	−30	33	73	6		
		8945	+29	266	+19	32	61	6		
		8945	+35	272	+15	37	48	5		
		8938	+48	285	−19	52	339	10		
		8938	+52	289	−11	54	24	3		
		8938	+54	291	−20	58	436	12		
		8938	+63	300	−18	67	145	4		
		8935	+61	298	−28	65	48	4		
		8942	+63	300	+18	64	291	1		
		8932	+79	316	+13	79	145	1		
		(13)		(237)	(+2)		2,257	82		
27	11 46	8951	−43	182	+26	48	61	1	P	Do.
		8953	−41	184	−22	46	339	10		
		8952	−40	185	−7	42	61	1		
		8950	−29	196	+19	33	73	1		
		8954	+23	248	−30	38	194	5		
		8945	+47	272	+15	48	145	7		
		8938	+60	285	−20	62	436	7		
		8938	+65	290	−19	67	388	6		
		8942	+75	300	+17	76	291	1		
		(8)		(225)	(+1)		1,988	39		
28	11 21	8951	−30	182	+26	37	48	3	F	Do.
		8953	−29	183	−22	36	291	11		
		8952	−27	185	−7	29	61	1		
		8950	−16	196	+19	24	48	1		
		8948	−16	196	+27	31	36	3		
		8948	−5	207	+25	25	24	1		
		8955	−6	206	−19	21	48	4		
		8949	+15	227	+3	15	61	4		
		(*)	+30	242	−19	35	24	2		
		8954	+36	248	−30	46	145	4		
		8945	+60	272	+15	60	97	3		
		8938	+73	285	−20	74	485	8		
		8938	+79	291	−19	79	436	5		
		(11)		(212)	(+1)		1,804	50		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR NOVEMBER 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*		°	°	°	°				
Nov. 29	11 46	8958	−56	142	−15	57	73	3	F	U. S. Naval.
		8951	−22	176	+26	32	24	7		
		8951	−18	180	+26	31	48	7		
		8953	−16	182	−22	28	194	18		
		8952	−14	184	−7	17	36	1		
		8950	−2	196	+19	18	24	1		
		8948	−2	196	+27	26	97	12		
		8948	+8	206	+25	25	24	3		
		8956	+7	205	−24	26	12	1		
		8955	+8	206	−19	21	24	6		
		8949	+26	224	+2	26	6	2		
		8954	+51	249	−30	57	61	1		
		8945	+73	271	+17	73	24	2		
		8938	+88	286	−17	88	97	1		
		(12)		(198)	(+1)		744	65		
30	11 34	8958	−42	143	−15	44	339	8	G	Do.
		8951	−11	174	+25	17	48	8		
		8951	−5	180	+26	25	12	5		
		8953	−3	182	−22	23	194	20		
		8952	+1	186	−7	8	73	4		
		8950	+11	196	+19	21	24	1		
		8948	+12	197	+27	30	61	6		
		8948	+17	202	+25	29	73	5		
		8956	+17	202	−28	33	73	9		
		8955	+27	212	−19	32	12	1		
		(*)	+33	218	+12	34	12	2		
		8954	+65	250	−30	69	12	1		
		(10)		(185)	(+1)		933	70		

Mean daily area for 29 days = 1,761
Mean 10g+s for 29 days = 154.6

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

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR NOVEMBER 1947

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

November 1947	Relative numbers	November 1947	Relative numbers	November 1947	Relative numbers
1	101	11	65	21	190
2	98	12	90	22	180
3	74	13	85	23	171
4	80	14	107	24	180
5	81	15	192	25	190
6	76	16	170	26	193
7	91	17	168	27	160
8	69	18	177	28	100
9	72	19	180	29	113
10	55	20	182	30	131

Means, 30 days = 127.4.