LATE DATA

The following total solar and sky radiation figures represent late data for the stations at Blue Hill, Massachusetts; Fairbanks, Alaska; and Twin Falls, Idaho, for the periods shown.

Week of—	Blue Hill		Fairbanks		Twin Falls	
	Observation	Departure	Observation	Departure	Observation	Departure
Feb. 24					211	−76
Mar. 4					406	+66
Mar. 11					397	+73
Mar. 18					526	+132
Mar. 25					239	−110
Apr. 1					356	−75
Apr. 8					564	+98
Apr. 15					518	+35
Apr. 22					560	+54
Apr. 29					631	+105
May 6					594	+3
May 13					668	+57
May 20					635	−10
May 27					621	+22
July 2					643	+45
July 9					719	+112
July 16					633	+17
July 23					634	+161
July 30					673	+115
Aug. 6					599	+42
Aug. 13					610	+100
Aug. 20					493	−30
Aug. 27					447	−37
Sept. 3					353	−120
Sept. 10					383	−63
Sept. 17					387	−21
Sept. 24					333	−81
Oct. 1	278	−32	151	+33	359	−4
Oct. 8	313	−9	85	−7	380	+31
Oct. 15	272	−21	85	+12	326	+1
Oct. 22	262	+36	46	−13	154	−127
Accumulated departures on Oct. 28	−4,732		+5,159			

POSITIONS, AREAS, AND COUNTS OF SUN SPOTS

[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
1940	*h m*		°	°	°	°				
Nov. 1	10 48	7022	−44	60	+14	45	267	12	G	U.S. Naval.
		7025	−37	67	−9	40	12	7		
		7023	−32	72	−9	34	24	1		
		7021	−3	101	+13	10	48	9		
		7019	+78	182	−3	78	97	3		
		7024	+80	184	−9	80	12	1		
				(104)	(+4)		460	33		
Nov. 2	10 37	7022	−31	60	+14	33	242	17	VG	Do.
		7025	−25	66	−9	28	73	8		
		7023	−16	75	−9	21	24	3		
		7021	+12	103	+14	16	24	5		
		7027	+44	135	+9	44	48	3		
		7026	+56	147	−8	57	24	2		
				(91)	(+4)		435	38		
Nov. 3	11 56	(*)	−75	2	−17	77	6	1	G	Do.
		(*)	−68	9	+15	68	48	2		
		7022	−17	60	+17	22	54	11		
		7022	−11	66	+14	15	121	5		
		7025	−11	66	−7	16	97	13		
		7023	0	77	−7	11	6	2		
		(*)	+60	137	+3	60	97	6		
		(*)	+70	147	−17	73	48	3		
				(77)	(+4)		477	43		
Nov. 4	10 45	7030	−57	7	+8	57	73	13	G	Do.
		7029	−49	15	−18	53	12	2		
		7022	−7	57	+16	13	12	1		
		7022	+1	65	+14	10	145	11		
		7025	+3	67	−7	11	73	11		
		7023	+15	79	−7	20	6	1		
		7028	+22	86	+8	22	12	1		
		7027	+70	134	+10	70	109	5		
				(64)	(+4)		442	45		

POSITIONS, AREAS, AND COUNTS 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
1940	*h m*		°	°	°	°				
Nov. 5	11 8	7030	−45	6	+7	45	12	4	G	U. S. Naval.
		7030	−39	12	+9	39	73	9		
		7029	−36	15	−17	41	6	1		
		7031	−16	35	+10	18	12	1		
		7022	+8	59	+15	13	12	1		
		7022	+15	66	+14	19	121	12		
		7025	+20	71	−8	24	24	6		
		7023	+30	81	−9	33	24	2		
		7028	+40	91	+9	40	12	6		
				(51)	(+4)		296	42		
Nov. 6	13 4	7034	−83	314	−11	83	145	2	G	Do.
		7030	−31	6	+7	32	48	7		
		7030	−26	11	+9	27	97	12		
		7033	−22	15	+16	25	6	1		
		7031	− 2	35	+10	6	6	1		
		7032	+27	64	−1	27	48	4		
		7022	+29	66	+12	30	97	7		
		7025	+33	70	−8	35	24	4		
		7023	+44	81	−8	47	24	6		
				(37)	(+4)		495	44		
Nov. 7	11 59	7035	−77	307	+7	77	12	1	F	Do.
		7034	−70	314	−11	71	97	1		
		7030	−17	7	+7	18	73	18		
		7030	−11	13	+9	12	61	1		
		7032	+40	64	0	41	97	4		
		7022	+41	65	+13	42	73	4		
		7025	+47	71	−8	49	12	1		
		7023	+59	83	−8	60	36	1		
				(24)	(+4)		461	31		
Nov. 8	11 20	7038	−86	285	+9	86	48	1	VG	Mt. Wilson.
		7037	−82	289	+16	82	24	1		
		7035	−63	308	+7	63	36	5		
		7034	−57	314	−10	59	97	1		
		7036	−53	318	+7	53	12	4		
		7030	−3	8	+9	6	121	20		
		7030	+5	16	+9	5	48	2		
		7032	+54	65	0	54	73	5		
		7022	+55	66	+13	56	133	10		
		7023	+72	83	−8	72	24	1		
				(11)	(+4)		616	50		
Nov. 9	11 44	7038	−72	286	+8	72	48	1	G	U. S. Naval.
		7037	−68	290	+16	69	24	4		
		7035	−48	310	+7	48	48	10		
		7034	−44	314	−10	46	61	1		
		7036	−38	320	+7	38	242	15		
		(*)	+8	6	+10	11	12	1		
		7030	+10	8	+8	11	24	6		
		7030	+19	17	+8	20	24	3		
		7022	+69	67	+12	69	97	7		
				(358)	(+3)		580	48		
Nov. 10	11 6	7040	−70	275	−8	70	6	1	G	Mt. Wilson.
		7038	−59	286	+10	59	73	3		
		7037	−52	293	+17	53	6	2		
		7035	−33	312	+7	33	97	10		
		7034	−30	315	−11	33	61	1		
		7036	−24	321	+7	24	436	16		
		7039	−4	341	−15	19	24	3		
		7030	+32	17	+8	32	36	2		
		(*)	+33	18	−17	39	24	3		
		7022	+80	65	+11	80	24	1		
				(345)	(+3)		787	42		
Nov. 11	11 2	7044	−78	254	−17	79	48	1	G	U. S. Naval.
		7038	−45	287	+9	45	48	3		
		7035	−20	312	+7	21	73	9		
		7034	−17	315	−11	22	61	1		
		7043	−12	320	−11	19	12	6		
		7036	−11	321	+7	12	364	23		
		7042	+21	353	+18	26	6	1		
		7030	+45	17	+9	45	24	1		
		7041	+66	38	+10	66	6	2		
				(332)	(+3)		642	47		
Nov. 12	12 14	7044	−65	253	−16	68	48	1	F	Mt. Wilson.
		7038	−32	286	+9	32	36	2		
		7046	−17	301	−12	22	48	7		
		7035	−6	312	+8	8	73	12		
		7034	−2	316	−11	14	61	1		
		7043	+2	320	−11	14	6	1		
		7036	+4	322	+8	6	412	16		
		7042	+37	355	+17	40	6	1		
		7045	+44	2	+20	46	6	2		
		7030	+61	19	+9	61	12	1		
				(318)	(+3)		708	44		

POSITIONS, AREAS, AND COUNTS OF SUN SPOTS—Con.

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
1940	*h m*		°	°	°	°				
Nov. 13	12 20	7049	−74	231	−11	75	48	1	G	Mt. Wilson.
		7044	−52	253	−16	56	48	1		
		7048	−39	266	−12	41	12	1		
		7038	−19	286	+9	20	12	1		
		7046	−4	301	−10	13	48	9		
		7047	−4	301	+17	15	194	22		
		7035	+7	312	+8	10	73	16		
		7034	+11	316	−11	18	61	1		
		7036	+17	322	+8	18	388	20		
		7045	+59	4	+19	60	12	2		
				(305)	(+3)		896	74		
Nov. 14	13 7	7049	−59	232	−10	61	48	1	P	Do.
		7044	−38	253	−17	42	48	1		
		7048	−24	267	−13	30	121	14		
		7047	+10	301	+17	16	194	21		
		7035	+20	311	+8	21	12	5		
		7034	+25	316	−10	28	48	1		
		7035	+27	318	+8	28	24	6		
		7036	+32	323	+8	32	242	12		
				(291)	(+3)		737	61		
Nov. 15	12 4	7051	−73	206	−12	74	12	1	G	U. S. Naval.
		7049	−47	232	−11	49	73	1		
		7044	−24	255	−17	31	48	1		
		7048	−9	270	−13	19	485	12		
		(*)	−2	277	−7	10	12	1		
		7047	+22	301	+18	26	388	17		
		7046	+22	301	−12	27	6	1		
		7034	+38	317	−11	40	48	1		
		7035	+41	320	+8	41	48	6		
		7036	+48	327	+8	48	194	1		
		7050	+82	1	+10	82	48	1		
				(279)	(+3)		1,362	43		
Nov. 16	10 38	7053	−75	191	−12	77	48	1	VG	Do.
		7051	−60	206	−12	63	24	1		
		7049	−33	233	−12	36	73	1		
		7044	−11	255	−17	22	48	1		
		7048	+3	269	−13	16	485	21		
		7052	+11	277	−7	15	12	2		
		7047	+32	298	+17	34	170	5		
		7047	+39	305	+18	40	291	1		
		7034	+51	317	−11	54	61	4		
		7036	+61	327	+9	61	194	1		
				(266)	(+3)		1,406	38		
Nov. 17	12 4	7057	−76	176	−12	78	61	1	G	Do.
		7053	−61	191	−12	64	73	1		
		7051	−45	207	−12	48	73	1		
		7056	−20	232	−19	30	12	2		
		7049	−19	233	−11	24	73	2		
		7055	−11	241	+22	21	6	1		
		7054	−5	247	−15	19	6	2		
		7044	+2	254	−17	20	24	1		
		7048	+18	270	−13	25	485	16		
		7052	+24	276	−7	26	12	1		
		7047	+45	297	+18	46	145	4		
		7047	+53	305	+18	55	291	1		
		7034	+64	316	−11	66	24	1		
		7036	+76	328	+9	76	194	1		
				(252)	(+3)		1,479	35		
Nov. 18	15 36	7057	−68	169	−12	69	24	1	VG	Do.
		7057	−60	177	−12	60	109	1		
		7053	−47	190	−12	49	73	1		
		7051	−31	206	−12	33	24	3		
		7058	−8	229	+10	11	6	1		
		7049	−5	232	−11	13	73	4		
		7044	+15	252	−17	24	24	5		
		7048	+33	270	−13	36	436	15		
		7047	+59	296	+18	60	121	4		
		7047	+67	304	+18	69	291	1		
		7034	+80	317	−11	80	12	1		
				(237)	(+2)		1,193	37		
Nov. 19	11 13	7057	−55	171	−12	56	12	1	G	Do.
		7057	−49	177	−11	50	109	1		
		7053	−35	191	−11	37	48	2		
		7049	+8	234	−12	16	24	2		
		7059	+21	247	+17	26	24	2		
		7048	+41	267	−12	43	24	4		
		7048	+49	275	−15	51	242	1		
		7047	+72	298	+18	74	97	1		
		7047	+80	306	+18	80	242	1		
				(226)	(+2)		822	15		
Nov. 20	11 38	7057	−40	173	−12	42	48	5	F	Do.
		7057	−36	177	−9	38	97	3		
		7053	−22	191	−11	26	6	1		
		7059	+34	247	+18	37	6	1		
		7048	+62	275	−15	65	242	2		
				(213)	(+2)		399	12		
Nov. 21	11 46	7057	−27	173	−12	30	73	5	G	Do.
		7057	−24	176	−11	27	48	3		
		7057	−20	180	−10	23	73	1		
		7048	+75	275	−16	77	194	2		
				(200)	(+2)		388	11		

POSITIONS, AREAS, AND COUNTS OF SUN SPOTS—Con.

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
1940	*h m*		°	°	°	°				
Nov. 22	10 42	7057	−13	174	−11	18	48	6	G	U. S. Naval.
		7057	−11	176	−10	16	48	3		
		7057	−8	179	−11	16	73	1		
		(*)	−3	184	−8	10	24	1		
				(187)	(+2)		193	11		
Nov. 23	10 33	(*)	−70	104	+12	70	6	1	G	Do.
		7057	+3	177	−12	15	236	15		
				(174)	(+2)		242	16		
Nov. 24	11 35	7061	−53	107	+13	54	97	10	VG	Mt. Wilson.
		7057	+17	177	−11	21	242	30		
		7060	+27	187	−7	29	73	10		
				(160)	(+2)		412	50		
Nov. 25	13 12	7062	−77	69	+14	78	485	1	P	Do.
		7061	−38	108	+13	40	121	6		
		7057	+30	116	−11	32	194	10		
		7060	+41	187	−7	42	145	8		
				(146)	(+2)		945	25		
Nov. 26	13 49	7062	−62	71	+14	63	339	1	G	Do.
		7061	−25	108	+12	27	121	6		
		7057	+44	177	−12	47	194	8		
		7060	+54	187	−7	55	97	4		
				(133)	(+1)		751	19		
Nov. 27	10 29	7062	−50	71	+13	52	291	1	P	U. S. Naval.
		7061	−13	108	+11	16	97	6		
		7063	+19	140	+13	22	48	6		
		7064	+19	140	+11	21	24	2		
		7057	+58	179	−11	59	170	5		
				(121)	(+1)		630	20		
Nov. 28	10 48	7062	−38	70	+12	39	291	7	P	Do.
		7061	−1	107	+11	9	48	4		
		7064	+32	140	+9	33	24	7		
		7063	+33	141	+13	35	97	5		
		7057	+71	179	−12	72	48	4		
				(108)	(+1)		508	27		
Nov. 29	10 57	7062	−24	71	+12	26	291	5	G	Do.
		7061	+12	107	+11	15	48	3		
		7063	+47	142	+13	48	218	6		
		7064	+48	143	+9	49	48	5		
				(95)	(+1)		605	19		
Nov. 30	10 16	7062	−10	72	+12	15	242	4	F	Do.
		7063	+60	142	+13	60	242	6		
		7064	+60	142	+11	60	48	1		
				(82)	(+1)		532	11		

Mean daily area for 30 days=663

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

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR OCTOBER 1940

[Dependent on observations at Zurich except as otherwise noted. Data furnished through the courtesy of Prof. W. Brunner, Eidgen. Sternwarte, Zurich.]

October 1940	Relative numbers	October 1940	Relative numbers	October 1940	Relative numbers
1	38	11	* 52	21	*b* 64
2		12	*abd* 77	22	*Ec* 74
3	29	13	*b* 72	23	68
4	32	14	66	24	(*a*)
5	*a* 35	15	*d* 70	25	
6	*Mcdd* 44	16	* *a* 62	26	* *Mc* 46
7		17	59	27	* *a* 41
8		18		28	* 48
9	53	19	61	29	* 40
10	*d* 57	20	67	30	*46
				31	38

Mean, 25 days=53.6

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.
* Observed at Locarno.