

# MONTHLY REPORT OF SUNSPOT OBSERVATION

JANUARY 1968 Observer - K. Fujimori Suwa, Nagano.

Date	Time			N				S				Total	10 <sup>g</sup> †	Facula		Cent.		Seeing 1-5	Remarks
	J.	S.	T.	g	+	g	+	g	+	E	W			g	+				
1	15	15	15 <sup>m</sup>	0	0	7	70	7	70	140	2	3	3	46	2				
2	13	18		0	0	8	61	8	61	141	3	3	3	40	2				
3																			C
4	12	48		2	6	8	72	10	78	178	4	2	3	6	2				
5	12	25		2	22	8	66	10	88	188	6	2	2	5	2				
6																			C
7																			C
8	12	35		4	69	5	55	9	124	214	-	-	5	71	1			肉眼黒点 = 1	
9	12	30		5	97	5	42	10	139	239	2	2	7	95	2			" = 2	
10	12	28		4	106	7	37	11	143	253	1	2	7	106	2			" = 2	
11	12	30		4	86	5	28	9	114	204	3	4	5	68	2			" = 3	
12	12	30		4	102	4	20	8	122	202	3	4	4	98	2			" = 1	
13																			C
14																			C
15																			C
16	12	30		3	32	1	2	4	34	74	3	6	0	0	1				
17	12	25		4	21	0	0	4	21	61	3	5	1	1	2				
18	12	22		3	14	1	3	4	17	57	2	3	0	0	2				
19	12	20		1	4	2	9	3	13	43	3	2	1	2	2				
20	12	22		1	4	1	11	2	15	35	4	2	0	0	3				
21	12	18		1	1	1	10	2	11	31	5	2	0	0	3-4				
22	12	20		1	1	2	12	3	13	43	5	3	2	12	4				
23	12	23		3	7	2	15	5	22	72	4	2	1	14	3-4				
24	12	20		3	10	3	10	6	20	80	5	3	1	6	3				
25	12	22		3	17	3	15	6	32	92	3	3	2	13	2-3				
26	12	22		3	24	4	22	7	46	116	3	3	4	18	3				
27	12	29		2	28	2	15	4	43	83	3	2	0	0	1-2			肉眼黒点 = 1	
28	11	25		4	58	2	12	6	70	130	5	2	0	0	3			" = 1	
29																			C
30																			C
31	12	30		6	104	5	17	11	121	231	6	1	3	87	2			肉眼黒点 = 2	
Sum				1443		1464		2907						1.228					
Mean				62.7		63.7		126.4	126.4					53.4					

Days 23 100<sup>mm</sup> Reflector x56 Direct Vision

80<sup>mm</sup> Refractor x48 projection

9 8 9 10 11 12 (1) 2 3 4 5 6 7 N19056 = 71.4  
 32057 ÷ 267 = 120.1 S13001 = 48.7

MONTHLY REPORT OF SUNSPOT OBSERVATION  
 FEBRUARY 1968 Observer-K. Fujimori Suwa, Nagano,

Date	Time			N		S		Total		10g <sup>+</sup> f	Facula		C.C. Zone		Seeing	Remarks
	J	S	T	g	f	g	f	g	f		E	W	g	f		
1																c
2	12	30 <sup>m</sup>		7	90	6	37	13	127	257	6	4	7	43	2	肉眼黒点 = 2
3	12	30		5	91	7	66	12	157	277	3	3	5	54	3	" = 1
4	12	20		4	75	4	42	8	117	197	2	3	5	58	3	
5	12	30		5	46	3	27	8	73	153	2	3	6	45	2	
6	12	22		5	30	3	23	8	53	133	1	6	5	22	4	
7	12	20		4	17	3	10	7	27	97	2	4	3	10	4	
8	12	22		5	26	2	9	7	35	105	3	5	1	10	3-4	
9																M
10																c
11	12	40		3	39	2	6	5	45	95	3	3	1	2	2	
12	12	25		3	50	1	4	4	54	94	3	2	1	3	2-3	肉眼黒点 = 1
13	12	24		2	43	1	5	3	48	78	3	2	2	33	2	" = 1
14																M
15																S
16	12	25		2	24	3	15	5	39	89	3	1	3	15	4	
17	12	28		2	21	5	15	7	36	106	3	2	1	8	3-4	
18	12	38		3	12	5	13	8	25	105	3	1	2	4	4-5	
19																S
20																c
21	12	25		2	19	3	14	5	33	83	4	3	0	0	4	
22	12	25		2	30	1	5	3	35	65	2	2	1	5	1	
23	12	30		2	32	2	9	4	41	81	-	-	1	4	1-2	
24	12	25		4	59	1	12	5	71	121	3	3	1	11	4	
25	12	35		4	52	1	26	5	78	128	3	2	1	15	2	
26	12	29		4	67	3	33	7	100	170	2	3	3	52	3	肉眼黒点 = 1
27	12	30		4	58	1	34	5	92	142	3	3	2	74	2-3	" = 1
28	12	29		4	59	2	22	6	81	141	3	3	2	57	2-3	" = 1
29	12	29		2	51	4	31	6	82	142	3	3	3	55	3-4	
Sum				1.77	1	1.088		2.859						1.140		
Mean				80.5		49.5		130.0	130.0					51.8		

Days 22 100<sup>mm</sup> Reflector x56 Direct Vision

80<sup>mm</sup> Refractor x48 projection

8 9 10 11 12 / (2) 3 4 5 6 7 8

$32855 \div 268 = 122.6$

$N19220 = 71.7$

$S13635 = 50.9$



# MONTHLY REPORT OF SUNSPOT OBSERVATION

APRIL 1968 Observer - K. Fujimori Suwa, Nagano

Date	Time			N				S		Total		log <sub>10</sub> r <sub>t</sub>		Facula		C.C. zone		seeing 5-1	Remarks
	J	S	T	g	t	g	t	g	t	E	W	g	t	E	W	g	t		
1	11	5 <sup>m</sup>		3	22	5	34	8	56	136	3	6	3	27	3-4				
2	12	55		3	16	4	25	7	41	111	2	5	3	21	3				
3	13	30		3	29	6	36	9	65	155	2	3	5	20	5				
4	12	55		2	17	5	23	7	40	110	2	3	3	14	4				
5	11	50		2	14	4	27	6	41	101	2	3	2	15	4				
6	12	25		2	17	4	28	6	45	105	2	3	2	6	3-4				
7	12	50		3	13	2	25	5	38	88	2	2	2	22	3				
8	11	48		3	11	2	25	5	36	86	2	2	1	18	3				
9	12	55		3	13	3	28	6	41	101	4	3	1	18	3				
10																C - R			
11																R			
12																C			
13																M			
14	12	25		4	21	1	7	5	28	78	2	3	1	7	2	肉眼黒点 = 1			
15	12	45		5	31	2	13	7	44	114	3	3	2	25	3-4	" = 1			
16	12	33		4	21	3	11	7	32	102	2	2	2	14	2-3	" = 1			
17																C			
18																R			
19	11	55		2	7	1	3	3	10	40	3	2	1	3	2-3				
20	11	45		4	9	1	3	5	12	62	3	4	3	7	4				
21	11	30		5	16	1	2	6	18	78	4	4	2	6	4				
22																C - R			
23																C - R			
24	12	30		3	13	1	2	4	15	55	2	3	3	13	4				
25	13	5		3	25	2	4	5	29	79	4	3	2	15	4				
26	13	0		3	10	2	4	5	14	64	3	3	0	0	2				
27	13	8		3	12	2	4	5	16	66	3	3	1	2	5				
28																R			
29																C			
30	12	55		4	25	2	10	6	35	95	5	2	3	19	4				
Sum					982		844		1826					692					
Mean					49.1		42.2		91.3	91.3				34.6					

Days 20 100<sup>mm</sup> Reflector x56 Direct Vision

80<sup>mm</sup> Refractor x48 Projection - till april 14th

80<sup>mm</sup> Refractor x29 Projection - from april 15th

$$33258 \div 264 = 126.0$$

$$118964 = 71.8$$

$$514291 = 54.1$$

# MONTHLY REPORT OF SUNSPOT OBSERVATION

MAY 1968    Observer - K. Fujimori    Suwa, Nagano

Date	Time		N		S		Total		Facula		C. C. Zone			Remarks	
	S	I	g	f	g	f	g	f	E	W	g	f	5-1		
1	12	35 <sup>m</sup>	7	57	2	4	9	61	151	3	3	2	24	4-5	
2	13	0	9	75	2	4	11	79	189	4	2	4	40	5	
3															C
4															M
5	11	47	8	87	1	2	9	89	179	3	3	3	30	4-5	
6	12	35	9	72	2	3	11	75	185	3	3	4	37	3	
7															C
8															C
9	12	40	9	49	2	5	11	54	164	4	3	4	38	3	
10	12	50	8	49	2	2	10	51	151	4	4	2	20	3	
11	12	45	7	27	2	6	9	33	123	-	-	2	7	2	
12															M
13	14	45	5	28	2	4	7	32	102	2	3	3	23	2-3	
14	15	25	3	19	3	11	6	30	90	5	2	1	13	2	
15	12	45	4	15	4	17	8	32	112	-	-	2	11	2	
16	12	50	4	11	2	24	6	35	95	3	4	2	8	3-4	
17	12	35	4	20	4	29	8	49	129	4	5	2	15	3	
18	13	5	6	31	4	39	10	70	170	4	3	1	9	2	
19															C
20	12	50	6	50	5	50	11	100	210	2	2	4	17	3-4	
21	11	45	5	62	5	52	10	114	214	3	2	5	38	3-4	肉眼数 = 3
22	12	55	5	61	6	40	11	101	211	2	2	7	65	3	" = 3
23	10	50	5	48	6	37	11	85	195	2	3	4	57	3	" = 3
24	14	5	5	54	6	30	11	84	194	3	2	6	67	3-4	" = 2
25	12	15	7	61	6	17	13	78	208	5	4	5	17	3-4	" = 2
26	12	50	8	42	5	19	13	61	191	4	4	1	2	5	
27															C
28	12	35	8	25	5	18	13	43	173	5	4	1	9	3	
29	12	45	6	25	5	25	11	50	160	6	3	4	20	2	
30															C
31															M
Sum			2.348		1.248		3.596					1.257			
Mean			106.7		56.7		163.4	163.4				57.1			

Days 22    100<sup>mm</sup> Reflector x56    Direct Vision

80<sup>mm</sup> Refractor x67    projection

11 12 1 2 3 4 (5) 6 7 8 9 10 11

$$34609 \div 280 = 123.6$$

$$N19396 = 67.3$$

$$S15213 = 54.3$$

# MONTHLY REPORT OF SUNSPOT OBSERVATION

J U N E 1968 Observer - K. Fujimori Suwa Nagano

Date	Time		N		S		Total		10gr		Facula		C.C. Zone		Remarks
	J	S	g	t	g	t	g	t	E	W	g	t	5-1		
1	13	50 <sup>m</sup>	7	26	5	31	12	57	177	3	2	6	22	2	
2	12	40	7	38	4	28	11	66	176	3	3	6	34	4	
3															R
4	12	35	5	15	5	27	10	42	142	2	3	3	8	2-3	
5	11	56	5	22	5	36	10	58	158	4	4	2	17	4	
6	11	43	4	18	6	53	10	71	171	4	4	1	9	2-3	
7	13	22	4	23	7	49	11	72	182	1	6	3	45	3	
8	12	11	4	-	6	-	10	-	-	-	-	4	-		M
9	12	3	5	41	3	27	8	68	148	2	5	4	50	5	
10															R
11	11	33	3	30	2	18	5	48	98	4	1	2	21	2-3	
12	11	42	4	37	4	19	8	56	136	2	3	3	21	2	肉眼黒点 = 1
13	10	36	5	28	4	23	9	51	141	3	5	3	32	5	" = 1
14	12	48	6	21	3	30	9	51	141	3	4	3	35	2-3	" = 1
15															M
16	12	3	5	15	5	23	10	38	138	5	2	1	6	2	
17	12	17	4	18	5	33	9	51	141	5	2	2	10	4	
18	12	46	3	44	5	21	8	65	145	3	3	3	9	3	
19															C-R
20	12	9	3	49	3	8	6	57	117	2	1	4	54	2	肉眼黒点 = 1
21	12	14	3	51	2	6	5	57	107	3	2	2	44	2-3	" = 1
22	12	30	3	48	2	4	5	52	102	4	4	1	33	3	" = 2
23	13	27	3	51	2	9	5	60	110	3	4	1	3	3	" = 1
24	10	35	5	58	2	11	7	69	139	2	6	1	8	3	" = 1
25															C
26															R
27															M
28															R
29															C
30	10	16	3	41	3	16	6	57	117	3	5	1	2	2	
Sum			1.5	44	12	42	27	86				9	83		
Mean			77.2		62.1		139.3	139.3				49.2			

Days 20      100<sup>mm</sup> Reflector x56      Direct Vision

80<sup>mm</sup> Refractor x67      projection

12 1 2 3 4 5 (6) 7 8 9 10 11 12

$$34810 \div 280 = 124.3$$

$$N19325 = 69.0$$

$$S15485 = 55.3$$

# MONTHLY REPORT OF SUNSPOT OBSERVATION

JULY 1958 Observer - K. Fujimori Suwa Nagano

Date	Time		N		S		Total		10 <sup>h+</sup>	Facula		E. C. Zone			Remarks
	U	T	1	2	3	4	5	6		7	8	9	10	11	
1	3	32 <sup>m</sup>	2	23	3	6	5	29	79	2	4	0	0	3	
2															R
3	7	6	2	15	1	1	3	16	46	1	3	1	1	5	
4	3	22	2	12	0	0	2	12	32	1	5	0	0	4	
5	3	22	2	8	1	2	3	10	40	3	4	0	0	3	
6	5	26	2	12	2	3	4	15	55	3	3	1	1	2	
7	3	38	2	22	1	2	3	24	54	3	1	0	0	2	
8															C
9															C
10	5	25	3	79	3	6	6	85	145	3	2	3	3	4	肉眼観察 = 1
11															C
12	7	33	6	80	2	5	8	85	165	-	-	4	7	2	肉眼観察 = 1
13	3	4	6	69	4	17	10	80	180	5	1	5	6	2-3	" = 1
14	4	51	6	58	3	6	9	64	154	4	2	4	4	2	" = 1
15	7	17	7	58	2	3	9	61	151	2	2	3	11	4	
16															C
17															C
18	3	45	3	19	5	8	8	27	107	2	2	3	12	2	
19	3	6	3	17	4	10	7	27	97	3	4	2	11	2-3	
20	2	56	4	34	4	8	8	42	122	4	4	3	6	4	
21	2	22	3	30	3	14	6	44	104	5	5	1	2	3	
22	1	36	3	21	3	23	6	44	104	2	5	2	15	3	
23	2	42	3	13	3	44	6	57	117	2	3	4	4	3-4	
24															M
25	3	36	3	21	3	60	6	81	141	2	2	3	5	3-4-5	
26	3	0	4	29	4	52	8	81	161	3	5	2	4	4-5	
27															C
28	4	16	5	56	2	18	7	74	144	2	4	2	18	3	
29	6	32	6	68	1	10	7	78	148	1	4	4	50	2	
30															R
31															C
Sum			1574	832	2346							928			
Mean			72.1	32.6	117.7	117						44.2			

Days 21 100<sup>mm</sup> Reflector x56 Direct Vision

80<sup>mm</sup> Refractor x67 projection

1 2 3 4 5 6 ⑦ 8 9 10 11 12 1

$$34373 \div 282 = 121.9$$

$$N19346 = 68.6$$

$$S15027 = 53.3$$





# MONTHLY REPORT OF SUNSPOT OBSERVATION

SEPTEMBER 1968 Observer - K. Fujimori Suwa, Nagano

Date	Time		Sun				Total		Facula		Cent.		Seeing	Remarks	
	U.	T.	g	+	g	+	g	+	E	W	g	+	1-5		
1	3	48 <sup>m</sup>	1	17	3	4	4	21	61	5	3	1	17	2	
2	1	50	3	22	4	20	7	42	112	4	1	2	20	3	
3	1	34	3	15	5	43	8	58	138	4	2	3	45	4-5	
4	2	0	4	15	5	59	9	74	164	3	3	5	61	5	
5	2	56	1	7	5	49	6	56	116	2	4	3	44	1-2	
6	2	7	3	7	5	41	8	48	128	3	2	3	16	4-5	
7	3	10	1	3	6	28	7	31	101	2	4	1	2	2	
8	3	10	3	6	5	33	8	39	119	-	-	2	4	2	
9	1	24	2	12	6	32	8	44	124	4	5	2	13	3	
10	3	55	2	8	7	50	9	58	148	3	3	4	37	4	
11	2	35	3	8	10	65	13	73	203	5	4	3	31	3-4	
12	3	56	2	11	7	71	9	82	172	4	2	2	17	2	
13															R
14															C
15															M
16															M
17															C
18	5	18	5	13	3	15	8	28	108	2	2	2	4	4-5	
19	3	6	6	18	2	9	8	27	107	3	4	1	2	3-4	
20	2	16	5	26	2	3	7	29	99	2	4	2	6	3-4	
21	3	23	6	40	1	1	7	41	111	3	4	2	3	3	
22	3	32	5	37	1	4	6	41	101	3	4	3	21	4-5	
23	2	54	7	39	2	10	9	49	139	3	1	3	15	4	
24	5	12	10	63	2	6	12	69	189	2	1	5	41	2	
25	0	26	11	87	3	7	14	94	234	3	3	6	53	3	
26															C
27	2	22	10	102	2	4	12	106	226	2	3	8	93	4	
28	4	6	8	86	2	6	10	92	192	2	4	6	68	4	
29	0	0	7	75	1	8	8	83	163	2	3	5	54	4	
30	4	24	6	50	1	3	7	53	123	2	2	3	26	4-5	
Sum			1907	1471			3378					1463			
Mean			79.5	61.3			140.8	140.8				61.0			

Days 24    100<sup>mm</sup> Reflector x56 Direct Vision  
 80<sup>mm</sup> Retractor x67 Projection 15<sup>cm</sup>

3 4 5 6 7 8 9 10 11 12 1 2 3    119512 = 70.7  
 34430 ÷ 276 = 124.7    5.14918 = 54.1

TABLE OF SUNSPOT GROUPS (Aug. 1968)

Heliographic

# MONTHLY REPORT OF SUNSPOT OBSERVATION

OCTOBER 1968    Observer - K. Fujimori    Suwa, Nagano

Date	Time U. T.	N		S		Total		Facula		Cent.		Seeing 1-5	Remarks	
		g	f	g	f	g	f	E	W	g	f			
1	3:37 <sup>m</sup>	3	20	1	4	4	24	64	2	3	2	12	3	
2	4:07	5	18	1	3	6	21	81	3	5	1	3	2-3	
3		-	-	-	-	-	-	-	-	-	-	-	-	C
4		-	-	-	-	-	-	-	-	-	-	-	-	C-R
5	5:30	5	-	1	-	6	-	-	-	-	3	-	1	C
6	2:36	6	74	1	2	7	76	146	2	2	4	62	3	
7		-	-	-	-	-	-	-	-	-	-	-	-	C
8	2:53	5	49	1	10	6	59	119	2	2	4	45	1-2	
9		-	-	-	-	-	-	-	-	-	-	-	-	C
10	5:45	2	13	2	11	4	24	64	1	3	0	0	2	
11		-	-	-	-	-	-	-	-	-	-	-	-	C
12	2:51	3	12	5	28	8	40	120	2	5	3	20	2	
13	5:23	1	17	4	27	5	44	94	2	3	1	19	3	
14		-	-	-	-	-	-	-	-	-	-	-	-	C
15	4:00	3	40	2	12	5	52	102	3	1	2	12	2	
16	3:32	1	43	2	18	3	61	91	3	1	2	47	3	
17	6:36	2	64	2	11	4	75	115	3	3	1	56	3	
18	4:20	2	63	2	9	4	72	112	2	3	1	44	3-4	
19	3:22	2	61	2	3	4	64	104	1	2	2	26	4-5	
20		-	-	-	-	-	-	-	-	-	-	-	-	M
21		-	-	-	-	-	-	-	-	-	-	-	-	C
22		-	-	-	-	-	-	-	-	-	-	-	-	C
23		-	-	-	-	-	-	-	-	-	-	-	-	R
24		-	-	-	-	-	-	-	-	-	-	-	-	R
25	3:05	3	49	3	59	6	108	168	3	4	3	65	4-5	
26	3:55	4	25	3	44	7	69	139	-	-	3	12	2	肉眼黒点 = 1
27	2:46	3	22	4	40	7	62	132	4	2	2	33	3	" = 1
28	2:10	4	24	3	46	7	70	140	3	3	2	30	2-3	" = 1
29	3:03	3	22	3	55	6	77	137	3	2	2	49	2-3	" = 1
30	2:14	3	13	3	56	6	69	129	3	3	4	49	4	" = 1
31	2:23	2	12	3	71	5	83	133	3	3	2	12	4-5	" = 1
Sum			1.211		979		2.190					1.006		
Mean			63.8		51.5		115.3	115.3				52.9		

Days 19

100<sup>mm</sup> Reflector x56 Direct Vision

80<sup>mm</sup> Refractor x67 Projection 15<sup>cm</sup>

4 5 6 7 8 9 (10) 11 12 1 2 3 4

$3547 \div 279 = 127.1$

$N20443 = 73.3$

$S15028 = 53.9$



MONTHLY REPORT OF SUNSPOT OBSERVATION  
DECEMBER 1968 Observer - K. Fujimori Suwa, Nagano

Date	Time U. T.	N		S		Total		10gff	Facula		cent.		Seisg 1-5	Remarks
		g	f	g	f	g	f		E	W	g	f		
1	3:37 <sup>m</sup>	1	16	5	43	6	59	119	4	5	1	3	3-4	
2	3:33	1	26	4	24	5	50	100	4	4	1	3	2-3	
3	3:37	2	42	4	28	6	70	130	3	3	2	16	4-5	
4	3:34	3	42	3	19	6	61	121	2	3	3	54	2-3	肉眼黒点=1
5		-	-	-	-	-	-	-	-	-	-	-	-	R
6		-	-	-	-	-	-	-	-	-	-	-	-	M
7	3:34	2	55	3	15	5	70	120	2	1	4	67	2	肉眼黒点=1
8	4:35	2	69	3	18	5	87	137	2	2	3	23	3	
9		-	-	-	-	-	-	-	-	-	-	-	-	C
10	4:09	3	60	2	35	5	95	145	3	3	1	11	3	
11	3:45	4	37	3	36	7	73	143	3	4	2	5	3	
12		-	-	-	-	-	-	-	-	-	-	-	-	R
13	2:49	2	6	2	30	4	36	76	2	3	1	3	2	
14		-	-	-	-	-	-	-	-	-	-	-	-	C
15	3:45	3	9	2	38	5	47	97	3	1	0	0	3	
16		-	-	-	-	-	-	-	-	-	-	-	-	M
17		-	-	-	-	-	-	-	-	-	-	-	-	M
18	3:14	2	14	3	16	5	30	80	1	2	1	9	1	
19		-	-	-	-	-	-	-	-	-	-	-	-	C
20	3:17	1	7	4	46	5	53	103	2	2	2	34	2	
21	3:30	1	2	5	37	6	39	99	-	-	1	17	1	
22		-	-	-	-	-	-	-	-	-	-	-	-	R
23	3:17	3	31	4	17	7	46	118	3	5	2	9	1-2	
24	3:18	3	31	5	24	8	55	135	2	2	3	17	1	
25		-	-	-	-	-	-	-	-	-	-	-	-	C
26		-	-	-	-	-	-	-	-	-	-	-	-	C
27	3:40	4	43	3	27	7	70	140	-	-	3	46	1	肉眼黒点=1
28	3:24	5	51	6	36	11	87	197	3	2	4	66	2	" = 1
29	4:40	5	39	3	14	8	53	133	2	3	3	36	1-2	" = 1
30	3:45	5	40	2	16	7	56	126	2	3	2	9	2	" = 1
31	3:05	5	33	3	19	8	52	132	4	4	2	7	2-3	
Sum		1,223		1,228		2,451					845			
Mean		61.2		67.4		122.6		122.6			42.3			

Days 20 100<sup>mm</sup> Reflector x56 Direct Vision  
 80<sup>mm</sup> Refractor x67 Projection 15 cm  
 6 7 8 9 10 11 (12) 1 2 3 4 5 6  
 $35829 \div 277 = 129.3$   $N20511 = 74.0$   
 $S15318 = 55.3$