



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

NEW ZEALAND

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SUNSPOT RESULTS FOR JULY 2001

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) k considered as 1 .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

Q = Quietness [ie. steadiness] refer to Kiepenheuer scale .

S = Sharpness [ie. clarity] refer to Kiepenheuer scale .

T = Transparency where 1 = excellent , 5 = worthless .

WN = Wolf Number ; SN = Pettisindex ; BX = Beckindex ; CV = Classification Value .

DATE	UT	g	f	WN	p	s	SN	BX	CV	Q	S	T	Ref.
01	2055	8	16	96	9	5	95	310	100	3.0	3.0	3.0	3946
02	2115	7	19	89	7	8	78	207	70	2.5	2.5	2.5	3947
03	2115	7	15	85	7	4	74	307	69	3.0	3.0	3.0	3948
04													
05													
06													
07													
08	2055	5	30	80	9	12	102	518	92	2.5	2.5	2.5	3949
09	2105	6	27	87	11	11	121	496	96	2.0	2.5	2.5	3950
10	2215	6	24	84	8	12	92	403	101	2.0	2.5	2.0	3951
11	2115	7	30	100	11	15	125	518	128	1.5	2.0	2.0	3952
12	2135	10	35	135	12	21	141	606	134	1.0	2.0	2.0	3953
13	2120	10	37	137	12	20	140	613	137	2.0	2.0	2.0	3954
14													
15													
16													
17													
18													
19													
20	2145	7	37	107	10	11	111	791	125	2.0	3.0	3.5	3955
21													
22													
23	2125	7	43	113	12	18	138	864	87	2.0	2.0	2.0	3956
24	2120	7	36	106	13	12	142	985	107	2.0	2.5	2.5	3957
25	2150	6	35	95	8	13	93	878	78	1.5	2.0	2.5	3958
26	2215	4	19	59	8	5	85	470	84	1.5	2.0	2.5	3959
27	2130	6	22	82	8	11	91	400	85	1.5	3.0	4.0	3960
28													
29	2140	4	13	53	6	5	65	298	64	2.0	2.5	2.5	3961
30													
31	2105	4	27	67	7	14	84	605	69	2.0	2.0	2.5	3962
Σ	—	111	465	1575	158	197	1777	9269	1626	34.0	41.0	43.5	—
NOBS	—	17	17	17	17	17	17	17	17	17	17	17	—
MNS	—	6.53	27.35	92.65	9.29	11.59	104.53	545.24	95.65	2.00	2.41	2.56	—

MEAN CONDITION = 2.3235 TRUNCATED WOLF NUMBER = 80.35 QUALITY COUNT = 18.65 SQUARED QUALITY COUNT = 62.76



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR JULY 2001

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f . l . 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

Q = Quietness [ie. steadiness] refer to Kiepenheuer scale .

S = Sharpness [ie. clarity] refer to Kiepenheuer scale .

T = Transparency where 1 = excellent , 5 = worthless .

IS = Inter-Sol Index .

gr = number of multi-spot groups .

grfp = number of umbrae within penumbrae within the groups (gr) .

grf = number of non-penumbral spots within the groups (gr) .

efp = number of single penumbral spots :

ef = number of single non-penumbral spots .

DATE	UT	IS	gr	grfp	grf	efp	ef	Q	S	T	Ref.
01	2055	21	5	9	4	2	1	3.0	3.0	3.0	3946
02	2115	24	5	10	7	1	1	2.5	2.5	2.5	3947
03	2115	19	4	8	4	3	0	3.0	3.0	3.0	3948
04											
05											
06											
07											
08	2055	35	5	18	12	0	0	2.5	2.5	2.5	3949
09	2105	31	4	16	9	0	2	2.0	2.5	2.5	3950
10	2215	29	5	11	12	1	0	2.0	2.5	2.0	3951
11	2115	35	5	13	15	2	0	1.5	2.0	2.0	3952
12	2135	40	5	10	20	4	1	1.0	2.0	2.0	3953
13	2120	43	6	14	19	3	1	2.0	2.0	2.0	3954
14											
15											
16											
17											
18											
19											
20	2145	41	4	23	11	3	0	2.0	3.0	3.5	3955
21											
22											
23	2125	47	4	24	16	1	2	2.0	2.0	2.0	3956
24	2120	39	3	21	11	3	1	2.0	2.5	2.5	3957
25	2150	38	3	20	12	2	1	1.5	2.0	2.5	3958
26	2215	21	2	12	5	2	0	1.5	2.0	2.5	3959
27	2130	25	3	9	10	2	1	1.5	3.0	4.0	3960
28											
29	2140	15	2	6	5	2	0	2.0	2.5	2.5	3961
30											
31	2105	30	3	13	13	0	1	2.0	2.0	2.5	3962
Σ	—	533	68	237	185	31	12	34.0	41.0	43.5	—
NOBS	—	17	17	17	17	17	17	17	17	17	—
MNS	—	31.35	4.00	13.94	10.88	1.82	0.71	2.00	2.41	2.56	—



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

SUNSPOT CENSUS BY CLASSIFICATION FOR JULY 2001

All observations carried out by HOWARD BARNES .
 Telescope : 76 mm refractor (f . l . 910 mm) .
 Observed by PROJECTION . Full disc diameter = 145 mm approx .
 IF 2 OR MORE REGIONS ARE OF THE SAME CLASSIFICATION , THEN SUNSPOT COUNTS
 ARE SEPARATED BY SOLIDI (/) .

DATE	UT	A		B		C		D		E		F		G		H		J	
		g	f	g	f	g	f	g	f	g	f	g	f	g	f	g	f	g	f
01	2055	1	1	0	0	2	2/2	2	3/4	0	0	0	0	0	0	0	0	3	1/1/2
02	2115	1	1	0	0	4	2/3/4/5	1	3	0	0	0	0	0	0	0	0	1	1
03	2115	0	0	1	2	1	3	1	5	0	0	0	0	0	0	0	0	4	1/1/1/2
04																			
05																			
06																			
07																			
08	2055	0	0	0	0	2	3/3	2	7/15	0	0	0	0	0	0	0	0	1	2
09	2105	2	1/1	0	0	0	0	3	4/5/14	0	0	0	0	0	0	0	0	1	2
10	2215	0	0	1	2	1	2	3	3/5/11	0	0	0	0	0	0	0	0	1	1
11	2115	0	0	0	0	2	3/3	3	5/8/9	0	0	0	0	0	0	0	0	2	1/1
12	2135	1	1	1	4	1	3	3	3/8/12	0	0	0	0	0	0	0	0	4	1/1/1/1
13	2120	1	1	1	4	2	2/2	3	5/7/13	0	0	0	0	0	0	0	0	3	1/1/1
14																			
15																			
16																			
17																			
18																			
19																			
20	2145	0	0	1	3	1	3	1	9	1	19	0	0	0	0	1	1	2	1/1
21																			
22																			
23	2125	2	1/1	0	0	2	4/5	1	4	1	27	0	0	0	0	0	0	1	1
24	2120	1	1	0	0	1	3	1	11	0	0	1	18	0	0	0	0	3	1/1/1
25	2150	1	1	1	2	0	0	1	16	0	0	1	14	0	0	0	0	2	1/1
26	2215	0	0	0	0	0	0	1	12	0	0	1	5	0	0	0	0	2	1/1
27	2130	1	1	0	0	1	2	2	6/11	0	0	0	0	0	0	0	0	2	1/1
28																			
29	2140	0	0	0	0	1	3	0	0	1	8	0	0	0	0	0	0	2	1/1
30																			
31	2105	1	1	0	0	0	0	1	7	2	7/12	0	0	0	0	0	0	0	0
TOTALS	—	12	12	6	17	21	62	29	225	5	73	3	37	0	0	1	1	34	38

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σg
10.8	5.4	18.9	26.1	4.5	2.7	0.0	0.9	30.6	111

NOBS = 17 \bar{p}/\bar{g} mean = 1.4694 \bar{f}/\bar{g} mean = 4.3332
 \bar{p}/\bar{g} mean = 1.4234 \bar{f}/\bar{g} mean = 4.1892

GROUP COMPLEXITY INDEX (GCI) = 5.6126



**SMOOTHED RESULTS OF OBSERVED VALUES FOR THE
LAST 12 MONTHS (OBTAINABLE)
USING THE WALDMEIER & BARNES-13 METHODS.**

DATA BELOW ARE PRELIMINARY. FINAL VALUES WILL BE PUBLISHED IN THE GDSO ANNUAL REPORTS.

WALDMEIER METHOD

MONTH	$g(S^W)$	$WN(S^W)$	$SN(S^W)$	$BX(S^W)$	$CV(S^W)$	$QC(S^W)$	$IS(S^W)$
2000 FEBRUARY	8.30	143.82	163.09	1471.6	160.19	26.42	66.58
MARCH	8.54	147.85	167.88	1509.9	163.94	27.14	68.45
APRIL	8.57	149.39	170.40	1536.9	164.86	27.34	69.76
MAY	8.56	147.98	168.20	1480.2	163.14	27.22	68.48
JUNE	8.61	147.41	167.16	1426.8	162.43	27.23	67.47
JULY	8.72	149.15	170.05	1428.6	164.50	27.62	68.21
AUGUST	8.70	149.18	171.29	1439.2	164.10	27.62	68.46
SEPTEMBER	8.54	146.69	169.59	1429.2	158.97	27.13	67.36
OCTOBER	8.39	142.73	165.93	1381.5	153.81	26.46	64.80
NOVEMBER	8.24	138.20	162.24	1314.1	149.88	25.83	61.64
DECEMBER	8.21	136.50	162.20	1276.9	148.25	25.71	60.22
2001 JANUARY	8.05	131.46	155.91	1154.6	143.18	25.02	56.64

BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2000 FEBRUARY	8.32	143.47	160.74	1430.8	162.77	26.51	66.17
MARCH	8.74	151.55	170.20	1528.6	170.71	27.91	70.35
APRIL	8.98	156.55	176.40	1596.0	174.14	28.70	73.08
MAY	9.10	158.32	179.10	1610.4	174.12	28.98	73.78
JUNE	9.13	158.60	180.80	1607.8	172.97	29.04	73.73
JULY	9.06	157.01	180.52	1583.1	170.08	28.77	72.84
AUGUST	8.81	151.85	175.57	1506.4	163.56	27.89	70.06
SEPTEMBER	8.46	144.68	168.12	1401.5	155.14	26.70	66.17
OCTOBER	8.16	138.10	161.29	1299.4	148.64	25.68	62.37
NOVEMBER	7.94	132.78	155.82	1213.8	144.21	24.92	59.09
DECEMBER	7.82	129.35	152.48	1154.3	141.35	24.48	56.77
2001 JANUARY	7.75	126.55	149.53	1095.9	139.05	24.16	54.60