



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

NEW ZEALAND

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SUNSPOT RESULTS FOR JUNE 2002

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 ;

QC = Quality Count ; QC² = Squared Quality Count .

DATE	UT	g	f	WN	p	s	SN	BX	CV	QC	QC ²	Q	S	T	Ref.
01	2230	9	64	154	20	19	219	1687	224	32	130	1.5	2.0	2.5	4100
02	2145	12	65	185	20	27	227	1565	204	36	132	1.5	2.0	2.0	4101
03	2135	13	66	196	18	28	208	1283	207	35	117	1.5	2.0	2.5	4102
04															
05	2225	9	51	141	17	22	192	942	171	27	91	1.5	3.0	3.0	4103
06	2250	12	57	177	21	23	233	1122	252	37	129	2.0	2.5	3.0	4104
07	2235	12	56	176	24	22	262	1102	273	36	124	1.5	2.0	2.0	4105
08															
09															
10															
11															
12															
13															
14															
15	2115	6	23	83	8	9	89	398	118	18	62	2.0	2.0	2.5	4106
16															
17															
18															
19															
20															
21															
22	2115	5	19	69	8	8	88	319	124	16	56	2.0	2.0	2.5	4107
23	2135	7	26	96	9	12	102	417	126	18	58	2.0	2.0	2.5	4108
24	2055	6	36	96	12	16	136	637	164	21	77	1.5	2.5	2.5	4109
25	2100	6	23	83	9	9	99	404	111	17	53	2.0	2.0	2.0	4110
26															
27															
28	2055	7	18	88	6	9	69	293	96	18	52	2.0	2.5	2.5	4111
29															
30	2130	5	32	82	12	11	131	666	166	19	75	1.5	2.0	2.0	4112
31	—														
Σ	—	109	536	1626	184	215	2055	10835	2236	330	1156	22.5	28.5	31.5	—
NOBS	—	13	13	13	13	13	13	13	13	13	13	13	13	13	—
MNS	—	8.38	41.23	125.08	14.15	16.54	158.08	833.46	172.00	25.38	88.92	1.73	2.19	2.42	—

MEAN WEIGHT = 0.4778

MEAN CONDITION = 2.1154

TRUNCATED WOLF NUMBER = 105.31



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR JUNE 2002

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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 umbræ 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	2230	70	6	43	18	1	2	1.5	2.0	2.5	4100
02	2145	74	9	37	25	1	2	1.5	2.0	2.0	4101
03	2135	74	8	36	25	2	3	1.5	2.0	2.5	4102
04											
05	2225	57	6	26	22	3	0	1.5	3.0	3.0	4103
06	2250	64	7	30	22	4	1	2.0	2.5	3.0	4104
07	2235	62	6	29	21	5	1	1.5	2.0	2.0	4105
08											
09											
10											
11											
12											
13											
14											
15	2115	27	4	13	8	1	1	2.0	2.0	2.5	4106
16											
17											
18											
19											
20											
21											
22	2115	23	4	10	8	1	0	2.0	2.0	2.5	4107
23	2135	30	4	13	10	1	2	2.0	2.0	2.5	4108
24	2055	41	5	19	16	1	0	1.5	2.5	2.5	4109
25	2100	27	4	12	9	2	0	2.0	2.0	2.0	4110
26											
27											
28	2055	23	5	8	8	1	1	2.0	2.5	2.5	4111
29											
30	2130	36	4	20	11	1	0	1.5	2.0	2.0	4112
31	—										
Σ	—	608	72	296	203	24	13	22.5	28.5	31.5	—
NOBS	—	13	13	13	13	13	13	13	13	13	—
MNS	—	46.77	5.54	22.77	15.62	1.85	1.00	1.73	2.19	2.42	—



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

SUNSPOT CENSUS BY CLASSIFICATION FOR JUNE 2002

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	2230	1	1	0	0	0	0	5	4/5/7/8/9	0	0	1	28	0	0	1	1	1	1
02	2145	2	1/1	2	3/3	2	2/5	4	2/4/6/6	0	0	1	31	0	0	0	0	1	1
03	2135	3	1/1/1	2	2/3	1	2	4	2/5/6/14	1	27	0	0	0	0	0	0	2	1/1
04																			
05	2225	0	0	1	2	2	5/6	2	9/11	1	15	0	0	0	0	0	0	3	1/1/1
06	2250	1	1	0	0	2	2/3	4	3/9/10/14	1	11	0	0	0	0	1	1	3	1/1/1
07	2235	1	1	0	0	1	5	4	3/7/12/15	1	8	0	0	0	0	1	1	4	1/1/1/1
08																			
09																			
10																			
11																			
12																			
13																			
14																			
15	2115	1	1	1	2	0	0	3	5/5/9	0	0	0	0	0	0	1	1	0	0
16																			
17																			
18																			
19																			
20																			
21																			
22	2115	0	0	1	3	0	0	3	3/3/9	0	0	0	0	0	0	0	0	1	1
23	2135	2	1/1	1	3	0	0	3	4/5/11	0	0	0	0	0	0	0	0	1	1
24	2055	0	0	0	0	1	3	4	3/7/8/14	0	0	0	0	0	0	0	0	1	1
25	2100	0	0	1	2	1	2	2	8/9	0	0	0	0	0	0	0	0	2	1/1
26																			
27																			
28	2055	1	1	1	2	2	3/3	1	6	0	0	0	0	0	0	1	2	1	1
29																			
30	2130	0	0	0	0	1	2	2	3/14	1	12	0	0	0	0	1	1	0	0
31	—																		
TOTALS	—	12	12	10	25	13	43	41	297	5	73	2	59	0	0	6	7	20	20

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σg
11.0	9.2	11.9	37.6	4.6	1.8	0.0	5.5	18.3	109

NOBS = 13

\bar{p}/\bar{g} mean = 1.6837

\bar{f}/\bar{g} mean = 4.8339

\bar{p}/\bar{g} mean = 1.6881

\bar{f}/\bar{g} mean = 4.9174

GROUP COMPLEXITY INDEX (GCI) = 6.6055



**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	$g(S^W)$	$WN(S^W)$	$SN(S^W)$	$BX(S^W)$	$CV(S^W)$	$QC(S^W)$	$IS(S^W)$
2001 JANUARY	8.05	131.46	155.91	1154.6	143.18	25.02	56.64
FEBRUARY	7.78	125.52	148.96	1055.4	138.47	24.10	53.21
MARCH	7.95	128.81	155.32	1100.1	144.66	24.81	54.96
APRIL	8.28	134.01	162.38	1149.5	152.74	25.88	57.06
MAY	8.43	136.39	164.70	1186.5	156.86	26.32	58.00
JUNE	8.61	139.64	169.78	1235.4	161.27	26.92	59.59
JULY	8.80	142.89	175.64	1277.1	165.76	27.58	61.10
AUGUST	8.94	145.63	180.81	1319.6	169.94	28.18	62.47
SEPTEMBER	9.05	146.85	183.01	1317.4	171.83	28.54	62.71
OCTOBER	9.12	147.40	184.28	1298.2	172.46	28.78	62.72
NOVEMBER	9.34	151.25	189.72	1335.1	177.55	29.61	64.49
DECEMBER	9.39	151.90	190.62	1344.3	180.28	29.78	64.61

BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2001 JANUARY	7.75	126.55	149.53	1095.9	139.05	24.16	54.60
FEBRUARY	7.73	125.05	148.49	1068.2	138.43	24.05	53.23
MARCH	7.90	127.24	152.53	1092.6	142.11	24.56	53.83
APRIL	8.15	130.80	157.98	1125.0	147.42	25.31	54.99
MAY	8.38	134.26	162.98	1158.1	152.64	26.01	56.30
JUNE	8.61	138.25	168.82	1199.3	158.70	26.79	58.13
JULY	8.84	142.43	175.08	1247.7	165.30	27.57	60.26
AUGUST	9.06	147.06	182.12	1309.5	172.55	28.43	62.82
SEPTEMBER	9.25	150.77	187.66	1355.9	178.21	29.16	64.86
OCTOBER	9.33	152.58	190.50	1376.9	180.94	29.57	65.89
NOVEMBER	9.42	154.21	193.31	1399.4	183.08	29.96	66.78
DECEMBER	9.45	154.58	194.69	1404.9	183.77	30.15	66.82