



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

NEW ZEALAND

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SUNSPOT RESULTS FOR JUNE 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													
02	2100	10	43	143	15	21	171	782	162	1.0	2.0	1.5	3930
03	2120	8	45	125	15	13	163	914	184	1.0	2.0	2.0	3931
04	2125	6	45	105	12	12	132	852	131	2.0	2.5	3.0	3932
05													
06													
07													
08	2150	13	105	235	28	45	325	1944	244	1.5	2.0	2.0	3933
09													
10	2110	13	65	195	20	22	222	1338	217	3.0	3.0	3.0	3934
11	2100	15	62	212	24	23	263	1208	248	2.5	2.5	2.5	3935
12	2125	17	42	212	21	17	227	624	237	2.5	2.5	2.5	3936
13													
14													
15													
16	2115	15	99	249	29	30	320	2244	278	2.0	2.5	2.5	3937
17	2140	12	83	203	23	28	258	2255	257	2.0	2.5	2.5	3938
18	2120	10	77	177	21	34	244	1931	188	2.5	2.5	2.5	3939
19													
20													
21	2120	12	88	208	23	34	264	1976	246	1.5	1.5	1.5	3940
22													
23													
24	2105	13	64	194	22	17	237	1252	250	2.0	2.5	2.5	3941
25	2125	9	54	144	15	19	169	1011	188	1.5	2.5	2.5	3942
26	2105	8	58	138	17	27	197	1112	184	1.5	2.5	2.5	3943
27	2110	9	32	122	10	20	120	375	115	1.5	2.5	2.5	3944
28													
29													
30	2100	8	16	96	6	9	69	207	64	3.0	3.0	3.0	3945
31													
Σ	—	178	978	2758	301	371	3381	20025	3193	31.0	38.5	38.5	—
NOBS	—	16	16	16	16	16	16	16	16	16	16	16	—
MNS	—	11.12	61.12	172.38	18.81	23.19	211.31	1251.56	199.56	1.94	2.41	2.41	—

MEAN CONDITION = 2.2500 TRUNCATED WOLF NUMBER = 153.69 QUALITY COUNT = 34.69 SQUARED QUALITY COUNT = 123.56



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR JUNE 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-penumbra spots within the groups (gr) .

efp = number of single penumbral spots :

ef = number of single non-penumbra spots .

DATE	UT	IS	gr	grfp	grf	efp	ef	Q	S	T	Ref.
01											
02	2100	50	7	21	19	1	2	1.0	2.0	1.5	3930
03	2120	51	6	32	11	0	2	1.0	2.0	2.0	3931
04	2125	51	6	33	12	0	0	2.0	2.5	3.0	3932
05											
06											
07											
08	2150	114	9	58	43	2	2	1.5	2.0	2.0	3933
09											
10	2110	73	8	38	22	5	0	3.0	3.0	3.0	3934
11	2100	76	14	38	23	1	0	2.5	2.5	2.5	3935
12	2125	55	13	21	17	4	0	2.5	2.5	2.5	3936
13											
14											
15											
16	2115	110	11	68	27	1	3	2.0	2.5	2.5	3937
17	2140	93	10	53	28	2	0	2.0	2.5	2.5	3938
18	2120	86	9	43	33	0	1	2.5	2.5	2.5	3939
19											
20											
21	2120	97	9	52	33	2	1	1.5	1.5	1.5	3940
22											
23											
24	2105	73	9	46	14	1	3	2.0	2.5	2.5	3941
25	2125	60	6	32	19	3	0	1.5	2.5	2.5	3942
26	2105	64	6	29	27	2	0	1.5	2.5	2.5	3943
27	2110	39	7	11	19	1	1	1.5	2.5	2.5	3944
28											
29											
30	2100	19	3	4	7	3	2	3.0	3.0	3.0	3945
31											
Σ	—	1111	133	579	354	28	17	31.0	38.5	38.5	—
NOBS	—	16	16	16	16	16	16	16	16	16	—
MNS	—	69.44	8.31	36.19	22.12	1.75	1.06	1.94	2.41	2.41	—



GEORGI DOBROVOLSKI SOLAR OBSERVATORY

SUNSPOT CENSUS BY CLASSIFICATION FOR JUNE 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																			
02	2100	2	1/1	2	2/2	1	3	3	7/9/14	0	0	0	0	1	3	1	1	0	0
03	2120	2	1/1	1	2	0	0	4	5/8/10/13	0	0	0	0	1	5	0	0	0	0
04	2125	0	0	1	2	1	6	3	9/11/12	0	0	0	0	0	0	1	5	0	0
05																			
06																			
07																			
08	2150	2	1/1	0	0	1	5	6	8/9/10/14/22/23	1	8	0	0	0	0	0	0	3	1/1/2
09																			
10	2110	0	0	0	0	3	2/2/9	3	5/6/7	2	13/16	0	0	0	0	0	0	5	5 x 1
11	2100	0	0	0	0	6	2/2/2/3/3/4	4	4/5/6/7	2	8/9	0	0	0	0	0	0	3	1/2/4
12	2125	0	0	3	2/2/3	4	2/2/3/4	6	2/3/3/4/5	0	0	0	0	0	0	0	0	4	1/1/1/1
13																			
14																			
15																			
16	2115	3	1/1/1	0	0	1	4	6	3/3/6/8/13/13	1	29	1	10	0	0	1	4	2	1/2
17	2140	0	0	0	0	1	6	5	2/3/5/7/8	1	13	1	32	0	0	1	3	3	1/1/2
18	2120	1	1	1	3	3	3/4/5	3	3/4/6	1	13	1	35	0	0	0	0	0	0
19																			
20																			
21	2120	1	1	0	0	4	2/5/5/7	4	5/9/10/11	0	0	1	31	0	0	0	0	2	1/1
22																			
23																			
24	2105	3	1/1/1	0	0	1	4	4	7/9/14/17	1	3	0	0	0	0	2	2/2	2	1/2
25	2125	0	0	0	0	2	5/8	3	4/8/11	1	15	0	0	0	0	1	1	2	1/1
26	2105	0	0	0	0	2	5/6	3	7/8/11	1	19	0	0	0	0	1	1	1	1
27	2110	1	1	1	4	4	3/3/4/5	2	5/6	0	0	0	0	0	0	0	0	1	1
28																			
29																			
30	2100	2	1/1	0	0	3	2/4/5	0	0	0	0	0	0	0	0	0	0	3	1/1/1
31																			
TOTALS	—	17	17	9	22	37	149	59	470	11	146	4	108	2	8	8	19	31	39

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σg
9.6	5.1	20.8	33.1	6.2	2.2	1.1	4.5	17.4	178

NOBS = 16 $\overline{p/g}$ mean = 1.6946 $\overline{f/g}$ mean = 5.5865

$\overline{p/g}$ mean = 1.6910 $\overline{f/g}$ mean = 5.4944

GROUP COMPLEXITY INDEX (GCI) = 7.1854



**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 JANUARY	7.96	137.71	155.60	1401.8	155.56	25.37	63.72
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

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 JANUARY	7.84	134.68	150.78	1334.7	153.59	24.94	61.82
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