



# Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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## SUNSPOT RESULTS FOR JUNE 2007

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 .

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

QC = Quality Count ; QC<sup>2</sup> = Squared Quality Count .

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

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

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

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

DATE	UT	g	f	WN	p	s	SN	BX	CV	QC	QC <sup>2</sup>	Q	S	T	Ref.
01															
02	2200	2	25	45	5	8	58	868	34	7	37	1.5	3.0	3.0	4813-7
03															
04															
05	2300	2	26	46	8	9	89	882	61	10	52	1.5	2.0	2.5	4814-7
06															
07	2215	3	19	49	4	14	54	426	52	10	42	2.0	4.0	4.0	4815-7
08	2240	1	11	21	2	8	28	275	23	5	25	1.5	2.5	2.5	4816-7
09															
10															
11															
12															
13															
14															
15	2220	0	0	0	0	0	0	0	0	0	0	2.0	2.5	1.5	4817-7
16															
17	2235	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.0	4818-7
18															
19															
20															
21															
22	2215	0	0	0	0	0	0	0	0	0	0	2.0	3.0	3.0	4819-8
23	2225	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.5	4820-8
24															
25	2220	1	1	11	1	0	10	37	10	2	4	1.5	2.0	2.0	4821-8
26	2235	1	1	11	1	0	10	37	10	2	4	3.0	3.5	2.0	4822-8
27															
28															
29															
30															
31	—														
TOTALS	—	10	83	183	21	39	249	2525	190	36	164	18.5	27.5	25.0	—
NOBS	—	10	10	10	10	10	10	10	10	10	10	10	10	10	—
MNS	—	1.00	8.30	18.30	2.10	3.90	24.90	252.50	19.00	3.60	16.40	1.85	2.75	2.50	—

MEAN WEIGHT = 0.4358

MEAN CONDITION = 2.3667

TRUNCATED WOLF NUMBER = 16.10

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## SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR JUNE 2007

All observations carried out by HOWARD BARNES .

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

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

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 .

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

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

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

DATE	UT	IS	gr	grfp	grf	efp	ef	Q	S	T	Ref.
01											
02	2200	26	1	17	7	0	1	1.5	3.0	3.0	4813-7
03											
04											
05	2300	28	2	17	9	0	0	1.5	2.0	2.5	4814-7
06											
07	2215	21	2	5	13	0	1	2.0	4.0	4.0	4815-7
08	2240	12	1	3	8	0	0	1.5	2.5	2.5	4816-7
09											
10											
11											
12											
13											
14											
15	2220	0	0	0	0	0	0	2.0	2.5	1.5	4817-7
16											
17	2235	0	0	0	0	0	0	2.0	2.5	2.0	4818-7
18											
19											
20											
21											
22	2215	0	0	0	0	0	0	2.0	3.0	3.0	4819-8
23	2225	0	0	0	0	0	0	1.5	2.5	2.5	4820-8
24											
25	2220	1	0	0	0	1	0	1.5	2.0	2.0	4821-8
26	2235	1	0	0	0	1	0	3.0	3.5	2.0	4822-8
27											
28											
29											
30											
31	—										
TOTALS	—	89	6	42	37	2	2	18.5	27.5	25.0	—
NOBS	—	10	10	10	10	10	10	10	10	10	—
MNS	—	8.90	0.60	4.20	3.70	0.20	0.20	1.85	2.75	2.50	—

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## SUNSPOT CENSUS BY CLASSIFICATION FOR

### JUNE 2007

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	2200	1	1	0	0	0	0	0	0	0	0	1	24	0	0	0	0	0	0
03																			
04																			
05	2300	0	0	0	0	0	0	1	3	0	0	1	23	0	0	0	0	0	0
06																			
07	2215	1	1	0	0	0	0	1	4	1	14	0	0	0	0	0	0	0	0
08	2240	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0	0	0
09																			
10																			
11																			
12																			
13																			
14																			
15	2220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16																			
17	2235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18																			
19																			
20																			
21																			
22	2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	2225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24																			
25	2220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
26	2235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
27																			
28																			
29																			
30																			
31	—																		
<b>TOTALS</b>	—	2	2	0	0	0	0	2	7	2	25	2	47	0	0	0	0	2	2
<b>REGIONAL PERCENTAGES</b>																			
A	B	C	D	E	F	G	H	J	Σg										
20.0	0.0	0.0	20.0	20.0	20.0	0.0	0.0	20.0	10										
NOBS = 10				$\overline{p/g}$ mean = 1.9722						$\overline{f/g}$ mean = 7.4722									
				$\overline{p/g}$ mean = 2.1000						$\overline{f/g}$ mean = 8.3000									
GROUP COMPLEXITY INDEX (GCI) = 10.4000																			

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## 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 GDSO ANNUAL REPORTS.

### WALDMEIER METHOD

MONTH	$g(S^W)$	$WN(S^W)$	$SN(S^W)$	$BX(S^W)$	$CV(S^W)$	$QC(S^W)$	$IS(S^W)$
2006 JANUARY	1.75	25.12	30.36	161.9	30.74	5.06	8.69
FEBRUARY	1.58	22.75	27.18	153.1	28.70	4.62	7.88
MARCH	1.48	21.18	25.31	145.5	27.42	4.40	7.27
APRIL	1.50	21.21	25.00	139.5	27.07	4.43	7.06
MAY	1.56	21.92	25.55	140.9	27.90	4.57	7.20
JUNE	1.48	21.01	24.39	138.9	27.71	4.38	7.13
JULY	1.41	20.26	23.39	138.1	28.14	4.24	7.06
AUGUST	1.48	21.13	24.22	141.8	30.33	4.44	7.25
SEPTEMBER	1.49	21.20	24.05	140.7	30.89	4.46	7.20
OCTOBER	1.37	19.29	21.65	126.5	28.61	4.08	6.49
NOVEMBER	1.21	17.28	19.62	115.9	26.75	3.69	5.96
DECEMBER	1.17	17.00	19.49	121.1	26.48	3.60	6.08

### BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2006 JANUARY	1.70	24.02	28.49	151.3	28.81	4.83	7.91
FEBRUARY	1.59	22.37	26.11	140.4	26.87	4.51	7.29
MARCH	1.55	21.71	25.18	137.1	26.35	4.42	7.10
APRIL	1.53	21.56	24.84	135.8	26.44	4.41	7.08
MAY	1.49	21.08	24.29	134.5	26.52	4.36	7.01
JUNE	1.41	20.24	23.57	135.4	26.76	4.24	6.98
JULY	1.38	20.02	23.53	140.6	27.97	4.25	7.13
AUGUST	1.41	20.48	24.07	145.9	29.83	4.39	7.32
SEPTEMBER	1.42	20.56	23.96	145.0	30.80	4.42	7.26
OCTOBER	1.40	20.01	23.06	139.1	30.69	4.30	6.96
NOVEMBER	1.35	19.34	22.08	133.3	30.40	4.14	6.70
DECEMBER	1.32	18.81	21.12	127.9	29.74	3.98	6.46