

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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OF A CENTURY
OF OBSERVING
1973 - 2006

SUNSPOT RESULTS FOR JULY 2006

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 ; QC² = 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 ²	Q	S	T	Ref.
01	2250	2	6	26	3	3	33	127	62	6	20	1.0	2.0	2.0	4690-5
02	2240	2	9	29	3	5	35	148	59	5	17	1.5	2.5	3.0	4691-5
03	2240	2	6	26	2	4	24	94	53	5	17	2.0	2.0	2.5	4692-5
04	2255	1	7	17	2	4	24	126	46	4	16	1.5	2.5	2.5	4693-5
05															
06															
07															
08															
09															
10															
11															
12															
13	2230	0	0	0	0	0	0	0	0	0	0	2.0	3.0	3.0	4694-5
14															
15	2240	1	3	13	1	2	12	24	12	3	9	2.0	3.0	3.0	4695-5
16	2235	1	9	19	3	4	34	162	31	4	16	1.5	2.5	2.5	4696-5
17															
18															
19															
20															
21	2230	0	0	0	0	0	0	0	0	0	0	3.0	3.5	2.5	4697-5
22															
23	2225	1	7	17	2	3	23	126	22	4	16	1.5	2.5	2.5	4698-5
24	2235	1	8	18	2	4	24	144	22	4	16	1.5	2.5	2.5	4699-5
25	2305	1	6	16	2	4	24	108	28	4	16	1.5	2.5	2.0	4700-5
26	2230	1	4	14	1	3	13	32	12	3	9	1.0	2.5	2.5	4701-5
27	2230	1	4	14	1	3	13	32	11	3	9	1.5	2.5	2.5	4702-5
28	2225	1	3	13	1	2	12	24	11	3	9	2.0	2.5	2.5	4703-6
29															
30															
31															
TOTALS	—	15	72	222	23	41	271	1147	369	48	170	23.5	36.0	35.5	—
NOBS	—	14	14	14	14	14	14	14	14	14	14	14	14	14	—
MNS	—	1.07	5.14	15.86	1.64	2.93	19.36	81.93	26.36	3.43	12.14	1.68	2.57	2.54	—

MEAN WEIGHT = 0.4507

MEAN CONDITION = 2.2619

TRUNCATED WOLF NUMBER = 14.29

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SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR JULY 2006

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 umbræ within penumbræ 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 .

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	2250	7	1	2	3	1	0	1.0	2.0	2.0	4690-5
02	2240	10	1	4	4	0	1	1.5	2.5	3.0	4691-5
03	2240	7	1	2	3	0	1	2.0	2.0	2.5	4692-5
04	2255	8	1	3	4	0	0	1.5	2.5	2.5	4693-5
05											
06											
07											
08											
09											
10											
11											
12											
13	2230	0	0	0	0	0	0	2.0	3.0	3.0	4694-5
14											
15	2240	4	1	1	2	0	0	2.0	3.0	3.0	4695-5
16	2235	10	1	5	4	0	0	1.5	2.5	2.5	4696-5
17											
18											
19											
20											
21	2230	0	0	0	0	0	0	3.0	3.5	2.5	4697-5
22											
23	2225	8	1	4	3	0	0	1.5	2.5	2.5	4698-5
24	2235	9	1	4	4	0	0	1.5	2.5	2.5	4699-5
25	2305	7	1	2	4	0	0	1.5	2.5	2.0	4700-5
26	2230	5	1	1	3	0	0	1.0	2.5	2.5	4701-5
27	2230	5	1	1	3	0	0	1.5	2.5	2.5	4702-5
28	2225	4	1	1	2	0	0	2.0	2.5	2.5	4703-6
29											
30											
31											
TOTALS	—	84	12	30	39	1	2	23.5	36.0	35.5	—
NOBS	—	14	14	14	14	14	14	14	14	14	—
MNS	—	6.00	0.86	2.14	2.79	0.07	0.14	1.68	2.57	2.54	—

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SUNSPOT CENSUS BY CLASSIFICATION FOR JULY 2006

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	2250	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	1	1
02	2240	1	1	0	0	0	0	1	8	0	0	0	0	0	0	0	0	0	0
03	2240	1	1	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0
04	2255	0	0	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0
05																			
06																			
07																			
08																			
09																			
10																			
11																			
12																			
13	2230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14																			
15	2240	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0
16	2235	0	0	0	0	0	0	1	9	0	0	0	0	0	0	0	0	0	0
17																			
18																			
19																			
20																			
21	2230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22																			
23	2225	0	0	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0
24	2235	0	0	0	0	0	0	1	8	0	0	0	0	0	0	0	0	0	0
25	2305	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0
26	2230	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
27	2230	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
28	2225	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0
29																			
30																			
31																			
TOTALS	—	2	2	0	0	4	14	8	55	0	0	0	0	0	0	0	0	1	1
REGIONAL PERCENTAGES																			
A	B	C	D	E	F	G	H	J	Σg										
13.3	0.0	26.7	53.3	0.0	0.0	0.0	0.0	6.7	15										
NOBS = 14				$\overline{p/g}$ mean = 1.5833						$\overline{f/g}$ mean = 5.1250									
				$\overline{p/g}$ mean = 1.5333						$\overline{f/g}$ mean = 4.8000									
GROUP COMPLEXITY INDEX (GCI) = 6.3333																			

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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	$g(S^w)$	$WN(S^w)$	$SN(S^w)$	$BX(S^w)$	$CV(S^w)$	$QC(S^w)$	$IS(S^w)$
2005 FEBRUARY	2.81	46.03	59.67	391.9	62.75	9.27	20.02
MARCH	2.79	45.29	58.30	376.6	61.02	9.13	19.49
APRIL	2.58	41.97	53.70	350.4	56.63	8.44	18.03
MAY	2.32	37.30	47.99	301.4	50.99	7.54	15.82
JUNE	2.33	36.69	47.03	279.9	49.91	7.44	15.11
JULY	2.37	36.83	47.22	274.0	49.81	7.48	14.78
AUGUST	2.22	34.42	44.96	256.9	46.61	7.03	13.74
SEPTEMBER	2.11	32.64	42.97	243.8	43.20	6.65	13.02
OCTOBER	2.08	32.20	42.68	242.2	42.17	6.52	12.81
NOVEMBER	2.06	31.17	40.20	221.1	40.18	6.31	11.88
DECEMBER	1.93	28.14	34.77	182.9	34.93	5.71	10.00
2006 JANUARY	1.75	25.12	30.36	161.9	30.74	5.06	8.69

BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2005 FEBRUARY	2.67	43.30	54.11	362.6	58.93	8.70	18.55
MARCH	2.64	42.71	53.98	349.1	58.26	8.62	18.23
APRIL	2.58	41.72	53.68	337.8	57.16	8.43	17.88
MAY	2.50	40.44	53.26	323.2	55.88	8.20	17.39
JUNE	2.48	39.88	53.22	312.6	55.11	8.12	17.01
JULY	2.44	38.85	52.00	298.9	53.16	7.92	16.25
AUGUST	2.32	36.39	48.69	276.3	49.17	7.42	14.92
SEPTEMBER	2.15	33.32	44.22	249.2	44.31	6.78	13.33
OCTOBER	2.01	30.56	40.00	223.5	40.02	6.22	11.80
NOVEMBER	1.93	28.43	36.02	197.0	36.23	5.78	10.37
DECEMBER	1.83	26.24	31.96	170.5	32.19	5.31	8.97
2006 JANUARY	1.70	24.02	28.49	151.3	28.81	4.83	7.91