



# Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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**NEW ALTERNATIVE SITE**

## SUNSPOT RESULTS FOR NOVEMBER 2005

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 .

DATE	UT*	g	f	WN	p	s	SN	BX	CV	QC	QC <sup>2</sup>	Q	S	T	Ref.
01															
02															
03															
04															
05															
06															
07															
08	2005	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.5	4598-6
09	2150	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.0	4599-6
10	2015	0	0	0	0	0	0	0	0	0	0	2.0	3.0	2.5	4600-6
11															
12															
13	2015	1	9	19	2	2	22	225	47	5	25	2.0	2.5	2.5	4601-6
14	2015	1	21	31	4	5	45	756	57	6	36	1.5	2.5	2.5	4602-6
15															
16															
17	1955	1	25	35	7	11	81	900	57	6	36	1.5	2.5	2.0	4603-6
18															
19															
20															
21	2145	2	17	37	6	6	66	540	76	10	52	2.0	3.5	3.0	4604-6
22	2005	2	12	32	6	4	64	500	74	9	41	1.5	2.5	2.0	4605-6
23															
24	1930	3	12	42	5	6	56	186	92	11	41	1.5	2.5	2.5	4606-6
25															
26	1930	1	4	14	1	3	13	32	12	3	9	3.0	3.5	2.0	4607-7
27															
28															
29	1955	1	1	11	1	0	10	37	10	2	4	2.0	2.5	2.5	4608-7
30	2020	3	14	44	6	4	64	251	52	9	29	2.0	2.5	3.0	4609-7
31	—														
TOTALS	—	15	115	265	38	41	421	3427	477	61	273	22.0	32.5	29.0	—
NOBS	—	12	12	12	12	12	12	12	12	12	12	12	12	12	—
MNS	—	1.25	9.58	22.08	3.17	3.42	35.08	285.58	39.75	5.08	22.75	1.83	2.71	2.42	—

MEAN WEIGHT = 0.4373

MEAN CONDITION = 2.3194

TRUNCATED WOLF NUMBER = 22.08

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

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## SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR NOVEMBER 2005

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											
02											
03											
04											
05											
06											
07											
08	2005	0	0	0	0	0	0	1.5	2.5	2.5	4598-6
09	2150	0	0	0	0	0	0	1.5	2.5	2.0	4599-6
10	2015	0	0	0	0	0	0	2.0	3.0	2.5	4600-6
11											
12											
13	2015	10	1	7	2	0	0	2.0	2.5	2.5	4601-6
14	2015	22	1	16	5	0	0	1.5	2.5	2.5	4602-6
15											
16											
17	1955	26	1	14	11	0	0	1.5	2.5	2.0	4603-6
18											
19											
20											
21	2145	19	2	11	6	0	0	2.0	3.5	3.0	4604-6
22	2005	14	2	8	4	0	0	1.5	2.5	2.0	4605-6
23											
24	1930	15	3	6	6	0	0	1.5	2.5	2.5	4606-6
25											
26	1930	5	1	1	3	0	0	3.0	3.5	2.0	4607-7
27											
28											
29	1955	1	0	0	0	1	0	2.0	2.5	2.5	4608-7
30	2020	16	2	9	4	1	0	2.0	2.5	3.0	4609-7
31	—										
TOTALS	—	128	13	72	41	2	0	22.0	32.5	29.0	—
NOBS	—	12	12	12	12	12	12	12	12	12	—
MNS	—	10.67	1.08	6.00	3.42	0.17	0.00	1.83	2.71	2.42	—

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## SUNSPOT CENSUS BY CLASSIFICATION FOR NOVEMBER 2005

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																			
03																			
04																			
05																			
06																			
07																			
08	2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09	2150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11																			
12																			
13	2015	0	0	0	0	0	0	0	0	1	9	0	0	0	0	0	0	0	0
14	2015	0	0	0	0	0	0	0	0	0	0	1	21	0	0	0	0	0	0
15																			
16																			
17	1955	0	0	0	0	0	0	0	0	0	0	1	25	0	0	0	0	0	0
18																			
19																			
20																			
21	2145	0	0	0	0	0	0	1	4	0	0	1	13	0	0	0	0	0	0
22	2005	0	0	0	0	0	0	0	0	1	4	0	0	1	8	0	0	0	0
23																			
24	1930	0	0	0	0	1	3	2	4/5	0	0	0	0	0	0	0	0	0	0
25																			
26	1930	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
27																			
28																			
29	1955	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
30	2020	0	0	0	0	1	2	1	11	0	0	0	0	0	0	0	0	1	1
31	—																		
<b>TOTALS</b>	—	0	0	0	0	3	9	4	24	2	13	3	59	1	8	0	0	2	2
<b>REGIONAL PERCENTAGES</b>																			
A	B	C	D	E	F	G	H	J	?g										
0.0	0.0	20.0	26.7	13.3	20.0	6.7	0.0	13.3	15										
NOBS = 12				$\overline{p/g}$ mean = 2.7407						$\overline{f/g}$ mean = 9.2407									
				$\overline{p/g}$ mean = 2.5333						$\overline{f/g}$ mean = 7.6667									
GROUP COMPLEXITY INDEX (GCI) = 10.2000																			

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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	$g(S^W)$	$WN(S^W)$	$SN(S^W)$	$BX(S^W)$	$CV(S^W)$	$QC(S^W)$	$IS(S^W)$
2004 JUNE	3.47	56.82	70.02	515.1	70.41	11.12	24.53
JULY	3.35	54.72	66.85	494.3	67.50	10.69	23.50
AUGUST	3.28	53.46	64.65	482.4	66.12	10.40	22.91
SEPTEMBER	3.15	51.44	61.95	464.3	64.60	9.98	22.12
OCTOBER	3.05	49.75	59.58	444.3	62.91	9.67	21.33
NOVEMBER	2.95	48.53	59.05	446.4	62.64	9.47	21.14
DECEMBER	2.87	48.18	60.36	456.1	63.75	9.40	21.60
2005 JANUARY	2.83	47.36	60.71	432.0	64.03	9.38	21.14
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

### BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2004 JUNE	3.52	57.42	69.76	520.6	69.89	11.11	24.67
JULY	3.43	56.59	69.09	529.8	69.48	10.90	24.68
AUGUST	3.33	55.33	67.92	526.0	68.88	10.65	24.38
SEPTEMBER	3.21	53.53	65.96	508.9	67.87	10.34	23.68
OCTOBER	3.10	51.52	63.32	486.0	66.22	10.02	22.72
NOVEMBER	2.95	48.95	60.06	459.0	63.78	9.58	21.54
DECEMBER	2.80	46.43	57.15	426.5	61.36	9.13	20.38
2005 JANUARY	2.72	44.53	55.15	390.9	59.85	8.85	19.33
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