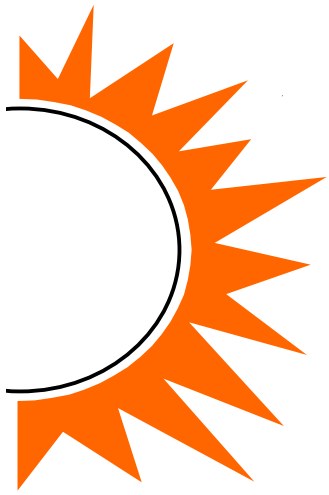

Georgi Dobrovolski Solar Observatory

Monthly Sunspot Reports

2006

CONTENTS:

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

E-MAIL: gdso@earthling.net
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SUNSPOT RESULTS FOR JANUARY 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 .

DATE	UT*	g	f	WN	p	s	SN	BX	CV	QC	QC²	Q	S	T	Ref.
01	2020	3	7	37	4	1	41	183	39	8	24	2.0	3.5	3.5	4619-8
02															
03															
04															
05	1950	1	1	11	0	1	1	4	1	1	1	2.0	3.0	4.0	4620-8
06															
07	1925	1	1	11	1	0	10	37	10	2	4	1.5	2.5	2.5	4621-8
08	1940	1	1	11	1	0	10	37	10	2	4	1.5	2.5	2.0	4622-8
09	1935	1	1	11	1	0	10	37	10	2	4	2.0	2.5	2.5	4623-8
10	1950	1	1	11	1	0	10	37	10	2	4	1.5	2.5	2.5	4624-8
11															
12	2000	0	0	0	0	0	0	0	0	0	0	2.0	2.0	2.0	4625-8
13															
14															
15	2000	2	11	31	6	3	63	198	62	8	32	2.0	3.0	2.5	4626-8
16	2015	2	16	36	6	3	63	288	62	8	32	1.5	2.5	2.5	4627-8
17															
18															
19	1945	1	11	21	2	5	25	198	22	4	16	2.0	2.5	2.5	4628-9
20	2010	1	12	22	3	4	34	216	31	4	16	1.0	2.5	2.0	4629-9
21															
22															
23															
24															
25															
26	1955	1	5	15	3	2	32	125	35	5	25	2.5	2.5	2.5	4630-9
27	2140	1	2	12	2	0	20	36	25	4	16	1.5	2.0	1.5	4631-9
28															
29															
30															
31															
TOTALS	——	16	69	229	30	19	319	1396	317	50	178	23.0	33.5	32.5	——
NOBS	——	13	13	13	13	13	13	13	13	13	13	13	13	13	——
MNS	——	1.23	5.31	17.62	2.31	1.46	24.54	107.38	24.38	3.85	13.69	1.77	2.58	2.50	——

MEAN WEIGHT = 0.4503 MEAN CONDITION = 2.2821 TRUNCATED WOLF NUMBER = 16.77

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

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

JANUARY 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	2020	9	2	5	1	1	0	2.0	3.5	3.5	4619-8
02											
03											
04											
05	1950	1	0	0	0	0	1	2.0	3.0	4.0	4620-8
06											
07	1925	1	0	0	0	1	0	1.5	2.5	2.5	4621-8
08	1940	1	0	0	0	1	0	1.5	2.5	2.0	4622-8
09	1935	1	0	0	0	1	0	2.0	2.5	2.5	4623-8
10	1950	1	0	0	0	1	0	1.5	2.5	2.5	4624-8
11											
12	2000	0	0	0	0	0	0	2.0	2.0	2.0	4625-8
13											
14											
15	2000	13	2	8	3	0	0	2.0	3.0	2.5	4626-8
16	2015	18	2	13	3	0	0	1.5	2.5	2.5	4627-8
17											
18											
19	1945	12	1	6	5	0	0	2.0	2.5	2.5	4628-9
20	2010	13	1	8	4	0	0	1.0	2.5	2.0	4629-9
21											
22											
23											
24											
25											
26	1955	6	1	3	2	0	0	2.5	2.5	2.5	4630-9
27	2140	3	1	2	0	0	0	1.5	2.0	1.5	4631-9
28											
29											
30											
31											
TOTALS	——	79	10	45	18	5	1	23.0	33.5	32.5	——
NOBS	——	13	13	13	13	13	13	13	13	13	——
MNS	——	6.08	0.77	3.46	1.38	0.38	0.08	1.77	2.58	2.50	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

JANUARY 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	2020	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	2	1/2
02																			
03																			
04																			
05	1950	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06																			
07	1925	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08	1940	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
09	1935	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
10	1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11																			
12	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13																			
14																			
15	2000	0	0	0	0	0	0	2	4/7	0	0	0	0	0	0	0	0	0	0
16	2015	0	0	0	0	0	0	2	6/10	0	0	0	0	0	0	0	0	0	0
17																			
18																			
19	1945	0	0	0	0	0	0	1	11	0	0	0	0	0	0	0	0	0	0
20	2010	0	0	0	0	0	0	1	12	0	0	0	0	0	0	0	0	0	0
21																			
22																			
23																			
24																			
25																			
26	1955	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0
27	2140	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
28																			
29																			
30																			
31																			
TOTALS	——	1	1	0	0	0	0	8	56	1	5	0	0	0	0	0	0	6	7

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
6.2	0.0	0.0	50.0	6.2	0.0	0.0	0.0	37.5	16

NOBS = 13 $\overline{p / g}$ mean = 1.7778 $\overline{f / g}$ mean = 4.2361

$\overline{p} / \overline{g}$ mean = 1.8750 $\overline{f} / \overline{g}$ mean = 4.3125

GROUP COMPLEXITY INDEX (GCI) = 6.1875

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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SUNSPOT RESULTS FOR FEBRUARY 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 .

DATE	UT*	g	f	WN	p	s	SN	BX	CV	QC	QC²	Q	S	T	Ref.
01															
02	1925	0	0	0	0	0	0	0	0	0	0	2.0	2.0	2.0	4632-9
03	1945	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.0	4633-9
04															
05	2010	0	0	0	0	0	0	0	0	0	0	1.5	2.0	2.0	4634-9
06	1950	0	0	0	0	0	0	0	0	0	0	1.0	2.0	2.0	4635-9
07	2105	1	1	11	0	1	1	4	1	1	1	1.5	2.0	2.0	4636-9
08	1940	2	2	22	2	0	20	74	20	4	8	1.0	2.5	2.5	4637-9
09															
10															
11	2000	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.0	4638-9
12															
13	1935	1	1	11	0	1	1	4	1	1	1	1.5	2.0	2.0	4639-9
14															
15	2100	2	3	23	2	1	21	40	26	5	17	1.5	2.0	2.5	4640-0
16															
17	2145	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.5	4641-0
18															
19															
20	2015	0	0	0	0	0	0	0	0	0	0	1.0	2.0	2.0	4642-0
21	2005	0	0	0	0	0	0	0	0	0	0	1.0	2.0	2.0	4643-0
22															
23	2015	0	0	0	0	0	0	0	0	0	0	1.5	2.0	2.0	4644-0
24															
25															
26															
27	2245	1	1	11	0	1	1	4	1	1	1	1.5	2.5	2.0	4645-0
28	2020	0	0	0	0	0	0	0	0	0	0	1.0	2.5	2.5	4646-0
29	—														
30	—														
31	—														
TOTALS	——	7	8	78	4	4	44	126	49	12	28	21.5	33.0	32.0	——
NOBS	——	15	15	15	15	15	15	15	15	15	15	15	15	15	——
MNS	——	0.47	0.53	5.20	0.27	0.27	2.93	8.40	3.27	0.80	1.87	1.43	2.20	2.13	——

MEAN WEIGHT = 0.5248 MEAN CONDITION = 1.9222 TRUNCATED WOLF NUMBER = 2.27

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

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

FEBRUARY 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											
02	1925	0	0	0	0	0	0	2.0	2.0	2.0	4632-9
03	1945	0	0	0	0	0	0	2.0	2.5	2.0	4633-9
04											
05	2010	0	0	0	0	0	0	1.5	2.0	2.0	4634-9
06	1950	0	0	0	0	0	0	1.0	2.0	2.0	4635-9
07	2105	1	0	0	0	0	1	1.5	2.0	2.0	4636-9
08	1940	2	0	0	0	2	0	1.0	2.5	2.5	4637-9
09											
10											
11	2000	0	0	0	0	0	0	1.5	2.5	2.0	4638-9
12											
13	1935	1	0	0	0	0	1	1.5	2.0	2.0	4639-9
14											
15	2100	4	1	2	0	0	1	1.5	2.0	2.5	4640-0
16											
17	2145	0	0	0	0	0	0	2.0	2.5	2.5	4641-0
18											
19											
20	2015	0	0	0	0	0	0	1.0	2.0	2.0	4642-0
21	2005	0	0	0	0	0	0	1.0	2.0	2.0	4643-0
22											
23	2015	0	0	0	0	0	0	1.5	2.0	2.0	4644-0
24											
25											
26											
27	2245	1	0	0	0	0	1	1.5	2.5	2.0	4645-0
28	2020	0	0	0	0	0	0	1.0	2.5	2.5	4646-0
29	—										
30	—										
31	—										
TOTALS	——	9	1	2	0	2	4	21.5	33.0	32.0	——
NOBS	——	15	15	15	15	15	15	15	15	15	——
MNS	——	0.60	0.07	0.13	0.00	0.13	0.27	1.43	2.20	2.13	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

FEBRUARY 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																			
02	1925	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03	1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04																			
05	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06	1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07	2105	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08	1940	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1/1
09																			
10																			
11	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12																			
13	1935	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14																			
15	2100	1	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
16																			
17	2145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18																			
19																			
20	2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22																			
23	2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24																			
25																			
26																			
27	2245	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	—																		
30	—																		
31	—																		
TOTALS	——	4	4	0	0	0	0	1	2	0	0	0	0	0	0	0	0	2	2

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
57.1	0.0	0.0	14.3	0.0	0.0	0.0	0.0	28.6	7

NOBS = 15 $\overline{p / g}$ mean = 0.4000 $\overline{f / g}$ mean = 1.1000

$\overline{p} / \overline{g}$ mean = 0.5714 $\overline{f} / \overline{g}$ mean = 1.1429

GROUP COMPLEXITY INDEX (GCI) = 1.7143

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

E-MAIL: gdso@earthling.net
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SUNSPOT RESULTS FOR MARCH 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 .

DATE	UT*	g	f	WN	p	s	SN	BX	CV	QC	QC²	Q	S	T	Ref.
01															
02															
03	2020	0	0	0	0	0	0	0	0	0	0	1.5	2.5	3.0	4647-0
04	2020	1	2	12	0	2	2	8	2	2	4	1.5	2.5	3.0	4648-0
05	2040	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.5	4649-0
06															
07															
08															
09	2100	0	0	0	0	0	0	0	0	0	0	1.0	2.5	2.5	4650-0
10															
11															
12	2110	1	5	15	1	4	14	40	12	3	9	2.0	2.5	2.5	4651-0
13	2100	2	2	22	1	1	11	41	11	3	5	2.0	3.0	3.0	4652-0
14	2055	1	1	11	0	1	1	4	1	1	1	1.5	2.5	2.5	4653-1
15	2050	1	1	11	0	1	1	4	1	1	1	1.5	2.5	2.5	4654-1
16															
17															
18															
19															
20															
21	2050	1	16	26	5	7	57	400	32	5	25	2.0	2.5	2.0	4655-1
22															
23															
24															
25															
26															
27															
28	2050	2	6	26	3	1	31	127	32	6	20	2.0	2.5	2.0	4656-1
29	2230	2	10	30	5	3	53	199	41	6	20	1.5	3.0	3.5	4657-1
30															
31	2230	2	13	33	5	6	56	337	45	7	29	1.5	2.0	2.0	4658-1
TOTALS	——	13	56	186	20	26	226	1160	177	34	114	20.0	30.5	31.0	——
NOBS	——	12	12	12	12	12	12	12	12	12	12	12	12	12	——
MNS	——	1.08	4.67	15.50	1.67	2.17	18.83	96.67	14.75	2.83	9.50	1.67	2.54	2.58	——

MEAN WEIGHT = 0.4463 MEAN CONDITION = 2.2639 TRUNCATED WOLF NUMBER = 11.75

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

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

MARCH 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											
02											
03	2020	0	0	0	0	0	0	1.5	2.5	3.0	4647-0
04	2020	3	1	0	2	0	0	1.5	2.5	3.0	4648-0
05	2040	0	0	0	0	0	0	2.0	2.5	2.5	4649-0
06											
07											
08											
09	2100	0	0	0	0	0	0	1.0	2.5	2.5	4650-0
10											
11											
12	2110	6	1	1	4	0	0	2.0	2.5	2.5	4651-0
13	2100	2	0	0	0	1	1	2.0	3.0	3.0	4652-0
14	2055	1	0	0	0	0	1	1.5	2.5	2.5	4653-1
15	2050	1	0	0	0	0	1	1.5	2.5	2.5	4654-1
16											
17											
18											
19											
20											
21	2050	17	1	9	7	0	0	2.0	2.5	2.0	4655-1
22											
23											
24											
25											
26											
27											
28	2050	7	1	4	1	1	0	2.0	2.5	2.0	4656-1
29	2230	11	1	6	3	1	0	1.5	3.0	3.5	4657-1
30											
31	2230	14	1	6	6	1	0	1.5	2.0	2.0	4658-1
TOTALS	——	62	6	26	23	4	3	20.0	30.5	31.0	——
NOBS	——	12	12	12	12	12	12	12	12	12	——
MNS	——	5.17	0.50	2.17	1.92	0.33	0.25	1.67	2.54	2.58	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

MARCH 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																			
02																			
03	2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04	2020	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05	2040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06																			
07																			
08																			
09	2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10																			
11																			
12	2110	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0
13	2100	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
14	2055	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	2050	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16																			
17																			
18																			
19																			
20																			
21	2050	0	0	0	0	0	0	0	0	1	16	0	0	0	0	0	0	0	0
22																			
23																			
24																			
25																			
26																			
27																			
28	2050	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	1	1
29	2230	0	0	0	0	0	0	1	9	0	0	0	0	0	0	0	0	1	1
30																			
31	2230	0	0	0	0	0	0	0	0	1	12	0	0	0	0	0	0	1	1
TOTALS	——	3	3	1	2	1	5	2	14	2	28	0	0	0	0	0	0	4	4

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
23.1	7.7	7.7	15.4	15.4	0.0	0.0	0.0	30.8	13

NOBS = 12 $\overline{p / g}$ mean = 1.4444 $\overline{f / g}$ mean = 4.5000

$\overline{p} / \overline{g}$ mean = 1.5385 $\overline{f} / \overline{g}$ mean = 4.3077

GROUP COMPLEXITY INDEX (GCI) = 5.8462

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

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SUNSPOT RESULTS FOR APRIL 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 ; 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 .

DATE	UT*	g	f	WN	p	s	SN	BX	CV	QC	QC²	Q	S	T	Ref.
01															
02	2120	3	28	58	8	11	91	647	94	11	45	2.0	3.5	3.5	4659-1
03															
04															
05															
06															
07															
08	2145	4	16	56	6	7	67	326	64	12	40	1.5	2.5	2.5	4660-1
09															
10															
11	2130	5	12	62	5	4	54	259	53	11	29	2.0	2.5	2.5	4661-2
12															
13	2155	4	7	47	4	3	43	143	42	9	21	2.0	2.5	2.5	4662-2
14	2205	3	5	35	3	2	32	69	32	8	22	1.5	2.5	2.0	4663-2
15															
16	2140	1	1	11	1	0	10	37	10	2	4	2.0	2.5	2.0	4664-2
17															
18															
19	2205	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.0	4665-2
20	2245	1	5	15	2	2	22	90	22	4	16	2.0	2.5	2.0	4666-2
21															
22															
23															
24															
25	2200	3	15	45	4	3	43	352	67	9	33	1.5	2.0	2.0	4667-2
26	2205	3	20	50	5	6	56	506	76	9	33	1.5	2.0	2.0	4668-2
27															
28															
29	2155	3	27	57	5	14	64	521	80	11	45	1.5	1.5	1.5	4669-2
30	2205	3	19	49	6	7	67	361	63	10	36	1.5	2.0	2.0	4670-2
31	—														
TOTALS	——	33	155	485	49	59	549	3311	603	96	324	20.5	28.5	26.5	——
NOBS	——	12	12	12	12	12	12	12	12	12	12	12	12	12	——
MNS	——	2.75	12.92	40.42	4.08	4.92	45.75	275.92	50.25	8.00	27.00	1.71	2.38	2.21	——

MEAN WEIGHT = 0.4898 MEAN CONDITION = 2.0972 TRUNCATED WOLF NUMBER = 36.67

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

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

APRIL 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	2120	31	3	17	11	0	0	2.0	3.5	3.5	4659-1
03											
04											
05											
06											
07											
08	2145	18	2	7	7	2	0	1.5	2.5	2.5	4660-1
09											
10											
11	2130	13	1	5	3	3	1	2.0	2.5	2.5	4661-2
12											
13	2155	8	1	1	3	3	0	2.0	2.5	2.5	4662-2
14	2205	7	2	2	2	1	0	1.5	2.5	2.0	4663-2
15											
16	2140	1	0	0	0	1	0	2.0	2.5	2.0	4664-2
17											
18											
19	2205	0	0	0	0	0	0	1.5	2.5	2.0	4665-2
20	2245	6	1	3	2	0	0	2.0	2.5	2.0	4666-2
21											
22											
23											
24											
25	2200	17	2	12	2	0	1	1.5	2.0	2.0	4667-2
26	2205	22	2	14	5	0	1	1.5	2.0	2.0	4668-2
27											
28											
29	2155	30	3	12	15	0	0	1.5	1.5	1.5	4669-2
30	2205	21	2	11	7	1	0	1.5	2.0	2.0	4670-2
31	—										
TOTALS	——	174	19	84	57	11	3	20.5	28.5	26.5	——
NOBS	——	12	12	12	12	12	12	12	12	12	——
MNS	——	14.50	1.58	7.00	4.75	0.92	0.25	1.71	2.38	2.21	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

APRIL 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	2120	0	0	0	0	0	0	1	11	1	15	0	0	0	0	0	0	1	2
03																			
04																			
05																			
06																			
07																			
08	2145	0	0	0	0	0	0	2	5/9	0	0	0	0	0	0	0	0	2	1/1
09																			
10																			
11	2130	1	1	0	0	0	0	1	8	0	0	0	0	0	0	0	0	3	1/1/1
12																			
13	2155	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	3	1/1/1
14	2205	0	0	0	0	2	2/2	0	0	0	0	0	0	0	0	0	0	1	1
15																			
16	2140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
17																			
18																			
19	2205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	2245	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0
21																			
22																			
23																			
24																			
25	2200	1	1	0	0	0	0	1	11	0	0	0	0	1	3	0	0	0	0
26	2205	1	1	0	0	0	0	1	14	0	0	0	0	1	5	0	0	0	0
27																			
28																			
29	2155	0	0	1	2	0	0	1	16	1	9	0	0	0	0	0	0	0	0
30	2205	0	0	0	0	0	0	2	6/12	0	0	0	0	0	0	0	0	1	1
31	—																		
TOTALS	——	3	3	1	2	3	8	10	97	2	24	0	0	2	8	0	0	12	13

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
9.1	3.0	9.1	30.3	6.1	0.0	6.1	0.0	36.4	33

NOBS = 12 $\overline{p / g}$ mean = 1.5303 $\overline{f / g}$ mean = 4.7409

$\overline{p} / \overline{g}$ mean = 1.4848 $\overline{f} / \overline{g}$ mean = 4.6970

GROUP COMPLEXITY INDEX (GCI) = 6.1818

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

E-MAIL: gdso@earthling.net

WEBSITE: www.freewebs.com/gdso

SUNSPOT RESULTS FOR MAY 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	QC²	Q	S	T	Ref.
01															
02															
03	2235	4	10	50	5	1	51	256	49	10	28	2.0	2.5	3.0	4671-2
04															
05															
06	2220	4	8	48	3	5	35	89	35	9	23	2.0	2.0	2.5	4672-2
07															
08															
09															
10															
11															
12															
13															
14															
15	2205	0	0	0	0	0	0	0	0	0	0	2.0	2.5	3.0	4673-3
16	2235	0	0	0	0	0	0	0	0	0	0	1.5	2.0	2.0	4674-3
17	2215	0	0	0	0	0	0	0	0	0	0	1.0	1.5	2.0	4675-3
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															
30	2225	4	5	45	3	2	32	94	32	8	18	1.0	2.0	2.0	4676-3
31	2235	1	1	11	0	1	1	4	1	1	1	1.0	2.0	2.0	4677-3
TOTALS	——	13	24	154	11	9	119	443	117	28	70	10.5	14.5	16.5	——
NOBS	——	7	7	7	7	7	7	7	7	7	7	7	7	7	——
MNS	——	1.86	3.43	22.00	1.57	1.29	17.00	63.29	16.71	4.00	10.00	1.50	2.07	2.36	——

MEAN WEIGHT = 0.5248 MEAN CONDITION = 1.9762 TRUNCATED WOLF NUMBER = 17.29

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

MAY 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											
02											
03	2235	12	2	7	1	2	0	2.0	2.5	3.0	4671-2
04											
05											
06	2220	10	2	2	4	1	1	2.0	2.0	2.5	4672-2
07											
08											
09											
10											
11											
12											
13											
14											
15	2205	0	0	0	0	0	0	2.0	2.5	3.0	4673-3
16	2235	0	0	0	0	0	0	1.5	2.0	2.0	4674-3
17	2215	0	0	0	0	0	0	1.0	1.5	2.0	4675-3
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30	2225	6	1	1	1	2	1	1.0	2.0	2.0	4676-3
31	2235	1	0	0	0	0	1	1.0	2.0	2.0	4677-3
TOTALS	——	29	5	10	6	5	3	10.5	14.5	16.5	——
NOBS	——	7	7	7	7	7	7	7	7	7	——
MNS	——	4.14	0.71	1.43	0.86	0.71	0.43	1.50	2.07	2.36	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

MAY 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																			
02																			
03	2235	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	3	1/1/2
04																			
05																			
06	2220	1	1	0	0	2	3/3	0	0	0	0	0	0	0	0	0	0	1	1
07																			
08																			
09																			
10																			
11																			
12																			
13																			
14																			
15	2205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	2235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			
29																			
30	2225	1	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	2	1/1
31	2235	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	——	3	3	0	0	3	8	1	6	0	0	0	0	0	0	0	0	6	7

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
23.1	0.0	23.1	7.7	0.0	0.0	0.0	0.0	46.2	13

NOBS = 7 $\overline{p / g}$ mean = 0.6875 $\overline{f / g}$ mean = 1.6875

$\overline{p} / \overline{g}$ mean = 0.8462 $\overline{f} / \overline{g}$ mean = 1.8462

GROUP COMPLEXITY INDEX (GCI) = 2.6923

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

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WEBSITE: www.freewebs.com/gdso

SUNSPOT RESULTS FOR JUNE 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	QC²	Q	S	T	Ref.
01	2235	0	0	0	0	0	0	0	0	0	0	1.5	2.0	2.0	4678-3
02															
03															
04	2250	1	8	18	5	2	52	288	33	6	36	2.0	2.5	2.0	4679-4
05	2310	1	11	21	3	2	32	396	33	6	36	2.0	2.5	2.0	4680-4
06															
07															
08															
09	2230	2	19	39	5	9	59	390	41	8	34	1.5	2.5	2.5	4681-4
10															
11															
12															
13															
14															
15	2220	1	1	11	0	1	1	4	1	1	1	1.5	2.5	2.5	4682-4
16															
17															
18															
19															
20															
21	2250	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.5	4683-4
22															
23	2240	0	0	0	0	0	0	0	0	0	0	1.5	2.0	2.0	4684-4
24	2245	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.0	4685-4
25	2255	1	2	12	1	1	11	16	11	3	9	1.5	2.0	2.0	4686-4
26	2235	1	4	14	1	3	13	32	12	3	9	1.5	1.5	2.0	4687-4
27															
28															
29	2235	2	15	35	5	8	58	270	83	8	32	2.0	2.0	2.5	4688-4
30	2240	2	9	29	4	5	45	197	81	9	41	2.0	2.0	2.0	4689-4
31	—														
TOTALS	——	11	69	179	24	31	271	1593	295	44	198	20.5	26.5	26.0	——
NOBS	——	12	12	12	12	12	12	12	12	12	12	12	12	12	——
MNS	——	0.92	5.75	14.92	2.00	2.58	22.58	132.75	24.58	3.67	16.50	1.71	2.21	2.17	——

MEAN WEIGHT = 0.4973 MEAN CONDITION = 2.0278 TRUNCATED WOLF NUMBER = 14.00

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

JUNE 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	2235	0	0	0	0	0	0	1.5	2.0	2.0	4678-3
02											
03											
04	2250	9	1	6	2	0	0	2.0	2.5	2.0	4679-4
05	2310	12	1	9	2	0	0	2.0	2.5	2.0	4680-4
06											
07											
08											
09	2230	21	2	10	9	0	0	1.5	2.5	2.5	4681-4
10											
11											
12											
13											
14											
15	2220	1	0	0	0	0	1	1.5	2.5	2.5	4682-4
16											
17											
18											
19											
20											
21	2250	0	0	0	0	0	0	1.5	2.5	2.5	4683-4
22											
23	2240	0	0	0	0	0	0	1.5	2.0	2.0	4684-4
24	2245	0	0	0	0	0	0	2.0	2.5	2.0	4685-4
25	2255	3	1	1	1	0	0	1.5	2.0	2.0	4686-4
26	2235	5	1	1	3	0	0	1.5	1.5	2.0	4687-4
27											
28											
29	2235	17	2	7	8	0	0	2.0	2.0	2.5	4688-4
30	2240	11	2	4	5	0	0	2.0	2.0	2.0	4689-4
31	—										
TOTALS	——	79	10	38	30	0	1	20.5	26.5	26.0	——
NOBS	——	12	12	12	12	12	12	12	12	12	——
MNS	——	6.58	0.83	3.17	2.50	0.00	0.08	1.71	2.21	2.17	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

JUNE 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	2235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02																			
03																			
04	2250	0	0	0	0	0	0	0	0	0	0	1	8	0	0	0	0	0	0
05	2310	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0
06																			
07																			
08																			
09	2230	0	0	0	0	1	5	0	0	1	14	0	0	0	0	0	0	0	0
10																			
11																			
12																			
13																			
14																			
15	2220	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16																			
17																			
18																			
19																			
20																			
21	2250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22																			
23	2240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	2245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	2255	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
26	2235	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
27																			
28																			
29	2235	0	0	0	0	0	0	2	6/9	0	0	0	0	0	0	0	0	0	0
30	2240	0	0	0	0	0	0	1	4	1	5	0	0	0	0	0	0	0	0
31	—																		
TOTALS	——	1	1	0	0	3	11	3	19	2	19	2	19	0	0	0	0	0	0

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
9.1	0.0	27.3	27.3	18.2	18.2	0.0	0.0	0.0	11

NOBS = 12 $\overline{p / g}$ mean = 2.1250 $\overline{f / g}$ mean = 5.9375

$\overline{p} / \overline{g}$ mean = 2.1818 $\overline{f} / \overline{g}$ mean = 6.2727

GROUP COMPLEXITY INDEX (GCI) = 8.4545

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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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	QC²	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

Georgi Dobrovolski Solar Observatory

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	——

Georgi Dobrovolski Solar Observatory

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	Σ g
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

$\overline{p} / \overline{g}$ mean = 1.5333 $\overline{f} / \overline{g}$ mean = 4.8000

GROUP COMPLEXITY INDEX (GCI) = 6.3333

Georgi Dobrovolski Solar Observatory

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

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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SUNSPOT RESULTS FOR AUGUST 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	QC²	Q	S	T	Ref.
01															
02															
03															
04															
05															
06															
07															
08	2245	1	2	12	1	1	11	16	11	3	9	1.5	2.5	2.5	4704-6
09	2240	1	1	11	1	0	10	44	40	3	9	2.0	2.5	3.0	4705-6
10	2235	2	14	34	3	5	35	329	57	6	26	1.5	2.5	2.5	4706-6
11															
12	2305	1	11	21	2	3	23	396	48	6	36	1.5	2.5	2.5	4707-6
13															
14	2200	1	12	22	2	7	27	432	48	6	36	1.5	2.0	1.5	4708-6
15	2155	1	14	24	3	5	35	504	57	6	36	1.5	2.5	2.5	4709-6
16															
17	2155	1	13	23	4	4	44	468	57	6	36	2.0	2.5	2.5	4710-6
18															
19															
20															
21															
22	2135	1	5	15	2	3	23	125	29	5	25	2.5	2.5	2.5	4711-6
23	2155	1	7	17	2	2	22	175	29	5	25	1.0	2.0	2.0	4712-6
24															
25	2215	1	9	19	2	4	24	225	23	5	25	1.5	2.5	2.5	4713-7
26	2215	1	12	22	2	5	25	300	23	5	25	1.5	2.5	2.0	4714-7
27	2230	1	16	26	5	6	56	400	32	5	25	1.5	2.0	2.0	4715-7
28	2145	1	15	25	6	4	64	375	32	5	25	2.0	2.5	2.0	4716-7
29															
30															
31															
TOTALS	——	14	131	271	35	49	399	3789	486	66	338	21.5	31.0	30.0	——
NOBS	——	13	13	13	13	13	13	13	13	13	13	13	13	13	——
MNS	——	1.08	10.08	20.85	2.69	3.77	30.69	291.46	37.38	5.08	26.00	1.65	2.38	2.31	——

MEAN WEIGHT = 0.48036 MEAN CONDITION = 2.1154 TRUNCATED WOLF NUMBER = 20.00

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

AUGUST 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											
02											
03											
04											
05											
06											
07											
08	2245	3	1	1	1	0	0	1.5	2.5	2.5	4704-6
09	2240	1	0	0	0	1	0	2.0	2.5	3.0	4705-6
10	2235	15	1	9	4	0	1	1.5	2.5	2.5	4706-6
11											
12	2305	12	1	8	3	0	0	1.5	2.5	2.5	4707-6
13											
14	2200	13	1	5	7	0	0	1.5	2.0	1.5	4708-6
15	2155	15	1	9	5	0	0	1.5	2.5	2.5	4709-6
16											
17	2155	14	1	9	4	0	0	2.0	2.5	2.5	4710-6
18											
19											
20											
21											
22	2135	6	1	2	3	0	0	2.5	2.5	2.5	4711-6
23	2155	8	1	5	2	0	0	1.0	2.0	2.0	4712-6
24											
25	2215	10	1	5	4	0	0	1.5	2.5	2.5	4713-7
26	2215	13	1	7	5	0	0	1.5	2.5	2.0	4714-7
27	2230	17	1	10	6	0	0	1.5	2.0	2.0	4715-7
28	2145	16	1	11	4	0	0	2.0	2.5	2.0	4716-7
29											
30											
31											
TOTALS	——	143	12	81	48	1	1	21.5	31.0	30.0	——
NOBS	——	13	13	13	13	13	13	13	13	13	——
MNS	——	11.00	0.92	6.23	3.69	0.08	0.08	1.65	2.38	2.31	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

AUGUST 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																			
02																			
03																			
04																			
05																			
06																			
07																			
08	2245	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
09	2240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
10	2235	1	1	0	0	0	0	0	0	1	13	0	0	0	0	0	0	0	0
11																			
12	2305	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0
13																			
14	2200	0	0	0	0	0	0	0	0	0	0	1	12	0	0	0	0	0	0
15	2155	0	0	0	0	0	0	0	0	0	0	1	14	0	0	0	0	0	0
16																			
17	2155	0	0	0	0	0	0	0	0	0	0	1	13	0	0	0	0	0	0
18																			
19																			
20																			
21																			
22	2135	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0
23	2155	0	0	0	0	0	0	0	0	1	7	0	0	0	0	0	0	0	0
24																			
25	2215	0	0	0	0	0	0	0	0	1	9	0	0	0	0	0	0	0	0
26	2215	0	0	0	0	0	0	0	0	1	12	0	0	0	0	0	0	0	0
27	2230	0	0	0	0	0	0	0	0	1	16	0	0	0	0	0	0	0	0
28	2145	0	0	0	0	0	0	0	0	1	15	0	0	0	0	0	0	0	0
29																			
30																			
31																			
TOTALS	——	1	1	0	0	1	2	0	0	7	11	4	50	0	0	1	1	0	0

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
7.1	0.0	7.1	0.0	50.0	28.6	0.0	7.1	0.0	14

NOBS = 13 $\overline{p / g}$ mean = 2.5769 $\overline{f / g}$ mean = 9.5385

$\overline{p} / \overline{g}$ mean = 2.5000 $\overline{f} / \overline{g}$ mean = 9.3571

GROUP COMPLEXITY INDEX (GCI) = 11.8571

Georgi Dobrovolski Solar Observatory

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 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
FEBRUARY	1.58	22.75	27.18	153.1	28.70	4.62	7.88

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 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
FEBRUARY	1.59	22.37	26.11	140.4	26.87	4.51	7.29

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SUNSPOT RESULTS FOR SEPTEMBER 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	QC²	Q	S	T	Ref.
01															
02															
03	2200	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.5	4717-7
04															
05															
06															
07	2230	3	12	42	5	4	54	248	79	10	34	2.0	2.5	2.0	4718-7
08															
09															
10															
11															
12															
13	2100	2	6	26	2	3	23	48	50	6	18	2.0	2.5	2.5	4719-7
14															
15															
16															
17															
18	2030	1	1	11	1	0	10	37	10	2	4	1.0	2.5	2.5	4720-7
19	2045	1	1	11	1	0	10	37	10	2	4	2.0	2.5	3.0	4721-7
20															
21	2140	1	2	12	1	1	11	16	11	3	9	2.0	2.5	2.0	4722-8
22															
23															
24															
25	2145	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.5	4723-8
26															
27															
28															
29															
30															
31															
TOTALS	——	8	22	102	10	8	108	386	160	23	69	12.5	17.5	17.0	——
NOBS	——	7	7	7	7	7	7	7	7	7	7	7	7	7	——
MNS	——	1.14	3.14	14.57	1.43	1.14	15.43	55.14	22.86	3.29	9.86	1.79	2.50	2.43	——

MEAN WEIGHT = 0.4488 MEAN CONDITION = 2.2381 TRUNCATED WOLF NUMBER = 14.57

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

SEPTEMBER 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											
02											
03	2200	0	0	0	0	0	0	1.5	2.5	2.5	4717-7
04											
05											
06											
07	2230	15	3	8	4	0	0	2.0	2.5	2.0	4718-7
08											
09											
10											
11											
12											
13	2100	8	2	3	3	0	0	2.0	2.5	2.5	4719-7
14											
15											
16											
17											
18	2030	1	0	0	0	1	0	1.0	2.5	2.5	4720-7
19	2045	1	0	0	0	1	0	2.0	2.5	3.0	4721-7
20											
21	2140	3	1	1	1	0	0	2.0	2.5	2.0	4722-8
22											
23											
24											
25	2145	0	0	0	0	0	0	2.0	2.5	2.5	4723-8
26											
27											
28											
29											
30											
31											
TOTALS	——	28	6	12	8	2	0	12.5	17.5	17.0	——
NOBS	——	7	7	7	7	7	7	7	7	7	——
MNS	——	4.00	0.86	1.71	1.14	0.29	0.00	1.79	2.50	2.43	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

SEPTEMBER 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																			
02																			
03	2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04																			
05																			
06																			
07	2230	0	0	0	0	1	2	1	8	0	0	0	0	0	0	1	2	0	0
08																			
09																			
10																			
11																			
12																			
13	2100	0	0	0	0	2	2/4	0	0	0	0	0	0	0	0	0	0	0	0
14																			
15																			
16																			
17																			
18	2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
19	2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
20																			
21	2140	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
22																			
23																			
24																			
25	2145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26																			
27																			
28																			
29																			
30																			
31																			
TOTALS	———	0	0	0	0	4	10	1	8	0	0	0	0	0	0	1	2	2	2

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
0.0	0.0	50.0	12.5	0.0	0.0	0.0	12.5	25.0	8

NOBS = 7 $\overline{p / g}$ mean = 1.1333 $\overline{f / g}$ mean = 2.2000

$\overline{p} / \overline{g}$ mean = 1.2500 $\overline{f} / \overline{g}$ mean = 2.7500

GROUP COMPLEXITY INDEX (GCI) = 4.0000

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

E-MAIL: gdso@earthling.net

WEBSITE: www.freewebs.com/gdso

SUNSPOT RESULTS FOR OCTOBER 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	QC²	Q	S	T	Ref.
01															
02	2050	2	3	23	2	0	20	111	17	4	8	2.0	3.0	2.5	4724-8
03															
04	2005	2	3	23	2	0	20	111	17	4	8	2.5	2.5	2.5	4725-8
05	2030	2	4	24	2	1	21	61	18	5	13	2.5	2.5	2.0	4726-8
06	2040	2	5	25	2	1	21	69	18	5	13	1.5	2.5	2.5	4727-8
07															
08															
09															
10															
11															
12															
13															
14															
15															
16	2025	0	0	0	0	0	0	0	0	0	0	2.5	3.0	2.5	4728-8
17															
18															
19															
20															
21															
22															
23															
24	1950	1	3	13	2	1	21	54	28	4	16	2.0	2.5	2.5	4729-9
25															
26															
27															
28															
29															
30															
31															
TOTALS	——	9	18	108	10	3	103	406	98	22	58	13.0	16.0	14.5	——
NOBS	——	6	6	6	6	6	6	6	6	6	6	6	6	6	——
MNS	——	1.50	3.00	18.00	1.67	0.50	17.17	67.67	16.33	3.67	9.67	2.17	2.67	2.42	——

MEAN WEIGHT = 0.4156 MEAN CONDITION = 2.4167 TRUNCATED WOLF NUMBER = 18.00

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

OCTOBER 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											
02	2050	4	1	2	0	1	0	2.0	3.0	2.5	4724-8
03											
04	2005	4	1	2	0	1	0	2.5	2.5	2.5	4725-8
05	2030	5	1	2	1	1	0	2.5	2.5	2.0	4726-8
06	2040	6	1	3	1	1	0	1.5	2.5	2.5	4727-8
07											
08											
09											
10											
11											
12											
13											
14											
15											
16	2025	0	0	0	0	0	0	2.5	3.0	2.5	4728-8
17											
18											
19											
20											
21											
22											
23											
24	1950	4	1	2	1	0	0	2.0	2.5	2.5	4729-9
25											
26											
27											
28											
29											
30											
31											
TOTALS	——	23	5	11	3	4	0	13.0	16.0	14.5	——
NOBS	——	6	6	6	6	6	6	6	6	6	——
MNS	——	3.83	0.83	1.83	0.50	0.67	0.00	2.17	2.67	2.42	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

OCTOBER 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																			
02	2050	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1/2
03																			
04	2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1/2
05	2030	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	1	1
06	2040	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	1	1
07																			
08																			
09																			
10																			
11																			
12																			
13																			
14																			
15																			
16	2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24	1950	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0
25																			
26																			
27																			
28																			
29																			
30																			
31																			
TOTALS	———	0	0	0	0	2	7	1	3	0	0	0	0	0	0	0	0	6	8

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
0.0	0.0	22.2	11.1	0.0	0.0	0.0	0.0	66.7	9

NOBS = 6 $\overline{p / g}$ mean = 1.2000 $\overline{f / g}$ mean = 2.1000

$\overline{p} / \overline{g}$ mean = 1.1111 $\overline{f} / \overline{g}$ mean = 2.0000

GROUP COMPLEXITY INDEX (GCI) = 3.1111

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

E-MAIL: gdso@earthling.net
WEBSITE: www.freewebs.com/gdso

SUNSPOT RESULTS FOR NOVEMBER 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	QC²	Q	S	T	Ref.
01	1930	3	24	54	9	6	96	760	65	11	53	1.5	2.0	2.0	4730-9
02															
03	1925	2	38	58	8	17	97	1170	64	10	52	1.0	2.0	2.0	4731-9
04															
05															
06															
07															
08	2155	2	5	25	3	2	32	144	69	8	34	2.0	3.5	3.5	4732-9
09															
10															
11	1925	1	7	17	1	3	13	56	39	3	9	1.5	3.0	3.5	4733-9
12	1930	2	10	30	4	2	42	199	65	6	20	2.0	3.5	3.5	4734-9
13	1925	2	11	31	5	3	53	233	78	9	41	1.5	2.5	2.5	4735-9
14															
15															
16															
17															
18	2020	3	6	36	4	2	42	153	78	9	29	2.0	2.5	2.0	4736-0
19															
20															
21															
22															
23															
24	1925	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.5	4737-0
25	1915	1	2	12	1	0	10	74	7	2	4	2.0	3.0	3.0	4738-0
26	1930	1	3	13	1	0	10	132	37	3	9	2.0	2.5	3.0	4739-0
27															
28	1945	2	10	30	3	2	32	284	59	7	25	1.0	2.5	2.5	4740-0
29															
30	1925	3	20	50	5	7	57	332	79	10	36	1.0	2.5	2.5	4741-0
31	—														
TOTALS	——	22	136	356	44	44	484	3537	640	78	312	19.0	32.0	32.5	——
NOBS	——	12	12	12	12	12	12	12	12	12	12	12	12	12	——
MNS	——	1.83	11.33	29.67	3.67	3.67	40.33	294.75	53.33	6.50	26.00	1.58	2.67	2.71	——

MEAN WEIGHT = 0.4456 MEAN CONDITION = 2.3194 TRUNCATED WOLF NUMBER = 27.75

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

NOVEMBER 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	1930	26	2	18	5	0	1	1.5	2.0	2.0	4730-9
02											
03	1925	40	2	21	17	0	0	1.0	2.0	2.0	4731-9
04											
05											
06											
07											
08	2155	6	1	2	2	1	0	2.0	3.5	3.5	4732-9
09											
10											
11	1925	8	1	4	3	0	0	1.5	3.0	3.5	4733-9
12	1930	11	1	7	2	1	0	2.0	3.5	3.5	4734-9
13	1925	13	2	8	3	0	0	1.5	2.5	2.5	4735-9
14											
15											
16											
17											
18	2020	7	1	2	2	2	0	2.0	2.5	2.0	4736-0
19											
20											
21											
22											
23											
24	1925	0	0	0	0	0	0	1.5	2.5	2.5	4737-0
25	1915	3	1	2	0	0	0	2.0	3.0	3.0	4738-0
26	1930	4	1	3	0	0	0	2.0	2.5	3.0	4739-0
27											
28	1945	12	2	8	2	0	0	1.0	2.5	2.5	4740-0
29											
30	1925	23	3	13	7	0	0	1.0	2.5	2.5	4741-0
31	—										
TOTALS	——	153	17	88	43	4	1	19.0	32.0	32.5	——
NOBS	——	12	12	12	12	12	12	12	12	12	——
MNS	——	12.75	1.42	7.33	3.58	0.33	0.08	1.58	2.67	2.71	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

NOVEMBER 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	1930	1	1	0	0	0	0	1	4	0	0	1	19	0	0	0	0	0	0
02																			
03	1925	0	0	0	0	0	0	1	11	0	0	1	27	0	0	0	0	0	0
04																			
05																			
06																			
07																			
08	2155	0	0	0	0	0	0	0	0	1	4	0	0	0	0	1	1	0	0
09																			
10																			
11	1925	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0
12	1930	0	0	0	0	0	0	1	9	0	0	0	0	0	0	0	0	1	1
13	1925	0	0	0	0	0	0	1	6	1	5	0	0	0	0	0	0	0	0
14																			
15																			
16																			
17																			
18	2020	0	0	0	0	0	0	1	4	0	0	0	0	0	0	1	1	1	1
19																			
20																			
21																			
22																			
23																			
24	1925	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
26	1930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0
27																			
28	1945	0	0	0	0	0	0	1	6	0	0	0	0	0	0	1	4	0	0
29																			
30	1925	0	0	1	2	0	0	2	9/9	0	0	0	0	0	0	0	0	0	0
31	—																		
TOTALS	——	1	1	1	2	1	7	8	58	2	9	2	46	0	0	4	9	3	4

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
4.5	4.5	4.5	36.4	9.1	9.1	0.0	18.2	13.6	22

NOBS = 12 $\overline{p / g}$ mean = 1.8636 $\overline{f / g}$ mean = 5.9697

$\overline{p} / \overline{g}$ mean = 2.0000 $\overline{f} / \overline{g}$ mean = 6.1818

GROUP COMPLEXITY INDEX (GCI) = 8.1818

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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SUNSPOT RESULTS FOR DECEMBER 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	QC²	Q	S	T	Ref.
01	2030	2	14	34	4	6	46	252	50	8	32	2.0	3.5	2.5	4742-0
02															
03															
04															
05	1940	3	14	44	5	5	55	375	69	9	29	1.5	2.0	2.0	4743-0
06	2040	3	12	42	5	2	52	235	81	10	36	2.0	3.0	3.0	4744-0
07															
08															
09	1910	1	7	17	1	1	11	56	38	3	9	2.0	2.5	2.0	4745-0
10	1940	2	15	35	1	9	19	112	41	5	13	1.5	2.0	2.0	4746-0
11															
12															
13															
14	1910	1	11	21	1	0	10	484	37	3	9	1.5	2.5	3.0	4747-1
15															
16															
17															
18															
19															
20															
21	1955	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.0	4748-1
22	1950	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.5	4749-1
23															
24															
25															
26															
27	2025	1	1	11	0	1	1	4	1	1	1	1.5	2.0	2.0	4750-1
28															
29															
30															
31	1935	2	5	25	2	1	21	98	15	5	13	1.0	2.0	2.0	4751-1
TOTALS	——	15	79	229	19	25	215	1616	332	44	142	16.5	24.5	23.0	——
NOBS	——	10	10	10	10	10	10	10	10	10	10	10	10	10	——
MNS	——	1.50	7.90	22.90	1.90	2.50	21.50	161.60	33.20	4.40	14.20	1.65	2.45	2.30	——

MEAN WEIGHT = 0.4800 MEAN CONDITION = 2.1333 TRUNCATED WOLF NUMBER = 20.60

Georgi Dobrovolski Solar Observatory

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

DECEMBER 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	2030	16	2	8	6	0	0	2.0	3.5	2.5	4742-0
02											
03											
04											
05	1940	16	2	8	5	1	0	1.5	2.0	2.0	4743-0
06	2040	14	2	9	2	1	0	2.0	3.0	3.0	4744-0
07											
08											
09	1910	8	1	6	1	0	0	2.0	2.5	2.0	4745-0
10	1940	17	2	6	9	0	0	1.5	2.0	2.0	4746-0
11											
12											
13											
14	1910	12	1	11	0	0	0	1.5	2.5	3.0	4747-1
15											
16											
17											
18											
19											
20											
21	1955	0	0	0	0	0	0	2.0	2.5	2.0	4748-1
22	1950	0	0	0	0	0	0	1.5	2.5	2.5	4749-1
23											
24											
25											
26											
27	2025	1	0	0	0	0	1	1.5	2.0	2.0	4750-1
28											
29											
30											
31	1935	7	2	4	1	0	0	1.0	2.0	2.0	4751-1
TOTALS	——	91	12	52	24	2	1	16.5	24.5	23.0	——
NOBS	——	10	10	10	10	10	10	10	10	10	——
MNS	——	9.10	1.20	5.20	2.40	0.20	0.10	1.65	2.45	2.30	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

DECEMBER 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	2030	0	0	0	0	0	0	2	4/10	0	0	0	0	0	0	0	0	0	0
02																			
03																			
04																			
05	1940	0	0	0	0	0	0	1	9	0	0	0	0	0	0	1	4	1	1
06	2040	0	0	0	0	0	0	2	2/9	0	0	0	0	0	0	0	0	1	1
07																			
08																			
09	1910	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0
10	1940	0	0	1	2	1	13	0	0	0	0	0	0	0	0	0	0	0	0
11																			
12																			
13																			
14	1910	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	0
15																			
16																			
17																			
18																			
19																			
20																			
21	1955	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23																			
24																			
25																			
26																			
27	2025	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28																			
29																			
30																			
31	1935	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	1	2
TOTALS	——	1	1	1	2	3	23	5	34	0	0	0	0	0	0	2	15	3	4

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
6.7	6.7	20.0	33.3	0.0	0.0	0.0	13.3	20.0	15

NOBS = 10 $\overline{p / g}$ mean = 1.1042 $\overline{f / g}$ mean = 5.5833

$\overline{p} / \overline{g}$ mean = 2.1667 $\overline{f} / \overline{g}$ mean = 5.2667

GROUP COMPLEXITY INDEX (GCI) = 6.5333

Georgi Dobrovolski Solar Observatory

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 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
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

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 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
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

Georgi Dobrovolski Solar Observatory

OBSERVED ANNUAL MEANS OF SUNSPOT DATA FOR

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 .

g	=	1.32
f	=	6.31
Wolf Number	=	19.54
Truncated Wolf Number	=	17.53
p	=	2.10
s	=	2.39
Pettisindex	=	23.37
Beckindex	=	142.18
Classification Value	=	27.39
Quality Count	=	4.10
Squared Quality Count	=	15.05
Inter-Sol Index	=	7.17
Mean Weight	=	0.4732
Q	=	1.67
S	=	2.43
T	=	2.38
Mean Condition	=	2.1617
Total Number of Observations	=	133