



Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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SUNSPOT RESULTS FOR JUNE 2004

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	QC ²	Q	S	T	Ref.
01															
02															
03															
04															
05															
06															
07	2235	4	11	51	4	6	46	144	45	11	35	1.5	1.5	2.5	4409-7
08															
09															
10	2205	3	6	36	2	4	24	69	24	7	17	1.5	2.0	2.0	4410-7
11	2220	2	5	25	3	1	31	109	32	6	20	2.0	2.0	2.0	4411-7
12	2250	2	3	23	2	1	21	53	21	5	13	1.5	1.5	1.5	4412-7
13	2255	4	13	53	4	7	47	253	73	11	37	1.5	1.5	2.0	4413-7
14	2305	5	16	66	8	5	85	509	117	19	93	1.5	2.0	2.0	4414-7
15															
16															
17															
18															
19															
20															
21															
22	2215	5	30	80	9	14	104	867	138	17	69	1.5	2.0	2.5	4415-7
23	2235	4	30	70	7	13	83	856	122	14	62	2.0	3.0	3.0	4416-7
24															
25															
26															
27															
28															
29															
30															
31	—														
TOTALS	—	29	114	404	39	51	441	2860	572	90	346	13.0	15.5	17.5	—
NOBS	—	8	8	8	8	8	8	8	8	8	8	8	8	8	—
MNS	—	3.62	14.25	50.50	4.88	6.38	55.12	357.50	71.50	11.25	43.25	1.62	1.94	2.19	—

MEAN WEIGHT = 0.5348

MEAN CONDITION = 1.9167

TRUNCATED WOLF NUMBER = 40.25

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

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SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR JUNE 2004

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	2235	14	3	5	5	0	1	1.5	1.5	2.5	4409-7
08											
09											
10	2205	8	2	1	4	1	0	1.5	2.0	2.0	4410-7
11	2220	6	1	3	1	1	0	2.0	2.0	2.0	4411-7
12	2250	4	1	1	1	1	0	1.5	1.5	1.5	4412-7
13	2255	16	3	5	7	1	0	1.5	1.5	2.0	4413-7
14	2305	19	3	10	4	1	1	1.5	2.0	2.0	4414-7
15											
16											
17											
18											
19											
20											
21											
22	2215	33	3	14	14	2	0	1.5	2.0	2.5	4415-7
23	2235	33	3	17	12	0	1	2.0	3.0	3.0	4416-7
24											
25											
26											
27											
28											
29											
30											
31	—										
TOTALS	—	133	19	56	48	7	3	13.0	15.5	17.5	—
NOBS	—	8	8	8	8	8	8	8	8	8	—
MNS	—	16.62	2.38	7.00	6.00	0.88	0.38	1.62	1.94	2.19	—

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SUNSPOT CENSUS BY CLASSIFICATION FOR JUNE 2004

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	2235	1	1	0	0	2	2/2	1	6	0	0	0	0	0	0	0	0	0	0
08																			
09																			
10	2205	0	0	1	2	1	3	0	0	0	0	0	0	0	0	0	0	1	1
11	2220	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	1	1
12	2250	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	1
13	2255	0	0	2	2/2	0	0	0	0	1	8	0	0	0	0	0	0	1	1
14	2305	1	1	0	0	0	0	1	2	0	0	2	4/8	0	0	0	0	1	1
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22	2215	0	0	1	3	0	0	1	7	0	0	1	18	0	0	1	1	1	1
23	2235	1	1	0	0	1	3	1	6	0	0	1	20	0	0	0	0	0	0
24																			
25																			
26																			
27																			
28																			
29																			
30																			
31	—																		
TOTALS	—	3	3	4	9	5	12	5	25	1	8	4	50	0	0	1	1	6	6
REGIONAL PERCENTAGES																			
A	B	C	D	E	F	G	H	J	SIGMAg										
10.3	13.8	17.2	17.2	3.4	13.8	0.0	3.4	20.7	29										
NOBS = 8				$\overline{p/g}$ mean = 1.2896						$\overline{f/g}$ mean = 3.5875									
				$\overline{p/g}$ mean = 1.3448						$\overline{f/g}$ mean = 3.9310									
GROUP COMPLEXITY INDEX (GCI) = 5.2759																			

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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 THE GDSO ANNUAL REPORTS.

WALDMEIER METHOD

MONTH	$g(S^w)$	$WN(S^w)$	$SN(S^w)$	$BX(S^w)$	$CV(S^w)$	$QC(S^w)$	$IS(S^w)$
2003 JANUARY	6.70	111.33	139.67	1025.9	131.02	20.89	49.03
FEBRUARY	6.53	106.90	133.21	945.1	126.49	20.28	46.09
MARCH	6.16	99.23	122.66	846.7	117.92	19.05	41.83
APRIL	5.74	92.23	112.48	790.1	110.09	17.81	38.75
MAY	5.42	87.47	105.66	754.5	103.35	16.84	37.04
JUNE	5.20	83.92	100.90	711.4	98.47	16.12	35.52
JULY	4.95	80.94	98.45	709.6	96.91	15.55	34.95
AUGUST	4.68	77.77	95.55	703.2	94.97	14.95	34.28
SEPTEMBER	4.55	76.06	93.48	700.0	92.65	14.61	33.78
OCTOBER	4.41	73.76	90.28	690.5	88.82	14.13	32.79
NOVEMBER	4.29	71.92	88.12	673.5	85.40	13.74	32.00
DECEMBER	4.19	69.26	84.25	630.5	82.43	13.37	30.28

BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2003 JANUARY	6.54	103.97	127.63	856.1	121.96	19.99	43.03
FEBRUARY	6.23	98.09	119.76	784.5	115.98	18.98	40.04
MARCH	5.92	93.26	113.82	746.3	111.30	18.09	38.13
APRIL	5.66	90.19	110.04	745.1	108.03	17.43	37.52
MAY	5.46	88.68	108.35	769.9	105.78	16.96	37.93
JUNE	5.29	87.55	107.34	794.9	104.33	16.62	38.39
JULY	5.09	85.57	105.39	806.7	102.60	16.21	38.27
AUGUST	4.84	82.11	101.07	786.7	98.76	15.58	37.12
SEPTEMBER	4.60	78.06	95.50	750.9	93.61	14.85	35.37
OCTOBER	4.35	73.60	89.51	704.8	88.15	14.07	33.20
NOVEMBER	4.14	69.20	83.99	644.3	82.96	13.34	30.79
DECEMBER	3.96	65.01	78.56	577.5	78.19	12.69	28.24