GEORGI DOBROVOLSKI SOLAR OBSERVATORY

NEW ZEALAND

E-MAIL: gdso@earthling.net
WEBSITE: www.cv-helios.net/gdso

SUNSPOT RESULTS FOR JANUARY 2002

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 .
Q = Quietness [ie. steadiness] refer to Kiepenheuer scale .
S = Sharpness [ie. clarity] refer to Kiepenheuer scale .
T = Transparency where 1 = excellent , 5 = worthless .
WN = Wolf Number ; SN = Pettisindex ; BX = Beckindex ; CV = Classification Value ;
QC = Quality Count ; QC² = Squared Quality Count .

DATE	UT	g	f	WN	p	s	SN	BX	CV	QC	QC²	Q	S	T	Ref.
01	2030	10	68	168	21	25	235	1609	222	35	143	1.5	2.5	2.5	4029
02	2040	12	65	185	22	27	247	1503	262	41	157	1.5	2.0	2.0	4030
03	2215	12	61	181	22	29	249	1556	225	40	152	2.0	2.5	2.5	4031
04	2020	11	56	166	17	28	198	1561	153	32	112	2.0	2.0	2.5	4032
05															
06	2100	7	37	107	12	17	137	719	101	21	71	1.5	2.0	2.5	4033
07															
08															
09	2035	8	67	147	19	25	215	1763	185	31	129	1.5	2.0	2.0	4034
10															
11	2015	10	93	193	19	45	235	2506	216	33	139	1.5	2.0	2.0	4035
12	2035	10	77	177	20	30	230	2403	264	35	153	2.0	2.5	2.5	4036
13															
14															
15	2040	7	42	112	13	16	146	1042	134	26	110	2.0	2.0	2.5	4037
16	2055	8	24	104	11	7	117	531	104	22	72	1.5	2.0	2.0	4038
17															
18	2045	9	41	131	11	16	126	763	134	25	81	1.5	1.5	2.0	4039
19															
20	2035	10	54	154	19	25	215	1029	213	33	119	2.0	3.0	2.5	4040
21	2045	10	48	148	18	20	200	979	200	32	110	2.5	3.0	2.5	4041
22	2015	11	52	162	21	20	230	1165	211	32	116	2.0	2.5	2.5	4042
23															
24															
25															
26															
27	2155	10	71	171	20	26	226	1799	242	36	144	1.5	2.5	2.5	4043
28	2020	10	64	164	15	26	176	1222	204	30	108	2.0	2.0	2.5	4044
29	2035	10	69	169	16	29	189	1494	212	29	101	2.0	2.0	2.0	4045
30	2025	10	65	165	20	34	234	1747	145	29	113	2.0	2.0	2.5	4046
31	2050	7	75	145	17	32	202	2015	161	27	119	2.0	2.5	3.0	4047
Σ	——	182	1129	2949	333	477	3807	27406	3588	589	2249	34.5	42.5	45.0	——
NOBS	——	19	19	19	19	19	19	19	19	19	19	19	19	19	——
MNS	——	9.58	59.42	155.21	17.53	25.11	200.37	1442.42	188.84	31.00	118.37	1.82	2.24	2.37	——

MEAN WEIGHT = 0.4743 MEAN CONDITION = 2.1404 TRUNCATED WOLF NUMBER = 139.47

GEORGI DOBROVOLSKI SOLAR OBSERVATORY

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

JANUARY 2002

All observations carried out by HOWARD BARNES .
Telescope : 76 mm refractor (f . l . 910 mm) .
Observed by PROJECTION . Full disc diameter = 145 mm approx .
Q = Quietness [ie. steadiness] refer to Kiepenheuer scale .
S = Sharpness [ie. clarity] refer to Kiepenheuer scale .
T = Transparency where 1 = excellent , 5 = worthless .
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 .

DATE	UT	IS	gr	grfp	grf	efp	ef	Q	S	T	Ref.
01	2030	75	7	41	24	2	1	1.5	2.5	2.5	4029
02	2040	75	10	36	27	2	0	1.5	2.0	2.0	4030
03	2215	70	9	30	28	2	1	2.0	2.5	2.5	4031
04	2020	62	6	23	28	5	0	2.0	2.0	2.5	4032
05											
06	2100	43	6	19	17	1	0	1.5	2.0	2.5	4033
07											
08											
09	2035	74	7	41	25	1	0	1.5	2.0	2.0	4034
10											
11	2015	100	7	47	43	1	2	1.5	2.0	2.0	4035
12	2035	82	5	43	29	4	1	2.0	2.5	2.5	4036
13											
14											
15	2040	48	6	25	16	1	0	2.0	2.0	2.5	4037
16	2055	29	5	15	6	2	1	1.5	2.0	2.0	4038
17											
18	2045	47	6	23	15	2	1	1.5	1.5	2.0	4039
19											
20	2035	62	8	28	24	1	1	2.0	3.0	2.5	4040
21	2045	55	7	25	20	3	0	2.5	3.0	2.5	4041
22	2015	58	6	30	17	2	3	2.0	2.5	2.5	4042
23											
24											
25											
26											
27	2155	80	9	44	26	1	0	1.5	2.5	2.5	4043
28	2020	71	7	37	24	1	2	2.0	2.0	2.5	4044
29	2035	76	7	38	28	2	1	2.0	2.0	2.0	4045
30	2025	69	4	27	32	4	2	2.0	2.0	2.5	4046
31	2050	81	6	42	32	1	0	2.0	2.5	3.0	4047
Σ	——	1257	128	614	461	38	16	34.5	42.5	45.0	——
NOBS	——	19	19	19	19	19	19	19	19	19	——
MNS	——	66.16	6.74	32.32	24.26	2.00	0.84	1.82	2.24	2.37	——

GEORGI DOBROVOLSKI SOLAR OBSERVATORY

SUNSPOT CENSUS BY CLASSIFICATION FOR

JANUARY 2002

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	1	1	0	0	1	5	4	3/6/9/10	1	15	1	17	0	0	0	0	2	1/1
02	2040	0	0	1	3	4	3/3/3/4	3	4/5/9	1	5	1	24	0	0	0	0	2	1/1
03	2215	1	1	0	0	3	2/2/3	5	2/3/4/5/9	0	0	1	28	0	0	0	0	2	1/1
04	2020	0	0	0	0	3	2/3/5	2	3/7	0	0	1	31	0	0	0	0	5	5 x 1
05																			
06	2100	0	0	2	2/3	2	2/3	1	4	1	22	0	0	0	0	0	0	1	1
07																			
08																			
09	2035	0	0	0	0	1	2	5	3/4/4/10/12	0	0	1	31	0	0	0	0	1	1
10																			
11	2015	2	1/1	0	0	2	2/4	0	0	3	5/24/26	1	27	0	0	0	0	2	1/2
12	2035	1	1	0	0	1	3	0	0	2	7/17	2	19/26	0	0	1	1	3	1/1/1
13																			
14																			
15	2040	0	0	0	0	1	2	2	5/9	1	15	1	8	0	0	0	0	2	1/2
16	2055	1	1	0	0	2	2/2	1	4	1	11	0	0	0	0	0	0	3	1/1/2
17																			
18	2045	1	1	1	2	3	2/3/4	1	10	1	17	0	0	0	0	0	0	2	1/1
19																			
20	2035	1	1	0	0	2	5/9	5	3/5/6/7/11	0	0	0	0	1	6	0	0	1	1
21	2045	0	0	0	0	2	2/5	4	5/7/8/14	0	0	0	0	1	4	0	0	3	1/1/1
22	2015	3	1/1/1	0	0	0	0	4	4/5/9/10	1	15	0	0	1	4	0	0	2	1/1
23																			
24																			
25																			
26																			
27	2155	0	0	2	2/2	0	0	6	3/5/6/6/7/8	0	0	1	31	0	0	0	0	1	1
28	2020	2	1/1	1	3	1	4	4	3/5/6/17	1	23	0	0	0	0	0	0	1	1
29	2035	1	1	2	2/2	2	2/6	1	2	2	19/33	0	0	0	0	0	0	2	1/1
30	2025	2	1/1	0	0	1	10	0	0	2	3/20	1	26	0	0	0	0	4	1/1/1/1
31	2050	0	0	1	2	1	6	1	2	2	7/31	1	26	0	0	0	0	1	1
TOTALS	——	16	16	10	23	32	115	49	308	19	315	12	294	3	14	1	1	40	43

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σg
8.8	5.5	17.6	26.9	10.4	6.6	1.6	0.5	22.0	182

NOBS = 19 $\overline{p / g}$ mean = 1.8365 $\overline{f / g}$ mean = 6.2710

$\overline{p} / \overline{g}$ mean = 1.8297 $\overline{f} / \overline{g}$ mean = 6.2033

GROUP COMPLEXITY INDEX (GCI) = 8.0330

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 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)
2000 AUGUST	8.70	149.18	171.29	1439.2	164.10	27.62	68.46
SEPTEMBER	8.54	146.69	169.59	1429.2	158.97	27.13	67.36
OCTOBER	8.39	142.73	165.93	1381.5	153.81	26.46	64.80
NOVEMBER	8.24	138.20	162.24	1314.1	149.88	25.83	61.64
DECEMBER	8.21	136.50	162.20	1276.9	148.25	25.71	60.22
2001 JANUARY	8.05	131.46	155.91	1154.6	143.18	25.02	56.64
FEBRUARY	7.78	125.52	148.96	1055.4	138.47	24.10	53.21
MARCH	7.95	128.81	155.32	1100.1	144.66	24.81	54.96
APRIL	8.28	134.01	162.38	1149.5	152.74	25.88	57.06
MAY	8.43	136.39	164.70	1186.5	156.86	26.32	58.00
JUNE	8.61	139.64	169.78	1235.4	161.27	26.92	59.59
JULY	8.80	142.89	175.64	1277.1	165.76	27.58	61.10

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})
2000 AUGUST	8.81	151.85	175.57	1506.4	163.56	27.89	70.06
SEPTEMBER	8.46	144.68	168.12	1401.5	155.14	26.70	66.17
OCTOBER	8.16	138.10	161.29	1299.4	148.64	25.68	62.37
NOVEMBER	7.94	132.78	155.82	1213.8	144.21	24.92	59.09
DECEMBER	7.82	129.35	152.48	1154.3	141.35	24.48	56.77
2001 JANUARY	7.75	126.55	149.53	1095.9	139.05	24.16	54.60
FEBRUARY	7.73	125.05	148.49	1068.2	138.43	24.05	53.23
MARCH	7.90	127.24	152.53	1092.6	142.11	24.56	53.83
APRIL	8.15	130.80	157.98	1125.0	147.42	25.31	54.99
MAY	8.38	134.26	162.98	1158.1	152.64	26.01	56.30
JUNE	8.61	138.25	168.82	1199.3	158.70	26.79	58.13
JULY	8.84	142.43	175.08	1247.7	165.30	27.57	60.26