Georgi Dobrovolski Solar Observatory

gdso

E-mail: gdso@value.net.nz
Website: http://gdso.webs.com

Auckland
New Zealand

SUNSPOT RESULTS FOR MARCH 2017

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 ; PX = 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 .

PLEASE NOTE: From July 2015's issue, the observed Pettisindex is labelled PX.

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

DATE	UT	g	f	WN	p	s	PX	BX	CV	QC	QC²	Q	S	T	Ref.
01	2030	3	11	41	5	5	55	217	60	10	36	1.0	2.5	2.0	5954-7
02	2100	3	7	37	4	2	42	105	44	9	29	1.5	3.0	2.5	5955-7
03															
04															
05															
06															
07															
08	2025	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.5	5956-8
09															
10															
11															
12	2055	0	0	0	0	0	0	0	0	0	0	1.5	3.0	3.0	5957-8
13	2030	0	0	0	0	0	0	0	0	0	0	2.0	3.0	3.0	5958-8
14	2025	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.0	5959-8
15	2030	0	0	0	0	0	0	0	0	0	0	1.0	2.5	2.0	5960-8
16															
17	2050	0	0	0	0	0	0	0	0	0	0	1.0	2.5	2.0	5961-8
18	2045	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.0	5962-8
19	2055	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.0	5963-8
20															
21															
22															
23															
24															
25	2035	1	1	11	0	1	1	4	1	1	1	2.0	2.5	2.5	5964-8
26															
27	2050	2	19	39	3	9	39	399	29	6	20	1.0	2.0	2.0	5965-8
28															
29															
30															
31															
Σ	——	9	38	128	12	17	137	725	134	26	86	17.5	31.0	27.5	——
NOBS	——	12	12	12	12	12	12	12	12	12	12	12	12	12	——
MNS	——	0.75	3.17	10.67	1.00	1.42	11.42	60.42	11.17	2.17	7.17	1.46	2.58	2.29	——

MEAN WEIGHT = 0.4831 MEAN CONDITION = 2.1111 TRUNCATED WOLF NUMBER = 9.75

gdso

SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR MARCH 2017

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	13	2	5	5	1	0	1.0	2.5	2.0	5954-7
02	2100	9	2	4	2	1	0	1.5	3.0	2.5	5955-7
03											
04											
05											
06											
07											
08	2025	0	0	0	0	0	0	2.0	2.5	2.5	5956-8
09											
10											
11											
12	2055	0	0	0	0	0	0	1.5	3.0	3.0	5957-8
13	2030	0	0	0	0	0	0	2.0	3.0	3.0	5958-8
14	2025	0	0	0	0	0	0	1.5	2.5	2.0	5959-8
15	2030	0	0	0	0	0	0	1.0	2.5	2.0	5960-8
16											
17	2050	0	0	0	0	0	0	1.0	2.5	2.0	5961-8
18	2045	0	0	0	0	0	0	1.5	2.5	2.0	5962-8
19	2055	0	0	0	0	0	0	1.5	2.5	2.0	5963-8
20											
21											
22											
23											
24											
25	2035	1	0	0	0	0	1	2.0	2.5	2.5	5964-8
26											
27	2050	21	2	10	9	0	0	1.0	2.0	2.0	5965-8
28											
29											
30											
31											
Σ	——	44	6	19	16	2	1	17.5	31.0	27.5	——
NOBS	——	12	12	12	12	12	12	12	12	12	——
MNS	——	3.67	0.50	1.58	1.33	0.17	0.08	1.46	2.58	2.29	——

Georgi Dobrovolski Solar Observatory

SUNSPOT CENSUS BY CLASSIFICATION FOR

MARCH 2017

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	5/5	0	0	0	0	0	0	0	0	1	1
02	2100	0	0	0	0	1	4	1	2	0	0	0	0	0	0	0	0	1	1
03																			
04																			
05																			
06																			
07																			
08	2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09																			
10																			
11																			
12	2055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16																			
17	2050	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	2055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20																			
21																			
22																			
23																			
24																			
25	2035	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26																			
27	2050	0	0	0	0	0	0	1	16	0	0	0	0	0	0	0	0	1	3
28																			
29																			
30																			
31																			
TOTALS	——	1	1	0	0	1	4	4	28	0	0	0	0	0	0	0	0	3	5

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σg
11.1	0.0	11.1	44.4	0.0	0.0	0.0	0.0	33.3	9

NOBS = 12 $\overline{p / g}$ mean = 1.1250 $\overline{f / g}$ mean = 4.1250

$\overline{p} / \overline{g}$ mean = 1.3333 $\overline{f} / \overline{g}$ mean = 4.2222

GROUP COMPLEXITY INDEX (GCI) = 5.5556

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	$g^r(S^W)$	$WN^r(S^W)$	$PX^r(S^W)$	$BX^r(S^W)$	$CV^r(S^W)$	$QC^r(S^W)$	$IS^r(S^W)$
2015 OCTOBER	2.69	42.82	51.91	427.2	52.19	8.75	17.79
NOVEMBER	2.61	41.52	50.26	407.9	51.92	8.57	17.23
DECEMBER	2.51	39.57	47.78	374.0	50.79	8.28	16.24
2016 JANUARY	2.30	36.14	43.49	334.6	46.88	7.58	14.69
FEBRUARY	2.22	34.30	40.69	297.2	44.01	7.23	13.60
MARCH	2.22	33.19	38.55	259.5	42.02	7.04	12.52
APRIL	2.17	32.24	37.29	247.2	40.89	6.80	12.02
MAY	2.13	31.38	36.01	234.1	39.81	6.59	11.56
JUNE	2.05	29.80	33.32	204.2	37.05	6.23	10.70
JULY	1.97	28.48	31.41	185.6	34.55	5.94	10.11
AUGUST	1.87	27.06	30.01	175.4	33.10	5.68	9.58
SEPTEMBER	1.72	24.88	27.63	160.7	30.92	5.22	8.82

BARNES-13 METHOD

MONTH	$g^r(S^{B13})$	$WN^r(S^{B13})$	$PX^r(S^{B13})$	$BX^r(S^{B13})$	$CV^r(S^{B13})$	$QC^r(S^{B13})$	$IS^r(S^{B13})$
2015 OCTOBER	2.60	42.49	52.59	451.2	52.93	8.74	18.37
NOVEMBER	2.47	39.93	49.32	408.4	50.56	8.33	16.95
DECEMBER	2.38	37.61	46.09	360.9	48.30	7.94	15.49
2016 JANUARY	2.28	35.15	42.32	310.6	45.29	7.48	13.92
FEBRUARY	2.23	33.42	39.24	266.3	42.84	7.14	12.63
MARCH	2.21	32.39	37.16	233.9	41.44	6.93	11.74
APRIL	2.19	31.84	36.06	220.0	40.87	6.77	11.37
MAY	2.16	31.26	34.98	210.5	39.99	6.59	11.11
JUNE	2.09	30.22	33.33	199.1	38.04	6.31	10.71
JULY	2.02	29.31	32.23	195.0	36.19	6.07	10.48
AUGUST	1.94	28.36	31.42	193.6	34.66	5.86	10.29
SEPTEMBER	1.81	26.63	29.67	185.3	32.26	5.49	9.76

NB: VALUES FROM MAY 2015 TO MAY 2016 (INCLUSIVE), ARE BASED, IN PART, ON INTERPOLATED VALUES OF NOVEMBER 2015.