



SUNSPOT BULLETIN

Supported by UNESCO and ICSU through the FAGS

1988 , N° 5

Provisional Sunspot-Numbers for MAY 1988

Dependent on observations at Locarno Specola Solare
 complemented by an international network and
 determined at the Observatoire Royal de Belgique.
 Thirty six cooperating stations on 1988 June 1st, 1000 UT

Day	R' i	Day	R' i
1	69	16	53
2	84	17	54
3	76	18	44
4	96	19	20
5	97	20	23
6	77	21	25
7	50	22	32
8	63	23	41
9	74	24	47
10	87	25	57
11	65	26	63
12	56	27	61
13	44	28	70
14	37	29	74
15	44	30	83
		31	86

MEAN = 59.7

Predictions of the smoothed monthly Sunspot Numbers
 Classical Method S.I.D.C. Adjusted values

1988 Jun. 58(+14)	1988 Dec. 71(+24)	1988 Jun. 62(+16)
Jul. 60(+15)	1989 Jan. 74(+25)	Jul. 66
Aug. 62	Feb. 77	Aug. 69
Sep. 64	Mar. 79(+26)	Sep. 72(+18)
Oct. 67(+16)	Apr. 81(+27)	Oct. 76
Nov. 69	May 84	Nov. 79(+20)

Forecasted values on the basis of the latest provisional
 monthly smoothed Sunspot Number: 1987 Nov. = 46.7 ± 5%

Provisional smoothed values:

1987 Dec. 50(+8)	1988 Feb. 58(+9)	1988 Apr. 68(+10)
1988 Jan. 54(+8)	Mar. 63(+9)	May 73(+10)

-An important note is published in SIDC-NEWS Nr 5-

Brussels, 1st June 1988

A. Koeckelenbergh.

Reproduction permitted if the source is mentioned.

S.I.D.C. SUMMARY OF THE URSIGRAMS

1988 MAY R = 59.7
im

Date	Ri	PPSI	600	2800	COS	XFI	XI	Ak	SEA
1	69	106	44	107	967	4	0/0	8	
2	84	73	42	115	968	6	0/0	11	
3	76	47	42	121	976	8	0/0	9	
4	96	46	42	125	970	8	0/0	17	1n(0145),ten,II+IV!
5	97	24	41	119	968	2	0/0	18	mgst(1035)
6	77	32	42	117	962	4	0/0	80	ssc(0427),mgst
7	50	41	42	111	962	4	0/0	19	(1500)!
8	63	34	45	115	966	2	0/0	15	
9	74	75	45	120	973	4	0/0	11	
10	87	59	46	114	966	0	0/0	14	
11	65	45	48	112	963	1	0/0	8	
12	56	37	46	109	962	0	0/0	7	
13	44	24	44	104	969	0	0/0	7	
14	37	24	44	103	972	1	0/0	4	
15	44	12	46	101	979	2	0/0	8	
16	53	14	42	101	971	4	0/0	12	
17	54	27	43	101	965	5	1/0	24	X(2004)+IV+ten
18	44	16	42	104	957	4	0/0	18	
19	20	6	41	102	956	1	0/0	8	
20	23	3	40	104	956	2	1/0	10	ten(0610)+sid
21	25	0	41	110	962	5	0/0	14	
22	32	7	42	111	961	17	0/0	13	
23	41	20	43	119	958	17	1/0	9	1200+1506+1615+1719
24	47	48	42	117	959	15	0/0	12	
25	57	63	42	119	962	12	0/0	9	ssc(2047),II(2142+!
26	63	94	42	125	965	33	2/0	9	2153)!
27	61	120	44	127	968	18	1/0	3	1b(0100)+swf,1b(1341)!
28	70	120	44	127	968	21	1/0	4	+sid,1f(2114),ten!
29	74	97	45	136	971	24	1/0	10	(2345)!
30	83	98	45	139	968	15	0/0	12	
31	86	78	47	145	...	17	0/0	12	

***An important note is published in SIDC-NEWS Nr 5 ***-

Ri ,Rim: provisional international sunspot-numbers from the S.I.D.C.
 PPSI: prompt photometric sunspot-index from the S.I.D.C. in 10-5 w.m-2 :the quantity to subtract at the mean solar constant.
 600: 600 Mhz solar flux from Humain station (Belgium).
 2800: 2800 Mhz solar flux from Ottawa (origin:Ursigrams).
 COS: thousands of the cosmic ray counts (origin:Ursigrams).
 XFI: X-flares index from the S.I.D.C.(origin:Ursigrams).
 XI: X-flares index from the Ursigrams (M-flares/X-flares).
 Ak: planetary geomagnetic index from Wingst(Germany from Ursigrams).
 SEA: sudden enhancements of atmospherics from Uccle & Humain(Belgium).
 Remarks: sid(sudden ionospheric disturbance);ssc(sudden storm commencement); mgst(magnetic storm);s-1-2-3/n-b(class of flares);II-IV radio-burst; ten(ten cm radio-burst);...

OBSERVATOIRE ROYAL DE BELGIQUE

DEPARTEMENT 4 RADIOASTRONOMIE ET PHYSIQUE SOLAIRE

NOMBRES RELATIFS DE WOLF JOURNALIERS

PROVISOIRES

PROVISIONAL

SUNSPOT RELATIVE NUMBERS

STATION UCCLE BELGIUM

MAI 1988

DATE	UT	NOMBRE DE GROUPES	NOMBRE DE TACHES	NOMBRE DE WOLF	NOMB REL ZONE CENTRALE	PSI 10-6 WM-2	QUAL	OBS
1	0810	7	30	100	51	930.	3	AK
2	0904	8	44	124	28	734.	3	AK
3	1233	7	50	120	12	348.	1	VI
4	0709	8	37	117	14	527.	1	VI
5	0655	8	33	113	13	257.	3	VI
6	0658	6	17	77	11	837.	2	VI
7	0742	3	7	37	13	626.	2	HB
9	0700	5	23	73	25	899.	3	ST
12	0658	4	17	57	35	567.	4	HB
13	0802	3	14	44	20	242.	4	HB
14	0818	2	16	36	0	373.	3	PC
15	0715	3	18	48	26	107.	3	PC
16	1243	4	21	61	18	144.	3	VI
17	0938	4	19	59	0	204.	2	VI
18	0817	3	12	42	0	149.	1	VI
20	0926	2	6	26	0	26.	2	VI
21	0845	2	3	23	0	13.	3	CG
22	0830	2	20	40	0	85.	2	CG
23	0930	2	21	41	0	291.	2	CG
24	0735	2	32	52	12	441.	2	ST
25	0634	2	44	64	14	585.	1	VI
26	0629	3	62	92	81	715.	3	VI
29	1019	2	26	46	35	768.	1	PC
30	0749	4	38	78	0	987.	1	VI
31	0918	5	45	95	0	782.	1	VI

LE SOLEIL A ETE OBSERVE 25 JOURS SUR 31 POSSIBLES
LE NOMBRE RELATIF DE WOLF MOYEN EST DE 66.6

ED.RESP. DR. ANDRE KOECKELENBERGH
3, AV. CIRCULAIRE, B 1180 BRUXELLES. BELGIUM.
TELEX : 21565 OBSBEL - TEL. : (02) 3752484 EXT 611

NORMALISED UCCLE OBSERVATIONAL SUNSPOT NUMEERS

U'=K*U FOR 1988										MAY	
K* = .886 (*)											
1	88	7	32	13	38	19	***	25	56		
2	109	8	***	14	31	20	23	26	81		
3	106	9	64	15	42	21	20	27	***		
4	103	10	***	16	54	22	35	28	***		
5	100	11	***	17	52	23	36	29	40		
6	68	12	50	18	37	24	46	30	69		
								31	84		

THE SUN WAS OBSERVED 25 DAYS ON 31 POSSIBLE
 THE NORMALISED RELATIVE MONTHLY MEAN WOLF NUMBER IS 58

* K* IS THE MEAN OF THE MONTHLY K'S FOR THE LAST FIVE YEARS

UCCLE OBSERVATIONAL MAJOR SUNSPOTS FOR 1988
 E AND F BRUNNER'S TYPE GROUPS

UCCLE NO	EAST LIMB DATE	IST OBS	DATE AND TYPE			WEST LIMB DATE
			LAST OBS	CHP	TYPE	
32-1801	4 30.9	4	5 7.7	9 G	5 14.4	
13-1802	5 21.4	22 E	5 28.2	31 E	6 3.9	

PROBABLE RETURN OF MAJOR GROUPS FOR 1988
 JUNE

UCCLE NO	NEW EAST LIMB	NEW CMP	NEW WEST LIMB
13	6 17.6	6 24.5	7 1.3