



SUNSPOT BULLETIN
Supported by UNESCO and ICSU through the FAGS

1987 , No. 6

Provisional Sunspot - Numbers for JUNE 1987

Dependent on observations at Locarno Specola Solare,
complemented by an international network and
determined at the Observatoire Royal de Belgique.
Forty cooperating stations on July 1st , 1025 UT .

Day	R _T '	Day	R _T '
1	15	16	12
2	11	17	15
3	0	18	24
4	0	19	13
5	10	20	22
6	0	21	29
7	0	22	38
8	0	23	38
9	0	24	38
10	0	25	38
11	11	26	41
12	21	27	33
13	14	28	41
14	10	29	25
15	9	30	16

MEAN = 17.5

Predictions of the smoothed monthly Sunspot - Numbers

Classical Method				S.I.D.C. Adjusted Values			
1987 Jul. 24	(± 5)	1988 Jan. 30	(± 8)	1987 Jul. 28	(± 6)		
Aug. 25	(± 5)	Feb. 31	(± 8)	Aug. 29	(± 6)		
Sep. 26	(± 5)	Mar. 32	(± 8)	Sep. 31	(± 6)		
Oct. 27	(± 5)	Apr. 33	(± 12)	Oct. 33	(± 7)		
Nov. 28	(± 6)	May 35	(± 12)	Nov. 34	(± 7)		
Dec. 29	(± 6)	Jun. 36	(± 12)	Dec. 35	(± 7)		

Forecasted values evaluated on the basis of the latest provisional monthly smoothed sunspot-number : 1986 December : 16.2 ± 5%

Provisional smoothed values 1987	Jan. 17	(± 3)	1987 Apr. 21	(± 4)
	Feb. 18	(± 3)	May 22	(± 4)
	Mar. 19	(± 3)	Jun. 23	(± 5)

Brussels, July 1st , 1987

A. Koeckelenbergh.

Reproduction permitted if the source is mentioned.

Ed. Resp. Dr. André Koeckelenbergh, 3, avenue Circulaire, B-1180 BRUXELLES, BELGIUM
TELEX : 21565 obsbel - Tél. : (02) 375 24 84 EXT 611

S.I.D.C. SUMMARY OF URSIGRAMS

1987 JUNE $R_{im}^1 = 17.5$

Date	R_i	PPSI	600	2800	COS	XFI	XI	A_k	
1	15	4	56	76	1005	0	0/0	13	
2	11	0	56	76	9	0	0/0	10	
3	0	0	57	74	12	0	0/0	5	
4	0	0	57	75	10	0	0/0	8	
5	10	0	59	74	16	0	0/0	9	
6	0	0	58	74	17	0	0/0	20	mag. act.
7	0	0	58	74	19	0	0/0	11	
8	0	0	61	75	14	.	.	4	
9	0	0	60	75	14	0	0/0	4	
10	0	0	60	76	12	0	0/0	6	
11	11	0	63	78	10	0	0/0	10	
12	21	1	61	80	14	0	0/0	18	mag. act.
13	14	0	63	80	18	0	0/0	7	
14	10	1	63	78	15	0	0/0	7	
15	9	1	.	78	9	0	0/0	6	
16	12	2	.	79	11	0	0/0	12	
17	15	2	62	79	12	0	0/0	8	
18	24	3	63	80	12	0	0/0	6	
19	13	10	63	80	10	1	0/0	18	mag. act.
20	22	10	63	79	11	0	0/0	11	
21	29	16	61	80	11	1	0/0	10	
22	38	34	63	84	9	4	0/0	4	
23	38	36	63	84	7	0	0/0	4	
24	38	44	63	86	5	3	0/0	10	
25	38	23	62	84	2	1	0/0	10	
26	41	19	61	82	6	5	0/0	12	
27	33	18	63	76	4	4	0/0	6	
28	41	18	58	77	7	1	0/0	6	
29	25	18	54	74	6	0	0/0	6	
30	16	0	.	68	6	0	0/0	4	

During 1987 June slight decrease of the solar activity . Probable growing during August and September .

R_{im}^1 : provisional International monthly Sunspot-Number from the S.I.D.C.

R_i^1 : provisional International daily 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}
Quantity to subtract at the mean solar constant, due to the presence of the sunspots.

600 : 600 Mhz solar flux from the Humain Station (Royal Observatory of Belgium).

2800 : 2800 Mhz solar flux from the Ursigrams (origin : Herzberg Institute Ottawa).

COS : thousands of cosmic rays counts from the Ursigrams

XFI : X-Flare Index from the S.I.D.C. on the base of the Ursigrams. The sum of number of class C-flares + 10 x class M-flares of significant X-ray flux + 100 x X-flares with important X-ray flux.

XI : X-flare Index from the Ursigrams (number of M-flares/number of X-flares)

A_k : geomagnetic Index of Wingst station from the Ursigrams (Ampli. fluct. in 2 nT).

sid : Sudden ionospheric disturbance; ssc : sudden storm commencement

sfe : Solar flare effect; // : two ribbons flare; P : proton flare

mst : magnetic storm; II radio-outburst; pca : polar cap absorption

aur : aurorae; 1b, 2b ... : flare of class 1 or 2 ... (bright).

OBSERVATOIRE ROYAL DE BELGIQUE

DEPARTEMENT 4 RADIOASTRONOMIE ET PHYSIQUE SOLAIRE

NOMBRES RELATIFS DE WOLF JOURNALIERS

PROVISOIRES

PROVISIONAL

SUNSPOT RELATIVE NUMBERS

STATION UCCLE BELGIUM

JUN 1987

DATE	UT	NOMBRE DE GROUPES	NOMBRE DE TACHES	NOMBRE DE WOLF	NOMB REL ZONE CENTRALE	FPSI 10-6 WM-2	QUAL	OBS
1	0851	2	6	26	0	34.	2	VI
4	0945	0	0	0	0	0.	1	VI
5	0839	0	0	0	0	0.	1	VI
6	1120	0	0	0	0	0.	2	CG
7	0930	0	0	0	0	0.	2	CG
9	0700	0	0	0	0	0.	2	HB
10	0752	0	0	0	0	0.	3	VI
11	1100	0	0	0	0	0.	3	HB
12	0510	0	0	0	0	0.	2	HB
14	1000	1	1	11	0	12.	2	CG
16	0628	1	2	12	0	21.	1	VI
17	1725	2	6	26	26	28.	2	AK
18	0852	2	4	24	13	41.	1	VI
21	1000	2	19	39	0	278.	2	CG
22	1151	2	20	40	25	345.	1	VI
23	0745	2	31	51	37	377.	2	VI
24	1258	2	26	46	32	395.	1	VI
25	0524	2	15	35	24	86.	3	HB
26	1012	3	16	46	0	215.	1	VI
27	0838	3	6	36	0	168.	2	AK
29	0458	2	6	26	0	211.	3	HB
30	0533	0	0	0	0	0.	3	HB

LE SOLEIL A ETE OBSERVE 22 JOURS SUR 30 POSSIBLES
LE NOMBRE RELATIF DE WOLF MOYEN EST DE 19.0

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

NORMALISED UCCLE OBSERVATIONAL SUNSPOT NUMBERS

U*=K*U FOR 1987					JUNE				
K* = .806 (*)									
1	20	7	0	13	***	19	***	25	28
2	***	8	***	14	8	20	***	26	37
3	***	9	0	15	***	21	31	27	29
4	0	10	0	16	9	22	32	28	***
5	0	11	0	17	20	23	41	29	20
6	0	12	0	18	19	24	37	30	0
								31	***

THE SUN WAS OBSERVED 22 DAYS ON 30 POSSIBLE
 THE NORMALISED RELATIVE MONTHLY MEAN WOLF NUMBER IS 15

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

UCCLE OBSERVATIONAL MAJOR SUNSPOTS FOR 1987 JUNE
 E AND F BRUNNER'S TYPE GROUPS

UCCLE EAST LIMB	DATE AND TYPE			WEST LIMB
NO	DATE	IST OBS	CMF	LAST OBS
5-1790	6 17.2	21 C	6 24.0	29 E 6 30.7

PROBABLE RETURN OF MAJOR GROUPS FOR 1987 JULY

NO	NEW EAST LIMB	NEW CMF	NEW WEST LIMB
5	7 14.6	7 21.4	7 28.1