



SUNSPOT BULLETIN

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1988 , N° 8

Provisional Sunspot-Numbers for AUGUST 1988

Dependent on observations at LOCARNO Specola Solare
 complemented by an international network and
 determined at the Observatoire Royal de Belgique.

Thirty six coop. stations on SEPTEMBER 1988, 1st, 0900UT

Day	R' i	Day	R' i
1	142	16	85
2	143	17	67
3	146	18	44
4	135	19	57
5	120	20	57
6	123	21	40
7	144	22	22
8	160	23	26
9	171	24	43
10	152	25	71
11	135	26	93
12	133	27	142
13	122	28	146
14	128	29	164
15	121	30	163
		31	151
Mean =		111 . 2	

Predictions of the smoothed monthly Sunspot Numbers

Classical Method		S.I.D.C Adjusted values	
1988 Sep.108(±27)	1989 Mar.148(±49)	1988 Sep. 98(±24)	
Oct.114	Apr.154	Oct.108(±26)	
Nov.121(±30)	May 159(±58)	Nov.119	
Dec.128	Jun.166	Dec.127(±32)	
1989 Jan.135	Jul.172	1989 Jan.136	
Feb.141(±35)	Aug.176(±59)	Feb.143(±36)	

Forecasted values on the basis of the latest provisional
 monthly smoothed Sunspot Number: 1988 February = 64.5 ± 5%

Provisional smoothed values:

1988 Mar. 69(±10)	1988 May 81(±12)	1988 Jul. 94(±12)
Apr. 75	Jun. 87	Aug.100(±15)

Brussels, 1988 September, 1st

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S.I.D.C. SUMMARY OF THE URSIGRAMS									
1988 AUGUST R' = 111.2									
im									
Date	R'	PPSI	600	2800	COS	XFI	XI	Ak	SEA
1	142	255	55	176	934	10	1/0	9	1b(0532)+II
2	143	220	57	182	939	29	1/0	7	1b(1720)+ten+II
3	146	162	56	173	936	10	2/0	6	
4	135	150	49	159	948	12	0/0	3	
5	120	111	50	155	950	5	0/0	9	
6	123	107	47	160	939	6	0/0	6	
7	144	127	48	166	940	6	0/0	6	
8	160	159	50	181	948	3	1/0	4	
9	171	173	50	180	953	4	0/0	16	SSC(0507)
10	152	176	50	180	944	12	0/0	11	
11	135	233	53	173	944	10	0/0	12	
12	133	192	49	168	940	6	0/0	21	
13	122	198	50	157	941	3	0/0	23	
14	128	184	49	149	940	2	0/0	27	
15	121	142	49	140	946	6	0/0	18	
16	85	90	48	135	945	6	0/0	9	
17	67	60	50	138	951	10	0/0	7	
18	44	30	48	125	949	3	0/0	10	
19	57	15	48	121	956	3	0/0	10	
20	57	13	48	115	950	1	0/0	18	SSC(1202)
21	40	15	48	113	949	1	0/0	8	SSC(2229)
22	22	21	50	113	948	0	0/0	29	
23	26	24	53	120	946	1	1/0	15	1700(SEAmax1717)
24	43	26	51	131	944	8	0/0	16	
25	71	55	51	140	943	7	0/0	18	SSC(0932);Forb
26	93	91	53	153	907	18	1/0	12	
27	142	76	54	163	918	12	0/0	17	1158;P(1925) ↓
28	146	106	54	171	927	10	0/0	12	1236+1315+1352+1413
29	164	162	-	185	970	7	0/0	14	1542
30	163	199	-	187	933	10	0/0	16	
31	151	286	-	-	-	-	-	-	

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(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

AOUT 1988

DATE	UT	NOMBRE DE GROUPES	NOMBRE DE TACHES	NOMBRE DE WOLF	NOMB REL ZONE CENTRALE	PSI 10-6 WM-2	QUAL	OBS
1	0746	6	93	153	47	2707.	4	VI
2	0949	7	91	161	90	2222.	1	VI
3	0632	7	104	174	89	1849.	2	VI
4	0653	8	73	153	46	1629.	3	VI
5	0820	6	68	128	16	1203.	1	VI
6	1102	7	81	151	36	1407.	5	HB
7	1015	9	101	191	47	1542.	4	CG
8	0746	10	86	186	40	1972.	2	VI
9	0819	10	111	211	79	1870.	2	VI
10	0827	8	91	171	69	1515.	1	VI
11	0651	7	84	154	104	1657.	2	VI
12	0730	5	98	148	95	1703.	2	VI
13	1052	7	74	144	97	1812.	3	PC
14	0733	8	63	143	86	1757.	3	PC
15	0840	7	55	125	49	1371.	3	HB
16	0720	5	39	89	0	966.	4	HB
17	0718	4	27	67	15	736.	3	VI
18	0641	3	14	44	0	435.	2	VI
19	1003	7	9	79	11	236.	1	VI
20	1001	5	12	62	0	167.	3	HB
22	1211	2	7	27	0	254.	1	VI
23	0737	3	9	39	28	303.	2	VI
25	0608	5	19	69	46	620.	2	HB
26	0728	6	35	95	24	1198.	2	VI
28	0735	8	46	126	16	1154.	3	PC
29	1249	9	127	217	33	1826.	1	VI
30	1156	8	129	209	99	1848.	4	VI
31	0754	7	153	223	111	2406.	2	VI

LE SOLEIL A ETE OBSERVE 28 JOURS SUR 31 POSSIBLES
LE NOMBRE RELATIF DE WOLF MOYEN EST DE 133.5

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NORMALISED UCCLE OBSERVATIONAL SUNSPOT NUMBERS

U* = K*U FOR 1988				AUGUST					
K* = .950 (*)									
1	145	7	181	13	136	19	75	25	65
2	152	8	176	14	135	20	58	26	90
3	165	9	200	15	118	21	***	27	***
4	145	10	162	16	84	22	25	28	119
5	121	11	146	17	63	23	37	29	206
6	143	12	140	18	41	24	***	30	198
								31	211

THE SUN WAS OBSERVED 28 DAYS ON 31 POSSIBLE
 THE NORMALISED RELATIVE MONTHLY MEAN WOLF NUMBER IS 126

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

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

UCCLE NO	EAST LIMB DATE	DATE	AND TYPE	DATE		WEST LIMB DATE
				IST OBS	LAST OBS	
20-1804	7 21.7	22 H	7 28.4	4 G	8	4.2
1-1805	7 23.3	25 A	7 30.0	4 G	8	5.8
2-1805	7 26.2	27 H	8 1.9	8 H	8	8.7
3-1805	7 26.8	27 E	8 2.6	9 G	8	9.3
10-1805	7 30.4	5 B	8 6.1	11 G	8	12.9
27-1805	8 17.0	25 D	8 23.7	29 F	8	30.5
4-1806	8 24.8	26 A	8 31.5	31 E	9	7.3
7-1806	8 26.5	28 E	9 2.2	31 E	9	9.0
9-1806	8 24.2	29 E	8 31.0	31 E	9	6.7

PROBABLE RETURN OF MAJOR GROUPS FOR 1988 SEPTEMBER

NO	NEW EAST LIMB	NEW CMP	NEW WEST LIMB
20	8 19.1	8 25.8	9 1.6
1	8 18.9	8 25.7	9 1.4
2	8 22.8	8 29.5	9 5.3
3	8 23.9	8 30.6	9 6.4
10	8 26.2	9 1.9	9 8.7
27	9 13.1	9 19.8	9 26.6
9	9 20.4	9 27.1	10 3.9