



Sunspot Index Data Center

SUNSPOT BULLETIN

Data Analysis Service supported by the FAGS

1990 , No 6

Provisional Sunspot-Numbers for JUNE 1990

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 July 1990,1st,0930UT

Table with 4 columns: Day, R'1, Day, R'1. It lists sunspot numbers for each day of the month from 1 to 15.

Mean = 105 . 2

Table comparing Classical Method and S.I.D.C. Adjusted values for months from July to December.

Forecasted values on the basis of the latest provisional monthly
smoothed Sunspot Number:1989 DECEMBER = 153 . 6 ±5%
Provisional smoothed values:
1990 Jan.151(±22) 1990 Mar.147 1990 May 143
Feb.149 Apr.145 Jun.141

Brussels, 1990 JULY ,1st

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

1990 JUNE R_{IM} = 105.2

Date	R _r	PPSI	600	2800	COS	XFI	XI	Ak	SEA
31	101	43	41	140	788	10	0/0	13	
1	96	86	39	136	800	4	0/0	12	
2	80	71	38	136	814	3	0/0	8	0634
3	73	51	38	140	815	3	0/0	8	
4	77	63	38	142	804	5	0/0	7	
5	79	49	41	147	809	4	0/0	8	
6	96	71	41	155	812	31	2/0	13	1638
7	107	82	43	175	809	11	1/0	22	1440 X(1859)+ten
8	107	79	45	187	807	7	0/0	17	
9	87	108	47	198	807	29	2/0	25	1646 2b(1845)+ten+sid
10	111	132	52	206	805	48	3/0	19	1500 2b(0709)+ten+sid;SEA(1497)
11	131	155	49	209	809	32	2/0	14	0937 2b(0940)+ten;SEA(1000)
12	115	146	49	219	805	41	2/0	88	P2b(0541)ssc(0825);p(1140
13	115	146	49	198	797	40	1/0	64	p(0915)\\pca(1545);p(1700
14	111	130	52	196	785	10	0/0	68	ssc(0311)\\+ssc(1417)(1730
15	102	122	51	185	781	26	1/0	14	0825 2b(0821)
16	110	112	51	180	796	5	0/0	6	
17	100	108	49	178	795	10	0/0	4	
18	83	80	44	162	806	1	0/0	18	
19	79	52	44	156	814	3	0/0	9	
20	73	48	43	154	819	8	0/0	2	
21	57	34	38	148	820	4	0/0	5	
22	71	32	38	138	828	3	0/0	7	
23	64	31	38	133	842	11	0/0	8	
24	85	60	40	137	836	20	0/0	10	
25	94	83	40	142	823	19	1/0	9	2b(0131)+II+IV,ten,sid, swccp
26	103	110	--	148	831	29	1/0	8	1b(1940)+II,ten,sid
27	140	223	--	165	829	15	2/0	14	
28	184	199	--	178	829	50	2/0	10	1356 SEA(1132)
29	203	192	--	200	829	55	1/0	12	ssc(0342)
30	224	232	44	216	833	36	0/0	5	

R_r,R_{IM}: 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 from 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);sfe(solar flare effect);s-1-2-3-4(class of flares);
 II-IV radio-burst;ten(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:neutron event)

OBSERVATOIRE ROYAL DE BELGIQUE

DEPARTEMENT 4 RADIOASTRONOMIE ET PHYSIQUE SCLAIRE

NOMBRES RELATIFS DE WOLF JOURNALIERS

PROVISOIRES

PROVISIONAL

SUNSPOT RELATIVE NUMBERS

STATION UCCLE BELGIUM

JUIN 1990

DATE	UT	NOMBRE DE GROUPES	NOMBRE DE TACHES	NOMERE DE WOLF	NOMB REL ZONE CENTRALE	PSI 10-6 WM-2	QUAL	OBS
1	0920	7	63	133	63	1115.	4	AK
2	0833	6	37	97	16	943.	1	PC
4	0722	6	30	90	46	643.	1	PC
5	0807	7	36	100	30	545.	2	VI
7	1255	11	74	184	138	545.	4	AK
8	1041	4	21	61	37	417.	2	VI
14	1305	7	38	100	16	1053.	1	AK
15	1010	6	30	110	27	850.	1	AK
16	1020	8	67	147	65	953.	1	AK
17	0855	9	60	150	60	779.	3	AK
18	1135	8	30	110	58	891.	2	VI
21	0636	6	11	71	J	357.	3	VI
22	1610	7	18	88	C	557.	2	CG
23	0737	5	15	65	21	684.	2	PC
24	0925	7	43	113	44	1242.	2	CG
25	1355	6	43	123	47	1259.	1	ST
26	0735	8	69	149	80	1073.	3	AK
27	0845	9	94	184	67	1397.	2	AK
28	0645	13	98	228	98	1703.	3	AK
29	0920	14	104	244	82	1695.	2	CG
30	0740	12	106	226	111	1828.	1	PC

LE SOLEIL A ETE OBSERVE 21 JOURS SUR 30 POSSIBLES
LE NOMBRE RELATIF DE WOLF MOYEN EST DE 132.0

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NORMALISED UCCLE OBSERVATIONAL SUNSPOT NUMBERS

U* = K*U FOR 1990				JUNE					
K* = .806 (*)									
1	107	7	148	13	***	19	***	25	99
2	76	8	49	14	80	20	***	26	120
3	***	9	***	15	88	21	57	27	148
4	72	10	***	16	118	22	70	28	183
5	80	11	***	17	120	23	52	29	196
6	***	12	***	18	88	24	91	30	182
								31	***

THE SUN WAS OBSERVED 21 DAYS ON 30 POSSIBLE
 THE NORMALISED RELATIVE MONTHLY MEAN WOLF NUMBER IS 106

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

UCCLE OBSERVATIONAL MAJOR SUNSPOTS FOR 1990 JUNE
 E AND F BRUNNER'S TYPE GROUPS

UCCLE NO	EAST LIMB		DATE AND TYPE			WEST LIMB	
	DATE	IST OBS	DATE	AND TYPE	LAST OBS	DATE	
23-1829	5 24.3	25 C	5 31.0	2 E	6 6.8		
24-1829	5 22.9	26 A	5 29.6	4 G	6 5.4		
13-1830	6 18.4	22 D	6 25.2	29 J	7 1.9		

PROBABLE RETURN OF MAJOR GROUPS FOR 1990 JULY

UCCLE NO	NEW EAST LIMB	NEW CMP	NEW WEST LIMB
24	6 19.2	6 25.9	7 2.7
13	7 15.1	7 21.6	7 26.6