

DEFINITIVE DAILY AMERICAN SUNSPOT NUMBERS FOR 1988

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Abstract

Final values of daily American Relative Sunspot Numbers for 1988 are provided, based on observations made by members of the international network of American Sunspot Program collaborators and AAVSO Solar Division.

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The daily mean values of American Sunspot Numbers for 1988 listed in Table I were computed according to the statistical methods that were described in Taylor (1985).

The final monthly mean values included in Table IIa continue the series of values previously presented in Taylor (1987a).

The final smoothed monthly mean values included in Table IIb continue the series of values previously presented in Taylor (1987b). The values were computed according to equation (1) from Waldmeier (1961) and Taylor (1985):

$$R_{sm} = 1/24 [(N_{i-6} + N_{i+6} + 2 (\sum_{-5}^{+5} N_i)], \quad (1)$$

where N is set equal to the final mean of the month under analysis, and other means are taken accordingly. Thus R_{sm} lags approximately six months behind the more recent final mean.

Figure 1 depicts this sunspot activity during 1988.

REFERENCES

- Taylor, P. O. 1985, *Journ. Amer. Assoc. Var. Star Obs.* 14, 28.
_____ 1987a, *Journ. Amer. Assoc. Var. Star Obs.* 16, 125.
_____ 1987b, *Journ. Amer. Assoc. Var. Star Obs.* 16, 127.
Waldmeier, M. 1961, *The Sunspot Activity in the Years 1610-1960*, Zurich, Schulthess and Co.

TABLE I

Daily American Relative Sunspot Numbers for 1988

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1)	48	59	70	108	70	100	127	142	142	117	127	121
2)	33	69	70	105	81	94	134	149	142	120	103	104
3)	23	66	68	96	81	103	140	149	129	122	122	121
4)	26	62	72	80	93	110	127	141	142	128	113	133
5)	29	53	70	69	94	132	112	122	130	125	128	139
6)	43	42	63	69	78	146	100	129	105	120	132	142
7)	55	43	68	86	51	155	101	145	100	124	113	145
8)	57	44	69	98	68	165	93	160	89	120	98	109
9)	68	47	56	110	89	163	80	171	80	122	118	125
10)	66	40	34	112	91	137	80	153	88	149	137	136
11)	69	29	22	123	72	110	90	131	92	153	155	163
12)	63	10	45	125	61	81	97	145	89	160	167	170
13)	77	19	54	136	56	47	101	124	91	153	155	179
14)	94	24	58	139	52	56	108	129	100	134	142	215
15)	90	28	58	142	54	68	112	113	102	121	171	214
16)	85	32	82	144	58	89	117	80	109	118	181	221
17)	69	34	91	144	58	83	116	57	90	120	167	228
18)	60	58	97	135	45	69	138	47	102	135	165	239
19)	68	60	99	118	22	71	106	56	113	128	143	235
20)	64	53	87	89	27	74	106	52	138	133	103	233
21)	73	24	82	79	31	102	100	33	170	119	139	215
22)	61	19	79	66	35	98	103	24	169	121	130	253
23)	42	11	81	46	42	94	104	30	176	113	120	244
24)	39	21	89	38	51	100	79	56	163	123	113	192
25)	34	21	94	50	61	109	79	78	155	127	84	186
26)	41	19	98	46	67	113	76	93	149	119	67	174
27)	54	37	100	40	71	123	101	133	152	123	73	167
28)	68	48	111	40	80	128	112	144	141	118	86	200
29)	56	61	105	41	87	131	147	162	109	119	99	193
30)	54	--	110	54	89	140	144	158	109	111	108	190
31)	52	--	120	--	92	--	139	142	--	111	--	168
Mean:												
	56.8	39.1	77.5	90.9	64.7	106.4	108.7	111.2	122.2	126.0	125.3	179.2

Yearly Mean (1988): 100.7

TABLE IIa

Final Monthly Means

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1987	--	--	--	--	--	--	34.3	39.0	34.0	55.8	42.5	26.7
1988	56.8	39.1	77.5	90.9	64.7	106.4	108.7	111.2	122.2	126.0	125.3	179.2

TABLE IIb

Smoothed Monthly Means

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1987	15.9	17.9	20.4	23.2	25.9	27.9	30.8	34.3	38.5	43.3	46.9	52.0
1988	58.7	64.9	71.5	78.1	84.5	94.3	--	--	--	--	--	--

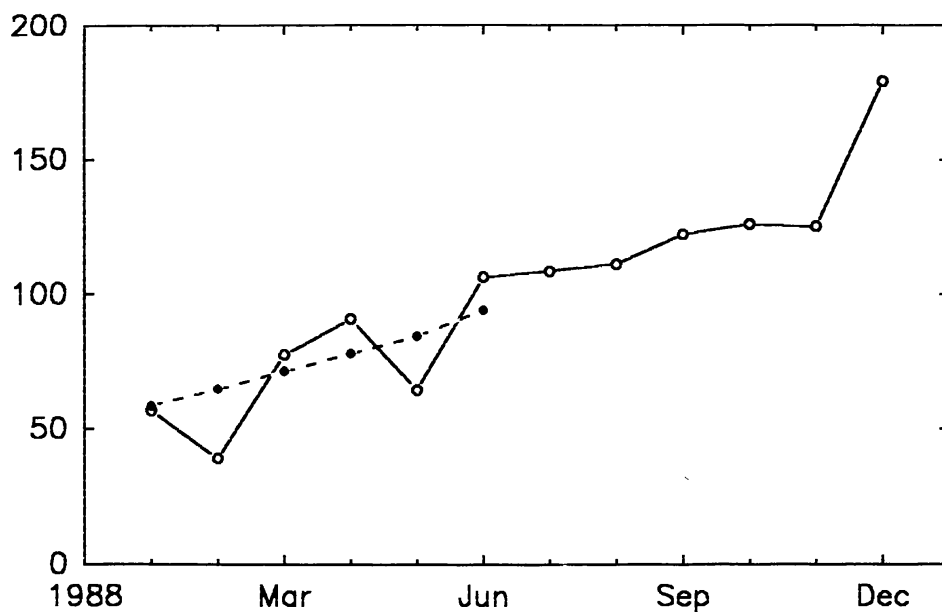


Figure 1. Sunspot activity during 1988. Solid lines and open circles indicate the trend of monthly mean American Relative Sunspot Numbers. Dashed lines and filled circles show the progress of the smoothed mean. The latter values were computed with the aid of equation (1).