

Sunspot Relative Numbers and Sunspot Areas

1995

Cooperating Observatories to the International Sunspot Number :

Athens Nat. Obs. (Greece); Athens by ussps 32404 (Greece); Attikis Nat. Obs. (Greece); Auckland (New-Zealand); Australian Obs. (Australia); Berlin (Germany); Beyazit (Turkey); Boom (Belgium); Bruxelles-Uccle (Belgium); Bucharest (Rumania); Budapest (Hungary); Camaguey (Cuba); Campinas (Brazil); Caracas (Venezuela); Catania(Italy); Ciney (Belgium); Cochabamba (3 stat. Bolivia); Cottbus (Germany); Culgoora (Australia); Dimitrograd (Bulgaria); Dinant (Belgium); Dover (U.K.); Eilenburg (Germany); Etalle (Belgium); Giza (egypt); Grimbergen (Belgium); Hancharia (Italy); Helwan (Egypt); Holloman by ussps 21305 (U.S.A.); Hurbanovo (Slovakia); Hvezdaren (2 stat. Slovakia); Invercargill (2 stat. New-Zealand); Inzernhagen (Germany); Iseo (Italy); Jambol (2 stat. Bulgaria); Jordanston (North Ireland); Jeddah (Saudi Arabia); Kandilli (Turkey); Kanzelöhe (Austria); Karjali (Bulgaria); Kawaguchi-Saitama (Japan); Kislovodsk (Russia); Kladno (Czech Republic); Langemark (Belgium); Larissa Obs.(Greece); Learmonth by ussps 81202 (Australia); Locarno (Switzerland); Lormont (France); Luning (Taiwan); Marcq en Baroeul (France); Milano(Italy); Mons (Belgium); Mosta (Malta); Murmansk (Russia); Naxxar (Malta); Nijmegen (The Netherlands); Mie-Ken (Japan); Ondrejov (Czech Republic); Palehua by ussps 26204 (Hawaii); Potsdam (Germany); Pulligny (France); Pyong Yang (North Korea); Quezon-City (Philippines); Ramey by ussps 17201 (Puerto-Rico); Ronse-Renaix (Belgium); Roquetes-Tortosa (Spain); San Jose (Argentina); San Miguel (Argentina); Santander (Spain); Santiago (Chile); Siracusa (Italy); Skalnate (Slovakia); Sliven (Bulgaria); Smolian (Bulgaria); Sobota (Slovakia); Suwa City (Japan); Taipei Obs.(Taiwan); Taipei Weather Bureau(Taiwan); Teneriffe (Spain); Tilburg (The Netherlands); Tokyo-Mitaka (Japan); Tokyo Nat. Science Museum (Japan); Urawa-Saitama(Japan); Valencia (Spain); Varna (Bulgaria); Vedrin (Belgium); Wittelsheim (France); Zagora (Bulgaria); Zamora (Spain).

The first column gives the definitive International Sunspot Numbers for the whole disk of the sun (R_r) established by the Sunspot Index Data Center Brussels on the basis of Locarno as reference station, the second gives the same quantity for the central zone (R_{1C}) on the basis of the observations of Athens (Nat.Obs.); Athens 32404; Uccle; Catania by ussps 31405; Culgoora; Grimbergen; Holloman; Hvezdaren; Izernhagen; Kawaguchi-Saitama; Kislovodsk; Learmonth; Mie-Ken; Mons; Nijmegen; Palea Penteli; Palehua; Ramey; Ronse-Renaix; Roquetes-Tortosa; Smolian; Sobota; Suwa-city; Taipei Obs.; Tilburg; Tokyo-Sc. Museum; Urawa-Saitama.

The diameter of the central zone is half that of the solar disk.

The Sunspot areas A_C are from Catania, A_R from Roma and A_I are mean quantities calculated by the Sunspot Index Data Center on the basis of observations of Athens (Nat. Obs.), Roma, Luning, Helwan, Jeddah, Palea Penteli, Taipei Obs. and Taipei Weather Bureau and ratched to Catania by a monthly scaling factor. The apparent total area of the umbra plus penumbra is uncorrected for foreshortening and expressed in millionths of the solar disk.

Pierre CUGNON
Sunspot Index Data Center
Observatoire Royal de Belgique

JANUARY 1995

1995 JAN.	R _T	R _{TC}	A _C	A _R	A _I
1	10	0	0	--	0
2	8	0	0	0	0
3	11	0	21	--	4
4	14	0	31	0	12
5	11	0	47	45	47
6	15	10	30	--	14
7	7	0	--	0	0
8	9	10	--	--	0
9	9	9	--	89	25
10	8	9	0	0	0
11	9	9	10	0	5
12	10	10	5	0	1
13	8	0	--	0	0
14	11	0	159	89	145
15	12	0	121	--	143
16	17	16	169	--	249
17	23	20	238	423	523
18	35	27	434	--	614
19	42	25	--	432	658
20	51	25	503	494	589
21	55	19	459	512	676
22	53	24	385	--	733
23	54	39	571	442	625
24	60	42	804	1912	1271
25	49	44	607	--	457
26	30	33	443	296	399
27	23	8	179	286	288
28	25	9	184	--	249
29	18	0	110	--	199
30	31	0	206	--	226
31	32	0	317	41	343
MEAN	24.2	12.5	232	266	274

FEBRUARY 1995

1995 FEB.	R _T	R _{TC}	A _C	A _R	A _I
1	35	7	--	222	347
2	41	15	--	226	286
3	38	27	359	305	315
4	35	24	258	--	236
5	35	29	364	--	254
6	34	21	253	258	269
7	16	15	180	150	271
8	12	0	121	--	135
9	19	0	160	--	176
10	23	0	163	--	168
11	13	0	116	188	178
12	14	0	195	--	225
13	11	8	248	--	248
14	17	8	212	267	267
15	22	10	284	213	271
16	26	8	263	--	288
17	33	7	268	328	329
18	31	9	275	--	375
19	46	20	427	--	405
20	46	28	538	394	546
21	45	36	603	445	478
22	47	35	348	264	403
23	42	23	411	--	449
24	30	8	280	--	305
25	28	0	195	140	217
26	26	9	168	--	145
27	32	10	365	--	428
28	41	8	540	--	574
MEAN	29.9	13.0	292	262	307

MARCH 1995

1995 MAR.	R _r	R _{rc}	A _c	A _r	A _r
1	51	37	--	1098	784
2	56	50	--	--	669
3	55	49	932	1276	1032
4	65	49	925	--	960
5	61	41	602	--	695
6	38	14	--	--	503
7	36	0	407	293	387
8	20	0	164	--	242
9	10	0	53	--	132
10	0	0	0	--	0
11	8	0	0	0	4
12	12	0	0	--	5
13	10	0	--	0	4
14	10	0	26	--	9
15	17	9	269	--	342
16	13	0	307	--	422
17	16	7	408	404	411
18	35	11	502	0	348
19	38	18	507	--	507
20	41	31	439	--	371
21	42	29	530	547	437
22	45	45	608	589	525
23	44	20	572	--	520
24	44	14	470	487	546
25	42	11	332	0	336
26	41	8	321	--	296
27	28	16	492	--	352
28	19	19	190	--	382
29	23	26	248	--	283
30	23	25	306	--	236
31	22	22	274	296	265
MEAN	31.1	17.8	366	416	387

APRIL 1995

1995 APR.	R _r	R _{rc}	A _c	A _r	A _r
1	13	0	132	111	112
2	17	8	53	--	64
3	19	0	79	--	96
4	10	0	31	0	13
5	0	0	0	0	0
6	0	0	0	0	0
7	0	0	0	--	0
8	0	0	--	--	0
9	0	8	21	--	6
10	0	0	0	--	0
11	10	0	68	--	86
12	18	0	137	124	180
13	31	0	317	--	299
14	34	29	--	--	355
15	42	28	--	--	659
16	46	34	524	--	738
17	48	53	603	--	517
18	41	29	487	859	557
19	34	0	498	--	387
20	25	0	243	188	257
21	13	0	148	--	246
22	11	0	63	0	83
23	0	0	--	--	0
24	0	0	0	--	0
25	0	0	--	--	0
26	0	0	0	--	0
27	8	0	10	--	2
28	0	0	0	0	0
29	0	0	0	--	0
30	0	0	0	--	0
MEAN	14.0	6.3	137	142	155

MAY 1995

1995 MAY	R _r	R _{rc}	A _c	A _r	A _t
1	9	9	37	--	7
2	0	0	0	0	0
3	0	0	0	0	0
4	8	0	0	0	0
5	10	0	15	--	14
6	9	0	0	0	0
7	8	0	84	--	172
8	9	0	106	178	216
9	10	0	127	274	272
10	11	10	132	229	225
11	12	12	137	--	204
12	26	26	174	--	146
13	26	27	286	--	276
14	27	30	265	--	294
15	36	33	285	156	327
16	40	34	577	--	713
17	43	24	1039	--	1248
18	40	21	1383	1066	1461
19	35	8	895	--	1058
20	27	0	566	433	672
21	13	0	339	--	366
22	10	0	100	--	209
23	0	0	0	--	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	--	0
27	0	0	0	0	0
28	9	0	21	--	9
29	12	0	79	16	43
30	10	10	58	13	35
31	9	8	21	--	18
MEAN	14.5	8.1	217	158	258

JUNE 1995

1995 JUN.	R _r	R _{rc}	A _c	A _r	A _t
1	8	9	0	--	2
2	9	0	0	0	0
3	12	10	47	--	34
4	14	14	127	--	100
5	30	15	169	229	295
6	24	0	333	331	425
7	28	18	201	92	425
8	28	23	344	--	546
9	24	26	318	204	304
10	30	30	359	150	399
11	24	19	381	--	429
12	20	0	312	--	365
13	17	0	148	--	223
14	12	10	100	--	77
15	0	0	0	0	0
16	0	0	0	0	0
17	7	0	0	--	0
18	9	9	106	--	122
19	18	9	142	--	156
20	13	0	127	--	179
21	15	0	116	178	185
22	17	19	190	159	212
23	16	17	185	--	214
24	13	14	169	130	145
25	13	13	185	--	166
26	12	13	137	57	131
27	10	0	42	10	62
28	9	0	42	0	15
29	14	8	0	--	0
30	23	16	79	92	72
MEAN	15.6	9.7	145	109	176

JULY 1995

1995 JUL.	R _T	R _{TC}	A _C	A _R	A _T
1	30	13	238	--	282
2	25	12	264	--	323
3	14	0	270	433	414
4	14	17	265	--	362
5	22	19	4	461	399
6	27	20	502	363	441
7	29	17	418	570	504
8	25	15	386	528	446
9	28	18	477	--	469
10	21	18	238	369	314
11	18	16	169	337	257
12	13	11	84	--	194
13	11	0	5	0	30
14	13	16	74	143	83
15	19	24	148	340	265
16	17	21	323	--	359
17	16	20	339	--	253
18	14	14	196	--	180
19	21	12	84	29	113
20	23	26	57	10	72
21	14	16	36	0	13
22	11	13	31	0	6
23	0	0	0	--	0
24	0	0	0	0	0
25	0	0	0	0	0
26	7	10	0	0	0
27	8	10	5	0	3
28	0	0	0	--	0
29	0	0	0	0	0
30	0	0	0	--	0
31	10	0	15	0	5
MEAN	14.5	11.5	149	179	187

AUGUST 1995

1995 AUG.	R _T	R _{TC}	A _C	A _R	A _T
1	14	14	106	--	59
2	15	15	53	--	80
3	17	17	106	--	134
4	16	15	58	0	52
5	16	16	31	7	26
6	22	19	159	--	128
7	18	22	110	38	87
8	13	13	63	--	81
9	9	0	0	--	0
10	10	0	21	0	3
11	11	8	21	0	3
12	0	0	0	0	0
13	9	0	5	--	5
14	0	0	0	0	0
15	12	10	0	--	0
16	21	25	68	--	66
17	13	10	15	--	5
18	0	8	0	--	0
19	0	0	0	0	0
20	8	0	0	--	0
21	0	0	0	0	0
22	8	9	0	0	0
23	15	15	37	19	38
24	31	30	195	--	229
25	30	27	349	--	399
26	41	0	322	--	556
27	32	0	216	--	387
28	24	0	381	--	340
29	14	16	254	258	349
30	13	13	233	--	222
31	11	11	254	226	257
MEAN	14.3	10.1	99	42	113

SEPTEMBER 1995

1995 SEP.	R _T	R _{TC}	A _C	A _R	A _T
1	9	9	132	--	179
2	8	8	196	280	199
3	8	0	127	--	170
4	16	0	127	--	152
5	16	0	137	--	133
6	8	0	42	--	70
7	8	0	0	0	0
8	0	0	0	--	0
9	0	0	0	0	0
10	0	0	0	--	0
11	0	0	0	0	0
12	9	0	--	--	0
13	8	0	0	--	0
14	0	0	0	0	0
15	10	0	21	0	8
16	8	0	21	--	26
17	0	0	--	--	0
18	0	0	0	--	0
19	11	0	--	--	51
20	21	0	147	--	73
21	22	0	284	--	238
22	30	0	206	--	211
23	29	14	174	--	183
24	30	21	--	--	77
25	26	18	99	--	73
26	25	27	67	--	55
27	26	18	--	--	33
28	9	9	--	0	3
29	9	0	0	0	0
30	8	0	--	0	0
MEAN	11.8	4.1	77	31	64

OCTOBER 1995

1995 OCT.	R _T	R _{TC}	A _C	A _R	A _T
1	0	0	0	--	0
2	0	0	0	--	0
3	0	0	0	--	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	0	0
7	10	0	63	--	55
8	9	9	174	--	186
9	22	10	370	382	335
10	29	14	460	423	385
11	48	16	787	433	691
12	57	13	1053	398	760
13	58	14	995	1290	1030
14	54	42	767	1102	894
15	31	26	571	--	773
16	43	24	755	967	753
17	37	16	762	935	754
18	28	16	593	519	536
19	21	0	402	430	389
20	18	7	286	261	266
21	26	0	222	--	333
22	26	0	375	--	302
23	26	0	253	150	300
24	25	21	285	--	298
25	22	21	168	165	189
26	22	14	89	109	110
27	12	10	53	124	101
28	10	9	21	29	27
29	9	0	0	--	4
30	0	0	5	--	1
31	10	0	15	0	3
MEAN	21.1	9.1	307	386	306

NOVEMBER 1995

1995 NOV.	R _r	R _{rc}	A _c	A _r	A _r
1	0	0	0	--	0
2	8	0	0	--	0
3	8	8	0	0	0
4	0	0	0	0	0
5	0	0	0	--	0
6	8	0	84	--	45
7	8	0	84	172	208
8	8	9	148	--	187
9	9	0	--	--	211
10	12	11	254	315	308
11	9	9	254	369	373
12	8	10	212	--	274
13	8	9	--	--	271
14	8	10	275	--	296
15	20	12	253	306	398
16	22	10	200	--	140
17	33	16	211	--	215
18	23	9	174	143	223
19	10	0	84	--	77
20	10	11	53	38	76
21	9	9	42	--	30
22	9	10	31	3	16
23	9	9	5	0	2
24	0	0	--	--	0
25	0	0	0	0	0
26	0	0	0	--	0
27	0	0	--	0	0
28	9	0	0	3	5
29	11	12	42	41	57
30	12	12	--	86	172
MEAN	9.0	5.9	96	98	119

DECEMBER 1995

1995 DEC.	R _r	R _{rc}	A _c	A _r	A _r
1	16	11	--	108	85
2	12	13	--	--	87
3	16	0	--	--	67
4	16	0	94	--	93
5	14	0	--	--	76
6	10	0	--	--	141
7	10	10	164	--	144
8	8	9	127	--	154
9	19	20	--	--	165
10	17	19	--	--	178
11	18	10	--	--	206
12	11	0	--	--	232
13	10	0	169	--	177
14	9	0	116	--	151
15	8	0	84	--	91
16	0	0	--	--	7
17	0	0	0	--	20
18	0	0	0	0	24
19	0	0	0	0	7
20	8	0	10	0	17
21	9	0	42	--	27
22	9	0	21	--	8
23	8	9	0	--	0
24	0	0	0	--	0
25	12	13	0	--	0
26	17	11	0	--	0
27	18	10	84	--	53
28	17	10	--	--	43
29	9	0	--	6	21
30	10	0	15	0	25
31	0	8	--	--	0
MEAN	10.0	4.9	51	19	74