

Annual Final Report

AFR

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In the year 2004, Solar Cycle no. 23

The Average CV was: 55,5 and the Average 6-rot. Smoothed CV was: 61,9

The Average CV-USAF was: 41,9

giving an Estimated STDEV of: 9,4

CV-Helios Network observed on 366 days

CV-Helios Network had a total of 7158 observations in 2004

CV-Helios Network have received 449 observation entries in the year 2004

CV-Helios Network's observers had an average of 15,5 observations per day

This Annual Final Report contain results from 51 CV-observers

A sincere thanks to all observers for their fine contributions in the passed year.

CV-Helios Network 01. April 2005



Kjell Inge Malde
Director

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Invidual results for the year 2004						
CV-	Name	Country	CV	Obs	K	Obs. Tot.
CV-001	MALDE, KJELL INGE	NORWAY	56,3	209	0,996	4900
CV-010	DUBOIS, FRANKY	BELGIUM	62,9	260	1,153	4313
CV-012	HEEN, LARS TRYGVE	NORWAY	86,7	3	1,555	748
CV-014	GÖTZ, MARTIN	DENMARK	83,5	118	1,451	1328
CV-019	JUNKER, ELMAR	GERMANY	52,3	163	0,908	1646
CV-020	HOLL, MANFRED	GERMANY	36,1	147	0,625	2319
CV-021	BARNES, HOWARD	NEW ZEALAND	69,7	126	1,259	2429
CV-022	VIERTEL, ANDREAS	GERMANY	47,1	191	0,816	2766
CV-023	BRETSCHNEIDER, HARTMUT	GERMANY	40,5	187	0,726	2068
CV-034	VVS BELGIUM,	BELGIUM	59,6	316	1,078	1843
CV-036	BROMME, HEIKO	GERMANY	42,1	97	0,734	624
CV-038	MORALES, GERMAN	BOLIVIA	57,4	345	1,044	2208
CV-040	BATTAIOLA, ROBERTO	ITALY	63,6	76	1,314	933
CV-041	ROTHERMEL, JENS	GERMANY	113,4	11	1,839	849
CV-043	JOHNSON, ROBERT A.	UNITED STATES	63,9	139	1,170	708
CV-044	SCHRÖDER, GERD	GERMANY	52,5	208	0,919	1266
CV-047	CARLSON, JIM	UNITED STATES	46,9	92	0,862	1242
CV-055	ASTRO UNISON, MEXICO	MEXICO	43,2	104	0,736	1020
CV-059	PAWLUTSCHENKO, BEN	AUSTRALIA	58,2	85	1,111	381
CV-064	STRICKLING, WOLFGANG	GERMANY	48,5	19	0,802	678
CV-068	THIMM, SVEN OVE	DENMARK	58,3	212	0,998	1280
CV-071	HICKMANN, RICO	GERMANY	58,2	120	1,043	865
CV-076	LOADER, PAULINE	NEW ZEALAND	63,0	85	1,093	518
CV-077	JOHNSTON, ANDREW	UNITED KINGDOM	50,2	144	0,799	513
CV-082	URBANSKI, PIOTR	POLAND	56,2	224	0,995	1232
CV-085	DECKERT, ANN CHRISTIN	GERMANY	100,5	4	1,803	107
CV-086	TOS-POLAND	POLAND	57,9	366	1,071	1879
CV-089	SZATKOWSKI, KRZYSIEK	POLAND	72,0	61	1,284	677
CV-091	DALEK, GRZEGORZ	POLAND	55,0	206	0,969	968
CV-095	ANDRESEN, BIRGER	NORWAY	57,1	166	0,957	615
CV-102	MOSER, PAULO ROBERTO	BRAZIL	64,4	146	1,204	518
CV-103	STEEN, OCTAAF	BELGIUM	59,5	264	1,053	968
CV-104	MEEUS, LIEVE	BELGIUM	63,2	104	1,050	581
CV-105	RYBACK, ALEXEY	RUSSIA	62,8	194	1,065	736
CV-107	LEVENTHAL, MONTY	AUSTRALIA	73,3	224	1,361	910
CV-116	BJERKGÅRD, TERJE	NORWAY	61,5	32	0,972	150
CV-122	FEIK, VLASTISLAV	CZECH REPUBLIC	48,0	146	0,869	514
CV-128	NELIBA, VLASTIMIL	CZECH REPUBLIC	58,9	246	1,117	720
CV-129	MUSIALSKI, PAWEL	POLAND	48,0	76	0,855	105
CV-132	VALLE, DANIEL DEL	UNITED STATES	64,1	17	1,143	101
CV-135	ARAUJO, GEMA	SPAIN	59,7	321	1,126	962
CV-136	GARCÍA, FAUSTINO	SPAIN	52,5	139	1,008	392
CV-137	RODRÍGUEZ RODRÍGUEZ, JAVIER RAMÓN	SPAIN	67,3	39	0,956	179
CV-139	ALONSO, JAVIER	SPAIN	46,8	69	0,965	220
CV-145	WILLMANN, BJØRN	NORWAY	59,6	75	1,072	173
CV-146	GONZÁLEZ COROAS, ANGEL ALBERTO	CUBA	41,5	364	0,757	578
CV-149	JOSHI, BHARGAV	INDIA	8,6	146	0,172	146
CV-150	GOLOVIN, ALEX	UKRAINE	32,0	3	0,492	3
CV-151	CARELS, JEFFREY	BELGIUM	60,1	36	1,044	36
CV-152	SZCZUREK, MAGDALENA	POLAND	42,7	23	0,751	23
CV-153	JASKULSKA, KRZYSTYNA	POLAND	13,9	10	0,633	10
	51		56,9	7158	1,015	

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Collated results CV for the year 2004												
CV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	59,00	47,50	61,14	66,19	36,80	31,59	16,55	46,14	23,35	19,81	118,69	44,92
2	81,67	61,00	36,27	60,50	40,53	20,04	20,91	48,81	26,08	20,74	126,57	45,58
3	83,83	52,67	25,50	63,57	38,42	19,42	19,92	53,19	40,93	26,08	133,00	39,09
4	78,29	57,25	31,07	63,33	39,05	13,21	14,10	32,07	46,08	24,05	112,53	41,11
5	66,45	64,88	59,06	64,00	39,20	15,50	8,37	33,30	50,52	18,36	113,00	27,08
6	66,36	55,31	78,76	40,11	26,71	8,19	7,60	50,48	55,19	19,29	103,11	20,54
7	82,13	49,86	71,17	36,73	25,90	19,61	5,78	61,57	65,88	13,75	98,94	12,60
8	83,00	76,80	54,82	28,11	33,80	15,08	9,31	61,28	78,04	18,44	80,00	10,21
9	82,33	75,11	53,18	21,00	44,88	18,15	31,48	83,16	99,65	1,55	70,00	4,00
10	85,21	63,14	54,63	18,05	45,33	16,13	41,95	83,85	112,04	0,10	44,50	6,55
11	75,15	69,36	52,95	12,14	45,76	20,91	52,20	77,88	70,72	0,74	51,83	18,31
12	82,40	61,27	63,95	14,35	48,29	17,62	82,00	93,37	60,23	12,95	34,79	14,36
13	67,50	56,07	68,89	21,63	72,36	38,72	126,74	112,44	55,05	22,11	39,81	14,00
14	46,46	41,21	60,04	36,11	90,35	70,08	120,00	113,00	32,33	21,69	46,15	13,88
15	57,00	46,16	48,67	32,07	102,12	97,00	98,93	104,56	53,33	23,76	47,20	5,00
16	60,58	22,78	48,41	24,41	113,33	109,44	107,33	104,32	56,38	19,08	47,19	9,44
17	57,94	18,56	63,45	30,57	92,76	112,04	138,10	100,86	56,42	39,13	56,50	31,80
18	51,25	18,75	57,30	49,31	99,73	101,24	140,36	78,89	50,42	52,18	39,11	18,00
19	71,38	16,06	64,86	71,19	83,80	101,50	138,17	77,10	50,29	50,54	32,82	15,85
20	87,53	17,30	70,47	72,85	65,76	118,24	130,10	98,70	55,77	66,69	27,60	17,94
21	87,67	23,20	57,90	60,27	61,90	110,41	108,83	109,27	50,18	92,26	24,17	25,27
22	78,92	32,08	60,62	57,00	68,62	99,59	98,83	104,44	37,80	93,91	25,70	17,09
23	57,00	68,33	70,43	48,68	69,90	87,07	82,22	89,22	42,62	98,80	32,09	36,50
24	35,31	65,70	72,06	52,67	75,05	86,96	77,22	87,13	30,48	123,79	39,11	27,09
25	13,00	73,00	109,69	57,89	71,00	61,46	72,10	69,90	35,13	126,00	34,57	17,14
26	0,25	83,40	117,69	51,25	52,09	43,73	84,78	29,50	36,95	122,67	38,67	13,86
27	1,00	98,75	116,71	39,92	46,04	22,87	85,60	30,11	28,89	126,23	48,58	17,55
28	1,53	89,75	87,71	31,21	42,50	26,32	77,75	25,00	11,89	133,70	51,50	29,20
29	13,73	80,00	70,92	16,03	55,62	20,96	60,08	14,32	20,00	113,05	50,27	29,00
30	20,94		68,33	28,81	60,50	14,85	39,69	18,70	23,50	129,30	52,31	40,00
31	37,88		65,11		55,46		40,17	8,44		144,22		35,69
54,93	57,18	54,66	65,22	42,33	59,47	51,26	68,94	67,77	48,54	57,26	60,68	22,54

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Collated results Observers for the year 2004												
Obsrvrs.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	12	20	21	26	20	27	20	28	23	16	13	13
2	15	12	15	32	19	23	22	27	25	23	7	12
3	18	15	18	21	24	24	24	21	27	24	13	11
4	14	16	15	21	20	24	21	27	25	20	15	9
5	11	16	17	21	20	26	19	27	27	25	14	13
6	14	13	17	18	21	26	20	25	26	21	18	13
7	16	21	23	22	21	31	18	23	25	20	16	10
8	10	20	22	18	20	36	16	29	27	18	12	14
9	12	19	17	19	17	26	21	25	26	20	12	10
10	14	22	19	19	18	24	21	26	24	20	16	11
11	13	14	19	21	21	22	15	25	25	19	12	16
12	10	22	19	26	24	29	17	27	22	21	14	11
13	8	14	19	19	14	29	19	25	22	18	16	7
14	13	14	23	27	20	24	17	25	18	16	20	8
15	11	19	21	27	25	23	15	27	18	17	10	15
16	12	18	17	34	24	27	21	22	26	13	16	16
17	18	16	22	28	25	24	29	22	26	16	12	10
18	16	16	23	29	26	25	25	27	24	17	9	17
19	16	16	14	21	25	22	24	21	24	13	11	13
20	15	23	15	26	25	21	21	27	13	16	15	17
21	18	20	20	30	20	27	24	22	17	19	18	15
22	13	13	26	27	21	22	23	25	15	23	10	11
23	19	15	21	22	21	27	27	27	13	20	11	8
24	16	20	16	21	20	23	18	23	23	19	18	11
25	13	19	16	27	26	24	20	21	23	15	14	21
26	8	20	16	28	23	22	18	22	21	15	18	14
27	13	20	17	24	25	23	20	19	18	13	12	11
28	17	24	24	28	22	25	24	25	18	10	6	10
29	22	22	24	30	26	23	24	25	13	19	11	8
30	17		27	27	28	26	29	27	18	20	13	13
31	16		27		24		30	16		9		13
19,55	14,19	17,90	19,68	24,63	22,10	25,17	21,35	24,45	21,73	17,90	13,40	12,29

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Collated results CV-USAF for the year 2004												
USAF-CV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	43,63	33,26	45,61	50,33	24,07	19,79	8,42	32,07	13,34	10,73	102,83	31,00
2	65,21	45,48	23,62	45,02	27,21	10,90	11,53	34,42	15,43	11,41	111,13	31,58
3	67,34	37,87	14,98	47,88	25,42	10,45	10,81	38,34	27,55	15,43	117,97	25,99
4	61,91	42,03	19,36	47,65	25,96	6,18	6,76	20,18	32,01	13,87	96,41	27,71
5	50,58	49,10	43,69	48,28	26,08	7,71	3,22	21,17	35,94	9,69	96,89	16,20
6	50,49	40,26	62,38	26,86	15,92	3,13	2,80	35,91	40,15	10,35	86,70	11,26
7	65,66	35,35	55,06	24,00	15,29	10,59	1,84	46,01	50,04	6,54	82,45	5,79
8	66,52	60,47	39,81	17,01	21,58	7,42	3,77	45,74	61,67	9,75	63,58	4,31
9	65,87	58,83	38,33	11,60	30,97	9,55	19,69	66,68	83,17	0,12	53,94	1,01
10	68,70	47,47	39,64	9,47	31,36	8,13	28,43	67,35	95,89		30,63	2,23
11	58,88	53,33	38,12	5,50	31,73	11,53	37,45	61,52	54,63		37,12	9,66
12	65,93	45,74	48,23	6,93	33,96	9,17	65,54	76,83	44,77	6,02	22,39	6,94
13	51,57	40,95	52,89	12,06	56,19	25,68	111,31	96,31	40,02	12,42	26,60	6,70
14	32,35	27,80	44,60	23,49	73,80	54,02	104,20	96,89	20,39	12,10	32,07	6,62
15	41,80	32,08	34,29	20,18	85,69	80,48	82,44	88,18	38,47	13,66	33,00	1,46
16	45,10	12,91	34,07	14,15	97,24	93,21	91,03	87,93	41,24	10,20	32,99	3,84
17	42,66	9,83	47,77	18,96	76,21	95,89	123,44	84,41	41,27	26,02	41,34	19,95
18	36,59	9,97	42,08	34,86	83,25	84,79	125,87	62,50	35,85	37,42	26,01	9,44
19	55,25	8,09	49,08	55,08	67,31	85,05	123,51	60,76	35,74	35,96	20,78	7,94
20	71,00	8,95	54,38	56,66	49,93	102,35	114,87	82,21	40,68	50,80	16,61	9,39
21	71,13	13,23	42,62	44,80	46,32	94,20	92,58	93,03	35,63	75,72	13,96	14,80
22	62,53	20,18	45,13	41,80	52,63	83,11	82,33	88,06	24,90	77,37	15,13	8,80
23	41,80	52,36	54,35	34,31	53,85	70,54	65,76	72,68	29,00	82,31	20,19	23,81
24	22,83	49,87	55,91	37,87	58,78	70,43	60,88	70,60	18,89	108,19	26,01	16,21
25	6,05	56,81	93,46	42,61	54,89	45,91	55,94	53,85	22,68	110,52	22,22	8,84
26		66,92	101,78	36,59	37,34	29,96	68,27	18,11	24,19	107,00	25,63	6,61
27	0,00	82,26	100,75	26,69	31,98	12,98	69,08	18,59	17,62	110,77	34,22	9,12
28	0,12	73,20	71,17	19,48	28,90	15,61	61,39	14,60	5,34	118,72	36,82	17,87
29	6,52	63,58	54,81	8,07	40,54	11,56	44,63	6,91	10,87	96,94	35,72	17,71
30	11,55		52,36	17,57	45,02	7,26	26,50	9,94	13,46	114,03	37,54	26,76
31	24,97		49,32		40,39		26,90	3,26		130,04		23,14
42,14	45,15	40,63	49,99	29,53	44,83	39,25	55,85	53,39	35,03	49,11	46,63	13,31

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Collated results STDEV for the year 2004												
std. Dev.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	10,87	10,07	10,98	11,21	9,00	8,35	5,75	9,95	7,08	6,42	11,22	9,84
2	11,63	10,97	8,94	10,95	9,42	6,47	6,63	10,18	7,53	6,60	10,92	9,90
3	11,66	10,47	7,44	11,10	9,19	6,34	6,44	10,50	9,46	7,53	10,63	9,26
4	11,58	10,76	8,28	11,09	9,26	4,97	5,18	8,41	9,95	7,20	11,40	9,48
5	11,22	11,16	10,87	11,12	9,27	5,51	3,64	8,57	10,31	6,13	11,39	7,69
6	11,22	10,64	11,59	9,37	7,63	3,58	3,40	10,31	10,64	6,32	11,61	6,56
7	11,64	10,26	11,39	9,00	7,51	6,38	2,79	11,00	11,20	5,10	11,66	4,82
8	11,65	11,55	10,61	7,85	8,64	5,42	3,92	10,99	11,57	6,15	11,61	4,18
9	11,64	11,51	10,50	6,65	9,84	6,09	8,33	11,65	11,65	1,01	11,36	2,12
10	11,67	11,08	10,60	6,07	9,88	5,65	9,56	11,66	11,42		9,80	3,05
11	11,51	11,33	10,49	4,70	9,92	6,63	10,43	11,57	11,38		10,41	6,12
12	11,64	10,99	11,12	5,24	10,13	5,98	11,64	11,70	10,93	4,90	8,76	5,25
13	11,27	10,69	11,32	6,77	11,43	9,22	10,91	11,41	10,63	6,86	9,34	5,16
14	9,98	9,49	10,92	8,92	11,70	11,36	11,17	11,39	8,45	6,78	9,95	5,13
15	10,75	9,95	10,16	8,41	11,62	11,68	11,66	11,58	10,51	7,15	10,04	2,50
16	10,95	6,97	10,14	7,26	11,38	11,48	11,53	11,59	10,71	6,28	10,04	3,96
17	10,80	6,17	11,09	8,21	11,70	11,42	10,37	11,64	10,71	9,27	10,72	8,38
18	10,36	6,21	10,77	10,22	11,65	11,63	10,25	11,59	10,30	10,43	9,26	6,06
19	11,40	5,64	11,16	11,40	11,66	11,63	10,37	11,55	10,29	10,31	8,51	5,59
20	11,69	5,91	11,37	11,45	11,20	11,23	10,76	11,66	10,67	11,23	7,77	6,04
21	11,69	7,05	10,80	10,93	11,02	11,46	11,50	11,49	10,28	11,70	7,22	7,40
22	11,59	8,41	10,95	10,75	11,31	11,65	11,66	11,58	9,12	11,70	7,47	5,86
23	10,75	11,30	11,37	10,17	11,35	11,69	11,64	11,70	9,63	11,66	8,42	8,97
24	8,83	11,19	11,42	10,47	11,50	11,69	11,56	11,69	8,19	11,03	9,26	7,69
25	4,92	11,45	11,48	10,80	11,39	11,00	11,42	11,35	8,81	10,94	8,74	5,87
26		11,66	11,25	10,36	10,42	9,73	11,67	8,06	9,02	11,07	9,22	5,13
27	0,71	11,66	11,28	9,35	9,94	6,99	11,68	8,14	7,97	10,93	10,16	5,96
28	1,00	11,70	11,69	8,30	9,61	7,57	11,57	7,36	4,63	10,59	10,38	8,01
29	5,10	11,61	11,39	5,63	10,66	6,64	10,92	5,24	6,46	11,39	10,29	7,98
30	6,64		11,30	7,95	10,95	5,36	9,33	6,20	7,10	10,80	10,44	9,36
31	9,13		11,17		10,65		9,38	3,66		10,03		8,87
9,37	9,85	9,93	10,77	9,06	10,35	8,49	9,26	10,17	9,55	8,53	9,93	6,52

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Collated results CV 6 rot. averages for the year 2004												
CV-6 rot.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	79,65	73,15	72,24	72,76	61,33	55,85	53,11	57,85	59,46	58,17	59,28	60,42
2	79,20	72,98	72,02	72,63	60,71	55,50	52,70	58,05	59,25	57,93	59,64	60,02
3	78,79	72,68	71,71	72,45	60,09	55,08	52,29	58,23	59,07	57,74	60,02	59,65
4	78,55	72,43	71,40	72,15	59,49	54,65	51,89	58,23	58,92	57,59	60,25	59,37
5	78,62	72,26	71,25	71,86	58,87	54,30	51,60	58,02	58,56	57,38	60,51	59,01
6	78,81	72,04	71,20	71,26	58,23	53,98	51,43	57,92	58,17	57,14	60,82	58,76
7	79,06	71,82	71,10	70,59	57,55	53,74	51,38	57,85	57,86	56,91	61,14	58,57
8	79,08	71,57	70,95	69,50	56,75	53,49	51,44	57,72	57,81	56,78	61,37	58,49
9	79,10	71,42	70,71	68,13	56,18	53,28	51,63	57,62	57,98	56,60	61,46	58,36
10	79,20	71,29	70,49	66,65	55,55	53,09	51,87	57,59	58,25	56,50	61,36	58,27
11	79,25	71,31	70,27	65,30	55,00	53,07	52,11	57,57	58,28	56,33	61,34	58,29
12	79,30	71,32	70,03	64,02	54,49	53,10	52,48	57,77	58,24	56,19	61,36	58,28
13	79,16	71,33	69,75	63,09	54,27	52,98	53,02	58,23	58,21	56,08	61,48	58,23
14	78,72	71,33	69,51	62,38	54,29	52,91	53,46	58,77	58,02	55,97	61,64	58,20
15	78,33	71,30	69,42	61,73	54,49	52,99	53,69	59,22	57,96	55,88	61,85	58,14
16	77,94	71,11	69,39	61,40	54,81	53,18	54,03	59,49	57,91	55,76	62,04	58,15
17	77,54	70,95	69,44	61,46	54,91	53,46	54,52	59,63	58,01	55,83	62,34	58,30
18	77,11	70,87	69,47	61,67	55,19	53,67	54,98	59,67	58,10	55,99	62,45	58,37
19	76,78	70,85	69,54	62,02	55,43	53,79	55,49	59,81	58,23	56,10	62,56	58,41
20	76,53	70,83	69,64	62,36	55,63	54,00	55,97	60,09	58,44	56,23	62,62	58,33
21	76,29	70,79	69,58	62,42	55,86	54,17	56,17	60,42	58,64	56,52	62,67	58,23
22	76,11	70,78	69,67	62,42	56,10	54,26	56,31	60,73	58,80	56,81	62,70	58,01
23	75,84	70,99	69,78	62,48	56,29	54,33	56,43	60,89	58,97	57,12	62,79	57,73
24	75,46	71,20	70,13	62,62	56,52	54,36	56,48	61,00	59,02	57,43	62,79	57,13
25	75,10	71,43	70,72	62,72	56,70	54,32	56,55	61,06	59,02	57,65	62,57	56,50
26	74,69	71,72	71,44	62,75	56,66	54,31	56,72	60,94	59,05	57,77	62,22	55,98
27	74,27	72,08	72,05	62,67	56,64	54,10	56,99	60,83	59,07	57,85	61,85	55,43
28	73,82	72,26	72,42	62,59	56,58	53,89	57,18	60,60	58,96	58,10	61,48	54,77
29	73,50	72,29	72,70	62,36	56,51	53,66	57,41	60,34	58,78	58,18	61,17	54,09
30	73,27		72,79	61,97	56,35	53,44	57,54	60,05	58,49	58,46	60,87	53,49
31	73,21		72,81		56,17		57,67	59,68		58,94		52,92
61,89	77,17	71,60	70,76	65,28	56,57	53,90	54,34	59,22	58,52	57,03	61,55	57,67

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NOAA Regions year 2004							182 regions					
Reg.	Date	Lat.	Long.	Rot.	Class		Reg.	Date	Lat.	Long.	Rot.	Class
1	0534	01.01.04	-05	124	2011	BXO	271					
2	0535	02.01.04	-19	189	2011	CRO	272					
3	0536	02.01.04	-11	78	2011	HKX	273					
4	0537	07.01.04	04	10	2011	HAX	274					
5	0538	08.01.04	07	68	2011	CRO	275					
6	0539	08.01.04	09	43	2011	CRO	276					
7	0540	13.01.04	-11	290	2012	HHX	277					
8	0541	16.01.04	-09	330	2012	DSO	278					
9	0542	17.01.04	11	260	2012	CSO	279					
10	0543	20.01.04	-18	269	2012	CAI	280					
11	0544	21.01.04	08	252	2012	DAI	281					
12	0545	30.01.04	-20	161	2012	DSO	282					
13	0546	30.01.04	-12	74	2012	HSX	283					
14	0547	31.01.04	-09	115	2012	CSO	284					
15	0548	01.02.04	06	86	2012	HSX	285					
16	0549	01.02.04	13	46	2012	DSO	286					
17	0550	03.02.04	-08	104	2012	DSO	287					
18	0551	03.02.04	-06	26	2012	HAX	288					
19	0552	03.02.04	-08	72	2012	CSO	289					
20	0553	06.02.04	-05	49	2012	DSO	290					
21	0554	08.02.04	-08	308	2013	AXX	291					
22	0555	10.02.04	-14	285	2013	HAX	292					
23	0556	12.02.04	16	309	2013	CAO	293					
24	0557	14.02.04	-11	337	2013	CAO	294					
25	0558	14.02.04	-15	269	2013	CSO	295					
26	0559	15.02.04	07	333	2013	CSO	296					
27	0560	16.02.04	-16	248	2013	AXX	297					
28	0561	16.02.04	02	214	2013	HRX	298					
29	0562	20.02.04	-11	152	2013	AXX	299					
30	0563	21.02.04	-21	146	2013	AXX	300					
31	0564	22.02.04	14	157	2013	BXO	301					
32	0565	24.02.04	-05	138	2013	DRO	302					
33	0566	25.02.04	05	139	2013	CRO	303					
34	0567	28.02.04	-13	70	2013	CSO	304					
35	0568	29.02.04	-16	127	2013	BXO	305					
36	0569	05.03.04	-11	11	2013	BXO	306					
37	0570	06.03.04	-13	304	2014	HKX	307					
38	0571	11.03.04	-14	335	2014	BXO	308					
39	0572	13.03.04	19	301	2014	CSO	309					
40	0573	13.03.04	-14	225	2014	HSX	310					
41	0574	17.03.04	-02	174	2014	CSO	311					
42	0575	18.03.04	-18	232	2014	BXO	312					
43	0576	18.03.04	-18	268	2014	CSO	313					
44	0577	18.03.04	-01	153	2014	HSX	314					
45	0578	19.03.04	15	141	2014	HAX	315					
46	0579	23.03.04	-11	117	2014	AXX	316					
47	0580	25.03.04	-07	145	2014	AXX	317					
48	0581	25.03.04	-03	57	2014	HAX	318					
49	0582	26.03.04	16	53	2014	DSI	319					
50	0583	28.03.04	07	165	2014	BXO	320					
51	0584	28.03.04	-13	78	2014	CSO	321					
52	0585	28.03.04	-15	49	2014	DSO	322					
53	0586	28.03.04	-18	179	2014	BXO	323					
54	0587	29.03.04	-13	12	2014	DAI	324					
55	0588	02.04.04	-12	319	2015	HSX	325					
56	0589	06.04.04	10	286	2015	BXO	326					
57	0590	08.04.04	-09	25	2014	BXO	327					
58	0591	13.04.04	-15	247	2015	CAO	328					
59	0592	14.04.04	-12	176	2015	HSX	329					
60	0593	15.04.04	-20	177	2015	HSX	330					
61	0594	15.04.04	15	151	2015	HSX	331					
62	0595	17.04.04	-09	126	2015	CSO	332					
63	0596	19.04.04	-08	108	2015	DSO	333					
64	0597	21.04.04	-06	201	2015	DAO	334					
65	0598	22.04.04	-05	158	2015	CSO	335					
66	0599	25.04.04	14	37	2015	DAI	336					
67	0600	27.04.04	18	68	2015	CSO	337					
68	0601	01.05.04	-09	29	2015	BXO	338					
69	0602	01.05.04	-14	62	2015	DSO	339					
70	0603	02.05.04	-15	33	2015	CSO	340					
71	0604	04.05.04	-19	278	2016	HSX	341					
72	0605	05.05.04	-12	319	2016	CSO	342					
73	0606	08.05.04	-09	195	2016	HSX	343					
74	0607	10.05.04	-11	250	2016	BXO	344					
75	0608	10.05.04	-04	182	2016	CSO	345					
76	0609	11.05.04	-03	174	2016	AXX	346					
77	0610	13.05.04	-02	191	2016	BXO	347					
78	0611	13.05.04	-12	224	2016	CSO	348					
79	0612	14.05.04	10	190	2016	BXO	349					
80	0613	14.05.04	-08	114	2016	HSX	350					
81	0614	17.05.04	-05	233	2016	CAO	351					
82	0615	17.05.04	17	93	2016	HSX	352					
83	0616	17.05.04	08	86	2016	AXX	353					
84	0617	18.05.04	-12	133	2016	DSO	354					
85	0618	21.05.04	-10	36	2016	CSO	355					
86	0619	24.05.04	-09	102	2016	DSO	356					
87	0620	24.05.04	-15	31	2016	CSO	357					
88	0621	30.05.04	-14	284	2017	DAI	358					
89	0622	31.05.04	-12	261	2017	HAX	359					
90	0623	02.06.04	07	329	2017	CAO	360					

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ZÜRICH/McINTOSH-CLASSIFICATIONS DISTRIBUTION for the year 2004

A	B	C	D	E	F	H
AXX	BXO	CRO	DRO	ERO	FRO	HRX
11,5 %	13,7 %	4,4 %	0,5 %			1,1 %
	BXI	CRI	DRI	ERI	FRI	HAX
						11,0 %
		CAO	DAO	EAO	FAO	HSX
		7,7 %	7,1 %			13,2 %
		CAI	DAI	EAI	FAI	HKX
		0,5 %	2,7 %			1,1 %
		CSO	DSO	ESO	FSO	HHX
		14,3 %	8,8 %			1,1 %
		CSI	DSI	ESI	FSI	
			1,1 %			
		CKO	DAC	EAC	FAC	
		CKI	DSC	ESC	FSC	
		CHO	DKO	EKO	FKO	
		CHI	DKI	EKI	FKI	
			DHO	EHO	FHO	
			DHI	EHI	FHI	
			DKC	EKC	FKC	
			DHC	EHC	FHC	

SUNSPOT CLASS

1st letter

	182	
A	21	11,5 %
B	25	13,7 %
C	49	26,9 %
D	37	20,3 %
E	0	0,0 %
F	0	0,0 %
H	50	27,5 %

MAIN SUNSPOT TYPE

2nd letter

	182	
X	46	25,3 %
R	11	6,0 %
A	53	29,1 %
S	68	37,4 %
K	2	1,1 %
H	2	1,1 %

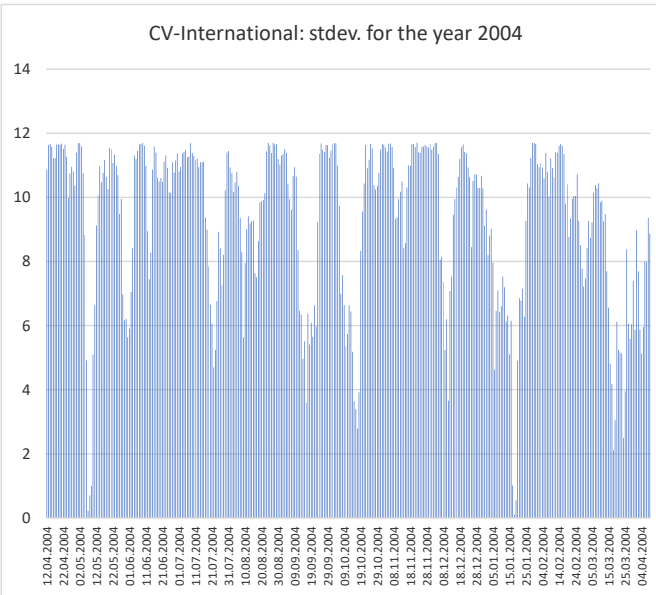
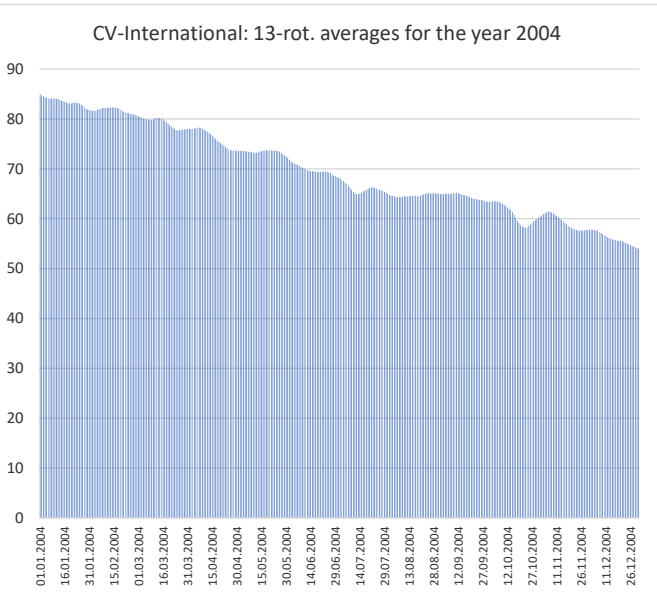
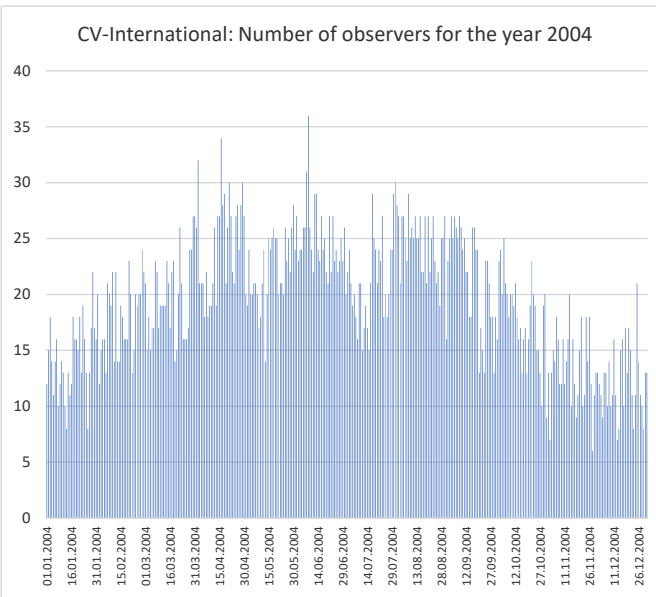
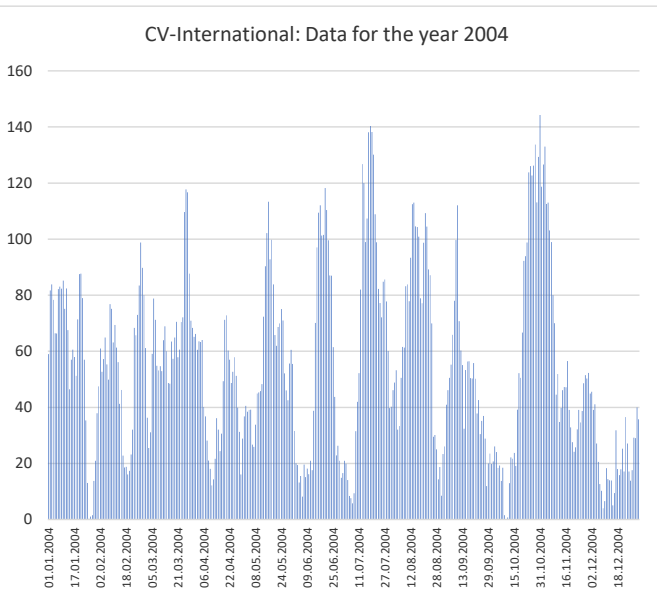
SUNSPOT DISTRIBUTION

3rd letter

	182	
X	71	39,0 %
O	103	56,6 %
I	8	4,4 %
C	0	0,0 %

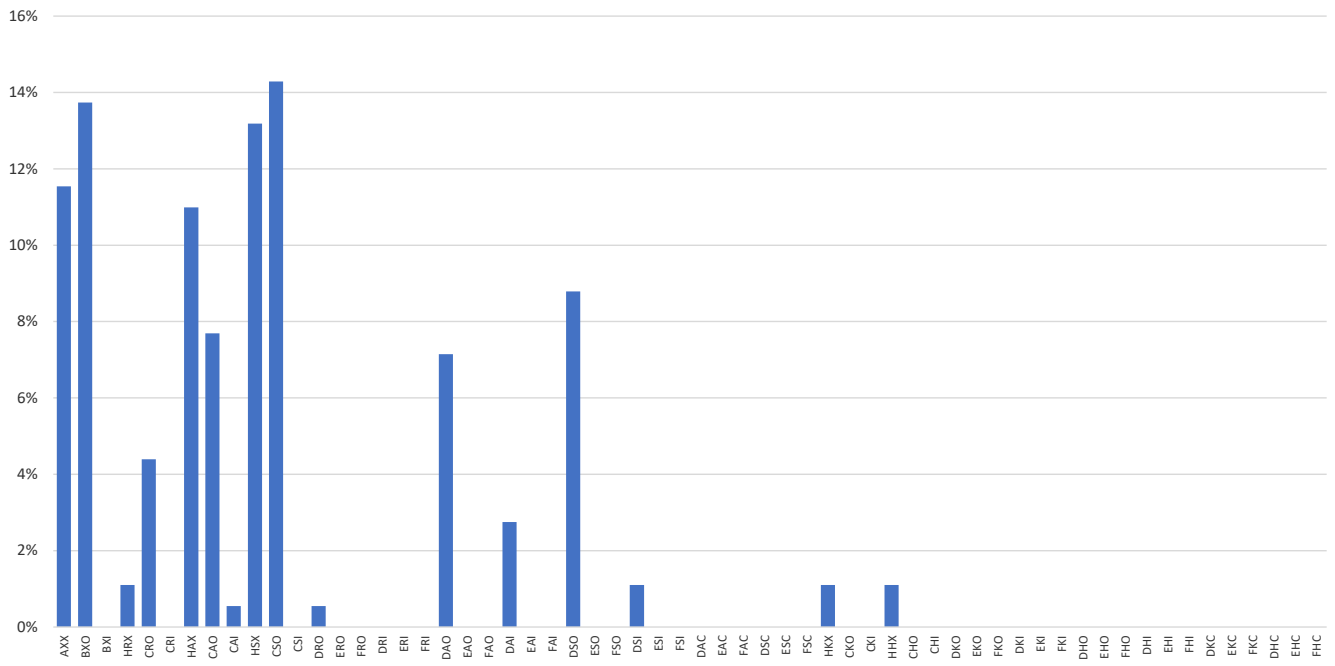
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Graphics for the year 2004

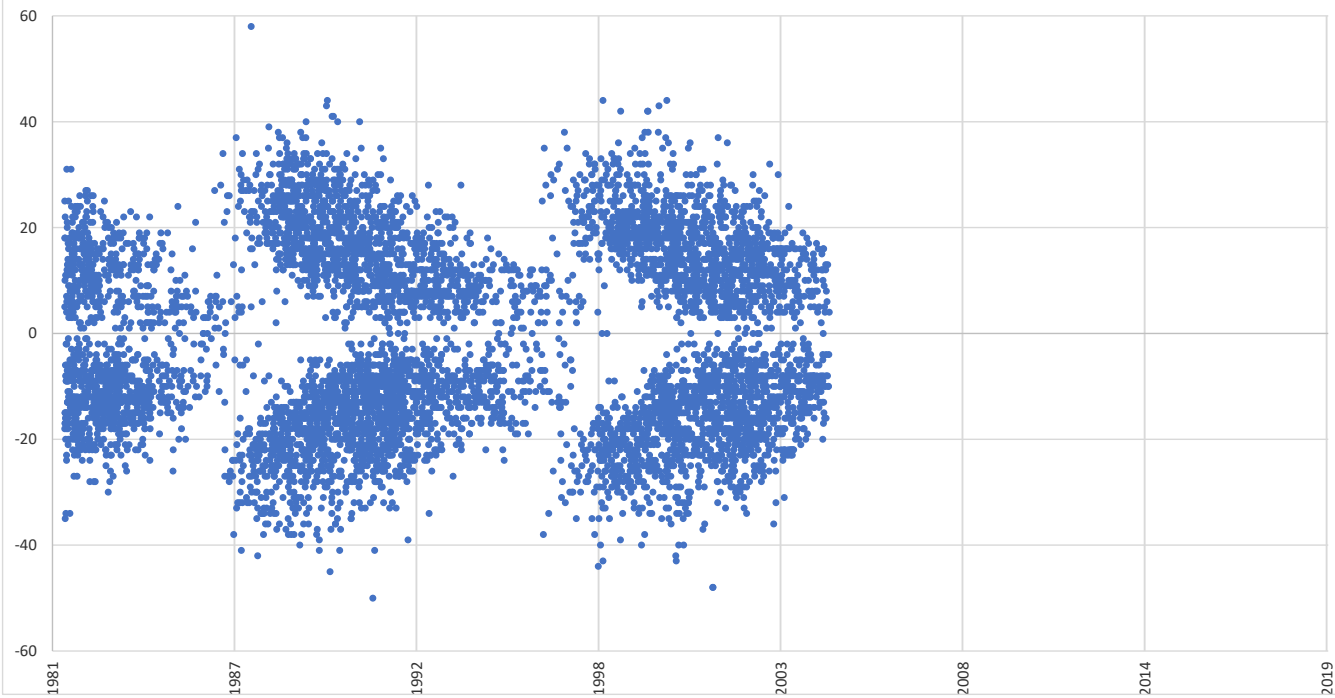


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Zürich/McIntosh-classifications denoted by NOAA/USAF for the year 2004



RGO/NOAA-USAF Sunspot Regions 1981-2004



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CV-Helios Network - over 23 years in solar amateur astronomy service!

There are now 4725 entries registered
containing 71006 CV-observations!

This AFR issued 1st April 2005

CV-Helios Network

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Worldwide Amateur Solar Observing Network
Magnetic Sunspot Classifications Zürich/McIntosh system
CV - Classification Values (Malde/1981) - numeric system
Serving Amateur Solar Astronomy since 1981

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