

List of Geomagnetic Storms since 1932 during which at least a Kp-value of 8- was reached. Compiled by Volker Bothmer; last update: February 2004 (until end of 04). Time duration of storm-events in the sense of Bartels-Definition (Kp reached at least 5- in the three hour intervals between the first and last of the listed Kp-values).

1932	05	29	8-	8
		30	8	2
1933	05	01	8- 8-	6 7
1937	04	24	8	8
	04	26	8+	8
	04	28	8 8	2 3
	08	22	8 8-	3 4
	10	04	8-	3
1938	01	16	8-	8
		17	8+ 8-	5 6
	01	22	8+ 8+	3 4
	01	25	9- 8+	7 8
	01	26	8+	1
	04	16	9 8 8-	3 4 5
	05	11	8- 9- 9-	6 7 8
	09	28	8-	1
1939	04	17	8 8-	3 5
	04	23	8-	3
	04	24	9-	7
	08	12	8-	2
	08	16	8-	6
	08	22	8- 8- 8-	1 2 8
	08	23	8-	1
	10	13	8- 8	7 8
		15	8	2
1940	01	03	8-	6
	03	24	8 9 9 8+	5 6 7 8
		25	9- 8+ 8+ 8 8	1 2 3 4 8
	03	29	8+ 8 8+	6 7 8
		30	9- 8+ 8+ 8 8-	1 2 3 4 6
		31	8+ 8 8-	4 5 6
	04	03	8 8	1 2
	04	25	8	2
	05	24	8-	4
	06	25	8+ 8-	5 6
	07	13	8-	5
	09	26	8-	7
1941	03	01	8 8 9- 9 9-	3 4 5 6 7
	03	30	8-	8
	03	31	8-	1
	07	05	9- 9- 9 9- 8-	3 4 5 6 8
	08	04	8+	5
	09	18	8+ 9- 9- 9- 9- 9-	3 4 5 6 7 8
	09	19	9- 9 9-	1 2 3
	11	01	8-	1
	12	01	8-	5
1942	03	01	8 8	3 4
1943	08	09	8-	1
	08	31	8+ 8-	2 5
1944	04	02	8 8+	3 4
	12	16	8 8+	5 6
1946	02	07	8+ 8- 8 8	4 5 6 8
	02	08	9- 8-	1 2
	03	24	8 8- 8	1 2 6
	03	25	8- 8- 8+ 9- 8- 8-	1 4 5 6 7 8

	03	28	8+ 9- 9- 9- 8+ 8	3 4 5 6 7 8
	04	23	8- 8- 9-	6 7 8
	04	24	8+	1
	07	26	9- 8	7 8
	07	27	9- 9- 9	1 2 3
	08	31	8-	2
	09	18	8-	3
	09	22	8+ 8- 9- 9 8+	2 3 4 5 6
		23	8- 8 8	2 3 6
1947	03	03	8+ 8	7 8
	03	08	8-	5
	04	17	9- 8+	7 8
	05	24	8-	3
	07	17	8 8-	7 8
	08	22	8+	4
	09	25	8-	1
1948	03	15	8+ 8 8-	2 3 7
	08	08	8- 8- 8- 8-	4 5 7 8
	10	17	8+	8
		18	8+	1
		19	8-	3
1949	01	25	9- 8 8+ 8+	1 2 7 8
	01	26	8+ 8	1 2
	03	22	8-	2
	05	12	8+ 9- 8+	5 6 7
		13	8	1
	10	14	8-	7
		15	8 8+ 8-	4 7 8
1950	02	20	9- 8+	7 8
		21	8-	2
	08	07	8-	8
		08	8- 8-	1 3
	08	19	8 8+ 8- 8	5 6 7 8
		20	8+ 8 8- 8-	1 2 3 4
1951	04	18	8-	5
	06	17	8	8
	07	02	8-	2
	09	19	8-	6
	09	25	8- 8 8+	6 7 8
	09	26	9- 8-	1 2
	10	28	8 9-	6 7
1952	03	06	8	1
	03	31	8-	1
	04	21	8+ 8	5 6
	05	26	8-	8
	05	27	8	1
	06	30	8 8-	2 3
1953	05	15	8-	7
1955	01	18	8-	1
	04	27	8-	7
	11	19	8-	5
1956	02	25	8+	3
	04	26	8-	8
		27	9- 9- 8- 8-	1 2 3 4
	04	29	8-	1
	05	16	8- 8+ 8- 8-	3 5 6 8
	08	24	8-	6
	09	02	8- 8	2 3
	09	08	8+ 8	5 6
	11	15	8-	3
1957	01	21	8- 9-	7 8
	01	22	8+	1
	03	02	8+ 8+	2 3

	03	29	8-	6
	04	17	8-	8
	06	30	8- 8 8 8 8+	4 5 6 7 8
	07	02	8	5
	09	02	8- 8-	7 8
		03	8 9-	5 6
	09	04	8+ 9 8 8+	5 6 7 8
	09	05	8+ 9-	1 2
	09	13	8- 8+ 9- 9-	1 2 3 4
	09	22	8 8+	5 6
		23	8 9- 8- 8- 8-	1 2 3 4 5
	09	29	8 9- 8+ 8	5 6 7 8
1958	02	11	9 8+ 9- 8+ 8	1 2 3 4 5
	05	31	8- 8	7 8
	06	01	8-	1
	06	07	8-	1
	06	28	8-	8
		29	8 8-	2 5
	07	08	8- 8+ 9 9- 9-	4 5 6 7 8
	08	24	8-	2
	09	04	9- 8+ 8+	6 7 8
	09	05	8 8-	1 2
1959	03	26	8	5
		27	8- 8+ 8+ 8+ 8-	2 3 5 6 7
	04	10	8-	3
	05	12	8+	6
	07	15	8 9- 9- 9 9- 9-	3 4 5 6 7 8
	07	17	8+ 9- 8+	6 7 8
	07	18	8 8- 8	1 2 3
	08	16	8+ 8	5 6
		17	8- 8+	1 2
	09	03	8-	8
	11	28	8	2
	12	05	8-	7
1960	03	31	8- 8 8- 8+	4 6 7 8
	04	01	9- 9- 8 8+ 9- 9-	1 2 4 5 6 7
	04	30	9- 9 8	5 6 7
	05	08	8 8+	5 6
	05	29	8-	1
	07	15	8- 8	7 8
	07	16	8+	1
	08	17	8- 8-	1 2
	09	04	8	8
		05	8- 8- 8-	2 3 4
	10	06	8 8 8 8+ 8+ 9-	2 4 5 6 7 8
	10	07	9 9- 8- 8-	1 2 3 4
	10	25	8-	6
	11	12	8- 8	7 8
	11	13	9- 9- 9 9 9- 8+ 8	1 2 3 4 5 6 7
	11	15	8-	8
	11	16	8+ 8+	1 2
	12	01	8	2
1961	04	15	8-	1
	07	13	8 8+ 8-	5 6 7
	07	14	8+	4
	07	18	8-	5
	07	27	8+ 8+	3 4
	09	30	8	8
	10	01	9- 8+ 8-	1 2 4
	10	28	8 8 9-	5 6 7
	12	01	8-	5
1963	09	22	8+ 8-	2 3
	09	22	9-	8

	09	23	9- 8	1 2
	10	29	8- 8	7 8
	10	30	8-	1
1964	09	22	8-	2
1965	04	18	8-	3
1966	09	03	9-	8
	09	04	9- 8+	1 2
1967	01	14	8-	2
	02	16	8	4
	05	25	8+ 8- 9	5 7 8
	05	26	9 9-	1 2
	06	06	8	1
1968	06	11	8	2
	10	31	8 8	5 6
	11	01	8+ 8 8+	5 6 8
	11	02	8-	1
1969	02	02	8	7
	03	23	8	8
	03	24	8	1
	05	15	8- 8-	4 5
	09	30	8	1
1970	03	08	8- 8 9 8+	5 6 7 8
	04	21	8+	7
	07	25	8-	2
	08	17	9- 8	2 3
	12	14	8+	3
1971	04	14	8-	8
1972	05	15	8-	7
	06	18	8+	1
	08	04	8+	2
	08	04	9	8
	08	05	8+ 8+ 8- 9-	1 2 5 6
	08	09	8+	4
	09	14	8	2
	11	01	8- 8 8-	1 2 3
1973	04	01	8- 8+ 8-	6 7 8
	04	14	8-	3
	05	14	8-	1
	09	09	8-	8
1974	07	06	8+ 9-	2 3
	09	15	8-	6
		16	8 8-	1 2
1975	01	07	8-	1
1976	03	26	8 8 8	3 5 6
	04	01	8+ 8+ 8+	2 3 4
	05	02	8-	8
	05	03	8+ 8-	1 2
1978	04	11	8-	1
	04	30	8	6
	05	01	8+	8
	05	04	8-	2
	05	09	8-	3
	06	29	8-	8
	07	04	8- 8	5 6
	08	28	8+ 8- 8	3 4 5
	09	29	8- 8 8	3 4 5
1979	04	03	8	8
	04	25	8- 8 8-	1 2 3
	08	29	8-	6
1980	12	19	8-	6
1981	04	13	8 8+ 8-	1 2 3
	07	25	8+ 8+ 8- 8-	5 6 7 8
	07	26	8	1

1982	10	14	8 8-	1 2	
	03	01	8	8	
	03	02	8 8-	1 2	
	07	13	8+ 9- 9	6 7 8	
	07	14	9 8-	1 2	
	08	07	8- 8-	2 6	
	09	06	8 8+ 8+ 8+ 9-	1 2 3 4 5	
1983	09	22	8- 8+ 8 8-	1 2 3 4	
	01	10	8+	2	
	02	04	8- 8-	6 7	
		05	8	2	
	05	24	8 8-	6 7	
	06	13	8-	2	
	08	08	8-	2	
1984	04	04	8-	7	
	04	26	8-	7	
	09	04	8-	6	
	11	16	8- 8	1 2	
1985	04	21	8+ 8	1 3	
1986	02	07	8- 8-	6 8	
		08	8 8- 9 9-	5 6 7 8	
		09	9- 8-	1 2	
	09	12	9-	2	
	1988	04	03	8	7
10		10	8-	4	
1989		03	13	8- 9- 8+ 8+ 8+ 9- 9	2 3 4 5 6 7 8
	03	14	9 8- 8- 8-	1 2 3 7	
	09	18	8-	8	
		19	8	2	
		20	8- 8- 8+	5 6 7	
		21	8+ 8- 8	4 5 7	
	11	17	8- 8 8-	6 7 8	
	1990	03	30	8	3
		04	10	8- 8	4 5
		04	12	8-	2
06		12	8- 8+	7 8	
06		13	8-	1	
06		14	8-	6	
07		28	8- 8-	7 8	
1991		03	24	9- 8 8 9-	2 3 7 8
			25	8- 9- 8-	1 2 5
			26	8	5
	06	05	8 8 8 9- 8 8-	3 4 5 6 7 8	
	06	10	8-	7	
	06	13	8- 8-	5 7	
	07	08	8	6	
	07	09	8 8	3 5	
	07	13	8 9-	5 6	
	08	19	8- 8-	3 4	
1992	10	28	8- 8+	5 6	
		29	8- 8+ 8	1 2 3	
	11	01	8 8+	6 7	
	11	08	8- 9-	7 8	
	11	09	8+ 8+	1 2	
	02	03	8-	3	
	02	26	8	7	
	05	10	8 9- 8+ 8- 8	3 4 5 6 7	
	08	23	8- 8	1 2	
	1993	04	04	8-	8
09		13	8-	2	
1994		02	21	8- 8-	5 6
		22	8-	1	
	04	17	8+ 8+	2 3	

1995	04	07	8	6
1998	05	04	9- 8+	2 3
	08	27	8 8 8-	1 2 3
	09	25	8- 8 8+	1 2 3
	11	08	8-	2
1999	07	30	8-	7
	09	22	8	8
	10	22	8- 8	2 3
2000	04	06	8+ 8+	7 8
	04	07	9-	1
	05	24	8 8-	1 2
	07	15	8 9- 9 9-	5 6 7 8
	07	16	8-	1
	08	12	8- 8-	3 4
	09	17	8+	8
	09	18	8-	1
	10	05	8- 8-	3 5
	2001	03	31	9- 9- 8 8+
04		11	8 8- 8+	6 7 8
10		21	8-	7
11		06	9- 9-	1 2
11		24	8+ 8-	3 5
2002	05	23	8- 8+	5 6
2003	05	29	8- 8+ 8+	6 7 8
	10	29	9 8 8- 8- 9- 9-	3 4 5 6 7 8
		30	9-	1
	10	30	9 9	7 8
		31	8+ 8-	1 2
2004	11	20	8- 9- 9- 8	5 6 7 8
	07	25	8- 8	4 6
	07	26	8+ 8- 8 9- 8+	1 2 4 5 6
	11	07	8	8
		08	9- 9- 8+	1 2 3
	11	09	9	7
2005		10	8- 8+ 9 8+	1 2 3 4
	01	07	8-	8