

ID#	Magnetic Cloud (Sheath ^d)								IP Shock			Dst			Coronal Mass Ejection				
	Date	Time	Dt	Btd	Bz	Bz	V	Type	Date	Time	V	Date	Time	index	Date	Time	AW	V	Location
01	1995/02/08	05:48	19.0	12.4 (10.9)	-10.6 (-10.6)	10.6 (10.6)	410	SN	----	----	----	02/08	10:00	-80 (-41)	LASCO GAP	---	----	-----	
02	1995/03/04	10:48	17.0	12.8 (9.2)	-10.6 (-0.3)	10.6 (4.1)	443	FS	----	----	----	03/04	22:00	-90 (----)	LASCO GAP	---	----	-----	
03	1995/04/03	07:48	27.0	10.4 (10.6)	-3.0 (-2.0)	7.6 (8.8)	301	NS	----	----	----	04/04	07:00	-18 (-23)	LASCO GAP	---	----	-----	
04	1995/04/06	07:18	10.5	10.9 (7.6)	-1.4 (-6.1)	7.3 (6.1)	334	FN	----	----	----	----	----	----	----	----	----	-----	
05	1995/05/13	10:54	5.5	13.4 (12.1)	7.3 (-2.1)	11.9 (8.7)	331	FN	----	----	----	05/13	14:00	-8 (-6)	LASCO GAP	---	----	-----	
06	1995/08/22	21:18	22.0	11.4 (8.2)	-9.3 (-7.3)	9.3 (7.3)	360	SN	----	----	----	08/23	05:00	-61 (-10)	LASCO GAP	---	----	-----	
07	1995/10/18	19:48	29.5	28.5 (21.2)	-21.2 (-20.9)	22.0 (20.9)	404	SN	----	----	----	10/19	00:00	-127 (-18)	LASCO GAP	---	----	-----	
08	1995/12/16	05:18	17.0	12.5 (10.9)	-2.7 (-9.3)	5.9 (9.3)	396	SN	----	----	----	----	----	----	----	----	----	-----	
09	1996/05/27	15:18	40.0	15.7 (4.9)	-7.8 (-2.7)	13.2 (2.7)	370	SN	----	----	----	05/27	20:00	-33 (-12)	LASCO GAP	---	----	-----	
10	1996/07/01	17:17	17.0	13.8 (7.7)	-7.4 (-1.1)	8.7 (5.3)	355	SN	----	----	----	07/02	03:00	-20 (-3)	LASCO GAP	---	----	-----	
11	1996/08/07	12:18	22.5	8.1 (6.5)	-4.1 (-3.0)	4.1 (3.0)	344	FS	----	----	----	08/07	21:00	-23 (-8)	LASCO GAP	---	----	-----	
12	1996/12/24	02:48	32.5	12.9 (6.0)	-6.8 (0.9)	9.8 (4.2)	355	NS	12/23	16:00	400	12/25	13:00	-33 (----)	12/19	16:30	130	469	S13W10
13	1997/01/10	05:18	21.0	17.2 (9.4)	-15.1 (-6.0)	16.4 (6.0)	436	SN	01/10	00:52	454	01/10	10:00	-78 (----)	01/06	15:10	360	136	S18E06
14	1997/02/10	03:24	15.0	9.0 (13.4)	-7.7 (-5.7)	7.7 (5.7)	458	FS	02/09	12:40	629	02/10	11:00	-68 (-56)	02/07	00:30	360	490	S20W04
15	1997/04/11	05:36	13.5	22.5 (16.0)	9.7 (-7.7)	20.9 (8.8)	460	FN	04/10	17:45	352	----	----	----	----	----	----	-----	
16	1997/04/21	14:30	40.0	14.1 (11.1)	-7.6 (-6.5)	10.6 (6.5)	360	SN	----	----	----	04/22	00:00	-107 (-12)	04/16	07:35	113	87	S22E04
17	1997/05/15	09:06	16.0	25.4 (23.3)	-24.4 (-17.5)	24.4 (17.5)	450	SN	05/15	01:15	458	05/15	13:00	-115 (-100)	05/12	05:30	360	464	N21W08
18	1997/05/16	06:06	7.8	9.3 (19.5)	-4.9 (-3.4)	7.9 (10.5)	480	NS	----	----	----	05/16	17:00	-47 (-41)	comment #1	---	----	-----	
19	1997/06/09	02:18	21.0	14.0 (10.6)	-9.8 (-8.1)	9.8 (8.1)	370	SN	----	----	----	06/09	04:00	-84 (-40)	06/05	22:55	62	417	S35W17
20	1997/06/19	05:06	10.8	8.6 (6.7)	-7.2 (-2.1)	7.2 (2.1)	385	FS	----	----	----	06/19	11:00	-28 (-3)	comment #2	---	----	-----	
21	1997/07/15	08:48	15.0	12.6 (9.8)	-11.1 (-3.7)	11.1 (6.2)	360	FS	07/15	04:30	355	07/15	21:00	-45 (----)	comment #3	---	----	-----	
22	1997/08/03	14:06	11.8	16.7 (10.7)	-10.7 (-3.7)	10.7 (4.1)	445	SN	----	----	----	08/03	19:00	-49 (-4)	07/30	04:45	360	124	N45E21
23	1997/09/18	00:30	60.0	13.2 (8.1)	-10.0 (-8.0)	10.0 (8.0)	320	SN	----	----	----	09/18	06:00	-56 (-45)	comment #2	---	----	-----	
24	1997/09/22	00:48	16.5	18.3 (17.6)	6.2 (-4.0)	13.7 (7.9)	425	FN	09/21	04:10	417	----	----	----	----	----	----	-----	
25	1997/10/01	16:17	30.5	10.5 (29.3)	-2.3 (-15.5)	9.7 (25.0)	450	FN	10/01	01:00	490	----	----	----	----	----	----	-----	
26	1997/10/10	23:48	25.0	13.1 (14.6)	-9.5 (-11.1)	9.5 (11.1)	396	SN	10/10	16:00	473	10/11	04:00	-130 (-65)	10/06	15:28	174	293	S54E46
27	1997/11/07	15:48	12.5	18.0 (16.9)	-0.8 (-12.1)	14.4 (12.1)	440	FN	11/06	22:10	633	----	----	----	----	----	----	-----	
28	1997/11/08	04:54	10.0	16.0 (18.0)	3.6 (-0.8)	15.0 (14.4)	395	FN	----	----	----	----	----	----	----	----	----	-----	
29	1997/11/22	15:48	20.5	27.8 (27.2)	-13.1 (-1.7)	22.2 (16.6)	490	NS	11/22	09:10	497	11/23	07:00	-108 (-75)	11/19	12:27	360	150	N20E05
30	1998/01/07	03:18	29.0	20.2 (14.6)	-1.1 (-10.4)	16.4 (10.4)	375	FN	01/06	13:30	397	----	----	----	----	----	----	-----	
31	1998/01/08	14:54	6.7	11.7 (13.0)	-2.9 (-3.4)	4.7 (4.2)	355	SN	01/08	07:30	375	01/08	19:00	-22 (-15)	comment #4	---	----	-----	
32	1998/02/04	04:30	42.0	16.9 (9.6)	-7.4 (-6.7)	7.4 (6.7)	320	SN	----	----	----	02/04	14:00	-34 (-29)	comment #2	---	----	-----	
33	1998/03/04	14:18	40.0	12.8 (8.5)	-7.0 (-5.1)	9.3 (5.1)	360	SN	03/04	11:05	449	03/04	22:00	-29 (-36)	02/28	12:48	169	176	S24W01
34	1998/05/02	12:18	29.0	14.0 (20.3)	-12.3 (-10.3)	12.3 (10.3)	515	FS	05/01	21:20	615	05/02	18:00	-85 (-55)	04/29	16:58	360	1374	S18W20
35	1998/06/02	10:36	5.3	12.0 (7.9)	-2.6 (-3.1)	7.7 (3.1)	410	SN	----	----	----	06/02	13:00	-1 (-4)	05/31	04:26	112	683	N28E09
36	1998/06/24	16:47	29.0	17.7 (11.2)	-1.5 (-4.4)	16.3 (4.4)	460	SN	----	----	----	06/25	01:00	-25 (-12)	06/21	05:35	163	307	N16W38
37	1998/08/20	10:18	33.0	16.4 (13.4)	-12.9 (-11.6)	12.9 (11.6)	315	SN	08/19	17:32	320	08/20	21:00	-67 (-42)	LASCO GAP	---	----	-----	
38	1998/09/25	10:18	27.0	19.5 (28.5)	-5.6 (-15.3)	7.7 (15.3)	710	FN	09/24	23:15	620	----	----	----	----	----	----	-----	
39	1998/10/19	05:06	9.5	25.6 (23.4)	-21.8 (-19.6)	21.8 (19.6)	383	FS	10/18	19:28	411	10/19	16:00	-112 (-85)	10/15	10:04	360	262	N22W01
40	1998/11/08	23:48	25.5	21.1 (35.6)	-13.4 (-6.6)	13.4 (24.0)	470	FS	11/08	04:42	721	11/09	18:00	-142 (-149)	11/05	20:44	360	1118	N22W18
41	1999/02/18	14:18	22.0	14.1 (27.9)	-6.2 (-23.7)	6.2 (23.7)	590	FS	02/18	02:46	600	02/18	18:00	-123 (-123)	LASCO GAP	---	----	-----	
42	1999/04/16	20:18	25.0	26.2 (11.9)	-14.7 (-1.0)	14.7 (3.4)	406	SN	04/16	11:10	470	04/17	08:00	-91 (----)	04/13	03:30	86	291	N16E00
43	1999/08/09	10:48	29.0	12.2 (9.2)	-1.2 (-7.9)	9.2 (7.9)	370	FN	08/08	17:50	405	----	----	----	----	----	----	-----	
44	1999/09/21	21:06	8.0	12.7 (9.5)	-6.9 (-4.2)	8.0 (4.2)	355	SN	----	----	----	09/22	02:00	-41 (-15)	comment #2	---	----	-----	
45	2000/02/12	17:06	7.5	12.2 (21.0)	-2.3 (-14.7)	2.3 (14.8)	543	NS	02/11	23:28	674	----	----	----	----	----	----	-----	
46	2000/02/21	09:48	27.5	17.3 (17.0)	-1.9 (-6.8)	14.9 (8.9)	380	FN	02/20	21:00	512	02/21	21:00	-26 (0)	02/17	20:06	360	600	S25W12
47	2000/06/24	08:18	36.0	8.1 (18.3)	-0.1 (-10.5)	3.8 (10.5)	500	FN	06/23	13:00	613	----	----	----	----	----	----	-----	
48	2000/07/01	08:48	18.5	9.5 (7.4)	2.1 (-3.0)	7.5 (3.0)	420	FN	----	----	----	----	----	----	----	----	----	-----	
49	2000/07/15	06:48	7.5	9.7 (15.2)	-5.1 (-6.2)	5.1 (6.2)	650	FS	07/14	15:39	833	07/15	14:00	-57 (-34)	07/11	13:27	360	1078	N17W27
50 ^a	2000/07/15	21:06	12.8	48.5 (51.9)	-21.2 (-48.1)	31.1 (48.1)	990	SN	07/15	14:18	1350	07/16	01:00	-301 (-289)	07/14	10:54	360	1674	N22W07

51	2000/07/28 21:06	13.0	14.8 (23.3)	-11.0 (-5.6)	11.0 (10.8)	471	NS	07/28 09:58	523	07/29 12:00	-71 (-46)	07/25 03:30	360	528	N06W08	
52	2000/08/01 00:06	15.8	12.3 (11.6)	-5.1 (-6.9)	6.7 (6.9)	445	NS	07/31 18:00	410	08/01 18:00	-38 (-32)	comment #3	---	---	---	
53	2000/08/12 06:06	23.0	32.9 (28.9)	-22.6 (-25.8)	22.6 (25.8)	567	SN	08/11 18:51	640	08/12 10:00	-235 (-93)	08/09 16:30	360	702	N11W11	
54	2000/09/18 01:54	13.2	28.4 (37.9)	-0.7 (-20.1)	20.4 (24.8)	760	FN	09/17 17:00	900	----	----	----	09/16 05:18	360	1215	N14W07
55	2000/10/03 17:06	21.0	17.7 (15.8)	-8.3 (-4.9)	13.9 (7.0)	409	NS	10/03 01:05	496	10/04 14:00	-94 (-79)	09/29 21:50	274	173	S22E53	
56	2000/10/13 18:24	22.5	12.9 (19.5)	-12.3 (-13.3)	12.3 (16.6)	395	NS	10/12 22:36	590	10/14 15:00	-107 (-71)	10/09 23:50	360	798	N01W14	
57	2000/10/28 23:18	25.0	18.0 (15.2)	-15.7 (-9.1)	15.7 (9.1)	375	FS	10/28 09:35	467	10/29 04:00	-127 (-19)	10/25 08:26	360	770	N17W70	
58	2000/11/06 23:06	19.0	15.2 (14.4)	-11.4 (-9.6)	11.4 (9.6)	535	SN	11/06 09:20	629	11/07 02:00	-152 (-159)	11/03 18:26	360	291	N02W02	
59	2001/03/19 23:18	19.0	19.5 (18.7)	-17.2 (-10.8)	17.2 (10.8)	420	FS	03/19 11:30	472	03/20 14:00	-149 (-105)	03/16 03:50	281	271	N11W09	
60 ^b	2001/03/20 17:47	45.0	18.3 (19.5)	-13.2 (-17.2)	15.4 (17.2)	340	SN	----	----	----	----	03/19 05:26	360	389	S10E00	
61	2001/04/04 20:54	11.5	15.3 (19.3)	-3.6 (-2.9)	5.1 (6.9)	740	NS	04/04 14:40	922	04/05 08:00	-50 (-20)	04/02 22:06	244	2505	N19W73	
62	2001/04/12 07:54	10.0	19.6 (33.7)	7.5 (-13.9)	11.1 (13.9)	670	FN	04/11 16:19	811	----	----	04/10 05:30	360	2411	S23W09	
63	2001/04/22 00:54	24.5	15.2 (10.1)	-11.7 (0.2)	11.7 (8.1)	395	FS	04/21 15:30	414	04/22 16:00	-102 (-11)	04/19 12:30	129	392	N20W20	
64	2001/04/29 01:54	11.0	10.3 (19.4)	-5.2 (-7.2)	5.3 (9.7)	640	SN	04/28 05:02	820	04/29 03:00	-47 (-33)	04/26 12:30	360	1006	N17W00	
65	2001/05/28 11:54	22.5	10.0 (14.0)	-8.1 (-6.3)	8.1 (6.7)	475	SN	05/27 14:52	723	05/28 19:00	-42 (10)	05/24 20:26	112	387	N07E29	
66	2001/07/10 17:17	39.5	9.6 (5.2)	-6.8 (-4.9)	6.8 (4.9)	360	SN	----	----	07/11 01:00	-38 (-21)	07/09 02:30	77	213	S08E20	
67	2001/10/31 21:18	37.0	13.5 (11.1)	-12.3 (-6.9)	12.3 (6.9)	340	SN	10/31 13:47	407	11/01 11:00	-106 (-29)	10/29 11:50	117	598	N12E25	
68	2001/11/24 15:48	21.5	22.0 (49.4)	4.3 (-24.8)	15.2 (32.0)	730	FN	11/24 05:50	1072	----	----	11/22 23:30	360	1437	S17W36	
69	2002/03/19 22:54	16.5	18.7 (20.2)	-5.3 (-11.0)	9.8 (16.5)	370	NS	03/18 12:33	504	03/20 13:00	-18 (-37)	03/15 23:06	360	907	S08W03	
70	2002/03/24 03:48	43.0	20.0 (11.5)	-8.7 (-6.5)	15.1 (6.5)	440	SN	03/23 11:24	544	03/24 10:00	-100 (-86)	03/20 17:54	360	603	S17W20	
71	2002/04/18 04:18	22.0	13.8 (30.5)	-11.2 (-19.6)	11.2 (19.6)	480	SN	04/17 10:47	505	04/18 08:00	-127 (-98)	04/15 03:50	360	720	S15W01	
72 ^c	2002/04/20 11:48	29.0	8.5 (22.4)	-7.9 (-13.4)	7.9 (13.4)	510	SN	04/19 08:00	809	04/20 19:00	-102 (-149)	04/17 08:26	360	1240	S14W34	
73	2002/05/19 03:54	19.5	20.5 (18.7)	-10.0 (-5.8)	10.0 (8.8)	458	SN	05/18 19:51	578	05/19 07:00	-58 (-8)	05/16 00:50	360	600	S22W14	
74	2002/05/23 23:24	17.5	11.3 (37.7)	-2.2 (-9.3)	3.1 (15.4)	730	SN	05/23 10:17	575	----	----	05/22 03:50	360	1557	S30W34	
75	2002/08/01 11:54	10.7	14.2 (15.0)	-12.8 (-11.7)	12.8 (11.7)	454	SN	08/01 05:10	532	08/01 14:00	-51 (-20)	07/29 12:07	360	556	N10W15	
76	2002/08/02 07:24	13.7	12.9 (15.4)	-8.4 (-12.4)	8.4 (12.4)	493	NS	08/01 23:05	505	08/02 23:00	-69 (-102)	07/29 23:30	130	360	S10W10	
77	2002/09/03 00:18	18.5	16.4 (6.7)	0.5 (1.4)	13.9 (5.2)	360	FN	----	----	----	----	comment #4	---	---	---	
78	2002/09/30 22:36	13.3	25.2 (25.6)	-14.6 (-9.1)	22.3 (18.8)	381	NS	09/30 07:13	345	10/01 17:00	-176 (-49)	09/28 11:06	79	678	N12E33	
79	2003/03/20 11:54	10.5	12.0 (12.6)	-7.0 (-2.1)	7.0 (4.9)	650	FS	03/20 04:20	800	03/20 20:00	-64 (-20)	03/18 12:30	209	1601	S15W46	
80	2003/06/17 17:47	14.5	19.3 (10.1)	-16.3 (-9.1)	16.3 (9.1)	490	NS	----	----	06/18 10:00	-141 (-81)	06/14 01:54	360	875	S17W15	
81	2003/07/10 19:54	13.0	12.9 (8.2)	-11.8 (-2.7)	11.8 (2.9)	350	FS	----	----	07/11 11:00	-55 (10)	LASCO GAP	---	---	---	
82	2003/08/18 11:36	16.8	16.0 (36.7)	-14.6 (-14.3)	14.6 (14.3)	498	FS	08/17 13:40	500	08/18 16:00	-148 (-125)	08/14 20:06	360	378	S10E02	
83	2003/10/29 08:00	20.0	38.7 (28.1)	-13.8 (-12.0)	13.8 (12.0)	1500	NS	10/29 06:00	1850	10/30 01:00	-353 (-151)	10/28 11:30	360	2459	S16E08	
84	2003/10/31 02:00	11.0	24.5 (31.7)	2.0 (-27.6)	18.2 (27.6)	1350	FN	10/30 16:20	1710	----	----	10/29 20:54	360	2029	S15W02	
85	2003/11/20 12:00	17.0	52.1 (30.9)	-45.1 (-5.5)	45.1 (13.8)	700	FS	11/20 07:28	650	11/20 21:00	-422 (-68)	11/18 08:50	360	1660	N00W18	
86	2004/04/04 02:48	36	18.6 (10.3)	-2.3 (-8.7)	15.6 (8.7)	434	FN	04/03 08:49	400	----	----	LASCO GAP	---	---	---	
87	2004/07/22 15:24	7.8	18.7 (13.0)	-14.8 (-3.5)	14.8 (5.7)	500	NS	07/22 09:45	460	07/23 03:00	-101 (2)	07/20 13:31	360	710	N11E34	
88	2004/07/24 12:28	24.5	22.6 (21.4)	-20.3 (-1.6)	20.3 (13.6)	573	NS	07/24 06:00	580	07/25 12:00	-148 (----	07/22 08:30	195	899	N04E10	
89	2004/08/29 18:42	26	14.8 (8.9)	-14.5 (-2.8)	14.5 (5.2)	393	NS	08/29 09:20	450	08/30 23:00	-126 (----	08/26 12:30	206	184	S09W34	
90	2004/11/08 03:24	13.3	43.2 (46.3)	-40.2 (-44.0)	40.2 (44.0)	674	SN	11/08 17:59	440	----	----	11/06 02:06	214	1111	N07E00	
91	2004/11/09 20:54	6.5	40.5 (30.7)	-13.8 (-20.9)	38.1 (20.9)	800	NS	11/09 18:24	775	11/10 03:00	----	11/07 16:54	360	1759	N09W17	
92	2004/11/10 03:36	7.5	30.2 (----	-26.5 (----	26.5 (----	697	FS	----	----	11/10 10:00	-289 (----	11/08 03:54	360	462	N08W28	
93	2005/05/15 05:42	16.5	55.7 (39.9)	-35.8 (-8.7)	35.8 (8.7)	843	SN	05/15 02:19	993	05/15 09:00	-263 (----	05/13 17:12	360	1689	N12E11	
94	2005/05/20 07:18	22	16.4 (10.3)	-8.1 (-10.0)	15.3 (10.0)	457	FN	05/20 04:00	475	----	----	05/17 03:26	65	505	S15W00	
95	2005/06/12 15:36	15.5	17.5 (24.9)	-16.4 (-15.9)	16.4 (15.9)	480	FS	06/12 06:59	369	06/13 01:00	-106 (-9)	06/09 14:36	260	377	N09E16	
96	2005/06/15 05:48	26	12.7 (12.1)	-5.3 (-3.1)	10.5 (7.5)	486	SN	----	----	06/15 13:00	-54 (-30)	06/12 02:36	277	590	N06W24	
97	2005/07/17 15:18	12.5	14.5 (14.0)	-6.8 (-7.5)	7 (11.7)	428	NS	07/17 01:23	520	07/18 07:00	-76 (-46)	Comment #2	---	---	---	
98	2005/10/31 02:54	17.5	12.7 (6.8)	-7.8 (-2.3)	10.7 (3.6)	373	NS	----	----	10/31 20:00	-75 (-9)	Comment #2	---	---	---	
99	2005/12/31 14:48	20	11.4 (5.7)	-2.9 (-3.7)	9.3 (3.7)	469	SN	12/31 01:00	575	12/31 19:00	-31 (-10)	12/28 03:30	139	381	S09E38	

^a MC boundary could be at 19:00, ^b Possible complex MC event, ^c MC boundary could be earlier, ^dFor non-shock events, a 12-h interval preceding MC onset take
Comment #1 Unable to identify due to the previous event, #2 Unable to identify clear CME but identifiable source,

#3 Multiple candidates, #4 No CME identification

Explanation:

- column 1: identification number for MCs
- column 2: Starting Date of Magnetic Cloud (MC), yyyy/mm/dd format
- column 3: Starting time of MC, hh:mm format
- column 4: Duration of MC in hours
- column 5: Maximum value of magnetic field (Bt) during the MC interval in nT
- column 6: Maximum value of magnetic field (Bt) during the sheath interval in nT
- column 7: Z-component of the magnetic field in the MC interval (minimum) (Bz) in nT
- column 8: Z-component of the magnetic field in the Sheath interval (minimum) (Bz) in nT
- column 9: Maximum absolute value of Bz within MC interval in nT
- column 10: Maximum absolute value of Bz within Sheath interval in nT
- column 11: MC speed in km/s
- column 12: Type of MC: south-north (SN), north-south (NS), fully south (FS) and fully north (FN)
- column 13: Starting date of the IP shock, mm/dd format
- column 14: Starting time of the IP shock, hh:mm format
- column 15: Speed of the IP shock in km/s
- column 16: Peak date of the Dst index, mm/dd format
- column 17: Peak time of the Dst index, hh:mm format
- column 18: Dst index during the MC interval in nT (indx)
- column 19: Dst index during the Sheath interval in nT (indx)
- column 20: Coronal mass ejection (CME) date, mm/dd format
- column 21: CME time, hh:mm format
- column 22: CME width (AW) in degrees
- column 23: CME speed (V) in km/s
- column 24: Heliographic location of the solar source