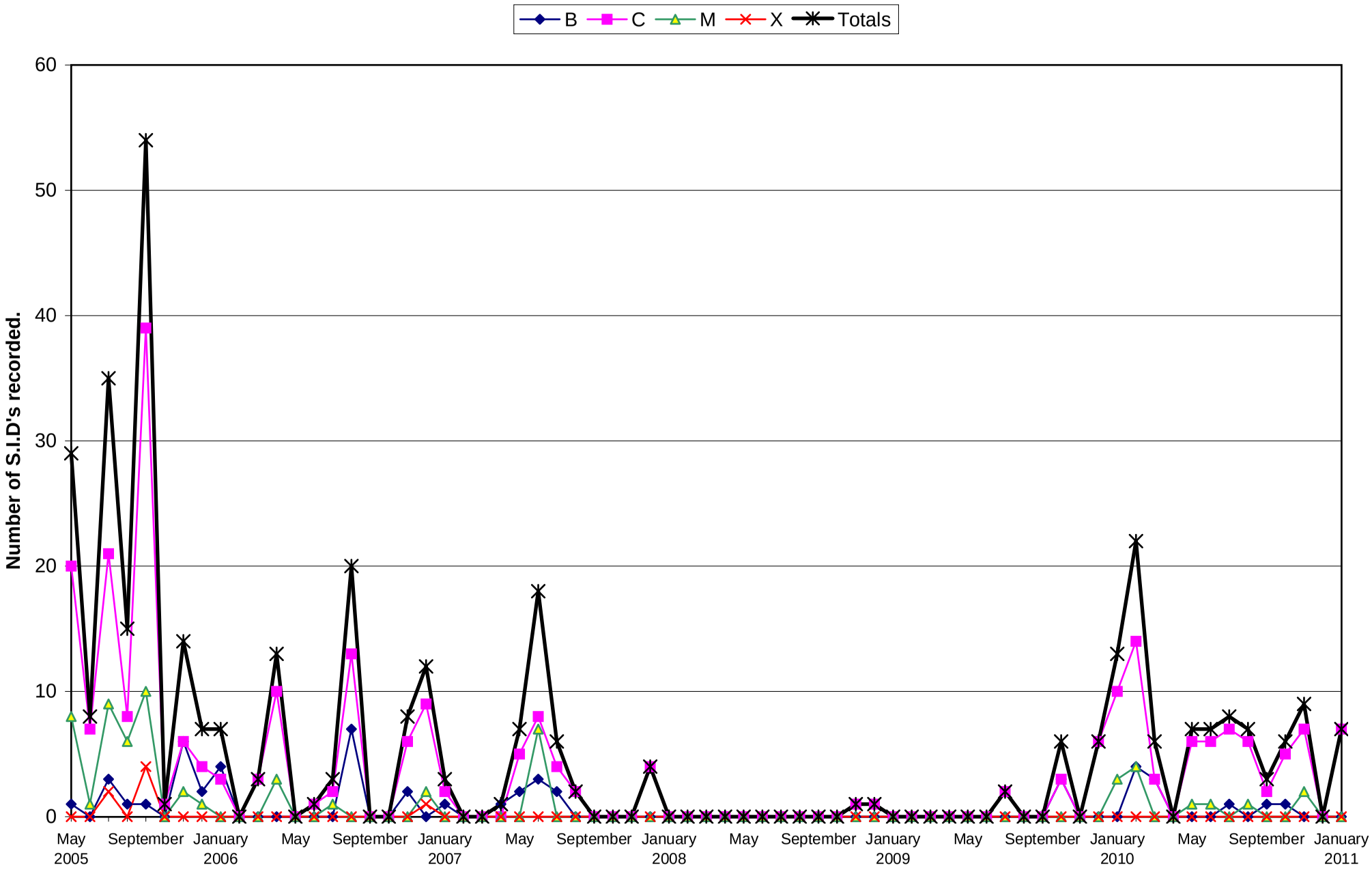
2011 JANUARY

	Xray class	Observers	John Cook (23.4kHz)	Roberto Battaiola (21.75kHz)	Nigel Curtis (23.4kHz)	Bob Middlefell (22.1kHz)	Mark Edwards (24kHz)
			Tuned radio frequency receiver, 0.58m frame aerial.	Modified AAVSO receiver.	Gyrator receiver, shielded loop aerial.	Tuned radio frequency receiver, 0.5m frame aerial.	Spectrum Lab / PC 2m loop aerial.
DAY			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
14	C1.0	2					
15	C1.1	2					14:17 14:20 14:30 1-
21	C1.0	2					12:12 12:14 12:20 1-
21	C1.4	2					14:28 14:38 14:56 1+
21	C1.1	1					15:18 15:20 15:36 1-
22	C2.4	1					
24	C1.4	1		06:10 06:15 06:29 1			

			Colin Clements (23.4kHz)	Peter Meadows (23.4kHz)	Mike King (20.9kHz)	John Wardle (23.4kHz)	Peter King (20.9kHz)
			AAVSO receiver, 0.76m screened loop aerial.	Tuned radio frequency receiver, 0.58m frame aerial.	AAVSO receiver. Tuned loop aerial.	Gyrator MKII receiver, 1m loop aerial.	Own designed receiver, 1.4m loop aerial.
DAY			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
14	C1.0						12:50 13:05 13:25 2
15	C1.1						14:15 14:20 14:25 1-
21	C1.0						12:05 12:15 12:20 1-
21	C1.4						14:25 14:40 14:50 1
21	C1.1						
22	C2.4						08:00 08:30 08:50 2+
24	C1.4						

			Paul Hyde (22.1kHz)	Gordon Fiander (18.3kHz)	John Elliott (18.3kHz)	Martyn Kinder (18.2kHz)	Mark Horn (23.4kHz)
			Tuned radio frequency receiver, 0.96m frame aerial.	PC sound card.	Tuned radio frequency receiver, 0.5m frame aerial.	Tuned radio frequency receiver, 0.58m frame aerial.	Tuned radio frequency receiver, 0.58m frame aerial.
DAY			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
14	C1.0		12:56 13:02 13:24 1+				
15	C1.1						
21	C1.0						
21	C1.4						
21	C1.1						
22	C2.4						
24	C1.4						

January started quietly with B-class flares on the 1st & 2nd, a C1.1 on the 3rd and a C1.9 on the 4th, both during our night. There was nothing on the 6th, with further B-class flares up to the 14th. A C1.6 at 04:17 was too early for us, but the C1.0 is recorded above as is the C1.1 on the 15th. The 16th. to 20th produced many B-class events, with a total of 7 C-class on the 21st. The mix of small C and B-class events continued to the 28th, when an M1.3 flare at 01:03 became the strongest event of the month. The last few days slowed down again with mostly B-class events. 23.4kHz was off from the 24th. to 28th.


VLF flare activity 2005/11.
B
C
M
X
Totals
Number of S.I.D's recorded.
60
50
40
30
20
10
0
May 2005
September
January 2006
May
September
January 2007
May
September
January 2008
May
September
January 2009
May
September
January 2010
May
September
January 2011

Magnetic data 2010/11.

The Radio Group committee have asked me to start including magnetic data along with the SIDs in the monthly summary. I have been using a magnetometer for many years, recording results in the form of a Bartel diagram. I have modified the format to include the SIDs that we record for comparison, starting in 2010.

Magnetic measurements are usually made using the K-index. This requires calibration with other observers, something that I have been unable to do. Apart from the solar disturbances that we are interested in, I suffer disturbance from local road traffic as well as metal objects moving around the house. The British Geological Survey magnetic station at Eskdalemuir is buried in a hillside to avoid these problems, an option not available to us. I therefore simply grade conditions as 'quiet', 'disturbed', or 'active'. Quiet covers the normal diurnal variation, while disturbed covers periods when there is some disturbance to this pattern that is clearly not from local interference (shown in green on the chart). Active periods are those where the disturbance is far more rapid or energetic (shown in red). These categories are based on experience of the magnetometer and its local environment over a period of time.

The disturbance that any one observer records will depend on their geomagnetic latitude, as well as longitude, and so we will all see something slightly different. Using American observatories for the K-index can also cause problems due to the longitude difference from Europe. The start of a magnetic event can hit the Earth at any longitude, and thus be recorded with differing magnitudes in different places.

In recording this information, the intention is to identify those magnetic events that relate to flares that we have recorded as SIDs. Accurate timing can allow the solar wind speed to be determined. Anyone who is already making magnetic measurements would be most welcome to include them along with the SID timings, and I will try to incorporate all of the data into the chart. I would also welcome any ideas for better ways of displaying the data, and other general comments or queries.

Please remember that the Aurora section may also be interested in your observations.

ROTATION	KEY:	DISTURBED.	ACTIVE	B, C, M, X = FLARE MAGNITUDE.	Synodic rotation start (carrington's).

2407	F	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2010 January 1	2 C	3	2092 4	5	6	7	8	9 *	10	11	12	13	
2408	F	14	15	16	17	18	19 CCMC	20 MCMCC	21 C	22	23	24	25	26	27	28	29	30	2093 31	2010 February 1	2	3	4	5	6 CC	7	8 MCCMMCI	9 C		
2409	F	10 CC	11	12 CBM	13 CC	14 C	15 BB	16	17	18	19	20	21	22	23	24	25	26 B	27	2094 28	2010 March 1	2	3	4 C	5	6	7	8		
2410	F	9	10	11	12	13	14 B	15	16	17	18	19	20	21	22	23	24	25 BB	26	2095 27 CC	28	29	30	31	2010 April 1	2	3	4		
2411	F	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	2096 23	24	25	26	27	28	29	30	May 1		
2412	F	2	3	4 C	5 CCM	6	7 C	8 CC	9	10	11	12	13	14	15	16	17	18	19	20	2097 21	22	23	24	25	26	27	28		
2413	F	29	30	31	2010 June 1	2	3	4	5	6	7	8	9	10	11	12 C	13 MCCC	14	15	16	2098 17	18	19	20	21	22	23	24		
2414	F	25	26	27	28	29	30	2010 July 1	2	3	4	5	6	7	8	9 C	10	11	12	13 C	2099 14 CC	15	16	17 C	18	19	20 C	21		
2415	F	22	23 BC	24	25	26	27	28	29	30	2010 August 1 C	2	3	4	5	6	7 M	8	9	2100 10	11	12	13	14 CC	15 C	16 C	17	18 C		
2416	F	19	20	21	22	23	24	25	26	27	28	29	30	31	2010 September 1	2	3	4	5	2101 6 C	7	8	9	10	11	12	13	14		
2417	F	15	16	17	18	19	20	21	22	23	24	25	26	27	28 C	29	30 B	2010 October 1	2 B	3	2102 4 C	5	6	7	8	9	10	11		
2418	F	12	13	14	15	16	17 C	18 CC	19	20	21	22	23	24	25	26	27	28	29	30	2103 31	2010 November 1	2	3 CC	4	5 M	6 CM	7		
2419	F	8	9	10	11 C	12 CC	13 C	14	15	16	17	18	19	20	21	22	23	24	25	26	2104 27	28	29	30	2010 December 1	2	3	4		
2420	F	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	2105 25	26	27	28	29	30	31		
2421	F	2011 January 1	2	3	4	5	6	7	8	9	10	11	12	13	14 C	15 C	16	17	18	19	2106 20	21 CCC	22 C	23	24	25	26	27		
2422	F M	28	29	30	31	2011 February 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	2107 16	17	18	19	20	21	22	23		