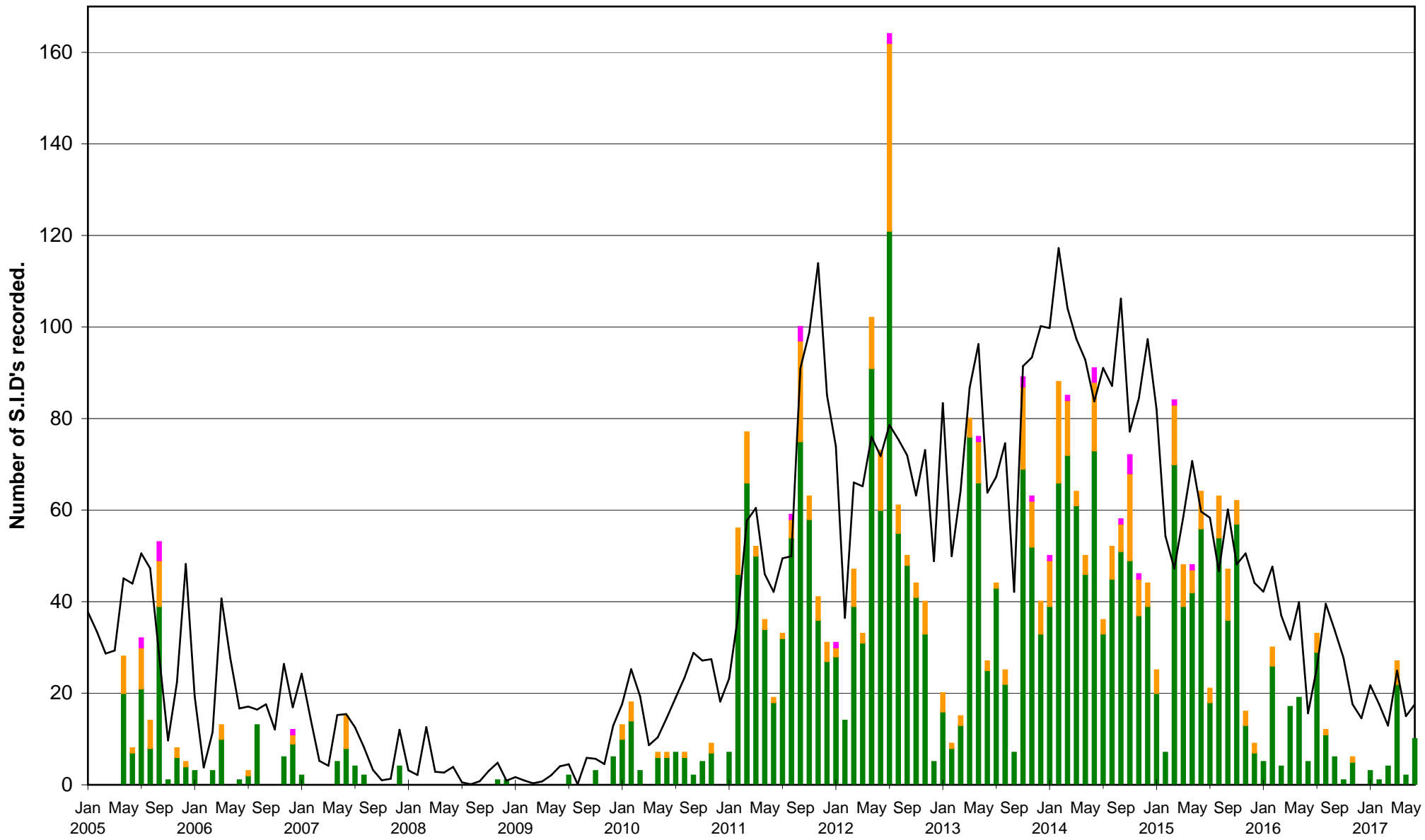
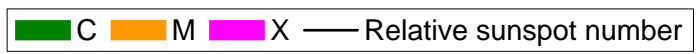


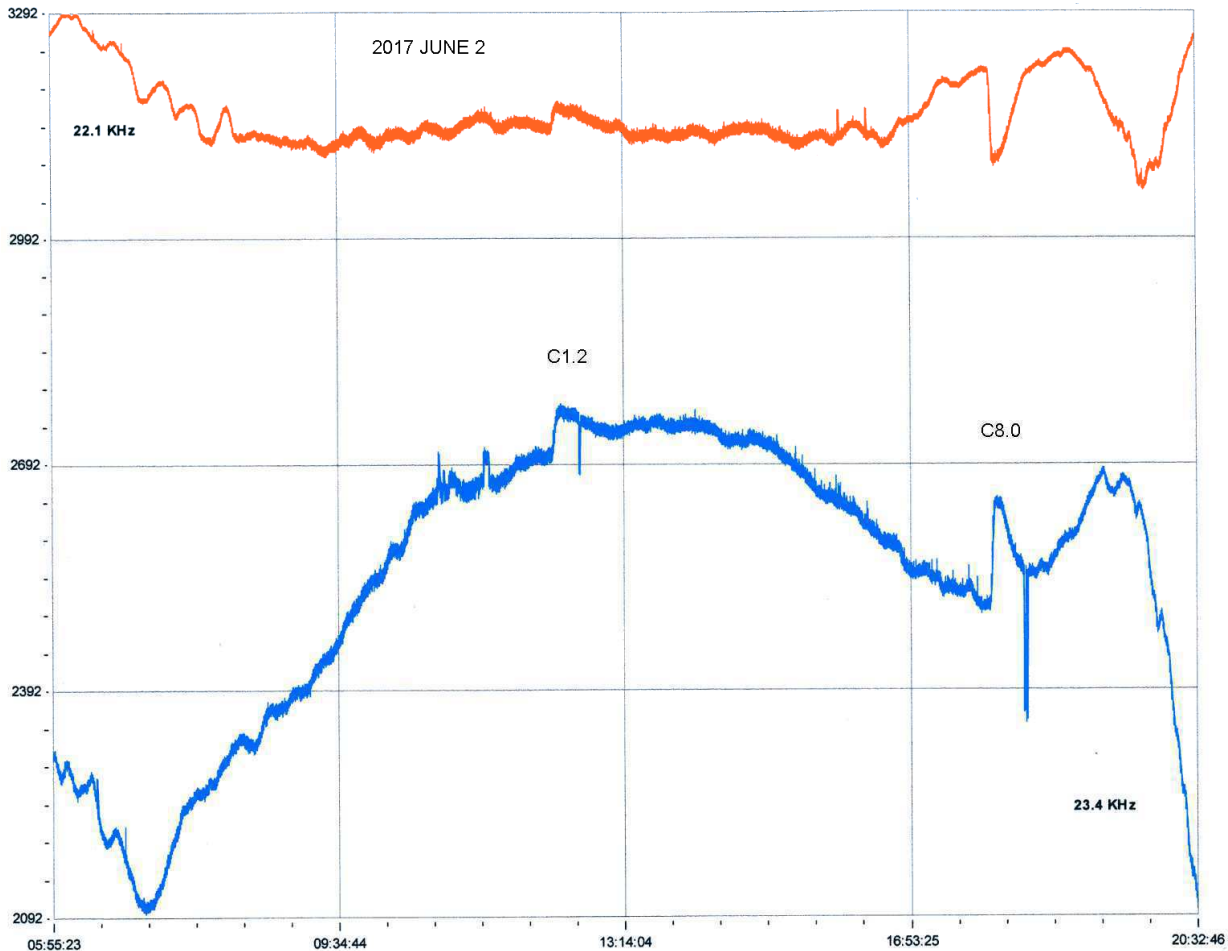
DAY	Xray class	Observers	John Cook (23.4kHz/22.1kHz)	Roberto Battaiola (21.75kHz)	Paul Hyde (22.1kHz)	Mark Edwards (20.9/24.0/18.3kHz)	Colin Clements (23.4kHz/22.1kHz)
			Tuned radio frequency receiver, 0.58m frame aerial.	Modified AAVSO receiver.	Spectrum Lab / PC 1.5m frame aerial.	Spectrum Lab / PC 2m loop aerial.	AAVSO receiver, 0.76m screened loop aerial.
			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
1	C2.5	5	09:23 09:29 09:55 1+		09:24 09:29 09:56 1+	09:24 09:29 09:58 2	09:19 09:30 09:59 2
1	C1.0	1			17:38 17:40 17:48 1-		
1	C1.4	2			18:01 18:10 18:38 2	18:02 18:08 18:36 2	
2	C1.2	4	12:20 12:24 12:31 1-		12:19 12:24 12:52 2	12:21 12:25 ? -	12:17 12:24 13:07 2+
2	?	1				12:29 12:34 12:47 1-	
2	B8.1	1				14:50 14:53 15:12 1	
2	C8.0	4			17:54 17:57 19:03 2+	17:54 17:59 18:56 2+	17:53 18:00 18:22 1+
3	C2.1	5	09:54 09:59 10:21 1+		09:54 ? 11:07 2+	09:54 10:02 10:42 2+	09:52 10:03 10:37 2
3	C2.5	5	14:55 14:58 15:20 1		14:54 14:57 15:31 2	14:54 14:58 15:26 1+	14:52 14:58 17:37 3+
3	C2.5	2			19:27 19:37 20:58 3	19:27 19:35 20:08 2	
5	C1.2	2			09:51 09:59 10:34 2	09:53 09:56 10:22 1+	
7	C1.2	4			10:05 10:19 11:16 2+	10:07 10:18 10:50 2	10:03 10:16 10:55 2+
7	B4.4	1				16:57 16:58 17:04 1-	

DAY	Xray class	Observers	Steve Parkinson (Various)	John Wardle (19.6/23.4kHz)	Phil Rourke (23.4kHz)	Jim Barber	John Elliott (18.3kHz)
			Tuned radio frequency receiver, frame aeral.	PC soundcard, 0.7m frame aerial.	Spectrum Lab, 0.6m frame aerial.	Spectrum Lab, 0.6m frame aerial.	Tuned radio frequency receiver, 0.5m frame aerial.
			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
1	C2.5		09:23 09:28 09:45 1				
1	C1.0						
1	C1.4						
2	C1.2						
2	?						
2	B8.1						
2	C8.0		17:55 18:00 18:40 2				
3	C2.1		09:54 10:01 10:40 2+				
3	C2.5		14:54 15:00 15:29 2				
3	C2.5						
5	C1.2						
7	C1.2		10:06 10:24 10:55 2+				
7	B4.4						

VLF flare activity 2005/17.



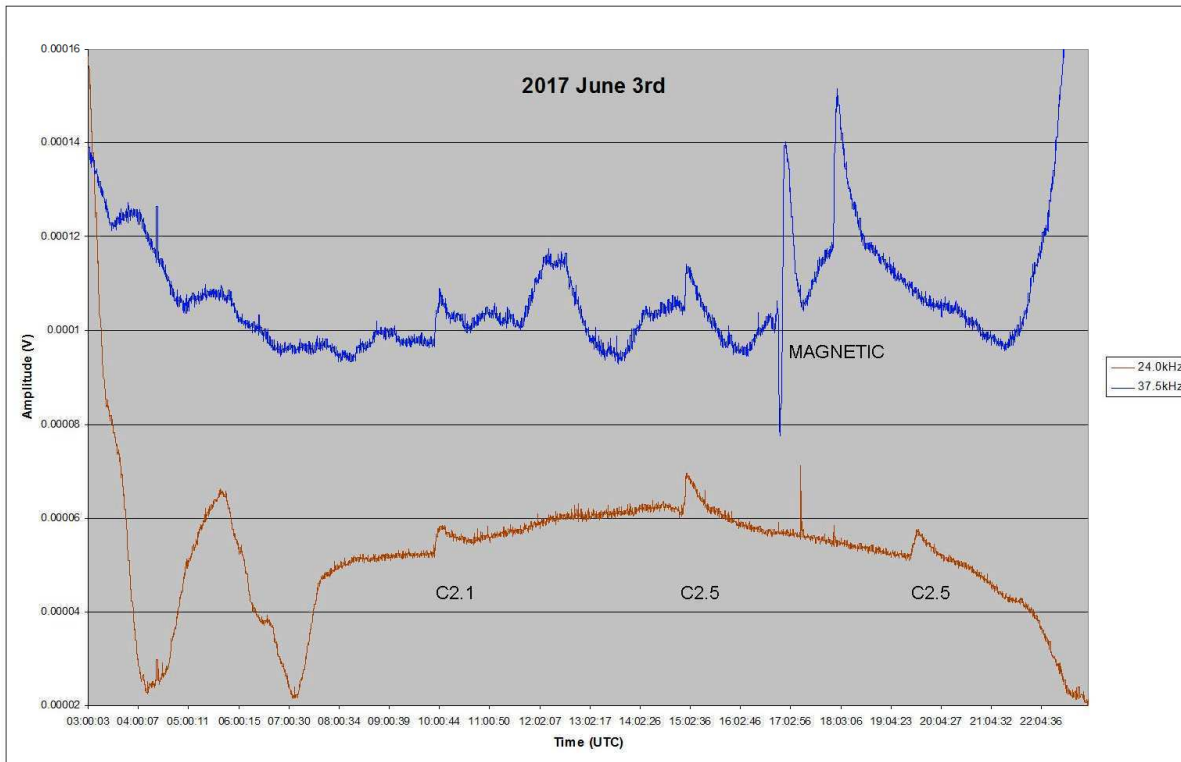
Solar flare activity was confined to the first week of the month, following on from the activity at the end of May. It was all from active region AR12661, emerging over the eastern limb of the visible disc. Activity started with a C6.6 flare at 01:43UT on June 1st. This was too early to be recorded at European longitudes, but we did catch the C8.0 flare on the 2nd. With the sun close to the northern summer solstice, a SID was recorded just before the sunset disturbance.



This recording by Colin Clements shows the C8.0 flare as well as the earlier C1.2 flare. Both signals show some noise during the day, with the 23.4kHz signal also suffering minor drop-outs on both SIDs. His 151 and 327MHz receivers did not record any VHF noise associated with these events. The C1.2 flare was double peaked, and Mark Edwards recorded the second peak as a separate SID.

The X-ray background started the month at B3, dropping to A7 by the 8th, and ending the month at A4. The low background resulted in some very noisy recordings, Colin noting the last ten days of the month as being particularly noisy.

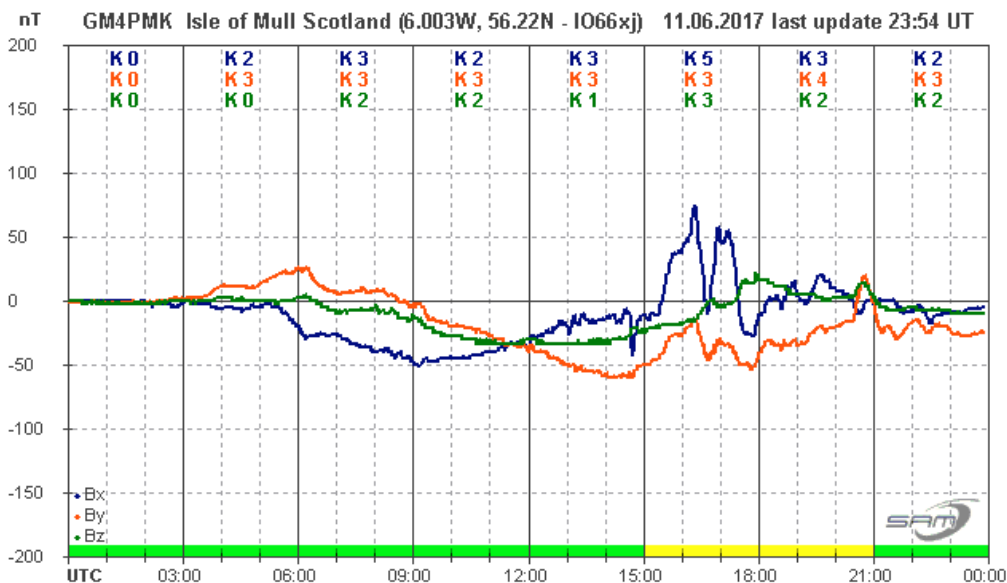
Activity continued on the 3rd with three more C-class flares. The last of these, peaking at 19:35UT was rather late to be recorded on the European signals. It did produce a SID at 24kHz on the trans-Atlantic path, all three being shown on the recording by Mark Edwards (next page). The SID recorded on the 5th appears to peak just before 10UT in both Mark's and Paul Hyde's reports, although the SWPC bulletin lists the peak at 10:48UT, well after the end of the SID. Two small flares on the 7th completes the month's activity.



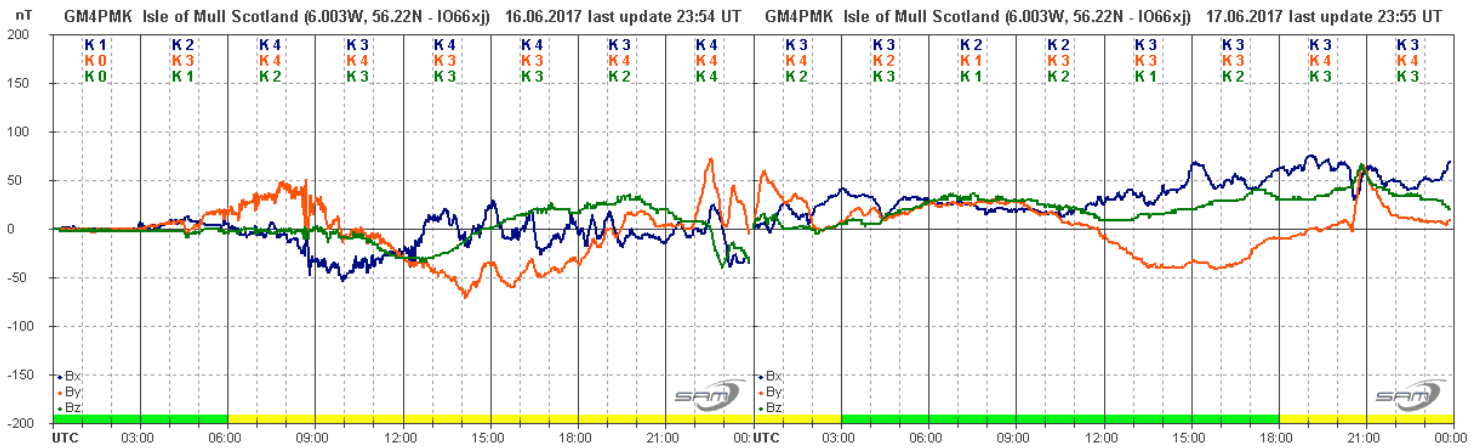
MAGNETIC OBSERVATIONS.

A filament eruption from May 30th produced a small CME that arrived in the afternoon of the 3rd. Along with the flares, Mark's chart (above) shows the solar wind disturbance on the 37.5kHz signal. This path does seem to be particularly sensitive to these magnetic effects. The first transient is timed at 16:44, the second at 17:52. Unfortunately there is a one hour break in the magnetometer chart from Roger Blackwell just at the critical time. The charts from BGS Hartland do however show strong magnetic disturbances at these times.

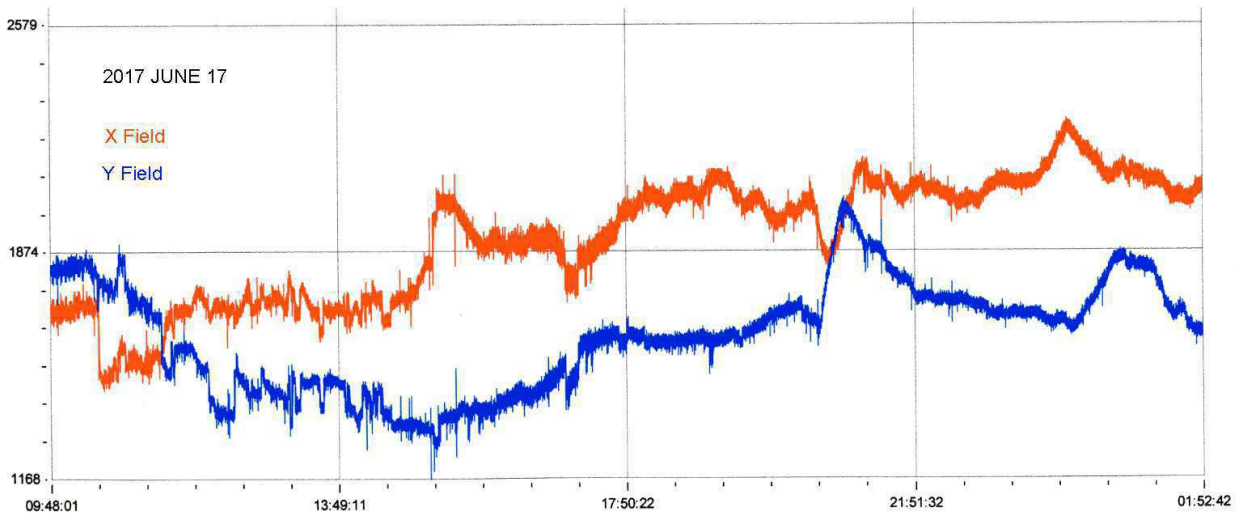
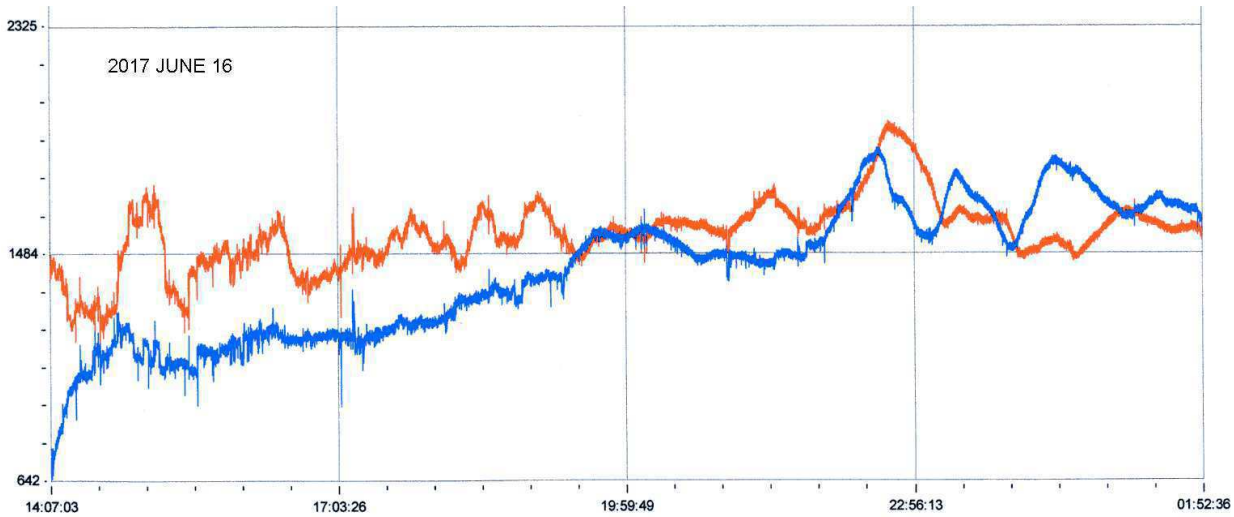
There were no flare-induced CMEs this month, but the coronal hole influence has again been present, particularly from the 11th to the 17th.



Roger Blackwell's chart from the 11th shows the CHSS influence starting around 03UT, continuing all day with a strong disturbance from 14:30 to 18:00.



The second major CHSS arrived on the 16th, with a well defined start at 03UT in Roger Blackwell's recording. I have joined two charts to show the disturbance lasting through the early morning of the 17th. After a quieter period activity again picks up after 12UT. This continued until about 04UT on the 18th.



Colin Clements' chart (above) shows the same activity recorded from a little further south in Co. Antrim. Mark Edwards also noted magnetic disturbances on the 37.5kHz signal from 18:51 to 21:32 and 21:57 to 22:14 on the 16th, and again from 20:35 to 21:37 on the 17th.

Magnetic observations received from Colin Clements, Roger Blackwell, Gonzalo Vargas and John Cook.

BARTELS DIAGRAM

ROTATION	KEY:	DISTURBED.	ACTIVE	SFE	B, C, M, X = FLARE MAGNITUDE.	Synodic rotation start (carrington's).
2465	F	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	2149			
2466	F	30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	2014 May 2150			
2467	F	27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	2014 June			
2468	F	23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	2014 July 2152			
2469	F	20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2014 August 2153			
2470	F	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11	2014 September 2154			
2471	F	12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8	2014 October 2155			
2472	F	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4	2014 November 2156			
2473	F	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1	2157			
2474	F	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	2014 December 2158			
2475	F	29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	2015 January 2159			
2476	F	25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	2015 February 2160			
2477	F	21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	2015 March 2161			
2478	F	20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2015 April 2162			
2479	F	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12	2015 May 2163			
2480	F	13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8	2015 June 2164			
2481	F	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5	2015 July 2165			
2482	F	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1	2166			
2483	F	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	2015 August 2167			
2484	F	29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	2015 September 2168			
2485	F	25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	2015 October 2169			
2486	F	22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	2015 November 2170			
2487	F	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14	2015 December 2171			
2488	F	15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10	2016 January 2172			
2489	F	11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6	2016 February 2173			
2490	F	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 1 2 3 4	2016 March 2174			
2491	F	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	2175			
2492	F	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	2016 April 2176			
2493	F	28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	2016 May 2177			
2494	F	25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	2016 June 2178			
2495	F	21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	2016 July 2179			
2496	F	18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13	2016 August 2180			
2497	F	14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9	2016 September 2181			
2498	F	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6	2016 October 2182			
2499	F	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2	2016 November 2183			
2500	F	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	2184			
2501	F	30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	2016 December 2185			
2502	F	27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	2017 January 2186			
2503	F	23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	2017 February 2187			
2504	F	19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	2017 March 2188			
2505	F	18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13	2017 April 2189			
2506	F	14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10	2017 May 2190			
2507	F	11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6	2017 June 2191			
2508	F	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3	2017 July 2192			