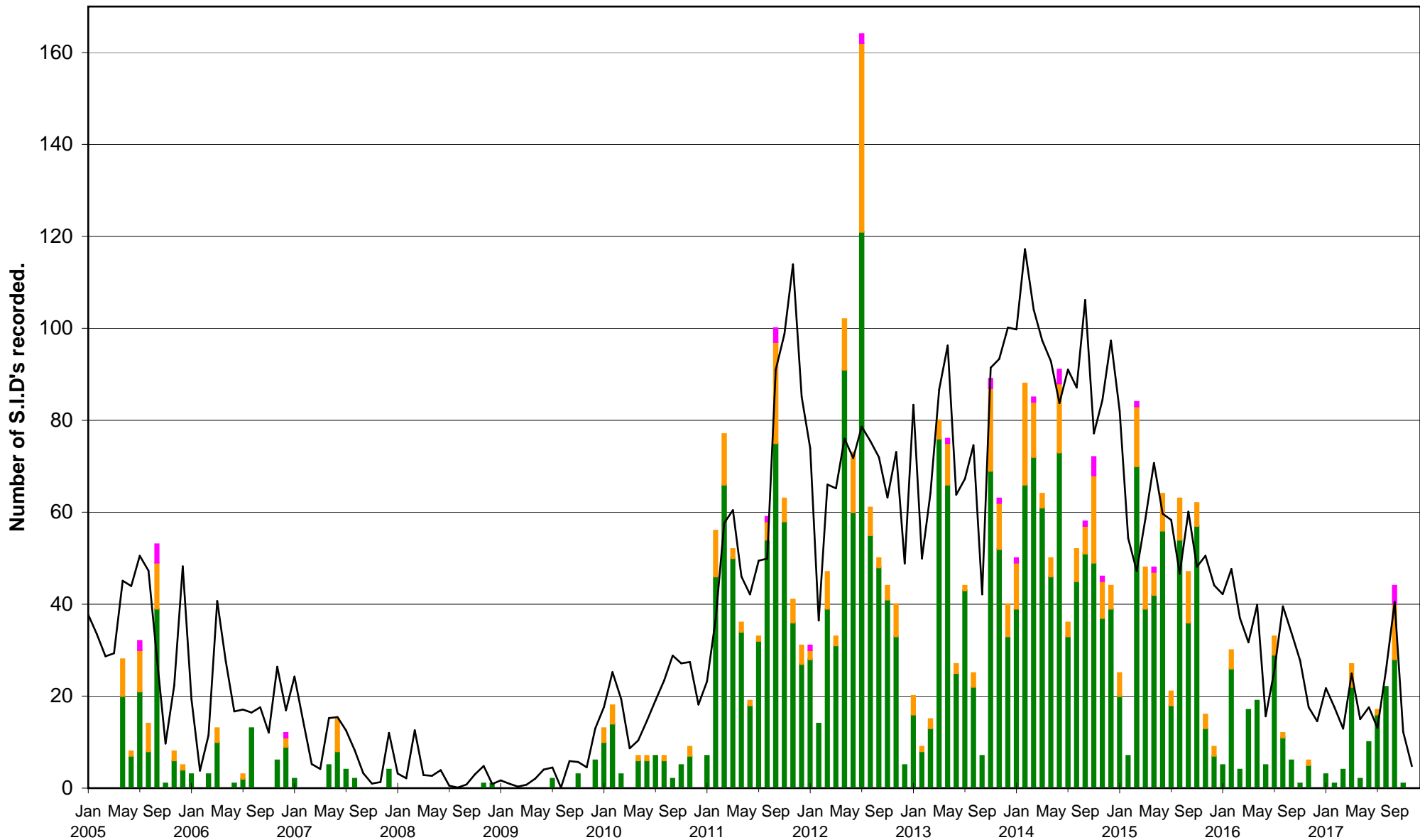
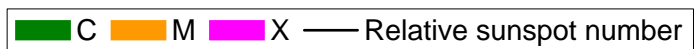


VLF flare activity 2005/17.



Solar activity has again been very low. The strongest flare in the GOES record was B7.5, timed at 06:48 on the 13th. The background X-ray flux level remained below A8 for the remainder of November. As often occurs at this time of year, there has been significant noise present on some days. It had started to become noticeable by the 9th on my own recordings, and by the 21st the daytime noise was comparable to that at night. Colin Clements also reported noise, being most prominent on the 10th, 12th, 22nd and 28th. The following charts show our recordings for the 28th:

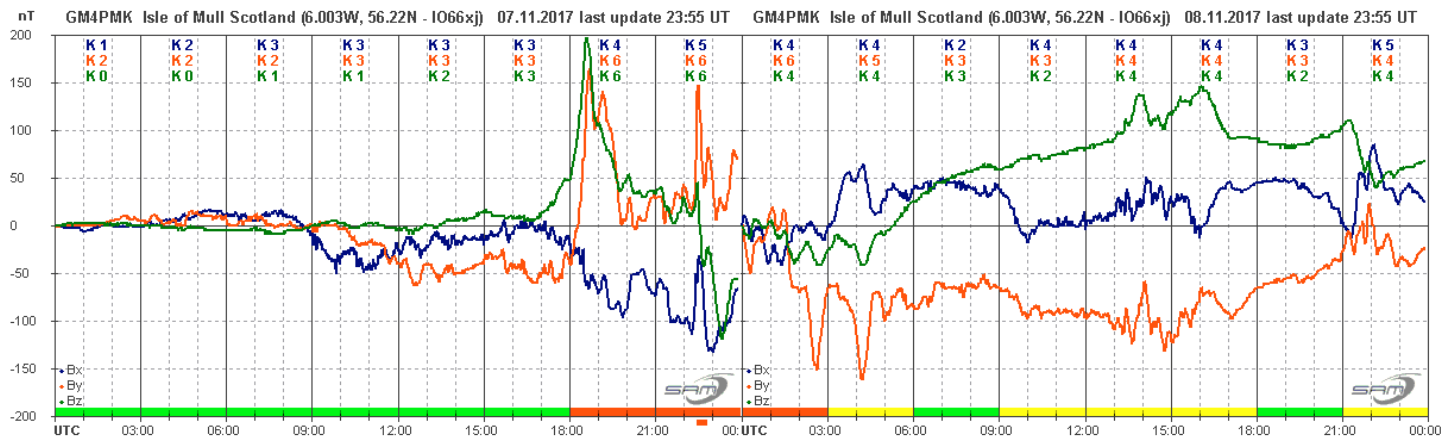


The sunrise dip at around 07 to 08UT has been lost in the signal break in my recording (lower chart), while sunset at around 15 to 16UT is hard to distinguish. Colin's chart has a much expanded vertical scale compared to mine, and shows the noise much better.

Mark Edwards reported another strange effect at 37.5kHz on the 19th. Starting at 13:35UT, there is a 'chirp' of oscillations lasting for about an hour. There is no matching feature in the magnetic recordings, and so remains unexplained. There is some noise present earlier in the day, but of a more random nature.

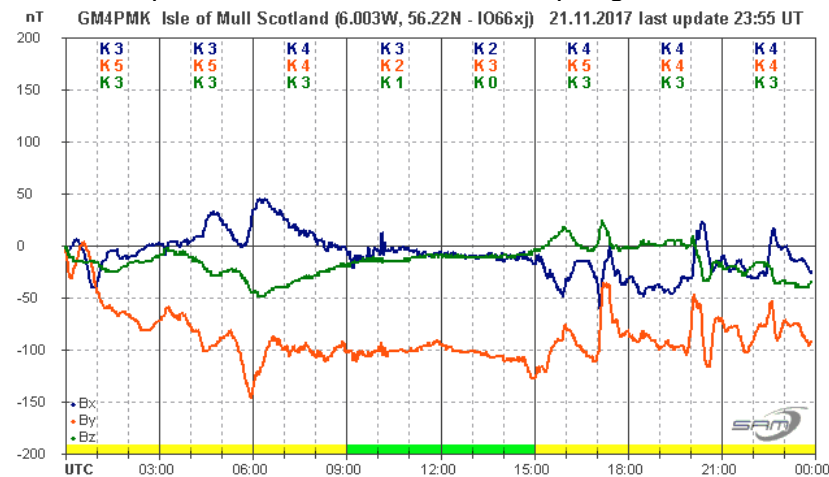
MAGNETIC OBSERVATIONS.

A large coronal hole stretching from the north pole to near the equator rotated into view in the first week of November, resulting in an increase in solar wind speed reaching the Earth on the 7th. This produced a strong magnetic disturbance lasting from about 18UT on the 7th until 07UT on the 8th. Roger Blackwell's recording shows the storm:



The magnetometer is reset at midnight, resulting in an offset between the two days. Activity increased again around 21UT on the 8th, with milder activity present through most of the day on the 9th. This coronal hole was also present in October, producing a storm on the 13th illustrated in the last summary. On the current rotation the storm seems to be much stronger. No effects were noted on the 37.5kHz VLF signal, perhaps due to the reduced day length at this time of year on the path from Iceland.

Several smaller coronal holes were present through the second half of the month, with stormy conditions present on the 21st, recorded by Roger Blackwell:



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

Useful links for space weather details:

- <http://swpc.noaa.gov/products/goes-x-ray-flux>
- <ftp://ftp.swpc.noaa.gov/pub/warehouse/2017/weeklyPDF/>
- <http://www.stce.be/newsletter/newsletter.php>
- <http://sidstation.loudet.org/>
- <http://www.geomag.bgs.ac.uk/observatories.html>
- <http://www.solarmonitor.org/index.php>

Charts of current activity.

Weekly summary of solar activity.

STCE weekly solar report.

General VLF information and activity charts.

Magnetic observatories and monthly reports.

Solar satellite images.

BARTELS DIAGRAM

ROTATION	KEY:	DISTURBED.	ACTIVE	SFE	B, C, M, X = FLARE MAGNITUDE.	Synodic rotation start (carrington's).																									
2469			2153		2014 August																										
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				
2470			2154		2014 September																										
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				
2471			2155		2014 October																										
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				
2472			2156		2014 November																										
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				
2473			2157																												
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				
2474			2158		2014 December																										
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				
2475			2159		2015 January																										
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				
2476			2159		2015 February																										
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				
2477			2159		2015 March																										
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	
2478			2162		2015 April																										
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				
2479			2163		2015 May																										
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				
2480			2164		2015 June																										
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				
2481			2165		2015 July																										
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	5			
2482			2166																												
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				
2483			2167		2015 August																										
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				
2484			2168		2015 September																										
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				
2485			2169		2015 October																										
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	21			
2486			2170		2015 November																										
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				
2487			2171		2015 December																										
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	14			
2488			2172		2016 January																										
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				
2489			2173		2016 February																										
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				
2490			2174		2016 March																										
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	3	4		
2491			2175																												
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				
2492			2176		2016 April																										
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				
2493			2177		2016 May																										
F	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	23	24			
2494			2178		2016 June																										
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				
2495			2179		2016 July																										
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	20
2496			2180		2016 August																										
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				
2497			2181		2016 September																										