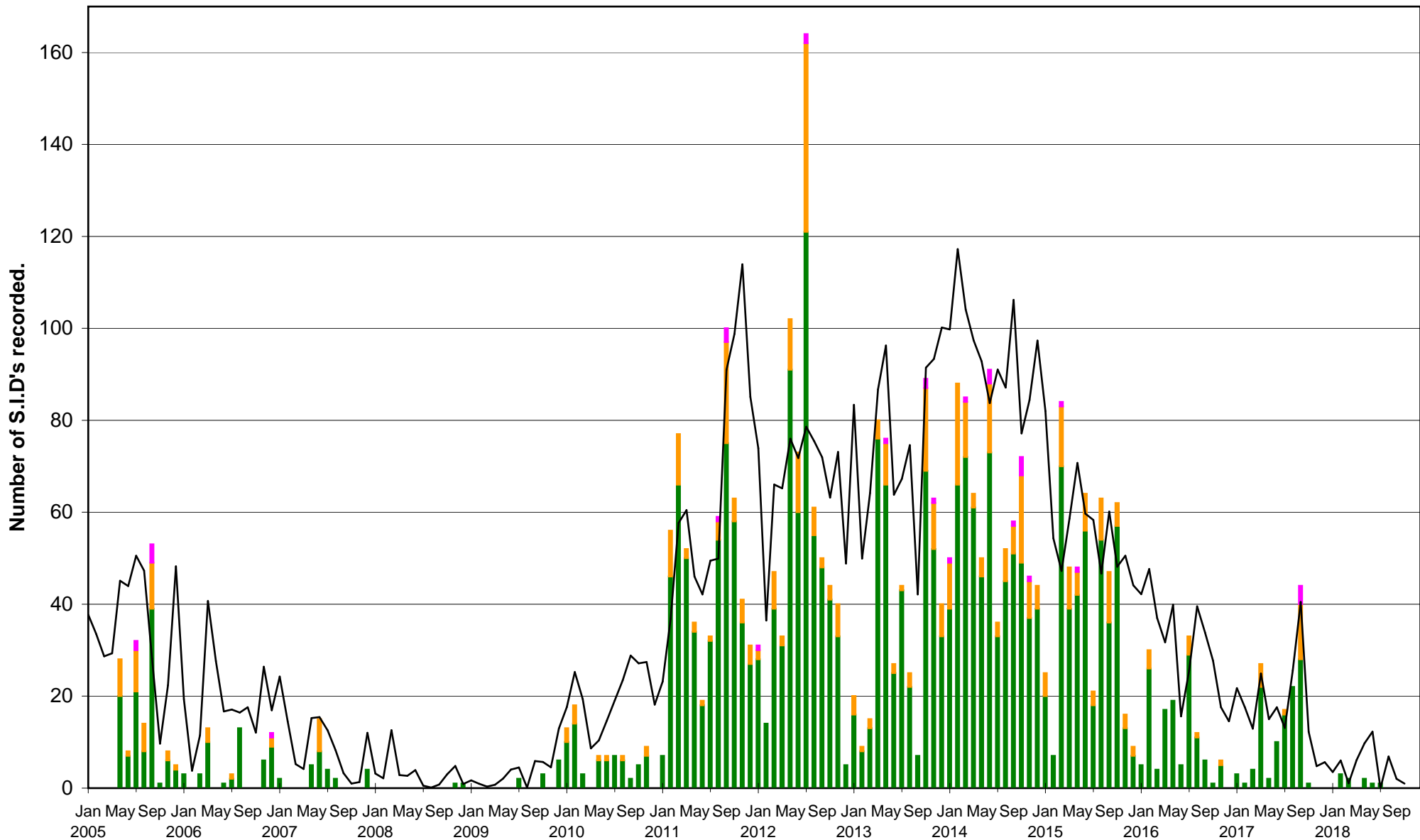
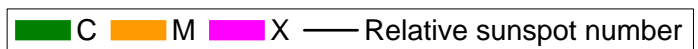
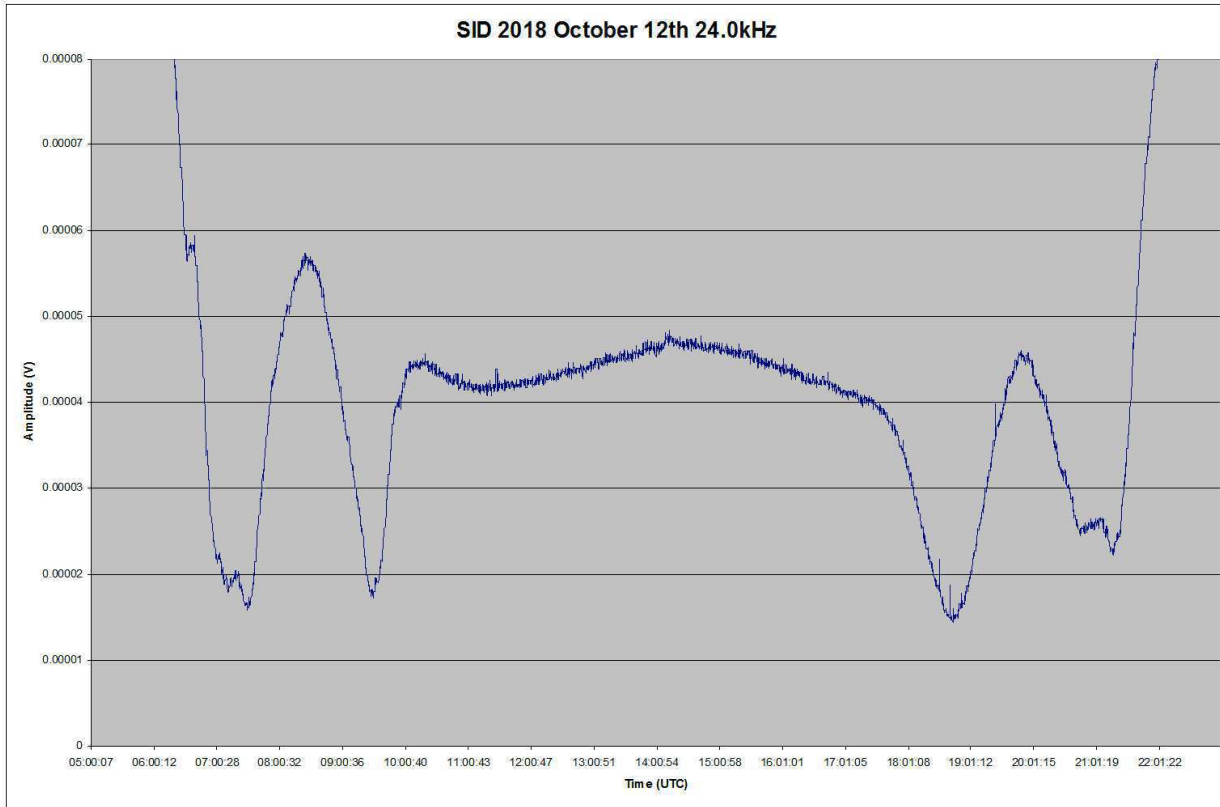




### VLF flare activity 2005/18.



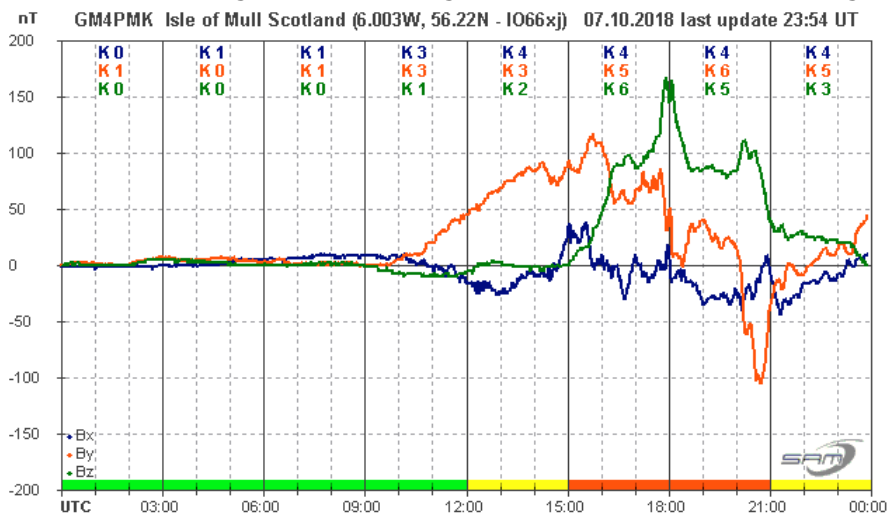
The background X-ray flux recorded by GOES15 has again been below A1 levels for most of the month, rising to about A2/A3 from the 10<sup>th</sup> to the 13<sup>th</sup>. AR12724 was active over these few days, providing the strongest flare of the month and the only SID recorded.



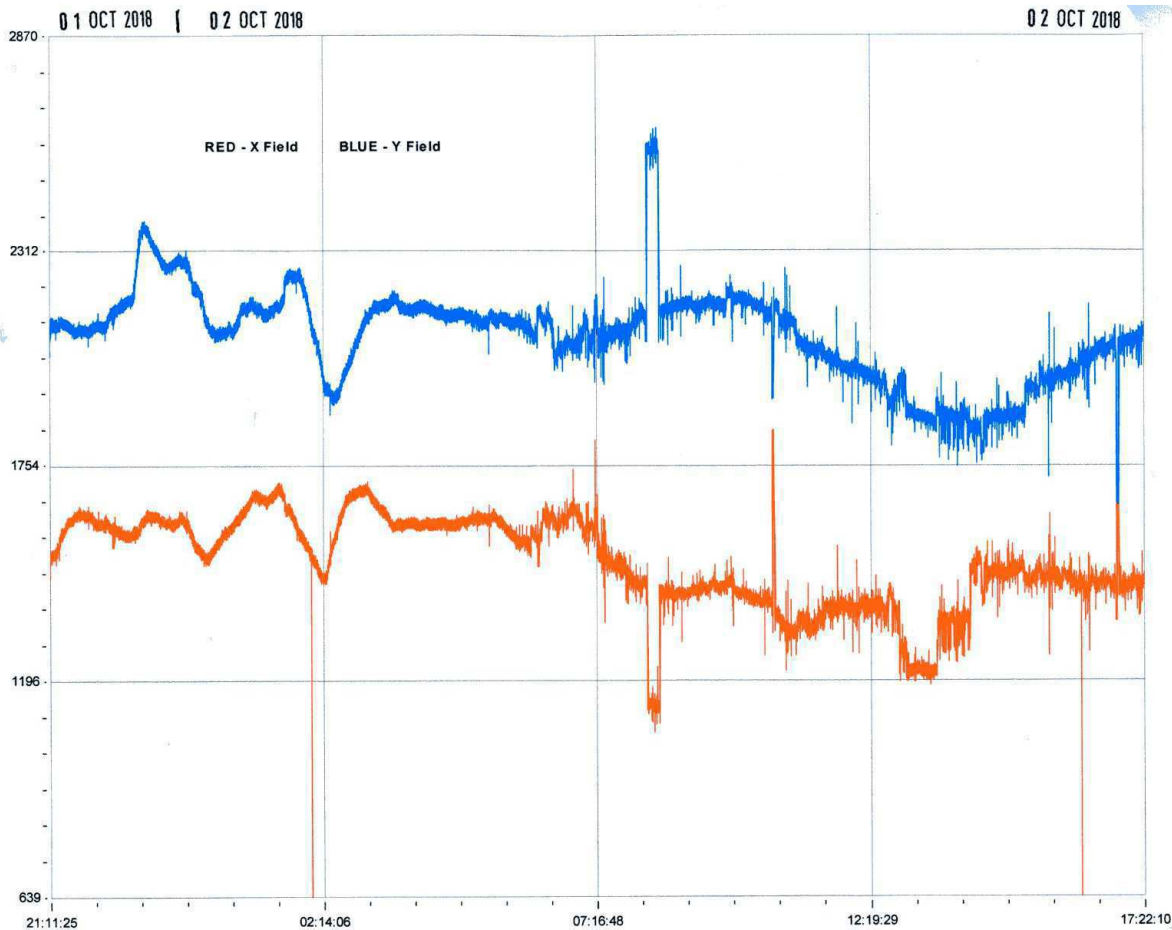
This is Mark Edwards' 24kHz recording of the B7.1 flare at 14:11UT on the 12<sup>th</sup>. Despite a noisy signal, there is a small but clear SID present. It was not recorded on any of the other frequencies.

### MAGNETIC OBSERVATIONS.

Numerous small coronal holes crossed the visible hemisphere of the sun during the first half of October, producing some mild magnetic disturbances. The strongest of these started on the 7<sup>th</sup>:



The recording on the previous page by Roger Blackwell shows the most active period of the month, starting around 10UT in the morning of the 7<sup>th</sup>. Activity continued through the morning of the 8<sup>th</sup>. Despite the strong transients shown at 18:00 and 20:30 on Roger's chart, no disturbances were recorded on the 37.5kHz VLF signal. They were perhaps too late in the evening, and lost after the local sunset.



Colin Clements made this recording of activity in the evening of the 1<sup>st</sup>, and through the 2<sup>nd</sup>. The disturbance started around 20UT on the 1<sup>st</sup>, and was much weaker than that seen on the 7<sup>th</sup>. Local interference starts at 07UT, but the background magnetic disturbance can easily be seen through that.

The Earth's magnetic field remained very quiet from the 16<sup>th</sup>, with just a few very minor disturbed periods. With the low level of sunspot activity, there were no CMEs in October.

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).																									
2485	F	25 C	26 CMCC	27 MCMM	28 MMCM	29 CMCM	30 CMCM	2015 October	1 CCM	2 CCMM	3 CCCC	2169	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
	F	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 CC	30 CCCC	31 CCCM	2015 November	1 CCCC	2 CCCC	3 CMM	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
2487	F	18	19	20	21	22	23	24	25	26	27	2015 December	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14		
	F	15	16	17	18	19	20	21	22	23	24	2016 January	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10		
2489	F	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2016 February	1	2	3	4	5	6		
	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	2016 March	1	2	3	4
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			
	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	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			
	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	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			
	F	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2016 August	1	2	3	4	5	6	7	8	9	10	11	12	13		
2497	F	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2016 September	1	2	3	4	5	6	7	8	9		
	F	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2016 October	1	2	3	4	5	6	
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	2016 November	1	2		
	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			
2501	F	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	25	26		
	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			
2502	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			
	F	19	20	21	22	23	24	25	26	27	28	29	30	31	2017 March	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2505	F	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2017 April	1	2	3	4	5	6	7	8	9	10	11	12	13		
	F	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2017 May	1	2	3	4	5	6	7	8	9	10	
2507	F	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2017 June	1	2	3	4	5	6		
	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	2017 July	1	2	3	
2509	F	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	30			
	F	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	25	26			
2511	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			
	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	19		
2513	F	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	2017 November	6	7	8	9	10	11	12	13	14	15		
	F	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2017 December	1	2	3	4	5	6	7	8	9	10	11	12	
2515	F	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2018 January	1	2	3	4	5	6	7	8		
	F	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2018 February	1	2	3	4		
2517	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				
	F	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	30			
2519	F	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	25	26			
	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	23	24	
2520	F	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			
	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	16		
2522	F	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	12			
	F	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2018 September	1	2	3	4	5	6	7	8		
2525	F	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2018 October	1	2	3	4	5	
	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			