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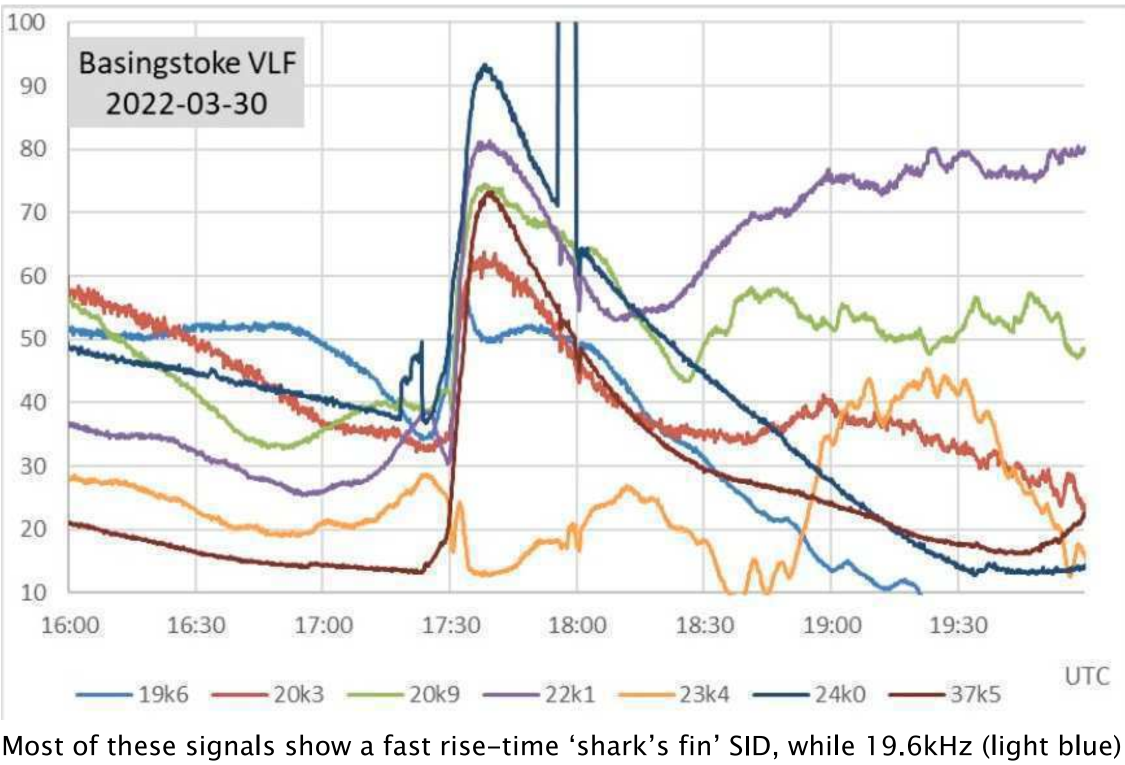
BAA Radio Astronomy Section. Director Paul Hearn.

RADIO SKY NEWS 2022 MARCH.

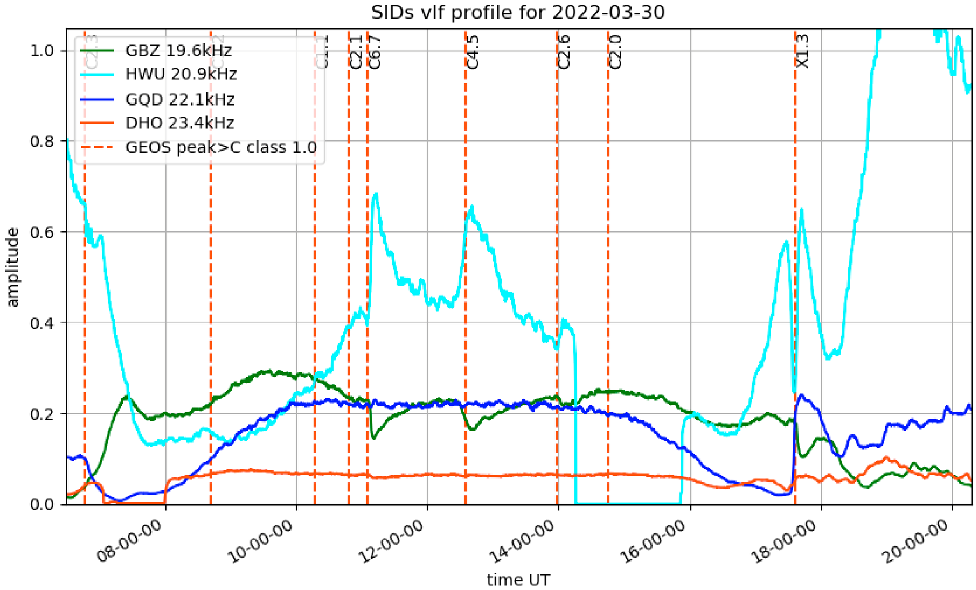
VLF SID OBSERVATIONS.

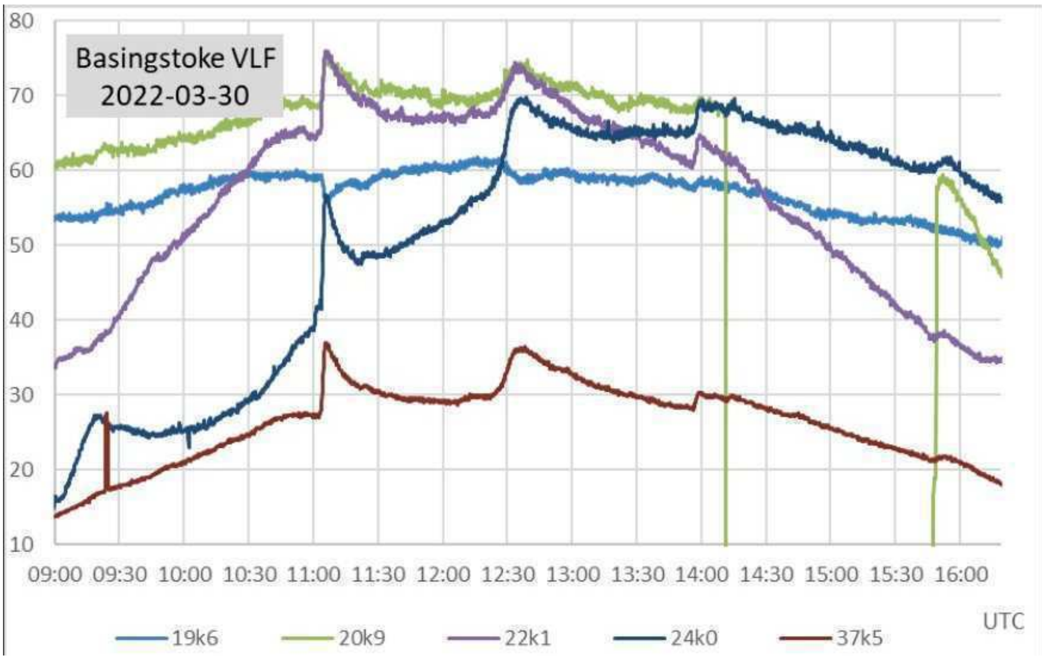
2022 March has seen the highest SID count recorded since 2015 October, including the second X-flare of solar cycle 25. The increasing day length in March helped to catch the X1.3 flare peaking around 17:40UT on the 30th. This was well timed for the north-south and westerly paths, and just caught the local sunset eastwards at 23.4kHz. This recording by Paul Hyde shows the event well:



Most of these signals show a fast rise-time 'shark's fin' SID, while 19.6kHz (light blue) has a gentle 'spike and wave' response. This is also seen at 23.4kHz before the recovery gets lost into the sunset.

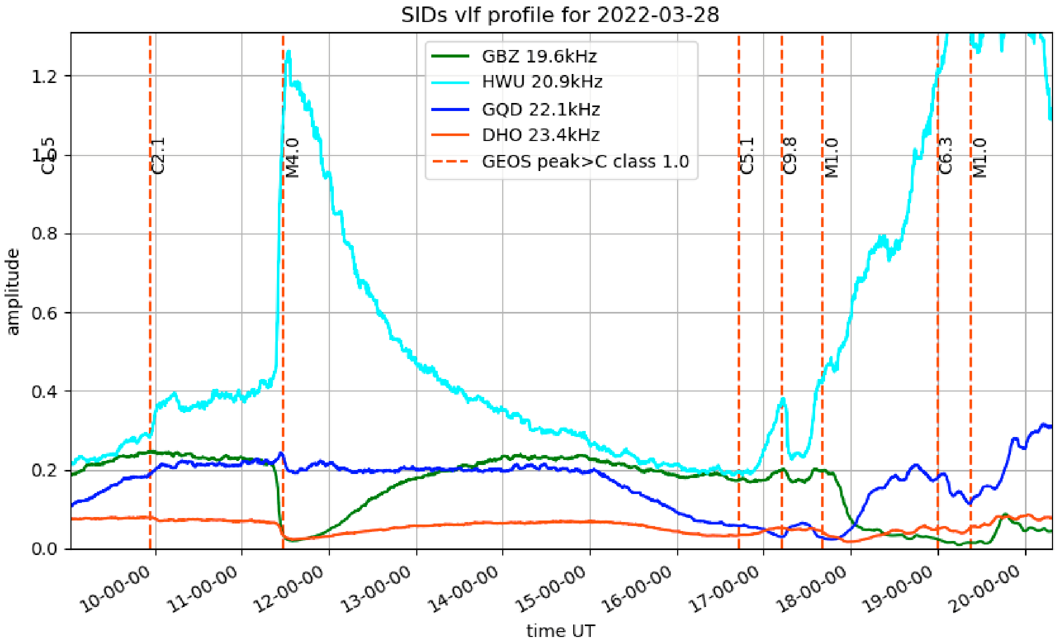
This was preceded by a series of multiple peaked flares that have taken some time to sort out. Simply taking the timings from our SID recordings does not match the X-ray flare timings shown in the SWPC bulletin; hence the gaps shown in the tables at the end of this report. I have put a '*' in the magnitude column to indicate these events. The recording by Mark Prescott shows some of these SIDs, followed by Paul Hyde's recording:

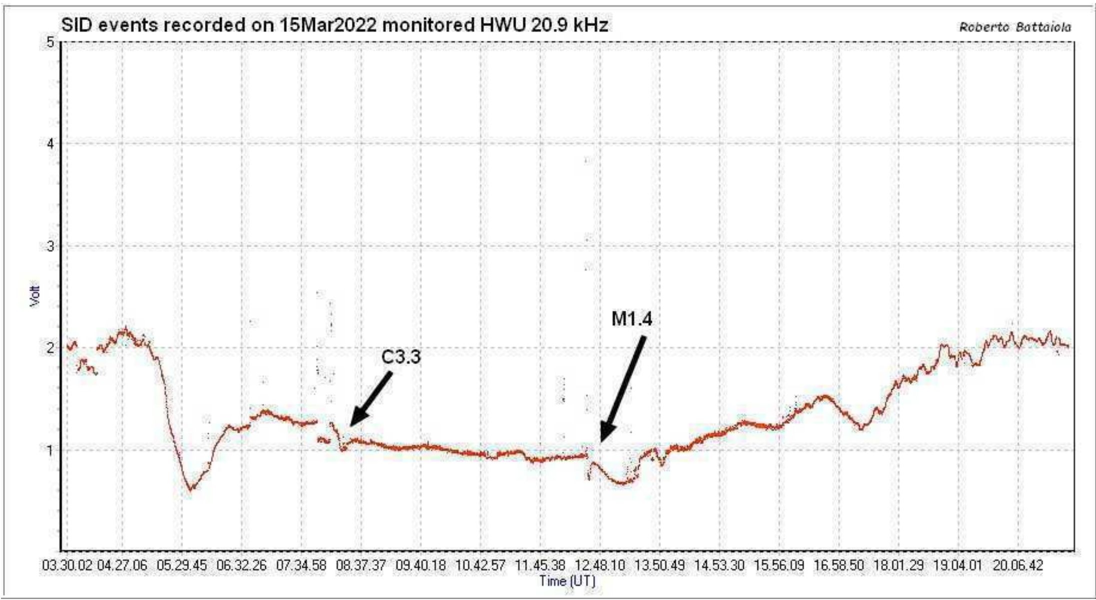




In most of these traces the SID at 11:05UT is the strongest event, but is not listed by the SWPC. Looking at graphs of the X-ray flux, it appeared to be from a flare of about C8 magnitude, the highest peak in an event running from about 10:20 and merging into the C4.5 flare listed after 12:30.

An even more complex train of flares was recorded late on the 28th. The GOES graphs show the X-ray flux intensity gradually rising from about 16:00UT followed by a number of peaks before falling again by 18:30. The SWPC list just shows the C9.8 peak at 17:15, but the flux intensity appears to have reached M1 shortly afterwards. The M4.0 flare earlier in the morning was more isolated, and much easier to see. The majority of this activity was from active region AR12975, a complex group with numerous individual sunspots, crossing the central meridian over this period. The recording by Mark Prescott shows many of these events:

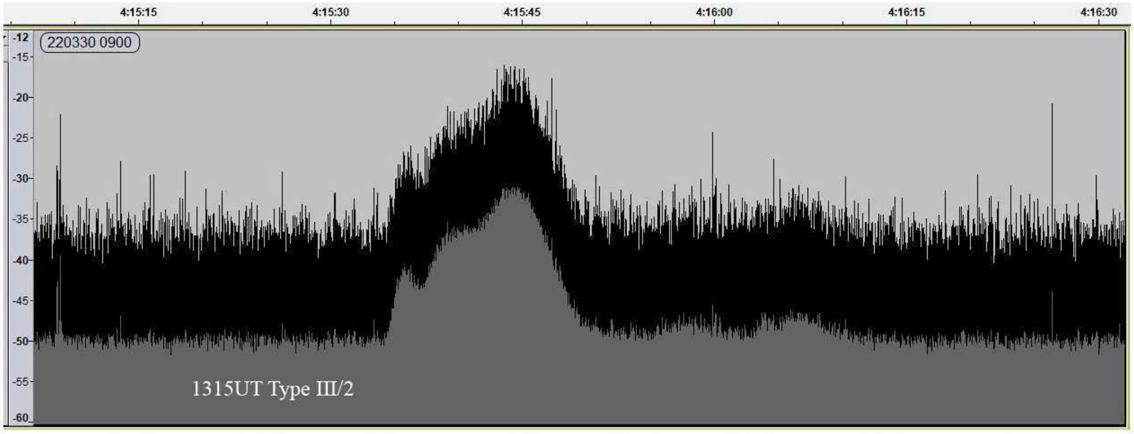


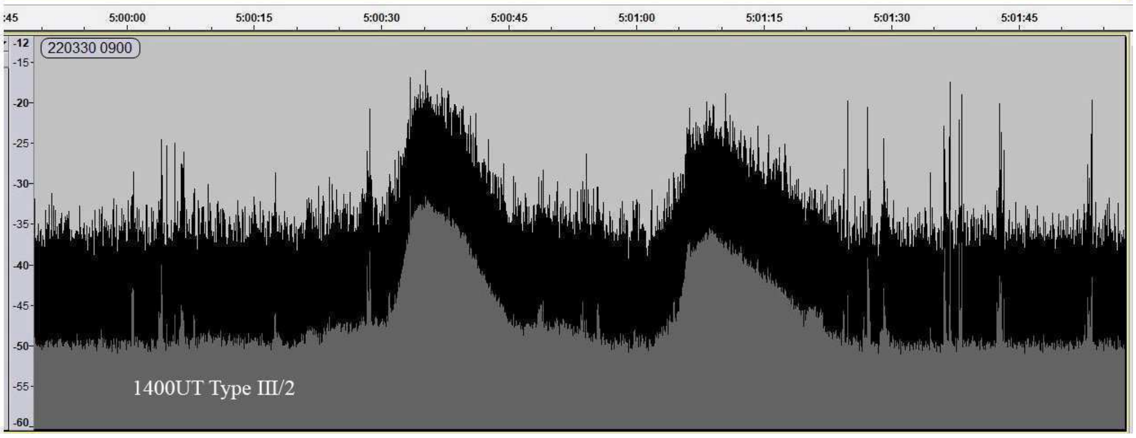


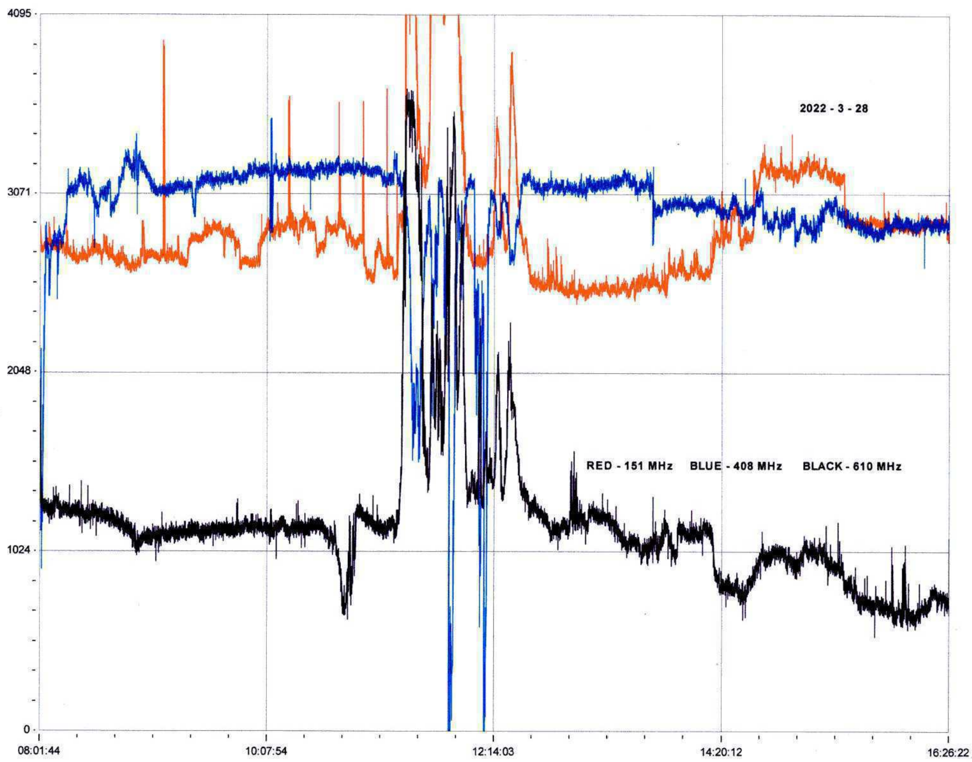
This recording by Roberto Battaiola on the 15th shows the M1.4 and C3.3 flares on a rather noisy signal at 20.9kHz. A very small dip in the signal is just visible matching the C1.6 flare at 11:30, but is not an obvious SID.

SOLAR EMISSIONS.

Colin Briden and Colin Clements recorded strong solar emissions. Colin Briden monitored 28MHz, and noted strong type III/2 bursts on the 30th. The first of these, shown on the next page, was at about 13:15UT, and does not appear to directly match any of the flares listed by SPWC. It appears to have three peaks increasing in amplitude over a period of about 20 seconds. A pair of bursts were then seen starting at 14:00, each lasting about 15 seconds and about one minute apart. These are a good match for the first two peaks of the C2.6 flare shown in the charts by Paul Hyde and Mark Prescott.

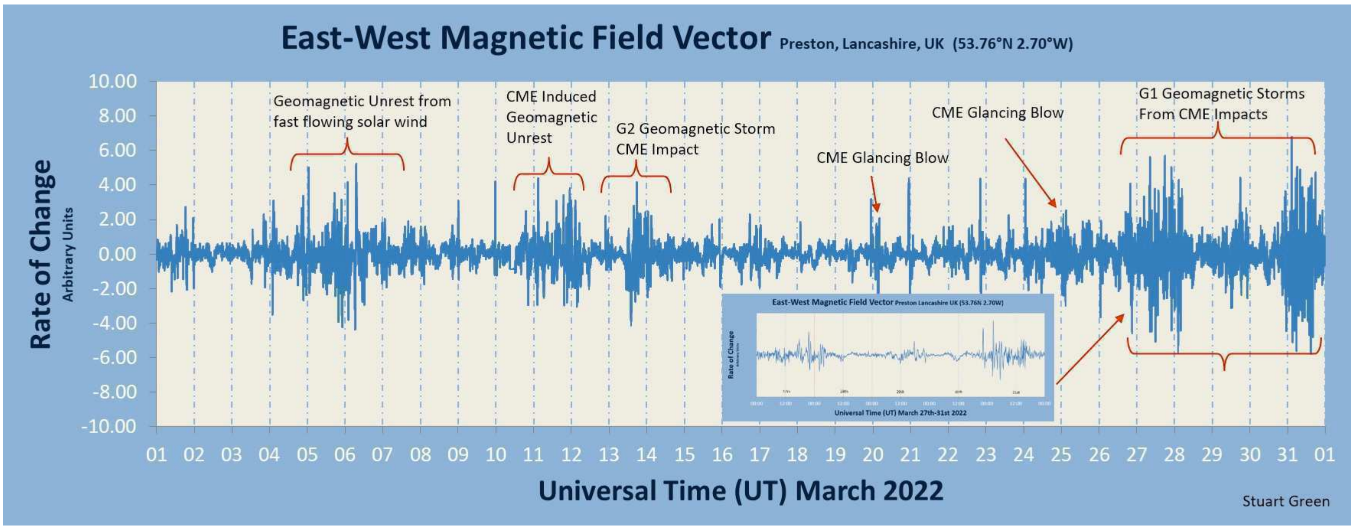




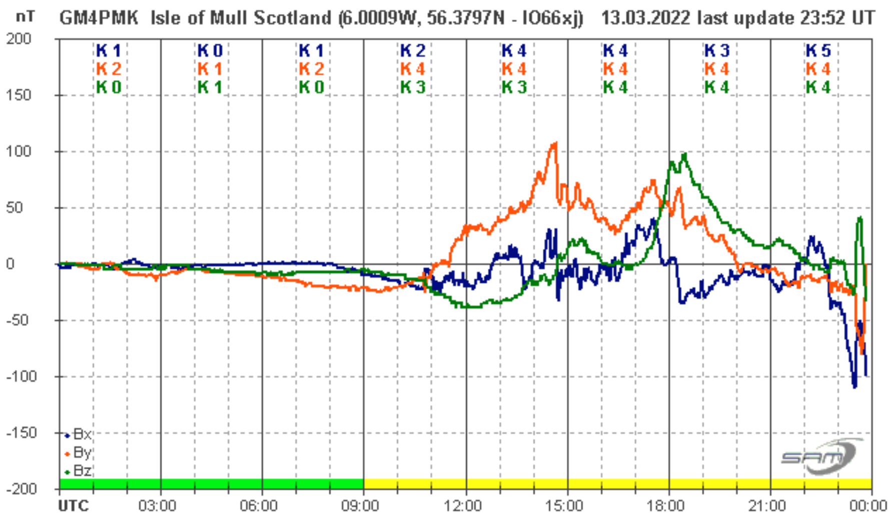


This recording by Colin Clements shows noise bursts at 151, 408 and 610MHz well timed to match the M4.0 flare at 11:30UT on the 28th. The blue trace is 408MHz, and appears to show a drop in noise during the flare, an unusual feature that we have not recorded before. Both 610 and 151MHz have the expected increase in noise level. Colin Clements also recorded noise bursts on the 22nd and 23rd.

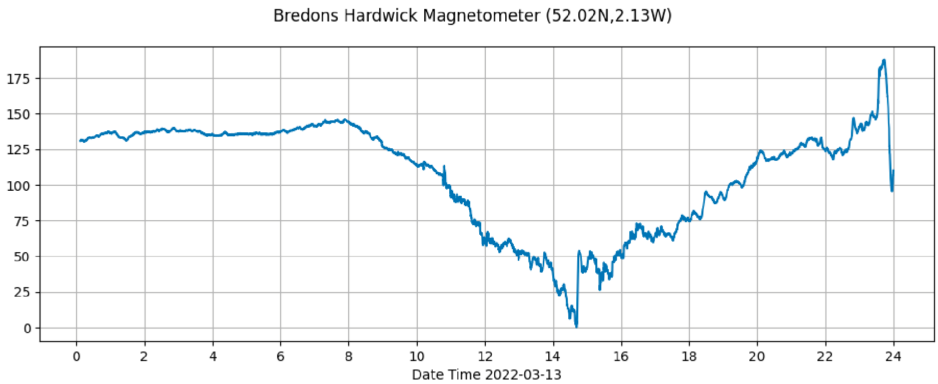
MAGNETIC OBSERVATIONS.



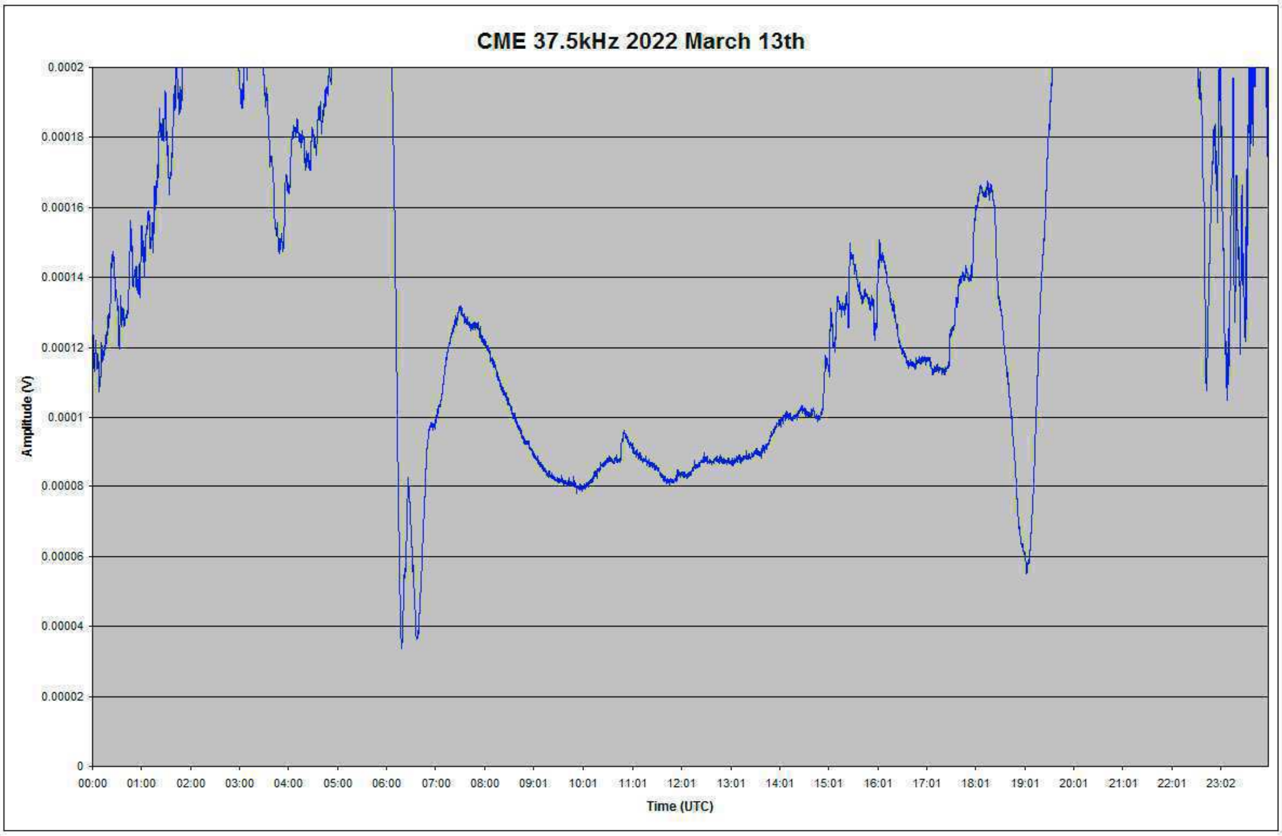
Stuart Green's summary of the month's magnetic activity shows a combination of high speed winds and CME impacts. A CME shown in satellite images from the 10th arrived with a significant impact at about 10:45UT on the 13th, shown in the recording by Roger Blackwell:



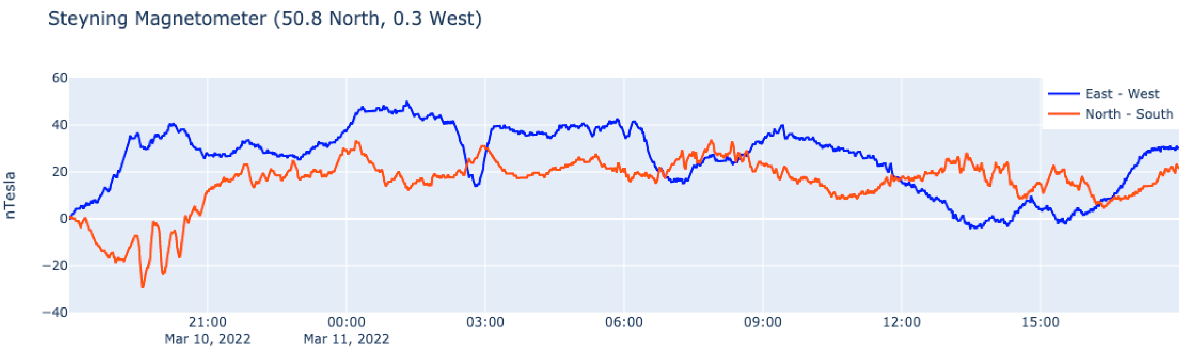
A small transient in the Bx signal (blue trace) appears to mark the impact, followed immediately by a very turbulent disturbance in all three sensors. This only lasted until about 03:00 in the following morning.

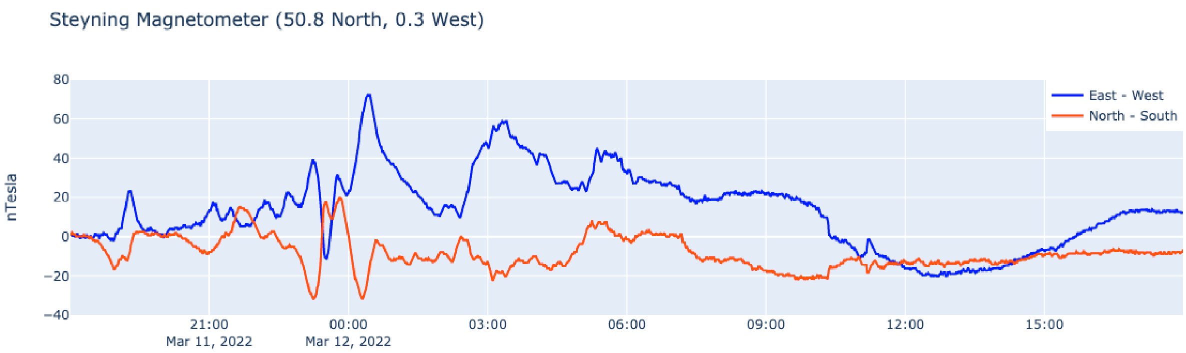


A similar transient at about 11UT is also present in this recording by Callum Potter. This is from a single axis sensor, mounted horizontally, reducing the turbulence seen during the afternoon.



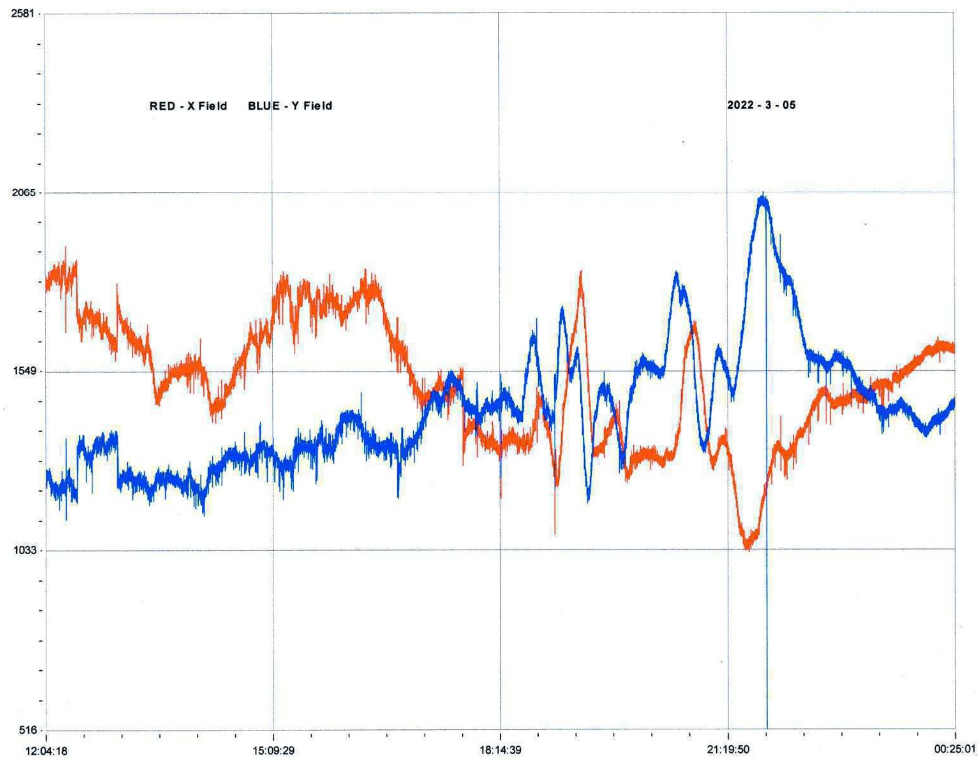
Mark Edwards' recording of the 37.5kHz signal from Iceland also shows some disturbance after 15UT as well as a sharp transient just before 11UT matching the magnetic disturbances.

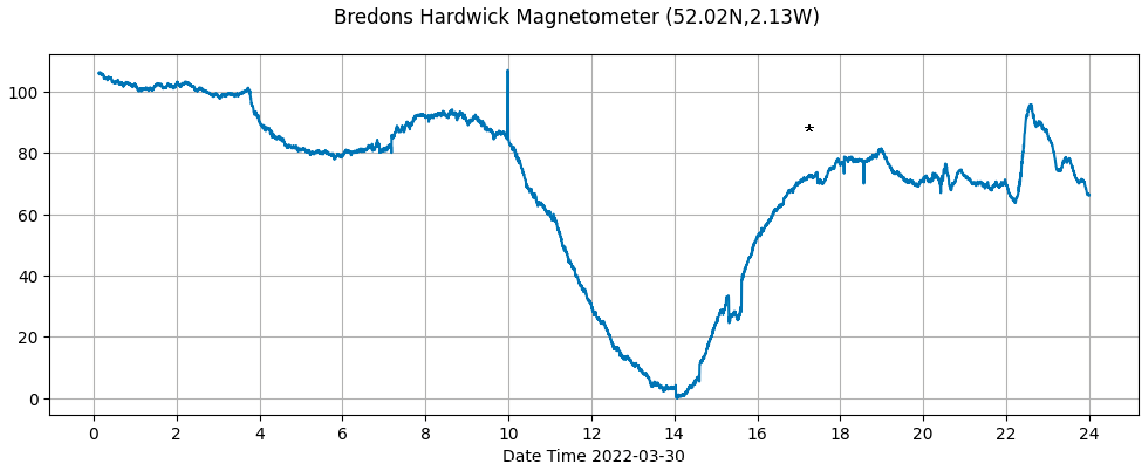




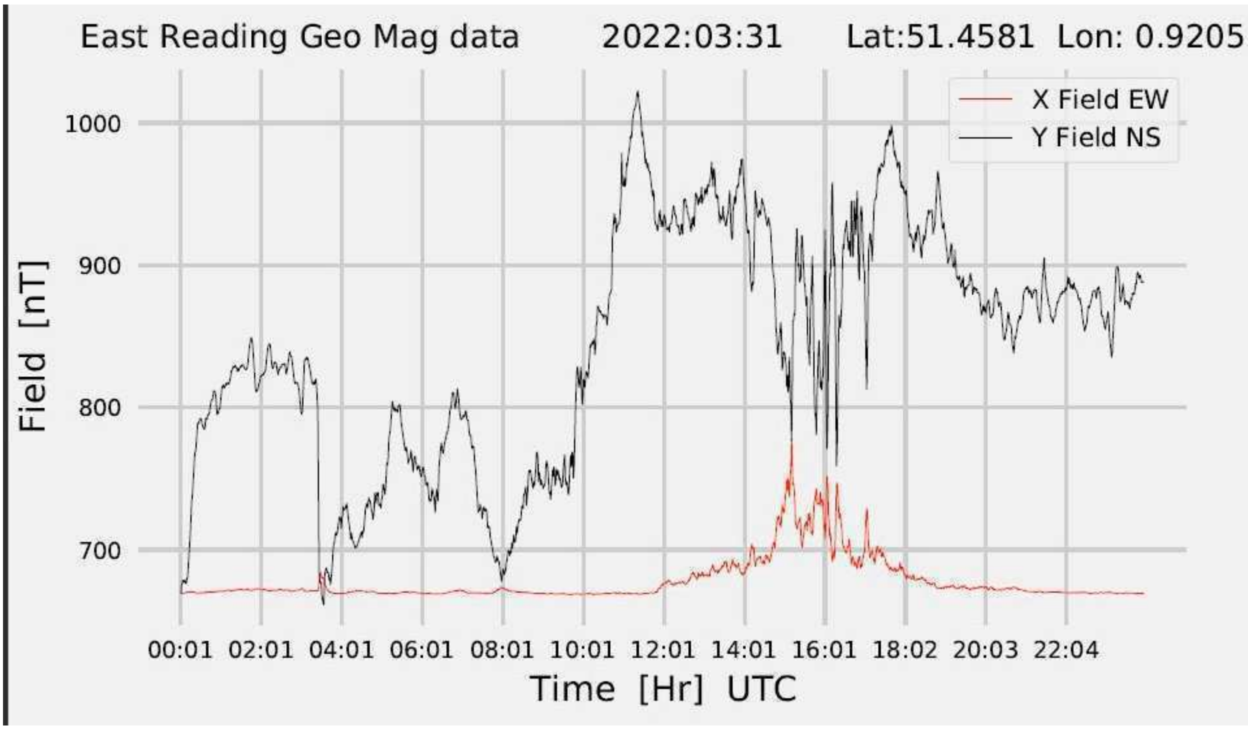
CMEs on the 5th and 6th were recorded in satellite data, arriving late on the 10th. These recordings by Nick Quinn show the disturbances through the 11th and the morning of the 12th. No CME impact transients were recorded.

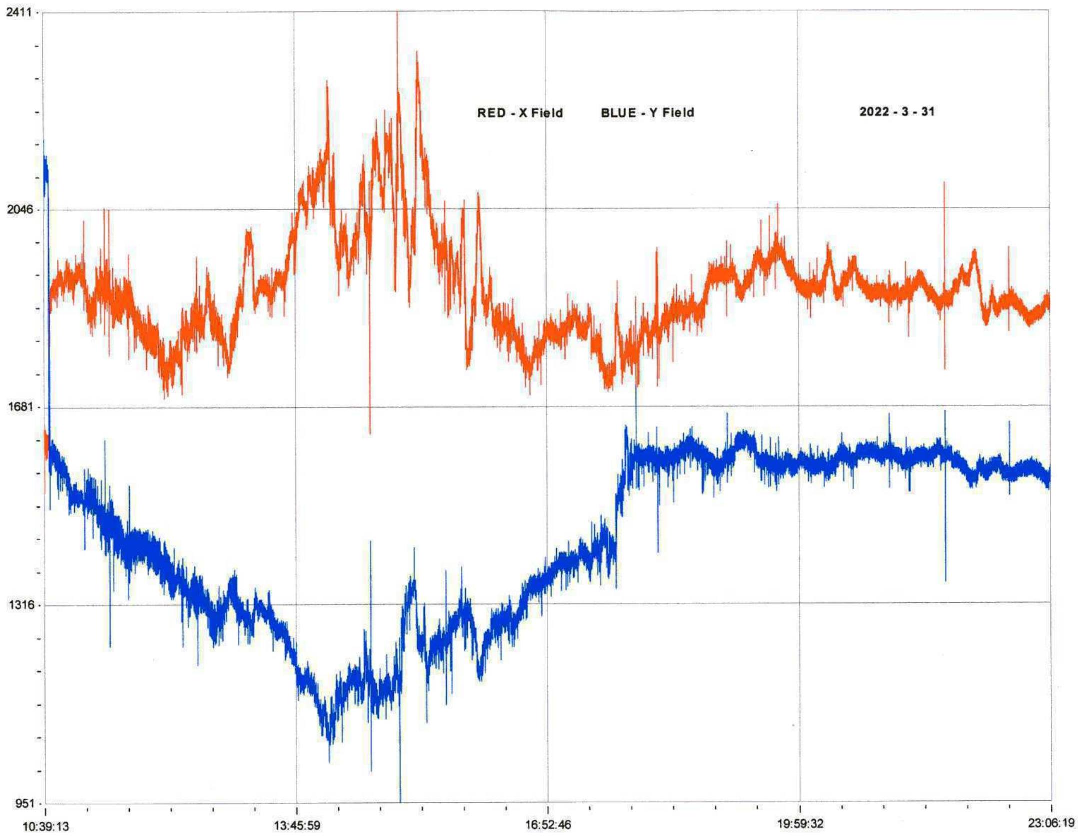
There were also some coronal hole high speed winds present, notably on the 5th and 6th, shown in the recording by Colin Clements:





This recording by Callum Potter may well show a small SFE from the X1.3 flare peaking at 17:30 on the 30th marked '*' on the chart. A similar small transient is also visible on Roger Blackwell's recording, but without a precise overlay of the X-ray data it is difficult to be certain. The spike at 10UT appears to be from local interference. There had also been some disturbances from a number of CMEs before this flare, with another stronger CME arriving early in the morning of the 31st, shown in the recording by Paul Hearn on the next page. The transient seen at about 03:30 may well be the CME impact, the disturbance then increasing through the afternoon and fading out by midnight.





The disturbance during the afternoon can also be seen in this recording by Colin Clements.

Magnetic observations received from Roger Blackwell, Colin Clements, Stuart Green, Paul Hearn, Callum Potter, Nick Quinn and John Cook.

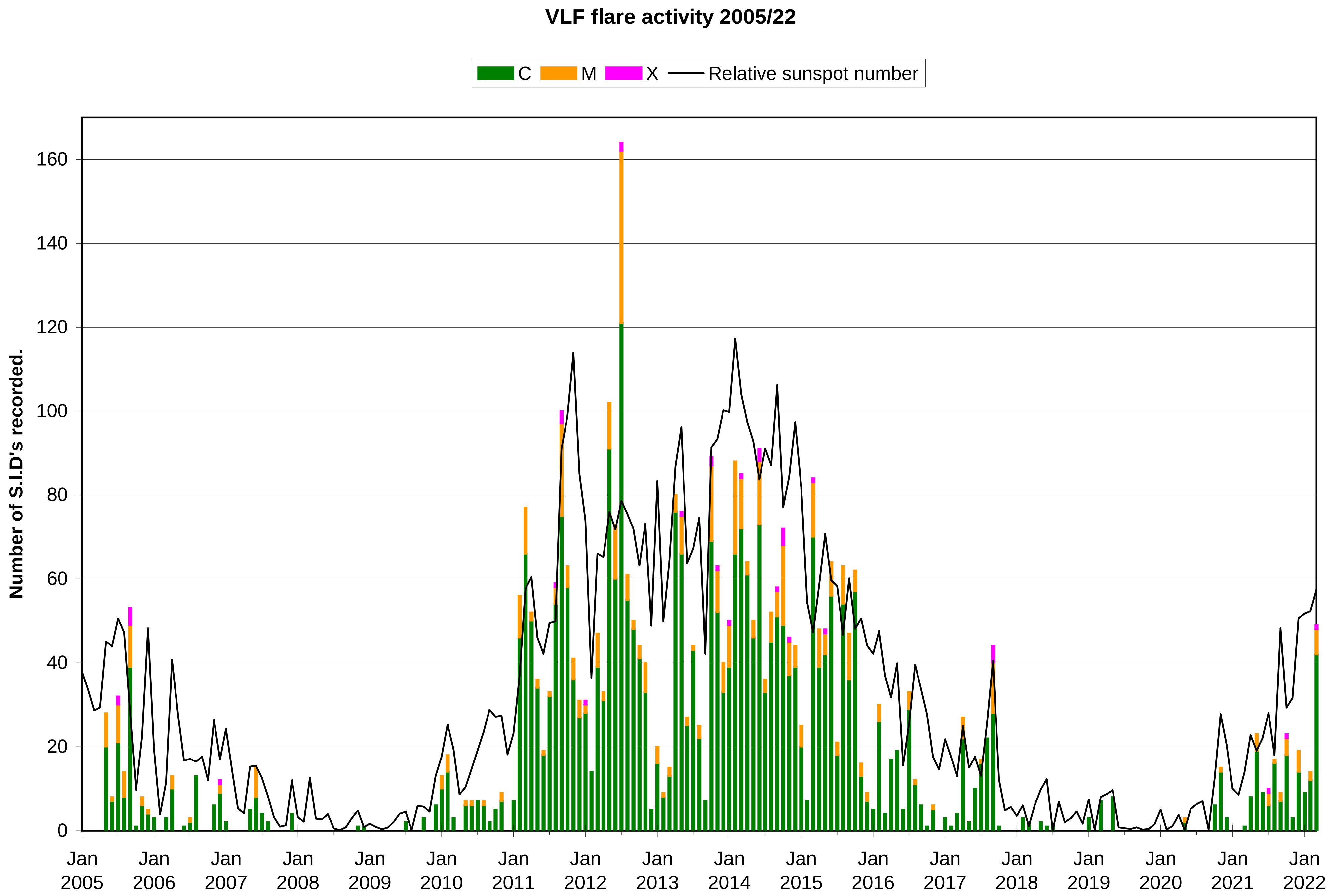
	Xray class	Observers	John Cook (23.4kHz/*22.1kHz*)				Roberto Battaiola 20.9kHz				Paul Hyde (Various)				Mark Edwards (24.0/*22.1*/**37.5kHz**)				Colin Clements (37.5kHz)			
			Tuned radio frequency receiver, 0.58m frame aerial.				Modified AAVSO receiver.				Spectrum Lab / PC 1.5m frame aerial.				Spectrum Lab / PC 2m loop aerial.				Tuned Radio Frequency receivers, 0.76m screened loop aerial.			
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	
2	C1.4	1													17:06	17:09	17:14	1-				
2	**M2.0**	2													17:35	17:41	18:07	1+				
6	C1.5	3	12:51	12:58	13:05	1-					12:50	12:51	13:14	1	12:49	12:58	13:15	1+				
7	C1.1	1													15:03	15:04	15:09	1-				
11	C2.1	3					08:40	08:45	08:49	1-	08:43	08:46	08:58	1-	*08:44*	*08:49*	*08:57*	*1-*				
11	C2.2	7	11:18	11:26	11:42	1	11:10	11:22	11:33	1	11:16	11:21	11:45	1+	11:16	11:28	11:45	1+	11:08	11:34	11:50	2
11	C1.6	1													13:08	13:13	13:19	1-				
11	C2.1	5					13:20	13:32	13:42	1	13:31	13:35	13:41	1-	13:32	13:36	13:51	1	13:35	13:38	13:48	1-
11	C1.6	3									14:46	14:51	15:11	1	14:45	14:51	15:11	1+				
11	C1.4	1													15:36	15:42	15:46	1-				
12	C1.2	2									15:15	15:19	15:32	1-	15:17	15:22	15:33	1-				
14	**M2.0**	7	08:36	08:46	09:46	2+	08:34	08:38	08:48	1-	08:37	08:44	09:35	2+	08:37	08:44	09:11	2	08:30	08:49	09:08	2
15	C3.3	7	08:12	08:18	08:28	1-	08:05	08:17	08:24	1	08:15	08:18	08:23	1-	*08:12*	*08:18*	*08:25*	*1-*				
15	C1.6	4									11:25	11:34	11:53	1+	11:27	11:36	11:44	1-				
15	**M1.4**	10	12:37	12:40	13:58	2+	12:34	12:37	12:48	1-	12:35	12:43	14:15	3	12:36	12:44	14:17	3	12:38	12:47	14:12	3
15	C1.0	2									15:29	15:34	15:45	1-	15:31	15:33	15:44	1-				
20	C4.6	6	07:40	07:46	07:58	1-	07:33	07:44	07:59	1+	07:38	07:47	08:00	1	*07:40*	*07:47*	*07:51*	*1-*				
20	C1.2	1													18:09	18:12	18:13	1-				
22	C1.2	3									11:04	11:08	11:19	1-	11:08	11:09	11:14	1-				
22	C7.0	9	12:23	12:43	13:23	2+	12:15	12:32	13:01	2+	12:22	12:43	13:25	2+	12:23	12:47	12:25	1-	12:27	12:50	13:53	3
23	C2.3	3									08:53	08:57	09:22	1+	**08:51**	**09:04**	**09:39**	**2+**				
23	C1.8	6	10:52	10:56	11:11	1					10:47	10:57	11:47	2+	10:52	10:58	11:06	1-	10:54	11:00	11:15	1
23	C2.5	6	12:04	12:11	12:31	1+					12:02	12:14	13:07	2+	12:05	12:16	12:35	1+	12:07	12:14	13:29	2+
23	C3.0	7	13:54	14:01	14:20	1+					13:53	14:02	14:37	2	13:53	14:01	14:32	2	13:56	14:03	15:24	3
24	C2.2	2					08:03	08:20	08:36	2					***08:09***	***08:25***	***08:35***	***1+***				
24	*	1													14:15	14:23	14:31	1-				
24	C2.1	1													14:38	14:46	14:52	1-				
26	C2.3	2									15:27	15:39	16:01	2	15:28	15:41	15:59	1+				
27	C2.4	2									11:00	11:12	11:34	2	11:07	11:11	11:20	1-				
28	C2.1	4	09:55	09:59	10:08	1-					09:54	09:57	10:08	1-	09:56	09:58	10:12	1-	09:57	10:04	10:23	1+
28	**M4.0**	10	11:19	11:30	13:52	3+	11:15	11:29	12:08	2+	11:17	11:26	13:03	3	**11:19**	**11:31**	**12:48**	**3**	11:22	11:36	12:52	3
28	C9.8	5	17:11	17:14	17:30	1					17:11	17:15	?	-	**17:09**	**17:15**	**?**	**-**				
28	*	1													**17:17**	**17:19**	**?**	**-**				
28	*	1													**17:21**	**17:25**	**?**	**-**				
28	*	1													**17:35**	**17:39**	**?**	**-**				
28	*	1													**17:40**	**17:45**	**18:05**	**1**				
29	**M1.0**	10	09:23	09:38	10:08	2	09:22	09:37	09:54	1+	09:23	09:37	10:06	2	09:26	09:40	10:16	2+	09:29	09:43	10:07	2
29	*										11:32	11:34	11:48	1-								
29	C2.2	1													12:32	12:37	12:52	1				
29	C4.3	6					14:44	14:48	14:53	1-	14:45	14:49	15:05	1	14:46	14:51	15:07	1	14:50	14:53	15:09	1
29	C3.9	5					15:08	15:16	15:25	1-	15:06	15:14	15:42	2	15:07	15:13	15:43	2				
29	C2.3	1													15:57	15:59	16:00	1-				
29	C2.1	1													17:11	17:13	17:22	1-				
29	C4.7	1													17:39	17:47	18:00	1				
30	C1.2	1													***08:39***	***08:46***	***08:47***	***1-***				
30	*	10	11:04	11:06	11:22	1-	10:57	11:04	11:20	1	11:03	11:07	11:36	2	11:03	11:06	?	-	11:07	11:10	11:46	2
30	*	1													11:22	11:25	11:32	1-				
30	C4.5	9	12:29	12:54	13:00	1+	12:19	12:32	12:53	2	12:21	12:35	13:19	2+	**12:24**	**12:38**	**?**	**-**	12:13	12:41	13:25	2+
30	*	1													**12:53**	**12:54**	**13:26**	**2**				
30	C2.6	5	13:57	13:59	14:16	1					13:55	14:00	14:32	2	13:56	14:00	?	-	13:58	14:03	14:41	2
30	*	1													14:05	14:08	?	-				
30	*	1													14:13	14:15	14:34	1				
30	C2.0	1													14:39	14:45	14:50	1-				
30	*	2									15:48	15:55	16:07	1	15:47	15:53	16:02	1-				
30	**X1.3**	7	17:26	17:29	17:39	1-	17:28	17:30	17:35	1-	17:23	17:40	19:33	3+	17:25	17:39	19:38	3+				
31	C3.9	2									07:56	08:02	08:20	1	*07:59*	*08:03*	*08:07*	*1-*				
31	*	3									11:31	11:38	12:00	1+	*11:33*	*11:43*	*12:00*	*1+*				
31	C5.4	6	12:08	12:13	12:54	2+	12:04	12:11	12:22	1-	12:06	12:17	13:01	2+	12:08	12:12	12:38	1+				
31	C2.4	2	13:20	13:26	13:33	1-									**13:16**	**13:19**	**13:35**	**1**				
31	C3.8	2									14:08	14:16	14:34	1+	14:09	14:19	?	-				
31	*	1													14:32	14:42	15:17	2				
31	C2.0	1													16:46	16:48	16:53	1-				
31	**M9.6**	3									18:25	18:38	19:36	2+	18:25	18:36	19:38	2+				

BAA Radio Astronomy Section. **2022 MARCH.**

	Xray class		Steve Parkinson (Various)				Andrew Thomas (19.6kHz/*22.1kHz*)				Phil Rourke (23.4kHz)				John Wardle				Christopher Bailey			
			Tuned radio frequency receiver, frame aerials.				Tuned radio frequency receiver, 0.6m frame aerial.				Spectrum Lab, 0.6m frame aerial.				SpetrumLab/Starbase, Active mini-whip aerial.				Spectrum Lab			
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	
2	C1.4																					
2	**M2.0**																		08:36	08:42	09:05	1+
6	C1.5																					
7	C1.1																					
11	C2.1																					
11	C2.2		11:16	11:28	11:43	1+																
11	C1.6																					
11	C2.1		13:32	13:35	13:41	1-																
11	C1.6		14:44	14:51	15:00	1-																
11	C1.4																					
12	C1.2																					
14	**M2.0**						08:37	08:45	09:28	2+												
15	C3.3						*08:15*	*08:18*	*08:31*	*1-*	08:14	08:18	08:30	1-								
15	C1.6		11:27	11:35	11:45	1-					11:26	11:36	11:52	1+								
15	**M1.4**		12:36	12:42	13:40	2+	12:35	12:46	14:10	3	12:37	12:43	13:24	2+					12:36	12:40	13:10	2
15	C1.0																					
20	C4.6						07:40	07:45	07:54	1-									07:41	07:45	08:00	1
20	C1.2																					
22	C1.2		11:04	11:10	?	-																
22	C7.0		12:22	12:46	14:00	3	12:22	12:45	13:52	3	12:22	12:58	13:40	2+								
23	C2.3		08:53	09:04	09:20	1+																
23	C1.8		10:51	10:57	11:15	1					10:50	11:00	11:12	1								
23	C2.5		12:03	12:14	12:35	1+	12:04	12:14	12:26	1												
23	C3.0		13:54	14:00	14:20	1+	13:52	13:58	14:10	1-	13:52	14:05	14:30	2								
24	C2.2																					
24	*																					
24	C2.1																					
26	C2.3																					
27	C2.4																					
28	C2.1																					
28	**M4.0**		11:18	11:35	13:30	3+	11:18	11:31	13:09	3	11:19	11:29	13:26	3+					11:20	11:24	12:15	2+
28	C9.8						*17:12*	*17:24*	*17:34*	*1*												
28	*																					
28	*																					
28	*																					
28	*																					
29	**M1.0**		09:25	09:41	10:30	2+	09:23	09:39	10:42	2+	09:22	09:23	09:35	1-					09:25	09:35	10:05	2
29	*****																					
29	C2.2																					
29	C4.3		14:46	14:49	15:00	1-																
29	C3.9		15:07	15:13	15:30	1																
29	C2.3																					
29	C2.1																					
29	C4.7																					
30	C1.2																					
30	*		11:04	11:07	11:30	1+	11:03	11:07	11:35	1+	11:02	11:19	11:56	2+					11:04	11:05	11:35	1+
30	*																					
30	C4.5		12:23	12:35	13:10	2+	12:22	12:36	13:06	2	12:25	12:42	13:10	2								
30																						
30	C2.6		13:57	13:59	14:05	1-																
30	*																					
30	*																					
30	C2.0																					
30	*																					
30	**X1.3**																		17:25	17:32	17:57	1+
31	C3.9																					
31	*		11:32	11:40	11:52	1																
31	C5.4		12:08	12:13	12:45	2																
31	C2.4																					
31	C3.8																					
31	*																					
31	C2.0																					
31	**M9.6**																		18:27	18:33	18:50	1

BAA Radio Astronomy Section. **2022 MARCH.**

	Xray class		Colin Briden (22.1kHz)	Andrew Lutley (23.4kHz)	Peter Meadows (23.4kHz)	Stephen Crook				Mark Prescott (20.9kHz)			
			Spectrum Lab / PC, 1.2m frame aerial.	Tuned radio frequency receiver, 0.6m frame aerial.	Tuned radio frequency receiver, 0.6m frame aerial.								
DAY			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START	PEAK	END (UT)		START	PEAK	END (UT)	
2	C1.4												
2	**M2.0**												
6	C1.5												
7	C1.1												
11	C2.1												
11	C2.2									11:21	11:30	11:44	1
11	C1.6												
11	C2.1												
11	C1.6												
11	C1.4												
12	C1.2												
14	**M2.0**									08:37	08:49	09:53	2+
15	C3.3									08:18	08:23	08:32	1-
15	C1.6												
15	**M1.4**									12:38	12:45	13:59	2+
15	C1.0												
20	C4.6												
20	C1.2												
22	C1.2												
22	C7.0									12:23	12:45	13:32	2+
23	C2.3												
23	C1.8												
23	C2.5												
23	C3.0												
24	C2.2												
24	*												
24	C2.1												
26	C2.3												
27	C2.4												
28	C2.1												
28	**M4.0**									11:20	11:32	14:18	3+
28	C9.8									16:52	17:14	17:17	1
28	*												
28	*												
28	*												
28	*												
29	**M1.0**									09:25	09:42	11:04	3
29	*****												
29	C2.2												
29	C4.3									14:47	14:54	15:07	1
29	C3.9									15:07	15:22	15:40	2
29	C2.3												
29	C2.1												
29	C4.7												
30	C1.2												
30	*									11:04	11:13	11:59	2+
30	*												
30	C4.5									12:26	12:39	13:19	2+
30	*												
30	C2.6												
30	*												
30	*												
30	C2.0												
30	*												
30	**X1.3**					17:28	17:41	18:22	2+	17:36	17:41	18:06	1+
31	C3.9												
31	*												
31	C5.4									12:10	12:18	12:48	2
31	C2.4												
31	C3.8												
31	*												
31	C2.0												
31	**M9.6**												



VLF flare activity 2005/22
C
M
X
Relative sunspot number
Number of S.I.D's recorded.
0
20
40
60
80
100
120
140
160
Jan 2005
Jan 2006
Jan 2007
Jan 2008
Jan 2009
Jan 2010
Jan 2011
Jan 2012
Jan 2013
Jan 2014
Jan 2015
Jan 2016
Jan 2017
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022

BARTELS DIAGRAM

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

ROTATION																											
2529 F	26	27	28	29	30	31	2019 January 1	2	3	4	5	6 C	7	8	9	10	11	12	13	14	15	16	2213 17	18	19	20	21
2530 F	22	23	24	25	26 CB	27	28	29 C	30	31	2019 February 1	2	3	4	5	6	7	8	9	10	11	12	2214 13	14	15	16	17
2531 F	18	19	20	21	22	23	24	25	26	27	28	2019 March 1	2	3	4	5	6	7	8	9	10	11	12	2215 13	14	15	16
2532 F	17	18	19	20 C	21 CCC	22 CCCB	23 B	24	25	26	27	28	29	30	31	2019 April 1	2	3	4	5	6	7	8 B	2216 9	10	11	12 B
2533 F	13	14	15	16	17	18	19	20 B	21	22	23	24	25	26	27	28	29	30	2019 May 1	2	3	4	5 BB	2217 6 CCCC	7 BCC	8	9 C
2534 F	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2019 June 1	2	2218 3	4	5
2535 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	2219 30	2019 July 1	2
2536 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	2220 27	28	29
2537 F	30	31	2019 August 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	2221 23	24	25
2538 F	26	27	28	29	30	31	2019 September 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	2222 19	20	21
2539 F	22	23	24	25	26	27	28	29	30	2019 October 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	2223 17	18
2540 F	19	20	21	22	23	24	25	26	27	28	29	30	31	2019 November 1	2	3	4	5	6	7	8	9	10	11	12	2224 13	14
2541 F	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	2019 December 1	2	3	4	5	6	7	8	9	2225 10	11
2542 F	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2020 January 1	2	3	4	5	2226 6	7
2543 F	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2020 February 1	2	2227 3
2544 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	2228 1
2545 F	2020 March 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	2229 28
2546 F	29	30	31	2020 April 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2547 F	2230 25	26	27	28	29	30	2020 May 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
2548 F	2231 22	23	24	25	26	27	28	29 MCCB	30	31	2020 June 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2549 F	2032 18	19	20	21	22	23	24	25	26	27	28	29	30	2020 July 1	2	3	4	5	6	7	8	9	10	11	12	13	14
2550 F	2033 15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2020 August 1	2	3	4	5	6	7	8	9	10
2551 F	11	2234 12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2020 September 1	2	3	4	5	6
2552 F	7	2235 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	2020 October 1	2	3
2553 F	4	2236 5	6	7	8	9	10	11	12	13	14	15	16 CC	17	18	19	20	21	22	23	24	25	26	27 C	28	29 BCCC	30
2554 F	31	2237 2020 November 1 B	2	3	4 B	5 CBCC	6 CBC	7 B	8	9	10 C	11 C	12	13	14	15	16	17	18	19	20	21	22 CC	23	24	25	26 C
2555 F	27	28 C	2238 29 CM	30	2020 December 1	2	3	4	5	6 C	7 C	8	9	10	11	12	13	14 C	15	16	17	18	19	20	21	22	23
2556 F	24	25	2239 26	27	28	29	30	31	2021 January 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2557 F	20	21	22	2240 23	24	25	26	27	28	29	30	31	2021 February 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2558 F	16	17	18	2241 19	20	21	22	23	24	25	26	27	28	2021 March 1	2	3	4	5	6	7	8	9 C	10	11	12	13	14
2559 F	15 B	16	17	2242 18	19	20	21	22	23	24	25 B	26	27	28	29	30	31	2021 April 1	2	3	4	5	6	7	8	9	10
2560 F	11	12	13	2243 14	15	16	17 B	18	19	20 C	21	22 CCCC	23	24	25	26	27	28	29	30	2021 May 1	2	3	4	5	6	7 M
2561 F	8 CC	9 CC	10	2244 11	12 C	13	14	15	16	17	18	19	20	21 C	22 CCMM	23 CCBM	24	25	26 CCCC	27	28 C	29	30	31	2021 June 1	2	3
2562 F	4	5	6	7	2245 8 CCC	9 CCB	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25 C	26	27	28 CBC	29	30 CC
2563 F	2021 July 1	2	3 MCXM	4 MC	2246 5	6	7	8	9 CCB	10	11	12	13	14	15	16 C	17	18 C	19	20	21	22	23	24	25	26	27
2564 F	28	29	30	31	2021 August 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 CCC	21	22 C	23
2565 F	24 C	25	26	27 CCCC	2248 28 MCCC	29 CC	30 C	31	2021 September 1	2	3	4	5	6	7	8 CC	9 C	10	11	12	13	14	15	16	17	18	19
2566 F	20	21 C	22	23 MM	24	2249 25	26 C	27	28 C	29	30 C	2021 October 1	2	3	4	5	6	7	8	9 M	10	11	12	13	14	15	16
2567 F	17	18	19	20	21	2250 22	23	24	25	26 CCCM	27 CCCC	28 CMMX	29 CC	30 CCC	31	2021 November 1	2	3	4 CC	5	6	7	8	9	10	11	12
2568 F	13 C	14	15	16	17	2251 18	19	20	21	22	23	24	25	26	27	28	29	30	2021 December 1	2	3	4	5 M	6	7	8	9
2569 F	10	11	12	13	14	2252 15 CCC	16 CC	17 C	18	19	20 CM	21 M	22 MCC	23	24 CC	25 CCCM	26	27	28	29	30	31	2022 January 1	2	3	4	5
2570 F	6	7	8	9	10	11	2253 12	13 C	14 C	15	16	17	18	19	20	21	22	23	24	25 C	26 CC	27	28 C	29 BCCC	30	31	1 C
2571 F	2022 February 2 CC	3	4 CC	5	6	7	2254 8	9 C	10	11	12 MCCC	13	14 CCM	15	16	17	18	19	20	21	22	23	24	25	26	27	28 C
2572 F	2022 March 1 CM	2	3	4	5	6 C	2256 7 C	8	9	10	11 CCCC	12 C	13	14 M	15 CCMC	16	17	18	19	20 CC	21	22 CC	23 CCCC	24 C	25	26 C	27 C
2573 F	28 CMC	29 MCCC	30 CCCC	31 CCCX	2022 April 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23