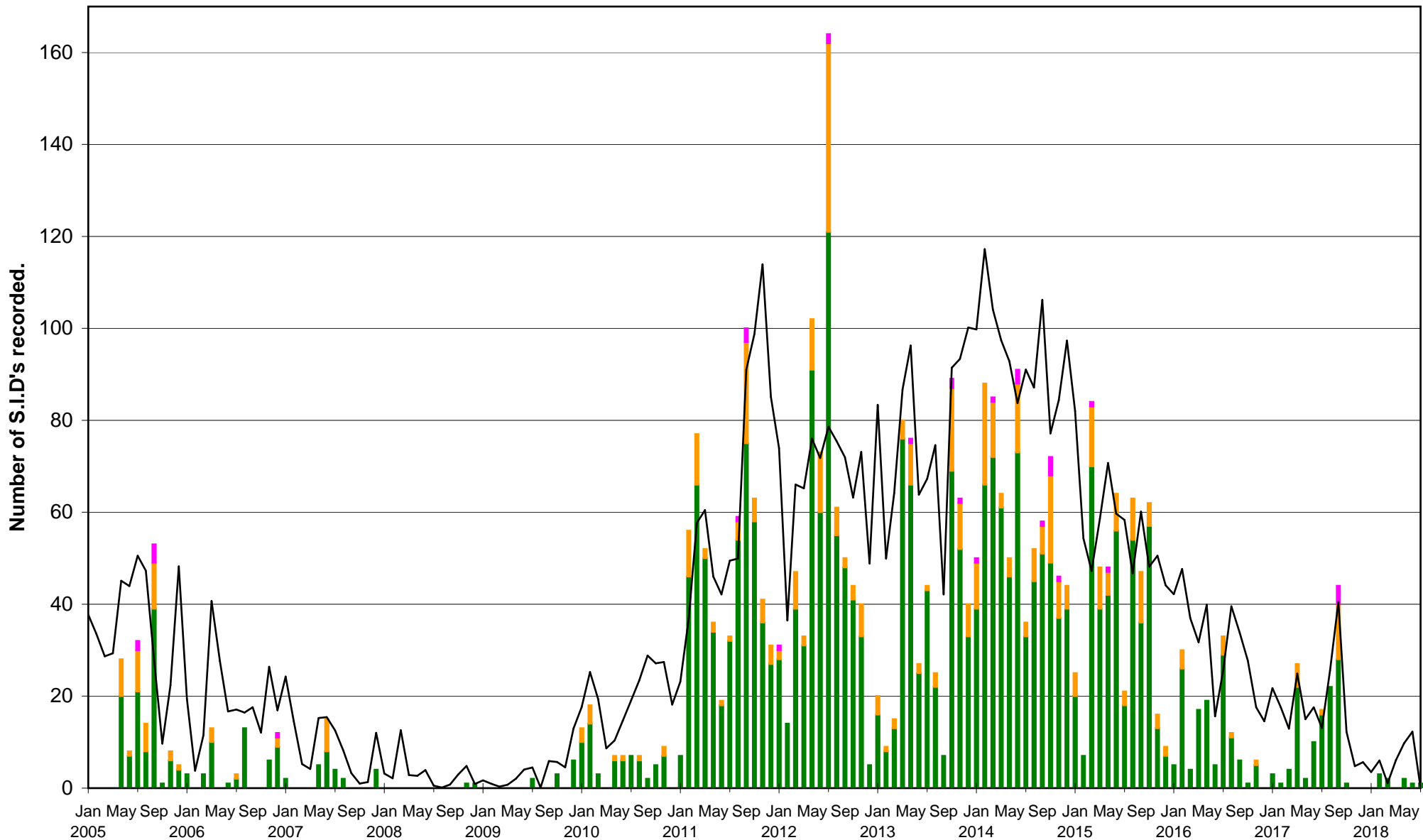
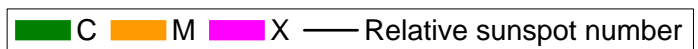
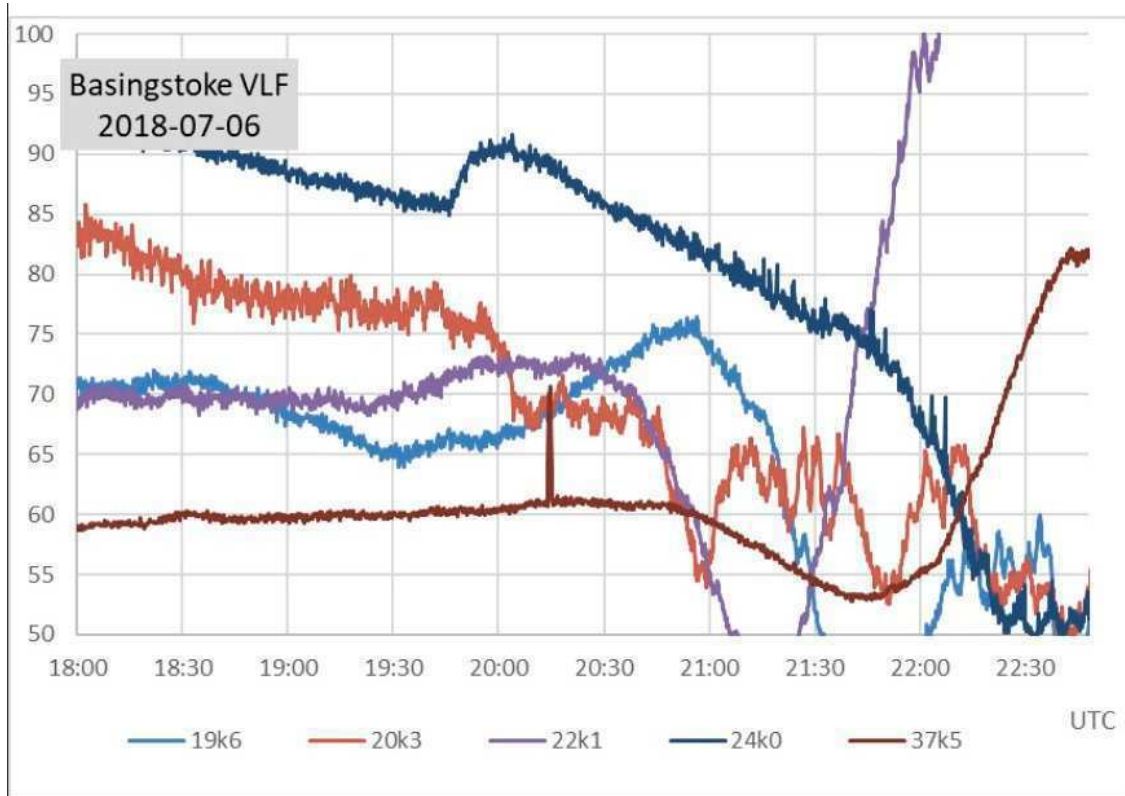


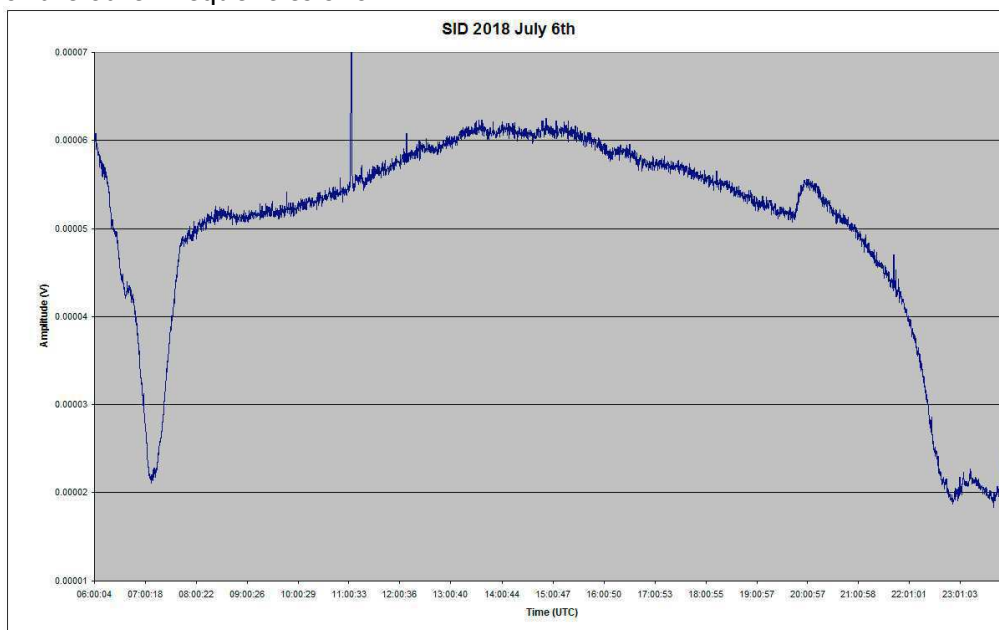
VLF flare activity 2005/18.



July has been another very quiet month, with just a single SID being recorded. The GOES15 0.1–0.8nm x-ray flux started the month at about A3 level, dropping below A1 by the 26th. The SWPC reported a few very small A and B-class flares, far too small to cause SIDs. The C1.6 flare on the 6th was from an active region just beyond the eastern limb of the sun, seen in STEREO images. It was just a spotless plage when it rotated into view, and quickly faded away.



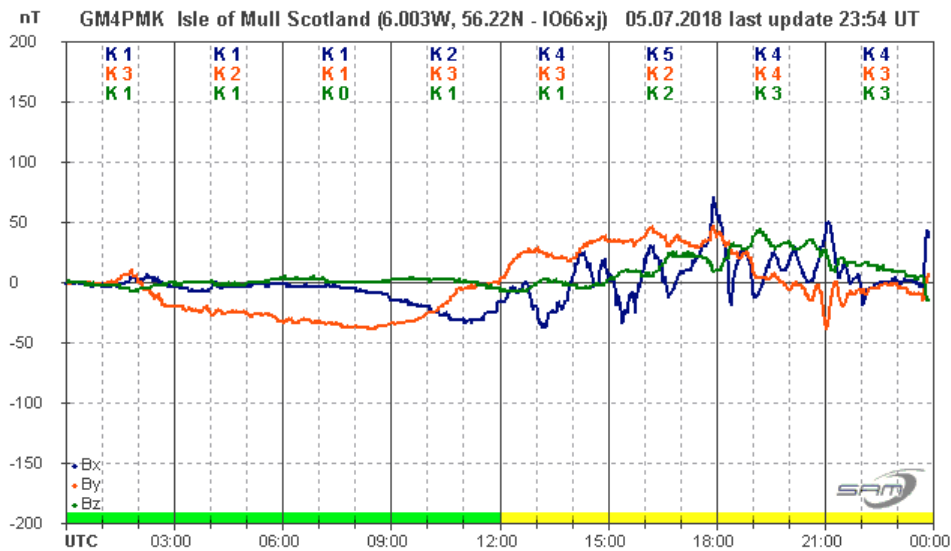
This chart from Paul Hyde shows the SID clearly at 24kHz in the top trace, but with no evidence at any of the other frequencies shown.



Mark Edwards also recorded the SID at 24kHz, shown above.

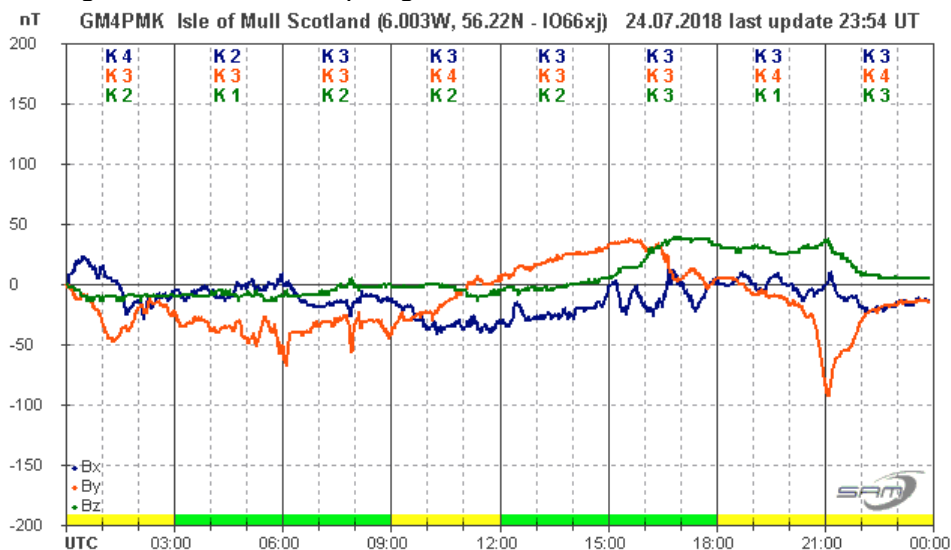
MAGNETIC OBSERVATIONS.

Magnetic activity was also at a low level, with just a few days of disturbed conditions, all from coronal holes. A number of small holes combined to produce a turbulent solar wind on the 5th, shown in the recording by Roger Blackwell:



Gonzalo Vargas noted this continuing until 05:30 on the 6th. Colin Clements also recorded the disturbance, but his recording suffered badly from local interference. There was a brief disturbance starting around midday on the 21st, again resulting from a small coronal hole.

A much larger complex of coronal holes in the southern hemisphere produced a disturbance on the 24th, again well recorded by Roger Blackwell in his isolated location on the Isle of Mull:



My own recording shows the disturbance fading out by 05UT on the 25th. Further CHSS effects were seen on the 31st, continuing into August 1st.

A very small CME caused by a filament eruption on the 4th did not cause any disturbances, satellite images showing that it may have just missed Earth.

Magnetic observations received from Gonzalo Vargas, Colin Clements, Roger Blackwell 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 MCM	28 MCM	29 MCM	30 MCM	2015 October 1 CCM	2 CCM	3 CCM	4 CCM	5 CCM	6 CCM	7 CCM	8 CCM	9 CCM	10 CCM	11 CCM	12 CC	13 CC	14 CCM	15 CCM	16 CCM	17 CCM	18 CCM	19 CCM	20 CCM	21 CCM			
2486	F	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2015 November 1 CCM	2 CCM	3 CCM	4 CCM	5 CCM	6 CCM	7 CCM	8 CCM	9 CCM	10 CCM	11 CCM	12 CCM	13 CCM	14 CCM	15 CCM	16 CCM	17 CCM			
2487	F	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	2015 December 28 CCM	29 CCM	30 CCM	2015 December 1 CCM	2 CCM	3 CCM	4 CCM	5 CCM	6 CCM	7 CCM	8 CCM	9 CCM	10 CCM	11 CCM	12 CCM	13 CCM	14 CCM			
2488	F	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	2016 January 25 C	26 C	27 C	28 C	29 C	30 C	31 C	2016 January 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C			
2489	F	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	2016 February 22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2016 February 1 C	2 C	3 C	4 C	5 C	6 C			
2490	F	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2016 March 1 C	2 C	3 C	4 C	
2491	F	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C			
2492	F	2016 April 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C			
2493	F	28 C	29 C	30 C	2016 May 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C			
2494	F	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2016 June 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C			
2495	F	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	2016 July 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C			
2496	F	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	2016 August 31 C	1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C			
2497	F	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	2016 September 27 C	28 C	29 C	30 C	31 C	1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C			
2498	F	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	2016 October 23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	1 C	2 C	3 C	4 C	5 C	6 C			
2499	F	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2016 November 1 C	2 C			
2500	F	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	2016 November 17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C			
2501	F	30 C	2016 December 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	2016 December 14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C			
2502	F	27 C	28 C	29 C	30 C	31 C	2017 January 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C			
2503	F	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 February 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C			
2504	F	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 March 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C
2505	F	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 April 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C			
2506	F	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 May 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C		
2507	F	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 June 1 C	2 C	3 C	4 C	5 C	6 C			
2508	F	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 July 1 C	2 C	3 C		
2509	F	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C			
2510	F	31 C	2017 August 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C			
2511	F	27 C	28 C	29 C	30 C	31 C	2017 September 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C			
2512	F	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 October 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C		
2513	F	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 November 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C			
2514	F	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2017 December 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C		
2515	F	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2018 January 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C			
2516	F	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2018 February 1 C	2 C	3 C	4 C			
2517	F	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C			
2518	F	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C			
2519	F	31 C	2018 April 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C	24 C	25 C	26 C			
2520	F	27 C	28 C	29 C	30 C	31 C	2018 May 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C	20 C	21 C	22 C	23 C		
2521	F	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2018 June 1 C	2 C	3 C	4 C	5 C	6 C	7 C	8 C	9 C	10 C	11 C	12 C	13 C	14 C	15 C	16 C	17 C	18 C	19 C			
2522	F	20 C	21 C	22 C	23 C	24 C	25 C	26 C	27 C	28 C	29 C	30 C	31 C	2018 July 1 C	2 C	3 C	4 C	5 C													