

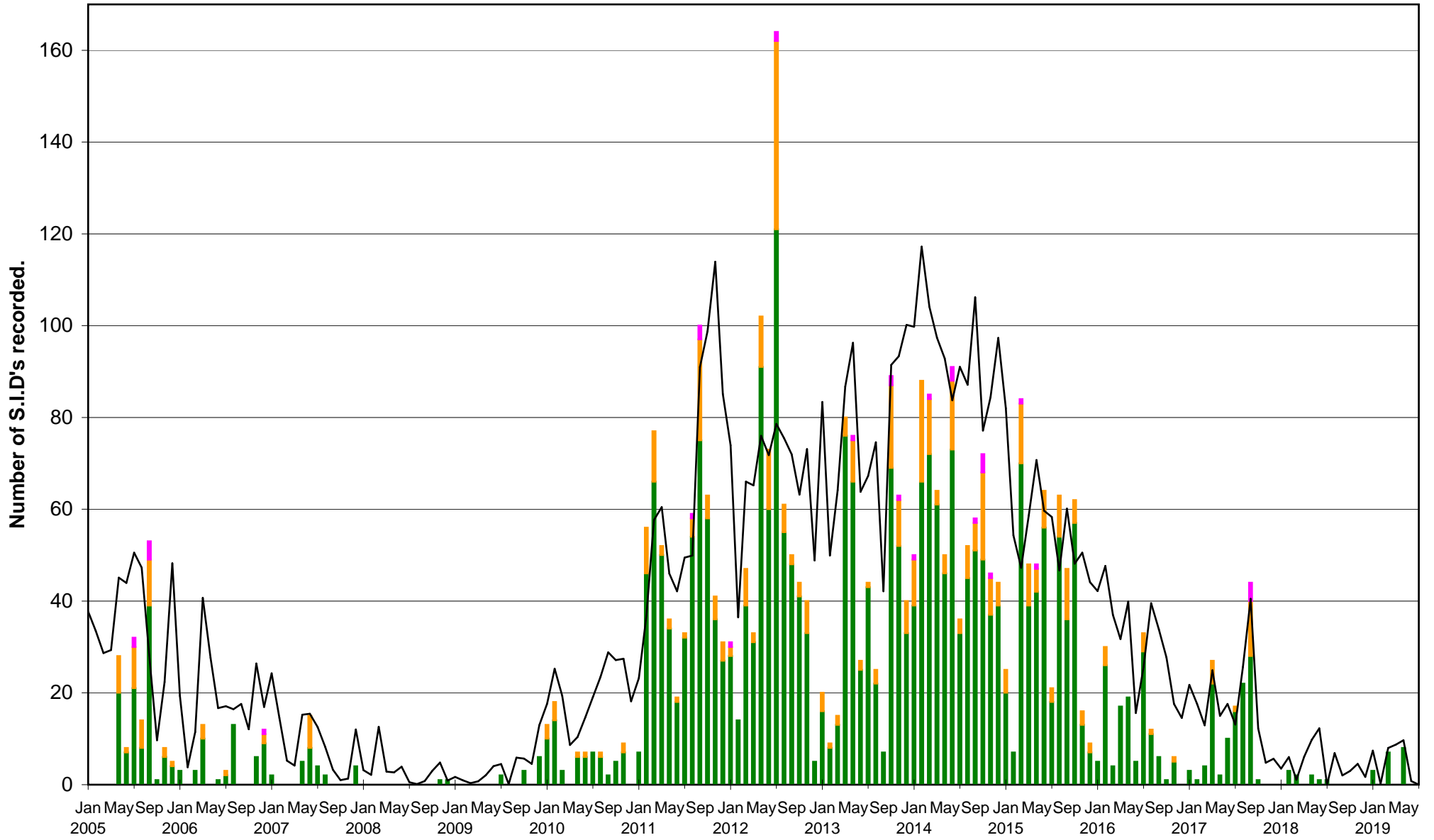
	Xray class	Observers	John Cook (23.4kHz/22.1kHz)	Roberto Battaiola (20.9kHz)	Paul Hyde (22.1kHz/24kHz)	Mark Edwards (24.0kHz)	Colin Clements (23.4kHz/18.3kHz)
			Tuned radio frequency receiver, 0.58m frame aerial.	Modified AAVSO receiver.	Spectrum Lab / PC 1.5m frame aerial.	Spectrum Lab / PC 2m loop aerial.	Tuned Radio Frequency receivers, 0.76m screened loop aerial.
DAY		0	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)

	Xray class		Steve Parkinson (Various)	Andrew Thomas (23.4kHz)	Phil Rourke (23.4kHz)	Jim Barber	John Elliott (18.3kHz)
			Tuned radio frequency receiver, frame aeriels.	Tuned radio frequency receiver, 0.6m frame aerial.	Spectrum Lab, 0.6m frame aerial.	Spectrum Lab, 0.6m frame aerial.	Tuned radio frequency receiver, 0.5m frame aerial.
DAY			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)

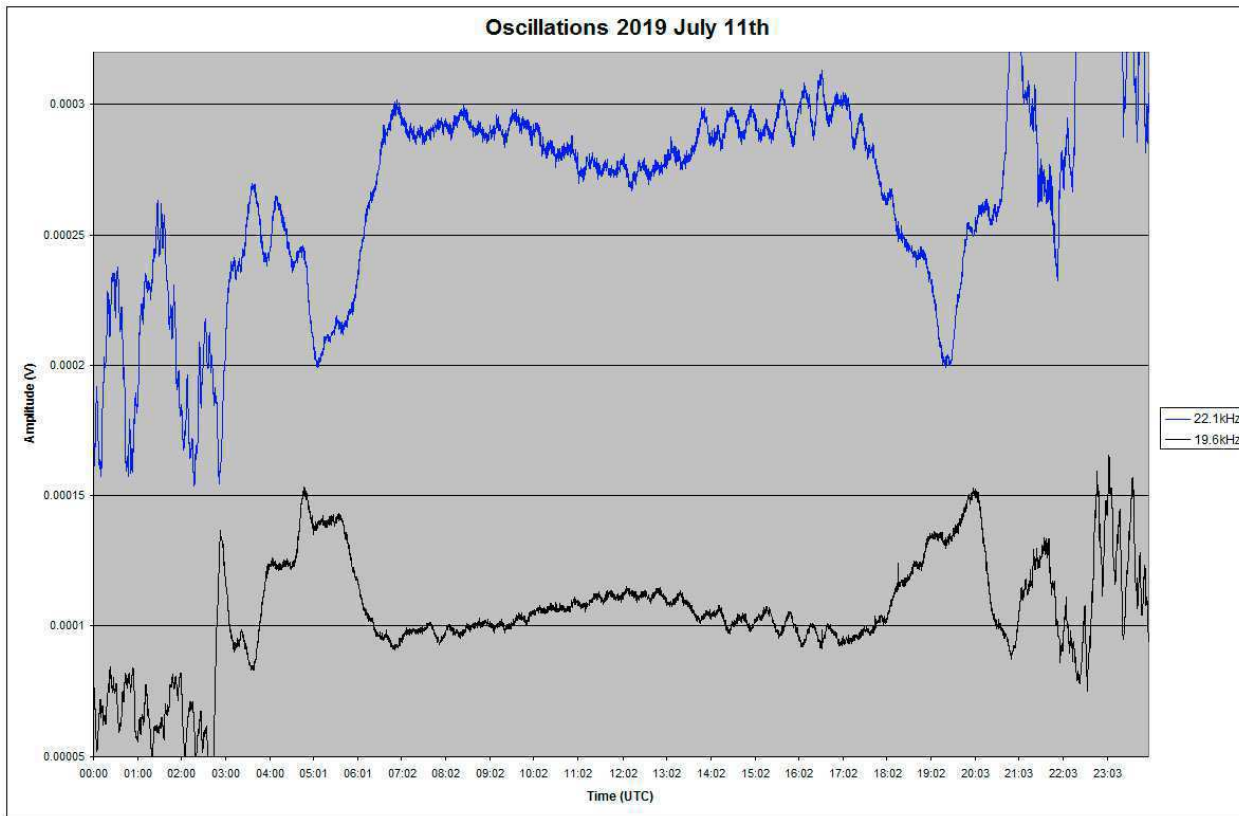
	Xray class		Colin Briden (22.1kHz)				
			Spectrum Lab / PC, 1.2m frame aerial.				
DAY			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)

VLF flare activity 2005/19.

C M X — Relative sunspot number



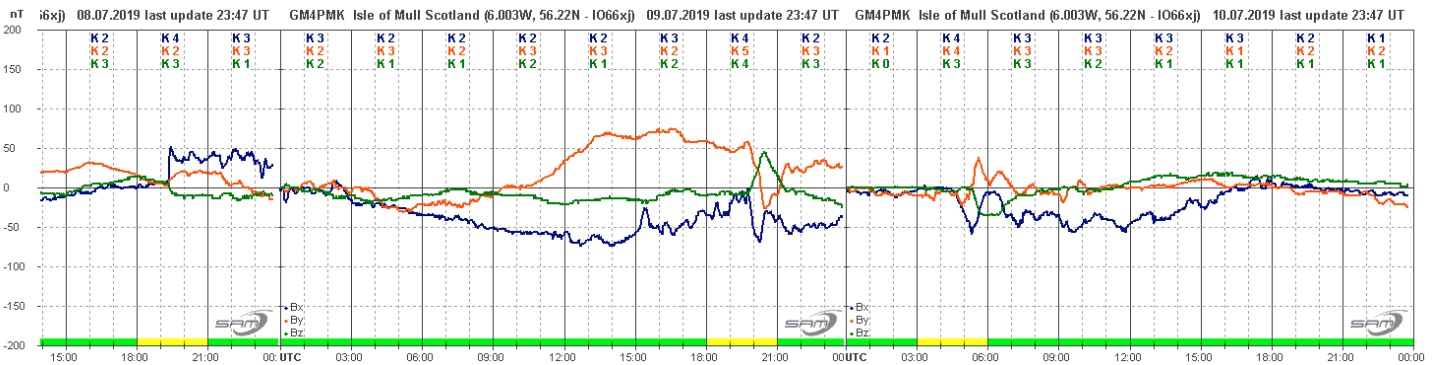
Following on from last month, the X-ray flux recorded by GOES15 has remained at about A7 for most of the month. There was just one day with any activity, with a B3.6 flare being shown at 21:21UT on July 6th. The source of the flare is not given in the space weather bulletin, but may have been from AR12744, the only active region recorded. This was at the high latitude of 27 degrees south, and had a magnetic configuration that would indicate cycle 25 activity. It was a very small sunspot, and was not visible in my 80mm refractor (with a Herschel wedge) or in H-alpha with the PST.



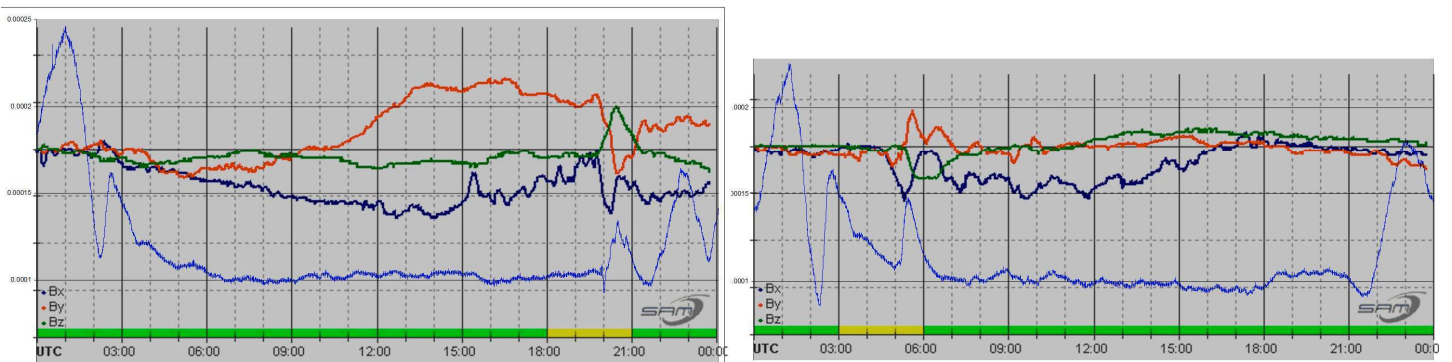
Mark Edwards reported oscillations on both 19.6 and 22.1kHz, shown above, on July 11th. My own recording also shows these at 22.1kHz, particularly in the afternoon. There had been a strong increase in <1MeV particle flux on the previous day and also in the morning of the 11th. Whether there is any connection I do not know, but as it shows on two signals, then it is unlikely to be a transmitter effect and more likely to be instability on the short northerly path over the UK.

MAGNETIC OBSERVATIONS.

A large coronal hole stretching from the north pole to the equator became active from July 6th, with a strong solar wind. There was also a small CME detected in satellite images, although its origin was not observed. These combined to give some very disturbed magnetic conditions over the 8th to the 10th. I have joined together Roger Blackwell's recordings for the three days, shown below:

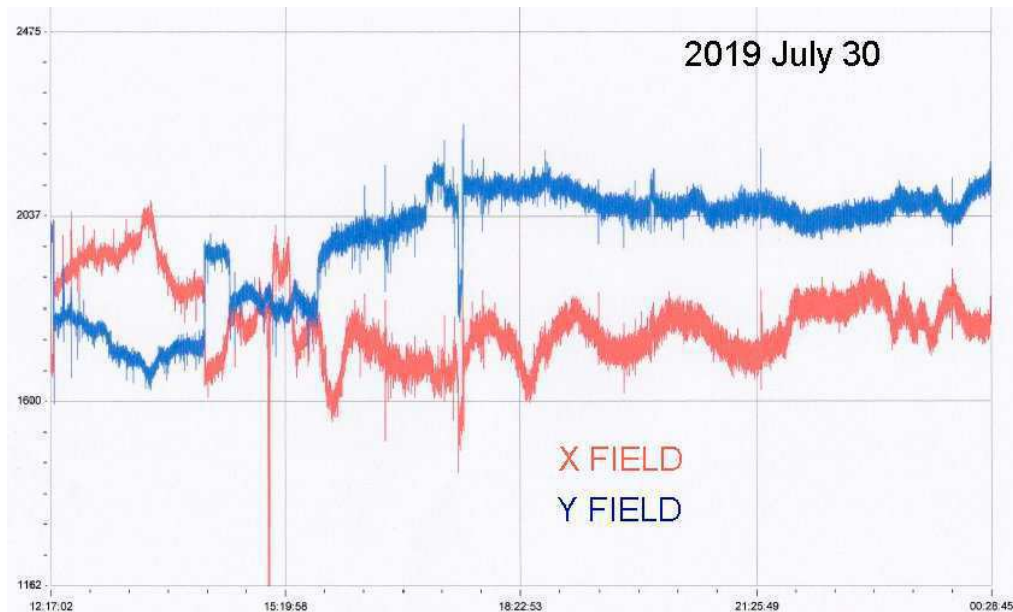


A large transient can be seen just after 19:00 on the 8th in the Bx (blue) trace marking the arrival of the high speed wind. The disturbance continues right through until the afternoon of the 10th. Mark Edwards also noted some disturbance at 37.5kHz on the 9th and 10th, and has combined Roger's magnetic recording with his 37.5kHz chart:



There is a strong 37.5kHz disturbance peaking around 10:30UT on the 9th, with another strong peak at 05:30UT on the 10th matching well with the magnetic signal.

Further coronal hole effects were recorded during the month, although much weaker. The disturbance on the 30th is shown in this recording by Colin Clements:



The sharp spike in the X-field just before the 15:19 mark is from local interference. Magnetic observations received from Roger Blackwell, Colin Clements and John Cook.

