

BAA Radio Astronomy Group.

2012 DECEMBER

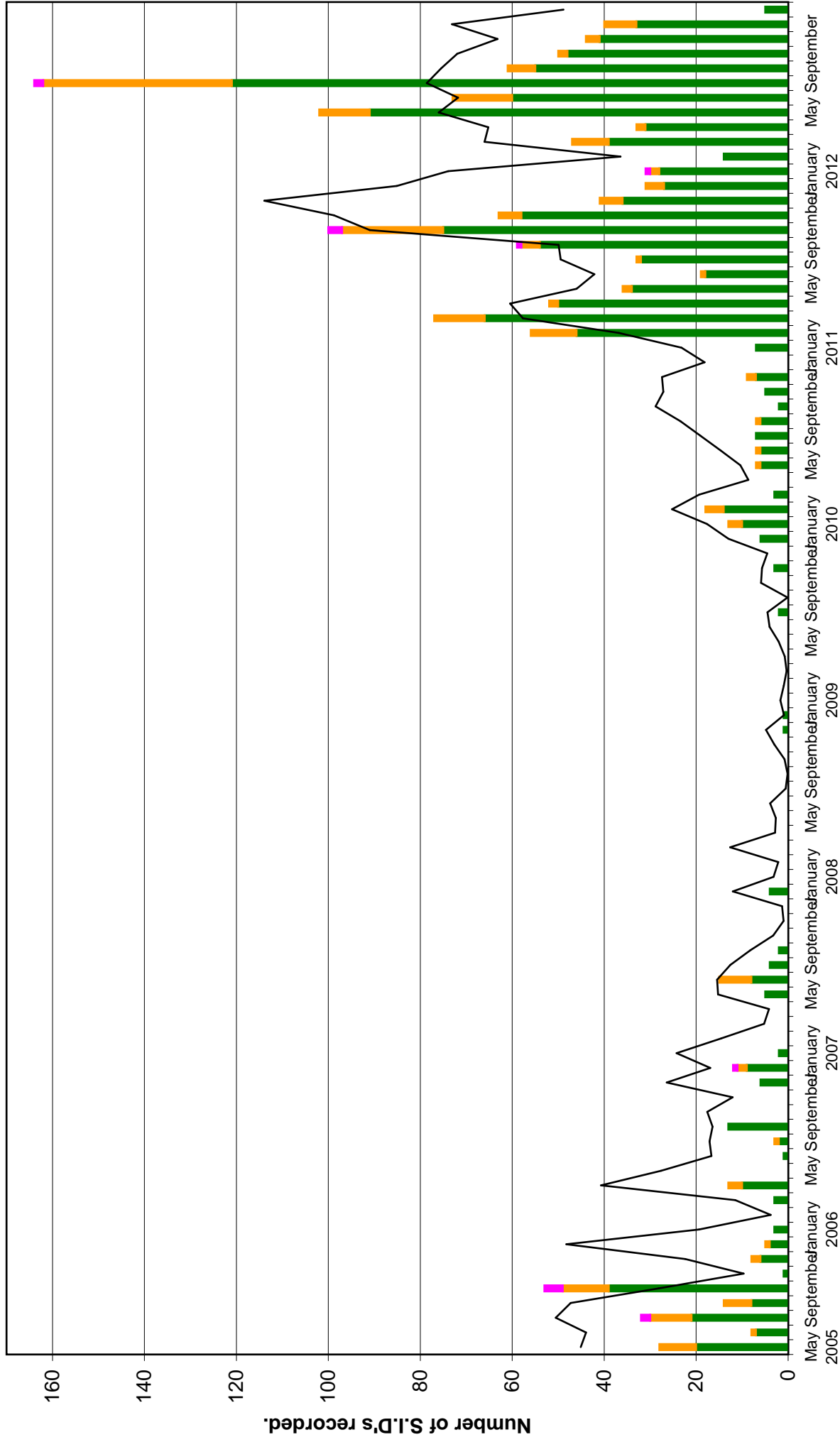
DAY	Xray class	Observers	John Cook (23.4kHz/22.1kHz)	Roberto Battaiola (18.3kHz)	Andrew Lutley (23.4kHz)	Bob Middlefell (22.1kHz)	Mark Edwards (18.3/24.0/19.6kHz)
			Tuned radio frequency receiver, 0.58m frame aerial.	Modified AAVSO receiver.	Tuned radios frequency receiver, 0.5m frame aerial.	Tuned radio frequency receiver, 0.5m frame aerial.	Spectrum Lab / PC 2m loop aerial.
			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
1	C1.3	1					
1	C1.9	2	10:26 10:30 10:33 1-	07:22 07:30 07:27 1-			10:20 10:31 10:41 1
12	C5.7	1					12:15 12:16 12:28 1-
14	C1.0	1					13:03 13:05 13:16 1-
25	C4.1	4	13:02 13:06 13:10 1-				

DAY	Xray class	Observers	Colin Clements (23.4kHz)	Peter Meadows (23.4kHz)	Mike King (20.9kHz)	John Wardle (19.6/23.4kHz)	Peter King (18.3kHz)
			AAVSO receiver, 0.76m screened loop aerial.	Tuned radio frequency receiver, 0.58m frame aerial.	AAVSO receiver. Tuned loop aerial.	PC soundcard, long wire aerial.	Own designed receiver, 1.4m loop aerial.
			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
1	C1.3						
1	C1.9						
12	C5.7						
14	C1.0						
25	C4.1						

DAY	Xray class	Observers	Paul Hyde (22.1kHz)	Gordon Fiander (19.6/22.1kHz)	John Elliott (21.7kHz)	Martyn Kinder (19.6kHz/22.1kHz)	Mark Horn (23.4kHz)
			Tuned radio frequency receiver, 0.96m frame aerial.	PC sound card.	Tuned radio frequency receiver, 0.5m frame aerial.	Tuned radio frequency receiver, 0.58m frame aerial.	Tuned radio frequency receiver, 0.58m frame aerial.
			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
1	C1.3		08:36 08:38 08:43 1-				
1	C1.9						
12	C5.7						
14	C1.0						
25	C4.1		13:02 13:05 13:15 1-				

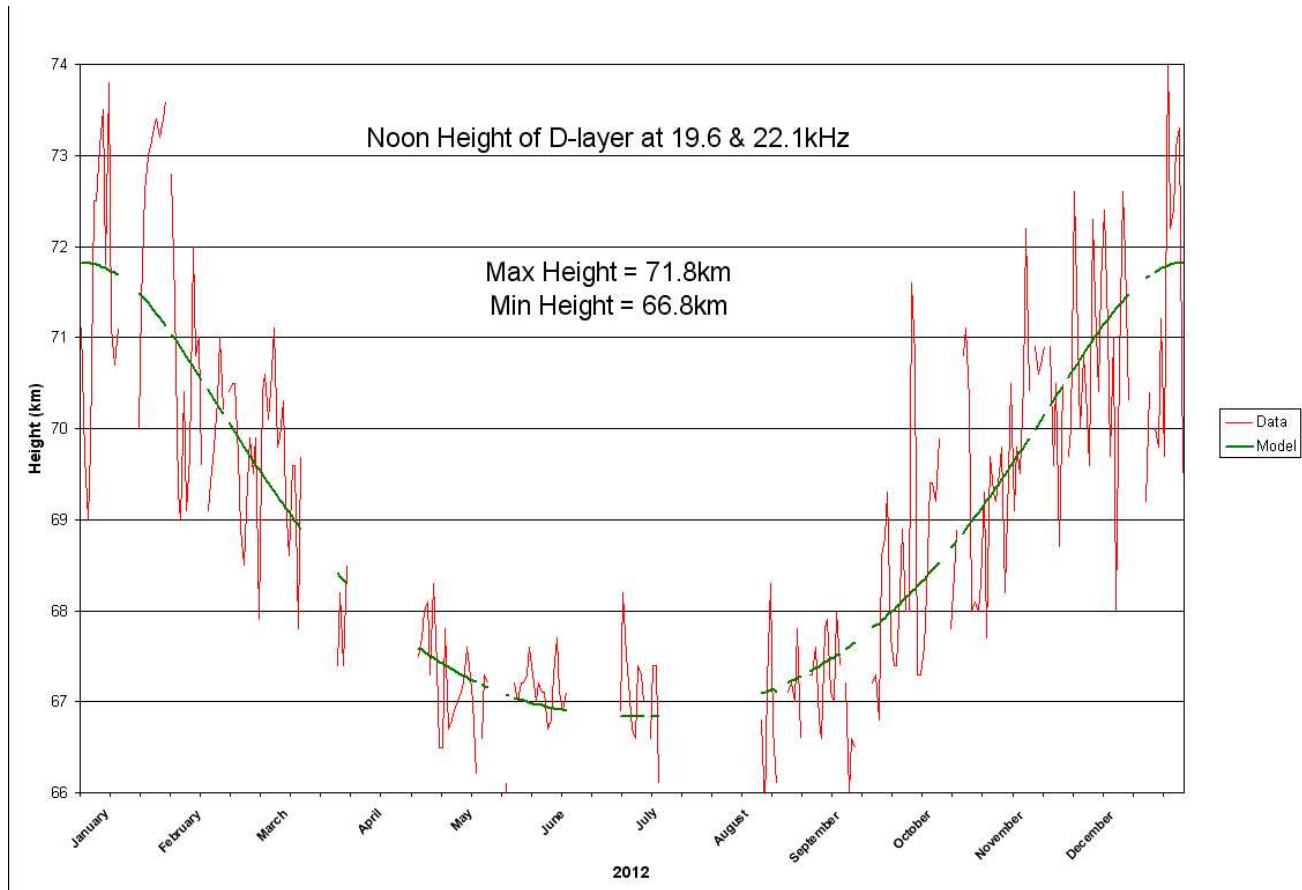
DAY	Xray class	Observers	Steve Parkinson (23.4kHz)	Simon Dawes (various)	Gonzalo Vargas (Various)	Tarif Rashid Santo (19.8kHz)	
			Tuned radio frequency receiver, 0.58m frame aerial.	PC soundcard and TRF receiver with 1m loop aerial.	Spectrum Lab.	Spectrum Lab, Half-wave dipole. 15m	
			START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)	START PEAK END (UT)
1	C1.3						
1	C1.9						
12	C5.7						
14	C1.0						
25	C4.1		13:02 13:04 13:12 1-				

VLF flare activity 2005/12.



2012 DECEMBER

To complete our observations for 2012, Mark Edwards has again provided a chart of the D-region height through the year, as measured at 19.6 and 22.1kHz. Similar charts were included in previous summaries for 2011 and 2010.



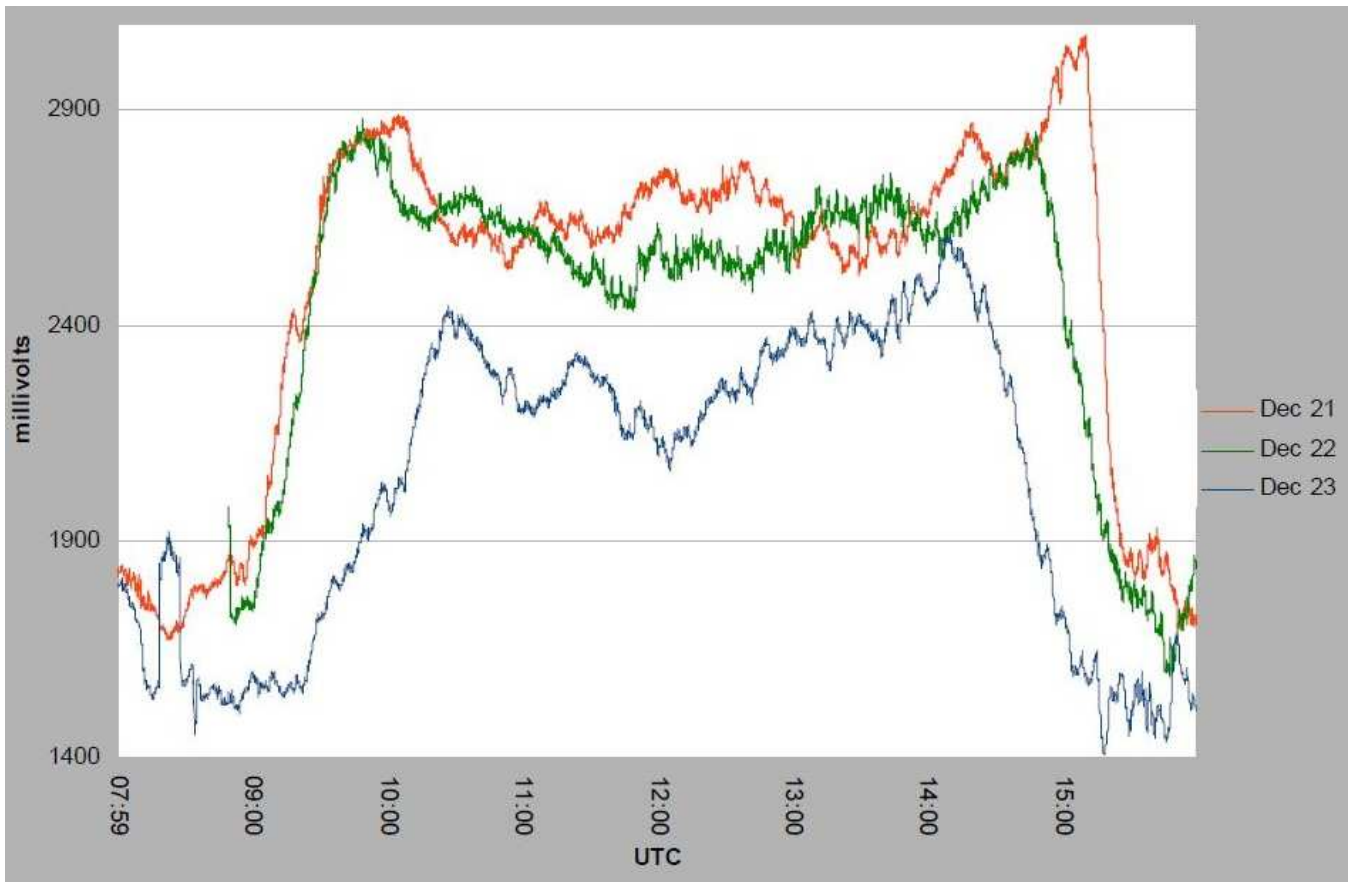
Heights measured in previous years are as follows:

	2010	2011	2012
Minimum:	67km	67km	66.8km
Maximum:	73.6km	71.6km	71.8km

Mark's article on modelling the ionosphere can be found on the group's website.

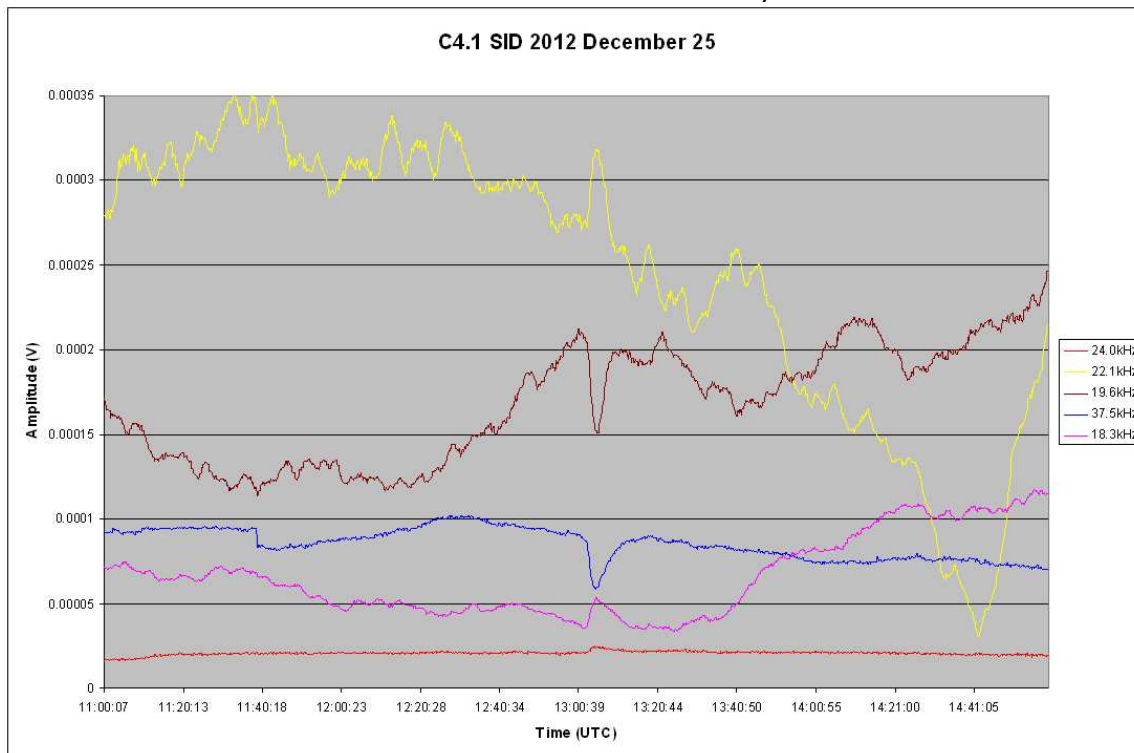
Activity through December has been very low with just 5 SIDs recorded, the lowest level since 2011 January. The C5.7 flare on the 12th is the most energetic in the GOES record. There were numerous B-class flares, but we did not manage to see any of them. Visual sunspot activity was also down to levels last seen in 2012 February. I have again recorded periods of rapid oscillations in daytime signals through the month. With the short day length at this time of year recording time has been rather limited, but we have not missed much of interest!

Paul Hyde's chart on the next page shows the effects of day length and oscillations at 19.6kHz over December 21st, 22nd, and 23rd. The largest flare in the GOES record over this period was a B8 at 14:07UT on the 22nd.



Paul Hyde.

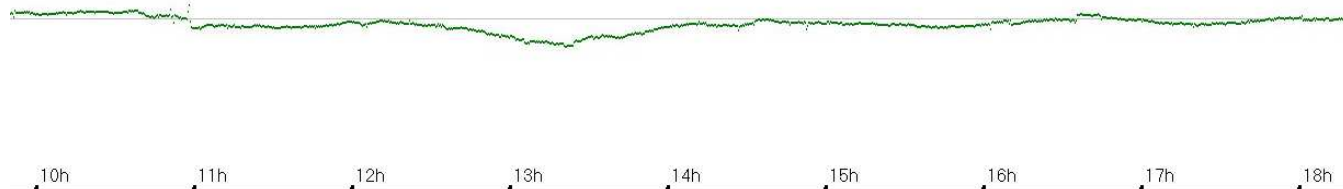
Mark Edwards has sent a chart of the Christmas Day flare:



As Mark noted, automatic data logging does have its advantages! This was a C4.1 flare from AR1635 at the peak of its visible size.

MAGNETIC ACTIVITY.

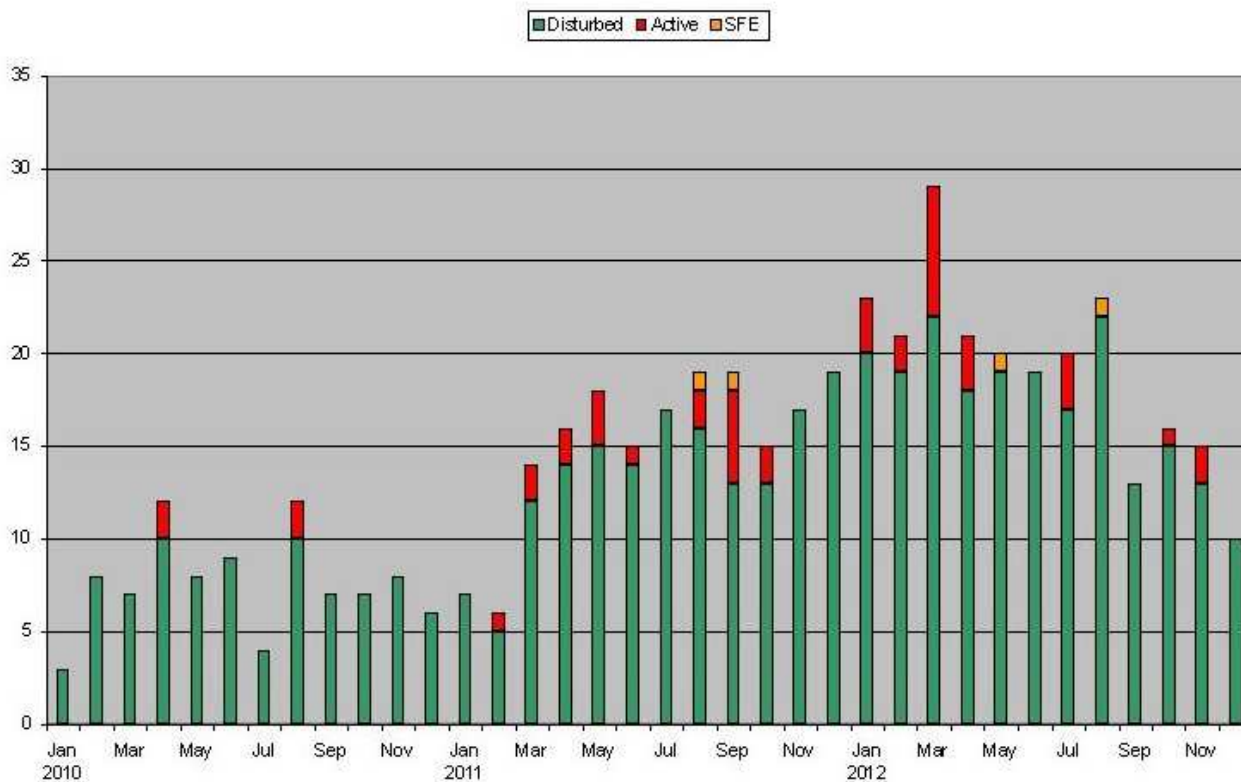
With the low level of flare activity there were no CMEs or SFEs during December. The most disturbed period was recorded on the 17th, from a recurrent Coronal Hole High Speed Stream. CHHSSs were also recorded on the 4th and 20th. A weak shock on the 14th reported by the SWPC led to a very minor disturbance on the 15th.



My chart for the 17th (above) shows the very small disturbance from the recurrent CHHSS, no more than 50nT at 13:20UT.

I have plotted the Bartel chart in the form of an activity chart, showing how activity has varied over the last 3 years. Coronal holes tend to be more common when sunspot counts are lower, and so the changes are not as dramatic as the SID activity levels. It does show more active periods in the last 2 years though, due to more energetic flares and CMEs.

Monthly Activity.



Magnetic reports received from Gonzalo Vargas, Paul Hyde and John Cook.

Reports and observations to John Cook, jacook@clara.co.uk.

