Analysis of 50 MHz reports from the UK

UK 50 MHz reports for January 2006 from G2ADR, G3IMW, G4UPS and via packet cluster spots. Compilation and commentary by G0AEV.

After the poor showing of winter sporadic E on Six in December, any Es openings at all would look good this month. In fact, January provided half a dozen openings with those on 1st, 7th and 29th being reasonable events. Overall, the winter season now looks "passable", though poorer than average. At least the opening on New Years Day enabled many people to make contacts with stations in countries such as I, OE, OK, SP and 9A. For those QRV on JT6M, contacts with these parts of Europe were available on a fairly regular basis - and it is with such digital modes that most activity resides these days. Over 80% of the contacts reported in January were by JT6M, and most of these were completed via meteor scatter. Troposcatter provided many semi-local QSOs, a significant proportion being carried out using JT6M. The vast majority of these QSOs were of no great distance but there were a few long distance contacts. January was characterised by a quiet sun and an undisturbed geomagnetic field, which explains why the month produced only one weak radio aurora.

Sporadic E

Sporadic E results tabulated below ordered alphabetically by country prefix. Percentages following the country name are the daily reliability values (the number of days when propagation was reported). The first row of each table, "D" is the day of the month, subsequent rows give the maximum signal strength reported from the UK in each of three hour time bands ("06" for the band 0600 - 0900, "09" for the band 0900 - 1200, etc.). A figure of "0" indicates that signal strength was not reported.

	9H (3%)	CN (3%)	CT (3%)	DL (3%)	EA (6%)	EA9 (3%)	HA [rx] (3%)	I Italy (13%)	LA (3%)
D	1	29	29	7	7 29	29	1	1 3 7 29	3
06									
09				5			9	9 0	
12								3 5	0
15	9	9	8	9	0 9			7 9	
18	9		7		0 9	0			
21									

	OE (3%	OK/OM (3%)	OZ (6%)	SP (6%)	YO (3%)	YU/9A/S5/T9/Z3 (10%)	ZB (3%)
D	1	1	3 9	1 7	1	1 3 7	29
06							
09	9	5		0 0	0	9	
12			5	5		4 5	
15	9	9		9 9		8 9	5
18			0				
21							

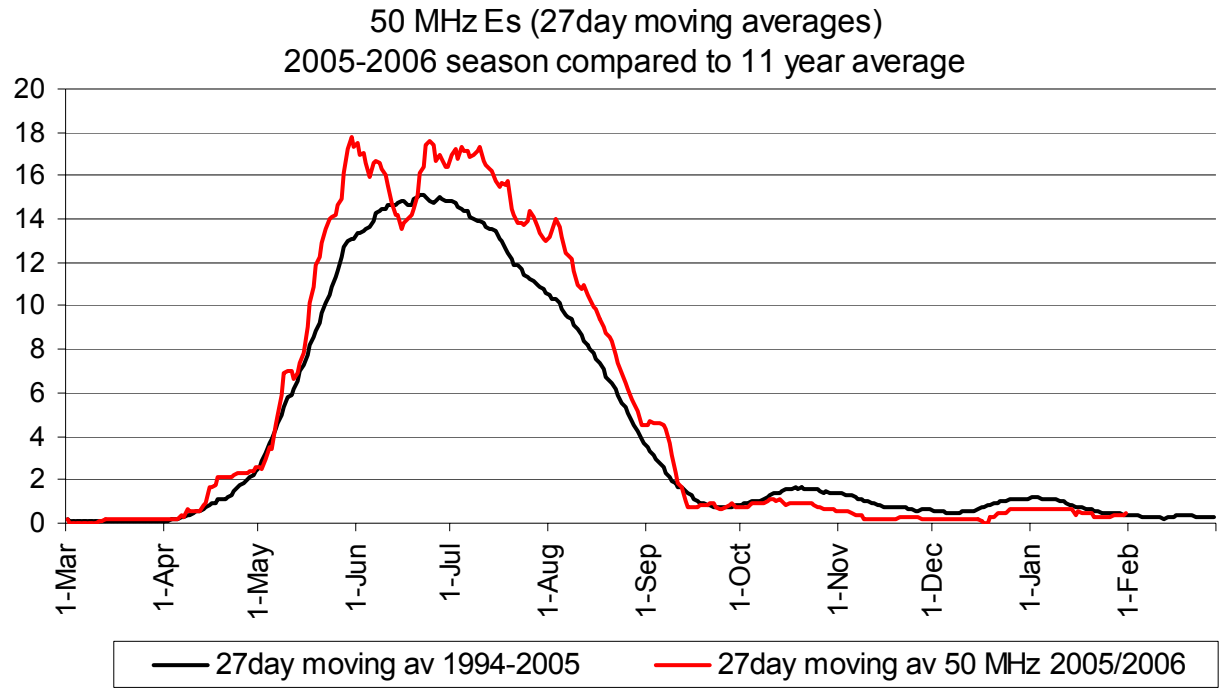
Sporadic E was reported on 5 days with the events on the 1st, 7th and 29th being quite reasonable

Es Propagation Summary.

Es Summary

	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	28	29	30	31
06																															
09	5						3																								
12	2		4																												
15	4						5																						5		
18	1						1		1																				3		
21																															

Sporadic E took on a more typical mid-winter character in January, though the number and extent of the January events were not great enough to compensate for the poor showing in December. This is displayed in the following graph that charts the progression of the 6m Sporadic E year compared to an average of the previous 11 years. The 2005-2006 winter season now appears (in this graph) to have a "peak" in early January, not much different to the peak seen in the 11-year average data but at a much lower level than the 11-year average. Despite several unusual features in the frequency of Es openings during the 2005 autumn and winter, the overall distribution of events has turned out to be fairly similar to the norm.



The graph shows 27-day moving averages of the daily country/area counts calculated directly from the data reported each month in the *Six and Ten Report*. The upper (red or paler) line is the moving average data for the year March 2005 to February 2006, a period chosen so that the “Es year” starts and ends at the “Es minimum”. The lower (black / darker) line is the 11 year (1995-2005 inclusive) moving average of the same measure.

Tropospheric propagation

Here's a list of spots for the better "tropo" distances, including those of dubious mode, and spots indicating better than usual tropo conditions. Incidentally, the vast majority of "tropo" contacts were by JT6M this month

1 1142 DK1MAX (JN58) > G4DEZ (JO03) "sp; 42 TR hrd" (*950 km. Does "sp" here mean Es?)*
1 1225 GM7PBB (IO68) > G4DEZ 52
8 1712 M1DUD (JO02) > LX0SIX 539 "for last 20 minutes"
24 1520 G4PCI > GM4ISM jt6m
25 0758 DH6JL (JO31) > GB3BUX 529 (normally 419)
29 0520 G7RAU (IO90) > GB3BAA 599+ (normally 539)
29 0521 G7RAU > GB3BUX 589 (normally 529)
30 0952 GW6TEO (IO71) > F6GEX (IN78) JT6M
31 1721 G3TCT (IO91) > GB3LER 519 "Tropo!"

Aurora

As described in the solar and magnetic data section (section 3), the geomagnetic field was particularly quiet this month. Only on the 26th did UK K-indices reach 5 (minor storm levels), but no aurora was reported on this date. The single aurora detected by UK amateurs was on 23rd (max K of 4)

23rd	12z	1302	G4IGO spotted 48/49 MHz TV signals via aurora
	15z	1639	GM7PBB > GB3LER 52A "at times"
	18z	1927	G4IGO reported 48240 signal weak by aurora

Meteor Scatter

JT6M was clearly the major focus of activity again this month. Despite the contribution from several well-reported sporadic E event, fully 82% (630 of 770) of all reports received direct or via the DX clusters were for the JT6M mode.

MS heard/worked (mostly via JT6M) in January by day. Weekend days (when activity is likely to be greater) are highlighted in grey. The 2nd of January was also a holiday in the UK and amateur activity on this day merged with increased activity due to the Quadrantids shower (2nd - 3rd January). Once again it appears that the increased meteor flux provide by major showers makes a relatively minor impact on the ability to make MS contacts via JT6M.

Date	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	28	29	30	31
MS QSOs	21	24	27	11	4	6	11	14	5	4	5	2	3	13	15	1	3	12	9	14	9	7	6	2	3	4	4	8	8	3	1
All JT6M	40	33	47	17	8	10	24	32	12	8	10	10	8	33	43	7	7	23	18	32	22	18	10	11	6	10	20	29	20	8	1

MS QSOs = all QSOs where MS mode indicated or inferred: mainly digital modes.
All JT6M = all JT6M QSOs/reception reports less those explicitly identified as tropo or Es

MS heard/worked (mainly via JT6M) in January 2006 by hour

Hour	QSOs	Countries	Hour	QSOs	Countries
06z	0		14z	21	EA, F, G<>GM, LA, OK, OZ, SM
07z	6	EA, OK, OZ, SP	15z	15	CT, EA, ON, OK, OZ, SM
08z	15	EA, I, LX, OK, ON, OZ, SP	16z	15	EA, LA, OK, OZ, SM, SP
09z	24	EA, F, HB, I, LA, OE, OZ, S5, SP	17z	13	CT, EA, I, LA, OH, OK, OZ, S5
10z	38	EA, F, G<>GM, HB, I, LA, LX, OZ, S5, SP	18z	8	CT, EA, LA, OZ, SP
			19z	12	EA, G<>G, G<>GM, LA, ON, OZ
11z	23	EA, F, G<>GM, I, LA, OZ	20z	11	EA, LA, S5, SM, OZ
12z	25	CT, EA, G<>GM, OE, OK, OZ S5	21z	12	EA, G<>GM, I, OZ, SP
			22z	5	EA, OK ,ON, SP
13z	16	EA, G<>GM, I, S5, ON, OZ	23z	0	

DX Propagation

No F2, TEP or Es Dx (i.e. outside of Europe) was worked or heard this month

EME

For the record, these are the January (JT65A) moon-bounce reports from the DX cluster

2 1457 G4PCI > W1JJ -26 dB
2 1511 G4IGO > W1JJ -28 dB
2 1744 G4IGO > ON4IQ -23 dB
4 1929 W7GJ > M0BCG -20 dB
4 1938 W7GJ > G8PL -22 dB
4 1953 W7GJ > G4PCI -26 dB
4 2038 W7GJ > G3FPQ -20 dB
4 2100 W7GJ > G4DEZ -24 dB
4 2140 G4PCI > W7GJ -25 dB
6 2235 M0BCG > W1JJ -22 db
6 2305 W1JJ > M0BCG
13 0050 M0BCG > ZS6NK
30 1709 G4PCI > K7OFT -25 dB
31 1549 G4PCI > W1JJ -25 dB