THE SIX AND TEN REPORT

March 2005

Editors. Martin Harrison G3USF and Steve Reed G0AEV

Analysis of 28 MHz reports from the UK

28 MHz reports and logs for March 2005 from G2AHU, G3HBR, G3IMW, G3USF, G3YBT, G4TMV, G4UPS, G0AEV, G0DVY, G0IHF, GM4WJA and packet cluster reports. Compilation and commentary by G0AEV.

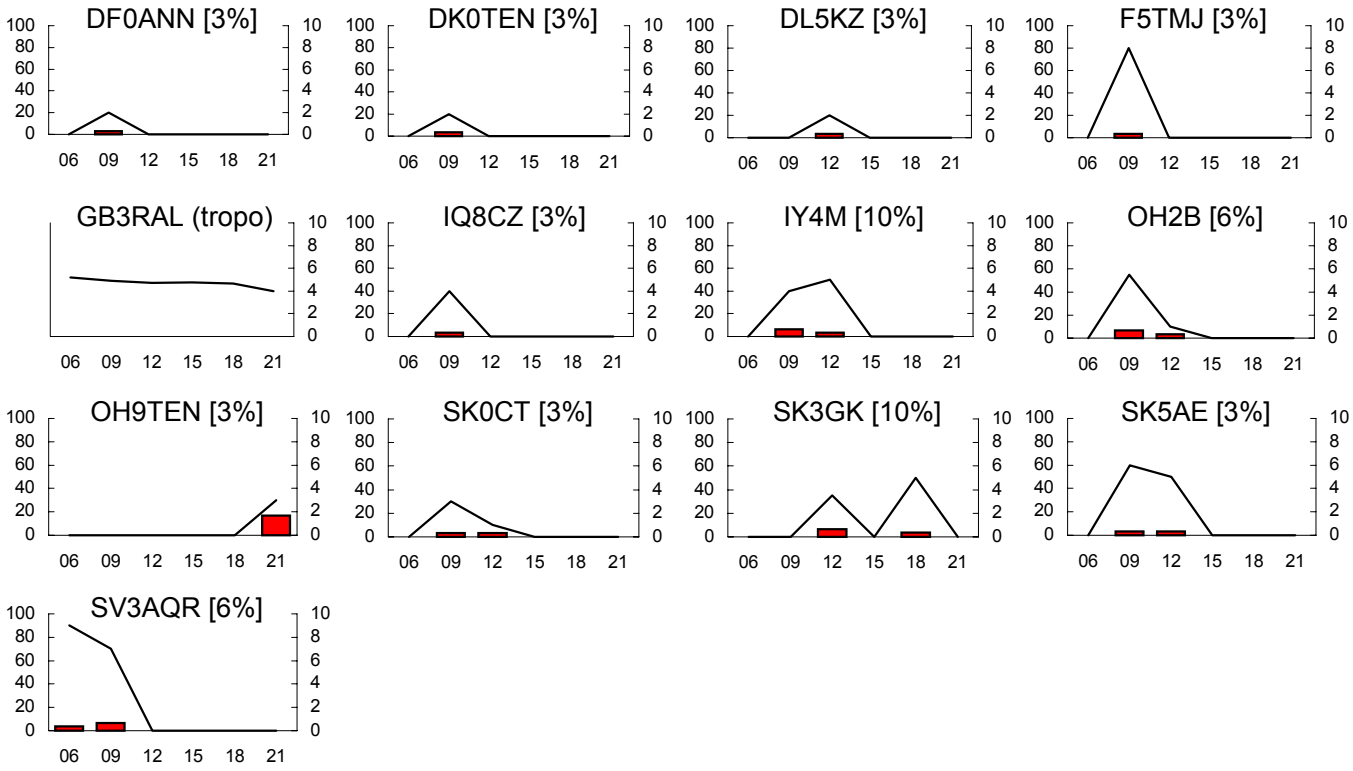
Most commentators thought that 10m in March was poor. Conditions at the beginning and end of the month were genuinely bad (the period included 4 days when no beacons at all were reported) but mid-month was quite good. There was no repeat of the exceptional 10m opening to North America on 16 February: only one continental US beacon was reported on one occasion in March. This US opening may turn out to be the last F2 that we in the UK will hear from the States for some time. Elsewhere there was reasonable F2 propagation within a region encompassing the Middle East, westernmost Australia, Africa and South America. 28 MHz sporadic E appeared on 7 days (a mixture of marginal and strong openings) and the total number of "beacon areas" heard via sporadic E was distinctly higher than is normal for March.

G3HBR's impression was of poor conditions but Brian thought "there was often reasonable propagation as shown by beacons, but not a lot of activity. It is interesting to note how on some days there is quite widespread propagation as revealed by several beacons coming in at the same time and on others there is localised propagation shown by the same beacons coming in singly over a longer period."

Beacon graphs legend

Legend for all beacon graphs in this Section: - graph bars (left Y-axis): beacon reliability as the percentage of days a beacon was heard by any UK observer within each time band. Graph lines (right Y-axis): Signal Strength as the average of the daily maximum Signal reported by any observer in each time band. Time band codes (X-axis): 6=0600-0900, 9=0900-1200, 12=1200-1500, etc. Callsigns are followed by daily reliability figures, the percentage of days per month when the beacon was reported.

European Propagation / Beacons



Propagation modes for European beacons.

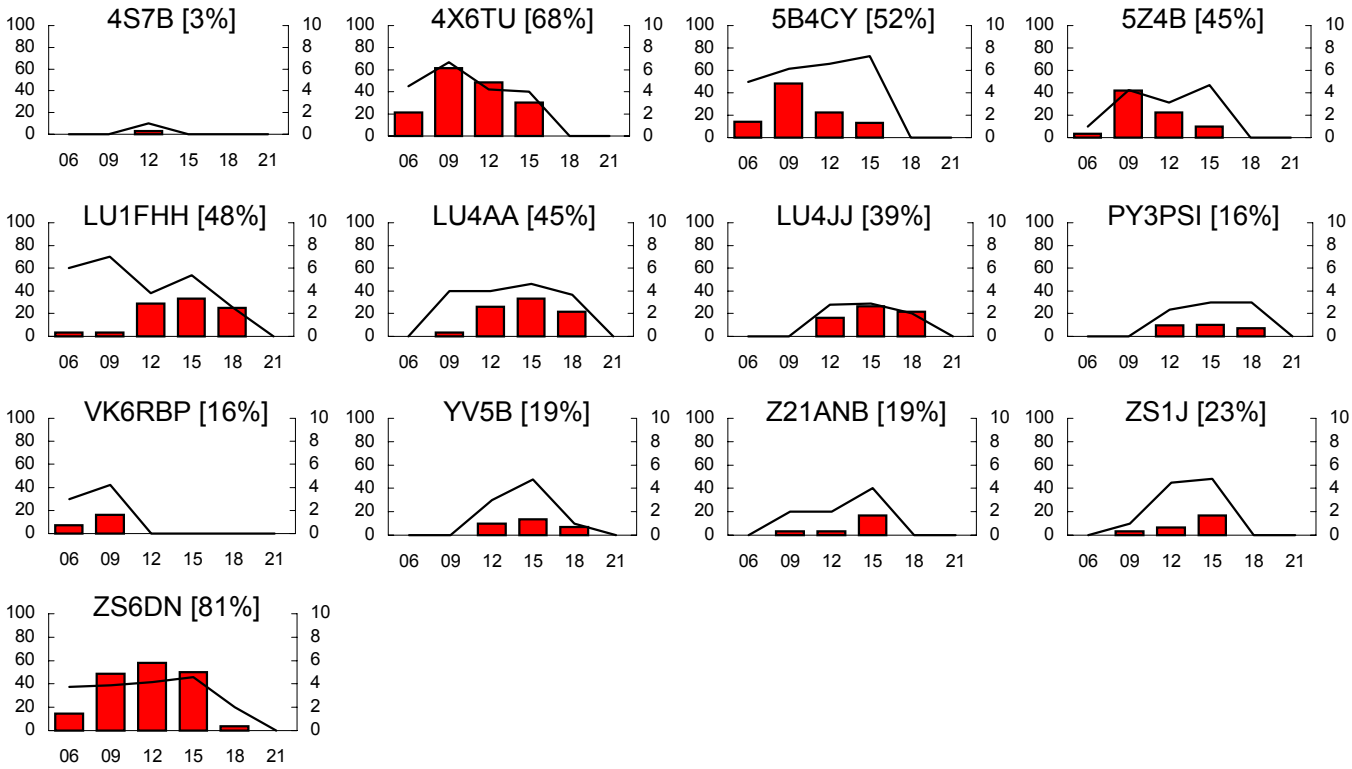
There was very little propagation between the UK and other parts of Europe in March but most of what was present was via sporadic E. Of the beacons shown in the graphs on the previous page, only SV3AQR was heard by direct F2. OH9TEN was by auroral E. Backscatter was absent from logs.

European Beacon Notes.

Both the two new beacons mentioned last month (SK3GK on 28.201.5 and IQ8CZ on 28.230) appear in the reports for March. Several new European beacons came into service in April and these include I8EMG on 28.185. GB3RAL was off air for the first 10 days of March.

Propagation to Asia, Africa, Oceania, South and Central America

Beacon Graphs.



Suggested propagation modes.

All the beacons reported and shown in the graphs above were via “normal” F2 propagation. Results from beacons are in keeping with the propagation expected at this time of year (equinoctial) and state of the solar cycle (approaching solar minimum). As described in the introduction to this section, conditions were particularly poor at the start and end of the month and this is reflected in relatively low daily reliabilities – ZS6DN (consistently the best performer) was heard on 80% of days. Reports of 4S7B on 10m have been rare for sometime so the reception of the beacon this time is worthy of note.

Beacon Notes.

Last month we had some logs of OA4B on 10m. There have been no subsequent reports by 6&10 or HFbeacons email reflector members but G2AHU reports hearing OA4B twice on 14 MHz. The status of OA4B is unclear. LU4AA went off air sometime in late March or early April.

10m DX in March 2005

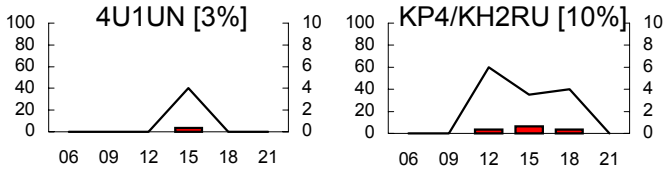
The following list of DX countries worked or heard in the UK comes from packet cluster Spots (DX Summit: http://oh2aq.kolumbus.com/dxs/) and from the logs of Six and Ten reporters. The improvement of March oin February is due to seasonal effects.

DX in March: 3B8, 4L, 4X, 5B, 5N, 5T, 5Z, 7Q, 7X, 8P, 8Q, 8R, 9G, 9J, 9Y, A2, A6, A7, A9, CE, CP, CX, D2, EA8, FT/X, HZ, IH9, J7, J8, KP4, LU, OD, PY, SU, TA, TI, TO7C, TT, TZ, UN, V5, VE, VK(6), VQ, VR, VU, W, YB, YI, Z2, ZC, ZD7, ZD8, ZS.

DX in February for comparison: 3B8, 3B9, 4X, 5B, 5R, 5T, 6Y, 7Q, 9J, 9K, 9Y, A4, C6, CO, CT3, CX, D2, D4, EA8, HC, HS, HZ, J2, LU, OA, P4, PY, SU, T5, TA, TI, UA, UA9/0, UN, V2, V4, V5, VK, VQ, W, XU, XW, YA, YB, ZC, ZS.

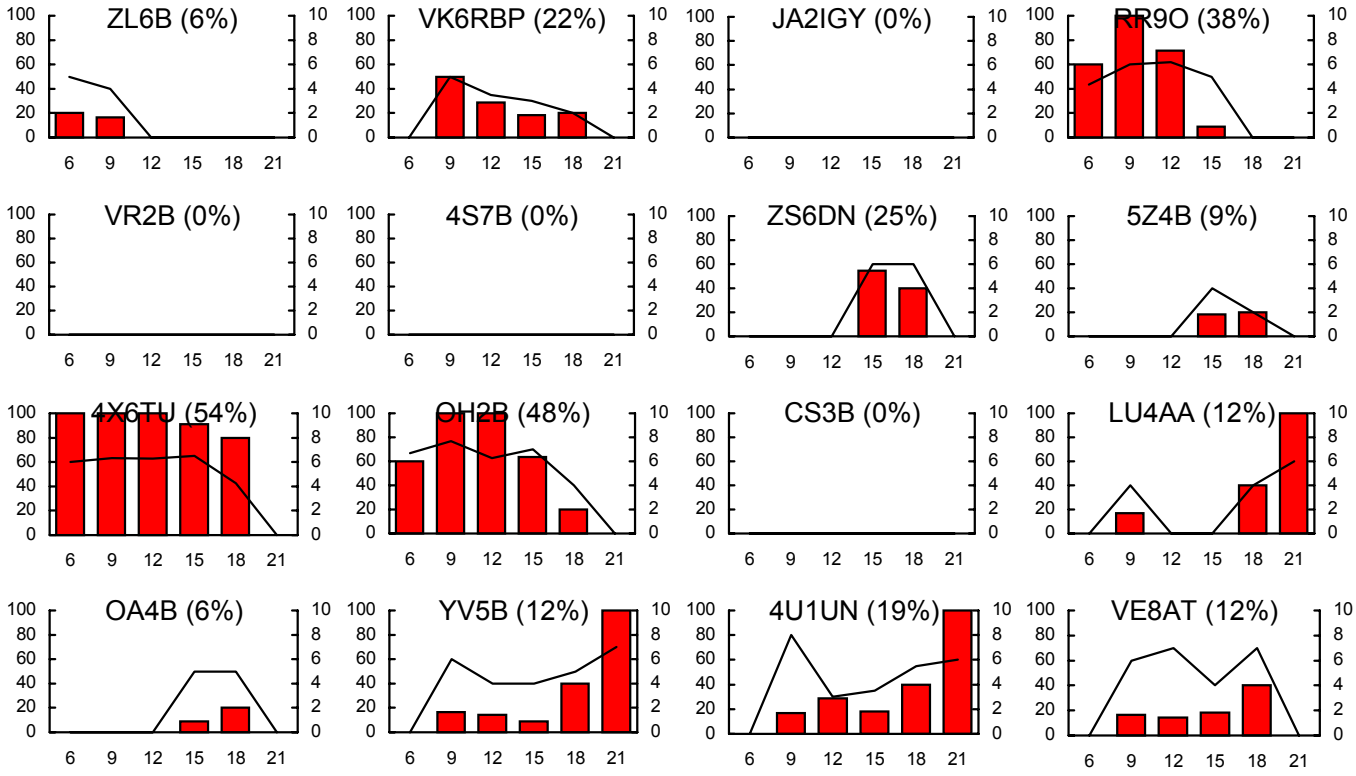
Propagation to North America

After February's flurry of activity – 42 different North American beacons heard (admittedly most of these in a single opening) – conditions reverted to the norm. Only 2 N American beacons were reported in March: 4U1UN (high power) and KH2/KP4RU (favourable location in the Caribbean)



14 MHz beacon reports from G2AHU

Ray G2AHU has been logging NCDXF beacons on 14 MHz and his results are graphed below. W6WX and KH6WO are not included but were not heard. Ray finds late evening listening difficult and his logs include only one observation for the 21z period. Anyone else like to contribute reports for 14 MHz?



Analysis of 50 MHz reports from the UK

UK 50 MHz reports for March 2005 from G2ADR, G2AHU, G3HBR, G3IMW, G4UPS, GM4WJA and via packet cluster spots. Compilation and commentary by G0AEV.

If February was poor (and it was) then March was little better. Sporadic E is normally at an annual minimum in March, and this appears to have been the case in 2005 – at least for 6m anyway. Unusually 6 and 10m showed some differences in the distribution of sporadic E and at 28 MHz there were more Es events than is usual for March. Usable frequencies in some of these 10m events made it to 48 MHz (as shown by reports of video signals) but very few reached the magic 50. Those that did were for the most part only available to northern UK stations.

During one of the marginal Es events a few G stations managed to log southern African DX via an Es – F2 mixed mode. This was a special occurrence as sporadic E is rare in March (in Western Europe) while F2 conditions for the DX leg must also have been marginal considering the current levels of solar activity.

Other modes – aurora, meteor scatter and troposcatter were poor in March – excepting the "weak" MS that is present most of the time and is now regularly exploited by the use of JT6M and other digital modes. For a small but growing minority, moon-bounce using JT65A provided some exotic contacts with stations in North America.

Our regular contributors all found conditions very poor. G4UPS found conditions dreadful - the longest period that Ted can remember without Sporadic E. G3HBR sent in a nil return for six - the only log entries Brian had were for a few fruitless CQs. Jeremy G3IMW has not had much to report since some aurora several months ago.

The only signal heard by G2ADR was what appeared to be a faulty beacon signal on 50.004 – perhaps I0JX? In spite of almost zero propagation Eric was monitoring daily. Unfortunately, as Eric says, during long periods of poor propagation most people appear to stop trying, world-wide, and this possibly gives the impression that things are worse than they really are. What action can we take, Eric asks? Perhaps publishing details of the few openings that did occur will inspire people to persevere.

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.

	DL (3%)	EA (3%)	HB (3%)	S5 (7%)	
D	26	24	26	20 26	
06					
09				7	
12	9		3	0	
15		0			
18					
21					

These Es events were all rather marginal, and for most of the time it seems that only longer hops to GM were supported. As there were so few sporadic E reports, it makes sense to list each as we do for aurora, meteor scatter and tropo. A number of the reports listed (next page) were for 48 MHz TV signals: mostly events that didn't appear to make it to 50 MHz.

5th	09z	1032	G4FUF spotted 48.250 video via Es with QTF 100
15th	12z	1207	G4FUF spotted 48.250 video via Es, QTF 180. This event reached 50 MHz and provided a link enabling a rare mixed mode opening to ZS and 7Q
20th	09z	0943	GI4SJQ > S57RR 57
24th	12z	1410	Es opening at 48MHz: G4FUF reports 48.250 video
	15z	1545-1556	MM0CIN > EA3VHF “weak but readable”; G4FUF hears 48.250 Es “loud”
26th	12z	1227-1300	GM3WYL > HB9SIX 539; MM0AMW <> DD0UM (JN49) 59
		1300-1320	MM0AMW > DD0UM 59; MM0AMW > S57RR
	15z	1511	G4FUF reports 48250 video from EA via Es “loud, in band”

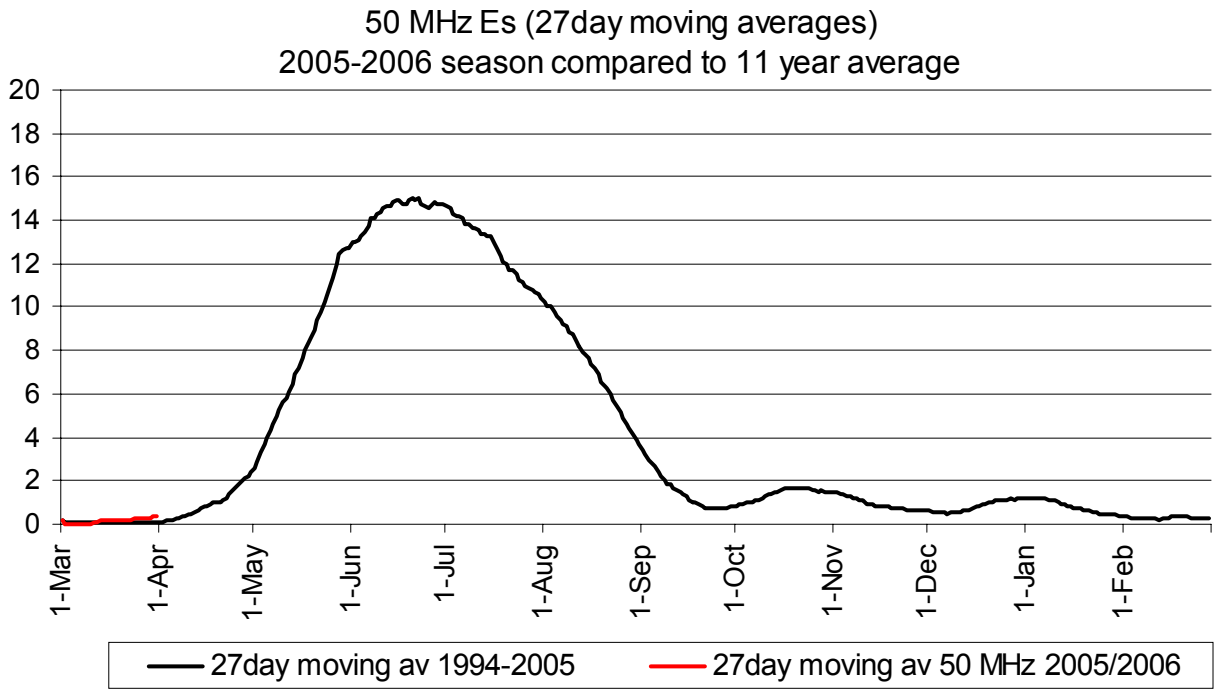
Es Propagation Summary.

The table below displays total counts of country/areas heard/worked via sporadic E by UK amateurs, a summary of the detailed tables presented above. An almost blank table!

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																				1											
12																										3					
15																								1							
18																															
21																															

The graph below displays 27-day moving averages of the daily 6m country/area scores against a 10-year average of the same measure (see May 2004 *Six and Ten Report* for details). The 3 openings in March 2005, the first of the sporadic E year 2005-2006, are plotted on this graph but the line for these data is difficult to distinguish as it lies very close to the 11 year average. In fact the March 2005 line is slightly but significantly above the average, perhaps defining a particularly early start to the summer season. It is far too soon to imply a trend (and early April appears to have been very poor), but lets hope these March data foretell a good summer sporadic E season to come.



DX Propagation

15 1217 G4FUF > ZS6TWB 559 “Es link”
15 1739 G8BCG (IO70) > 7Q7SIX 419

These two DX reports are can only have been possible through some mixed mode with presumably sporadic E to southernmost Europe or northernmost Africa linking in to some form of F-layer propagation. There was no 50 MHz sporadic E reported in the UK on 15th but G4FUF spotted 48.250 video from the south just before hearing the South African beacon, and there was 10m Es to southern Europe at around the same time, so there is supporting evidence for the Es link.

Meteor Scatter

MS via JT6M again provided the bulk of UK 6m activity, providing more activity than for all other modes put together. Most JT6M QSOs were completed via meteor scatter, but JT6M was also used to make “tropo” contacts, and possibly contacts via weak sporadic E. Sometimes it is unclear what mode of propagation was involved. In this category I include the “iono” (ionospheric) scatter reported several times either with or without a meteor scatter component. These apparently steady but weak signals are reminiscent of the steady signals reported at times during the long term early morning CW skeds between G4UPS – SM7AED. The common association of “ionoscatter” with MS and the lack of apparent correlation with other E (or indeed F) layer events suggests “ionoscatter” in the JT6M context is actually scatter from meteor-related ionisation. For the following analysis, only contacts explicitly or implicitly identified as being mader by MS are included.

Table of MS QSOs (mostly via JT6M) in March by day. Weekend days highlighted

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	3		3		4	1			1		1	4	4	1			2		5	4	1	4			3	1	1	1		7	2
All JT6M	5	5	8		16				4	3		13	9	2	1		3	2	10	14	5	17		1	10	6	12	8	2	14	9

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

Table of MS QSOs (mainly via JT6M) in March 2005 by hour

Hour	QSOs	Countries	Hour	QSOs	Countries
06z	0		15z	0	
07z	2	I	16z	1	CT
08z	8	G, HB, I, OE, OK, OZ	17z	0	
09z	9	I, OE, S5	18z	0	
10z	14	CT, EA, HB, I, OE, S5	19z	4	CT, OZ, SM
11z	6	EA, I, S5	20z	1	OZ
12z	1	OE	21z	3	EA, S5
13z	3	I, S5	22z	0	
14z	1	I	23z	0	

Tropospheric propagation

No special “tropo” events were reported, and packet cluster spots include no obvious long distances covered by tropospheric propagation. There were a large number of spots of signals from East England by stations in ON, PA and northwest DL, but most these paths are not particularly special. The list that follows is mainly of this sort, although a few 500 km plus contacts are included.

10th	1825-2000	Contest station GX7VHF (JO01) heard by ON6AB, ON4ASG, PE1MZS, F5UMP
19th	1215	ON1DNF > G1EUC (JO01)
20th	0808-0929	ON4GG (in contest) reported by G6ZGO and G4PCI (IO91) 41
	1049	ON4UK > G1YLE (JO02)22 1826 ON6NL GX7VHF JO01(>JO21
22nd	1829	PC5A (JO21) > GX7VHF (contest)
	2011-2054	DL8PM (JO30) > G3MEH (IO91), PE1MZS (JO21) > GX7VHF, DL8PM > GX7VHF
24th	0800	G4UPS reports good signals from GB3BUX 569, GB3BAA 559, GB3MCB 559
30th	1625-2052	JT6M tropo QSOs: G0CHE > F4DXX; GW3ORL > GW0GEI

Aurora

March aurora were virtually confined to GM, though the event on the 6th was a little more widespread.

4th	18z		Aurora (mid-evening) reported by GM4WJA
5th	18z	1857	MM0CWJ > GB3LER “aurora”. Aurora all evening at GM4WJA
6th	15z	1545	LA8AV (JO59) > GB3LER 55A
		1600-1620	GM8LFB > GB3LER 54A, OY6SMC 52A; MM5AJW (IO88) > G4DEZ 55A
		1644-1653	GM <>GM; G4PCI (IO91) > MM5DWW 52A; LB6YD (JO59) > MM5DWW (IO89) 53A
7th	18z	1808	GM8LFB (IO88) > GB3LER “auroral”. Aurora all evening at GM4WJA
8th	21z	2104-2105	MM0AMW >GB3LER 52A; GM7PBB (IO68) > GB3LER 56A
		2308	MM0BSM (IO86)> GB3LER52A
9th	18z	1937	MM0AMW (IO75) > GB3LER 53A. Aurora early to mid evening at GM4WJA
19th	00z	0009	MM0BSM > GB3LER 52A
25th	15z	1716	MM5AHO > GB3LER 55A. GM4WJA reports aurora all evening.

Auroral E

6th	18z	1849	GM8LFB (IO88) > JW9SIX 529
	21z	2305	MM0AMW spots LA video 48260 at S9 via auroral E
7th	18z	2035-2055	GM8LFB > LA7SIX 549, LA7SP (JP99) 57
	21z	2102-2105	GM8LFB > OH9SIX “booming in”; G4FVP (IO94) > LA7SIX 539
		2120-2127	GM8LFB > OH8HTG; GM4ISM > OH9SIX 59; MM5AJW > OH8HTG 59

EME

Moon-bounce is not normally included in these pages as the technical requirements of making EME contacts different from those associated with terrestrial propagation. In any case, until the recent advent of weak signal digital modes it was just too difficult to make EME contacts on 6m. This month packet cluster spots of UK stations hearing or contacting North Americans by moon bounce using the JT65A mode (not JT6M of course – thanks to Kev G0CHE for pointing up my error in February’s Report) exceeded in number those reports of UK to Europe via sporadic E. So perhaps it is time to give some prominence to the efforts of those that make use of the “lunar reflector”.

11th	1540	G4PCI > W7GJ –25 dB
13th	1916-1945	G4PCI > K7BV/1 –27 dB, W7GJ –24 dB
	2107	G4PCI > W7GJ –24 dB
	2204	W7GJ > G8BCG/P –27 dB
14th	2057	G4PCI > W7GJ –23 dB
16th	0030	W7GJ > GM4WJA –28 dB
26th	0245-0353	M0BCG > WA4NJP –22 dB, K5GW –22 dB, K6MYC
27th	0337	G4PCI > K7BV
	0549-0551	G4PCI > K7BV, W7GJ –21 dB

Solar and Geomagnetic Data for March 2005

Data supplied by G0CAS (Sun Mag[1]) and from Internet sources. Compilation by G0AEV.

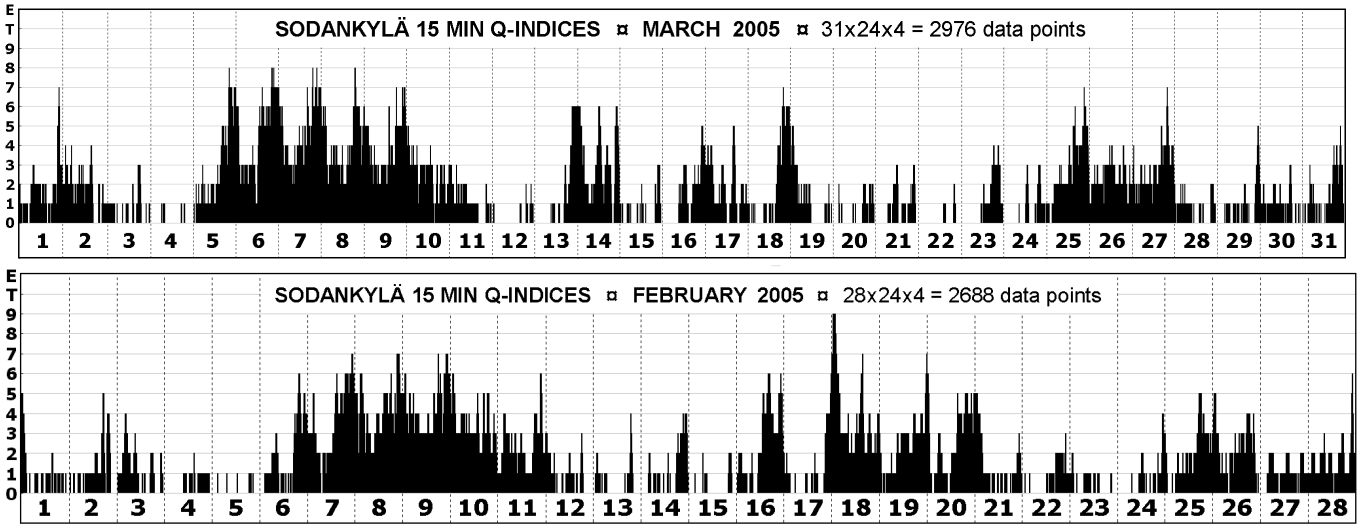
Sunspot numbers (SEC)	Mean 41.0	Max 77 (18th)	Min 11 (1st, 2nd and 30th)
Solar Flux (28 MHz)	Mean 90.0	Max 114 (13th)	Min 74 (9th and 13th)

Solar data for March 2005 are presented in the table at the end of this section. Numbers in the 28 and 50 MHz columns of this table are the total daily "areas" worked/heard from the UK for each of several propagation modes and are a summary of the data presented in the first sections of this Report. On 28 MHz "areas" refer to the number of beacons reported via Es and F-layer; on 50 MHz the number of countries via Es, F-layer, Aurora and Auroral E. F2 critical frequencies are from Chilton in Oxfordshire. SIDC spots are from SIDC, and other solar data from the joint USAF/NOAA daily summaries or directly from SEC.

Energetic Events. There were no high energy X-ray solar events (M or X class) in March, so only C-class events are listed below.

10th	1136-1144	C7.3
15th	0640-0709	C2.0 SF
19th	0656-0711	C2.3 SF

Q-indices from Sodankylä, Finland (Thanks to OH2LX) – with February data below for comparison



Geomagnetic data from the Finnish observatories for March are:

Monthly averages
Sodankylä: monthly Ak average = 19.4 (17.7 in Feb)
Nurmijärvi: monthly Ak average = 10.5 (10.5 in Feb)

Most disturbed March days:
Sodankylä: 7th, Ak = 77 (Feb 8th Ak = 52)
Nurmijärvi: 7th, Ak = 35 (Feb 7th Ak = 31)

Geomagnetic activity in March was very similar to that in February. The Q-index graphs above show very similar patterns of activity, and it is quite clear that the active periods seen in February repeated 27-28 days later.

[1] Sun Mag: Sunspot and Magnetic data compiled by Neil Clarke G0CAS. Email neil@g0cas.demon.co.uk

K-indices.

The following four tables present the Kp index (from SEC) and the Lerwick ("KL"), Eskdalemuir ("KE"), and Hartland ("KH") K-indices (from the British Geological Survey). Each table is set out with the day of the month in the top row followed by rows containing the K-values or each 3-hour period. The bottom row of each table is the sum of the K-values for the day. Pale (yellow) shading indicates K = 5, darker (grey) when K > 5.

Planetary K (Kp)

KP	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
00	2	3	1	1	1	5	5	4	3	3	2	1	1	4	2	0	3	1	5	1	1	0	1	0	1	2	2	1	0	2	1
03	1	3	1	0	3	3	5	5	4	3	2	1	0	4	1	0	3	1	4	2	1	0	0	1	4	4	1	2	1	3	3
06	3	3	0	0	2	5	6	5	4	3	2	1	0	3	1	1	2	2	2	1	1	1	0	1	5	4	4	1	1	4	3
09	3	3	1	0	2	4	4	3	3	3	1	0	1	4	1	1	4	3	2	2	3	0	0	1	3	4	3	0	0	2	2
12	2	3	1	1	2	3	4	3	3	3	2	1	2	5	1	3	2	1	2	2	4	1	1	3	3	3	3	1	1	1	1
15	2	3	2	1	2	5	4	3	3	3	1	1	2	3	1	2	3	3	1	1	2	1	1	2	3	2	3	1	2	2	2
18	2	1	2	1	3	4	5	3	4	2	1	2	2	2	1	2	2	3	1	1	1	1	2	2	2	2	3	2	2	1	3
21	4	1	1	0	3	5	4	4	4	1	1	1	3	2	1	2	2	3	1	1	1	2	2	2	3	2	2	2	3	1	2
Σ	19	20	9	4	18	34	37	30	28	21	12	8	11	27	9	11	21	17	18	11	14	6	7	12	24	23	21	10	10	16	17

Lerwick K (Shetlands)

KL	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
00	1	3	1	1	1	5	4	4	3	3	2	1	1	4	2	1	2	0	4	0	0	0	0	0	2	1	2	1	0	2	1
03	1	2	0	0	1	2	3	4	3	2	1	0	0	3	0	0	3	0	2	1	0	0	0	0	3	2	1	0	0	2	2
06	2	2	0	0	1	3	3	3	2	1	1	0	0	2	0	0	1	0	1	0	1	0	0	0	2	2	2	1	0	2	1
09	2	2	0	0	1	2	3	2	1	1	1	0	0	2	0	1	1	1	1	1	2	0	0	0	2	2	2	0	1	0	0
12	1	2	1	0	1	2	3	2	2	2	1	0	1	3	1	3	1	0	1	0	2	1	1	2	3	3	2	0	1	1	0
15	2	3	1	0	2	4	4	3	3	2	1	1	1	2	0	2	4	1	0	0	2	1	1	0	3	3	3	1	1	2	2
18	1	1	3	0	3	4	5	4	5	3	0	0	2	1	0	2	2	4	0	1	1	1	2	1	2	3	3	2	1	1	3
21	3	2	0	0	4	5	3	4	4	1	2	2	4	2	2	2	1	4	1	0	2	1	2	1	4	2	2	2	2	0	3
Σ	13	17	6	1	14	27	28	26	23	15	9	4	9	19	5	11	15	10	10	3	10	4	6	4	21	18	17	7	6	10	12

Eskdalemuir K (southern Scotland)

KE	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
00	1	4	1	1	1	5	4	4	3	3	2	1	1	4	2	0	2	0	4	0	0	0	0	1	1	1	2	1	0	2	1
03	2	2	1	0	2	3	3	5	3	3	2	0	0	3	0	0	3	1	3	1	0	0	0	0	3	3	2	1	0	2	2
06	2	2	0	0	2	3	4	3	3	2	1	0	0	2	0	0	1	1	1	1	1	0	0	0	3	2	2	1	1	2	2
09	2	3	0	0	1	3	3	2	2	2	1	0	1	2	1	2	1	1	1	0	3	0	0	1	3	3	2	0	0	1	0
12	1	3	1	1	2	3	3	2	2	2	1	0	1	4	1	3	2	1	2	1	3	0	2	3	3	3	3	1	1	1	1
15	2	3	1	0	2	4	5	3	3	3	1	1	2	3	0	2	4	2	0	0	2	1	1	1	3	3	4	1	2	2	3
18	2	2	3	1	4	4	5	5	5	3	0	0	2	2	1	2	2	4	0	1	1	1	2	2	2	3	4	2	1	1	3
21	3	2	0	0	4	5	3	4	5	2	1	2	4	3	2	3	1	4	1	1	2	2	2	2	4	2	2	2	3	1	3
Σ	15	21	7	3	18	30	30	28	26	20	9	4	11	23	7	12	16	14	12	5	12	4	7	10	22	20	21	9	8	12	15

Hartland K (SW England)

KH	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
00	1	4	1	1	1	5	4	4	3	4	2	1	1	4	2	0	3	1	4	0	0	0	0	1	1	1	2	1	0	3	1
03	2	2	1	0	2	3	4	4	3	3	2	0	0	3	0	0	3	1	3	1	1	0	0	0	3	3	2	1	1	2	2
06	2	3	0	0	2	4	4	3	3	2	1	1	0	2	1	1	2	1	1	1	2	0	1	0	3	3	2	1	1	2	2
09	3	3	0	0	1	4	4	2	2	2	1	0	1	2	1	2	2	1	2	1	3	0	1	1	3	3	2	0	0	1	1
12	1	3	1	1	2	3	3	2	2	2	1	0	1	4	1	3	1	1	1	1	4	0	2	3	3	3	3	1	1	1	1
15	1	4	1	1	2	4	5	4	4	4	1	1	1	2	0	2	4	2	0	0	2	1	1	1	4	3	4	0	2	2	3
18	2	2	3	1	4	5	5	4	5	3	0	0	2	2	1	2	2	4	0	1	1	1	2	2	3	3	4	2	1	1	3
21	4	2	0	0	4	5	4	4	5	2	2	2	4	3	2	3	1	4	1	0	2	2	2	2	4	2	2	2	3	1	3
Σ	16	23	7	4	18	33	33	27	27	22	10	5	10	22	8	13	18	15	12	5	15	4	9	10	24	21	21	8	9	13	16

March	28 Areas		-- 50 Areas --				2800	- Spots -		Max			X-ray	Max foF2		Min foF2		-- Particle Fluences --		
2005	Es	F	Es	DX	A	AE	Flux	SEC	SIDC	Kp	Ap	Aa	b.gnd	MHz	Hour	MHz	Hour	2MEV Elec	1MEV Prot	10MEV Prot
01-Mar	0	0	0	0	0	0	74	11	7	4	11	22	A2.1	5.5	12	2.5	05	2.9E+07	1.3E+06	1.4E+04
02-Mar	0	2	0	0	0	0	75	11	8	3	12	27	A2.0	6.3	11	2.3	06	8.6E+07	1.7E+06	1.4E+04
03-Mar	0	0	0	0	0	0	77	24	9	2	4	9	A4.1	5.9	14	n.a.	n.a.	8.2E+07	6.2E+05	1.4E+04
04-Mar	0	0	0	0	0	0	79	13	8	1	3	6	A4.5	6.5	14	3.1	01	1.2E+08	8.1E+05	1.4E+04
05-Mar	1	8	0	0	1	0	81	22	9	3	10	23	A4.7	7.0	16	3.4	05	1.7E+07	6.0E+05	1.4E+04
06-Mar	0	9	0	0	4	1	84	22	10	5	36	70	A6.4	6.2	14	2.3	05	1.7E+06	6.4E+05	1.3E+04
07-Mar	2	3	0	0	1	2	87	43	18	6	42	58	A7.8	6.6	15	2.3	04	1.8E+08	5.5E+06	1.4E+04
08-Mar	0	5	0	0	1	0	94	52	33	5	26	41	B1.1	5.9	13	2.1	03	2.6E+08	2.4E+06	1.4E+04
09-Mar	0	4	0	0	1	0	100	77	38	4	20	41	B1.6	5.9	14	2.1	06	5.6E+08	1.6E+06	1.4E+04
10-Mar	0	5	0	0	0	0	102	70	41	3	13	29	B1.4	6.5	13	2.2	05	4.8E+08	1.0E+06	1.4E+04
11-Mar	0	1	0	0	0	0	105	59	43	2	6	10	B1.4	7.1	15	2.3	06	6.9E+08	9.6E+05	1.3E+04
12-Mar	0	4	0	0	0	0	110	67	42	2	4	6	B1.8	7.2	12	2.1	04	1.0E+09	1.2E+06	1.3E+04
13-Mar	0	6	0	0	0	0	114	77	42	3	6	11	B1.7	7.7	11	2.8	05	1.3E+09	1.7E+06	1.4E+04
14-Mar	5	14	0	0	0	0	112	49	40	5	21	32	B1.6	8.8	15	3.1	06	1.4E+07	6.1E+05	1.5E+04
15-Mar	2	11	0	2	0	0	108	58	37	2	4	8	B1.4	7.7	09	3.0	05	1.0E+07	3.5E+05	1.5E+04
16-Mar	1	13	0	0	0	0	105	45	28	3	6	15	B1.4	8.5	11	3.0	05	1.8E+07	3.4E+05	1.4E+04
17-Mar	0	10	0	0	0	0	101	35	25	4	12	27	B1.4	7.6	11	2.8	05	3.0E+06	4.8E+05	1.4E+04
18-Mar	0	3	0	0	0	0	96	37	25	3	9	19	B1.6	5.9	15	3.1	05	4.6E+06	6.4E+05	1.4E+04
19-Mar	1	4	0	0	1	0	93	41	26	5	14	18	B1.4	6.4	13	2.5	05	1.6E+07	4.3E+05	1.4E+04
20-Mar	0	2	1	0	0	0	89	39	25	2	5	7	A7.7	6.7	15	2.7	05	2.2E+07	3.0E+05	1.4E+04
21-Mar	0	7	0	0	0	0	90	53	30	4	8	19	A6.2	8.1	14	3.3	05	2.3E+07	3.2E+05	1.3E+04
22-Mar	0	5	0	0	0	0	87	49	28	2	3	6	A6.9	6.8	13	2.5	05	3.0E+07	4.6E+05	1.3E+04
23-Mar	0	3	0	0	0	0	88	56	32	2	4	10	A7.5	7.0	14	n.a.	n.a.	2.5E+07	6.9E+05	1.5E+04
24-Mar	0	10	1	0	0	0	87	57	41	3	6	11	A5.8	7.1	16	2.5	05	1.0E+06	3.2E+05	1.4E+04
25-Mar	0	7	0	0	1	0	82	65	34	5	18	34	A3.7	5.7	19	2.4	05	1.6E+06	3.8E+05	1.4E+04
26-Mar	2	2	3	0	0	0	78	41	26	4	16	32	A3.1	5.1	16	3.2	04	5.2E+07	2.9E+06	1.3E+04
27-Mar	0	8	0	0	0	0	78	35	22	4	13	26	A3.3	7.5	19	2.9	04	1.2E+08	9.8E+05	1.3E+04
28-Mar	0	4	0	0	0	0	80	15	10	2	4	8	A2.8	5.9	17	n.a.	n.a.	2.2E+08	6.7E+05	1.4E+04
29-Mar	0	2	0	0	0	0	79	15	9	3	5	8	A2.7	6.0	15	2.7	05	2.2E+08	1.3E+06	1.3E+04
30-Mar	0	0	0	0	0	0	78	11	7	4	9	12	A2.0	n.a.	n.a.	n.a.	n.a.	7.1E+07	4.7E+05	1.3E+04
31-Mar	0	1	0	0	0	0	77	22	15	3	9	19	A1.7	n.a.	n.a.	n.a.	n.a.	8.0E+07	6.0E+05	1.4E+04
Sum	14	153	5	2	10	3														
Average	0.5	4.9	0.2	0.1	0.3	0.1	90.0	41.0	24.8	3.3	11.6	21.4	A8.5	6.7	14	2.7	05	1.9E+08	1.0E+06	1.4E+04
Maximum	5	14	3	2	4	2	114	77	43	6	42	70	B1.8	8.8	19	3.4	06	1.3E+09	5.5E+06	1.5E+04
Minimum	0	0	0	0	0	0	74	11	7	1	3	6	A1.7	5.1	09	2.1	01	1.0E+06	3.0E+05	1.3E+04

50 MHz Outside Britain

Compilation and Commentary by G3USF

Continental Europe and Africa

Auroral-Related Propagation

Another month in which auroral events were apparently relatively sparse and brief. Note, however, that one of the OH principal sources, SK4MPI was off the air until the 22nd. While, had it been transmitting, we would undoubtedly have heard of more events, my impression is that this would have been a fairly quiet month anyway; the ten days in which SK4MPI was operational resulted in a single report. Even on the 7th, the most disturbed day in the month, when the Sodankyla AK reached 77 the crop of reports was modest and mostly related to high-latitude auroral-E.

Mar 5 732 Au>OH6(53a) 2240 JX7SIX>LA(599 JP60)

Mar 6 1430 49750>OH6(KP02 52a) 1500-40 AuFM>OH5 15-1600 SM5>LA(JO59 55a) GB3LER>LA(JO59 55a) OH1>LA(JO59 55a) 1550-1610 AuFM>OH5 16-1700 OH3>OH8(59a) GM(IO88)>GF 17-1800 JW5SIX>SM3(599 AE) 1853 JW9SIX>LA(JP60 559)

Mar 7 1000-10 AuFM>OH5 20-2100 JW9SIX>OZ(539) JW9SIX>LA(JP60 579) LA7SIX>LA(JP60 599) JX7SIX>OH2(599) JX7SIX>SM0(JO99 579) OZ6VHF>LA(JP99 52a) LA7SIX>LA(JO59 559)

Mar 8 20-2100 49750(UA)>SM0(58a 000) OH6>SM0(59a/599 330) JX7SIX>SM0(539AE)

Mar 10 19-2000 OH6>OH8(mode?) OH6>SM3(JP81 55a)

Mar 14 1303 49750>OH6(KP02 53a)

Mar 18 2027 OH9SIX>OH6

Mar 25 15-1600 49750(UA)>OH6(KP02 55a) 1603 49750>SM5(57a) 2140-50 Au>OH5

Other Modes

While March will go down as another lean month for operators in northern Europe, even towards the bottom of the cycle DX possibilities do occur. The principal beneficiaries of afternoon and evening tep were of course the Mediterranean countries, with openings reported from Cyprus across to Spain. However, probably with the assistance of slightly unseasonal Es, propagation from time to time reached further north - notably, on the 15th, to the UK, Germany and Switzerland. It may also reach further south - witness EA7KW's rare reporting of the ZS2SIX beacon. In all, there were thirteen days when southern Africa was copied in Europe - compared with 16 days in 2004, but no fewer than 29 days in 2003.

Further north, 9Q was reported into EA,I and 9H on the 27th and I9 on the 31st. VQ9 was worked from SV on the 23rr, while FR was into 5B on the 26th and A6 into I9 on the 23rd.

Europe<>Southern Africa

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
	+				+				+				+	+	+	+				+	+	+	+		+		+			

Europe<>Southern Africa

ZS6	12 days	2(SV) 6(EA) 10(EA) 14(EA,EA6,SV) 15(DL,F,HB,I,IT9,SV,YO) 16(F,I,9A) 17(I) 22(EA,I9,SV,9H) 23(I,SV) 24(SV) 26(I9) 28(I,9H)
ZS2	1 day	21(EA)
V5	3 days	15(F,I,I9,SV,SV8,YO,9A) 22(I9) 23(EA,I,I9,SV)
7Q	2 days	14(EA) 15(G,I9,SV)
Z2	2 days	15(EA) 22(I)

West Africa, where activity is highly variable, was reported into Europe on 7 days (19 in 2004 and 26 in 2003). All the countries involved lie wholly or largely north of the Equator, so we seem not to be looking at tep here. None of the openings is known to have extended to the eastern Mediterranean, but on the 10th - one of the month's better days - central France and Belgium were reached. Note, however, that SV1DH copied African video on 24 days, mostly from West Africa, though his data does not precisely distinguish between 5Z in the East and 9L/3C to the West.

Europe<>West Africa

TR	4 days	10(EA,F,I,ON) 15(F) 17(EA) 18(EA)
5T	2 days	27(EA) 28(EA,I,I9,9H)
TT	1 day	23(I)

We encounter tep again in the western hemisphere, though as the tabulation below shows only the Iberian countries were reached from the South American mainland. However, the ZD8VHF beacon, did reach SV, the path being somewhat easier

Europe<>South America

PY	4 days	13(EA) 16(CT,EA), 18(EA) 27(EA)
LU	4 days	10(EA) 13(EA) 16(CT,EA) 17(EA)
CX	1 day	17(EA)
ZD8	8 days	8(EA) 9(EA) 11(EA,9H) 14(IS) 15(IS,9H) 16(9H) 22(9H) 23(SV)

Caribbean signals were received in Spain or Portugal on 6 days, mostly over a path skewed southward - though generally not at times when South America was also workable. FM was reported into EA on the 19th, 22nd (also CT), 27th and 28th, FS was heard in Spain on the 13th and Portugal on the 15th, while FJ was copied in Spain on the 16th.

In all, some part of Europe worked outside Europe on no fewer than twenty days. However, most working beyond normal tropo range occurred during a small number of brief Es openings - which was a little more frequent in central and southern Europe than G0AEV found for the UK - or meteor scatter with JT6M.

Mar 1 no reports

Mar 2 1154 9Ltv>SV1 1310 ZS6TWB,ZS6DN>SV1DH(first tep)

Mar 3 LX>ON(jt) 2131 G>EH4(jt)

Mar 4 no reports

Mar 5 0930 F>I3(jt) I0>F(jt) 14-1500 G>LX(jt)

Mar 6 0919 S5>I5(t) 1240 9Ltv>SV1 16-1700 ZS6TWB>EA7KW

Mar 7 09512 PI7SIX>I4(Es) 10-1100 UT5G,UU5SIX>I4 SV1SIX>SP6 2215 DL>SM5(ms)

Mar 8 1601 3C,9Ltv>SV1 9H>EA7(bs) 2346 ZD8VHF>EA7KW 12-1300 GD>OE5(jt) 9Ltv>SV1 16-1700 OE5>S5(jt)

Mar 9 2143 ZD8VHF>EA7KW

Mar 10 1045 TR0A>IK5YJY 11-1200 TR0A>IW1AZJ,IW4BET 1250 ZS6TWB>EA7KW 1319 ZS6TWB>EA4SV 16-1700 LW3EX,LU1DMA>EA7KW 17-1800 LU1DMA>EA7KW LW3EX>EA4SV TR8CA>ON5LGS CT3KU>TR8CA 18-1900 LW3EX>EA7KW TR0A>EA7KW TR8CA>EA7KW,EA7RU TR8KRP>EA7KW EH4>EH7(sc) G>ON SM4,OH0>SM5 S5>OE5(t) 19-2000 S5>I0 G>PA(t) I7>I8 OH0>S5 G>F S5>OH6 20-2100 OH6>SM3 OZ>S5 SM3,LA>SM5 21-2200 SM2>SM3 OH8>SM5(jt) SM6> S5 ON>LX(jt) EH4>ON(jt)

Mar 11 1258 9Ltv>SV1 1755 9A0BHH>S5(t) 2219 ZD8VHF>EA7KW

Mar 12 10-1100 SK7>OE5(jt) 11-1200 I4>ON G>EA4(jt) 1520 9Ltv>SV1

Mar 13 0907 I0>OZ(ms) 1013 SM6>OE5(ms) I4>I5 1055 I0>ON(jt) 14-1500 I4>I2

Mar 14 1013 OE5>I0(ms) OE5>I5(jt) 1144 LZ2CM>YO7 16-1700 ZS6DN>IS0GQX ZS6TWB>EA6VQ,EA7KW ZS6NK>IS0GQX 7Q7SIX>EA6VQ ZS6WB>EA7KW 17-1800 7Q7SIX>EA7KW 18-1900 I5>S5(t)

Mar 15 0906 OE5>9A(jt) 11-1200 SP5>S5(jt) ZS6DN,ZS6TWB>IK0FTA S5>I0(jt) ZS6DN>IW4BET 12-1300 ZS6DN>IW1AZJ ZS6TWB>G4FUF(Es link) LZ2CM>YO7 13-1400 ZS6TWB>I4CIL,IW1AZJ,IZ5EKY,EA4SV 7Q7SIX, ZS6DN,ZS6TWB>SV1DH TR0A>F5GTR 9H,SV1,5B4FL>EA7(sc) 14-1500 ZS6TWB>S59MA,9A8A ZS6DN>9A8A ZS6NK>IW9CER,IW1AZJ,EA7HB, S59MA,SV1AIQ ZS6OB>IW9HHH,SV1AIQ,F5GTR ZS6WB>IZ5EKY,EA7KW, SV1IYL,YO7VS,EA7HB,IZ8EPY,F5GTR 15-1600 ZS6WB>IW9GUR,9A4SL, HB9SJV,F8ASY ZS6OB>IW9GUR,YO7VS,DK1MAX,F8ASY,EA4SV V51LK>IW9CER,IZ5EKV,SV1GYG,9A4SL,YO7VS,IW9GUR ZS6BTE>IH9YMC,IW9CER,IZ5EZV 16-1700 V51LK>SV1LK,9A8A, SV3AQR,S51NT,YO7VS,IZ8EDJ,SV8DQU,F8ASY,IZ5EKV,IK1YMF,EA7RU ZS6OB>IZ5EKV,S51NT ZR6SW>IW0BET,IZ8EEL,S57RR.EA3AFS,IW9GUR ZS6TWB>S57RR 17-1800 7Q7SIX>IW9CER,G8BCG V51LK>IK7YZI,F8OP Z22JE>EA7RU DL>EA7 EH7>S5 20-2100 ZD8VHF>IS0GQX,9H1YZ 2221 W7GJ>9A4K(eme)

Mar 16 0807 49760>G 12-1300 ZS6TWB>IW1AZJ,F6FHP 13-1400 ZS6TWB>9A5ST,IZ8EPY 1401 9Ltv>SV1 15-1600 LZ2CM>YO7 4S7AB>VQ9JK 1720 FJ5DX>EA7KW(220 skew)18-1900 IS0>I9 OH1>OH2 PY3KN>EA4EHI 2232 PY1RO>EA7KW

Mar 17 0525 OH5RAC>SP6(ms) 07-0800 SP5>I3(jt) I0>I3(jt) 10-12100 OZ>SM5 S5>OZ(jt) 11-1200 G>I0(jt) 13-1400 9Ltv,5Ztv>SV1 ZS6DN>IK5YJY 1450 TR0A>EA7KW 1553 EH4>EH7 1617 LZ2CM>YO7 18-1900 LU1DMA,CX1CCC,CX5CR>EA7KW

Mar 18 1254 9Ltv,3Ctv>SV1 1442-3 TR0A, CU3URA>EA7KW 1808 PY3KN>EA7KW

Mar 19 0639 SP5>S5(jt) 0742 S5>F(jt) 0823 I0>F(jt) 0922 F>I3(jt) 10-1100 G<OE5(jt) G>HB(jt) 12-1300 ZS6NK>5B4FL G,LX>ON 17-1800 FM5JC>EA7KW(skew 220) EH5>EA7(sc) 1804 PY3KN>EA7KW 1946 PP5AR>EA7KW

Mar 20 0733 ON>E7(ms) 0843 GW>HB(ms) 10-1100 DL,G>ON ON>PA,LX 11-1200 ON>LX EH4>I3(jt) G>EA4(jt) 12-1300 S5>I4 9Ltv>SV1 13-1400 EH4>I8 16-1700 HB9SIX>DL(t) 1731 9H>I9

Mar 21 1313 CT>F(jt) 1639 ZS2SIX>EA7KW 1946 CT>EA4(t) 2224 GW>EA4(jt)

Mar 22 0946 EH4>F(jt) 1351 9Ltv,5Ztv>SV1 1558 ZS6NK>5B4FL 16-1700 G>F(jt) ZS6NK>IW9CER,IW9GUR,EA7KW ZS6OB>9H1YZ,IW9GUR V51/ZS4NS>IW9CER 17-1800 ZS6BTE>5B4FL ZS6WB>5B4FL,SV3AQR Z22JE>IW9CER FM5JC>EA7KW(skew 220) G>OZ 1952 GW>OZ G>SM5(jt) 20-2100 G>DL,PA DL>PA 21-2200 G,S5>OZ(jt) ZD8VHF>9H1YZ

Mar 23 1256 ZS6WB,ZS6DN>IK5YJY 13-1400 V51/ZS4NS>IK5YJY 9Ltv,5Ztv,ZS6TWB>SV1DH ZS6NK>SV1DH,IH9GPI V51/ZS4NS>SV1DH, EA5CGU,IT9TJH,IW9HHH,IW9KHL 14-1500 TT8M>IK5YJY V51/ZS4NS>EA7KW 15-1600 A61AH>IT9TJH 4X>SV8 16-1700 VQ9JK>5B4FL,9H1YZ,SV1DH(Es+tep?) JY4NE>9H1YZ 17-1800 VQ9JK>SV1DH 1907 8Ltv>SV1(e-tep) 2033 3Ctv,ZD8VHF>SV1DH

Mar 24 1240 ZS6NK,ZS6TWB,ZS6DN>SV1DH 1338 9Ltv,5Ztv>SV1 1414 SV3>9H,I9 1752 S5>SM5(jt) OH1>SM5(t)

Mar 25 0654 W7GJ>OX3LX(eme) 1022 G>OE5(jt) 12-1300 CN2R,5T5DUB>D4B 1338 LZ2CM>YO7VS 17-800 G>S5)jt) 22-2300 ES6>OX(jt) ON>OX(jt)

Mar 26 0939 SP5>S5(jt) 1135 FR1AN>5B4FL 12-1300 ZS6NK>5B4FL, I0WTD,9H1YZ 13-1400 S5>OE5(t) ZS6NK>IT9RZR 14-1500 9H>IT9

Mar 27 0741 G>I3(jt) 09-1000 G>S5(jt) S5>PA(ms) 10-1100 IT9X>I8 1117 HB9SIX>DL(t) 16-1700 PY3KN>EA7KW I9>I0(bs) PY>CN8LI 17-1800 9Q0AR>EA7AYF,EA7KW,IK0FTA YU1>YO7 FM5JC>EA7KW(skew) 18-1900 5T5DUB>EA7KW 9Q0AR>9H1LE 19-2000 ON>EA5(jt) 9H>IT9 IZ1EPM>S5(t)

Mar 28 0338 ZS6NK>OX3LX(eme) 0755 OE5>DL 08-0900 OE5>DL(t),SP6 10-1100 G,GW>S5 I4>OE5 11-1200 'FT5XO'>F,DL,OH0,I4 12-1300 9Ltv>SV1 LZ2CM>YO7 13-1400 ZS6NK>IK0FTA,9H1YZ,IW5DHN ZS6TWB>IK0FTA 14-1500 5T5DUB>9H1YZ,IW0GXY,IW9CER,EA5YB 15-1600 5T5DUB>IW1AZJ,IW0FFK,I9/I2AND 1659 FM5JC>EA7KW(skew) 1745 SV3>I9 2029 IS0>SV8(jt)

Mar 29 12-1300 9Ltv>SV1 SP5>OH1(jt) 14-1500 ON>PA 17-1800 I5>S5,I1

Mar 30 07-0600 I5>OZ(ms) 0916 G>I5(jt)

Mar 31 1529 9Ltv>SV1 19-2000 9Q0AR>IW9GUR,IW9HLM 21-2200 I3>LX(jt) I9>LX(jt) I3>ON(jt)

50MHz PROPAGATION REPORT FOR MARCH 2005 BY SV1DH

1. Data for all days (31)
2. Relatively good days on: 15,23(+)
3. 48 MHz AF video (9L+3C+5Z) on: 2,5,6,8-12,14-24,26-29,31 (R=77%)
4. 55 MHz AF video (5N) on: NIL
   All video openings A-TEP, plus E-TEP on 15,16,22,23

5. Opening to ZS6 on: 2(1315),14(1645),15(1145-1500), 22(1330), 23(1330), 24(1230) (R=19%)
6. " V5 on: 15,23
7. " VQ9 on: 23(1600-1800 Es+ETEP)
8. " UR on: 7(E)
9. " SP on: 7(E)
10. " EH on: 15(B)
11. " 9H on: 16, 23(B)
12. " SV8 on: 23(B)
13. " 4X on: 23(E)

14. Special events on:
    6 (1600 EH7 to ZS6+2130 CN to PY1)
    8 (1700 EH7 to 9H bsc+2345 EH7 to ZD8/B)
    9 (2145 EH7 to ZD8/B)
    10 (0100-0300 Es+TEP link N-S America+1100 I+F to TR/B+1245 EH7 to ZS6/B)
    11 (2230 9H+EH7 to ZD8/B)
    12 (0730 VK2+4 on 10m)
    13 (1730 EH to PY+LU+1845 EH to FS scatter)
    14 (1115-1130 foF2>10, max 10.1/MUF=32 at 1115 +1645 MED to ZS6+7Q)
    15 (1015-1345 foF2>10, max 11.5/MUF=38 at 1145 +1130-1715 MED to ZS6+7Q+Z2+V5 +1215 G to ZS6 TEP+Es link +1300-1330 MUF to HZ>43Mhz +1715 CT to FS scatter +2030 IS+9H to ZD8/B)
    16 (1210-1230 F+I+9H to ZS6 +1430 VK6 on 10m very late +1730 EH7 to FS scatter +1815 EH+CT to PY+LU +2115 9H to ZD8/B +2230 EH7 to PY1)
    17 (0930-1100 foF2>10, max 10.4/MUF=34Mhz at 1000+ 1500 EH7 to TR/B+1830 EH7 to LU+CX)
    18 (1445 EH7 to TR/B+1800 EH7 to PY3)
    19 (1200 5B to ZS6/B+1745 EH7 to FM scatter)
    21 (1630 EH7 to ZS2/B!)
    22 (1730 EH7 to FM scatter+ 2130 9H to ZD8/B)
    23 (1445 IT to A6, 2Es!)
    27 (1630-1830 EH7+CT to PY+9Q+5T/B+FY/B+FM scatter)
    28 (1430 VQ9 to 9M2+ I to ZS6/B+ IT+9H+EA to 5T/B)
    29 (1530 CT to ZS6/B)

15. DXCC entities heard/worked during Mar 2005 : 8 on 3 cont
16. DXCC entities heard/worked on 23rd Mar 2005 : 5 on 3 cont

73 COSTAS

The Americas

Auroral-Related Propagation

Mar 5 2200 VE6EMU>W7(52a)

Mar 6 0054 W8>W0 01-0200 W8>W0 VE8BY>VE3(FN04 559 AE) VE6(DO21)>W7(CN88 57a) W7(DN17)>W7(CN88 59a) 06-0700 KL7NO(BP54)>W7(CN88 58a) VE6EMU>W7(CN88 59) 0720 VE7FG>W7(CN88 57a)

Mar 7 2230 VE6EMU>W7(51a) 0110 W8(EN73)>W8(EN82 579au) 0222 VE6(DO20)>W7(CN88 57a) 06-0700 KL7NO(BP54)>W7(CN88) KL7/KG0VL>W7(51a) 07-0800 VE8BY>W7(CN88 51 AE) VE4VHF>W7(CN88 51AE) 2346 VE4ARM>W9(EN44 52a)

Mar 8 00-0100 W0(EN26)>W9(EN44 55a) 0642 VE6EMU>W7(CN88 59AE)

Mar 9 0334 VE4ARM>W9(EN44 53a)

Mar 14 0322 VE4ARM>W9(EN44 52a)

Mar 19 00-0100 W8>VE7(57a) VE8BY>VE2(41a) VE3UBL>VE2(41a FN07) 0330 VE4ARM>W9(EN44 53a)

Mar 25 06-0700 VE4VHF>W9(EN44 53a) W0(W9(EN44 55a) 07-0800 VE6EMU>W7(CN88 51a) KL7/KG0VL>W7(CN88 51a)

Other Modes

This was a better month for the Americas than for Europe, with several quite good openings between North and South America, one or two reaching down to Patagonia.. Most of the US lies north of the normal tep zone. Openings beyond the W4/W5 'boundary' may in some cases have been assisted by southerly dispersion of ionization associated with geomagnetic disturbances. However, this could not have been the case in all such events. Nor was there conclusive evidence of extension by way of Es at the relevant times. It would be interesting to have more detailed information about such openings, even if this could only be suggestive of the mechanisms involved. The US had propagation to some part of South America on 11 days. This compares with 9 in 2004 (all but one to W4/W5) and 20 in 2002. HC8, which a year or so back featured fairly prominently in these reports, seems to have dropped out of sight.

Openings between the Caribbean/Central America and South America, on some thirteen days, clearly owed much to tep, though one or two - notably those with FY, HK and OA, were wholly or mainly north of the Equator and other factors must have been involved. The increase in activity in the Caribbean has also brought to light interesting paths that were previously little explored. TR0A was reported into FM on the 1st, 8th, 9th 10th and 12th, while 5T was copied in FM on the 25th and 26th and D4 reached FM on the 22nd. Tep looks problematical. ZD8VHF was copied in FM on the 1st and 10th.

Propagation between North America and the Caribbean and South America

	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
US		+					+	+	+	+		+	+			+								+		+	+				
Caribb	+	+		+		+	+		+	+	+	+			+	+	+								+						

North America/Caribbean<>South America

		North	Caribbean
	PY	12 days 2(9Y,9Z) 4(KP4,PJ) 6(FM) 7(FM,KP4) 9(FM) 10(FJ,FM) 11(FM.P4,TI) 12(XE) 15(FM) 16(FJ) 17(TI,9Y) 25(KP4)	3 days 7(W3) 8(W4) 10(W4,W5)
	LU	9 days 1(KP4) 2(KP4) 7(FM,HR) 8(FM,KP4) 9(FM) 10(KP4) 11(FM) 12(HI,KP4) 17(KP4)	7 days 2(W0) 9(W4,W5,W9) 10(W3,W4,W5,W7,W0) 12(W4) 13(W4) 16(W3) 24(W4)
	OA	2 days 7(FM) 11(FM)	
	CX	2 days 9(HI) 12(KP4)	1 day 9(W4)
	CE	2 days 1(KP4) 10(KP4,TI)	4 days 10(W5,W9,W0) 16(W3) 26(W4,W9,W0) 27(W9,W0)
ZP	1 day	1(FM)	2 days 8(W4)10(W4,W5,W7,W9)
FY	1 day	10(FM)	

Within the US, there appeared to be evidence of occasional Es openings but few stations suggested this as the propagation mode.

Mar 1 00-0100 W5>W3,W8 W4,W5,W9,W7>W4 W4>W0 01-0200 TI2NA>K7TOP 0234 W4>W5 15-1600 W2,W7,W9>W8 1955 CE4BJS>WP4NEG 20-2100 LU9DFN,CE4BJS,LU7FA,LU7DZ>WP4NEG 22-2300 ZD8VHF,TR0A>FM5JC 23-2400 KP4>W4 6Y5RC>W4 W4>W2 38.3(CE)>W4 ZP6CW>FM5JC K0ETC>W3

Mar 2 00-0100 W3>W4 48.0(CE)>W3 W4>W4 LW3EWZ>K4RX K5AB>W4 W5>W8 01-0200 KP4>W4 LU1DMA>N0JK HI3TEJ>K4RX,N4BI,N4NN W4CLM,KF4HLG>W5 W5>W8 W4>W3 02-0300 W4CHA>W0 W5>W4 HI8ROX>W4SO,K4JAF,K4RX KS5V>W7 HI3TEJ>WB2TQE/4 03-0400 W5RP>W7 0421 K0ETC>W7 05-0600 K0UO>W7 0639-48 WB0RMO,W4,W6>W7 22-2300 LU7YZ>WP4NEG W8>W5 23-2400 W8>W3 6Y5RC>PY1RO 9Z4FZ>PU2WDX W4,W3 W3DOG,KG7GLK/3>W3

Mar 3 00-0100 W1>W1 W4>W9,W0 W8>W5 W5>W9,W4 K0ETC,K0UO>W3 01-0200 W4>W0,W5 W0,W5>W5 XE1>W4 W5>W9 W6>W0 02-0300 XE1>W5 KA7BGR,NM7D, N0KK>W7 W5>W4 W0,W5,W6>W0 W0>W7 K5AB,K5RP>W0 03-0400 K0>W0 KA0CDN>W4 W7>W5,W7 W6,WB0RMO>W7 WA7X>W5 0526 W7>W7 18-1900 W6>W7 W7>XE2 KA7BGR>W7 19-2000 W6>W7 20-2100 W7>W7 2204 W7>W7 23-2400 9Y4AT>WP4KJJ

Mar 4 00-0100 KP4FVB>PP5JD PJ2BVU>PP5AR 0250 W7>W6

Mar 5 0756 VE7>W7 13-1400 W1>W4 14-1500 W4>W1(t) W3>W1,W4 20-2100 48.2(CE)>W4

Mar 6 01-0200 W0>W8 PY9>PP5 0212 49.2(CE)>W4 1358 W4>W4 14-1500 W1>W4 W4>W8 WR9L>W3 W4>W5,W2 W4>W0 15-1600 W8>W8 16-1700 W5>W2 W8>W4 V7>VE6(jt) W4>W5 1742 W8>W5 18-1900 W3>W5 W5>W9 21-2200 48.3(CE)>W4 CN8MC>PY1RO 2343 PY5>8R1EA,FM5JC

Mar 7 00-0100 OA4B,LU8DCH,PY2NO>FM5JC 01-0800 AH8DX>PP5AR(?) 02-0300 W7,VE6,VE7 06-0700 W7>W0 22-2300 LU7YZ,LU7FA>FM5JC WP4NEG>PP5AR HR1RBM>LU6ENC 23-2400 PY3DU>N3DB

Mar 8 00-0100 PY2SRB>N4ZQ PY1RO>K4RX ZP6>PY1(bs) W4CHA>PY1RO ZP6CW>N4CC,K4RX LW3EX>WP4NIX 01-0200 W8>W4(sc) K4RX>PY2OC LW3EX>N4RX TI2NA>KD4ESV 15-1600 W7>W9(sc) W7>W5 23-2400 TR0A,LW3EX, 49.2(CE)>FM5JC

Mar 9 00-0100 PY3DU>FM5JC 02-0300 XE1KK,W5>W7 03-0400 W0>W8 16-1700 XE2,W4>W5 18-1900 W4>W4 W5RP,W5HN,KS5V,K5AB>W3 W4>W0 19-2000 W4>W0 20-2100 LU7YZ>WP4NIX W4>W5,W0 LW3EX>K5WPN,FM5JC,K8WK/5 3Ctv,49.2(CE)>FM5JC 21-2200 W5>W4 TR0A>FM5JC LU1DMA>K8WK/5 LU7YZ>K8WK/5.KE4OYS,WP4NEG LW5EE>AA5XE 22-2300 W4>W0,W9 TR0A>FM5JC TI2NA>AA5XE LU7YZ>W9RM(EN52) W5>W0 23-2400 W3>W3,W4 HI3TEJ>K4JAF LU7YZ>K9SV,HI3TEJ TI2NA>W9RM 49.2(CE),CX9AE>K4RX LU6DHL,CX4CR>HI3GSB CX4CR>HI3TEJ LU7YZ>K4JAF,HI3TEJ W9>W4 LU5VV>HI3TEJ,W9RM,N4JQQ,K9HMB,WP4NIX CX9AE>N4NN C6AFP>N4LI

Mar 10 00-0100 W5>W9 LW3EX>W4SO PY1RO>K4RX ZP6CW>W4TJ,K4RX, W4SO,AE5B,N7RT(DM43) PP5CG>W5CIA 01-0200 LW3EX>W3UR,W5CIA,K0HA,N7RT, N7NN(DM42) ZP6CW>K5CM,K9HMB(EN52), K7NN(DM42),W4TJ,N7RT PY1RO>AE5B,K5CM,K0HA OA4B,LU4HT>FM5JC W4>W2 LU8MB,LU2DPW, XQ3SIX>K0HA,TI8CBT LU4DMX>K0HA W5>W9 02-0300 ZP6CW>AE9B,K4RX XQ3SIX>AE9B,WQ5S,N0JK,K0ETC,N0RQ/5 W9>W9 LW3EX>K4RX KS5V>W9 W5>W3 XE1KK>W7 03-0400 LW3EX>K0HA K5AB>W4 04-0500 W5,XE1KK>W0 2155 CE4BJS>WP4NIX 22-2300 LU9DFN,LU2BN>WP4NIX LU2BN>WP4NEG TR0A,ZD8VHF,3Ctv>FM5JC FJ5DX>PY5IP 23-2400 W4>W3 FY7THF>FM5JC FM5JC>PY2OC

Mar 11 00-0100 LU5HB>FM5JC OA4B>PY2NQ W3DOG,KL7GLK/3>W3 PS7JN,OA4B>FM5JC TI2NA,YV4AB,HK4CZE>PY2NQ 0214 P49MR>PY5IP

Mar 12 0036 XE1V>PY1RO 0118 XE1KK>PY1RO 13-1400 W8>W4 1618 W2>W9(Es) 1952 49.2(CE)>W4 20-2100 LW3EX,LU7YZ,LW2ETU,LU1DMA,CX4CR>K4RX NJ2F>LU7YZ TR0A,TR8CA>FM5JC 21-2200 LU8DIO,LU8WAT,LU3EO>W4SO W4SO>LU7YZ LU4DMX>HI3NR 2253 CX7BBR>WP4NIX 23-2400 LU1AW,LU8DIO>WP4NIX

Mar 13 0304-21 VK4RGG>N3MMH,K9RJ(??) 13-1400 W1>W4 W3>W2 14-1500 W4>W8 W3>W4 19-2000 3Ctv,48250(Eu skew) 2107 OZ4VV>W7GJ(eme) 2148 LU2DEK>W4SO 22-2300 LU7WW>W4SO LU2DEK>K4RX

Mar 14 2310 47.9(CE)>W4

Mar 15 1826 W1>W4 21-2200 EH8BPX>PY5EW,PY2NQ 2307 ZZ1SIX>FM5JC

Mar 16 00-0100 FY1FL>PY2XB 01-0200 TO7C>FY1YFL FJ5DX>PY2EX,PY2DA 02-0300 TI2NA>PY2EX OA4B>FY1FL 18-1900 EH7KW,CT1HZE>FM5JC 20-2100 49.2(CE)>W3 CO8LY>W3UR,N3DB 21-2200 CE3BJS>N3DB,W3UR LU7YZ>W3UR 2234 49.2>W4

Mar 17 01-0200 9Y4AT>PY2EX 0248 W6>W7(eme) 18-1900 W4>W0 K0UO>W3 K3DOG>W0 21-2200 VE3>W4 K2ZD>W2 LW5EE>WP4NEG EA7ST>LU5ERF 2311 KP4>FM(jt) PU2WDX,ZD8VHF>FM5JC KP3A,WP4NIX>PU2WDX

Mar 18 00-0100 W5>W7 0112 W4>W4 0422 VE7>W7 0914 VE7>W7 1432 W7>W7 1637 W7>W0 1813 XE1KK>W7 2146 W0>W5

Mar 19 00-0100 W5>W4 01-0200 W5>W4 W4>W0 13-1400 W4>W4 W1>W1 15-1600 W8,W1>W1 22-2300 45.92(CE)>W4

Mar 20 0512 W0>W8 13-1400 W4>W8 1440 W4>W8 20-2100 W4>W0 47.9(CE)>W4

Mar 21 0447 W4>W9(jt)

Mar 22 1726 D4B>FM5JC 18-1900 CT1APE>FM5JC 1949 EUtv>PY1

Mar 23 1731 48242>FM5 1913 3Ctv>FM5 2310 47.9(CE)>KP4

Mar 24 20-2100 CM2OQ>KP4 LU5VV>N4IS

Mar 25 0030 49.2(CE)>W4 0405 W0>VE6 1546 W8>W9 1755 FJ>FM 18-1900 KP4>FM 18-1900 FY7THF>HP2AT,FM5JC 9Y4AT,KP4,PJ2>FM 19-2000 KP4>FM YY2CQD>WP4NIX 5T5DUB>FM5JC 2332 PJ2>FM

Mar 26 0418 IS0/I0JU>W7GJ(eme) 14-1500 W4,w8>W4 W1>W4,W8 16-1700 W1>W4 48242>FN W4>W9 19-2000 5T5DUB>FM5JC W3>W3 2048 W4>W0 21-2200 W5>W4 W4>W0 C6AFP>K0HA 22-2300 K4AHO,KE4SIX,KD4NMI,C6AFP>AA5WH/4 W7CNK/5,K0ETC>FM5JC W3DOG>W4 49.7(CE)>W9 W9>W4 XE3RCM>W0 23-2400 KP4>W5 KD5LEP>FM5JC W5>VE3 47.9(CE)>W4 W4>W0 CE3RR>N0PB XQ3SIX>K4RX,KB9JCW,W0AE,N0JK

Mar 27 00-0100 XQ3SIX>N0PB,N9NS CE3RR>N0PB W5>W4 W1JJ>OX3LX(jt) W5>W2

Mar 28 16-1700 EH7KW>FM5JC(skew) FJ>FM 1834 WA7X>W7 19-2000 W7>W7 20-2100 W6,W7,KA0CDN,W9>W7 2214 W7>W7

Mar 29 00-0100 W5GPM>W5 W0>W0 01-0200 W0,W5>W9 W0>W3 W0>W8,W4,W5 VE2>W0 VE5>W9,W0 VE3>W4 02-0300 W0>W3 VE2,KQ4E,W9JN>W0 W5,K0KP,KS5V>W5 W7,VE5,K5AB>W9

Mar 29 02-0300 W0>W1,W3 W0MTK,N8PUM,W7>W5 VE5,W7>W9 W7>W0 W0>W6 03-0400 VE6,W0,VE3,W5>W0 VE5,VE6EMU,W7,W0>W9 04-0500 VE5,VE6EMU,W7>W9 W0>W4 W0>W7

Mar 30 01-0200 W2>W3 0232 K9MU>W0 0344 W7>W7 19-2000 W7,W6,N0LL,W0MTK>W7 VE5,W7>W6 20-2100 W7>W7 VE6EMU,,VE7FG>W6 N0UD,K0EC,VE4VHF>W7 21-2200 VE4ARM>W7 W6>W7 VE6EMU,N0UD>W7 22-2300 VE7>W7

Mar 31 00-0100 W0,W7>W7 W9>W0 VE6EMU,VE4>W7 VE6>W6 W0>W4 01-0200 W5>W9(Es) VE5>W7 W6>W8,W9 VE4>W5,W7 KQ4E>W0 VE7>W0 W0>W9 02-0300 VE4,VE6>W0 W7>W7,W0,W9 W9,W0>W9 W6>W7 03-0400 W7>W9 W6>W7,W6 0417 W7>W7 06-0700 KL0RG>W7

Asia/Pacific

Japan

JA<>VK, ZL

	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
			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+		

JA <> VK, ZL

VK2	6 days	7-9 13-15
VK3	2 days	15 16
VK4	22 days	3-5 7-15 17 20-28
VK5	1 day	7
VK6	17 days	5 6 9 11 12 14-17 21-26 28 29
VK8	18 days	3 4 8-17 20 22-25 28
ZL3	1 day	7

A relatively good equinoctial month with JA<>VK paths holding up well to the erosion of the cycle. Some part of VK was reported in Japan on 25 days (27 in 2004, 29 in 2003) - though ZL dropped from 6 days to only one. The C21 and FK beacons were also regular visitors, but there is a sad lack of activity. 9M and DU remain fairly regular, though again many of the reports relate to beacons.

6m DX results in JA during March from JA1VOK

DATE	TIME(UTC)	STATIONS
2	0400-0600	FK8SIX/B, VK4,8RAS/b
4	0320-0700	C21SIX/b, FK8SIX/B, V73SIX/B, VK4,8RAS/b
5	0430-0700	FK8SIX/B, V73SIX/B, VK4
	0910-0930	VK6RSX/b (JA3-6)
6	0530-0700	FK8SIX/B, VK4,6RSX/b
7	0250-0430	FK8SIX/B, VK2BHO,2RHV/b,VK4,5UBC, ZL3NW,3TY
8	0220-1000	C21SIX/b, FK8SIX/B, VK2RJ,VK4,8RAS/b
9	0220-0700	C21SIX/b, FK8SIX/B, V73SIX/B, VK2YO,VK4,6RSX/b,8RAS/b
10	0330-0530	C21SIX/b, FK8SIX/B, V73SIX/B, VK4,8RAS/b
11	0330-1300	9M6BG, DU1EV/B, FK8SIX/B, VK4,6JQ,6RSX/b,8RAS/b
12	0300-1200	9M6BG, C21SIX/b, FK8SIX/B, V73SIX/B, VK4,6JQ,6RSX/b,8RAS/b
13	0240-0600	C21SIX/b, DU1EV/B, FK8SIX/B, KG6DX, V73SIX/B, VK2YO,VK4, VK8GF
14	0240-1040	C21SIX/b, FK8SIX/B, V73SIX/B, VK2YO,VK4,6RSX/b,8RAS/b
15	0210-1030	9M2TO/B, DU1EV/B, FK8SIX/B, VK2APG,2BHO,3SIX,VK4,6JQ,6AOM, VK6RPH/b,6RSX/b,8RAS/b
16	0400-1100	9M2TO/B, FK8SIX/B, VK3SIX,6JQ,6RPH/b,6RSX/b,8RAS/b
17	0400-1200	9M2TO/B, C21SIX/b, DU1EV/B, FK8SIX/B, V73SIX/B, VK4,6RSX/b, VK8RAS/b

19	0350-0430	C21SIX/b, V73SIX/B
20	0223-0600	DU1EV/B, FK8SIX/B, HL2FDW, KH6SX, T88EM, V73VE,SIX/B, VK4,8RAS/b
21	0250-0900	C21SIX/b, DU1EV/B, FK8SIX/B, KG6DX, V73VE,SIX/B, VK4,6RSX/b
	0840-1200	VK6RSX/b
22	0320-0800	DU1EV/B, VK4RTL/b,6JQ,6RSX/b,8RAS/b
23	0330-1130	FK8SIX/B, KG6DX, VK4,6RSX/b,8RAS/b
24	0620--0800	DU1EV/B, VK6RSX/b,8RAS/
	1110-1130	VKL4,6JQ,6RSX/b
25	0420-0630	VK4,6RSX/b,8RAS/b
26	0255-0300	V73SIX/B
	0620-0745	VK4WS,6RSX/b
27	0250-0430	FK8SIX/B, V73VE,SIX/B, VK4RTL/b
28	0340-0830	FK8SIX/B, VK4,6RSX/b,8RAS/b
29	0550-0630	VK6RSX/b

Elsewhere

Mar 10 04-0500 6K2,FK8SIX,VK4WS,VK4FNQ>HL1LTC

Mar 12 04-0500 VK4AWB>DS4 05-0600 VK4>VK3 VK4FNQ>HL2

Mar 13 05-0600 DS4EOI>KG6DX DS4>HL2

Mar 15 0559 JA1RJU>VK3 0717 VK6RSX>HL1

Mar 20 0429 VK4JH>HL1

Mar 22 0520 VK6RSX>HL1

Mar 23 16-1700 A61AH,IT9>VQ9JK 17-1800 9H1AW,9H1TM>VQ9JK

Mar 25 0507 VK4JH>HL1

Mar 28 9W2YCC(?)>VQ9JK

Beacon News and 28 MHz Worldwide

Compilation and Commentary by G3USF

Beacon News

Many listings in this section relate to developments after the nominal date of this Report.

14100-28200	VR2B reported back in service (May)
28190	5T5SN Nouakshott (IK28AC) runs 10 watts to GP (5T5SN May)
28201.5	SG3GK last reported April - may be off air
28203.6	WA3SNS Wattsburg PA new beacon (May)
28206	KB0LHB resumed operation from new location - Princeton MN in EN35 - with 5 watts to vertical (KB0LHB May)
28211	LA4TEN reported not operational since July 2004
28219.3	IQ1SP in JN44VC running 3 watts to omni (DJ7KG May)
28231	OH5RAC. Beacon keeper OH5IY has devoted much effort to improving his beacon's performance, including increasing the height of the antenna over the roof to 6m. He reports a local increase of 10db in the signal strength. The erp appears to have increased from about 0.6w to 6 watts. The antenna is a 2-element LPD with side minimum of 290 degrees, which is close to a UK bearing. Highest radiation will be towards Central Europe and the Arctic Ocean. Address for reports and comments oh5iy@sral.fi (Heard at G3USF 1 June)
28237	N4ES Clearwater FL returned to service (N4ES, May)
28237.5	LA5TEN reported not operational since Feb 05
28245	IT9DTU reported here (F5TDK May)
28246	VE9BEA returned to service (May VE9BEA)
28277	KD4MZM returned to service with new tx (May KD4MZM)
28282.8	Forestville NY (FN02JL new beacon with 4 watts to omni; site 1700 ft asl (KA2KGP May)
28290	KA9MGS. Apparently located in Illinois but apparently not at announced location!
28321.1	IS0GSR in JM49JN new beacon runs 100mw and operates QRSS3
28321.9	I0X new beacon in JN63CK with 100mw to GP reported here (DL8XW May)
28321.9	IK1ZYW relocated to 50k E Torino (JN35MC), 300mw QRSS (IK1ZYW June)
28322.6	F1VJ running 100mw in JN33; location may be St Germain du Puch (DK7KG May)
50007	PY0FF off air again (PY1RO June)
50024	VE9BEA returned to service (May VE9BEA)
50056	VA7SIX QRT (VE7SL)

28 MHz Worldwide

In his earlier commentary G0AEV depicted an, at best, very patchy month. The very poor conditions contributors noted at the start of the month held true almost worldwide. Although the geomagnetic field was at worst somewhat unsettled, the solar flux was initially down in the 70s. Conditions during the last week, when the flux was again back down in the 70s, were also rather thin but not as barren as at the beginning, probably for seasonal reasons.

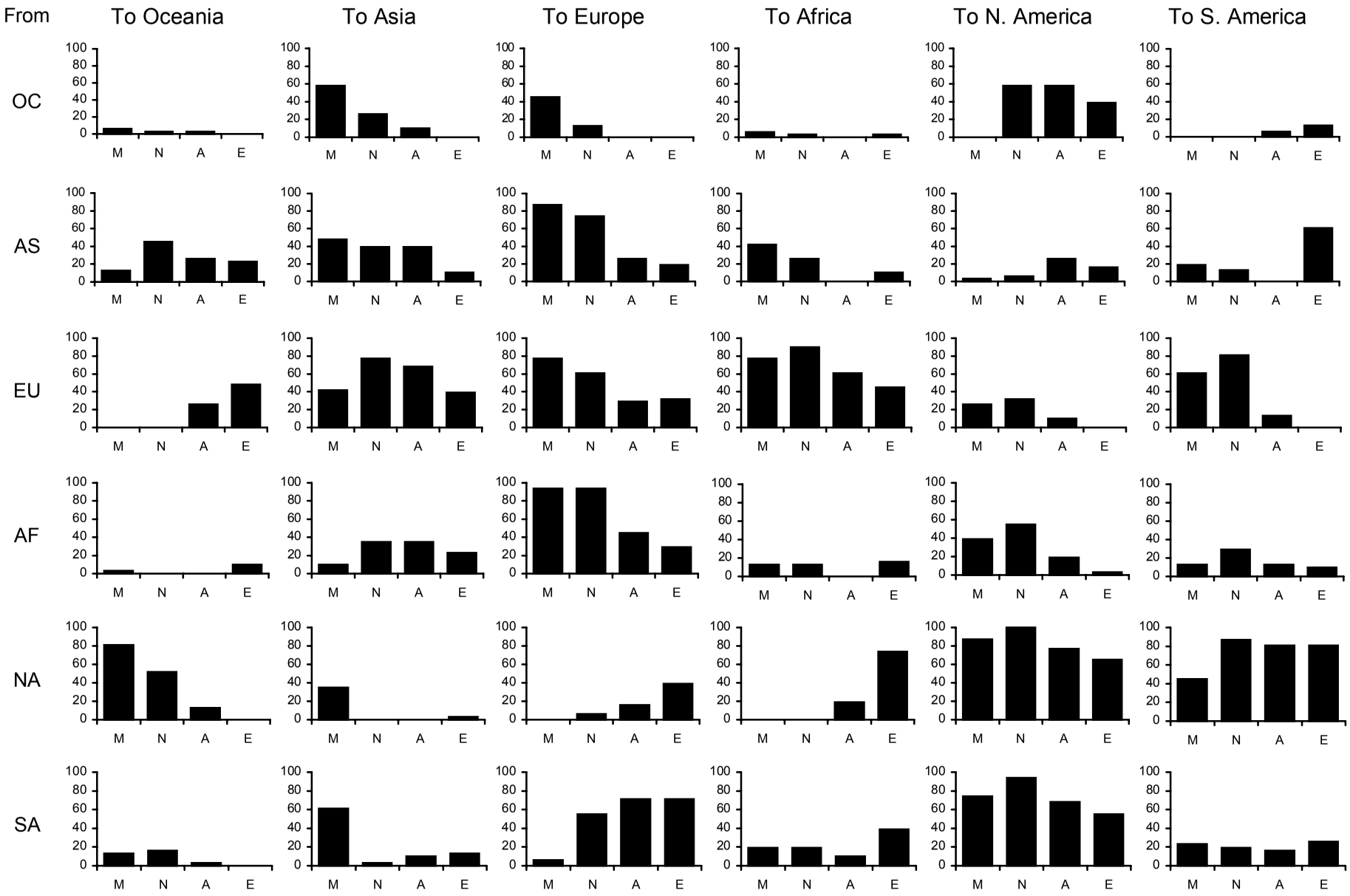
Taking experience at continental levels inevitably gives more substantial results - but no one place gets all the propagation. So, Europe worked into Oceania on no fewer than 15 days, but propagation reached the continent's western coast on less than half of these. North America was worked from Europe on 15 days too - but most openings were with countries to the south of the UK. Easier paths held up more consistently. Aided by the equinox Africa was worked every day bar the 4th and South America on 26 days. Even Asia (including its nearer parts) was contacted from Europe on all days but the 3rd, 4th and 18th, which was a poor day generally for no apparent reason. Similarly, North America had propagation into Oceania on 25 days and with South America on all 31 days. Africa, as usual, proved rather less consistent, with openings on 22 days. Asia was the most difficult continent for the Americans, with reports on a mere 11 days.
However, there intra-American reports every day, with several good Es days, thanks to a mix of F2 and Es. Europe had internal propagation by a mix of backscatter, F2 (rarely) and Es. As usual, there was a strong correlation between the 'good' days and contests, with BERU, the UA contest and WPX giving the results a substantial boost. The FT5XO expedition also stimulated activity, with good signals into Europe and Asia for long periods on the 21st, 22nd and 23rd. R1ANN also attracted much attention for substantial periods. During WPX G3SED worked KP4WQ at 2006 - a relatively easy path but late in the day, and working into South America continued well after this.

Even generally poor paths could, on occasion, produce fine results. So, there was very good propagation between the US and JA+9V on the (US) evening of the 5th (when the VK path was also excellent. Alert operators also found off-great-circle paths producing results where the direct route was closed. So a contact was reported between KB4XK and EA7RU at 1929 on the 5th with beams south and the watchful JG2KTH copied KQ6PK at 0010 on the 13th on a skewed path, followed by VK0MT at 0121, also on a skewed path.

As usual there were some 'early' or 'late' reports. These included RU1A reporting XE2AUB with a 'big signal' at 2122 on the 6th, 5T5SN copying the low-powered K6LLL beacon at 1921 on the 10th, PY3YD working VQ9LA at 0405 on the 19th, VU2DSI into LW9EOC at 1657 on the 21st and the same station with TI8CBT at 1455 on the 24th. Finally, there was one auroral report, with SM2LIY copying the OH9TEN beacon 55a at 1957 on the 9th.

Worldwide 298 MHz propagation graphs on the following page.

28 MHz Worldwide - March 2005



Time bands: M=Morning, N=Noon, A=Afternoon, E=Evening - used for the "To" continent