
VHF/UHF – An Expanding World

David Smith VK3HZ

Weak Signal

David Smith - VK3HZ

Welcome back from the season's festivities. I trust that the New Year's resolutions include improvements to the station, and more time on air to work the DX.

Of course, AR magazine also has a break over Christmas, so this report covers the period from early November to early January – double the normal period over what is often one of the busiest periods of the year. So, forgive me if I have missed some significant contacts.

What a season it has been so far. November was relatively quiet. December started with a burst of Es propagation, then went quiet before finally delivering a bumper few days of Es for Christmas and the New Year. But, I'm getting ahead of myself.

The morning of December 4th saw the first of the 2 m Es contacts. In a short and patchy opening, starting at 2348Z, Ron VK4DD worked Kevin VK3WN, Geoff VK3CNX, Alan VK3XPD and Andrew VK3OE. Other contacts included VK4KK to VK3OE and VK3WN, and VK4JMC to VK3WN,

On December 6th, several Brisbane stations were working up the coast nearly to Townsville (VK4FNQ) when Trevor VK3VG in central Victoria broke in. Trevor had been working on the computer in the shack and heard VK4BG and VK4DD chatting. The opening was only brief and he only managed to work Ron VK4DD.

December 7th saw two huge Es openings. The first, commencing at about 2230Z and lasting for 2½ hours, was from northern VK4 to VK5. Stations involved included VK4FNQ, VK4BKP, VK4BEG, VK4FP, VK5BC/MM, VK5PJ, VK5NY, VK5ACY and VK5ZK. Brian VK5BC was maritime mobile on a houseboat on the Murray north of Murray Bridge and worked John VK4FNQ using a 5/8 whip.

The other opening on December 7th was from VK2 and VK3 to southern ZL. At 0013Z, Steve VK2ZT worked ZL3OZ. Bob ZL3TY then got into the action. Over the next 2 hours, Bob worked 29 VK stations with the opening working its way south and then west along the coast of Australia. Bob reports that it is the best Es opening he has ever experienced. Stations worked include VK2BHO, VK2BZE, VK2ARA, VK2HN, VK3ZYC, VK3OE, VK3XPD, VK3MIR, VK3ESE, VK3DUT, VK3NX, VK3PY, VK3KAI, VK3WRE, VK3AKK, VK3RU, VK3QM, VK3TPR, VK3AMK, VK3HZ, VK3ZYS, VK3ALZ, VK3AFW, VK3SO, VK3AMZ, VK3BQJ, VK3CAT, VK3CMC and VK3WN. Also in the fray were ZL3JT and ZL3NW on the NZ team, and VK2BHO, VK2AH, VK2BXT, VK2BZE, VK2ZEJ, VK2HN, VK2GKA and VK2APG.

The following day (December 8th) was a lot quieter. At around 0400Z, Bob ZL3TY reported working VK2GKA and VK2ZT.

Things then quietened down considerably, with not a great deal to report until Christmas Eve. On December 24th, Bob ZL3TY reported working VK2FZ and VK2XTT. He also heard the Cooma beacon on 144.5875 and Ch5A Newcastle. Ron VK4DD reported hearing Joe VK7JG, and working VK3WN and VK5DK.

On Boxing Day, a high-pressure cell over Bass Strait produced some good tropo conditions between VK3 and VK7 with Joe VK7JG and Norm VK7AC working many VK3 stations.

On the evening of December 29th, another tropo opening produced some good signals from Adelaide into VK6. At about 0900Z, Rob VK6JRC worked Phil VK5AKK

and Brian VK5BC/P on 2 m. Bill VK5ACY worked Wally VK6WG on 2 m (5x5) and several times on 70 cm peaking to S9. Also working Wally on 70 cm were VK5AKK, VK5ZK and VK5BC/P

Then on December 30th, the heavens seemed to open – well, almost. A huge Es cloud descended upon east central Australia causing an extended opening lasting 5½ hours during which several VK records were broken. There was so much activity and so many stations involved that I couldn't hope to describe it all. Some of the notable contacts, showing the shifting conditions, are listed below.

The first inkling of the big opening was at 2153Z when Ray VK4BLK in Yepoon worked Rob VK1ZQR in Canberra. Kevin VK4BKP in Mackay then joined in working into VK2 and then VK3. Then Brisbane stations were working into Melbourne. At 2330Z, Matt VK2DAG worked across to Peter VK5ZPG. Then at 0000Z, Adam VK4CP worked Jeff VK5GF in Adelaide. At 0030Z, Norm VK7AC worked Andru VK4KAY in Mackay over a distance of 2254 km. At 0130Z, Wally VK6WG joined the fun and worked Bill VK5ACY via Es. At 0144Z, Wally worked Matt VK2DAG for a distance of 3080 km. 3 minutes later, he worked Steve VK2ZT to set a new VK2 and VK6 2 m record of 3140 km. At 0154Z, Bill VK6BE – 3 km closer than Wally - also worked both Matt and Steve. Bill also worked Col VK2KOL and Karl VK2GKA. After a short lull, at 0230Z, Ian VK1BG worked VK6WG for a new VK1 2 m distance record of 2819 km. At 0245Z, a short CQ from Brad VK2GWB was answered by Wally VK6WG. Then, nearly an hour later at 0320Z, Rob VK1ZQR worked VK6YAU (Wally's son running from Wally's QTH) to reset the VK1 record to 2830 km. Finally, at 0330Z, to round out an incredible day, Andrew VK3OE worked Bill VK6AS in Esperance. Bob VK6BE reported that it was one of the best days he has ever encountered. In the space of one hour, he worked VK2KOL, VK5THA, VK2BXT, VK2BCC, VK2ZT, VK5DJ, VK5BC, VK5KCX, VK5KC, VK2DAG, VK5AIM, VK5GF, VK5NZ, VK5OZ, VK2FZ, VK5ZBK, VK5ACY, VK1ZQR and VK2TP.

The following day – December 31st – saw more Es openings from VK2/4 to northern ZL and across eastern Australia. Again, there were many contacts, so I'll only mention a few. At 2300Z, Ross VK2DVZ worked ZL1SWW followed closely by ZL2TAL and ZL1IU. By 0130Z, the cloud had moved north, with Adam VK4CP working ZL1TPH. From about 0430Z, northern VK4 stations were working into VK3 and VK5. By about 0600Z, propagation had gone.

New Years Day brought another incredible Es opening from the east coast across to ZL. Things started at 2345Z with Ross VK2DVZ working ZL3OZ. Once again, there were too many contacts to mention. Contacts were flying between ZL1, 2, 3 and 4 to VK1, 2, 3, 4, 5 and 7. At 0100Z, Nick ZL1IU worked across to Jeff VK5GF (3179 km) and Garry VK5ZK, slightly closer. ZL1, 3 and 4 were worked by many stations in Melbourne – for many of the VK3's, this was their first ever ZL on 2 m. To add to the mix, at 0115Z, Brian VK5BC/P worked Wally VK6WG – possibly via Tropo. At 0146Z, Peter VK5ZPG worked Glenn VK4BG. Chris VK1DO/P was in the thick of things at his beach house on the southern NSW coast. He worked 15 ZL's easily, and then just for fun, he went mobile down to the shops. On the way, at 0215Z, he worked Nick ZL1IU setting a new VK 2 m mobile record of 2320 km.

The opening continued for over 4 hours until 0400Z. The map from the VK Logger showing the Spots gives some idea of what was happening – lines going every which way across the Tasman.



As an aside, Ron VK3AFW, one of the gentlemen of the air and technical boffin combined, was quite chuffed to have finally worked a ZL on 2 m. He writes:

On the 10th of January I will have been licensed for 48 years. I worked my first ZL on 2 m early in December 2008 just gone. There have been four or five openings since 1990 in which I have heard a ZL and listened while others worked him but I could not make the grade until a couple of weeks ago. I was out or not operational on 2 m for all other openings over the last 48 years.

Yesterday I worked 7 ZLs from the middle of the top part of the North Island to the bottom east coast.

Around the early to mid 1970's, I was engaged in a VK-ZL propagation experiment. Although we had official permission for an elaborate beacon detection and alarm system we never got the receiver working let alone the rest of the system. Not enough willing workers. As convenor I have to take the blame for not getting it completed by bullying more people and or doing more myself. A ZL in Christchurch was our contact (Terry Carroll I think) and their beacon was to be monitored. Ken McCracken took over the project but changed it to 6 m.

So to work a couple of stations around Christchurch was a bit like closure for me. And to work ZL1,3 and 4 was worth the wait. This season has produced the best couple of E's openings on 2 m to ZL in 50 years. If the band doesn't open again until next season it won't matter for me now.

There was one opening in the 1950's when a ZL was copied in Melbourne, including 5x9 by a mobile. As this was unheard of (all AM then) the group labelled the station a pirate and refused to work him. Of course the truth came out days later. I can only imagine the gnashing of teeth, ripping out of hair, banging of foreheads and general cussing that went on.

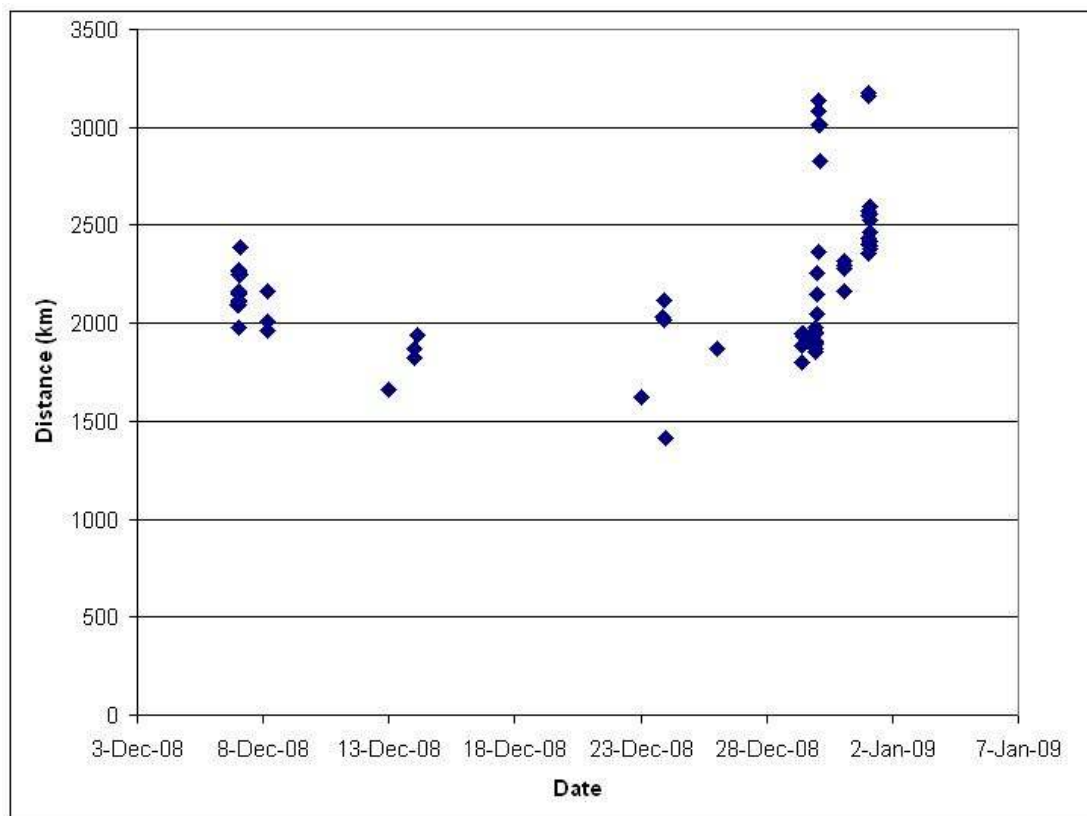
Anyway, I digress. On with the propagation reports.

January 3rd and 4th saw some good Tropo conditions across Bass Strait from VK7 to VK3. Norm VK7AC was putting a particularly strong signal across the water. On the 4th, there was an Es opening from VK2 to ZL1. At around 0030Z, the VK8RAS 2 m beacon was heard by both Peter VK6KXW near Perth, Steve VK2ZT and Col VK2KOL.

On January 6th, some good Tropo conditions occurred from VK2 to ZL. From a portable location at the very northern tip of ZL, Steve ZL1TPH reports working VK2ZT, VK2AMS, VK2KOL, VK2EI, VK2TG, VK2IDM and VK2EY on 2 m and VK2AMS, VK2ZT and VK2DVZ on 23 cm.

Then on the 7th, Steve had moved down the west coast of the North Island and reports working VK2DVZ, VK2AMS, VK2EI, VK2XW, VK2MAX, VK2TG and VK2BHO on 2 m and VK2ZT, VK2AMS and VK2DVZ on 23 cm.

Rex VK7MO created this chart from the VK Logger History page. It shows the 20 longest distance QSOs for each day from early December:



So, all in all, a bumper Es season so far, but the Tropo has not been outstanding. Let's see what the next few months bring.

All Not Plain Sailing

A few stories came out of the happenings over the last two months.

Although the E's seemed to be raining down upon us in Melbourne on New Years Day, with lots of activity from ZL, not all of the stations in the area were having success. Both Bryon VK3YFL and Doug VK3UM reported spending a fruitless day looking for any ZL contacts, with only a brief burst or two heard. After much checking of station performance, the conclusion that both of them came to was that their takeoff angle in the ZL direction (3 degrees for each) was just too much for them to work into the Es cloud. Perhaps portable/mobile operation is the answer next time.

Bob VK6BE was in the thick of things during the VK2-VK6 opening. While he worked many stations, he was not impressed with the operating technique of one VK2. It

seems that the VK2 was frequently calling on 144.1 and announcing he was listening on another frequency. However, he did not appear to be monitoring 144.1 and was calling over the top of whoever was on the frequency at the time. While stations are encouraged to QSY away from 144.1 (witness the dogpile on that frequency in Melbourne when the ZL's were thundering in), the regulations state that you must check that a frequency is clear before calling. A simple "is this frequency in use?" is all that's required.

Ross VK2DVZ almost succeeded in working Bob VK6BE. However, unfortunately the QSO was invalidated by some over-eager assistance from another station. Ross writes:

I missed out on completing a contact with Bob VK6BE during the E's opening that occurred on 30-12-2008 - a contact of about 3221 km that would have been rewarding, could it have been achieved. The potential to set a new VK2/VK6 distance record still goes begging as a result of an unknown well-meaning amateur located in VK5, insisting on relaying the signal report that Bob had given me, which I was unable to copy due to the initial QSB. Each time I asked for a repeat of my report from Bob, the unknown operator who had a stronger signal than Bob's insisted on stating '57', making it virtually impossible for me to read Bob's reply. Several times this happened during the brief window of opportunity, but as a result of the 'interference' the contact was unable to be completed as the QSB finally took out Bob's signal completely.

It's worth repeating that, for a valid QSO, the two stations must exchange callsigns and another piece of unknown information (usually a signal report). This must be done directly on air, without assistance from other operators, loggers, email, telephone etc.

Several operating practices that I observed caused some difficulties for others. Firstly, some operators insist on using non-standard phonetics for their callsign – America instead of Alpha, for example. Unfortunately, when a signal is being chopped up by Sporadic E, it becomes difficult to identify the parts of the phonetics that get through – instead of 26 options that the brain can choose from by filling in the gaps, the problem becomes much larger. I waited for over a minute in a queue to work one ZL while a local repeated his non-standard phonetics over and over without success. When he finally switched to standard phonetics, the callsign went through first time. The other thing worth mentioning is that Sporadic E openings often only last for a very short time. Unfortunately, some operators insist on having long-winded overs giving their life story, weather, etc, while others wait impatiently in the queue. All that is necessary for a contact is to exchange callsigns and signal reports - name and QTH if you must. However, please be brief and allow others to have a go.

Aircraft Enhancement

After many months (years) of trying, Barry VK3BJM in Kyneton has finally managed to work Peter VK5ZPG in Quorn. Barry writes:

Monday morning, and I was still in the shack at 2235z on 28/12/08. Tropo out to the west was unspectacular. I noticed a QANTAS flight QF575, travelling from Sydney to Perth, at an altitude of 40,000'. It was still in NSW, SW of West Wyalong, and had started tracking toward Berri, SA. Berri is in the mid-way region between Peter, VK5ZPG and myself. I posted a note on the Logger at 2241z, then gave Peter a call on the phone to make sure he would be listening. At 2248, and with the aircraft still about 6 degrees north of the beam heading (ie, at 316 degrees True; Peter is at 311 degrees True), I started calling. Just before 2250z, Peter appeared, and we

exchanged reports; I gave him 41, and gave me a 42. The opening lasted about a minute in total. The aircraft was just south of Berri at the time. The Logger calculated the distance at 795.5 km.

Interestingly, Michael VK3KH noted having heard quite a bit of Peter's side of the contact, too, which is a good effort. This bodes well for those in Melbourne with lower noise floors.

Please send any Weak Signal reports to David VK3HZ at ...

The Magic Band – 6 m DX

Brian Cleland – VK5BC

Many good openings in VK occurred during November particularly down the eastern seaboard and VK5. Conditions further improved during December with the first good openings to VK6 from VK5 occurring on the 9th and 10th of Dec. On the 9th, the band was open for most of the morning with many VK6 stations active and both the Perth VK6RPH and Bunbury VK6RBU beacons good strength into VK5. The same again on the 10th but this time the band also opened to Albany with Bob VK6BE and Wally VK6WG both working VK5's. Great to hear these old timers both active and as keen as ever.

At around 0500 UTC on the 14th December after a good day when the band had been open to most areas of VK including VK8 (Alice Springs and Darwin) as well as to Norm P29NB, Willem DU7/PA0HIP in Lapu-Lapu city, Philippines was heard calling CQ on CW by Paul VK4MA in Hervey Bay who completed a contact with Willem. CW contacts with Willem were then completed by Russel VK4BEG, Garry VK5ZK, Peter VK5PJ, Steve, VK3OT and Mark VK8MS. Willem was running 100 W from an IC746 into 2 x 5-el yagis.

Paul A35RK returned to Tonga mid December and immediately made an impact with contacts into VK and ZL on most days. This season openings to Paul seemed to be longer in length with signals generally stronger in strength than last season with many good openings occurring to the southern states, VK3, 5 and 7. Paul completed 145 contacts into VK/ZL on the 30/31 December which included 8 CW and 8 SSB contacts into VK6 on the 31st December. Most of the VK6 contacts were over 7000 km with reports of 5/3 - a remarkable feat.

Another station to add interest to this summer's E season has been Norm P29NB. Norm is located at Ukarumpa, in the Eastern Highland Province of Papua New Guinea, Lat.: S 06° 20.295' (20' 17.8"); Long.: E 145° 52.835' (50' 50.3"); Grid Locator QI23wp and at an altitude of 1550 Meters/5100' ASL, where Norm says the weather is beautiful most of the time.

Norm's station setup is as follows;

Radio: Current HF/6 Transceiver is an Icom IC-756ProII, usually running 100 Watts.

Antenna: The 6 Meter antenna is a 6-element Quagi, interlaced on the boom with an HF Quad antenna. The REF, DE and DIR1 are quad-type loops, and DIR2, DIR3 and DIR4 are all Yagi type elements, mounted on a 33 foot boom at 55 Feet above the ground on a crank up tower. The HF Quad has 5 elements on 10 and 12 Meters, and 4 elements on 15, 17 and 20 Meters. Pictured below are Norm's antennas:



Computer: Older Dell laptop that runs DX4WIN logging software, DigiPan v.2.0, CT for contesting, PROBE v7.0 for controlling a Radio Shack Pro-2042 scanner, and misc. other radio related programs.

Norm first worked into northern VK4 on the 8th November working 6 x VK4's. Further openings occurred on:

- 23rd November where Norm worked Dave VK1DJA,
- 6th December 10 xVK2's, VK3's OT, LY and MTV and VK4's BKP, BEG and SIX,
- 14th December, VK2's BHO and ZQ, 14 x VK3's, 11 xVK4's, 9 x VK5's and VK8's MS and RR.

Good work Norm.

On the 19th December Gary VK4ABW in Townsville heard 9V1UV calling CQ and completed a contact with Selva in Singapore at 5/7. Mark VK8MS in Darwin then worked Selva at 5/1.

Conditions in November/December have been very good from all areas of VK and ZL with many stations being active and it was possible to work all states of VK on many days. It is hope the good conditions carry on into January.

Please send any 6 m information to Brian VK5BC at ...