

Ham Hum

September 2013



The official newsletter of
The Hamilton Amateur Radio Club (Inc.)
Branch 12 of NZART - ZL1UX
Active in Hamilton since 1923



Next Meeting : Wed 18th September 7:30pm
Murray Greenman : Cheap dongles for SDR
receivers.

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From the Editor

Another successful Market Day is all done. Many thanks to all that helped, along with all the sellers and buyers.

Keep an eye out for our appearance on Central TV. I'm told an interview was taped recently and is being prepped to appear on TV soon.

The talk from Murray—ZL1BPU about using certain low cost dongles as a cheap SDR receiver should be a very good one. Highly recommended to all.

**Next Committee Meetings -
4th September & 2nd October**

Propagation de K7RA 7 September, 2013 ARLP036

Conditions were quieter again this week. Average daily sunspot numbers declined from 77 to 69, and average daily solar flux was off by 9.5 points to 106.9, when compared to the previous seven days, August 22-28.

Predicted solar flux for the near term is 105 on September 6-10, 100 on September 11-12, 110 on September 13, 120 on September 14-15, 115 on September 16-17, 110 on September 18, 105 on September 19-20, 110 on September 21-22, 105 on September 23-24, and 100 on September 25-28. It then is expected to reach a minor peak of 115 on October 4-5, then 120 on October 9-12.

These predictions come from a 45-day forecast. Yesterday, September 5, the solar flux was 110.1. The first prediction for that date in this series pegged it at 135, which maintained from July 22-28, then 105 on July 29 through August 4, 115 on August 5-11, 105 on August 12-18, 110 on August 19-28, 112 on August 29, 115 on August 30, 118 on August 31, 112 on September 1-2, and then they nailed it at 110 again on September 3-4. Note that these aren't the flux readings on those dates. They are the predicted values for September 5, as they varied from day to day in the daily forecast for the previous 45 days.

You can see those daily forecasts here:

<http://www.swpc.noaa.gov/ftpmenu/forecasts/45DF.html>

The planetary A index is in the same forecast. The latest has predicted planetary A index at 5 on September 6-8, 10 on September 9-10, 12 on September 11, 8 on September 12-14, 5 on September 15-16, then 12, 18 and 15 on September 17-19, 5 on September 20-22, and 8 on September 23-24.

The Autumnal Equinox (September 22 at 2044 UTC) is a little over two weeks away. Fall is always a great time for HF DX, when the sun casts an even glow over our northern and southern hemispheres. Although solar activity is weak, if this is Cycle 24's peak, now may be the best time for enjoying HF propagation for some years to come.

Or the Sun could fool us again. Remember that day-to-day variations in solar activity can swing wildly above and below any predicted smoothed or averaged sunspot or solar flux number. But we haven't seen much of that lately.

F.K. Janda, OK1HH offers his geomagnetic forecast. Mostly quiet conditions September 6-7, quiet to unsettled September 8, quiet to active September 9, quiet to unsettled September 10, quiet to active September 11, active to disturbed September 12, quiet September 13, mostly quiet September 14, quiet September 15-16,

quiet to active September 17, active to disturbed September 18, quiet to unsettled September 19-21, mostly quiet September 22, quiet to active September 23, quiet September 24-25, mostly quiet September 26, active to disturbed September 27, quiet to active September 28, mostly quiet September 29, quiet September 30, quiet to active October 1, and quiet on October 2.

Last week's Propagation Forecast Bulletin ARLP035 mentioned average sunspot numbers, but we were missing two days of data (from August 30-31) to get the complete average. As it turns out, those two days had low enough sunspot numbers that it actually dragged the 3-month moving average and the monthly average for August lower.

So the three month moving averages of sunspot numbers for periods ending in January through August 2013 were 82.8, 73.6, 80.7, 85.2, 106.4, 106.4, 97.5 and 85.6. The average daily sunspot number for the month of August was 90.2, up from 80.2 and 86.2 in June and July.

Thanks so much to Scott Bidstrup, TI3/W7RI in Costa Rica who sent a link to a fascinating article in Phys.Org News and Astronomy and Astrophysics about yet another failure to replicate earlier studies claiming a correlation between planetary positions and solar activity. In this case, the authors found several serious statistical errors in the earlier analysis. Read the article and abstract at, <http://phys.org/news/2013-09-evidence-planetary-solar.html> and http://www.aanda.org/index.php?option=com_content&task=view&id=966&Itemid=277.

Note that for a limited time, the full text of the paper is available for free by clicking on the "Register Now" button on that last page.

NASA has an updated prediction for sunspot Cycle 24, and like last month, they predict the peak for Summer 2013 (that's now!) but they have downgraded the expected smoothed sunspot number from 67 to 66.

Read it and weep at, <http://solarscience.msfc.nasa.gov/predict.shtml>. They do not have any archive of past predictions, but never fear, I have been keeping careful track.

A year ago, they sounded an optimistic note, when the September 2012 update changed from a peak of 60 in Spring 2013 to a peak of 76 in Fall 2013.

A month later in October it changed to a peak of 75 in Fall 2013, then in November it dropped to 73 in Fall 2013. In December the number was revised to 72, and in January 2013 the predicted peak was changed to 69. February's prediction was unchanged, then March 2013 revised the peak down again to 66. April and May were unchanged, and in June the prediction was revised upward from a peak of 66 in Fall 2013 to a peak of 67 in Summer 2013. July and August were unchanged, and now we have the number back down a point in again to 66 in Sep-

tember.

Lawrence, GJ3RAX sent us more nice VHF reports from the British Isles. The first, in an email on August 30:

"Sporadic-E openings on 6 m are starting to become quite rare at this time of year. I thought that the one on August 12 was going to be the last one. I had some nice QSOs that day with IS0, OE1, F4, HA5, OK2 and EA6. After that I did not catch any more until last Wednesday August 28 when 6 m opened again. I then had 8 QSOs into Germany, 3 into OK, one each with OE and SP. Those were between 1430-1545 GMT. A friend of mine told me afterwards that he was also getting some good ones on 4 m which I did not bother to check. I would probably have missed the opening if I was not using my IC-756 Pro 2 which I had left on 6 m with the panoramic display visible when I glanced at it. Any signals that are strong enough to work with SSB show up well. I do not use any of the other modes.

"The next two days also showed propagation at times. On August 29 I had one QSO with CT1EUB at 1200 GMT. On August 30 I was in QSO with EA7/G0WHX at 1030 GMT. The band opened again later after a QSO with F6HRP, who is relatively local, at 1720 GMT followed by CT1FJC.

"I have not had any QSOs on the HF bands recently. I listen at times but rarely hear anything on the bands from 17 m to 10 m which seems very strange considering that we are at about the peak of this solar cycle. I used to keep skeds on 17 m with friends in the USA and Canada. My antenna on those bands is an old Cushcraft R5 at only 10 feet above the ground. On 20 m I usually hear some European activity but often without hearing anyone speaking English. Even 40 m seems quieter than it used to be as I used to use it as a chat band during daytime with those in other parts of the British Isles. I have not been on 80 m recently, even at night, and it seems to be years since I used Top Band.

"Thanks for mentioning our VHF and Microwave groups on Yahoo. After that both gained new members from the USA. The VHFandUHF group is now up to 125 members."

And on September 6, another report:

"Every Tuesday evening there is a short VHF contest, organized by the RSGB, on a different band each week. They run from 8 pm to 10:30 pm local time, now still BST. This week, on September 3, it was on 2 m and conditions were interesting. I only come on for part of the contest each week as I never take them seriously from the competitive point of view. This time I started shortly after 9 pm and started with a QSO with an EI station, then G, GW and GD. My QSO with GD8EXI was my best DX that evening at about 356 miles, according to QRZ. After that it was all G stations apart from exchanging notes with some of the others here in GJ. One of them had worked up to GM but that might have been on CW. I only use SSB.

"I had heard reports of some of the more northern stations working down to EA8. I

did hear weak signal from the north of England, towards the end of the contest, working an EA8 so I turned my beam south but did not hear anything.

"The contest next Tuesday evening will be on 70 cm:

<http://www.rsgbcc.org/vhf/>.

"Wednesday morning, September 4, it was still good on 2 m and I worked 4 stations in the south of EI where it was mostly a sea path between us apart from a bit of Cornwall to get over. They were between 320 and 370 miles away. I also worked into the south of GW and a French station at about 200 miles near Paris. One of the EI stations wanted to try 70 cm as well although he knew that he had an antenna problem. We made it although it was rather marginal. Later he was able to fix the problem with his antenna so we tried again in the evening but nothing was heard. The region of high pressure had moved and it was raining at his end.

"I have heard nothing on 6 m since the QSOs on August 30 so it looks as if the Sporadic-E season is over and we are getting into the tropo season.

"There is the 144 MHz Trophy Contest this weekend on Saturday and Sunday. I am not expecting conditions to be good for that one but I will be on for some of the time but not while I am watching the F1 motor racing from Monza."

Thank you Lawrence.

Not hearing anything on 10 meters?

Check out "Tony's 10 Metre Band Report" from G4CJC:

http://www.southgatearc.org/bands/10metres/september2013/september_05.htm#.UimEfD_VV9M.

If you would like to make a comment or have a tip for our readers, email the author at, k7ra@arrl.net

For more information concerning radio propagation, see the ARRL Technical Information Service at

<http://arrl.org/propagation-of-rf-signals>.

For an explanation of the numbers used in this bulletin, see

<http://arrl.org/the-sun-the-earth-the-ionosphere>.

An archive of past propagation bulletins is at

<http://arrl.org/w1aw-bulletins-archive-propagation>.

More good information and tutorials on propagation are at

<http://k9la.us/>

Monthly propagation charts between four USA regions and twelve overseas locations are at <http://arrl.org/propagation>.

Instructions for starting or ending email distribution of ARRL bulletins are at <http://arrl.org/bulletins>.

Sunspot numbers for August 29 through September 4 were 55, 62, 60, 71, 84, 74, and 77, with a mean of 69. 10.7 cm flux was 108.8, 107.5, 107.5, 103.8, 105.6, 106, and 109.3, with a mean of 106.9.

Estimated planetary A indices were 3, 8, 11, 9, 10, 7, and 6, with a mean of 7.7. Estimated mid-latitude A indices were 4, 7, 11, 10, 11, 8, and 9, with a mean of 8.6.

VK High power trial limit ends: ACMA

The Australian Communications and Media Authority (ACMA) will withdraw its trial of the use of up to 1-kilowatt power output at the end of the month.

The ACMA met with the Wireless Institute of Australia (WIA) and said that based on data it obtained during the trial, it would end the temporary arrangement whereby radio amateurs could apply for the higher power limit.

The main reason put forward by the ACMA was the apparent lack of awareness of electromagnetic radiation requirements among the amateur radio community.

The WIA has long sought the higher power for Advanced licensees who claimed to be disadvantaged, mainly in contests, by having a 400w PEP limit when some other countries allow 1-kilowatt to be used.

When its sister IARU member society the New Zealand Amateur Radio Transmitters (NZART) recently received the higher limit on similar grounds, the WIA was encouraged to again pursue the matter.

The ACMA has previously dismissed WIA suggestions that higher power should be permitted, on the grounds that it would potentially cause interference.

However a lifting from 500w to 1,000w for New Zealand radio amateurs saw the matter being revisited by the ACMA.

The 18-month trial began in March 2012 and was due to end this month, allowing the ACMA and the WIA to evaluate any impacts before considering a long term arrangement.

The temporary arrangement confined the use of higher power to approved applicants on the 80m band including the DX window, 7000 to 7100 kHz, and the entire 20m, 17m, 15m, 12m and 10m bands.

Applicants seeking the variation of their licences to permit higher power were required by the ACMA to demonstrate compliance with the relevant exposure to radiation standard.

A very disappointed WIA has managed to keep the door open by convincing the ACMA to revisit the issue next year, and is certain to address the ACMA concerns.

What the ACMA found during the high power trial was a lack of awareness in the amateur radio community of the obligation to comply with the public exposure to electromagnetic energy - and this was not confined to any class of licence.

The ACMA carries out regular audits of radio amateurs on a random basis to test their awareness, knowledge and compliance with exposure limits that affect all users of the spectrum in Australia.

The issue of electromagnetic radiation is regularly raised with politicians. In 2003 that caused a Register of EMR Health Complaints to keep track of concerns.

You can read analysis at:

www.arpansa.gov.au/pubs/emr/Analysis12.pdf



'Ham Video' Transmitter is Now Aboard the ISS:

A Japanese cargo spacecraft has delivered an Amateur Radio on the International Space Station (ARISS <http://ariss.rac.ca/>) digital TV transmitter to the ISS. The equipment arrived August 9 and is being stored in the space station's Columbus module. Gear includes the transmitter, power supply, NASA-provided Canon XF-305 camera, and antenna cables, reports ARISS-Europe <http://www.ariss-eu.org/> Chair Gaston Bertels, ON4WF, who says the DATV transmitter is being dubbed "Ham Video."

"Installation will be done by US astronaut Michael Hopkins, KF5LJG, who has been trained for the commissioning of the Amateur Radio digital video equipment," Bertels said in a report posted on the ARISS-EU website <http://www.ariss-eu.org/>. Hopkins will be part of the ISS crew increment heading to the station next month. The 10 W EIRP S-band (2.4 GHz) Ham Video transmitter will use one of the L/S-band "patch" antennas installed on the ISS' Columbus module.

Commissioning will involve a series of tests that will be performed over the course of three or four orbits. Bertels says it's possible that the transmitter will send a continuous signal between commissioning steps, offering Amateur Radio ground stations a chance to test and tune their receiving equipment. "The transmissions will be performed in automatic mode, without requiring crew time," Bertels said. "The camera, which runs on a battery, will not be used, and the ground stations will receive a black image."

A preliminary "Experiment Sequence Test" (EST) is planned for August 28-29 in-

volving ARISS ground station IK1SLD in Northern Italy. "IK1SLD, an ARISS telebridge station often used for educational ARISS school contacts on VHF, has been upgraded for S-band reception," Bertels pointed out.

Italian manufacturer, Kayser Italia <http://www.kayser.it/index.php/exploration-2/ham-tv> has delivered a 1.2 meter dish, a down converter and precision tracking motors, all part of the ESA-funded equipment. "For the EST, the station will receive a DATV signal from a local, low-power S-band test transmitter," said Bertels. The decoded signal will be streamed over the web to the British Amateur Television Club <http://www.batc.org.uk/> server, to which BATC has offered ARISS free access. ESA investigators will evaluate reception via the streaming video. "The test transmissions at IK1SLD will cover the different frequencies and symbol rates available on the Ham Video transmitter," Bertels said.

Receiving the DATV signal will be the greater challenge, Bertels says. "[D]ecoding should be possible for a ground station equipped with a 1.2 meter dish, when the ISS is within a range of about 800 to 1000 km," he said in an overview paper <http://www.ariss-eu.org/HamTV.pdf> on the project. This would limit the DATV reception window to about 3 or 4 minutes during a favorable pass. "ISS tracking will be far more demanding than it is for receiving VHF signals," he added. According to Bertels, Kayser Italia is to provide five ground stations in Europe.

Once the Ham Video transmitter becomes operational, it will be used for ARISS educational contacts with schools in Europe. There are no immediate plans to deploy downlink video for ARISS contacts with US schools, in part because no North American ground stations have been planned. Read more <http://www.arrl.org/news/ham-video-transmitter-is-now-aboard-the-iss>. -- Thanks to ARISS-EU Chair Gaston Bertels, ON4WF; ARISS-EU; Kayser Italia

Source:

The ARRL Letter



Photographs needed for NZART promotional material

The Council of **NZART**, our national society, is preparing a promotional power-point for members to use. The aim is to feature as much New Zealand activity as possible in the photographs used.

If you have high-resolution photos of such activities as:
mobile operation, portable/hill top operation, AREC, home construction etc. then
please contact Stuart Watchman at the e-mail address below.

Please note: we request that photos submitted would become copyright to NZART.

Regards,

Stuart ZL2TW

for NZART Council

clareandstuart<at>xtra.co.nz

Reciprocal licensing – Japan and New Zealand

NZART reports that the New Zealand Administration (MBIE) and Japanese Administration (MIC) have signed an agreement formalising reciprocal licensing between the two countries.

Under the agreement:

the NZ General Amateur Operators Certificate will be recognised as equivalent to the Japanese First Class Radio Operator's qualification and

a NZ Amateur will be permitted by MIC to establish and operate a station as an amateur radio operator in Japan.

Similarly:

the Japanese First and Second Class (but not Third and Fourth Class) Radio Operator's qualification will be recognised as equivalent to the NZ General Amateur Operators Certificate; and

the holder of a Japanese First or Second Class Radio Operator's qualification visiting New Zealand may operate for up to 90 days using their Japanese assigned call sign, with the addition of the ZL prefix.

NZART Website: www.nzart.org.nz

4th October—NZART HQ Infoline
5-6 October—NZART Microwave Contest
5th October—NZART/WIA Oceania Contest SSB
12th October—NZART/WIA Oceania Contest CW
16th October—Club General Meeting
18th October—NZART HQ Infoline
27th October—NZART Official Broadcast
2nd November—Western Suburbs Junk Sale
3rd November—ZL1AIH Straight Key Night
24 Nov-1 Dec—WARO YL Activity Week
30 Nov-1 Dec—Bridge to Bridge Water Ski Classic (AREC)
1st December—KDMG Twin Sprint PSK & RTTY 80m
7-8 December—NZART Field Day Contest

For more information on any of the above please contact myself or any committee member.

AREC Event Operators Page

WRC Rally NZ/ Possum Bourne Rally	June 2013	Organiser : ZL1BNQ
Please contact the Section Leader with your team information and he will pass it on to Auckland.		

NZW SRA Bridge to Bridge Water-Ski Race	Nov 30—Dec 1 2013	Organiser : ZL1UPJ
<u>Position</u>	<u>Saturday Operator</u>	<u>Sunday Operator</u>
Base		
Start Boat		
Rescue Boat		
X-Band		
A.	Ngaruawahia/ Taupiri	
	Start/Finish at Point	
B.	Ngaruawahia Ramp	
C.	Ngaruawahia W/S	
D.	Horotiu	
E.	Pukete Ramp	
F.	Days Park	
G.	Fairfield Bridge	
H.		
I.		
J.		
K.	Between Pipe and F/Days	
L.		
	High Level Bridge	

Kairangi Hill Climb	September 2013		Organiser : ZL1IC
<u>Position</u>	<u>Operator</u>		
Start			
1. First bend			
2. Intermediate bend			
3. Top of hill			
4. Paddock			
5. Hall corner			
6. Above hairpin			
Finish			
Colville Connection	March 2014		Organiser : ZL1PK
<u>Position</u>	<u>Primary Operator</u>	<u>Secondary Operator</u>	<u>Other Operator</u>
Base			
Stony Bay			
Fletcher Bay			
Hill 1			
Hill 2			
Fantail Bay			
Ridge/Waikawau			

For Details about and to help with these events, contact the person indicated as the organiser for the event. See Page 1 for their contact information.

Club Information



Contacts :-

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88 Seddon Road, Hamilton

General Meeting: 1930 Third Wednesday of each month (except Jan)
88 Seddon Road, Hamilton

Homepage: <http://www.z1lux.org.nz>
eMail: branch.12@nzart.org.nz

HF Net: 3.575MHz LSB 1930 Mondays
VHF Net: 146.525MHz simplex 2000 Tuesdays

2m Repeater: 145.325MHz -600kHz split
STSP 146.675MHz -600kHz split
Repeaters: 438.725MHz -5 MHz split
ATV Repeater: Off air pending channel changes

Cover Photo: An RTL820T dongle.

Sender	Hamilton Amateur Radio Club (Inc) PO Box 606 Hamilton 3240
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