

Ham Hum

March 2013



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



Next Meeting :

Meteor Scatter—Kevin Murphy

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From the Editor

The speaker at the next general meeting on 20th March will be Kevin Murphy on Meteor Scatter. Having seen Kevin in action on other topics, and knowing his expertise on Meteor Scatter I can highly recommend this talk. It takes several technologies that we are familiar with in Amateur Radio and points them at moving objects in the sky.

The members had a great time operating ZL1 UX at the club rooms for the Jock White.

Hamilton Club is preparing a submission to the Hamilton City regarding the proposed plan. Any member can be part of this process, and at some stages of the process it is recommended. Check with a committee member for details.

And, you may have seen our clubrooms in the Waikato Times. Here is a snip from the paper if you missed it.

MEMORY BOXES

Heritage consultant Ann McEwan peeks behind the facades of the area's oldest structures.



Ann McEwan

Power generation is fairly topical these days and it also has a heritage dimension, which is recognised by the

Whereas Frankton had embraced electricity with some enthusiasm in the early 1910s, Hamilton initially remained loyal to gas power and lighting. After 1917 demand for electricity greatly increased across the whole borough.

Hydroelectric power schemes on the Waikato River at Horahora (1913) and Arapuni (1929) made more power available and thus supply rose to meet demand.

Power from Horahora was first transmitted to Hamilton in May 1921.

**Next Committee Meetings -
6th March & 3rd April**

The K7RA Solar Update

03/01/2013

This past week, there was a decline in the solar and geomagnetic indices: The average daily sunspot number dropped nearly 21 points to 57.7, while the average daily solar flux softened by 4.7 points to 100.9 and the average daily planetary A index declined 6.4 points to 5.1. This isn't much of a change, but geomagnetic activity was low already, and this is even lower.

Sunspot numbers for February 21-27 were 75, 79, 56, 25, 59, 49 and 61, with a mean of 57.7. The 10.7 centimeter flux was 108.5, 107, 99.6, 94.9, 95.4, 98.7 and 102, with a mean of 100.9. The estimated planetary A indices were 6, 9, 6, 3, 3, 5 and 4, with a mean of 5.1. The estimated mid-latitude A indices were 5, 9, 6, 2, 3, 4 and 4, with a mean of 4.7.

The predicted solar flux for the near term is 110 on March 1-3, 105 on March 4-7, 100 on March 8, 95 on March 9-14, 100 on March 15-16, 105 on March 17, and rising to 110 on March 18-20. The solar flux then reaches a peak of 120 on March 25-27, and on March 28-April 6, it looks like it will hover around 113. The predicted planetary A index is 12 and 8 March 1-2, 5 on March 3-4, 8 on March 5, 7 on March 6-7, 5 on March 8-10, 7 on March 11-12, and back down to 5 on March 13-20.

This weekend is the [ARRL International Phone DX Contest](#), which runs from 0000 UTC March 2 to 2359 UTC March 3.

Now that February is over, let's look at some updated averages. Our most recent three-month moving average -- centered on January 2013 -- is not impressive with its average daily sunspot number of 73.6. This is below every three-month moving average for last year, except the three months centered on March 2012, which was 71.2. The three-month moving averages of daily sunspot numbers centered on January 2012-January 2013 were 83.3, 73.7, 71.2, 87.3, 91.5, 96.5, 91.9, 89.9, 81.2, 82.3, 74.4, 82.8 and 73.6.

Jim Henderson, KF7E, of Queen Creek, Arizona, sent a link to an [impressive NASA video](#) of solar activity from last July. Note that you can set this video to HD resolution, and it looks great on full screen. You might also want to check out this [photo gallery of solar events](#). Note the dramatic composite image number 4.

Walt Knodle, W7VS, of Bend, Oregon, sent an [article](#) about artificial ionosphere with a 3.6 MW signal on 69 meters produced by the High Frequency Active Auroral Research Program ([HAARP](#)) facility in Alaska. Note that they are only able to produce the effect for 45 seconds.

Jim Smith, K3RTU, of Aston, Pennsylvania, operated on HF CW from Ridley Creek State Park in Southeast Pennsylvania (grid square FM29) on February 25. He wrote: "I hooked up with Bal, EA8BVP, in the Canary Islands. This CW contact took place early in the afternoon on 18.086 MHz. I had been trying to make a contact on 20 meters and was having no luck so I switched over to 17 meters and almost within minutes, I heard EA8BVP calling CQ. Both of our signal levels were S4 to S5. I frequently operate on 17 meter CW while out backpacking and more often than not, it provides me with good long distance contacts."

It looks like the path from the park to Canary Islands would be good in the early afternoon, with the best 17 meter signals that day from 1200-2200. Seventeen meters does look like a better bet, with 20 meters not catching up until after 2000.

All times listed are UTC, unless otherwise noted.

Amateur solar observer Tad Cook, K7RA, of Seattle, Washington, provides this weekly report on solar conditions and propagation. This report also is available via W1AW every Friday, and an abbreviated version appears each Thursday in [The ARRL Letter](#). You can find a guide to articles and programs concerning propagation [here](#). Check [here](#) and [here](#) for a detailed explanation of the numbers used in this bulletin. An archive of past propagation bulletins can be found [here](#). You can find monthly propagation charts between four USA regions and 12 overseas locations [here](#). Readers may contact the author via [e-mail](#).



NZART Top Monitoring System Observer Award

The purpose of this NZART Top Intruder Watcher Award is to encourage all listeners and radio amateurs to actively report unusual signals or suspected intruders on the allocated international and IARU Region 3 radio frequencies from VLF to Microwave. The purpose of these reports to assist the NZART Monitoring System Co-ordinator who collates and verifies potential intruders, who invade our precious finite radio frequencies. This information will be recorded for evidential purposes and where appropriate action taken to remove the intruder. There is a very long history of radio amateurs and listeners' providing such reports to ensure that the allocated frequencies are protected for the enjoyment of all.

What do you need to do?

Merely enjoy your scientific hobby, but report signals via the different means available via the NZART web site to the Monitoring System Co-ordinator. All re-

ports will be verified and collated into an annual league table and shown in the bi-monthly Break-in magazine and NZART Web pages. The person judged to be a prolific and solid Intruder Watch contributor during each year. The recipient will receive a free one year NZART (single) membership subscription and will be provided with an official certificate of merit of their achievement. The NZART Monitoring System Coordinator will ask for clarification or additional information as required to verify the report.

Conditions:

1. All past and present Monitoring System Co-ordinators are barred from entry for this award.
2. Send reports including date/time in GMT, Frequency, Readability, Strength, Tone (RST), Mode, direction of signal (if possible), and any relevant comments.
3. Send your reports to: MS@nzart.org.nz or via: intruderwatch@googlegroups.com
4. You do not need to be a current member of NZART to contribute towards the Top Watcher Award or to participate.
5. The award winner will be declared in November of the current year

-NZART



Successful launch for Amateur Radio STRaND-1 Smartphone Satellite

The first UK CubeSat, STRaND-1, was launched on Monday, February 25 at 1231 UT on the PSLV-C20 rocket from the Indian Space Research Organisation (ISRO) Satish Dhawan space centre

Deployment from the launch vehicle into a 785 km orbit took place about 20 minutes later.

Signals from STRaND-1 were received by Nader Omer ST2NH in Sudan at 1555 UT and by the

Surrey Space Centre during Monday evening.

STRaND stands for Surrey Training, Research and Nanosatellite Demonstration

and the programme is intended to be a long-term arrangement between the space company SSTL and academic researchers at the Surrey Space Centre (SSC), with STRaND-1 the first of a long line of STRaND nanosatellites.

The SSTL employees and SSC researchers involved with the STRaND programme are all volunteers. It is a condition of the programme that volunteers from SSTL and SSC use their own, free time for STRaND activities (such as lunches and breaks). The project has no budget for staff so is entirely dependent on volunteers.

The innovative STRaND-1 CubeSat was built and tested in just three months. It will demonstrate the feasibility of using cheap smartphone electronics to control a spacecraft. STRaND-1 carries an amateur radio AX.25 packet radio downlink on 437.568 MHz using 9k6 bps FSK modulated data HDLC frame, NRZI encoding.



Watch the launch of Indian PSLV Rocket with STRaND-1

<http://www.youtube.com/watch?v=snOF9nG1-EU>

Amateur radio was mentioned in the BBC News report on the launch at <http://www.bbc.co.uk/news/technology-21577780>

Further information on STRaND-1 at <http://amsat-uk.org/satellites/strand-1/>

Amateur radio frequencies for other satellites on the same launch are at <http://www.amsat-uk.org/?p=12180>

AMSAT-UK <http://www.amsat-uk.org/>

Join or Renew your AMSAT-UK membership at http://shop.amsat.org.uk/shop/category_7/Membership-of-AMSAT-UK.html

STRaND-1 - Telemetry wanted

The **STRaND-1** team have asked if radio amateurs can assist in collecting telemetry from around the world to help them determine the health and attitude of the spacecraft

The downlink uses amateur radio AX.25 packet radio on 437.568 MHz using 9600 bps FSK modulated data with HDLC frame, NRZI encoding.

Dr Chris Bridges would be delighted to receive all available files by email to C.P.Bridges@surrey.ac.uk

STRaND-1 information - <http://amsat-uk.org/satellites/strand-1/>

AMSAT-UK <http://www.amsat-uk.org/>



Waikato VHF Group Branch 81 NZART

As you may be aware, the Waikato VHF Group owns and operates a large number of repeaters around the Waikato and BOP, along with a number of beacons. The group has great expertise at operating and maintaining this equipment, including the new WaiPlenty network of linked repeaters that resulted from the move away from Mt Te Aroha due to the problem of huge amounts of stray RF coming down the feed line, the increased fees to use that site and the difficulty with access to their equipment.

The WaiPlenty network currently has sites at :-

Te Uku (Raglan) 145.675

Te Weraiti (Kaimai ranges) 146.950

Maungakawa (NE of Huntly) 145.575

As you might expect, those sites, along with the frequencies to link them all to-

gether result in a rather large collection of licenses that need to be paid every year. The VHF Group funds these out of membership fees and through license sponsorships. Any amateur is able to help fund these repeaters by joining the Waikato VHF Group (in addition to their local club) or by sponsoring one of the licenses.

A record is kept at <http://www.zl1is.info/sites.html> of those who wish to be acknowledged for their support in a public way, or the club can record it as anonymous (or something similar).

If you are interested, take a look at <http://www.zl1is.info/sites.html> or <http://www.zl1is.info/join.html> or send an email to branch.81@nzart.org.nz

-ZL1DGK

World Amateur Radio Day 2013

This year's theme for **World Amateur Radio Day**, April 18, is '*Amateur Radio: Entering Its Second Century of Disaster Communications*'

The International Amateur Radio Union (IARU) E-letter reports:

Each year the IARU Administrative Council selects a theme for World Amateur Radio Day (WARD) for the following year. WARD takes place each year on April 18. At the November, 2012 Administrative Council meeting the AC adopted the following proposal: "The theme 'Amateur Radio: Entering Its Second Century of Disaster Communications' was adopted for the next World Amateur Radio Day, April 18, 2013."

The selected theme for 2013 is a excellent opportunity for amateur radio emergency communications or disaster communications groups to take advantage of the WARD to highlight the role amateur radio plays in disaster communications and disaster response. IARU member-societies could arrange amateur radio demonstrations in public places such as parks or shopping areas. Prepared handouts could explain the benefits of amateur radio in times of emergency or disaster. A ham radio demonstration in public areas usually generates inquiries and questions from the public about amateur radio and it also provides a great opportunity to attract

new ham radio operators. If you plan on such a demonstration, don't forget to include some young people from your society so that young people who happen by the demonstration can see that amateur radio activity can be enjoyed by people of all ages.

In 2013, April 18 is a weekday. However, that doesn't prevent the public activity from taking place on the weekend before or after April 18. The idea is to gain as much exposure and publicity for amateur radio as possible.

Emergency communications groups might also combine a public demonstration for WARD with a simulated emergency test (SET).

WARD also provides an opportunity for amateurs to give presentations about ham radio to such groups as civic organizations, charitable groups, etc. For example, Rotary Clubs and Lions Clubs are only two of many worldwide organizations who have weekly meetings and these organizations are always looking for interesting and informative programs to present to their membership. There are very few experienced hams who can't talk for 15 or 20 minutes about ham radio in a positive fashion. Don't make the talk too technical. Stress the fun aspects of ham radio and the opportunity to assist in times of disaster. Keep the presentation to about 20 minutes to allow time for questions.

The fact that World Amateur Radio Day only happens one day each year shouldn't prevent IARU member-societies from promoting ham radio all during the year of course. Some member-society officials have expressed concern about a decrease in the number of new amateurs entering ham radio in their country. Upon further examination and discussion, it turns out there are many activities that societies could be involved in to increase public exposure to amateur radio but many are not taking advantage of those opportunities. WARD provides an opportunity to get out and make the effort to show the public what ham radio is about.

IARU <http://www.iaru.org/>



CQ launches online photo gallery

CQ magazine has announced the launch of the online CQ Photo Gallery to supplement photos published in the magazine.

"We shoot photos at many events, and receive many photos from readers, that we

don't have space to put in the magazine," said CQ Editor Rich Moseson, W2VU. "But we still want to share them with our readers. The new CQ Photo Gallery allows us to do that."

The photo gallery resides on the flickr.com web site and is organized into albums called "sets." Initial sets include CQ cover images; the "CQ Garage," featuring ham radio license plates from all over; news photos from the FCC's field hearing on communications lessons from Superstorm Sandy, and reader-submitted photos. Moseson recommended that readers check into the gallery site frequently, as new photos will be added regularly.

The CQ Photo Gallery may be accessed at <http://www.flickr.com/photos/cqphotogallery/sets>.



**There is only one
NEW ZEALAND ASSOCIATION
of
RADIO TRANSMITTERS.**

It serves you at
local, national and international
levels.

*It deserves our full support
if we are to continue to have
the frequencies and operating privileges
we currently enjoy.*

**The Association
is what you and I make it.**

Upcoming Happenings & Events

<i>Date</i>	<i>Happenings & Events</i>
1st March	NZART HQ Infoline
2nd March	Paengaroa Junk Sale (Te Puke, Br 53)
4th March	HF Net, 3.575 MHz, 19:30
5th March	VHF Net, 146.525 MHz, 20:00
9th March	Colville Connection (AREC)
11th March	HF Net, 3.575 MHz, 19:30
12th March	VHF Net, 146.525 MHz, 20:00
15th March	NZART HQ Infoline
18th March	HF Net, 3.575 MHz, 19:30
19th March	VHF Net, 146.525 MHz, 20:00
20th March	Club General Meeting
25th March	HF Net, 3.575 MHz, 19:30
26th March	VHF Net, 146.525 MHz, 20:00
30-31 March	NZART Technology Conference - Auckland
31st March	NZART Official Broadcast

5th April—NZART HQ Infoline
6-7 April—NZART Low Band Contest
13-14 April—NZART Thelma Souper Memorial
17th April—Club General Meeting
19th April—NZART HQ Infoline
20th April—KDMG RTTY 80m
27th April—KDMG RTTY 40m
28th April—MZART Official Broadcast
3rd May—NZART HQ Infoline
3rd May—NZART Sangster Shield
4th May—Wanganui Junk Sale
17th May—NZART HQ Infoline
26th May—NZART Official Broadcast
1-3 June—NZART Conference—Masterton
8-9 June—NZART Hibernation Contest
1st July—NZART Memorial Contest
27th July—Waitakere Sprints SSB
3rd August—Waitakere Sprints CW
3-4 August—NZART Brass Monkey Contest
2nd September—NZART Doug Gorman Memorial Frequency Measurement Contest
5-6 October—NZART Microwave Contest
7th September—SPAM Nostalgia Night
1st October—NZART/WIA Oceania Contest SSB
2nd October—NZART/WIA Oceania Contest CW
3rd November 2013—ZL1AIH Straight Key Night

AREC Event Operators Page

WRC Rally NZ/ Possum Bourne Rally	June 2013	Organiser : ZL1DK
Please contact the Section Leader with your team information and he will pass it on to Auckland.		

Rollo's Marine Bridge to Bridge Water-Ski Race	October 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.	Malcolm St	
I.	Narows	
J.	Field Days	
K.	Between Pipe and F/Days	
L.	High Level Bridge	

Kairangi Hill Climb	September 2013		Organiser : ZL1IC
<u>Position</u>	<u>Operator</u>		
1.			
2.			
3.			
4.			
5.			
School C ycling	July 2013		Organiser : ZL1IC
<u>Position</u>	<u>Operator</u>	<u>Position</u>	<u>Operator</u>
1.		5.	
2.		6.	
3.		7.	
4.		8.	
Colville Connection	9th March 2013		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			
Stand B y			

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

Club Information



Contacts :-

Business Meeting: 1930 First Wednesday of each month
88 Seddon Road, Hamilton

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

Homepage: <http://z1ux.tripod.com>
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: 615.250 Ch39 (off air)

Cover Photo: Image from tvmhams at blogspot or phillipmartin.info

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