

Ham Hum

June 2013



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



Next Meeting :
Wed 19th June 7:30pm

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NZART Examiners: ZL1IC, ZL1PK & ZL1TJA

From the Editor

Our annual Market Day is coming up fast. This year it's happening on Saturday, 17th August at the Waikato Table Tennis Clubrooms on Edgecumbe St. Further information can be obtained from Robin ZL1IC.

Winter seems to have arrived which seems to slow everyone down a bit for the next few months. It's the time when valve driven gear comes in very useful.

It appears there are two vacancies on NZART Council for the ZL2 area. If you know anyone who would qualify, get them to contact the NZART President at z1tgc@nzart.org.nz

**Next Committee Meetings -
5th June & 3rd July**

SB PROP ARL ARLP021

ARLP021 Propagation de K7RA

Overall, solar activity is still pretty quiet, but one positive sign was on May 16, when the daily sunspot number was 212. I eyeballed the records, and had to keep searching further and further back to find a higher sunspot number.

One year, six months and one week earlier, on November 9, 2011 the sunspot number was nearly that high, at 208. We look clear back seven years, 10 months and 12 days to July 4, 2005, another near miss at 192. To find activity beating the May 16 number we have to go back nearly a decade, to November 1, 2003 when the daily sunspot number was 277. This was way back on the downward side of cycle 23, nine years, six months and 15 days earlier than our recent high number. Let's hope for many more days like this. That seems likely, as the peak of this solar cycle is predicted for this fall, which begins about four months from now, on Sunday, September 22.

Compared to the previous period (May 9-15) average daily sunspot numbers this week were down over 12 points to 144. Average daily solar flux sank nearly 6 points to 134.2. Geomagnetic activity was higher, with average daily planetary A index up 3.7 points to 9.7, and average daily mid-latitude A index up 4.4 points to 10.3. It should be noted that five of the eight daily geomagnetic readings which make up the A index were not recorded for May 16 at the mid-latitude observatory, so the mid-latitude A index of 12 for that day is an estimate.

The latest prediction from NOAA/USAF has solar flux at 135 on May 24-25, 130 on May 26-27, 135 on May 28-29, and then 130, 115, 105 and 110 on May 30 through June 2, 120 on June 3-5, and 125 on June 6-8, before rising to a short-term peak of 140 on June 12-13. This prediction is a bit far off, but it also shows a minimum flux value of 100 on June 26-27.

Turning to geomagnetic activity, predicted planetary A index is 15, 20, 12 and 8 on May 24-27, 5 on May 28 through June 10, and then 8, 12 and 8 on June 11-13, 5 on June 14-17, and then 15, 12, 8 and 5 on June 18-21. On June 24, a month and about one solar rotation from now, they show planetary A index rising from 5 to 15, perhaps an echo of current geomagnetic activity.

OK1HH predicts active to disturbed geomagnetic conditions May 24, quiet to active May 25, mostly quiet May 26-27, quiet to active May 28, quiet to unsettled May 29, quiet May 30, quiet to unsettled May 31 through June 1, mostly quiet June 2, quiet to unsettled June 3, quiet June 4-8, mostly quiet June 9-10, quiet to active June 11, active to disturbed June 12-13, quiet to unsettled June 14, and mostly quiet June 15-16.

The CQ World Wide WPX Contest, CW weekend begins tonight/tomorrow at 0000 UTC May 25. The geomagnetic activity predicted for this weekend may add some

additional challenge to the test, which has a new set of rules. The multiplier used is the number of unique call sign prefixes of stations worked. See details at <http://www.cqwp.com/rules.htm>.

The current geomagnetic activity is due to a May 22 M5 class solar flare, which is expected to deliver a glancing blow to our geomagnetic field today, May 24.

Jon Jones, N0JK reports that during a six meter e-layer opening last Sunday evening observed from coast to coast in North America, a rare Australia to North America opening took place. From 2355 UTC on May 19 until 0032 UTC on May 20 on CW VK4MA worked W9FF, NW0W, K9ZM, WZ8D, W9WZJ and K0GU. It appears the longest distance was to WZ8D, about 9,041 miles. N0JK believes the propagation path was via e-layer linked to trans-equatorial propagation.

Last Friday, May 17 Jim Smith, K3RTU took his backpack rig into Ridley Creek State Park in Southeast Pennsylvania (FM29). He wrote: "After some hiking I set up my Buddistick vertical and new KX3 about 1730. I tried 15 meters first, but had no luck and only heard a few stations, so I readjusted the antenna for 17 meters and after a few minutes worked Duncan, EA5ON/M with SSB and got a 54 report. Not too bad for vertical to vertical, but the QRN on his end was troublesome. Duncan told me it was raining there with lots of atmospheric noise and later contacts with Western Europe confirmed the bad weather was pretty wide spread. Then over the next two hours worked Dave VP5/W5CW (my report 59), Mario DJ2OR (55), Carolyn W5/G6WRW near Santa Fe, NM (53), Al VE7WJ (53), Joe DF9ZP (59), KB5AVE (56), and last, Mike IF9ZWA (55) on Favignana Island off the coast of Sicily. What amazed me the most was that I had good propagation both east and west of my location which I don't always find to be the case."

And finally, I just ran across a previously overlooked email from Wayne Mills, N7NG of Jackson Hole, Wyoming sent on January 4, 2013, reflecting on cycle 19. Wayne said, "I have seen all of the solar peaks since 1956. What I have to say, however, is that I had absolutely no expectation of what cycle 20 might be like. The reason was that when I was a sophomore in high school in 1958, I had NO IDEA what sunspots were.

I started working DX in 1956 with 90 watts and a low 40M dipole. I was on 20M CW ONLY. No worries about other bands, what might be open, what long paths might be open. Just listen and work what I heard.

It was just a few high school friends and me; we had very little contact with local DXers. Eventually, I ran into W6MX (Honor Roll 1955) and W6BAX, a serious DXer and learned a few things.

Soon, I put up a 2 element 20M beam, and then I had to worry about where to point it. Still, it took more than 2 years to work DXCC.

Things will never be the same."

For more information concerning radio propagation, see the ARRL Technical Information Service at <http://ar1.org/propagation-of-rf-signals>. For an explanation of the numbers used in this bulletin, see <http://ar1.org/the-sun-the-earth-the-ionosphere>. An archive of past propagation bulletins is at <http://ar1.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://ar1.org/propagation>.

Sunspot numbers for May 16 through 22 were 212, 198, 146, 113, 113, 119, and 107, with a mean of 144. 10.7 cm flux was 144.7, 136.4, 132.1, 135.3, 132, 125.3, and 133.4, with a mean of 134.2. Estimated planetary A indices were 14, 9, 21, 12, 7, 7, and 12, with a mean of 9.7. Estimated mid-latitude A indices were 12, 9, 16, 11, 6, 8, and 10, with a mean of 10.3.



Twister stuff of nightmares: Kiwi storm-chaser

{A story about NZART Councillor ZL1TAJ resident in Tauranga}

Neill Ellis travelled from his home in the Bay of Plenty to "Tornado Alley" in the United States to fulfil a lifelong dream.

But what he witnessed when a huge twister ripped through the community of Moore on the outskirts of Oklahoma City was the stuff of nightmares.

The Tauranga man was the only Kiwi in a group of Australian and American storm-chasers on a five-week trip to the region, where tornadoes are a regular occurrence.

"These things are amazing to see - they're beautiful - but only when when they're out in the fields," Mr Ellis told APNZ.

He thought the trip, which he had been planning for years, might be a disappointment because cold weather kept tornadoes at bay for the first couple of weeks.

But things soon picked up and he witnessed at least nine tornadoes, including one last week which devastated the Texas town of Granbury, killing six people.

"The last couple of weeks have been pretty spectacular," he said.

On Monday, the group stopped for lunch in Oklahoma City before chasing some weather systems developing to the south.

"We didn't get that far because we realised that the latest couple of radar scans

showed a rapidly-developing supercell thunderstorm approaching Oklahoma City on a direct-hit path.

"We did a U-turn and came back into the city. It developed really rapidly and we got ourselves in a spot where we could see it [the tornado] cross I-35 - the interstate highway - pretty much right in front of us."

They were about 1 km away from the huge tornado, which spat debris as it shifted towards them.

"The roar from this thing was just incredible. It was a very, very scary noise," he said.

"I can't describe what it was like, you had to be there, the video footage just doesn't do it justice."

They fled as it got closer and the debris



started getting larger, but returned about an hour later to see if they could help.

"We got some gloves on the way back in, not only for us but some extras as well, and we helped with the search and handed out gloves to people who were looking for their stuff.

"It was terrible. I've never seen anything like it. And we weren't even in the worst-hit side of town."

He and his group helped look for survivors and to recover people's belongings until it was dark, and when police told them to move on.

"It was pretty much quiet because people were listening very carefully to see if they could hear anyone trapped, except lots of people were just calling 'hello, hello' and listening for a response."

The group also went to Plaza Towers Elementary, the school demolished in the twister, to hand out sandwiches and bottles of water to rescuers who had spent

hours searching through the rubble.

"We saw parents there who were asking questions of us but we didn't know what was going on and that was just terrible. It was probably the hardest part of the whole thing actually, not being able to tell them anything. They were desperate for answers and nobody had them."

Mr Ellis said he and others who were on the ground were still trying to comprehend what they witnessed.

"To be frank, I haven't looked at any of the media coverage. It's been pretty hard on all of us and I've just chosen not to."

Mr Ellis flies back to New Zealand on Monday, where he is to resume his job as a biomedical technician fixing medical equipment.

[APNZ](#)

MARKET DAY:

Waikato Table Tennis Stadium

Edgecumbe Street

Hamilton

Saturday, 17th August, 2013

Selling commences at 10am

First picture from ESTCube-1 ham radio Cube-Sat

The first picture taken by the amateur radio CubeSat **ESTCube-1** in space has been released.

ESTCube-1 was launched from Kourou in the Caribbean on May 7 at 0206 UT on an ESA Vega rocket into a 704 km orbit.

The hard work of the first two weeks has paid off and the CAM team, led by the University of Tartu Computer Technology graduate student Henri Kuuste has this to say: The camera works perfectly and so do all the other subsystems, needed for taking the photo. The first image was captured on May 15 over the Mediterranean Sea, showing the sea, Sahara desert, and Tunisia.

On Monday, May 13 the whole ESTCube-1 team was invited to the reception of the rector of University of Tartu to celebrate the success of the satellite. Watch the video (in English) at <http://www.uttv.ee/naita?id=17163>



ESTCube-1 was built by students at the University of Tartu. The main mission of the satellite is to test electric solar wind sail technology, a novel space propulsion technology that could revolutionize transportation within the solar system. It will deploy a 10 meter conductive electrodynamic tether and the force interacting with the tether will be measured.

The technology is based on the electrostatic interaction between the electric field

generated by the satellite and the high-speed particles being ejected from the Sun. A spacecraft utilizing this method would first deploy a set of electrically charged wires, which allow to generate an electric field over a large area. This area effectively forms a "sail" that can be pushed by the charged particles by being diverted by it and therefore transferring momentum to the craft.

ESTCube-1 uses these frequencies:

437.252 MHz – CW beacon, callsign ES5E/S

437.505 MHz – 9600 bps AX.25 telemetry, callsign ES5E-11

Electric solar wind sail

<http://www.electric-sailing.fi/>

EstCube on Facebook

<https://www.facebook.com/estcube/>

EstCube website

<http://www.estcube.eu/en/home>

Wiki EstCube-1

<http://tinyurl.com/WikiESTCube-1>

Heathkit is back with a survey

There is a survey from **Heathkit** here (be warned - it's fairly long) and it includes an opportunity to sign up to a mailing list:

<http://heathkit.com/survey/index.php/278489?lang=en>

This is a bit of a surprise after the apparent final demise of the Heathkit company and name last year.

Graham, G3ZOD



the news of my death has been greatly exaggerated.

Significant milestone for SKA

The *South African Radio League* report that the first scientific paper based on observations performed with South Africa's new **KAT-7** radio telescope, has been accepted for publication by the prestigious journal *Monthly Notices of the Royal Astronomy Society*.

"This is a significant milestone for South Africa's SKA project, proving that our engineers are able to deliver a cutting-edge scientific instrument, and that our scientists are able to use it for frontier science," says Derek Hanekom, Minister of Science and Technology.

"It bodes well for the delivery of our 64-dish MeerKAT telescope, currently under construction in the Karoo, and for our ability to play a key role in building and commissioning thousands of SKA antennas over the next ten years."

Using the new KAT-7 telescope in the Karoo and the existing 26 m radio telescope at the Hartebeesthoek Radio Astronomy Observatory (HartRAO), South African and international astronomers have observed a neutron star system known as Circinus X-1 as it fires energetic matter from its core in extensive, compact jets that flare brightly. The details of the flares are visible only in radio waves.

Read the full story and watch a brief video on www.amsatsa.org.za/



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

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is what you and I make it.**

Upcoming Happenings & Events

<i>Date</i>	<i>Happenings & Events</i>
1-3 June	NZART Conference—Masterton
2nd June	NZART Conference Official Broadcast
3rd June	HF Net, 3.575 MHz, 19:30
4th June	VHF Net, 146.525 MHz, 20:00
7th June	NZART HQ Infoline
8-9 June	NZART Hibernation Contest
10th June	HF Net, 3.575 MHz, 19:30
11th June	VHF Net, 146.525 MHz, 20:00
17th June	International QRP Day
17th June	HF Net, 3.575 MHz, 19:30
18th June	VHF Net, 146.525 MHz, 20:00
19th June	General Meeting
21st June	NZART HQ Infoline
24th June	HF Net, 3.575 MHz, 19:30
25th June	VHF Net, 146.525 MHz, 20:00
30th June	NZART Official Broadcast

5th July—NZART HQ Infoline
6-7 July—NZART Memorial Contest
16th July—Franklin Club Junk Sale
17th July—Club General Meeting
19th July—NZART HQ Infoline
27th July—Waitakere Sprints SSB
28th July—NZART Official Broadcast
2nd August—NZART HQ Infoline
3rd August—Waitakere Sprints CW
3-4 August—NZART Brass Monkey Contest
16th August—NZART HQ Infoline
17th August—Hamilton Market Day
25th August—NZART Official Broadcast
2nd September—NZART Doug Gorman Memorial Frequency Measurement Contest
5-6 October—NZART Microwave Contest
19th October—Western Suburbs Junk Sale
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
1st December 2013—KDMG Tw in Sprint PSK & RTTY 80m
7-8 December 2013—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 : 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.		
I.		
J.		
K.		
L.		

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	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			
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



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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: LUSO crank up tower displayed at Dayton Hamvention. Max height 44m. See <http://www.luso.us>

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