

# Ham Hum

June 2018



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



**Next Meeting**

**Conference report & Gavin (ZL1GWP)**

**7pm 20th June**

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## From the Editor

If you use any repeaters or beacons belonging to the Waikato VHF Group, you are welcome to help keep them running by sponsoring them. See <http://www.zl1is.info/sites.html> for more details.

## Propagation de K7RA

**16 June, 2018**

Sunspots returned a few days ago after a 7-day absence. Average daily sunspot number dropped from 12.9 in last week's report to 4 this week. Average daily solar flux dropped from 73.2 to 69.4.

Geomagnetic conditions were quieter with average daily planetary A index declining from 11.7 to 4.4 and mid-latitude A index from 10.4 to 5.1.

Predicted solar flux is 72 on June 15-21, 75 on June 22-23, 74 on June 24-25, 73 on June 26, 72 on June 27-28, 71 on June 29-30, 70 on July 1-3, 69 on July 4-6, 70 on July 7, 72 on July 8-14, 73 on July 15, 74 on July 16-17, 75 on July 18-20, 74 on July 21-22, 73 on July 23, 72 on July 24-25, 71 on July 26-27 and 70 on July 28-29.

Predicted planetary A index is 5 on June 15-26, then 15, 28, 18 and 10 on June 27-30, 5 on July 1-8, 8 on July 9-11, 5 on July 12-15, 8 on July 16, 5 on July 17-23, then 15, 25, 15, 8 on July 24-27 and 5 on July 28-29.

Next weekend is ARRL Field Day, June 23-24. Predicted planetary A index of 5 on both days is a welcome indicator of undisturbed conditions, as are the predicted solar flux values of 75 and 74.

The latest from Dr. Tamitha Skov:

"Dear Tad,

"Have I ever mentioned forecasting Space Weather is hard? One would think that with all the spacecraft and instruments we have trained on the Sun, we would be able to do so much better than we do. This week is a perfect example of that. Just eight and a half days ahead of us (in terms of weather that is) sits the STEREO-A spacecraft. It sees solar features before we do at Earth and gets to sample the solar wind created by these features on the Sun a little more than a week before we do. Watching data from STEREO-A is a great way to know what is coming. Except when it doesn't.

"This is of those times. Though STEREO-A gives us a great look into the future, I must constantly remind myself how quickly things change on the Sun. The coronal hole that was open just 8 days ago, likely closed up a bit as it rotated to the Earth-strike zone. Not only that, but right now, STEREO-A is about six degrees further south in solar latitude than is Earth. Obviously, in this case that makes a huge difference.

"So this week, we are only being brushed by a fast wind stream that is flowing mostly south of Earth. I had hoped for a mini-solarstorm that would bring us aurora, both in pictures and in propagation modes, but it looks like we will need to wait for

a change in the weather. As STEREO-A creeps ever closer to us in its slow approach to Earth, it can give us great insights into what things will be like tomorrow. But nothing is ever a guarantee. It's a good lesson to remember.

"Cheers, Tamitha."

[https://www.youtube.com/watch?v=MUSd2293p\\_I](https://www.youtube.com/watch?v=MUSd2293p_I)

Her report from a few days earlier:

<https://www.youtube.com/watch?v=E-Qo4aqldDc>

Gert Carlsson, AA7G sends along this information on the IY4M interactive beacon robot:

[http://www.cqdx.ru/ham/ham\\_radio/iy4m-marconi-cw-beacon-robot/](http://www.cqdx.ru/ham/ham_radio/iy4m-marconi-cw-beacon-robot/)

Mark Lunday, WD4ELG of Greensboro, North Carolina reported on June 9:

"I am here in my shack in central NC, truly amazed. 41 years in the hobby; that does not happen too often these days. Surprises, yes.

Pure amazement, infrequent.

"But here I sit. It's 2300 LOCAL time (0300 UTC), I called CQ on 17 meters FT8 with 25 watts and a 160 meter inverted L with a remote coupler at the base. I got a reply from JH7VHZ. This is a non-directional wire, no gain, 90 feet vertical and 42 feet angled down 45 degrees, with 20 radials, in a forest of pine trees, fed with 300 feet of coax from my shack. At 11 PM local! And HE called ME. Sure it was FT8, but that's not the point.

"Last time I worked JA from east coast on the higher bands (it's not that common for me here, with my antenna setup) was two years ago on 15 meters in the ARRL DX SSB contest. Sure I can occasionally hear them, very weak, but it's not easy to get through. (Of course it's much easier on 40 meters than 20/17/15)

"The last time I worked JA at that late an hour when it was NOT on 40 meters, was September 2012, on SSB on 20. Before that, it was 21 years ago when I was closer to the ocean in Florida, so I had better propagation.

"And before that time in 1997, it was 1979, I was in W6 land, the bands were ON FIRE, I had a dipole at 20 feet on a hill about a mile from the Pacific ocean, and 15 meters was open well past sunset to JA and UA0 out west. I used to run CW pileups in DX contests at high speed until 10 PM local on 10 meters, then switch to 15 meters until midnight, then work them on 20 until I fell asleep at my desk around 0200 (oh how I wish I had that energy of a 14 year old today.)

"But I digress.

"We complain (well, I COMPLAIN) about the poor band conditions, but maybe it's also factor of not having more activity during sunspot cycle lows. FT8 is a game changer, and it seems like activity has really increased, especially DX.

"On 17 meters FT8, I am also copying E5 and UA9. VERY strong. On FT8 on 20

meters, I am copying VK/ZL, EU, 9K. All very workable, very strong. 20 seems to be what it was at sunspot peak, always open, frequently capable of worldwide DX especially at night. Now THAT is how I remember 1979. 20 was ALWAYS open. Like it is tonight."

Bob Lombardi, W4ATM of Melbourne, Florida on June 11 wrote:

"I had been starting to refer to the sporadic-E propagation we had from about June 1st and well into last week as 'The Great Sporadic-E Opening of June 2018.' Morning checks on DXMaps would show the density of transatlantic propagation to/from Europe at densities I've never seen. For the first time in my life, I saw DX contacts reported from Japan into the SE US one evening, including one into my grid square. (I was having dinner and missed the brief chance).

"I've been operating on 6m since about '03, and the June contest has always been the most productive weekend of the year for me. Last year, after hearing about this new thing called FT8 while following DX spots, I started experimenting with that mode and have played with it a bit. Not expert level, but I know my way around it.

"Last Monday, my country total in Europe went from 1 to 4.

"I suppose the attack of Murphy's Law for the contest was predictable, but Saturday was the worst day I've seen since late May. Sunday was better, but new grids were hard to find, and my ultimate hope of completing my 6-meter WAS never had a chance. Not one KH6 or KL7 to the mainland was seen all weekend. The vast majority of the grid locators I heard were among the first I ever worked: FN, FM, EM and the eastern half of EN. I did manage to work a few Canadian grid squares I've never gotten before, into Saskatchewan and Alberta, and a couple in the lower 48.

"Of course, there's a reason it's called 'sporadic,' and what little we had this weekend was better than nothing, but what a contest it would have been if the propagation hadn't peaked a week before the contest.

"I'm left to wonder if this really was a June sporadic-E season for the record books or if it's some combination of more people online and reporting, more activity on 6, or the influence of FT8. The few times I looked at the modes being reported, it seemed 80 of the reports were FT8."

Jeff, N8II reported:

"I worked CT1ESV, Portugal today June 14 at 2230Z, S8 on 10M phone. DXMAPS.com showed NA stations working S01WS Western Sahara on 6M FT8 and there were NA to EU QSOs too."

F.K. Janda, OK1HH reports.

"Geomagnetic activity forecast for the period June 15 to July 10, 2018

"Geomagnetic field will be:

Quiet on June 20-24, July 2-3

Quiet to unsettled on June 16-19  
Quiet to active on June 15, 25, July 1  
Unsettled to active on June (26, 30)  
Active to disturbed on June (27,) 28, (29)  
"Solar wind will intensify on June (15,) 16-17, (18-19, 22-24, 26,) 27-29, (30,) July 1, (9-10)  
"Remark:  
- Parenthesis means lower probability of activity enhancement.  
- Due to planned trips, this forecast will not be compiled from June 21st (or 28th) to July 5th."

If you would like to make a comment or have a tip for our readers, email the author at [k7ra@arrl.net](mailto: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 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 June 7-13, 2018 were 0, 0, 0, 0, 0, 12, and 16, with a mean of 4. 10.7 cm flux was 69.3, 68.2, 66.8, 70.2, 69.9, 70.3, and 70.8, with a mean of 69.4. Estimated planetary A indices were 6, 4, 4, 4, 4, 4, and 5, with a mean of 4.4. Estimated mid-latitude A indices were 6, 5, 5, 4, 4, 5, and 7, with a mean of 5.1.



## The great FT8 debate: my take

-M0BLF

I've been pondering for a while about whether or not I should add my own opinions to the polemic about FT8, the now year-old digital mode that has taken the ham radio world by storm. A few things recently have convinced me that I should, which I'll go into a little later in this short essay.

First off, a step back: What is FT8? It's the latest in a line of digital modes developed by Joe Taylor K1JT, that permit two-way radio contacts to be made with incredibly weak signals, often below the noise floor. Until last year, most of the modes in this family were used for specialised purposes such as EME (bouncing radio signals off the moon) or meteor scatter. This meant that they were adopted by a small subset of radio amateurs for their specific purpose.

*(EDIT: Thanks to DG1TAL, who has corrected me: 'JT65 has been used on HF for quite a few years, even though the dynamic range of RSSI reports was not suitable.' That's true, but because of the limitations, JT65 still used by relatively few people.)*

063145	-14	-0.0	1755	~	CQ	VK5PO	PF95	About a year ago, FT8 came onto the scene. Its main difference over the other modes in the lineage is
063201	Tx		1720	~	VK5PO	M0BLF	JO02	
063215	-14	0.0	1755	~	M0BLF	VK5PO	-12	
063230	Tx		1720	~	VK5PO	M0BLF	R-14	
063300	Tx		1720	~	VK5PO	M0BLF	R-14	
063315	-16	-0.0	1757	~	M0BLF	VK5PO	RRR	
063330	Tx		1720	~	VK5PO	M0BLF	73	

the speed of an 'over': reduced from for example 50 seconds in JT65 to just 15 seconds. This made it much more suitable for generalised use, and very quickly FT8 was adopted for general contacts. [A post by Clublog author Michael G7VJR](#) in January this year shows how exponential the popularity of this mode was in the second-half of 2017; a trend which seems to have continued.

I was certainly part of this band-wagon of FT8 fans. I logged my first FT8 contact on 16th July 2017, and to date I've made 118 QSOs using the mode from home.

Some people have tried to argue that FT8 isn't amateur radio. I disagree. For a hobby founded on experimentation, technical challenge and self-training in all forms of communication, FT8 is the very essence of what amateur radio advances should look like. It's very clever technology with some seriously complex maths behind it, that represents (technically) a significant step forward from what we had before.

I also believe that FT8 has its place in our shacks. One of the biggest threats we have to the hobby is that, particularly in sub-urban environments, noise floors can be very high from consumer electronics. Furthermore, in a globalised world, national regulators appear generally impotent to enforce the regulations that are supposed to avoid pollution of the radio spectrum from poorly-designed equipment. This was one of the reasons for my speedy adoption of FT8. Frankly, from my location on the outskirts of Cambridge, I wouldn't be able to work as far without the support of the weak-signal error correction that's inherent in the mode.

This is all the more important during solar minimum, which I suspect plays a large part in the quick spread of FT8. For the next few years, the stage of the sunspot

cycle means that radio wave propagation will be hard, especially on higher HF bands. Having a mode available which allows low signal-to-noise ratio contacts is certainly a help to communication on those bands, which would otherwise be 'dead'.

The other fantastic thing about FT8 is that it brings, for the first time, objective signal reports to the hobby. We all know that '59' is a nonsense, but in the more 'manual' modes, we don't have anything better. Using actual, genuine, signal-to-noise measurements for signal reports allows more meaningful comparisons of equipment, antenna performance and propagation research.

However, in recent months a few things have happened, which started to quell my enthusiasm for the mode.

First was one day when I was working from home, doing my day-job. Since the computer was on anyway, I left FT8 running, periodically clicking the 'Log QSO' button when I saw it on the screen. Operating like this, I managed to make about 25 QSOs during the day without even realising it. None of those contacts were memorable. The computer made them for me, while I worked on other things. Moreover, the formulaic nature of the FT8 exchange (the facts that you have only 13 characters per over, and that changing the text of an over from the defaults can confuse the other operator) means that I felt no connection with those people at all.

You might argue that the same is true in a 'rubber-stamp' SSB or CW contact. To some extent, yes, but you still have some variability in what the operator has sent, any accents in speech, or quirks of Morse rhythm or spacing. In comparison, FT8 is clinical.

Then, on the GS3PYE/P DXpedition to Islay last month, I became aware of another disadvantage of FT8. 15 second overs may be comparatively fast, but they aren't as fast as a good SSB or CW pileup, and our QSO count for the week suffered as a result. We were well down on even last year, because of the amount of time we'd spent using FT8 on bands that were open.

Similarly, the focus in the community on monitoring the main FT8 spot frequency on each band, means that other contacts seem to be being missed. I know lots of people are pouring over the stats to see whether FT8 activity is 'new' activity, or to the detriment of other modes. I can only speak from my own anecdotal experience: A couple of weeks ago, I was on a SOTA trip to France, and was eager to make some 6m CW QSOs. There was sufficient sporadic E propagation, and the Reverse Beacon Network heard and spotted my CQs, but in 20 minutes nobody came back to me. Tuning higher on the band, there was just one frequency with signals on it: the 6m FT8 frequency.

Which brings me to another concern: that of spectrum usage. (I'm discounting here the as-yet little-used DXpedition mode in FT8.) On a lot of bands, there is pressure for spectrum used by amateur radio to be reassigned to other, more 'valuable' uses.

Until now, we've been able to demonstrate, particularly during major contests, how busy our spectrum can become, which has helped in the argument to keep the range of frequencies we current have. If we all start making our contacts in the 3kHz bandwidth above a single spot frequency, we may be doing the hobby some significant harm.

What's the solution? As I said above, I fully support the rationale behind FT8, and particularly its use in high noise areas, and on bands where propagation is difficult. Especially if it can capture and encourage the imagination of a newcomer, or someone who has been inactive in the hobby for a while, we must celebrate and support its use.

What I'd really like is, when you start receiving signal reports with positive numbers of dB, the software should remind you to switch off and try other modes instead, as the band is sufficiently open. I doubt we'll see that, however, so it's up to us as operators to consider the wider effects of the mode, and when/whether it is appropriate to use.

I'm already limiting my use of FT8 at home: this Sporadic E season on 6m, I have deliberately only been using CW, not FT8, and for a forthcoming (as yet un-announced) DXpedition, we are seriously considering not taking any FT8 equipment.

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## AMSAT Joe talks CubeSats

Video by **Randy Hall K7AGE** of AMSAT-NA President **Joe Spier K6WAO** talking about CubeSats on the beach at the SEA-PAC hamfest

Watch AMSAT Joe Talks Cubesats

[https://youtu.be/Gl\\_RpYcNIGU](https://youtu.be/Gl_RpYcNIGU)

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## Dinner and Movie Evening at Ryders in Avondale

The Auckland VHF Group have invited us to a Dinner and Movie Evening at Ryders in Avondale. Enjoy a succulent Roast Dinner cooked in front of your eyes on a

traditional log range followed by a movie shown in a boutique private cinema with Dolby digital sound. Movie yet to be chosen.. Date 30th June. Arrive 5.30 pm. Cost including Dinner, dessert, and movie is \$37.00 per person. Drinks BYO. Get a group together. Make it an outing for your club. All Welcome. Contact Laurie ZL1ICU Phone 6345130 perma@xtra.co.nz to show your interest and reserve a place.

REG have planned to travel in a rental van ,see attached cost per person if we have 8 in the van i.e.\$41.30 each

At 8.30am we will depart from the Hamilton Cosmopolitan Club car carpark Claudelands Road..

We will visit the Pacific Radio studios in Manakau and a radio transmitter site in Henderson.

Somewhere along the way we will stop for lunch.

Following that we will travel to the dinner film venue.

Please reply via email to reserve your seat in the van or have any questions.

RSVP to Laurie (ZL1ICU perma@xtra.co.nz), or if you want to travel in the REG van please RSVP to John (ZL1PO zl1po@xtra.co.nz)

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## Sable Island DXpedition - behind the scenes

The 2016 CY9C DXpedition team has been quietly working behind the scenes with Parks Canada attempting to gain permission to mount a significant DXpedition to Sable Island CY0. This effort began more than a year ago.

For a number of years now, the Parks Canada policy has been to not allow overnight stays on the island. This was one reason the small team of N0TG, VE1RGB and WA4DAN mounted a one day DXpedition to Sable on September 8, 2014.

Aaron, VA1AXC, who worked with Parks Canada, was active from Sable during his tours on the island.

Last August, Aaron left Parks Canada and went back to work with the Canadian Coast Guard. Aaron was very instrumental in the months long negotiations. We had worked with Aaron during the CY0P DXpedition in October 2013 as well as our one day CY0C operation. Our team donated equipment and antennas for Aaron to use while on Sable. Many email exchanges and phone calls were made between Parks Canada, Aaron and the CY9C team in an attempt to gain permission.

The CY9C team sent a "Qualifications Package" to Parks Canada highlighting not only our general DXpedition experience, but our experience out on Sable Island. Many different scenarios were discussed and there was a lot of back and forth between Parks Canada and our team. There were times that permission seemed nothing more than a dream. It was very discouraging but we kept plugging away trying to stay positive.

Finally, a couple of weeks ago, we received word from Parks Canada that we had been granted permission for a one week DXpedition in September 2019!!

The 2019 CY0 DXpedition team will consist of 6-7 ops, mostly those who were on the CY9C team. Much more information will be forthcoming later this year and as we enter 2019. The 2019 CY0 team is already in the initial planning stage for this DXpedition. Sable is especially rare on CW and a big effort will be made to satisfy that demand.

73,

**Randy N0TG** Team Co-Leader

**Murray WA4DAN** Team Co-Leader



## Quake Contesters bound for Niue

Members of the **Quake Contesters** will be active as **E6Y** at Turtle Lodge in the Makefu area on Niue Island (OC-040) between October 6-16th.

Operators mentioned are Mark/ZL3AB, Geoff/ZL3GA, Phil/ZL3PAH and Paul/ZL4TT.

Activity will be on 160-10 meters (including 60m) using CW, SSB, RTTY and FT8.

Suggested frequencies are:

CW - 1805/1826.5, 3503, 7024, 10120, 14025, 18069, 21024, 24891 and 28025

SSB - 1865, 3770, 7080/7160, 14260, 18145, 21295, 24930 and 28490 RTTY -

3580, 7040, 10144, 14080, 18106, 21080, 24926 and 28080

FT8 - 3573, 7074, 10136, 14074, 18100 and 21074 kHz

\* Freq. are subject to change

They also plan to be active in the Oceania DX Contests (CW/Oct. 13-14th and SSB/Oct. 6-7th) as a Multi-2 entries.

QSL via ZL3PAH, direct, by the Bureau, ClubLog's OQRS or LoTW. For more details and updates, see:

<https://quakedxpeditons.wordpress.com>

## Get the most up to date cloning/programming files of Icom D-STAR radios and data files of UK D-STAR repeaters and reflectors

The most up to date cloning/ programming files for Icom D-STAR radios and data files of UK D-STAR repeaters and reflectors can be found on the Icom UK [D-STAR microsite](#).

The .csv files are updated weekly so if there have been changes on the UK repeater licencing, they are programmed into the radios at Icom UK before dispatch. The icf files are updated approximately once a month.

To view this useful page, visit <http://downloads.d-staruk.co.uk>



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**18th July—Club Meeting**

**4-5 August—NZART Brass Monkey Contest**

**6-7 October—NZART Microwave Contest**

**1-2 December—NZART Field Day Contest**

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

**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://www.z1ux.org.nz>  
**eMail:** [branch.12@nzart.org.nz](mailto:branch.12@nzart.org.nz)

**HF Net:** **3.580 temporarily** (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: Harsh winter conditions for aerial maintenance.*

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