

Ham Hum

October 2017



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



Next Meeting

18th October : 7:30pm

Practical evening for Bridge to Bridge

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From the Editor

The annual Bridge to Bridge ski race is coming up fast (11-12 November). If you can go mobile along the river please get in touch, or come along to the next meeting where everything will be sorted out.

SB PROP ARL ARLP040

ARLP040 Propagation de K7RA

Many things fall apart. Over the past week, the 45 day outlook for solar flux and planetary A index at <ftp://ftp.swpc.noaa.gov/pub/forecasts/45DF/> has been in a failure mode (probably at the US Air Force end, based on past experience) with no new predictions for three days, October 2-4. This is the longest outage that I recall for this resource.

Thanks to AD0IU, Space Scientist at the Space Weather Prediction Center for straightening this out.

Two weeks ago my email account (actually at Gmail, although forwarded from k7ra@arrl.net) could not successfully pass email to any addresses in the arrl.org domain, which meant that ARLP038 was not posted on September 22.

Over the past week (seven days through October 4) average daily sunspot numbers rose from 27 to 32.6, and average daily solar flux rose from 84.3 to 87.9, compared to the previous seven days.

Average daily planetary A index changed from 9.9 to 16.3 and average daily mid-latitude A index (measured at a single magnetometer at Wallops Island in the state of Virginia) increased from 7.6 to 12.7.

Predicted solar flux is 85, 82, 80 and 78 on October 6-9, then 75 on October 10-12, 80 on October 13, 72 on October 14-15, 74 on October 16-18, then 78 and 80 on October 19-20, 85 on October 21-28, 86 on October 29-30, 84 on October 31, 86 on November 1-2, then 84, 81 and 75 on November 3-5, 72 on November 6-11, 74 on November 12-14, 78 and 80 on November 15-16, and 85 on November 17-19.

Predicted planetary A index is 5, 10, 12, 8, 5, 25, 30, 25, 20 and 15 on October 6-15, 8 on October 16-17, 5 on October 18-23, then 35 and 52 on October 24-25, 15 on October 26-27, then 10 and 8 on October 28-29, 5 on October 30 through November 1, then 8, 12 and 8 on November 2-4, 5 on November 5-6, 25 on November 7-9, 20 and 15 on November 10-11, 8 on November 12-13, and 5 on November 14-19.

Those predictions from USAF were sent by the Space Weather Prediction Center at 2122 UTC on October 5, 2017.

Geomagnetic activity forecast for the period October 6 to November 1, 2017 from F. K. Janda, OK1HH of the Czech Propagation Interested Group.

"Geomagnetic field will be:

"Quiet on October 7, 22-23, 30

Mostly quiet on October 6, 17-19, 21, 29

Quiet to unsettled October 10, 15-16, 28, 31, November 1

Quiet to active on October 8, 11, 13-14, 20, 24, 27

Active to disturbed on October 9, 12, 25-26

"Amplifications of the solar wind, mostly from coronal holes, are expected on October (6,) 11-16, (17-18, 21-22, 24,) 25.

"Remark: - Amplifications of the solar wind prediction is less reliable at present. - Parenthesis means lower probability of activity enhancement and/or lower reliability of prediction."

Fascinating story about previously unknown Hisako Koyama, female Japanese solar observer who helped fill in the long term record of sunspot cycles:

<http://bit.ly/2xNEXqR>

This link has the best image of Koyama:

<http://bit.ly/2xjGkf0>

She was born in Tokyo in 1916, retired in 1981 and died in 1997.

Check out this resource on receiving antennas (Thanks to ARRL Contest Update):

<https://www.w8ji.com/receiving.htm>

W3LPL and K9LA discuss propagation for the upcoming contest season and predictions for the rest of the current sunspot cycle and the next one too:

<https://www.youtube.com/watch?v=kPydjVi6qLw>

Academic paper on the ratio of the number of sunspots to the number of sunspot groups:

<http://bit.ly/2hQf6uG>

Excellent article from Earth and Space Science News from the American Geophysical Union on short-term funding priorities vs. The long-term record keeping needed for understanding solar cycles:

<http://bit.ly/2xYoOzb>

How an upcoming solar probe will approach the Sun closer than any other spacecraft:

<http://bit.ly/2hQnBWk>

Not sure, but I think this may be the latest video from Dr. Tamitha Skov:

<https://www.youtube.com/watch?v=Eav7fDO3vfc>

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 web page 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 September 28 through October 4, 2017 were 40, 39, 38, 34, 25, 25, and 27, with a mean of 32.6. 10.7 cm flux was 90.9, 89.7, 89.4, 85.7, 86, 86.4 and 87, with a mean of 87.9. Estimated planetary A indices were 55, 12, 16, 11, 7, 8, and 5, with a mean of 16.3. Estimated mid-latitude A indices were 41, 8, 11, 10, 6, 8, and 5, with a mean of 12.7.

When will Voyager stop calling home?

Forty years after they left Earth, the **Voyager** twin spacecraft are still chugging along, logging 35,000 miles an hour as they zoom farther and farther into the cosmos.

“I’ve had people ask me, you mean the mission is still going on?” says Suzanne Dodd, the Voyager project manager at NASA’s Jet Propulsion Laboratory. “They assumed that it had stopped after it passed Neptune.”

Far from it. After the Voyagers completed their tours of the outer planets in the 1980s, giving humanity its first real look at Jupiter, Saturn, Uranus, and Neptune, they continued on to the outer reaches of the solar system.

In August 2012, Voyager 1 left the system entirely, emerging from inside the protective bubble formed by the sun’s wind and exiting into interstellar space. Voyager 2 is on its way out; the spacecraft is currently coasting through the heliosheath, the outermost layer of the sun’s bubble. Voyagers 1 and 2 are currently about 13 billion

and 10 billion miles from Earth, unfathomable distances that mean little more to us terrestrials than giant numbers on a page.

And they still call home. It takes a while, but they do.

The Voyagers transmit data to Earth every day. The spacecraft collect information about their surrounding environment in real time and then send it back through radio signals. Voyager 1 data takes about 19 hours to reach Earth, and signals from Voyager 2 about 16 hours.

(For comparison, it takes the rovers on Mars 20 minutes on average to call home.) The signals get picked up by NASA's Deep Space Network, a collection of powerful antennae around the world that communicate with dozens of missions.

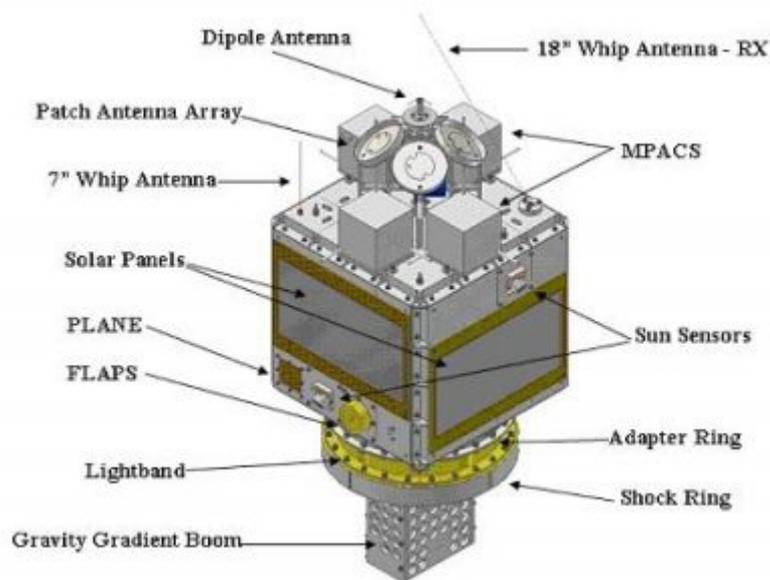
Read the full article

www.theatlantic.com/science/archive/2017/09/voyager-interstellar-space/538881

Thanks to **Stephen, G7VFX** for spotting this item

ARLS009 FalconSAT-3 Now Open for Amateur Radio Use

The Air Force Academy satellite FalconSAT-3 is now open for Amateur Radio use as a digital store-and-forward system. Built in 2005 and 2006 by cadets and faculty in the Space Systems Research Center at the US Air Force Academy in Colo-



rado Springs, FalconSAT-3 was launched in 2007.

The satellite has completed its scientific and training missions, and the Academy now is making it available for Amateur Radio use. The Packet Bulletin Board System operates at 9600 baud with a 145.840 MHz uplink/435.103 MHz downlink. Output power is 1 W, and the downlink is continuously on. Digipeating is enabled for live QSOs, but unattended digipeating operation is not authorized at this time.

Additional information is available on the AMSAT website at, <https://www.amsat.org/falconsat-3/>.

First impressions videos of the Icom IC-7610 and IC-R8600



Icom UK recently had pre-production samples of the **IC-7610** HF/50MHz SDR Transceiver and **IC-R8600** SDR Wideband Receiver to play with for a few days.

Before sending on to another Icom distributor, they produced a couple of short videos giving their first impressions about these highly anticipated models.

You can view these videos on the Icom UK YouTube channel by clicking on the following links.

- [Introduction to the IC-7610 SDR HF Transceiver](#)
- [Introduction to the IC-R8600 SDR Wideband Receiver](#)

For further updates about the availability and price of these models, stay tuned to the [Icom UK website](#), newsletter and social media channels.

Traditional ham radio no longer so attractive

IARU President **Tim Ellam VE6SH/G4HUA** pointed out to the IARU Region 1 General Conference in Landshut that traditional aspects of Amateur Radio may not be attractive to all newcomers

The ARRL reports:

IARU President Tim Ellam, VE6SH/G4HUA, welcomed the attendees, urging them to reflect upon what will attract the majority of young people into Amateur Radio, "and what our mutual expectations should be." Ellam said his personal observation is that, while some younger people are interested in the more traditional aspects of Amateur Radio, many are only interested in ham radio as an adjunct to other possibly unrelated interests.

"I applaud the excellent work that has been undertaken in this region through the Youngsters on the Air (YOTA) program." Tim said, crediting the hard work of IARU Region 1 Youth Working Group Chair Lisa Leenders, PA2LS. YOTA's summer Amateur Radio camps have attracted young hams from around the world; this year's was held in the UK.

"Our ambition should be to embrace these individuals in their activities and accept that some of the more traditional aspects of the hobby will hold little interest to them, and indeed may no longer be relevant," he continued. "That is not to say that some are not enthused with what we all hold as the core of our hobby, such as contesting or operating generally. I fear, though, that we need to look at what will attract the new generations to Amateur Radio and make sure we promote Amateur Radio as meeting their needs, rather than promoting the historical view of what Amateur Radio has to offer."

Read the full ARRL story at

<http://www.arrl.org/news/iaru-president-traditional-aspects-of-ham-radio-may-not-be-attractive-to-newcomers>



MFJ Enterprises celebrates 45 years

STARKVILLE, MS Hundreds of people were at McKee Park on Saturday to celebrate the 45th anniversary of a local business.

MFJ Enterprises is named after its founder and president, Martin F. Jue, who founded the company in 1972. It has grown from selling one product - a filtering device for radios - to making more pieces of ham radio equipment than any other radio company in the world.

"The whole idea here is for us to say thank you to all of our radio operators and just let them have a good time and find out about Starkville and what we have here to offer," Jue said.

To celebrate, the company hosted two days of events, with tours of its factory buildings, a fried chicken lunch on Saturday, prizes, guest speakers, product demonstrations and FCC license exams.

"We had an international short-wave broadcasting station broadcasting live from our community and he reaches audiences all over the world," Jue said. "The mayor came down and was given a tour and interviewed on that short-wave radio station, so people from all over the world know about Starkville, now."

Ham radios are used primarily as a hobby, but president of the American Radio Relay League Rick Roderick said the league helps with emergency relief efforts after a disaster shuts down communications in an area.

"We have been working with the Red Cross and FEMA in deploying radio operators in teams to Puerto Rico to have an emergency communications relief there," Roderick said. "We have used MFJ products there and I personally have about 30 of MFJ's products in my station back home."

In a speech, Mayor Lynn Spruill commemorated the AARL for its emergency relief efforts in times of crisis, and also shared her own experience touring MFJ Enterprises.

"As the mayor of Starkville, a lot of times you don't know about your hidden treasures to the extent that you should," Spruill said. "I had no idea how involved he is in vertical integration. From the ground up he does all of it."

MFJ Enterprises is located at 300 Industrial Park Rd. The company has acquired many other manufacturing companies — including antenna manufacturers and an amplifier company — since it was established in 1972 and brings the businesses to Starkville where 90 percent of the products are manufactured. The company is currently in the process of buying two more companies that it would bring to Starkville.

When smartphones fail: How students in a ham radio club are helping Puerto Rico

In the age of smartphones, Snapchat and WhatsApp, a group of students in Queens, New York, are using a more traditional form of communication to help out the people of Puerto Rico.

It's been two weeks since [Hurricane Maria](#) devastated the U.S. territory, and more than 90 per cent of the island is still [without electricity](#).

The lack of power and Wi-Fi is making it difficult for communications across Puerto Rico, whether it's family members trying to contact loved ones, or aid agencies trying to share messages related to health and welfare.

With phone lines down and cellphone reception spotty, the [American Red Cross](#) and other aid groups have reached out to [amateur \(or ham\) radio operators](#) for help.

Ham radio can be set up anywhere and can communicate around the world. While some ham radio operators have been recruited to work within Puerto Rico, back in Queens, the students at the [Garden School](#) are helping out from the tiny room that houses the Amateur Radio Club.

Anyone can [email the school](#) and the club members will then share that message via [radiogram](#), and that message is then relayed to ham radio operators in Puerto Rico.

How the Garden School got involved

The Amateur Radio Club started about a year ago, says teacher John Hale. It was part of a process of trying to teach the students about how to work with radios.

"The next thing, if you're part of the radio community with amateur radio, is to help people in need," says Hale.

When [Hurricane Irma](#) hit the Caribbean and Florida Keys in September, Hale realized that there was a need for ham radio and set to training the students on how to help.

"We slowly started teaching the kids about how to do a radiogram and start a relay message that'll get down to wherever they need to go," explains Hale.

"When we have a disaster they do food drives, they do clothing drives, they do money drives to raise money. This lets them try to work with a person one-on-one ... now they know they're helping an individual attempt to make contact with one of their family members," says Hale.

Student Jasmine Petrov agrees that the individual contact is rewarding.

"What this gives is an actual personal touch ... which I think makes it so much more special," says Petrov.

Club member Lea Medina says that reaching out to people in Puerto Rico is just "the right thing to do."

"If I were one of these people I, of course, would be as devastated as they are. And I decided to go and join this simply because it has to be done," Medina explains. "You can easily relate to these people if you just think about how it must feel if you're not able to talk to the people who you love and care about."

Medina says she does not know anyone in Puerto Rico.

"But I know what it's like to be separated from someone you love," she says.

What it means to the students

"The most profound message that I've received so far is about this daughter who's really desperately wanting to check on her father and her mother," says Medina. "She asked us to make sure that they know that she loves them, she cares about them, and she wants to know for sure that they're alright."

Petrov is struck by the sameness of the messages they're being requested to send.

"Seeing how all of these people trying to send pretty much the same care messages, of: 'Are you OK?' And just asking their relatives, their friends of their well-being," explains Medina. "All of that together, it's very overwhelming to be part of this emotional connection."

Petrov says she joined the Amateur Radio Club because she was interested in learning how ham radio worked. She thought it would simply involve school radio competitions.

"I never thought that it would become so personal ... it became so much more," she says.

Medina says her interest in ham radio goes back to the way it was used in the 1930s and 40s.

"I particularly loved the field radio operators in World War II and I found their job to be one of the most important. Because of those people there were countless lives that were saved by dropping supplies in the right places," says Medina.

Medina reiterates that sending messages to Puerto Rico is just the right thing to do.

"It gives me a sense that there actually is good in this world," she says. "You see

that somebody's going through something terrible. You want to do something good in order to alleviate their sufferings, and when you transmit this message you have to think about the people on the other side of the screen and on the other side of this paper."

"These are people's lives at stake," says Medina. "And they're people who are just trying to desperately talk to other people because there's no way else."

Hale thinks the radiograms are a great experience for the students, in addition to being an important lesson to the general public.

"Amateur radio can help in the time of need."



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Upcoming Happenings & Events

<i>Date</i>	<i>Happenings & Events</i>
2nd October	HF Net, 3.575 MHz, 19:30
3rd October	VHF Net, 146.525 MHz, 20:00
6th October	NZART HQ Infoline
7-8 October	NZART Microwave Contest
9th October	HF Net, 3.575 MHz, 19:30
10th October	VHF Net, 146.525 MHz, 20:00
16th October	HF Net, 3.575 MHz, 19:30
17th October	VHF Net, 146.525 MHz, 20:00
18th October	Club Meeting
23rd October	HF Net, 3.575 MHz, 19:30
24th October	VHF Net, 146.525 MHz, 20:00
29th October	NZART HQ Infoline
29th October	NZART Official Broadcast
30th October	HF Net, 3.575 MHz, 19:30
31st October	VHF Net, 146.525 MHz, 20:00

3rd November—NZART HQ Infoline
5th November—NZART Straight Key Night
11-12 November—Bridge to Bridge Ski Race (AREC)
15th November—Club Meeting
17th November—NZART HQ Infoline
26th November—NZART Official Broadcast
2-3 December—NZART Field Day Contest
8 December—NZART HQ Infoline
17th December—NZART Official Broadcast

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

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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: Warlord, multiple winner at the Hamilton Bridge to Bridge ski race.

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