Big Island Amateur Radio Club Newsletter

May 2017

John Bush reads mayor's proclamation.

Mayor Harry Kim praises the Darlings.

"Richard and Barbara Darling Month in Hawaii County"

ARRL, mayor, governor, club honor the Darlings

President Gary Schwiter and Secretary Angelina Schwiter add to the lei levels lovingly draped around the necks of Barbara and Richard Darling.

"ARRL International Humanitarian Award"

Photos by Linda Quarberg

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Cameras click continuously around the room as Richard and Barbara Darling are honored by the ARRL. From left: Gary Schwiter, Bob Schneider, the Darlings, John Bush, Stacy Holbrook and, in foreground, Angelina Schwiter and Tom English.

And a good time was had by all

Multiple standing ovations, proclamations from the mayor and governor and big, mounted awards from the ARRL were the order of the day at the April BIARC meeting, held for the occasion at Aupuni Center in Hilo.

All were in praise of the Darlings, Richard AH7G and Barbara NH7Y, for their years of bridging the communication gap between islanders in remote communities in far-off Yap State in the Federated States of Micronesia and family members in Hawaii and on the U.S. mainland. The Keaau couple also has sent a steady stream of school and hygiene supplies and ham radio equipment to the Micronesians.

The Darlings are the recipients of the ARRL 2016 International Humanitarian Award, which was presented by Stacy Holbrook KH6OWL, public information officer for the ARRL Pacific Section. Holbrook read the proclamation from Gov. David Ige and presented copies to Barbara and Richard.

Mayor Harry Kim's

proclamation dedicating all of April as "Richard and Barbara Darling Month" was read by John Bush KH6DLK/V63JB, who won the prestigious ARRL award a few years ago for spearheading the outreach

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Nancy and Paul Lakin, at left, and Sharon McCartin of the kitchen contingent welcome the Darlings to the buffet tables.

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volunteerism project in Micronesia. As John pointed out, it takes both his boots on the ground in Micronesia and the Darlings manning the radio back home on the Big Island to make the humanitarian program work.

The mayor attended the festivities and warmly praised the Darlings for their efforts on behalf of folks all along the communications and humanitarian outreach network.

The humanitarian Award recognizes amateur radio's unique role in international communication and the assistance amateurs regularly provide to people in need. In January, the ARRL Board of Directors cited the Darlings' work on behalf of Bush's outreach work and their "significant material support" to his efforts to assist Yap and the Federated States of Micronesia.

"[T]hey have supported these ongoing efforts over many years with on-the-air activities including communication during weather events, including several typhoons, as well as other emergency activities, including assistance to boaters in trouble," the Board's resolution said.

This includes monetary support for radio equipment, school supplies, diapers, medical supplies, food, and shipping. Regular radio contact via HF and phone patches helped to keep families connected, some of which had not talked to each other in several years, and to provide early weather warnings.

The Federated States of Micronesia (FSM) is an independent sovereign island nation and a U.S. associated country consisting of four states – from west to east, Yap, Chuuk, Pohnpei and Kosrae – spread across the Western Pacific. FSM has around 607 islands that cover a longitudinal distance of about 1,677 miles, or 2,700 kilometers.


COUNTY OF HAWAI'I

Proclamation

WHEREAS, Richard Darling, AH7C, and Barbara Darling, AH7CC, [illegible] many years in support of ARRL 2012 International Humanitarian [illegible] Bush, AH6DLX/KH2B; and

WHEREAS, the Darlings' activities have included providing supplies and material support to Mr. Bush's efforts in the Federated States of Micronesia (FSM); and

WHEREAS, the Darlings have also supported these ongoing efforts for many years, with on-the-air communication during severe [illegible] such as typhoons; and

WHEREAS, the Darlings have assisted in emergency situations including boaters in trouble; and

WHEREAS, the Darlings are the amateur radio station to support communications in Micronesia when air travel is down from the FSM; and

WHEREAS, the American Radio Relay League (ARRL) in January 2017 confirmed the 2016 International Humanitarian Award to Richard Darling, AH7C, and Barbara Darling, AH7CC, at its meeting in Hartford, Connecticut, and the awards will be formally presented at the Annual Meeting of the Big Island Amateur Radio Club on April 8, 2017; and

NOW, THEREFORE, I, HARRY KIM, Mayor of the County of Hawai'i, do hereby proclaim the month of April 2017 as

RICHARD DARLING AND BARBARA DARLING MONTH

in the County of Hawai'i and call upon all citizens to recognize the humanitarian contributions to the safety and well-being of people in Micronesia and Hawai'i through Amateur radio work.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the County of Hawai'i to be affixed. Done this 23rd day of February, 2017, in Hilo, Hawai'i.

Harry Kim
Mayor

Barbara and Richard welcome arriving wellwishers prior to the festivities. At left: Tom English, Vicki Owen.

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Making a difference

A slide show presentation showed John Bush on site in FSM with islanders in good times, and in the aftermath of historic storms which flattened homes, toppled trees and other tall things and skewed ham radio antennas. Slides shown here: Bush with isle keiki, and some of those same youngsters enjoying brushing their teeth following a shipment of health care supplies from the Darlings. Below: Stacy Holbrook presents the ARRL awards in front of slide on screen. At left: The new additions to the Darlings' award collection.

Special NWS Skywarn Spotter class part of May meeting

As part of the May 13 BIARC meeting, an introduction to the National Weather Service Skywarn program will be offered.

The meeting is open to all at 2 p.m. in the Keaau Community Center.

President Gary Schwiter asks members to do a little prep work before the meeting.

"We generally suggest that new Skywarn spotters take the online familiarization course here: https://www.meted.ucar.edu/training_course.php?id=23," said Gary. "It is not a requirement, but it does help new spotters to have a broader knowledge base before we start the course."

National Weather Service
Data Collection Office Hilo
121 Ailolo Street
Hilo, Hawaii 96720
Phone: 808-933-6941

2017 SKYWARN SPOTTER TRAINING

In order to best fulfill the National Weather Service's (NWS) mission of protecting life and property, we need trained spotters to help us identify and verify severe weather occurrences. Proper identification of weather phenomena aides the NWS in issuing the most accurate watches, warnings, and advisories. Therefore, with the assistance of Hawaii County Ham Radio Coordinator, Harvey Motomura, the NWS will be presenting our annual training/retraining of new and current SKYWARN Spotters. Please attend if you have never received official training or you would like refresher training.

SKYWARN TRAINING SESSION LOCATION/DATE/TIME:

Keaau Community Center — Saturday, May 13th, 2017 — 2:00 pm — 4:00 pm

West Hawaii Civic Center, Kona — Saturday, June 3rd, 2017 — 2:00 pm —4 :00 pm

Ocean View Community Center — TBD

http://www.prh.noaa.gov/hnl/

Big Island Amateur Radio Club

Meeting Minutes

April 8th, 2017

I. Call to order:

Gary Schwiter called to order the regular meeting of the Big Island Amateur Radio Club at 1400 hrs. HST on April 8th, 2017 at Aupuni Center Conference Room

II. Roll call

Angelina Schwiter conducted roll call.

The following club officers/directors were present:

Gary Schwiter, Angelina Schwiter, Peggy Gentle, Paul Duccasse,Bob Schneider, Kim Fendt,Cory Allen, Barbara Darling, Richard Darling,Bill Hanson,John Bush, Gus Treewater

III. Announcements

a) Barbara Darling announced that the QSL Bureau has been officially transferred to Oahu

b) The East Hawaii District Amateur Radio Emergency Service and the Puna Emergency Radio Club announced Radio Day on Saturday, 29 April 2017, beginning at 9 a.m. local time. The event will be held at the Eden Roc park and community pavilion, midway across Ahi Street (Road 8). Eden Roc is accessed from South Kopua–between the 15 and 16 mile markers on Highway 11. Map and directions are on the Hawaii ARRL Website at: http://HawaiiARRL.info.

c) The Eden Roc park and community pavilion will also be the site of Hawaii Island's 2017 ARRL Field Day emergency communications exercise. Field Day will be held on Saturday and Sunday, 24-25 June 2017.

IV. Approval of minutes

Angelina Schwiter read the minutes from the March 2017 meeting. The minutes were approved as read.

V. Old Business

a) The new BIARC shirts order forms are available with shirt styles and a color chart.

VI. New business

a) Richard Darling (AH7G) and Barbara Darling (NH7FY) received the ARRL 2016 International Humanitarian Award. The award was formally presented to the couple by ARRL Pacific Section Public Information Officer Stacy Holbrook, KH6OWL, of Oahu, on behalf of ARRL and Pacific Section Manager Joe Speroni,

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AH0A. Hawaii Gov. David Ige also sent each a Special Recognition certificate, congratulating the Darlings on their hard work and service. Mayor Harry Kim personally congratulated Richard and Barbara Darling and proclaimed the month of April for the Darling's and the humanitarian acts performed throughout the Pacific.

VII. Adjournment
Gary Schwiter adjourned the meeting at 15:34 hrs. HST

I certify that these minutes are true and correct.

Angelina Schwiter, Secretary

News on 146.760 repeater

Following a recent rainout cancellation, the BIARC Repeater Committee crew is scheduled to make a trek up the mountain on Monday, May 8, to "get the horrible hum off the air" and punch in a PL tone.

Thereafter, to access the repeater, radio operators will need to use a 100 hertz tone on transmit.
Go ahead and plug it in early, said veteran repeater crew member Paul Ducasse. It doesn't hurt to program the tone in advance, said Paul, because "It will be a subaudible tone, so you won't even notice it on transmit."

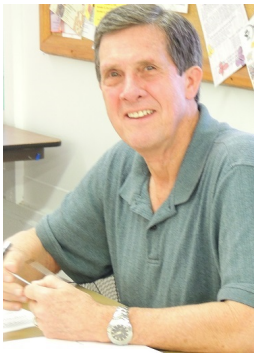
Don't forget: Volcano Monday Night Net is back in business

After a two-month hiatus, the Volcano Monday Night Net (formerly the Volcano Inverted Net) has been back in business for the last few weeks.

As always, participation is open to any operator interested in some camaraderie on a Monday evening. Net Control Doug Wilson, KH7DQ, coordinates the general ham radio fellowship.

A storm late last year had flipped the antenna, making it difficult to reach for repair. It was later put upright, thanks to some accommodating tree trimmers in a bucket.

The Net meets every Monday at 7 p.m., HST, on 147.260 MHz; pl 103.5 Hz on the input only.



Net Control Doug Wilson, KH7DQ, invites any and all ham operators to sign in to the weekly Monday Night Net. He also invites anyone wanting to practice their net control skills to "take a turn."

~~~~Free classified ads~~~~

(Send text for ads by 20th of month to lcritchlow@mac.com)

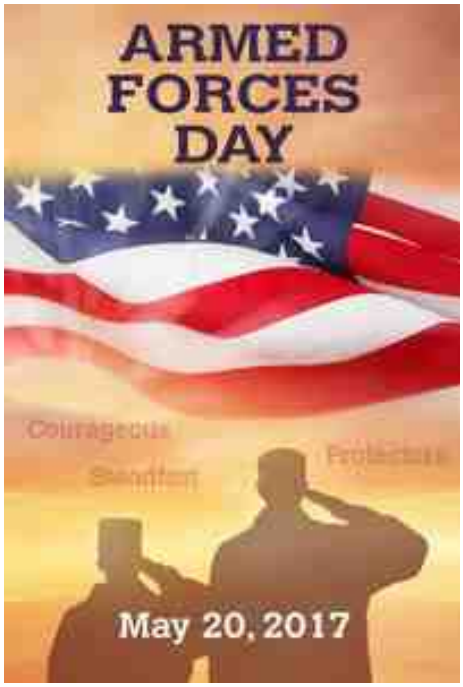
ARRL The national association for AMATEUR RADIO™
The ARRL Letter

Armed Forces Day Crossband Comms Test on Saturday, May 13

US Army, Air Force, Navy, and Coast Guard stations will participate in the annual Armed Forces Day Crossband Communications Test on Saturday, May 13. This annual HF communication interoperability event, sponsored by the Department of Defense since 1934, challenges Amateur Radio operators to contact military stations across the US.

The event marks the 66th annual Armed Forces Day (AFD), officially on May 20. The AFD Crossband Military-Amateur Radio event takes place a week earlier in order to avoid schedule conflicts with those attending Hamvention.

Radio amateurs will transmit on Amateur Radio frequencies and listen on military frequencies, while military stations will transmit on military frequencies and listen on Amateur Radio frequencies. The annual event tests two-way communication between radio amateurs and military stations (authorized under §97.111 of the Amateur Service rules). It features traditional military-to-amateur crossband SSB voice,



CW, practice using legacy interoperability waveforms, and the opportunity for participating hams to utilize more modern military modes, such as MIL-STD Serial PSK and Automatic Link Establishment (ALE). Military stations and Amateur Radio stations are authorized to communicate directly on certain 60-meter interoperability cnhannels -- 5,330.5, 5346.5, and 5,371.5 kHz.

Select stations will transmit the Armed Forces Day message using Military Standard mode M188-110A. Amateur Radio operators may download software to receive the broadcast.

Shortwave listeners are welcome to participate. Complete details, including stations, times, and operating modes are on the US Army MARS website.

US Fish and Wildlife Service seeks comments on Baker Island DXpedition compatibility

The US Fish and Wildlife Service (FWS) appears open to a DXpedition to Baker Island in the Pacific, which has not been activated for 15 years. Baker and Howland Islands (KH1) is the fourth most-wanted DXCC entity, according to the Club Log DXCC Most Wanted List. On April 24, the FWS released a Draft Compatibility Determination for Amateur Radio Operation for public review and comment. The comment period ends on May 8. Public access to the Baker Island National Wildlife Refuge is managed through a special use permit. Baker and Howland Islands are part of the Pacific Remote Islands

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Marine National Monument, created by former President George W. Bush under the authority of the Antiquities Act of 1906. The monument was expanded by President Barack Obama.

"Amateur Radio operation is an existing use at Baker Island NWR; however, it is not a common use," the FWS said in opening the Draft Compatibility Determination for comment. The service last permitted an amateur radio operator group to access Baker Island NWR in April 2002. The K1B DXpedition logged 96,000 contacts.

Revised Memorandum of Understanding between ARRL and FCC still a work in progress

The ARRL Executive Committee (EC) has directed that work begin on finalizing the language of a revised memorandum of understanding between ARRL and the FCC regarding the Amateur Auxiliary (Official Observer) program. The EC met on March 25 in Aurora, Colorado. The panel, which acts on behalf of the ARRL Board of Directors between its regular meetings, heard an update on the Official Observer Program Revitalization Study from ARRL Second Vice President and committee chair Brian Mileshosky, N5ZGT, who said his committee plans to present final recommendations later this year on revamping the Amateur Auxiliary, for ultimate consideration by the full Board.

In his remarks, General Counsel Chris Imlay, W3KD, was complimentary of new FCC Chairman Ajit Pai and told the EC he thinks enforcement efforts may be more successful in the future, due to the new chairman's interest in the issue. Imlay also said the new chief of the Enforcement Bureau, Michael Carowitz, is reported to be "amateur friendly." He told the EC that he foresees a potential window of opportunity for improved spectrum enforcement work, as well as the opportunity to build a stronger working relationship with the FCC on all issues.

ARRL Entry-Level License Committee digs in to study survey results

Following its April 7 online survey deadline, the ARRL Board of Directors' Entry Level License Committee has dived into what turned out to be an overwhelming response. Committee Chair and New England Division Director Tom Frenaye, K1KI, said the survey drew more than 8,000 responses, when perhaps 1,500 were anticipated, and reflects the high degree of interest in the overall topic. Established by the Board in 2016, the Committee has been gathering input from the Amateur Radio community with an eye toward recommending either a makeover of the Technician license or an altogether new entry-level Amateur Radio license class.

"I think it's our job to come up with the two best proposals," said Frenaye, conceding that the committee's work is fraught with details that include reaching a consensus both within the Amateur Radio community and at the FCC, which pays little attention to Amateur Radio generally. For his part, Frenaye started out thinking that a new entry-level license would be the answer, but now he's leaning more toward changing up the Technician license, in part because he thinks the FCC may be reluctant to create a fourth license class after whittling the number to three in 1999.

It's not just about numbers, but Amateur Radio's future. Amateur Radio growth, at approximately 1% a year, is "pretty good," Frenaye conceded, and in tune with US population growth, but he thinks it could be better, and a big step in that direction is to take a hard look at ham radio's entry gate. He suggested a new pool of prospective radio amateurs might be more drawn to the hobby from the Maker movement, for example, or from among those who tinker with computer technology or experiment with electronics -- areas with high appeal to some young people.

Frenaye said a lot of young newcomers don't seem to find the current license manual very enticing, possibly due to the Amateur

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Radio terminology and the manual's 12th-grade reading level, which he believes should be lower. One interesting statistic plucked from the survey: Just 23% of recently licensed Technicians went through a club, while 65% studied on their own.

The current Technician license is mainly a VHF/UHF license, Frenaye pointed out, with limited privileges on HF, where he believes a lot of newcomers would prefer to operate. "Either the test covers material that's not needed for a newcomer, or the privileges don't match well enough with what a newcomer needs to see in ham radio in order to decide whether to continue," he said. Technician licensees have only CW privileges on HF below 10 meters, "and CW isn't even a requirement anymore," Frenaye pointed out. He suggested some HF digital privileges may provide one incentive.

The Entry-Level License Committee wants to see better outreach "on both sides of the license" -- from exam preparation to operator training and mentoring.

Whether it's retooling the Technician license to offer newcomers a larger, more attractive slice of Amateur Radio privileges or developing the framework for an entirely new entry-level license, the panel wants to see a more relevant examination with privileges more appropriate to newcomers and better outreach "on both sides of the license" -- from exam preparation to operator training and mentoring.

Frenaye is not afraid to respond to critics who say the entry-level license effort and such initiatives as reaching out the Maker Movement are just ARRL ploys to boost the Amateur Radio population and, in turn, League membership.

"I guess the answer to that is, 'Yes, what's wrong with that?'" he said. "The more trained ham radio operators we have, the more likely we are to actually be able to keep our bands and maybe get new ones."

The committee has only looked at the first "several thousand" survey responses, Frenaye said. The hard work lies ahead. "It's going to take a little time to sort through it all," Frenaye allowed, adding that the committee hopes to have a report to the Board of Directors in July.

"Notwithstanding a Series of Obstacles," kids in French Guiana speak with Space Station

It seemed nothing was going to stand in the way of nine youngsters and their two teachers from Trois Palétuviers (Three Mangroves) School in French Guiana, South America, and their chance to speak with Astronaut Thomas Pesquet, KG5FYG, on the International Space Station via an Amateur Radio link. The Amateur Radio on the International Space Station (ARISS) contact was on March 23.

"I love talking to kids, their questions are often better than adults' questions!" Pesquet said on his Facebook page, which has a little video that tells the story of the contact.

A small village of 180 inhabitants between the Amazonian Forest and the Oyapock River -- a natural border with Brazil -- Trois Palétuviers isn't all that easy to get to. It is accessible only by dugout canoe; the voyage takes about an hour. At the school, there is no electricity during the day, no internet; and only recently has telephone service become available. The village population is exclusively Native American, many residents having strong ties with Brazil. The school has about 50 students in two classes.

To reach the location where the students would speak with Pesquet entailed not only the hour-long canoe trip but a 3-hour bus journey, and things did not quite go as planned. As the bus neared its destination, the passengers learned that roads to both their primary and back-up locations were blocked due to a strike. The only solution was to use a teacher's mobile telephone. That's how the students and their teachers ended up in the small kitchen of a private home.

The contact was a "telebridge," with W6SRJ in California serving as the Earth station for NA1SS and two-way audio provided via telephone to the contact site, where the youngsters planned to ask a dozen or so questions (they had 17 ready) in French.

"Notwithstanding a series of obstacles, the radio conversation between the students and

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astronaut Thomas Pesquet was a success," one of the teachers said. "This was Amateur Radio at its best."

Club Log is now a Logbook of The World Trusted Partner

Club Log has become the first logging service to achieve Trusted Partner™ status for Logbook of The World® (LoTW), ARRL and Club Log have announced. Radio amateurs holding LoTW "call sign certificates" who have uploaded logs to Club Log now can readily cross-post them to the highly secure LoTW -- the world's largest repository for confirming Amateur Radio contacts.

The Trusted Partner program defines the requirements for an online service to store user credentials with acceptable security. All LoTW users, whether or not they work through Club Log as a Trusted Partner, are responsible for ensuring the security of their credentials. Individuals who rely on a Trusted Partner site for security have met the requirement to keep LoTW and their credentials secure. Users who allow their call sign certificates to be compromised or who knowingly exploit compromised credentials may lose the privilege of using LoTW and participating in ARRL-sponsored award programs.

Club Log has implemented security at the level required by the Trusted Partner program, as verified by ARRL's Information Technology Department. Trusted Partners are re-verified periodically to remain in the program. More information on technical specifications and on current Trusted Partner program members is available on the ARRL website. Other logging sites are invited to join the program by implementing the Trusted Partner standard.

Midway and Kure Islands placed on list of deleted DXCC entities

Midway and Kure Islands have been placed on the list of deleted DXCC entities, effective as of August 26, 2016. This came about as an unintended consequence of action last summer by then-President Barack Obama that expanded the Papahanaumokuakea Marine National Monument to include the Northwestern Hawaiian Islands west of Niihau, making it the largest contiguous protected conservation area under the US flag.

Midway (KH4) had qualified for DXCC status by virtue of its being governed by a separate administration. Because it is now under the administration of Papahanaumokuakea, it becomes a deleted entity. Approximately 50 people live on Midway, including US Fish and Wildlife Division staffers and contractors. The Battle of Midway, a turning point in the Allied World War II Pacific Campaign, took place in June 1942.

Now uninhabited, Kure Island (KH7K), a part of Hawaii, is separated from the rest of the state by Midway; because of that, it had qualified for DXCC status under Section II, 2 (b) (iii) of the DXCC Rules -- separation from its "parent" Hawaii. Midway Island's change in DXCC status in turn made Kure Island no longer eligible for DXCC status, because Kure no longer is separated from the rest of Hawaii by intervening land or islands that are part of another DXCC entity.

Kure Island once was home to a US Coast Guard LORAN station, remnants of which are still evident. It has been a state wildlife sanctuary since 1981.

Neither Midway nor Kure was able to be activated without prior permission, and then only for a planned DXpedition. Only contacts made on August 25, 2016, or earlier will count for these two entities.

Same-Band "Dueling CQs" now prohibited in all ARRL contests

ARRL has clarified its rules for all contests to clearly prohibit the practice of interleaved CQs -- also known as "dueling CQs" -- on two or more frequencies in the same band. The clarification is an extension of existing rules that permit only "one transmitted signal," and it formalizes what had been a "gentleman's agreement."

"ARRL reviewed it, concurred that this is

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technically occupying two channels, and in consultation with several members of the Board of Directors -- who had been contacted by concerned parties -- and the Programs and Services Committee, it was concluded we needed to 'clarify' our existing rules," ARRL Contest Branch Manager Bart Jahnke, W9JJ, said.

An explanatory paragraph points out, "The intent of the rules has always been that a participant would use/occupy only a single channel in a given band, changing frequency in band from time to time, leaving a CQ frequency to work a multiplier or to change the CQing frequency as band occupancy or changing propagation dictated, and this rule's clarification will now give the needed added clarity to that intent."

The issue arose when a multi-operator team successfully employed in-band interleaved CQs in the last ARRL International DX SSB event, substantially boosting their score.

The update brings ARRL's contest rules in line with those of CQ-sponsored contests, which already prohibit the practice of in-band, interleaved CQs. The IARU HF Championship Contest bans the practice for multi-operator entries.

New Bands! FCC Issues Amateur Radio Service Rules for 630 Meters and 2,200 Meters

The Amateur Service will officially get two new bands in the near future. The FCC has adopted rules that will allow Amateur Radio access to the 630 and 2,200-meter bands, with minor conditions. A Report and Order (R&O) was released on March 29. The new rules become effective 30 days following publication in The Federal Register. The R&O, which also addresses several non-Amateur Radio issues, allocates the 472-479 kHz band (630 meters) to the Amateur Service on a secondary basis and amends Part 97 to provide for Amateur Service use of that band as well as of the previously allocated 135.7-137.8 kHz band (2,200 meters). The R&O also amends Part 80 rules to authorize radio buoy operations in the 1900-2000 kHz band under a ship station license.

"It's a big win for the Amateur community and the ARRL," ARRL CEO Tom Gallagher, NY2RF, said. "We are excited by the FCC's action to authorize Amateur Radio access for the first time on the MF and LF spectrum."

The FCC said the Amateur Radio service rules it has adopted for 630 meters and 2,200 meters allow "for co-existence with Power Line Carrier (PLC) systems that use these bands." Utilities have opposed Amateur Radio use of the MF and LF spectrum, fearing interference to unlicensed Part 15 PLC systems used to manage the power grid.

The FCC also placed a 60-meter (approximately 197 feet) above-ground-level (AGL) height limit on transmitting antennas used on 630 meters and 2,200 meters. The bands would be available to General class and higher licensees, and permissible modes would include CW, RTTY, data, phone, and image. Automatically controlled stations would be permitted to operate in the bands.

Amateur radio links search for Amelia Earhart's plane with ISS crew, classroom

One of the enduring mysteries of the 20th century was the 1937 disappearance of famed aviator Amelia Earhart and her flight companion and navigator Fred Noonan, while she was attempting to circle the globe. It appeared that Earhart's plane went down in the South Pacific in the vicinity of Howland Island; her last-known radio transmission came from there. On February 18, a team from Nauticos -- with stratospheric explorer Alan Eustace and aviation pioneer Elgen Long, W7FT -- departed Honolulu for the vicinity of Howland Island, some 1,600 miles to the southwest, to complete the Eustace Earhart Discovery deep sea search for Earhart's lost Lockheed Electra. Nauticos provides ocean technology services to government, science, and industry.

The team has been conducting a sonar

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survey of about 1,800 square miles of sea floor where it's believed the aircraft may rest, and Amateur Radio has provided a means to link the crew of the research vessel Mermaid Vigilance with youngsters following the expedition, as well as with the International Space Station (ISS) crew.

NVIS research paper available

A thorough and fully annotated discussion of Near Vertical Incidence Skywave (NVIS) is available in the research paper, "Radio Communication via Near Vertical Incidence Skywave Propagation: An Overview," by Ben A. Witvliet, PE5B/5R8DS, and Rosa Ma Alsina-Pagès.

First investigated in the 1920s, NVIS propagation was rediscovered during World War II as "an essential means to establish communications in large war zones such as the D-Day invasion in Normandy," the paper notes, adding that the US Army subsequently sponsored a lot of NVIS field research, especially between 1966 and 1973. More recently, NVIS has become a popular means to enable close-in communication on Amateur Radio HF bands between 3 and 10 MHZ. NVIS can be used for radio communication in a large area (200-kilometer radius) without any intermediate manmade infrastructure, and it has been found to be especially suited for disaster relief communication, among other applications, according to the paper.

"A comprehensive overview of NVIS research is given, covering propagation, antennas, diversity, modulation, and coding," the Abstract explains. "Both the bigger picture and the important details are given, as well as the relation between them." As the paper describes it, in NVIS propagation, electromagnetic waves are sent nearly vertically toward the ionosphere, and, with appropriate frequency selection, these waves are reflected back to Earth.

"The great reflection height of 80 to 350 kilometers results in a large footprint and homogeneous field strength across that footprint," the paper says. "Due to the steep radiation angles large objects such as mountain slopes or high buildings cannot block the radio path."

As for NVIS antennas, the paper stipulates that important parameters are antenna diagram, polarization, and bandwidth. "As only high elevation angles contribute to NVIS propagation, optimizing the antenna diagram for these elevation angles will increase the effectively transmitted power and improve the signal-to-interference ratio at reception."

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College students in Belize introduced to amateur radio

Not long after promoting amateur radio to Boy Scouts, the Belize Amateur Radio Club (BARC) introduced ham radio to University of Belize (UB) engineering students on March 22. The BARC presentation included a summary of the club's educational goals, a short video, and a lesson on Amateur Radio basics -- such as propagation and the RF spectrum, and a question-and-answer session.

BARC President Emil Rodriguez, V31ER, encouraged the students to take advantage of the opportunities Amateur Radio offers to expand their skills in their fields of study -- mechanical and electrical engineering. The introduction represented a first step toward establishing a partnership between BARC and the UB Engineering Department, which envisions that students will learn such skills as antenna construction, electronic circuits, radio theory, and radio procedures necessary to obtain an Amateur Radio license in Belize.

Following the BARC presentation, students and staff members expressed their intention to establish a UB Amateur Radio club and station. BARC said that, in addition to its educational benefits, a permanent ham station at UB would also allow students to become involved in supporting emergency communication during hurricane season. ***-- Thanks to International Amateur Radio Union Region 2 (IARU-R2) and BARC***

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UK museum wants to hear from those who remember Sputnik launch

As part of an effort to tell the story of the International Geophysical Year (IGY) 60 years ago, a Cambridge, England, museum has been inviting comments from anyone who remembers the Soviet Union's launch of Sputnik 1 on October 4, 1957. Many radio amateurs and shortwave listeners (SWLs) of the era were among those thrilled to receive the satellite's 20 MHz beacon. The Scott Polar Research Institute Polar Museum at Cambridge University marks the IGY anniversary this year.

The IGY was a global effort to better map and understand the planet, and it put heavy emphasis on Antarctica as well as studies of space and the atmosphere. The Polar Museum exhibition recount the story of Sputnik, the establishment of scientific bases in Antarctica, and the individuals involved in the IGY.

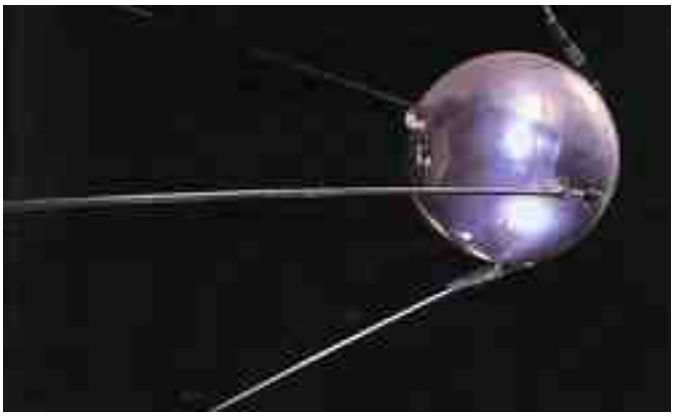
"Although largely forgotten now, the International Geophysical Year involved many thousands of people from all of the world and from all walks of life," said Museum Curator Charlotte Connelly. "We'd like to capture some of those experiences in our exhibition and show the phenomenal reach of this important moment for global science."

Reflections of those monitoring and/or spotting Earth's first artificial satellite are being included in the exhibit, "The Year that Made Antarctica: People, Politics, and the International Geophysical Year," which opened on April 26.

"Grounding and Bonding for the Radio Amateur" now available

"Grounding and Bonding for the Radio Amateur" by Ward Silver, N0AX, is now available from ARRL. Proper station grounding is important! Build your ham radio station with effective grounding and bonding techniques for electrical safety, lightning protection, and RF management.

"Grounding and Bonding for the Radio Amateur" shows you how to make sure your station follows current standards for lightning protection and communication systems, not to mention the National Electrical Code. You'll learn effective grounding and bonding techniques for stations in a house, condo, or apartment, for portable and temporary situations, and for towers and outdoor antennas.



Sputnik 1 was launched in October of 1957.

The book is available from the ARRL Store or your ARRL Dealer. (ARRL Item no. 0659), ISBN: 978-62595-0659, $25.95 retail, special ARRL member price $22.95). Call 860-594-0355 or, toll-free in the US, 888-277-5289. It is also available as an e-book for the Amazon Kindle.

Canada may be the best place for hams to experience the solar eclipse, says VE7DXW

Alex Schwarz, VE7DXW, who developed the online Scanning RF Seismograph to determine which bands are open, is among the many looking forward to the solar eclipse on August 21, 2017. Although the path of totality will move over Oregon then southeastward toward South Carolina, he believes radio amateurs north of the border can take advantage of this "very exciting celestial event," as those in the US will be doing, and may have an edge of sorts.

Members of the Ham Radio Science Citizen Investigation (HamSCI) in the US will sponsor a Solar Eclipse QSO Party (SEQP) to conduct their own research.

"This will be spectacular when viewed with our eyes," Schwarz said. "The effects of the solar radiation on the propagation of radio waves will be equally or more exciting." Schwarz said it may appear that Canada won't be a part of the solar eclipse, but British

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Columbia (BC) will have up to 95% coverage, he pointed out.

"As the solar eclipse is moving over the planet, it is leaving a canyon of de-ionized gas on the ionosphere in altitudes of about 100 to 300 kilometers," Schwarz said. "This puts Canada -- and especially Ontario -- in a very good position to get really long signal paths to the horizon toward the south. Southern Ontario will be in the best location to make contacts into the southern and western US and Central America. In southern BC, we can aim our antennas right down the length of the propagation anomaly and reach the Caribbean and southeastern US." Schwarz said timing is important, because the gas will ionize again after the solar shadow has passed. The entire passage across North America will be approximately 90 minutes.

Schwarz said that during the 1999 solar eclipse in Europe, radio amateurs recorded long-distance contacts on 160 and 80 meters. "We want to inform all amateurs about the opportunity of experiencing the solar eclipse on a totally different level by operating radios in their shacks," he said.

Schwarz encouraged all ham radio clubs to participate in the opportunity, not only to view the eclipse but to experience its effects on radio propagation.

Article links amateur radio growth to emergency communications

An April 11 article, "Emergency Communications Driving Increase in Amateur Radio Operators" in Emergency Management magazine links the growth in Amateur Radio numbers to interest in emergency communications.

"There has been a tremendous amount of interest in emergency preparedness since 9/11 and Katrina, and this is true for the Amateur Radio community as well," ARRL Emergency Preparedness Manager Mike Corey, KI1U, told the publication. "Emergency communications is a gateway into Amateur Radio, and many join our ranks through an interest in being better prepared themselves and as a way to serve their community."

The article cites numbers from ARRL VEC Manager Maria Somma, AB1FM, who notes that 2016 was the third year in a row that the total number of new licenses exceeded 30,000. The article also cites ARRL Colorado Section Manager Jack Ciaccia, WM0G, who agreed with the premise that the uptick in new licenses is due to Amateur Radio's emergency capabilities.

"Interest really peaks after a large-scale event where ham radio has been utilized," Ciaccia said.

**********2017 BIARC leadership**********

President Gary Schwiter, wh6eps@gmx.com; Vice President Peggy Gentle, radiopeg@gmail.com; Secretary Angelina Schwiter; Treasurer Paul Ducasse, ducasse@hawaii.rr.com; directors Cory Allen, KN6ZU@yahoo.com; Barbara Darling, nh7fy@yahoo.com; Richard Darling, ah7g@yahoo.com; Kim Fendt, wh6kim@gmail.com; Bill Hanson, whanson@co.hawaii.hi.us, and Bob Schneider, ah6j@arrl.org; Program Co-Chairs John Bush, amsjbush@gmail.com, and Les Hittner, lhittner@hbci.com. ***(Big Island Amateur Radio Club. P. O. Box 1938, Hilo, HI 96721-1938)***

Irene Kubica, NH7PE, is an avid participant in 10-meter activity and encourages hams at all levels to join in the fun.

Ten-Ten International's Spring CW QSO Party set for May 6-7

Let's all try to contact each other with the CW we've learned. Be sure to check www.ten-ten.org for all of the details.

Have a hankering for some rag-chewing?

Check into the daily (except Sunday) SSB nets at 8 a.m. HST on 28.380 and 28.800mHz. They are called from Illinois, California, Arizona, Florida, North Carolina and Michigan. Try them out. Remember: You have to make contacts to get results!

FISTS CW Club: Let's all get on the air with CW, having fun. Most likely upcoming times to hear someone: May 14, May 28, June 11 and June 25, all at 1900-2100 UTC. Exchange is RST, Name, QTH and FISTS number, if you have one. Best frequencies are 80m, 40m and 20m around 3.558 MHz, 7.058 MHz and 14.058 MHz, keeping clear of QRP frequencies! For more info: http://fistsna.org/fc.

Please, do come on the air, and encourage your buddies to, as well.

The 10-10 Connection

with NH7PE,

10-10 Aloha Chapter

It was 48 hours of digital fun

Ten-Ten International hosted its annual Spring Digital QSO Party in the digital area of the 10-meter band April 29-30 UTC. Participants enjoyed 48 hours of 10-meter digital fun!

For those who joined in, remember: You can assign your score to the Aloha Chapter. Logs must be postmarked no later than 15 days after the QSO Party.

Right after that, the Spring CW QSO Party will be held May 6-7 UTC. Dust off your keys and get them ready!

Restoration Project Chapter spent April commemorating the 100th Anniversary of the Battle of Vimy Ridge in April of 1917, with several stations across Canada operating as VE100VIMY.

To see what's open on 10 meters, listen to the beacons from 28.175-28.300 so you will know where DX is coming from.

The Ten-Ten International News has reprinted several antenna articles by L.B. Cebik (SK), W4RNL #41159.

Ten-Ten International pins are available for purchase at $2 each. See www.ten-ten.org for details.

CW news: FISTS Get Your Feet Wet Activity Day! Every third Sunday from 0001 to 2400 UTC on 80 and 40 meters (3.558-7.110 MHz); exchange name, QTH, FIST #, RST. Also: Every Tuesday UTC, same thing.

Be sure to check out www.fistsna.org.

73 and aloha,
Irene, NH7PE