



March 2019

ARCOver

A Community Service Organization Dedicated to Amateur Radio Since 1970

In this issue:

- ◆ President's Message
- ◆ Earth's Magnetic North Pole Shifts
- ◆ Meeting Info
- ◆ Trivia Time
- ◆ Quiz Corner
- ◆ US Amateur Radio Grows
- ◆ 40th Anniversary Celebrated
- ◆ Testing Jig
- ◆ Riley Hollingsworth, K4ZDH, to oversee
- ◆ VE7DXW's "RF Seismograph"
- ◆ The Information Spot
- ◆ 2019 Club Officers

AMATEUR RADIO OPERATORS

MARCH

TO RADIO WAVES

E-mail: W6SBA@arrl.net



Website: <http://www.w6sba.org>

President's Message

Hello fellow SBARC Amateur's

We had another nice lunch gathering at the Loft restaurant in north Torrance. We may need to consider a different lunch venue due to some limited seating accommodations for a larger group. If they are busy, it's difficult to sit our group together. That's my observation from this month's lunch. Hof's Hut is all torn apart. Hopefully in the future, it results in a good restaurant and lunch meeting venue. Anyway, bring your suggestions to the meeting for consideration of a new club lunch place.

I do have the information available for Boy Scouts merit badge counseling. Some training will be required. This is online training, available in the comfort of your own home. Let me know if you are interested.

This month's speaker, Jerry Cook KJ6JJ, will deliver a fine presentation on Amateur Radio EchoLink. I should pay attention to this one. I have been in amateur radio for some time and have been on the sidelines with EchoLink details. I have heard it in use many times on the club repeater and have heard about a few operational and technical difficulties. Bring your EchoLink questions. I'll have a few questions of mine for Jerry.

In my quest to put up a HF antenna, I acquired some military surplus aluminum mast sections and pipe to pipe mast clamps from eBay. All that went together well and it's mounted to a fence post pipe. I have a Hustler 5BTV that needed a little rehab. I am in that process now. I'm thinking it may be a little too bulky for my mounting location. But, it's still under consideration because.... I have it. This is going to be a slow moving project around all my other non-ham radio projects!

And looking ahead in March, The club has its club meeting on the 21st followed by the TRW/NGC swap meet on the following Saturday the 23rd. Bring your items to sell. The proceeds benefit the club. See Tom Carter KI6RC for the club policies. The swap meet also offers a social opportunity afterwards. Interested club members can meet up about 11:30 AM at the Denny's on Aviation and Artesia.

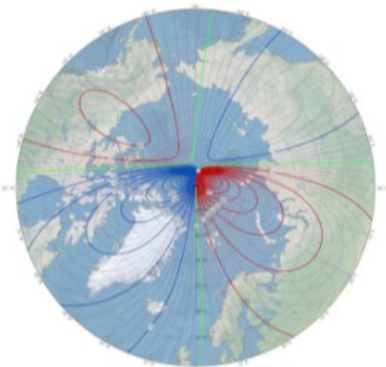
Keep hamming it up around March madness!

Scott 73's...

Earth's Magnetic North Pole Shifts toward Siberia

National Centers for Environmental Information (NCEI) scientists have updated the world magnetic model (WMM) mid-cycle, as Earth's northern magnetic pole has begun shifting quickly away from the Canadian Arctic and toward Siberia, an NCEI report said this week.

While the new WMM more accurately represents the change of the magnetic field since 2015, it has no impact on propagation.



This map shows the location of the north magnetic pole (white star) and the magnetic declination (contour interval = 2°) at the start of 2019. Photo courtesy of NOAA NCEI/CIRESI

Updated versions of the WMM are typically released every 5 years. This update comes about 1 year early. "This out-of-cycle update before next year's official release of WMM 2020 will ensure safe navigation for military applications, commercial airlines, search and rescue operations, and others operating around the North Pole," said NCEI, which is part of the National Oceanographic and Atmospheric Administration (NOAA). "Organizations such as NASA, the Federal Aviation Administration, US Forest Service, and many more use this technology. The military uses the WMM for undersea and aircraft navigation, parachute deployment, and more." Other governmental entities use the technology for surveying and mapping, satellite/antenna tracking, and air traffic management. Smartphone and consumer electronics companies also rely on the WMM to provide consumers with accurate compass apps, maps, and GPS services.

Airport runways may be the most visible example of a navigation aid updated to match shifts in Earth's magnetic field. Airports around the country use the data to give runways numerical names, which pilots refer to on the ground. The declination has changed slightly more than 2.5° over the past 2 decades or so. Compasses use declination -- the difference between true north and where a compass points -- to help correct navigation systems for a wide variety of uses. -- Thanks to NOAA-NCEI



MARCH Meeting

Bruce Jackson, KK6BJ

Jerry Cook KJ6JJ will be our March presenter. He has been a member of the South Bay Amateur Radio Club for many years and is actively engaged and turning software programs into working devices. He will be discussing EchoLink and will be showing us how to connect with satellites using microwave equipment with transfers and other easily available equipment.



We have used his EchoLink station to keep out of town and on the road members connected with our Thursday evening nets, with scouts from JOTA many other applications. His use of SDR, transfers and microwave equipment to contact satellites is fascinating.

Please come at **7:30 PM on 21 March 2019**. Room 1 in the Richard Hoffman Educational Center at Torrance Memorial Medical Center to hear his presentation.



Trivia Time LIVE!

Please join us for Trivia night the **first Thursday of every month**.

To participate means you need to try and answer a question. Even if you answer the question wrong, you still get credit for partici-

pating. The winner of Trivia night gets 5 free raffle tickets at the next club meeting. Everyone who participates gets one free raffle ticket at the next club meeting.

Congratulations to Tim, K16BGE, for answering over 10 questions correctly! Our next Trivia night will be Thursday, April 4 @7:30pm on the club repeater. Please come and join us!

Alex, KD6LPA



CORNER

WITH ALAN, KG6ZPL

- 1) I have coins in my pocket that can pay the exact price of any item ranging in price from 1 cent to a dollar. What are the fewest coins I can have and their denominations to be able to do this?
- 2) I sawed a dowel weighing two pounds into eight equal pieces. What did each piece weigh?
- 3) I weigh nothing but you can see me. Put me in a bucket of water and I'll make it lighter. What am I?
- 4) What has a head, a tail, no legs, and is brown?

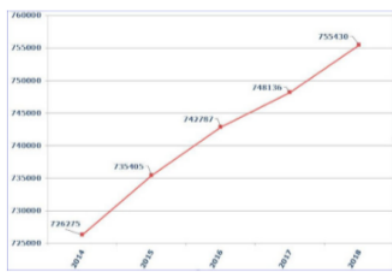
February 2019 Quiz Answers

- 1) I was going from St Ives when I lost my way. I saw a signpost but it had been knocked out of the ground. How can I use it to find where I am going? **Replace the sign so that the St. Ives pointer points to where I came from. The other arms of the sign will be pointing in the correct directions**
- 2) The temperature today is 12 degrees and it is the product of the temperatures of the last 5 days.. What were the temps for the last 5 days?
-2, -1, 1, 2, and 3 degrees.
- 3) I am heavy and hard to pick up but backwards I am not. What am I? **A ton (backwards I am "N-O-T").**
- 4) What words are pronounced differently by merely capitalizing the first letter? **There are several, and there could be more: 1. job, Job 2. herb, Herb 3. polish, Polish.**

Please send answers, questions, comments, etc., to Alan at thermic72@sbcglobal.net

US Amateur Radio Population Grows Slightly in 2018

The US Amateur Radio population once again grew by about 1%, based upon 2017 and 2018 year-end FCC database statistics provided by Joe Speroni, AH0A. The 755,430 total licensees represent nearly 7,300 more license holders than those that were in the database at the end of 2017. Nearly 51% of the Amateur Radio population in the US -- 384,145 -- hold a Technician license. Generals are second with 175,949, and Amateur Extras number 147,369. Advanced and Novice licensee populations continue to decline, with 39,607 Advanced and 8,360 Novices, as the FCC no longer issues Advanced or Novice licenses. A more significant statistic is 31,576 new FCC licenses last year, although that's 620 fewer than came aboard in 2017.



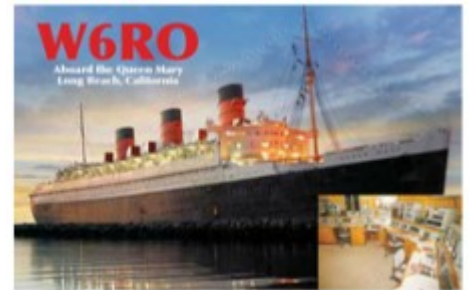
"New amateur licenses granted by FCC are down 2% over last year," noted ARRL Volunteer Examiner Coordinator (VEC) Manager Maria Somma, AB1FM, "but this is the fifth year in a row the total has been greater than 31,000. I predict that the number of new licensees will be more than 30,000 at the end of this year as well, and I'm optimistic this trend will continue."

Upgrades also are down slightly, compared to last year -- 9,456 in 2018 versus 9,576 in 2017, she added. "For the fifth year in a row, we have conducted more than 7,000 Amateur Radio exam sessions in a year -- an important milestone for the ARRL VEC," Somma recounted. "Our program continues to provide outstanding service to the ARRL, its members, and the entire Amateur Radio community."

ARRL VEC filed a total 30,393 license application forms last year, compared to 31,014 in 2017. That includes new, upgrade, modification, renewal, and club station filings. At 7,035 in 2018, the number of exam sessions conducted by ARRL VEC marginally trailed the 7,075 held in 2017. ARRL VEC served 34,493 exam applicants in 2018, compared to 35,352 in 2017. Exam elements administered by ARRL decreased from 47,152 last year to 45,817 this year, Somma said. Nearly 1,800 new Volunteer Examiners (VEs) have been added to the ARRL VEC program. ARRL Letter, 2/14/2019

40th Anniversary Celebrated

W6RO aboard the Queen Mary to Celebrate 40th Anniversary in April
The 50-member volunteer crew of the Queen Mary W6RO
Nate Brightman
Wireless Room



will mount a month-long special event in April to mark the 40th anniversary of the station's opening on the museum ship in Long Beach, California. Launched April 22, W6RO was the first of what has grown to more than 100 Amateur Radio stations based on museum ships around the world. Crew members work tirelessly to keep W6RO on the air and make as many contacts as possible during April. Station manager David Akins, N6HHR, has set a goal of 1,000 logged contacts during the 30-day event. A commemorative QSL card will be available with an SASE. Founded by Nate Brightman, K6OSC (SK), W6RO is the club station of the Associated Radio Amateurs of Long Beach.

Testing Jig Eases Job of Measuring Junk Box Resistors

Paul Danzer, N1II, was faced with sorting a box of 100 old resistors to verify their approximate values. The idea of attaching digital multimeter clip leads to each resistor 100 times was not very appealing.



His solution was to build a fixture from thin sheet aluminum. Each leg is approximately 1 inch wide, and the tops are bent over to eliminate any sharp edges. The meter leads are clipped to each leg. To measure a resistor, all you have to do is lay it across the two legs. If the connection seems a little less than solid, a bit of finger pressure applied to the resistor might help. Quick and easy ARRL Letter, 2/21/2019

Riley Hollingsworth, K4ZDH, to Oversee Volunteer Monitors Development and Implementation

Riley Hollingsworth, K4ZDH, will oversee the development and implementation phases of ARRL's new Volunteer Monitors (VM) program, which will replace the Official Observers (OO) program. Hollingsworth, who once handled Amateur Radio enforcement for the FCC, has stepped down as ARRL Atlantic Division Vice Director to avoid any appearance of a conflict of interest. The development phase of the program is already under way.



"I am grateful for the Atlantic Division ARRL members supporting me, but I think I can better serve the Atlantic Division and all ARRL divisions by working in the Volunteer Monitors program," Hollingsworth said in his resignation letter. A new Atlantic Division Vice Director will be appointed.

ARRL President Rick Roderick, K5UR, said that Hollingsworth was the ideal person to lead ARRL's efforts in the development and implementation of this joint program with the FCC.

"I support Riley's decision to concentrate his efforts on this very valuable project on behalf of the ARRL," Roderick said.

Approved by the ARRL Board of Directors last July, the Volunteer Monitors will work in cooperation with the FCC. Volunteers trained and vetted by ARRL will monitor the amateur bands for possible instances of misconduct or to recognize exemplary on-air operation. Cases of flagrant violations or non-compliance will be directed to the FCC for action, in accordance with FCC guidelines. The program, which aims to re-energize Amateur Radio enforcement efforts, was proposed by the FCC following the closure of several FCC regional offices and reductions in field staff.

Hollingsworth has identified three phases to the program -- development, solicitation and training, and implementation. The development phase will include drafting a mission statement, clearly defining ARRL's and the FCC's requirements and needs as

part of the program, drafting a Volunteer Manager job description, and developing a training manual for volunteers.

The solicitation and training phase will involve identifying the geographical locations where volunteer monitors will be most needed, soliciting applications, and screening applicants. Current Official Observers will be invited to apply for appointment as Volunteer Monitors (VMs). The ARRL Board has expressed its appreciation to the OOs for their dedicated volunteer service over the years.

Implementation will involve having the volunteers provide field reports, and ARRL staff offering guidance to volunteers to ensure that the information gathered meets FCC requirements. Continuing education will be provided to the volunteers as part of the program.

Hollingsworth has committed to ensure training adequacy for new VMs, to review the quality and utility of Volunteer Monitor submissions to the FCC for enforcement action, and to advocate for rapid disposition of cases appropriately submitted to the FCC. ARRL officials estimate that it will take 9 - 12 months before the first Volunteer Monitors begin filing reports. ARRL Letter, 2/14/2019

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VE7DXW's "RF Seismograph" May Be Real Seismograph

Alex Schwarz, VE7DXW, in British Columbia, Canada, is exploring the possibility that "RF signatures" detected by the RF Seismograph propagation tool could also be indicating earthquakes, and may even be able to predict them shortly before they occur. A real-time HF propagation-monitoring tool developed by Schwarz and the MDSR team, the RF Seismograph shows both band noise and activity or band activity alone on six HF bands. It's a project of the North Shore Amateur Radio Club (NSARC).

"We had been doing the solar eclipse experiment, and we developed the RF Seismograph software to look for changes in propagation during the eclipse,"

Schwarz explained. "After the eclipse, we decided to leave the RF Seismograph running, and we have now collected 4 years of data."

The system uses an omnidirectional multiband antenna to monitor JT-65 frequencies (± 10 kHz) on 80, 40, 30, 20, 15, and 10 meters. Recorders monitor the background noise and display the result in six color-coded, long-duration graphs displaying 6 hours of scans. When signals are present on a band, its graph trace starts to resemble a series of vertical bars.

Most recently, the RF Seismograph recorded the magnitude 7.5 earthquake in Ecuador on February 22. Schwarz recounted that noise on 15 meters began to be visible about 1 hour before the quake;



The RF Seismograph indicates an increase in 80-meter noise (red trace) corresponding with an earthquake west of Port Hardy, British Columbia.

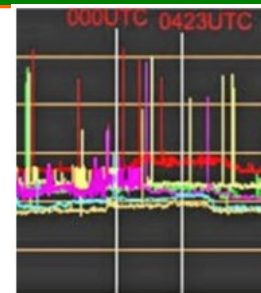
then, 2 hours after the quake released, 15 meters started to recover. The US Geological Survey said the quake was about 82 miles below ground. It did not affect 80 meters.

Schwarz speculated that the quake was easy to see on the RF Seismograph because 15 meters typically is not open during hours of darkness -- especially when the solar flux is only 70.

Following a magnitude 5.0 earthquake off the coast of Vancouver Island, his RF Seismograph picked up changes. Canada's government-run Earthquakes Canada was able to provide Schwarz with a list of magnitude 6.0 or greater events since the RF Seismograph went into operation, and the two teams have been collaborating to find a correlation between HF propagation anomalies and earthquakes. With the measurements, Schwarz has been attempting find a correlation between the list of past geological events and what his RF Seismograph may have sensed on those occasions.

"The earthquakes show up as RF noise because of the electric field lines, now scientifically confirmed to change the way the ionosphere reflects RF," Schwarz said. He cited an article in the October 2018 edition of Scientific American. (Erik Vance, "Earthquakes in the sky," Scientific American, October 2018, p. 44).

Schwarz said 171 earthquakes -- all magnitude 6.0 events or greater -- were studied, and only 15 of them had no RF noise associated with them. In 26 cases, the time of the disturbance detected by the RF Seismograph failed to match the USGS-reported time of the quake. Schwarz said that in 72% of the earthquake studies, the RF Seismograph was able to detect an increase in noise on 80 meters, typically before and after the event. "More analysis is needed," Schwarz has concluded. ARRL Letter 2/28/2019



This detail shows the increase in 80-meter noise during the earthquake west of Port Hardy, British Columbia.

SPOT the INFORMATION



1. **Attendance opportunity drawing:** No drawing at the Feb meeting due to the drawing of the HT. It was decided to do the drawing for the Baofeng HT donated by Scott-N6LEM. We thank Scott for donating this item which as it turned out to be was very beneficial for the club. Sarath-KF6DBX was the lucky one. We look forward to hearing him on the repeater of course that was the idea. Congratulations Sarath and again thank you for the donation Scott. The March attendance drawing will be for \$ 30.00

2. **Thank you:** We wish to thank Alex-KD6LPA on his presentation of the basic SDR radios systems. This presents so many opportunities for every ham. You do need to have some computer savvy of course since after all it is computer operated system. While Alex toughed on the basics of this type of operation it was made clear that you need to research a lot more. It certainly offers a lot of opportunities such as unheard of until this came available to us. So if you want to do a lot more digital stuff SDR is the way to go. Lots of help available. Thank you Alex to expose many of us to the modern technology.

3. **Dues:** In order for those of you not having paid the SBARC 2019 dues and wishing to remain as a member in good standing please do this during the month of March. The new membership roster will be available to everyone after April 1. Members not having paid will be removed from our regular roster for administrative reasons. As you know the monthly attendance drawing will no longer be available to you as an example. The other thing is you will not be kept updated on some of the things we're doing on a regular basis. More importantly, the ARRL needs to be updated with the number of ARRL members from the SBARC. As an Affiliated and also the Special Service Club those numbers are all important to us. So please take a moment of your time and make sure we can count on you to remain as a Member in good standing. Thank you.

Members in good standing since 2/28/2019
Others are listed in the February issue
Mark-KM6HQG 3282085 Matthew-K6MDC 3282087 Kathleen KG6RPM 3282088 Chuck-KG6RPN 3282089 Ken K6HRN 3282090 Melody KI6SPA 3282091 Richard KJ6CBA 3282092 Rob KB6KMX 3282093 Sarath KF6DBX 3282094 Alan KG6ZPL 3282095 Bob KK6WYW 3282097 Anthony KM6MBM 3282098 Harlan KF6BYJ 3282099 Tim KM6ZKG 3282100.

4. **Swap meet:** As you know we rent a spot at the old TRW swap meet as a club. Swap meet there is every last Saturday of the month and is located at Marine and Aviation. Times are from 8:00am till 11:00am. Tom-KI6RC, Chuck-K6CSH and Bill-KQ6Z are usually there and we thank them for doing this every month. One of the problems is in that they are running short on supplies to offer up there. So please if you have any item you wish to donate let them know. Especially radio gear you're not using is a good item to try to sell there. You can do that yourself by joining them. The club takes a small percentage from you if you sell your item. Or you ask the guys to sell it for you and we take little bigger percentage I mean after all we have to pay for that spot. Help us out with your stuff please.

5. **Activities:** Yes it is that time of year. It is time to start planning for things because time is flying. Let's start off with the Torrance Armed Forces Parade, May 18, 2019. Memorial Day Flyover May 27, 2019, Field Day, June 23-24, 2019, Picnic April TBA or probably maybe sooner. JOTA. All kinds of contest-check the SBARC calendar for listings. The reason I am mentioning all this plans have to be made. If you want to be part of that well please let us know. If you just want to participate please let us know. Plan on those events with fixed dates. We can only do this if we have our membership participation and support.



2019 CLUB OFFICERS

President: Scott -N6LEM, 310-530-9889 scottsimpson126@gmail.com

Vice President: Tom - KB9ENS, 310-896-5434 kb9ens@arrl.net

Secretary: Joe -WB6MYD, 310-328-0817 jmlanphen@gmail.com

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Council: Mark - KM6HQG, 310-612-0835 markvberbue@gmail.com

Council: Steven - KM6EMF, 949-690-3877 kf6jvt@aol.com

Past Pres: Ray - WA6OWM, 310-370-1913 wa6owm@arrl.net

CALENDAR

Council Meeting - 1st Thursday of the month
Call Joe - WB6MYD (310) 328-0817

Club Meeting - 3rd Thursday of the month
March 21, 2019 - 7:30 p.m.
Room 1 in the Richard Hoffman
Educational Center at Torrance
Memorial Medical Center

Club Nets - **W6SBA WEEKLY NET**
Every Thursday @7:30pm
(except the night of club meetings)
PVUSD EMERGENCY NET
1st Tuesday of the month
09:30 Hours on the W6SBA repeater

TRW Swap Meet Saturday,
March 30, 2019, 7-11 a.m.

VE Sessions - Scheduled on Saturday of even months
Contact Joe, WB6MYD with questions
(All VE sessions are scheduled for Room 4 in the Health
Conference Center)

Social Event - Contact: Joe WB6MYD
Phone: (310) 328-0817
jmlanphen@gmail.com

CLUB SERVICES

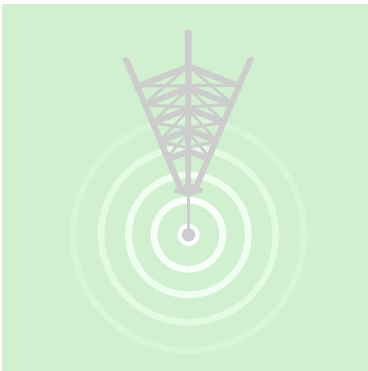
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Health & Welfare	Joe - WB6MYD
Swap Meet Chair	Tom-KI6RC, Chuck- K6CSH., Bill-KQ6Z
VE Test Liaison & Sessions	Betty Barch-N6VZF N6VZF@arrl.net (310) 545-6422
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South Bay Amateur Radio Club Repeater
224.38 MHz · PL - 192.8 Hz Offset -1.6 MHz
(See Calendar for Weekly Net Times)

NEWSLETTER SUBMISSION

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Address Correction Requested

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