

Vol. 53, No. 2

FEBRUARY 2021

WWW.COASTSIDEARC.ORG

PRESIDENT'S COLUMN

It's February and the January madness is over! Let's hope that everybody can be vaccinated soon.and we can put the pandemic way behind us!

We have had some interesting and informative talks in recent meetings, thanks to members Ralph Kugler KG6YDH for his DMR talk and to Walt Long KG6EDY for his talk about his automotive repair enforcement career. I hope other members or guests will add to the fun!

We will be addressing our Club Calendar activities for 2021 at our next meeting. At this time, the only thing we can count on is our Wednesday night Zooms and the net check-ins, but as this year progresses, I'm confident that we can have real activities for club members to participate in. So, let's keep our fingers crossed and hope for the best!

Speaking of the best, I wish to commend and thank Mike Herbert WB6J and Zeke Ferguson KG6OGD for running up the hill to put the repeater back on the air.

And last, I have noticed increased participation in the Wed nite Club check-ins. I am really happy to see this, it says that Hams are dedicated to this great "hobby" of ours. It might truly be more of a "way of life" than that.

73's. KF6TWW

CARC JANUARY 13, 2020 MEETING MINUTES

Call to Order

The January 13, 2021 meeting was called to order at 7:39pm by: Vice-President Paul Atkins-AI6BB, on Zoom Video Conference hosted by Jon Lancelle-N6SJF.

Self-introductions

Introductions by members in attendance.

Minutes

Motion made by Gary Barnes-KI6HIG and seconded by Jon Lancelle-N6SJF to approve the December minutes as posted in *The Coastside Communicator*. Motion was passed by unanimous vote of the membership present.

TREASURER'S REPORT

Funds No report given.

MEMBERSHIP

Frank-N6FG – Checks are in for processing, except latest new ones, and all new data has been input into spreadsheet. Has not sent out notices to those that have not yet renewed. Has not tallied how many renewals. P.O. box renewal. Price has gone up \$10.

Bills needing approval None

Correspondence None

COMMITTEE REPORTS

CURRENT REPEATER

1. Update on **status of WA6TOW repeater** from Dave Rinck-K6DMR: Mike was supposed to go up on the hill to check the antenna/repeater but did not get a ride. Casey asked that if anyone notices that the repeater is down to please text Dave-K6DMR or Casey-N6TZE.

- 2. APRS -
- 3. Emergency Services -

Replacement Repeater

1. Update on Repeater Replacement Committee progress from Roy Brixen-KE6MNJ: Pieces need to be pulled together from and assembled at Scott's house on Crespi and then tested prior to installing on the hill. Dave-KM6TWW talked to Roy-KE6MNJ and will look in his storage unit and inventory what is there and what needs to be done and put together a document package for Dave. Once he has done that, he and Dave will meet and actually see the hardware before the next meeting.

FIELD DAY – Not sure if we will be able to do anything this year. Frank stated that we all need to be vaccinated prior to having a group on the hill. Further discussion at future meetings.

FOG FEST - No information at this time

NEWSLETTER - Published

WEBSITE – Paul updated the site with new data.

Net Script - Using approved (COVID-19 modified) script.

UNFINISHED BUSINESS None Discussed

New Business None Discussed

Adjournment

Motion made by Frank-N6FG and seconded by Dave Lawrence-KF6TWW to adjourn the meeting at: 8:24p.m. Meeting adjourned. Talk from Walt about his profession in the auto industry followed.

Present at the Meeting

Officers: President: Dave Lawrence-KF6TWW, Vice-President: Paul Atkins-AI6BB, Secretary: Tom Oliver-KJ6OGL, Treasurer: Frank Erbacher-N6FG

Members: Georgia Grant-KE6KRT, Bill Lillie-N6BCT, Dave Conroy-KM6CPF, Casey Villyard-N6TZE, Dishaan Ahuja-KN6MKA, Walt Long-KG6EDY, Ron Purser-WB9EGG-New Member, Ralph Kugler-KC6YDH, Jon Lancelle-N6SJF, Gary Barnes-KI6HIG, Ted Niemira-K6TET

Submitted by: Tom Oliver-KJ6OGL, Secretary

NEWS

QSO Today Virtual Ham Expo to Include Speaker Track on Amateur Radio Satellites



01/26/2021 ~ The **QSO Today** *Virtual Ham Expo* on March 13 – 14 will devote a speaker track to AMSAT and the world of amateur radio satellites. The Expo is in "full planning

mode" and promises "many exciting new things" for the upcoming event, which will include a world-class lineup of more than 60 speakers and workshops for beginners to experts. Presenters at nine AMSAT sessions will discuss the broad spectrum of ham radio satellites, including:

- Introduction to Amateur Radio Satellites (Douglas Quagliana, KA2UPW)
- Getting on the Air with Satellites (Clint Bradford, K6LCS)
- How to Enjoy Amateur Radio Contacts with the International Space Station (Frank Bauer, KA3HDO)

- Implementation of LDPC Encoder on FPGA (Anshul Makkar)
- Debris Mitigation in Earth's Orbit (Anshul Makkar)
- Digital Multiplexing Transponder from the Open Research Institute (Michelle Thompson, W5NYV)
- Solving the ITAR and EAR Problem for the Amateur Radio Satellite Service (Michelle Thompson, W5NYV)
- Remote Labs for P4XT Engineering Development (Paul Williamson, KB5MU)

Thompson, an AMSAT Board Member, said working satellites is one of the most rewarding privileges of holding an amateur radio license.

"There has never been a better time to be involved in amateur radio satellites, since some long-standing regulatory burdens have been lifted and advanced technology has never been more affordable and accessible," Thompson remarked. "We have opportunities now that were not available as of even a few years ago. AMSAT is fortunate to contribute to the Expo by showcasing the truly amazing work going on around the world in the amateur satellite scene. And the Expo is an ideal partner to show it off to the wider ham audience."

AMSAT will have a booth at the Expo, where attendees can talk to experts, enthusiasts, operators, and technicians and obtain contact and membership information for the 30 AMSAT societies around the world.

Early Bird tickets are \$10 (to help cover the cost of this event) and \$12.50 "at the door." That includes entry for the live, 2-day event as well as access during the 30-day on-demand period following the event. <u>Register</u> on the QSO Today Virtual Ham Expo website.

ARRL is a QSO Today Virtual Ham Expo partner.

Ham Radio's SuitSat Returns in Short Horror Film



01/25/2021 ~ SuitSat loses its innocence in a new video short sci-fi thriller Decommissioned. "Inspired by true events," the video short resurrects the 2006

spacesuit/satellite that transmitted messages on 2 meters as it circled Earth. The original SuitSat-1 project, conceived by an Amateur Radio on the International Space Station (**ARISS**) team, repurposed a decommissioned Russian Orlan spacesuit to function as a free-floating amateur radio transmit-only satellite.

"ARISS designed and built an antenna and radio gear that got approved for installation into the suit, and cosmonaut Valeri Tokarev and Commander Bill McArthur, KC5ACR, put SuitSat-1 into orbit at the start of a spacewalk," ARISS-US Delegate for ARRL Rosalie White, K1STO, recounted. SuitSat-1 transmitted a voice message, "This is SuitSat-1 RS0RS!" in several languages, plus telemetry and a slow-scan TV image on an 8-minute cycle as it orbited Earth.

In the 6-minute film, a SuitSat returns in the future to haunt International Space Station commander "Diaz," played by Joey Vieira. Diaz is seen taking photos from inside an observation dome on the ISS when he spies some distant space debris and radios Houston to express concern.

"If there was any cause for alarm, you know we'd see it too," Houston assures.

As the object closes in, an increasingly anxious Diaz recognizes the "debris" as SuitSat. "This is SuitSat," comes a voice on the ham radio.

"Houston, you're not gonna believe this. We're picking up transmissions on the ham radio that sound identical to the SuitSat experiment," he tells a skeptical mission control. "It's SuitSat! I'm seeing SuitSat!"

"SuitSat re-entered the atmosphere and burned up years ago," mission control responds. "It's impossible."

Decommissioned was produced by Perception Pictures and directed by Australian filmmaker Josh Tanner. He <u>told</u> Gizmodo that he produced the video "using the Unreal Engine technology that The Mandalorian used, albeit old-school rear projection, as opposed to the fancy LED wall tech they used." A <u>short video</u> shows how Decommissioned was made.

SuitSat-1 — called Radioskaf or Radio Sputnik in Russian — was so successful that another unneeded Orlan spacesuit was subsequently refitted as SuitSat-2.

As an interesting sidebar with respect to the real SuitSat, White explained, "After the ARISS engineers calculated SuitSat-1's orbit and spin characteristics, they knew the legs and arms would have to be filled

with something, so they asked the crew to stuff dirty laundry inside."

White said Decommissioned was a hit at a recent ARISS meeting. The original SuitSats were deorbited to burn up in Earth's atmosphere after their useful lives ended.

ARRL is a partner in the ARISS program, which has kept amateur radio on the air from the International Space Station for 20 years. A hallmark of the ARISS program is the scheduled ham radio contacts made by astronaut crew members with schools and student groups around the world.



01/22/2021 ~ President Joseph Biden this week designated FCC Commissioner Jessica Rosenworcel as acting chair of the FCC. She succeeds, at least temporarily, former FCC chair Ajit Pai, who resigned

effective on January 20.

"I am honored to be designated as the Acting Chairwoman of the Federal Communications Commission by President Biden," Rosenworcel said in a statement. "I thank the President for the opportunity to lead an agency with such a vital mission and talented staff. It is a privilege to serve the American people and work on their behalf to expand the reach of communications opportunity in the digital age."

Prior to joining the FCC, she served as Senior Communications Counsel for the United States Senate Committee on Commerce, Science, and Transportation. Before entering public service, she practiced communications law in Washington, DC.

The newest FCC commissioner, Nathan Simington, a Republican appointee, said Rosenworcel "brings deep knowledge and experience and highly informed judgment to her new position," and he expressed appreciation that the Biden Administration acted promptly to establish FCC leadership by "selecting such a distinguished public servant for this vital role.

Fellow Democrat Geoffrey Starks said Rosenworcel "has been a passionate advocate for bringing the benefits of broadband to all Americans — particularly our children." He said her designation as acting chair "comes at a critical juncture for the Commission, as COVID-19 has made bold action to end internet inequality more vital than ever." The Commission's other Democratic appointee, Brendan Carr, called Rosenworcel "a talented and dedicated public servant, as evidenced by her 8 years of distinguished service on the FCC." On Twitter, Rosenworcel said, "The future belongs to the connected," and she described herself as an "impatient optimist, mom, wife, [and] inveterate coffee drinker."

The K7RA Solar Update



01/29/2021 ~ Tad Cook, K7RA, Seattle, reports: Solar activity increased this week. We saw no spotless days, and the average daily sunspot number rose from 14.7 to 28.1. Average daily 76.1 to 77.2

Average daily planetary A index rose from 4 to 9.4, due to a minor geomagnetic storm on Monday. On that day Alaska's High Latitude College A Index was 33.

Predicted solar flux for the next 30 days is 76, 75, 74, and 74 on January 29 – February 1; 72, 70, 70, and 72 on February 2 – 5; 76 on February 6 – 10; 77 on February 11 – 20; 76 on February 21 – 2, and 75 on February 25 – 27.

Predicted planetary A index is 5, 5, and 8 on January 29 - 31; 18, 12, and 8 on February 1 - 3; 5 on February 4 - 6; 10 on February 7 - 8; 5 on February 9 - 19; 8, 12, and 12 on February 20 - 22, and 5 on February 23 - 27.

Even after a nice stretch of days with sunspots, the 10.7-centimeter solar flux seems weak. Last week and this week we reported average daily solar flux of 73.8 and 78.6. But toward the end of 2020, the three bulletins reporting data from November 19 – December 9 had average daily solar flux at 90.1, 108.1, and 91.9. On Thursday **Spaceweather.com** reported a sunspot number of 26 and showed an image of two active regions on the sun, 2800 and 2797, but NOAA SESC **showed** a sunspot number of zero for the same day. The NOAA SESC file is the only source used for sunspot numbers reported in this report.

Here's the geomagnetic activity forecast for the period January 29 – February 24 from F.K Janda, OK1HH. The geomagnetic field will be:

- quiet on January 29 31, February 4, 10, (24)
- quiet to unsettled on February 5 6, 9 13, 17, 19
- quiet to active on February 1, 3, 7, 14 16, 18, 20, 22 – 23
- unsettled to active February (2, 8, 21)
- active to disturbed none predicted

 Solar wind will intensify on January (31,) February (1,) 2 – 3, (4, 8 – 10, 15 – 17, 20 – 21,) 22 – 24, (25)

Parenthesis means lower probability of activity enhancement. The predictability of changes remains low, as indicators are ambiguous.

We ran across this Universe Today <u>article</u> about tree rings as an indicator of historical solar activity

This weekend is the CW portion of the <u>CQ 160-Meter</u> <u>Contest</u>. Geomagnetic activity is quite low, which is a favorable indication for 160 meters.

Imagine, if you will, the worst possible solar flare, maybe worse than the infamous Carrington Event, the one that made aurora visible all the way down to the equator and set fire to telegraph offices. Some smart people have done just that. Try not to scare yourself while reading this <u>article</u> from the American Geophysical Union.

<u>Presentations</u> from last weekend's Propagation Summit are available.

The Space Weather Woman Tamitha Skov, WX6SWW, has a new <u>mini-course</u>.

KA3JAW enjoys monitoring the FM broadcast band and the 11-meter band for E-skip. He reported from Pennsylvania.

Nothing heard on the FM band, but Monday, January 25, was a great radio day for both single-hop and double-hop sporadic-e (Es) on 11 meters.

The spectacular event started early in the morning at 1145 UTC until late afternoon (2154 UTC). It all began with reception of short-hop Es into southern Maine at 7 AM. Signal was 20 dB over S-9 at a range of 300+ miles.

At 2 PM ET, double-hop Es western stations were heard, AZ, CA, UT, WA and Alberta, Canada.

And if that was not enough, I was hearing west coast stations calling out to HI.

Around 3:45 PM ET, western states, southern Texas (Houston, San Antonio, Waco) along with Florida (Tampa) were heard.

Twenty-one states, two Canadian (Ontario and Alberta) and one Mexican (Tijuana), were heard. The list includes AL, AZ, CA, CT, FL, GA, IA, IN, KY, LA, ME, MI, MS, NC, OH, SC, TN, TX, UT, VA, and WA.

Sunspot numbers for January 21 – 27 were 26, 39, 34, 23, 26, 23, and 26, with a mean of 28.1. The 10.7-centimeter flux was 77.6, 78.2, 77.9, 77.6, 77.1, 75.7, and 76.3, with a mean of 77.2. Estimated planetary A indices were 3, 4, 5, 5, 17, 21, and 11, with a mean of 9.4. Middle latitude A index was 2, 3, 3, 4, 14, 9, and 9, with a mean of 6.3.

For more information concerning radio propagation, <u>visit</u> the ARRL Technical Information Service, <u>read</u> "What the Numbers Mean...," and <u>check out</u> K9LA's Propagation Page.

A propagation bulletin <u>archive</u> is available. For customizable propagation charts, visit the <u>VOACAP</u> <u>Online for Ham Radio</u> website.

<u>Instructions</u> for starting or ending email distribution of ARRL bulletins are on the ARRL website. **Share** your reports and observations.

ARISS and Partners Are Investigating Space Station Ham Radio Failure



01/29/2021 ~ Amateur Radio on the International Space Station (**ARISS**) and its partners are troubleshooting a failure within the on-board NA1SS amateur station in the

ISS Columbus module. The problem does not appear to be with the radio equipment in Columbus, however. ARISS realized the problem when a contact with a school in Wyoming, between ON4ISS on Earth and astronaut Mike Hopkins, KF5LJG, at NA1SS, had to abort when no downlink signal was heard.

"Today was a tough one for ARISS," ARISS-International Chair Frank Bauer, KA3HDO, began in a message on January 28 to the ARISS team. Bauer explained that during a January 27 spacewalk to install exterior cabling on the ISS Columbus module, the current coax feed line installed 11 years ago was replaced with another built by the European Space Agency (ESA) and Airbus. It included two additional RF connectors to support the commissioning of the **Bartolomeo** payload-hosting platform installed last spring on Columbus.

"On January 26, prior to the EVA [extravehicular activity], our Columbus next-generation radio system was shut off and the ISS-internal coaxial cable to the antenna was disconnected from the ARISS radio as a safety precaution for the EVA," Bauer said. During the spacewalk, an external four-connector coax feed line replaced one with two RF connections.

"This change was made to allow ESA to connect ARISS and three additional customers to Bartolomeo, as compared to ARISS and one additional RF customer," Bauer explained.

With the spacewalk completed, the ISS crew restarted the ISS ham radio station on January 28, but no voice repeater or automatic packet repeater system (APRS) downlink reports were heard. During a scheduled school contact at 1746 UTC, no downlink signal was heard either, and the attempted contact had to be terminated.

"Clearly, there is an issue," Bauer continued. "More troubleshooting will be required. It may be the new external RF cable that was installed during yesterday's EVA. It might also [have been caused by] the connect and disconnect of the interior coaxial (RF) cable. So, the interior cable cannot be totally discounted yet."

Bauer said the crew photographed the coaxial cable and connector attached to the ARISS radio inside the ISS. "Because the exterior cable is a Bartolomeo cable and not an ARISS cable, we are working with ESA and NASA on a way forward," he said. "NASA has opened a Payload Anomaly Report on this issue. We have talked to both the NASA and ESA representatives."

Bauer said ARISS has asked its Russian team lead Sergey Samburov, RV3DR, if ARISS could temporarily use the RS0ISS radio in the ISS Service Module for school contacts that are already scheduled until ARISS can resolve the issue.

"On behalf of the ARISS International Board, the ARISS Delegates, and the entire team, I want to thank all of you for your tremendous volunteer support to ARISS," Bauer said. We will get through this and be more resilient as a result."

February Puzzler

PAUL ATKINS, AI6BB

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WORDLIST

AIRLINK	FEEDBACK	PERIODIC
AMPLIFIER	FIELD	PICKUP
AUDIO	FORWARDVOLTAGE	PROPAGATION
BALANCED	HARMFUL	RADIO
BALUN	HOTSWITCHING	RFFEEDBACK
BLEEDER	ION	RING
BREAKINGIN	JFET	SAR
BUFFER	LADDERLINE	SELF
CAPACITOR	LEVEL	SKIP
CHEMISTRY	LINEAR	SUNSPOT
CHIP	MEAN	SURFACE
CONDUCTOR	MICROPROCESSOR	SWR
DECI	MONITOR	SYMBOLRATE
DISTRICT	MOSFET	VERTICAL
DUMMY	PACKET	VOLTAGE
DUTY	PASSIVE	WAVELENGTH
ENERGY		WHIP

ANSWER TO JANUARY'S PUZZLER



COMING EVENTS

Pacifica CERT (Community Emergency Response Team) For training and information

<u>https://pacificacacert.samariteam.com/RequestInfo.aspx</u> email: mailto:cert@pacificapolice.org

QCWA NorCal Chapter 11 - Lunch at Harry's Hofbrau 3rd Wednesday of every month

1909 El Camino Real, Redwood City, CA.

No host. 11:00AM to 1:00PM (approx).

ASVRO Silicon Valley Electronics Flea Market

All dates for the 2020 Electronics Flea Market have been canceled.

State and county Shelter in Place orders and restrictions on large sustained gatherings are likely to stay in effect through October 2020. In consideration of government orders and the safety of all participants, ASVARO has canceled all the Silicon Valley Electronics Flea Market dates for 2020.

We are hopeful that conditions will improve sufficiently in 2021 to resume the market next year. We expect to see you again in 2021. For updates, please visit:

https://www.electronicsfleamarket.com/

DATE	EVENT		
Jan 13th	Zoom Meeting ~ 2021 Agenda Planning		
Feb 10th	Zoom Meeting ~ 2021 Agenda Final		
Mar 10th	Zoom Meeting		
Mar 14th	Daylight Savings Time Starts		
Apr 14th	Zoom Meeting		
May 12th	Zoom Meeting ~ Field Day Planning		
Jun 9th	Zoom Meeting ~ Final Field Day Planning		
Jul 14th	Zoom Meeting		
Jun 25th-27th	Field Day ~ Details TBD		
Jul 14th	Zoom Meeting		
Aug 11th	Zoom Meeting		
Sep 9th	Zoom Meeting		
Oct 13th	Zoom Meeting, 2022 Officer Nomination		
Nov 7th	Daylight Savings Time Ends		
Nov 10th	Zoom Meeting		
Dec 8th	Zoom Meeting – Election of Officers		

Meetings will resume at the Linda Mar Fire Station when COVID-19 conditions permit.



www.smcready.org cert@pacificapolice.org



In Memoriam



Roger G. Spindler-WA6AFT/SK



COASTSIDE AMATEUR RADIO CLUB

The Coastside Amateur Radio Club (CARC) is affiliated with ARRL and meets the second Wednesday of each month at 19:30 hrs. in the Linda Mar Fire Station Community Room, on Linda Mar Blvd. in Pacifica. Visitors are welcome.

The CARC has been organized since 1959, serving Bay Area amateurs, and providing emergency communications services to the City of Pacifica. Membership dues are \$20.00 per year for the administration of the Club and the publication of the Communicator.

CARC supports two repeaters, WA6TOW/R (VHF and UHF); a Packet Digipeater, WA6TOW-1; and an APRS Digipeater, WA6TOW-2. Users of the machines provide repeater support and maintenance strictly through donations.

VHF: 146.925 MHz –offset 600 KHz PL 114.8 UHF: 441.075 MHz +offset 5 MHz PL 114.8

PL Tone: 114.8 Hz is used on both repeaters, as needed, for noise suppression.

Packet Digipeater: 145.050 MHz, Packet Node: PAC APRS Digipeater: 144.390 MHz.

CARC/Pacifica OES VHF Simplex: 146.535 MHz

PL Tone: 114.8 Hz is used, as needed, for noise suppression

VHF Net

The club sponsors a VHF net each Wednesday, with the exception of meeting nights, at 20:00 hrs. for membership checkins, notices, and QST's. Note: The WA6TOW repeater on 441.075 MHz may be used as an alternate if the WA6TOW VHF repeater is down.

HF Net

The club sponsors a HF rag chew net on 3.852 MHz, or the first clear frequency up/dn, on Saturday at 09:00 hrs. with an alternate frequency of 7.228 MHz.

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The Coastside Communicator is a monthly publication of the CARC. All articles contained herein are the opinions of the authors and not necessarily those of the club members or editor.

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CARC, P.O. Box 1106, Pacifica, CA 94044

COASTSIDE NETS

Monday 7:00 PM on WA6TOW 146.925 MHz, PL 114.8 Pacifica CERT Net

7:30 PM on WA6TOW 146.925 MHZ, PL 114.8 San Bruno ARC Net

Tuesday

7:30 PM on WA6TOW 146.925 MHZ, PL 114.8 Daly City ARES Net

8:00 PM on WA6TOW 146.925 MHZ, PL 114.8 and KC6ULT 146.865 MHz, PL 114.8 simultaneously, but not linked. San Mateo County ACS Net

Wednesday

8:00 PM on WA6TOW 146.925 MHz, PL 114.8 Coastside Amateur Radio Club Wednesday Night Check-in.

Saturday

9:00 AM on 3.852 MHz, or the first clear frequency up/dn. (alt freq of 7.228 MHz.) Coastside Saturday Morning Group.

10:00 AM on WA6TOW 146.925 MHZ, PL 114.8 QCWA Ch. 11 NorCal. Net

Sunday:

7:00-7:45 AM on WA6TOW 146.925 MHz, PL 114.8 Knights of the Megahertz Net

Note: All 2m repeater traffic is recorded and may be replayed at audiostickerbur.net.

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MEETING



FEBRUARY 10, 2021 7:30 PM WATCH FOR INVITATION VIA E-MAIL OR CONTACT CARC_INFO@COASTSIDEARC.ORG TO BE ADDED

FIRST CLASS

TO: