



ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917

November 2019

PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Hello DRC Members,

We had a little winter and now summer is back, only temporary I am sure. Enjoy while it lasts because by the time you read this we will have had another change I'm sure.

Thanks to Don Dubon (N6JRL) for a great program on his adventure to Peter 1 Island in Antarctica and 3Y0X DX Expedition. The team made over 88,000 QSOs in 10 days...Amazing! A very well received program...Thanks Don. Great Job!

November's meeting presentation will be provided by Dave Feldman, WB0GAZ. Dave will present an overview of the recently introduced NANOVNA, a pocket-sized, battery-powered antenna analyzer and vector network analyzer. NANOVNA covers HF, VHF and UHF bands (50 kHz up to 800-900 MHz), and offers hams, RF experimenters and antenna experimenters a tool to measure antenna, RF circuit and RF system performance and display the results on a built-in color touch screen or a PC, at a lower cost than traditionally the case for tools with these capabilities. Dave's presentation will touch briefly on basic concepts and history of antenna and RF network analyzers. If you have a portable antenna you'd like measured, bring it along! Dave was licensed in Denver in November 1971 as WN0GAZ and has held WB0GAZ since 1972. Dave worked in the satellite telecommunication and cable television industries as an engineer, and is currently a graduate student in computer science at University of Colorado at Denver. Dave's ham interests include QRP, CW, VHF/UHF/microwave weak signal work and experimentation, home brewing, microprocessors, and digital/analog/RF circuit design.

Our next big event is our annual Holiday Party on December 18th. It will be at the same location as last year, Highland Masonic Center, 3550 North Federal Blvd. PLEASE get your reservations in as soon as possible. You will find the reservation form on line at www.w0tx.org. Print off the form, make your meal choices, attach your check (made out to Denver Radio Club) and mail to the address on the form. It is that simple...Please do it soon!

Our program for the Holiday Party is going to be FANTASTIC! Here is a summary of what you will see and hear about.

To The Ends of the Earth...WILD AFRICA

Bet you didn't know...the African continent:

- Is 3 times larger than the entire United States
- Is believed to be the birthplace of humanity
- Is a 20 hour flight from the U.S. (You have to refuel to reach it all.)
- Is home to over 1.2 billion people. (The U.S. has 0.3 billion)
- Extends as far South from the equator as Albuquerque is to the North
- Contains 400,000 elephants, down from 12 million a century ago
- Is inhabited by the fastest land animal, the cheetah. (The second fastest is the Pronghorn that lives near us.)

Also...

- Big wild animals can be visited for less money than you may think.
- Be surprised to learn how guides use 2-way radio to find rare animals.
- How to go, when to go, what to see, what to avoid...How long can you wait to go?

Come along with Rita, N0UEW and Dave Baysinger, WG0N to the wild lands of Tanzania, Botswana, Zambezi, and South Africa to find the answers.

Save December 18th for good food, fellowship, prizes and this fantastic program...All this for



(Continued from page 1)

20 dollars per person...Don't Miss It!

Thanks to all of our new members who have recently joined the DRC. Your support is very much appreciated. Please come to meetings and events and stay active. Your name and call will be posted in this edition of the Roundtable.

73 for now,

Gerry
W0GV
President

Who's New In The DRC?

By Bob Willson, KC0CZ

The DRC is a very active club in the Denver metro area and we'd like to have all of our members listen for these new calls and personally to make them feel welcome. Welcome to our newest members:

| | | |
|--------------------------|--------------------------|-------------------------|
| Matthew Chesson - KE0WXD | Christopher Dunn - K9CLD | Sharon Steadman - K0JAZ |
| Carter Dunn - K0LSA | James Blanchard - N0TRP | Henrik Bernheim - K0HFB |
| Casey Coomes - KE0WIB | John Masinter - K9GH | Ken Terrell |

We have a number of activities throughout the year and we'd like very much for you to participate in serving your community. If you have questions please feel free to ask on any of the repeaters or see the contact information on the last page of this publication.

Also, please join us once a month at the regular club meeting on the 3rd Wednesday at 7:00 p.m. For new hams we have the Elmer session which starts at 6:00 p.m. before the regular meeting.

October Meeting - What'd I Miss?

By Bill Rinker, W6OAV

Our president, Gerry (W0GV), began the meeting by having everyone introduce themselves. He then reminded everyone about the upcoming Christmas party and asked those planning to participate to make their reservations as soon as possible.

The meeting was then turned over to the guest speaker Don (N6JRL) (Figure 1). His presentation covered one of the most wanted DXCC locations, Peter I Island. This island is 275 miles off the west coast of Antarctica. In February 2006 twenty-one international ham operators, including Don, and a non-ham traveler put Peter I Island on the DXCC map. Figure 2 shows the ham operators and the QSL cards issued when operating from the ship, XR9A, and when on Peter I Island, 3Y0X.

Don described what it took to travel to Peter I Island, to helicopter equipment from the ship to the island and to setup the camp and equipment on the island. He displayed pictures of the camp's infrastructure, tent assignments, antennas, various storms they endured and the wildlife.

Don also described not only what it took to disassemble and helicopter the equipment back to the ship but also what it took to



Figure 1 - Don, N6JRL, describing the DXpedition

rescue a team member and three ship's crew members when they were stranded by a storm on the island.

In spite of occurring at the bottom of the sunspot cycle the team made 88,000 contacts from the bottom of the world!

Editor's note: There is an interesting hour long "Peter I Island Dxpediton" DVD available on many Internet sites.



Figure 2 - The DXpedition crew and QSL cards

TECHNICAL COMMITTEE REPORT

By BILL RINKER, W6OAV

The following is an overview of current issues discussed at the October meeting.

DRC/TSA Aurora Site

Goal: Work with the TSA relative to establishing a "communications room" for the DRC.

Status: The club has corresponded with the TSA relative to the installation of wiring and coax runs. No confirmation yet from the TSA.

DRC Repository verses Cloud Services

Goal: Research using the DRC repository or another cloud service for off premise storing of club records.

Status: ADOUZ has demonstrated his recommendation to the board. The board is going with the recommendation.

Station 4 Internet?

Goal: Determine if, and how, we can obtain reliable Internet access for the C4FM repeater, the voting system and the remote power control system.

Status: Committee is investigating the possibility of a microwave link from Station 4 to a member's Internet via St Anthony hospital. WG0N is using coverage maps to determine which members are microwave line of sight to St. Anthony.

Note from W0GV: 220 repeater is down. Club is in the process of getting it back on the air as soon as possible.

LEARNING NET REPORT

BY FRED HART, AA0JK

Our group gathers here to discuss, and respond to topics aimed at enhancing a better understanding of our hobby. The net is open to all and we encourage your participation.

Topics:

- ARRL membership benefits: <http://www.arrl.org/affiliated-club-benefits>
- Hustler 5BTE Vertical Antenna: <https://www.eham.net/reviews/detail/1902>
- Longmont / Boulder Ham Fest. (BARC)
- High Speed Digital: <http://www.arrl.org/high-speed-digital-topics>
- Mesh Networking: <http://www.na0tc.org/lib/exe/fetch.php?>
- Homebrew Mag-Loop Antennas: <http://www.arrl.org/hf-loop-antennas>
- Learning Morse Code
- Learning Morse Code -- Straight Key Vs Paddle: <https://youtu.be/uEy4Wvy6uUg>
- Homebrew BALUN / UNUN
- Homebrew End Fed Antenna - Stealthy, Easy to Rig, and Inexpensive: <https://www.k4vrc.com/owen.html>
- NanoVNA - Very tiny handheld Vector Network Analyze
- Third party Traffic
- SDR radio receiver add-on for Raspberry Pi
- Yahoo Groups shutdown
- New ARRL Antenna four volume set Showcasing 80 Years of Antenna Know-How Item No.1144

Great topics from our group. We certainly enjoy everyone's participation. Thanks to all. If you are listening and don't yet have your license, you can contact us via w0tx@w0tx.org or elmer@w0tx.org.

We are always looking for additional net control operators. If you would like to participate we can help you with the basics of becoming a net controller. This is a great opportunity to learn and get experience running a net.

Net controllers are always needed to perform Emergency Communications services. The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. <http://www.arrl.org/ares>. In the event of emergencies such as floods, fires, or other public service, the amateur radio community is always ready to help. If you have an interest in participating, when the need arises, learn and train now to be prepared. For additional information contact our EmComm Coordinator: Mike Vespoli (KE0HFH) at emcomm@w0tx.org.

If we don't have the answer here on the net, we have a lot of experienced hams in the club that can help.

Getting that first Technician license? Upgrading to General or Extra? We're here to help. We would encourage those who have been Hams for several years to also join us. Your experience and input is welcomed. What topics would you like to discuss? Join us Wednesday nights, 7:30 PM, 145.490, 100 Hz PL tone & linked to 448.625, 100 Hz PL tone.

(Note: The third Wednesday of the month is devoted to the DRC club meeting. Elmer Session: 6 PM, Main Meeting: 7 PM. See the [W0TX web site](#) for additional information.)

73,

Fred
AA0JK

**Oh No! Clocks go back
on Nov 3, and I can't
remember where
I bought mine from!**



THE 2019 DRC Holiday Party is on Wednesday, December 18th, 2019.



HIGHLANDS MASONIC CENTER
3550 North Federal Blvd.
Denver, CO
(park and enter on the south side)

DOORS OPEN AT 5:15 - DINNER AT 6:00

FELLOWSHIP - PRIZE DRAWINGS - PROGRAM

CATERED DINNER IS \$20.00 PER PERSON,
YOUR CHOICE OF ENTREE: ROTISSERIE CHICKEN OR MEATLOAF
MEAL INCLUDES: TWO SIDES - SALAD - BREAD - DESSERT - BEVERAGE

**>>> THE DINNER IS BY PRE-PAID ADVANCE RESERVATION ONLY <<<
Reservations must be mailed by December 11th!**

Please help us by making your reservation early. Thanks!

NOVEMBER MEETING PRESENTATION

PROVIDED BY DAVE FELDMAN, WB0GAZ

Meeting Abstract:

Dave (WB0GAZ) will present an overview of the recently introduced NANOVNA, a pocket-sized, battery-powered antenna analyzer and vector network analyzer. NANOVNA covers HF, VHF and UHF bands (50 kHz up to 800-900 MHz), and offers hams, RF experimenters and antenna experimenters a tool to measure antenna, RF circuit and RF system performance and display the results on a built-in color touch screen or a PC, at a lower cost than traditionally the case for tools with these capabilities. Dave's presentation will touch briefly on basic concepts and history of antenna and RF network analyzers. If you have a portable antenna you'd like measured, bring it along!

Speaker Bio:

Dave was licensed in Denver in November 1971 as WN0GAZ and has held WB0GAZ since 1972. Dave worked in the satellite telecommunications and cable television industries as an engineer, and is currently a graduate student in computer science at University of Colorado at Denver. Dave's ham interests include QRP, CW, VHF/UHF/microwave weak signal work and experimentation, homebrewing, microprocessors, and digital/analog/RF circuit design.

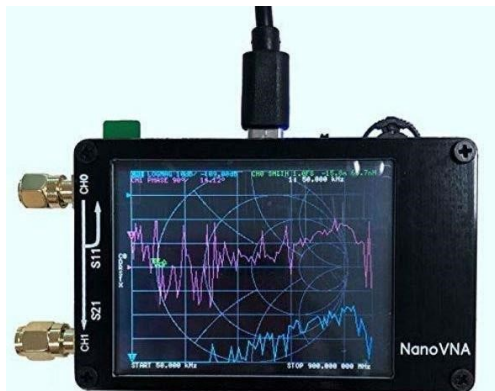


Figure 1 - The \$50 Vector Network Analyzer

DRC's HOLIDAY DINNER 2019

PROVIDED BY GERRY VILLHAUER, W0GV AND BILL HESTER, N0LAJ

See the last page of the Roundtable for a printable version of the reservation form. Also, see <https://w0tx.org/holidaydinner.htm> to download the form.

PREPPER - LIGHTS OUT. ARE YOU READY? PREPPING BASICS & HAM RADIO.

BY FRED HART, AA0JK

Northern California faced continued power shut-offs due to high-risk weather. Over 380,000, across six counties lose electrical power.



We are absolutely dependent on electricity. Everything we do in one way or another was created because of electricity.

As Amateur Radio operators, we are concerned about being prepared for many different disasters. The possibility of being without power, and communications.



It doesn't need to be an EMP strike, or a terrorist attack that takes the grid down. We could lose power at any time because of weather or natural disasters. In the event of a power outage, everything we are doing stops.

Along with having food and water, having a Prepper kit, and alternative energy, and communication options, are at the top of the list. Losing the lights, our ability to cook, stay warm, (or cool), or even your bathroom will be affected.

Do you have a Prepper supply kit? Do you check to see if everything is in working order? Is your Grab-and-Go Radio up to the task for maintaining a communication link when all else fails?

Prepper Kit. A place for supplies not for everyday use. You do not want the contents to get mixed up with dead batteries, and items removed for daily use. This stash is for reliable supplies in the event of an emergency. The last thing you want to do, is to be running around the house trying to find batteries, and flashlights, and if you are gone, the family can just go grab the Prepper kit, and have everything they need.

Your kit may include:

- Flashlights
- Batteries
- Candles
- Solar USB Chargers
- Lanterns
- Headlamps
- Crank Radio
- Lighters
- Matches
- Battery Tester (A Must)
- Glow Sticks
- Power Inverter and Extension cords
- Generator
- Water: one gallon per day, per person minimum
- Water filter
- Stored Food: two weeks minimum

Sanitation:

Spare five gallon bucket
Five gallon bucket toilet lid
Trash Bags – small for Toilet / Large for Trash
Cat litter and blue Gel Port-a-Potty Chemicals
Hand Sanitizer
Nitrile Gloves
Solar shower

Cooking:

Dutch Oven
Coleman Propane Stove
BBQ Grill
Camping Stoves

Keeping Warm or Cool:

Low Energy Fan
Extra Clothing
Blankets, Gloves, Hats etc.

Too Much is Never Enough. You may not have the option of going to the store. Their power will also be out.

Survival and being prepared should not only be a passion, it should be a lifestyle. You will not be able to depend on government agencies.

<https://survivalistprepper.net/prepper-power-outage-and-lights-out-kit/>

73,

Fred
AA0JK

FANTASTIC WEBSITE FOR HF AND VHF MOBILEERS

BY BILL RINKER, W6OAV

There's a website that covers all aspects of HF and VHF mobile operation. In the words of the website sysop:
"This site is dedicated to mobile amateur radio operators, old and new alike. Whether you're into HF or VHF operation, I trust the information presented will increase your enjoyment of our great hobby".

"With safety as a byword, there are articles on amplifiers, antennas, bonding, impedance matching, installing hardware, mobile equipment, noise and RFI abatement, wiring, and much more."

The website is accessible at: <http://www.k0bg.com>.



AH! THE JOY OF POUNDING BRASS (AKA CW)

BY FRED HART, AA0JK

Whenever the topic comes up in Amateur Radio circles, it seems there are a lot of Hams don't operate any CW, simply because of mastering the code skills they feel are required to operate on the air.

Learning Morse Code

Back when a Cub Scout, I was introduced to Morse Code in my Scout Handbook. Ah, the intrigue of being able to communicate in code.

I learned the code from the pages of my Scout manual. Definitely the wrong way. Then came the Christmas package under the tree containing a Remco Electronic Radio Station. I was elated!!! This toy radio had a keyer on which one could learn the code the proper way, by sound. Sending and hearing the letters, and numbers with a straight key.

REMCO ELECTRONIC RADIO STATION

If I were learning the code today, or if advising anyone struggling with CW, I would suggest several ways of making it easier.

1. Too many newcomers want to learn CW using a keyer. Put the keyer away and get yourself a hand key. It need not be fancy or expensive.
2. Use the hand key to practice sending similar-sounding letters (E, I, S, H etc) slowly and correctly. Don't be concerned about sending them fast but concentrate on getting a uniform spacing between each element of the letter. As you slowly learn the letters and how they sound, you will find your sending speeding-up, unconsciously, as you progress.
3. Combine your sending practice with receiving practice and try to do 10 minutes of each during each practice session. One session per day will guarantee success, if you stick with it. If you can't do it every day then try and commit to every other day.
4. For receiving practice, use a much higher speed than what you are sending at. Once again, in sets of similar-sounding letters, try and learn the letters when sent at a speed of at least 15WPM, but with wide spaces between each letter ... so they aren't coming at you as fast. This is the Farnsworth method of learning code. Learning what the letters sound like when sent at a fast speed will eliminate the dreaded 'learning plateaus' associated with learning at slower speeds, when you can get stuck at a lower speed for some length of time. I only wish that I had known of this method when I was learning the code, but I don't think it had been thought of back then.
5. There are lots of websites that will help you in Step 4. You can set up slow-speed spacing but have characters sent at 15WPM or faster (start with 15WPM). You can pick only the letters that you wish to practice (T,M,O,A,N etc) and then get a printout of what was actually sent to check your accuracy.

In addition, the ARRL's W1AW, provides nightly code practice on various frequencies, and also provides archived CW practice sessions at various speeds via their website. <http://www.arrl.org/code-practice-files>.

Once you become somewhat competent in both sending and receiving, don't be afraid to get on the air and use your new skills. Don't be concerned about sending fast, and be careful about sending faster than you can receive, an easy trap to fall into.

There are always several stations around 7.110-7.125 every afternoon and evening that seem very happy to communicate at comfortable speeds. If you don't get on-the-air, then make sure that you still do your daily 20 minutes of practice. You will be amazed at how quickly you can learn the code or increase your speed, with this daily routine. This short daily commitment to practice (on the air or otherwise) is the key to success.

If you aren't using CW, you are missing out on a lot of fun. To this day, CW is still my favorite mode and almost 100% of my on-air operating is on CW, It's just plain fun! Knowing how to use CW will open up a lot of opportuni-

ties to enjoy it, CW contesting, chasing DX, CW nets, staying in touch with friends etc. CW will always get through better than phone under most conditions.

So ... if you have been struggling with the code, or putting it off, there's no time like the present to join the fun. Hopefully you will find these suggestions helpful.

73,

Fred
AA0JK

QUESTION OF THE MONTH

BY BILL RINKER, W6OAV

Question:

I've read that a when I replace a 1/4 wavelength vertical antenna with a 5/8 wavelength vertical antenna I will gain 3 dB in signal strength. How can the second antenna produce more radiated power than the first antenna with the same power input?

Answer:

Both antennas, with the same power input, will produce the same total radiated power. If you feed either antenna with 10 watts, the total radiated power will still be 10 watts. What happens is that the radiated pattern is different for each antenna. Figure 1 shows the radiated patterns produced by both a 1/4 wavelength antenna and a 5/8 wavelength antenna. The 5/8 wavelength antenna concentrates more power at the lower radiation angles and less power at higher angles.

In other words, more power is radiated in a specific direction and reduced in other directions. This is known as the differential gain. Antenna manufactures spec their antennas where the most radiated power exists. Hence, as shown in Figure 1, the 5/8 wavelength is spec-ed as having 3 dB gain over a 1/4 wavelength antenna.

Referring to Figure 1, if you wanted to work a mountain top repeater at 40 degrees above the horizon you would want to use a 1/4 wavelength antenna as it has about 4 dB more differential gain than a 5/8 wavelength antenna at that angle!

For a good short video on how differential gain develops go to: <https://www.youtube.com/watch?v=wGE4tjATecY&feature=youtu.be>

For a discussion of antenna patterns download the November 2010 issue of the Roundtable at: [https://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201011\(NOV\).pdf](https://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201011(NOV).pdf)

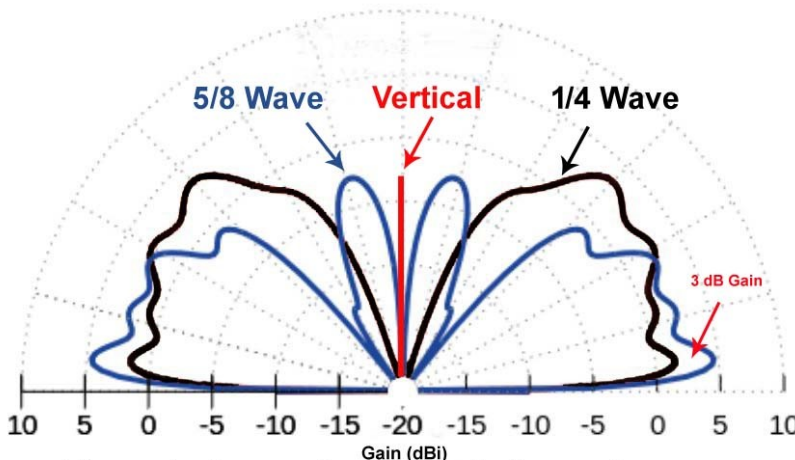


Figure 1 - Comparison of radiation patterns

SOLAR GEOPHYSICAL ACTIVITY REPORT

PROVIDED BY FRED HART, AA0JK

Geomagnetic activity was expected to rise in late September due to an increasingly disturbed solar wind field associated with the effects of a positive polarity coronal holes high speed stream.

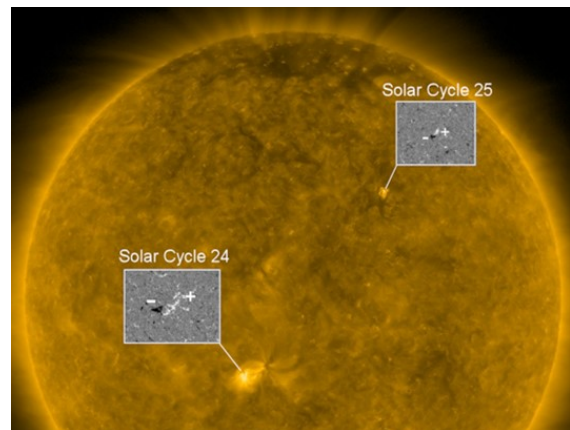
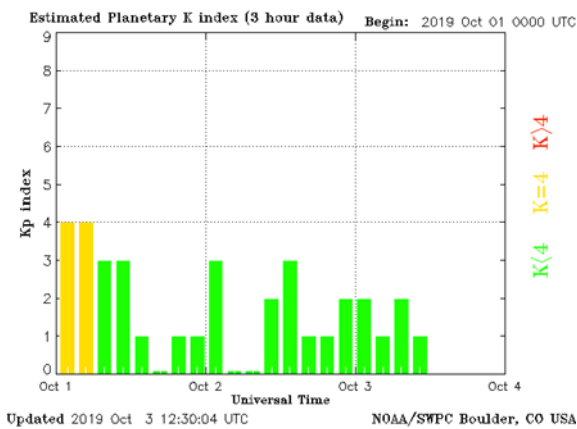


The solar wind environment was anticipated to become enhanced, and solar wind speeds were expected to climb towards ~650 km/s. This was expected to cause G1 storm conditions. Further escalation of the elevated solar wind speeds approaching ~700 km/s, and were expected to result in G2 storm levels leading into the first of October.

Despite no sunspots, the coronal hole intensity, and solar wind, geomagnetic conditions were intensifying.

October 1st - The Sun racked up its 198th spotless day of the year. So far in 2019, the Sun has been blank 73% of the time. This is the same percentage as the year 2008. If Solar Minimum continues to deepen, 2019 will soon claim the undisputed throne of Space Age spotlessness, marking it as a century-class minimum in solar activity.

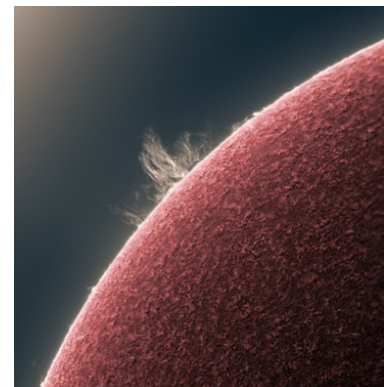
October 2nd - A SUNSPOT EMERGES: Breaking a string of 27 spotless days, a new sunspot was emerging near the Sun's southeastern limb. It was crackling with minor B-class solar flares. The latitude of the active region suggested that it was a member of old Solar Cycle 24. This sunspot was notable only because sunspots are so rare during a deep Solar Minimum.



Credit: NASA/SDO / An extreme UV image of the Sun with magnetic field maps inset. (An overlap of cycle 24 & 25.)

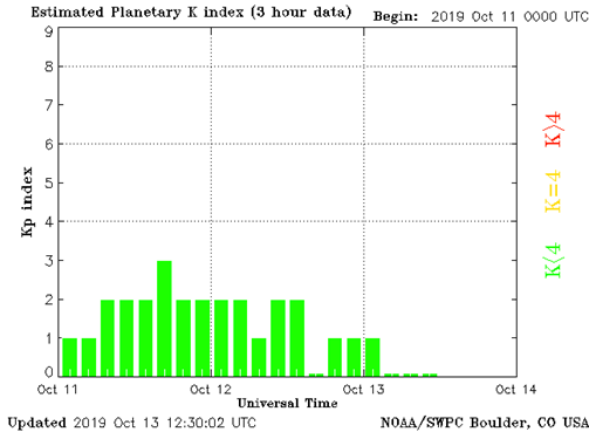
Breaking an extended period of spotless activity, the emergence of several bright spots, including one that was officially designated region AR2749, came into view.

Although this activity was to be short lived, activity for amateur radio, was expected to have improved propagation, especially on Earth's night-side. Improved transequatorial propagation was also occurring near the gray-line. Improved contacts between the northern and southern hemisphere during the dawn, and dusk hours, were likely enhanced by the weak storm activity.



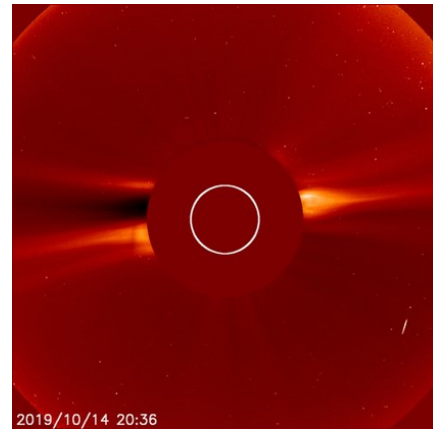
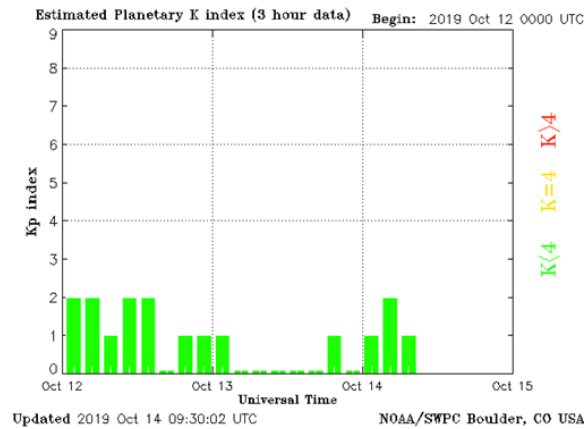
October 12th - A good sized solar prominence enhanced the otherwise placid solar disk.

The Sun was in the abyss of perhaps the deepest Solar Minimum of a century. There were no sunspots, no solar flares, no coronal mass ejections.



AIA-094-A 6 mil Kelvin

October 14th-



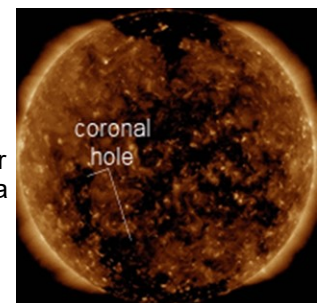
SOLAR EXPLOSION MISSES EARTH: On October 14th, something exploded on the Sun. Coronagraphs on-board the Solar and Heliospheric Observatory (SOHO), saw a cloud of debris, a CME, billowing over the edge of the solar disk.

SOHO Lasco - C2

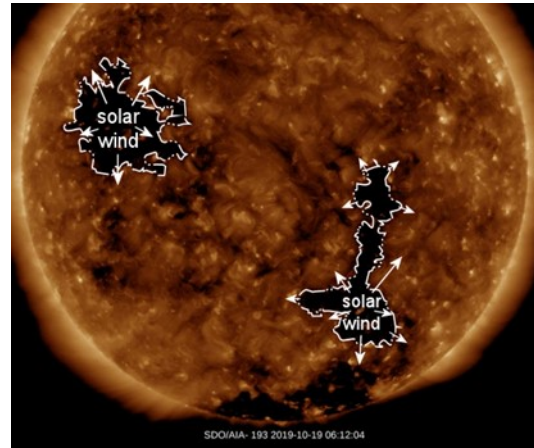
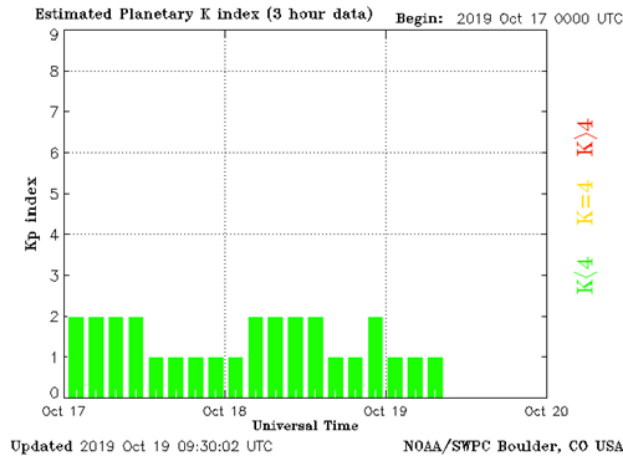
What exploded? Probably not a sunspot. Sunspots are rare now because of the ongoing deep Solar Minimum. More likely, the source was an unstable filament of magnetism that whip-lashed in the Sun's atmosphere, hurling surrounding gas into space. They could not say for sure, because the blast site was hidden behind the edge of the Sun.

Earth was expected to magnetically connect with this coronal hole on October 20th. Credit: SDO/AIA

October 19th - A DOUBLE-GUST OF SOLAR WIND: Earth was about to get hit by solar wind, twice. Two streams of solar wind were heading our way. They were flowing from a pair of holes in the Sun's atmosphere, shown in this extreme ultraviolet image from NASA's Solar Dynamic Observatory.

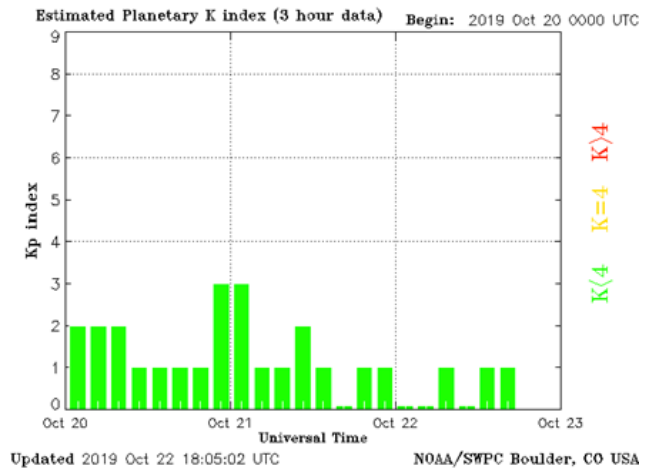
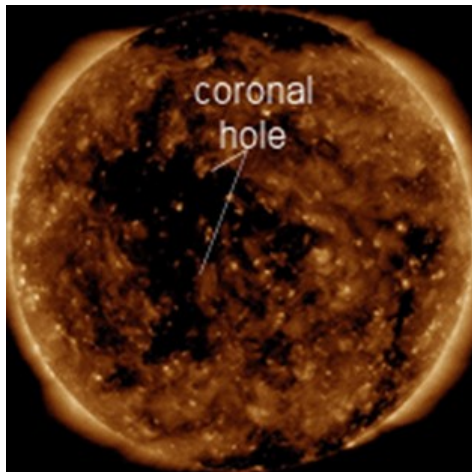


The first blow would fall on October 21st when gaseous material arrived from the hole depicted on the right. The wind from this hole was blowing ~500 km/s.



The second blow would fall on October 24th, when gaseous material arrived from the hole depicted on the left. This was a more potent stream, blowing ~700 km/s. It was expected to cause G1-class geomagnetic storms.

October 21st - Credit: SDO/AIA



This long, large, coronal hole was magnetically coupled with Earth’s magnetic field, and was setup to deliver a solar wind stream on October 24th This fast-moving solar wind stream was moving at ~700 km/s.

Prepared jointly by the U.S. Department of Commerce, NOAA, Space Weather Prediction Center, UPDATED 2019 October 24th 0030 UTC.

Forecast: Solar activity is expected to persist at very low levels on October 24-26.

73,

Fred
AA0JK

DRC's EMERGENCY RESPONSES

In the event of a disaster in the metro area, please monitor our repeaters on 145.490/448.625 (primary) and 449.350 (secondary).

The emergency Net Control Operator will provide information and/or requests to members for assistance.

[W0TX Repeater Directory](#)



Note to DRC Members:

Our club depends on the involvement and participation of YOU, our members. Do you have a skill or interest that could help the club. Maybe you want to volunteer to be on a committee? Like to write? Have ideas for improving what we do? Speak up and let someone know, all ideas are welcomed and participation is always helpful. ~Editor

RANDOM SITE OF THE MONTH

[REVERSE BEACON NETWORK](#)

THE ROUNDTABLE ARCHIVE

Go to: <http://www.wotx.org/roundtables.htm>

THE ROUNDTABLE ARTICLE INDEX

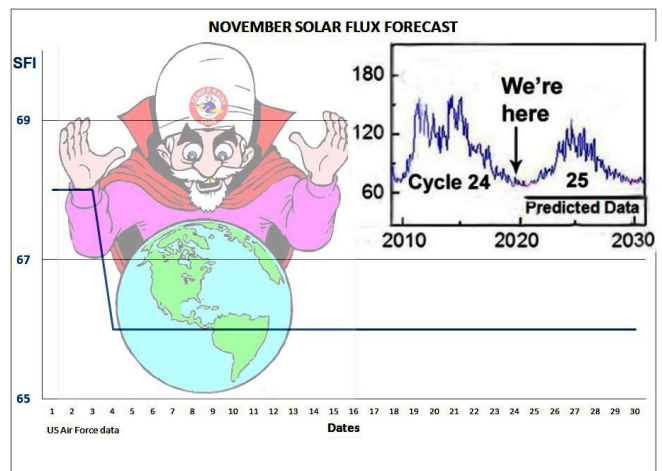
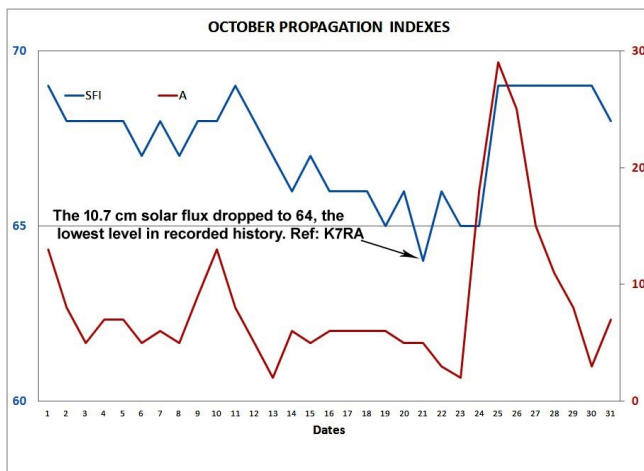
Go to: <http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf>

PAST & FUTURE PROPAGATION CONDITIONS

By Bill Rinker, W6OAV

The charts below show the Solar Flux and "A" indexes for last month and the forecast for this month's Solar Flux index.

Refer to the September 2010 *Roundtable* for more complete information on interpreting these charts, which is available at: [http://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201009\(SEP\).pdf](http://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201009(SEP).pdf)



UPCOMING EVENTS
HAMFESTS & CONVENTIONS

| Event | Date | Location | Sponsor Website |
|---------------------|----------|--------------------------------------|---------------------------------------|
| Winter 2020 Hamfest | 01/18/20 | Larimer County Fairgrounds, Loveland | Northern Colorado ARC |

UPCOMING QSO PARTIES

The following are the Contests not sponsored by the ARRL. Please submit additions for future issues.

| State/Province | Start Date | End Date | Sponsor Website | Notes |
|------------------|------------|------------|--|-------|
| British Columbia | 02/01/2020 | 02/02/2020 | Orca DX and Contest Club | |
| Minnesota | 02/01/2020 | 02/01/2020 | Minnesota Wireless Association | |
| Vermont | 02/01/2020 | 02/02/2020 | Radio Amateurs of Northern Vermont | |
| South Carolina | 02/22/2020 | 02/23/2020 | Columbia Amateur Radio Club | |
| North Carolina | 02/23/2020 | 02/24/2020 | Raleigh Amateur Radio Society | |
| Idaho | 03/08/2020 | 03/09/2020 | Idaho QSO Party | |
| Wisconsin | 03/09/2020 | 03/10/2020 | West Allis Radio Amateur Club | |
| Oklahoma | 03/14/2020 | 03/15/2020 | Oklahoma DX Association | |

ATTENTION

SUPPORT THE DRC FROM YOUR AMAZON PURCHASES

You can now support your Denver Radio Club when you make purchases from Amazon.com. Amazon Smile donates 0.5% of your purchase to the non-profit (501.c.3) organization of your choice. This is at no additional cost to you. To support the DRC just visit smileamazon.com. Select Denver Radio Club, Inc. as the organization you want to support and proceed with your order as usual. Amazon Smile will credit the DRC automatically. Thank you for your support.

DRC REPEATERS

| BAND | Freq / Shift / PL Tone | Additional Information |
|--------|--|--|
| 6m | 53.090MHz (-1MHz) 107.2Hz PL | |
| Packet | 145.05MHz<>14.105MHz | 2m / 20m gateway. Useable by Technicians on 2m. |
| 2m | 145.490MHz (-) 100Hz PL | Linked to 70cm / 448.625MHz. Primary frequency during emergency net. |
| 2m | 147.330MHz (+) 100Hz PL | Local area. Has voting receivers. Does not TX a PL. |
| 2m | 147.330MHz (+) 131.8Hz PL | Test mode operation. Send signal reports to Tech Committee. |
| 1.25m | 224.380MHz (-) 100Hz PL | |
| 70cm | 447.825MHz (-) DCS~073; NB 12.5; +/- 2.5 | Saint Anthony's. Note: This is a narrow band repeater requiring DCS. |
| 70cm | 448.625MHz (-) 100Hz PL | Linked to 2m / 145.490MHz. 1° disaster net freq. |
| 70cm | 449.350MHz (-) 100Hz PL | Wide area coverage with Echolink, node # 4140. Secondary frequency during emergency net. |
| 70cm | 449.775 MHz (-) | Yaesu digital, C4FM, Wires-X, DN, VW & Data. No analog FM. |
| 70cm | 446.7875MHz (-) | BrandMeister Repeater: Slot 1 – Wide Area Traffic, Slot 2 – Local Talk Group 310804 |



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| NOVEMBER 2019 | | | | | | | <i>DRC Net Sundays at 8:30 p.m. on 145.490 / 448.625 (no PL)</i> |
|--|---|---|---|---|--------|---|--|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | |
| | | | | | 1 | 2 November Sweepstakes - CW Starts 2100 UTC | |
| 3  | 4 November Sweepstakes - CW Ends 0259 UTC  First Quarter | 5 | 6 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL) | 7 | 8 | 9 | |
| 10 | 11  | 12  Full Moon | 13 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL) | 14 | 15 | 16 November Sweepstakes - Phone Starts 2100 UTC & EME Contest - Starts 0000 UTC | |
| 17 EME Contest - Ends 2359 UTC | 18 November Sweepstakes - Phone Ends 0259 UTC | 19  Last Quarter | 20 DRC Meeting Elmer 6 p.m. General 7 p.m. | 21 | 22 | 23 | |
| 24 | 25 | 26  New Moon | 27 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL) | 28  | 29 | 30 | |

DRC BOARD OF DIRECTORS

| | | | | |
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| | | | | |
|-----------------------|--------|-----------------|--------------|--|
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| Trustee | WW0LF | Orlen Wolf | 303-279-6264 | owolf@mines.edu |
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Please Let Us Know

Over the years we occasionally hear from hams who have read the RoundTable in other states and countries around the world. We appreciate the comments and we would like to know where you are located. So if you live outside the Front Range or Denver Metro Area and read the newsletter either online, email or hard copy please send a short note via email with your *City, State or City, Country*.

We will publish it at a later date in our new regular feature called RoundTable RoundWorld.

To respond to this request send your information to drc.editor@gmail.com.

Subject: I'm located in...

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DRC members - this is your newsletter. Please email your club or amateur radio related suggestions to the editor. Members are the heart of The Denver Radio Club, so if you have an expertise or an interest in a particular segment of ham radio that you'd like to write about, you may email your submissions to drc.editor@gmail.com. The submission deadline is the 25th of the Month. ~ Editor

DENVER RADIO CLUB
2019 HOLIDAY DINNER MEETING
RESERVATION FORM

Please print out this form, fill it in, and mail it with your check.

THE DEADLINE TO MAIL RESERVATIONS IS DEC. 11TH, 2019 !
(Please help us by making your reservation early. Thanks!)

Name: _____ Call: _____

Address: _____

City: _____ Zip: _____

Phone #: _____ E-mail: _____

Total # of Persons Attending at \$20.00 Each: _____

Entrée Choices: # of Rotisserie Chicken: _____, # of Meatloaf: _____
(there is only one entrée per person)

Please make your check payable to: The Denver Radio Club

My check is in the amount of: \$_____

Please mail this Reservation Form with your Check to:

Gerry Villhauer
6511 West 74th Ave.
Westminster, CO 80003 – 3129

Thanks for making your reservation. We appreciate your support!