



THE ROUND TABLE

Monthly Newsletter Of The Denver Radio Club

Since 1917

April 2021

PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Hello DRC Members,

I hope you all are staying healthy. As the weather improves, we all will be excited to get out and socialize. I believe we all need to keep our guard up and be mindful of where we go, this pandemic situation, in my opinion, is far from over. The vaccination is a great help but, please be cautious. As I write this, the temperature is expected to be in the 70's; spring has sprung.

It has been a quiet month, which is welcomed. Last month I reported our 220 repeater had failed. It has made the trip to the vendor for warranty repair and has been shipped back. Presently it is being bench tested and we expect it to be re-installed soon. 220 is a great band. It has the characteristics of 2 meters and 70-centimeter. Give it a try if you have equipment to do so; I think you will be pleased.

I have been asked about ARRL Field Day for this year. As of now, we are unable to make a decision whether to participate or not. Policy and reservations for Chief Hosa campgrounds are not available until May. I read in QST, the ARRL is applying the same rules this year as in 2020. Basically, individual station will be able to operate from home or a location of your choice and submit contacts to DRC for a group points total. As more information is available, we will announce it on the nets and on the DRC website.

Thanks to Steve Johnston (WD8DAS), for his presentation on RF Radio Noise. His presentation was very well received and has generated lots of conversation over the air. Hopefully we can have Steve back for another presentation.

Most hams are not familiar with HF, VHF and UHF slot antennas. To learn very interesting facts about slot antennas, plan to attend the April video meeting. John (W6NBC), will discuss his research and development of unique small HF/VHF/UHF slot antennas. Most of John's designs make great efficient stealth antennas. Mark your calendar for Wednesday April 21st and tune in online.

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 Round Table.

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:

Ben Pope - N0LDV	Edmund Deering - KB0PVB
Timothy John Harris - KF0CWZ	Terry Tanner - K0TWT

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.

TECHNICAL COMMITTEE REPORT

BY BILL RINKER, W6OAV

All projects are on hold due to the virus and the weather. However, the tech committee members are discussing possible projects for the upcoming year.

The following is an overview of current issues for the Tech Committee.

DRC/TSA Aurora Site.

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

Status: This project shelved until Covid-19 is over.

Replace 220 Repeater Antennas

Goal: Improve coverage for the repeater.

Status: WW0LF is constructing the coax harness. Once completed, a work party will be scheduled.

Install a Remote 6 Meter Receiver

Goal: Investigate the possibility a remote receiver to resolve the high noise level at Station 4.

Status: WG0N and W0GV will check out conditions at a possible site.

LEARNING NET REPORT

BY FRED HART, AA0JK

Purpose:

We are here to help introduce, and promote, a variety of topics of interest to all amateur radio operators.

Our intent is to help participants get more active, involved, and engaged in amateur radio.

Topics of interest we encourage:

Personal Communications

-Getting started in the various modes, of communications.

Emergency communications

- Participation in public service.

-
- Training in emergency communication for volunteers.

Radio electronics, and technology

- Kit building, understanding signal propagation. and building antennas.

We strive to put experienced members / volunteers, at the forefront, as a regular source of knowledge-sharing in the Denver Radio Club. We hope members participating in the DRC learning net will find it rewarding to share experiences, and learning, that will motivate more of our amateur radio community toward lifelong journeys as Hams.

If you have experience in, and have a passion for, any amateur radio related topics, please consider providing the DRC with presentations that will motivate other Hams to share your interests.

March Topics we have discussed:

- HOA's
- Jeep antennas installation
- Motorized diamond antenna
- Field Day
- Programming FT-4XR Yaesu
- RT Systems: rtsystemsinc.com
- Vertical antenna ground radials
- Grounding buss-bar
- Station Grounding for Amateur Radio: Ask Dave Episode 8 - YouTube
- Grounding (arrl.org)
- ARRL Grounding and Bonding for the Radio Amateur Item No. 0659
- Learning CW
 - W1AW Code Practice MP3 Files
 - Code Practice Files (arrl.org/code-practice-files)
 - W1AW Operating Schedule (arrl.org/w1aw-operating-schedule)
 - bing.com/videos/search?q=cw+learning+morse+code+army+navy
- Slinky Dipole Antennas (simplehamradioantennas.com)

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 at the W0TX web-site, w0tx@w0tx.org, or elmer@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. You may also find Dave Casler's Amateur Radio Licensing Guides helpful: <https://dcasler.com/ham-radio/>

We would encourage those who have been Hams for several years to also join us. Your experience and input is welcomed.

Finding your place in the amateur radio community - -> Are you looking to be more involved, learn new skills, find a mentor or friends to share your amateur radio interest? Check out your local Denver Radio Club, and start making the most of your amateur radio license.



<http://www.arrl.org/public-service>

Use your communication skills to help keep your community safe!



<https://www.weather.gov/marine/ham>
<http://www.warrenares.org/home/skywarn-weather-spotting>

During severe weather events, amateur radio operators bring significant resources to storm spotting, including an established communications system that can function in an emergency. They provide real-time information to partners like emergency management and forecasters at the national weather service. The data received from hams helps issue weather watches, warnings, and advisories.



SKYWARN Spotter Training Updates: www.weather.gov/bou/spot_training

What topics would you like to discuss? Join us Wednesday nights, 7:30 PM, 145.490, 100 Hz PL tone & linked to 448.625, 100Hz PL tone.

73,

Fred
AA0JK

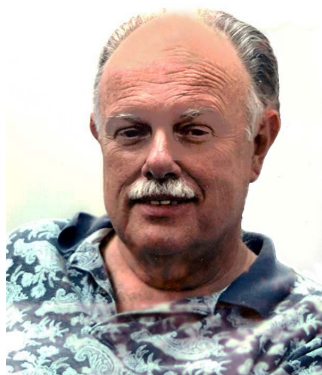


APRIL PRESENTATION ANNOUNCEMENT

By BILL RINKER, W6OAV

Most hams are not familiar with HF, VHF and UHF slot antennas. To learn very interesting facts about slot antennas plan to attend the April video meeting. John, W6NBC, will discuss his research and development of unique small HF/VHF/UHF slot antennas. Most of John's designs make great efficient stealth antennas.

John, licensed since 1965, was in the technical side of broadcast television, principally for KNBC channel 4 Los Angeles, Ampex Corporation, Redwood City CA, Sony Electronics and San Jose, CA as a technical instructor/writer. He has written many articles for QST covering different subjects. This past February, John won the QST Cover Plaque Award — given to the author of the most popular article in each issue.



INTELLIGENT CARTOON

PROVIDED BY BILL RINKER, W6OAV



THE ISSUES BEHIND THE DEVELOPMENT OF THE TRANSISTOR

BY BILL RINKER, W6OAV

The link below provides an interesting documentary video about the development the transistor at Bell Labs by John Bardeen, William Shockley and Walter Brattain, the problems they had to overcome and the conflicts that developed between the three men. The video also details how differently Japan and the US initially used the transistor, how ICs and the major transistor companies, like Intel, developed and what the original developers went on to do in later life.

<https://www.youtube.com/watch?v=U4XknGqr3Bo>

NORMAN ROCKWELL'S NEIGHBOR MUST HAVE BEEN A HAM

BY FRED HART, AA0JK



Let's see now...Length = 468/ Frequency in MHz, Dipole center fed, end-fed, OCD Windom, Bal-un, UN-UN?

All these questions should be answered before climbing up on the roof.

Ah, antennas. One of Ham's favorite subjects.

The first inclination is, raising a tower with multiple beam arrays, a remote directional control from the shack, and the list goes on.....

Well, nice dream, but will the HOA approve?

So many considerations to take into account when installing an antenna.

Lets consider the basics. The basic antenna, the Dipole wire antenna. Simple, inexpensive. Dreams are one thing, one's needs are another. The simple wire antenna, resonate for the band and frequencies you wish to use, are really all you need. Don't get caught up in all the marketing hype of those hundreds of antennas, designed, and marketed to lighten your wallet. Keep it simple and basic. You will find that

the simple wire dipole will more than likely out perform any of the expensive antennas out there on the market.

In an antenna restricted neighborhood? Keep it stealthy, the wire antenna is less apparent, Lofty towers and beam arrays, signal to all, who is generating the interference to their appliances. Nothing like having the neighbors knocking on your door complaining that they can hear you on their toaster or blender, as they are fixing breakfast or midnight snack. One once complained she could only hear one side of the conversations.

Your antenna is a major factor in having a great performing station. The other is having a good receiver. If you can't hear them, they say, you can't work them. Pumping more power up the feed-line is hardly the answer to making that DX contact, or extra contest points. A good resonant antenna, a good receiver, and running QRP, can produce better results.

The dipole antenna can be quite versatile in conditions where limited space is a factor. Check out the ARRL's many texts, and on-line articles for wire antennas. There are many configurations, and you are bound to find one to suit your needs.

Don't have the real-estate, to stretch out the horizontal length of your dipole? Try an inverted "V" or "L" configurations. And don't forget the vertical array.



I wonder if loading the flagpole up as an antenna will bother spot?

Get creative. If your antenna is resonate for where you want to operate, you're going to be adding contacts to you're log-book.

Don't underestimate the value of a good resonate wire antenna.

73,

Fred
AA0JK

THE QUESTION OF THE MONTH: SEA VS FRESH WATER

By BILL RINKER, W6OAV

Question

The other day I heard two stations discussing the propagation loss of RF across a freshwater lake compared to the propagation loss across saltwater. They agreed that the loss is pretty much the same. Is this true?

Answer

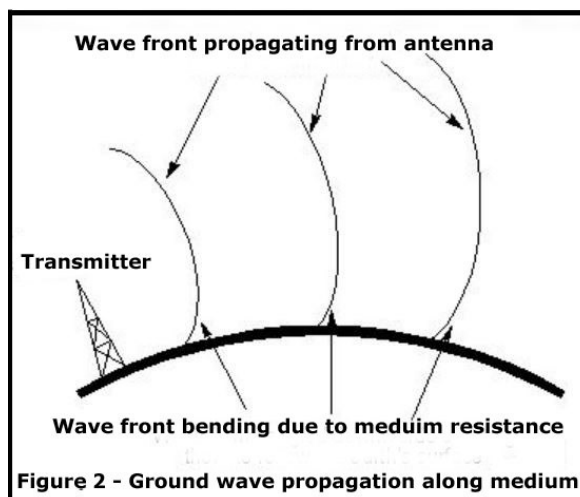
Absolutely not true. The propagation loss across saltwater is many times less than the propagation loss across freshwater. First, we'll look at the theoretical losses computed by G4FGQ's (sk) propagation program and then we'll briefly discuss why these losses occur.

The theoretical propagation loss values shown in Figure 1 are based on 2 mobiles being 20 miles apart, first with a saltwater bay between them, then with a freshwater lake between them and finally with average and poor ground between them. The losses were computed at 14 MHz. The frequency is important as the lower the frequency, the higher the propagation loss and vice versa. This will be discussed later. There are also other variables that affect propagation loss, such as temperature, run off from rain, etc.

Figure 1 - Theoretical losses across mediums	
Medium	Loss (dB) @ 14 MHz
Saltwater	85.5
Freshwater	123.1
Average Ground	136.6
Poor Ground	139.4

Referring to Figure 1, assuming the standard of 6 dB per S Unit, the propagation loss difference between saltwater and freshwater calculates to be approximately 6 S Units. The loss between saltwater and average ground calculates to be approximately 8.5 S Units. I would say these numbers are fairly accurate. Years ago, when I worked next to the San Francisco Bay, I ran similar mobile to mobile tests with ham friends across the saltwater bay. I also ran similar tests across freshwater lakes in San Jose. We pretty much obtained similar results.

So, why do these propagation loss differences occur? Let's look at how ground waves propagate. See Figure 2. As the wave front travels out from an antenna it is slowed slightly near the medium (ground or water) due to conductivity of the medium being less than the conductivity of the air. In other words, the medium offers more resistance to the traveling wave front that penetrates it. This has the effect of tilting the wave front forward so that the bottom stays in contact with the medium. The wave front induces currents in the medium over which it passes and thus loses energy to the medium. The wave loses less energy over saltwater compared to freshwater because saltwater, being more conductive than freshwater, absorbs less energy from the wave front.



As mentioned earlier the amount of propagation loss is dependent upon the frequency. The lower the frequency, the greater will be the loss. The reason for the amount of loss being dependent on frequency is because the lower the frequency, the deeper the penetration into the medium and the more the loss of energy to the medium.

Figure 3 shows the electrical conductivity of different types of water measured in microsiemens per centimeter (uS/cm). Without going into details about this measurement, just note how much greater the conductivity of saltwater is than that of freshwater.

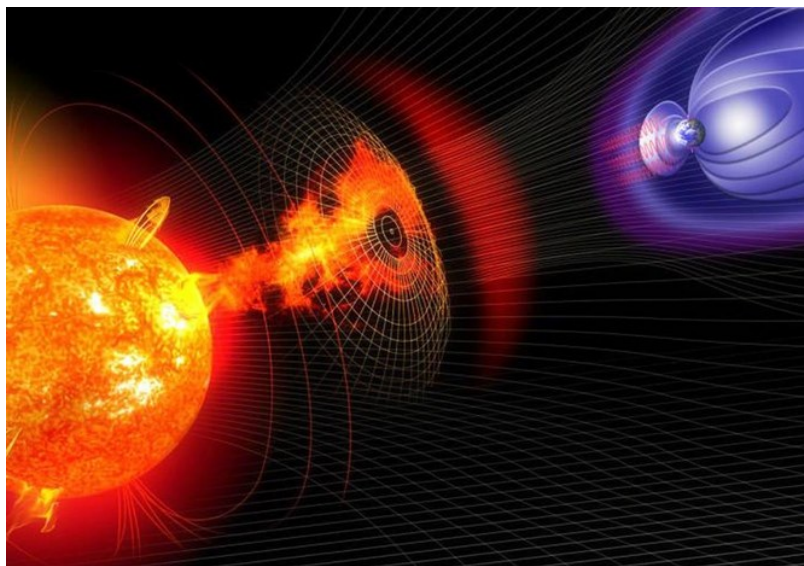
Figure 3 – Conductivity of saltwater vs freshwater	
Water Body	EC (uS/cm)
Atlantic Ocean	43,000
Lake Mead	850
Lake Tahoe	92
Lake Superior	97

Here’s an interesting side note. One time I crossed the Great Salt Lake area while operating HF mobile. When I entered the lake area my signal to the distant stations increased dramatically. When I exited the far side of the lake area my signal decreased dramatically. Here’s why: The average conductivity of the lake area is 158,000 uS/cm! During that trip across the Great Salt Lake area I could break any pile up that I heard! I was in ham hog heaven!

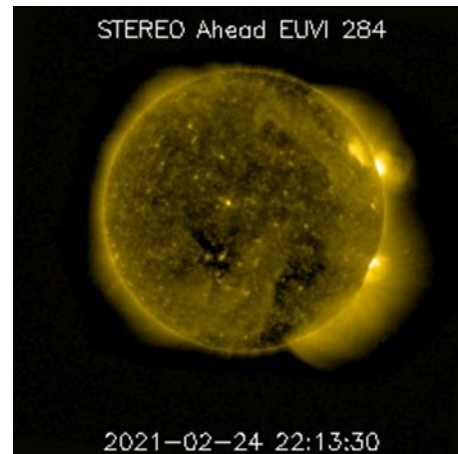
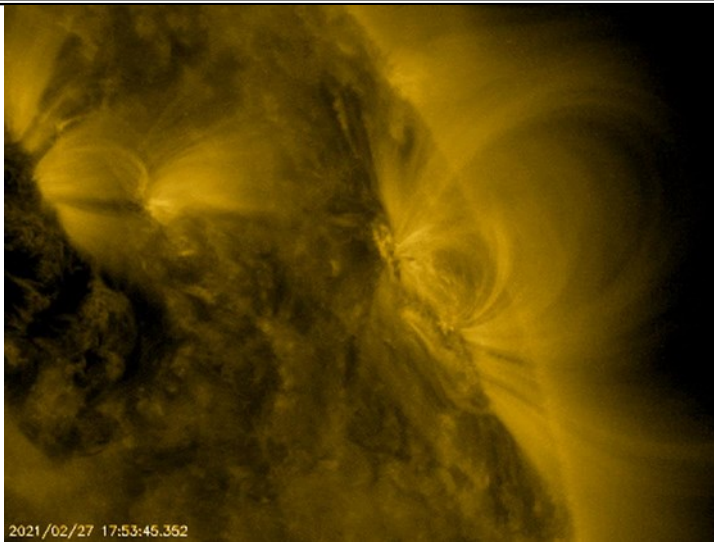
Reference: “Handbook on Ground Wave Propagation”
itu.int/dms_pub/itu-r/opb/hdb/R-HDB-59-2014-PDF-E.pdf

SOLAR GEOPHYSICAL ACTIVITY REPORT

PROVIDED BY FRED HART, AA0JK



As February departed, sunspot AR2804 erupted into a C2-class solar flare. A shadowy wave rippled away from the Sun's surface, as seen by NASA's Solar Dynamics Observatory (SDO).



The Solar and Heliospheric Observatory, (SOHO), detected a faint CME emerging from the sun's northwestern limb. Because the sunspot was not facing Earth, the CME was expected to miss our planet. NOAA analysts were modeling the storm cloud's trajectory.

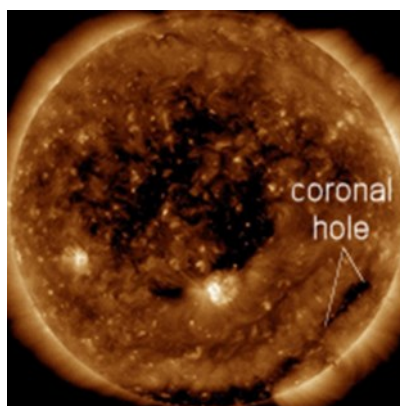
March is the most geomagnetically active month of the year. Why? It's what's known as the Russell-McPherron effect. During the weeks around equinoxes, cracks open in Earth's magnetic field. Solar wind pours in to fuel geomagnetic storms. This is happening right now. The strongest storm of the year began on March 1st.

GEOMAGNETIC STORM IN PROGRESS: A moderately strong G2-class geomagnetic storm was in progress on March 1st as Earth entered a high-speed stream of solar wind.

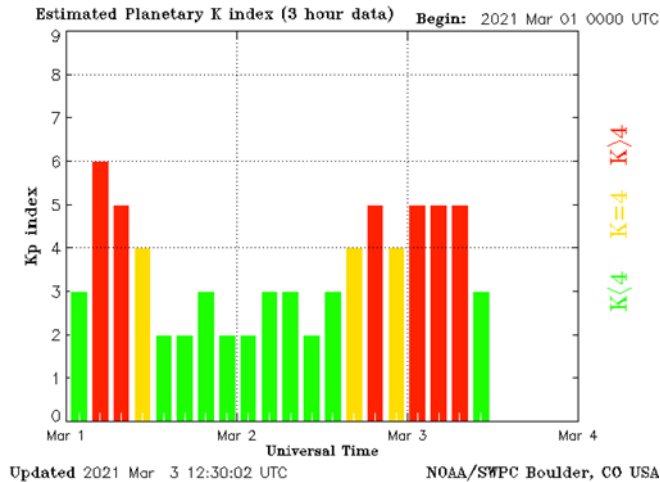
The solar wind was flowing from a 500+ km/s southern hole in the sun's atmosphere. Its effect was amplified by cracks now opening in Earth's magnetic field. Solar wind pouring through the gaps was fueling the storm.

Wednesday, March 3rd - Storm in progress. A solar wind stream was buffeting Earth's magnetic field, blowing at speeds faster than 600 km/s. This was causing minor G1-class geomagnetic storms.

The solar wind was flowing from a southern hole in the sun's atmosphere. Earth was expected to remain inside the stream for another 24 hours, with a slight chance that wind speeds could top 700 km/s, the fastest in years. Below Image Credit: SDO/AIA



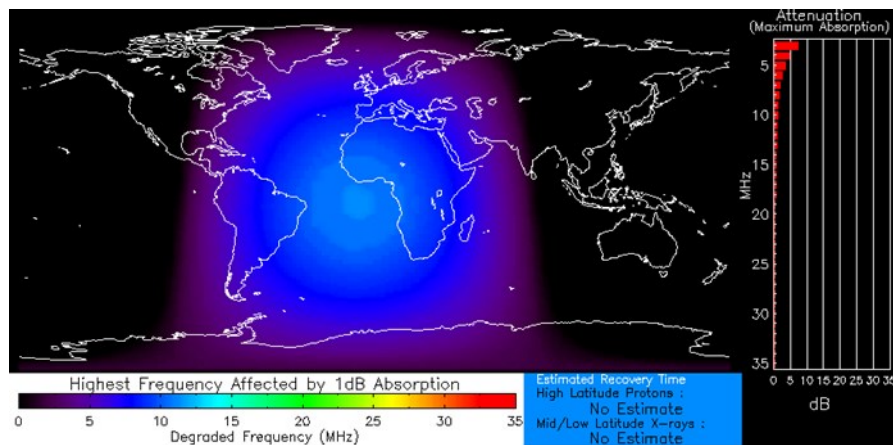
Earth was inside a stream of solar wind flowing from this southern coronal hole.



A significant sunspot area was facing earth. The most dominant feature was the equatorial coronal hole.

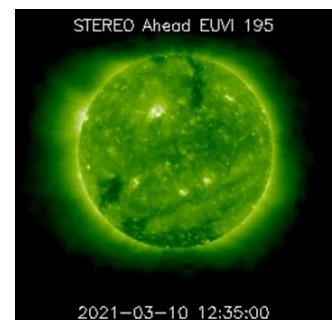
A true sign that the sun is shifting down through its latitude transformation that brings on the sunspot maximum. Around the coronal hole to the south the development of two active regions, the lead did have a small sunspot on March 2nd, but over night they really exploded into proper sunspot groups tradition spreaders, red negative leads with polarity mixing as the sunspots continue to develop they were just one step away from being flare makers. The solar wind continued to be enhanced, the second component of the coronal hole stream continued to drive geomagnetic storms and more from the equatorial hole facing earth.

March 4th - There were bright crackling regions in the south, in the periphery of the coronal hole, but they were not flaring. The coronal hole was somewhat patchy rather than a solidly formed IMF opening. The sunspot magnetism was still split, not developing in size or umbra number. That's why they were not flaring.

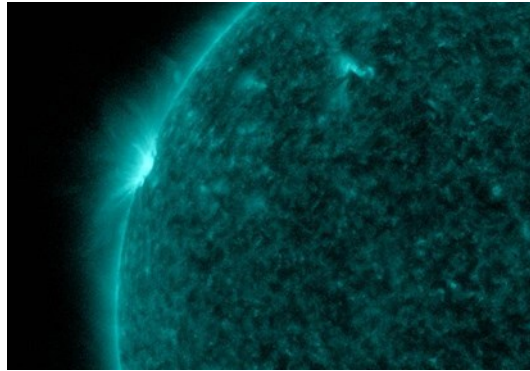


Wednesday, March 10th - Earth was exiting a solar wind stream that sparked bright high-latitude auroras during the first week of March. Another stream was on the way. Flowing from a southern hole in the sun's atmosphere, the gaseous material was expected to reach Earth on March 13th.

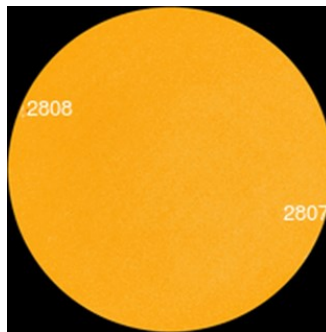
New sunspot crackling with flares. A new sunspot was emerging over the sun's north-eastern limb produced a C1-class solar flare on March 9th. NASA's Solar Dynamics Observatory captured the extreme ultraviolet flash:



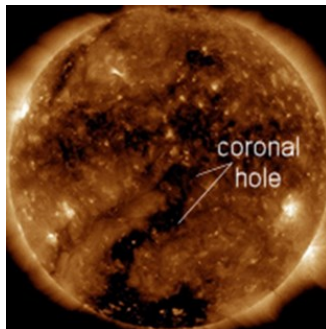
A pulse of radiation from the flare briefly ionized the top of Earth's atmosphere, causing a low-frequency radio brownout over the Atlantic Ocean. Mariners and ham radio operators might have noticed unusual propagation below 10 MHz around 1235 UT.



Daily Sun: 10 Mar 21. Below Image Credit: SDO/HMI

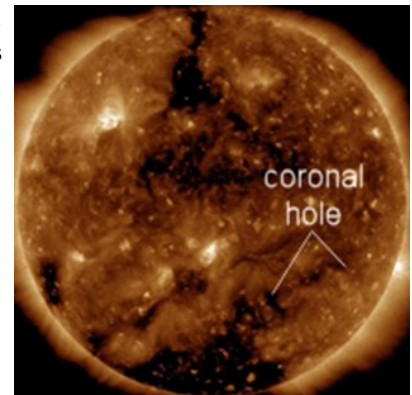


New sunspot AR2808 posed a threat for C-class solar flares. Below Image Credit: SDO/AIA



Solar wind flowing from this southern coronal hole would reach Earth on March 13th.

CO-ROTATING INTERACTION REGION: NOAA forecasters said that a CIR (co-rotating interaction region) would hit Earth's magnetic field on March 13th. CIRs are transition zones between slow- and fast-moving solar wind streams. Solar wind plasma piles up in these regions, producing shock-like structures that sometimes mimic CMEs and spark bright Arctic auroras. Right Image Credit: SDO/AIA

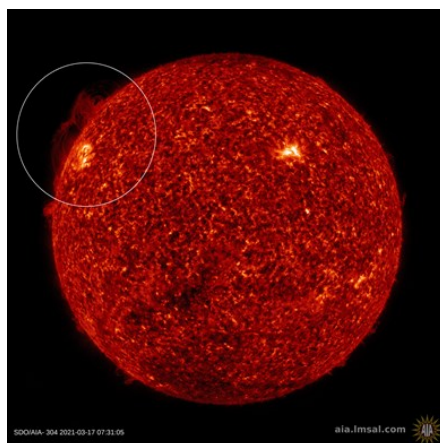


Gaseous material was flowing from this southern hole in the sun's atmosphere. When a flame is not made of fire, but it's hot, it dances, and flickers like a flame. But it's not fire. Randy Shivak of Cape Coral, Florida, photographed this solar prominence on March 16th.

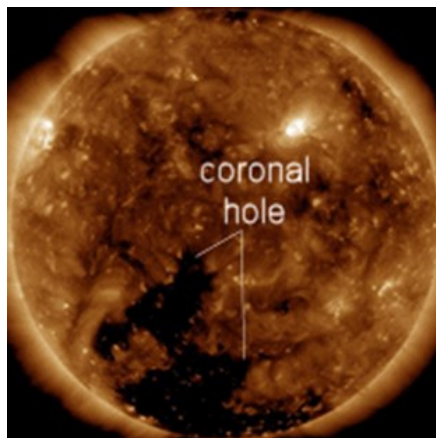
Wednesday, Mar. 17 -



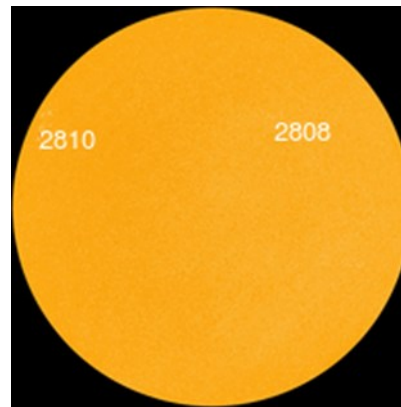
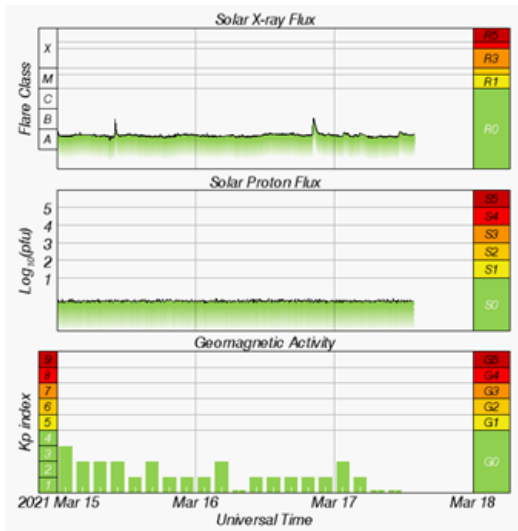
These prominence's resembled gigantic flames. This one even seemed to be billowing smoke from its top. But the resemblance was illusory. Unlike the wick of a burning candle, where oxygen is combined with hydrocarbons to produce light and heat, no combustion is taking place inside a solar prominence. Plasma-filled prominence's glow simply because they are hot (like a stove-top glows red when it gets very hot) and they flicker because their magnetic fields are not quite stable. These characteristics give prominence's a flame-like appearance, but they are not made of fire.



A massive southern coronal hole was moving thru center disc, and earth was magnetically connected to this opening. and we were awaiting its solar wind, but behind the incoming active region on the north was a massive plasma filament, these keep growing and growing, and they help mark the march that leads to sun spot maximum. The solar wind was calming geomagnetism as well, the next solar wind impact was expected to be from that southern coronal hole. Image Credit: SDO/AIA

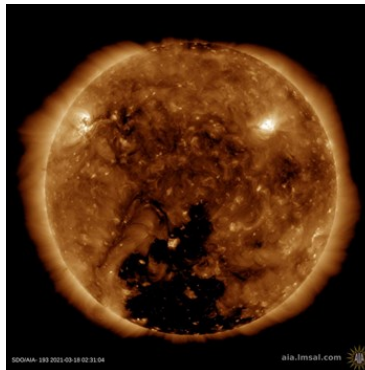


Solar wind flowing from this southern coronal hole was expected to reach Earth's magnetic field on March 21st



Above Images Credit: SDO/HMI. New sunspot AR2810 was stable and posed no immediate threat for strong solar flares.

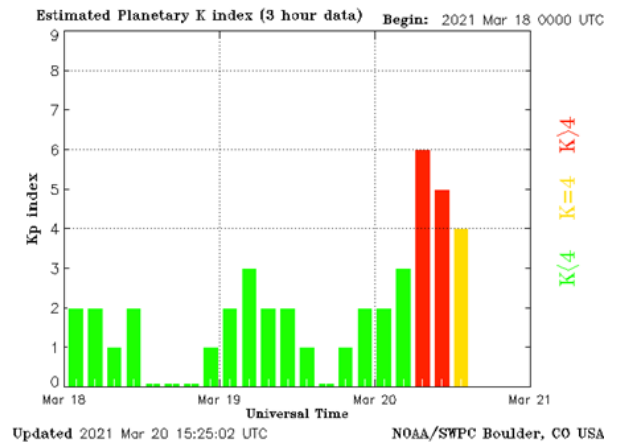
March 18th - Below Image Credit: SDO/AIA



Destabilization of a northern plasma filament was growing in size and showing whip action. A filament of concern was riding behind the southern coronal hole over a 24 hour period. That's the dark line there to the upper left of the large coronal hole, and it was a potential eruption risk.

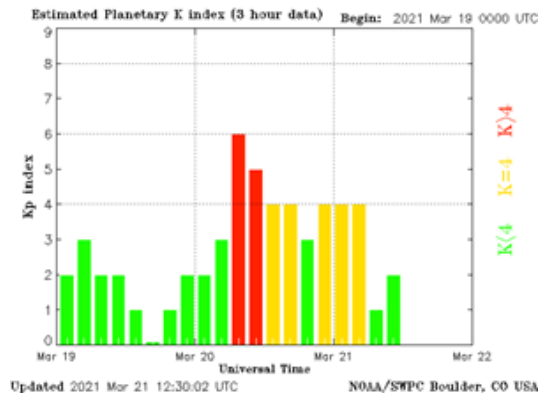
Solar wind was calming along with geomagnetic conditions. An enhanced stream of solar wind from the coronal hole was expected over the upcoming weekend.

Saturday, March 20th - The first day of the northern Spring. Equinox. Around the beginning of spring and fall, cracks open in Earth's magnetic field, allowing solar wind to pour in and fuel geomagnetic storms.



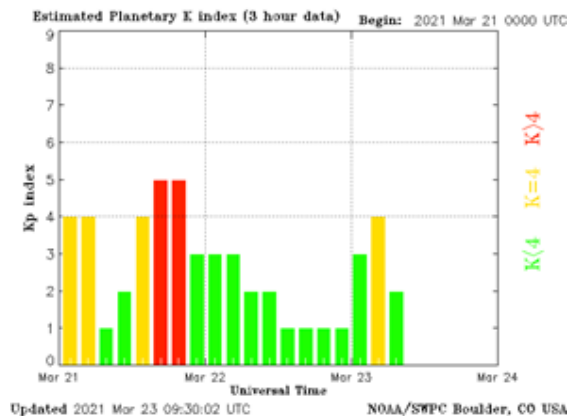
Solar wind flowing from a southern coronal hole was expected to buffet Earth's magnetic field for the following 3 days, March 20th through 22nd. Planetary K-index was at Kp-4 and unsettled. 24-hr max was at Kp- 6 storm level.

March 21st -



On March 20th , the Sun launched a coronal mass ejection (CME). It wasn't aimed directly at Earth. Predictions were, we might feel its effect on March 23rd when the storm cloud was expected to deliver a glancing blow to Earth's magnetic field.

March 21st - A wild weekend in the magnetosphere: The first hours of our northern spring equinox were eventful. First, a solar wind stream hit Earth's magnetic field, opening cracks in the Earth's magnetic field. Solar wind poured in fueling geomagnetic storms. An unusually large crack opened up on the 20th igniting a brief but strong G2-class geomagnetic storm.



Forecast:

Report of Solar-Geophysical Activity Issued: 2021 March 23rd 2200 UTC. Prepared jointly by the U.S. Dept. of Commerce, NOAA, the Space Weather Prediction Center, and the U.S. Air Force. Joint USAF/NOAA Solar Geophysical Activity Report and Forecast SDF Number 82 Issued at 2200Z on 23 March.

Analysis of Solar Active Regions and Activity from 22/2100Z to 23/2100Z: Solar activity was at very low levels for the past 24 hours. There are currently 2 numbered sunspot regions on the disk. Solar Activity Forecast: Solar activity was expected to be very low with a slight chance for a C-class flare on days one, two, and three (24 March, 25 March, and 26 March).

73,
Fred
AA0JK

~Editor's Note: We would love to publish a monthly column profiling DRC members' stories about how they got into the ham radio hobby, their interests and backgrounds. The purpose of the column is to introduce DRC members to each other and to find commonalities between them. Please use Microsoft Word set to Arial and 10 point, and submit your story to drc.editor@gmail.com.

PAST ROUND TABLE PAGES

PROVIDED BY WOODY LINWOOD, W0UI

A page from the April 1958 edition.



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
[Journalist Express](#)

THE ROUND TABLE ARCHIVE

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

THE ROUND TABLE ARTICLE INDEX

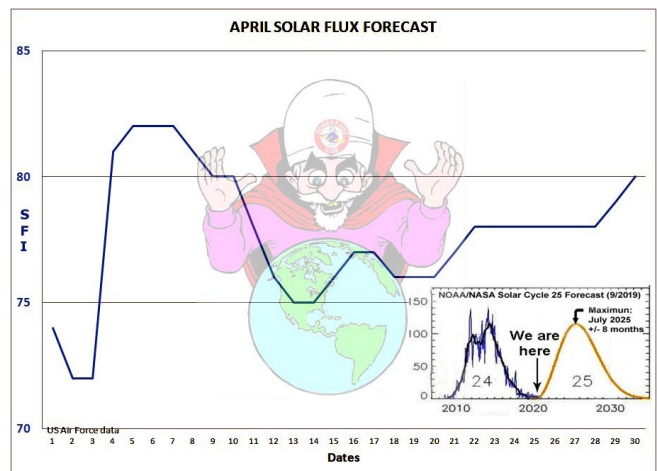
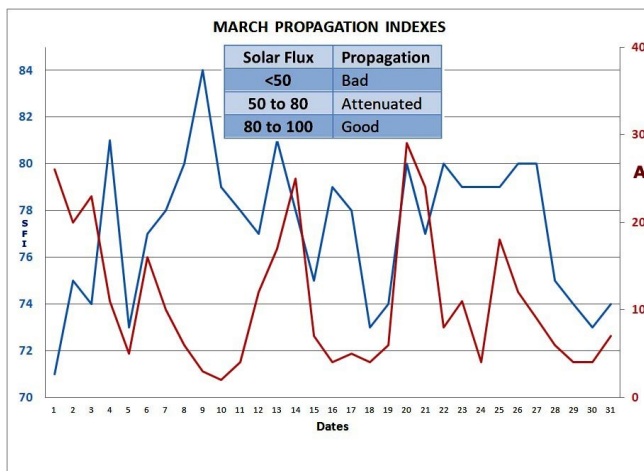
Go to: <http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf>

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 *Round Table* 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
Montrose ARC Tail Gate	06/05/21	Lions Club Pavilion	montrosehamradio.org

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
Louisiana	04/03/2021	04/04/2021	Louisiana Contest Club	
Mississippi	04/03/2021	04/04/2021	ARRL Mississippi Section	
Nebraska	04/03/2021	04/04/2021	Nebraska QSO Party	
Georgia	04/10/2021	04/11/2021	Georgia QSO Party	
New Mexico	04/10/2021	04/11/2021	New Mexico QSO Party	
North Dakota	04/10/2021	04/11/2021	ARRL ND Section Manager	
Michigan	04/17/2021	04/18/2021	Michigan QSO Party	
Ontario	04/17/2021	04/18/2021	Contest Club Ontario	
Florida	04/24/2021	04/25/2021	Florida QSO Party	

ATTENTION

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
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. W0TX Room 40931.
70cm	446.7875MHz (-)	BrandMeister Repeater: Slot 1 – Wide Area Traffic, Slot 2 – Local Talk Group 310804

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APRIL 2021							<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	3	
							
4  Last Quarter	5	6	7 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL) School Club Cont.	8	9	10	
11  New Moon	12	13	14 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	15	16	17	
18 Rookie Roundup - SSB 1800 - 2359 UTC	19	20  First Quarter	21 DRC Online Meeting Elmer 6 p.m. Meeting 7 p.m.	22	23	24	
25	26  Full Moon	27	28 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	29	30		

See arrl.org/contest-calendar for additional details about contests.

DRC BOARD OF DIRECTORS

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Please Let Us Know

Over the years we occasionally hear from hams who have read the Round Table 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 Round Table Round World.

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