



ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917

April 2018

PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Hello DRC Members,

Officially it is spring, although we will more than likely have more isolated snow storms. Hopefully we will get the needed moisture in the form of rain. These continuous red flag fire warning days are a real big concern for the whole state. I know the wild land fire folks are preparing for a very busy fire season.

I am happy to report; Bill Rinker (W6OAV) is recovering slowly from his medical issues and hopefully we will have him back involved with the club in the near future. I am sure he would appreciate cards; which can be sent to his address in the DRC member roster.

Thanks to John Movius (KD0SYE) for his presentation on his personal experiences on St. Marten's Island during hurricane Irma. The pictures and stories of the devastation were incredible. Also thanks to Robert White (K0SRW) for his presentation and update on his DX antenna/Go pack; this all fits in a medium size back pack. I believe both presentations made all of us see the need to be better prepared for emergent situations that can develop anytime, anywhere.

Our April program will be presented by Paul Deeth (WA2YZT). Paul is the transmitter engineer at CBS 4 in Denver; and will have a show and tell about some of the interesting equipment used in the daily operation of a television broadcast station. Paul has presented to us at prior meetings and has many experiences and very entertaining stories to share. Make sure you mark your calendars for our April 18th meeting.

Another date to mark on your calendar is August 26th for the DRC Hamfest "The Big One"! You can make your table reservation now. We will have flyers and table registration forms at the meetings OR go to the DRC website W0TX.ORG, print off a form and mail your check to the address on the form. Remember if you need electrical power, those tables go on a first come first serve basis. Get your reservations in early!

Thanks to our new members for making the DRC "Your Club". Please come to meetings and other events and stay active. Your name and call will be listed in this issue of the Round Table.

73 for now,

Gerry (W0GV)
President



MARCH MEETING – WHAT'D I MISS?

BY BRENNAN PATE, ADOUZ

March's meeting had about 40 attendees with a few visitors that Gerry (W0GV) greeted and had introduce themselves. Next, Dave (K0HTX), who took over Field Day responsibilities, previewed what this year's Field Day setup will be. More details forthcoming.

John (KD0SYE) then talked about his experience in St. Marten during Hurricane Irma. He had gone with his wife on vacation and was staying at a resort with over 100 other visitors and staff. The hurricane came on quickly and island was not prepared. After the category 5+ storm with 235 mph winds much of the island had no running water, no electricity, no running government, looting, impassable roads, no communications, no shipments (boats couldn't come into the harbor due to the debris and sunken boats in the way) and no flights. In short, it was chaos.

The group at the resort organized themselves into groups (John was on security detail) and the people shared and rationed their food and water. After a few days the resort hired armed guards and then the flights of U.S. citizens began and they were flown back to the states on a military plane, only able to bring one small bag.

As a result John planned out and put together a GoBag with items that he'll take on future trips in case a similar scenario unfolds. He brought the GoBag and had it on display.

After John finished, Robert (K0RCW) provided an updated viewing of his GoBox. He presented a list of parts, strategies, weights, updates, antenna and power types and his plans for future upgrades. He provided his thoughts on the Elecraft KX3 and his Bio-no battery pack. Gerry (W0GV) also brought in his repeater-in-a-box and had that on display as well.



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:

Ronald Bock - K4RNY Ian Thompson - KC0GDN

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

The following is an overview of current issues. (No changes from previous month.)

DRC/TSA Aurora Site (WWOLF)

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

Status: WWOLF has sent a letter to the TSA describing the services that the DRC can provide and recommendations for the communications equipment and antennas. There was a meeting between the DRC and TSA a MOU was presented to the TSA. They are asking for more info that WWOLF is putting together.

Station 4 Remote Power Control (WG0N)

Goal: Install Internet controlled power outlets.

Status: WG0N has installed an Internet controlled outlet power strip at Station 4. Waiting for the final connection of the new internet service.

Centennial Cone Remote Power Control (W0GV)

Goal: Document equipment to be controlled by the Internet controlled power outlets. Install the outlets.

Status: What is the final configuration, when will the power strip be installed and by whom?

Fusion Repeater Move (W0GV)

Goal: Discuss the feasibility of moving the Fusion repeater to a better coverage location.

Status: Feasibility study is in progress. Still looking at moving the repeater. Repeater was upgraded to the new DR2X after the DR1 failed.

Fusion Repeater WIRES Interface (W0GV)

Goal: Get the WIRES Interface on line.

Status: Waiting for the final connection of the new internet service then the wires X will be set up.

Fusion Repeater WIRES Interface (W0GV)

Goal: Train several club members how to program and maintain the Fusion Repeater system.

Status: Discuss how, when and by whom.

BrandMeister Repeater Operating Procedures (W6OAV)

Goal: Develop operating procedures and post on web-site.

Status: This has been done and posted to the web site.

WHAT IF THE WEATHER CHANGES?

If we should experience a turn in the weather on the day of our monthly DRC meeting it may be necessary to cancel the meeting. If this should happen listen for meeting status reports on 145.49 or 448.625 MHz repeaters during the afternoon on the day of the meeting.

APRIL MEETING PRESENTATION

By PAUL DEETH, WA2YZT

I will demonstrate along with my KCNC-TV Channel 4 engineer co-worker Bill Teter (K0PDB) TV equipment used in news gathering with lots of it using RF technology.

Bill and I have both worked at Channel 4 for over 20 years and have seen the equipment grow in technology and shrink in size.

We will demonstrate the newest field cameras and disk recording formats as well as the latest in live broadcasting from the field without using a live truck, just a small hand carried device called a "backpack" that uses cell phone data channels to get the camera video back to the studio.

And of course, we can answer all your questions about TV, the media and our technology.



DRC's 100TH ANNIVERSARY PINS

BY W0TX STORE



If you would like to commemorate the 100th year of the Denver Radio Club then ask about getting your very own commemorative pin. The cost is \$3 for one or two for \$5. They are available at the monthly face-to-face. Please talk to Gerry, W0GV. They are about 1" tall and 0.75" wide.

LEARNING NET REPORT

BY FRED HART, AA0JK



Thanks goes out to our net controllers: Larry (K0LAI), Alex (KS0E) and Steve (KD0WMO). The following topics were discussed this past month:

- ◆ Icom 7300 Firmware Update How To: <https://youtu.be/s8rboJ1p2Bc>
- ◆ Amp Draw Emergency Power Batteries: Battery facts or how much life can be expected from a battery for an HF rig? <http://www.hamcontact.com/sb752.html>
- ◆ QRO Attic Antennas: RF interference. RF exposure. Fire hazard. QRP VS QRO.
- ◆ QSL Verification Local Representative:
Awards Managers / Card Checkers
Mile High DX Association (<http://mhdxa.com/node/133>)
Dick Williams (K8ZTT) and Barry Mitchell (N0KV)
- ◆ March 14th: PI Day - 3.14~
- ◆ Recent question received as to how to isolate a receiver from his transmitted signals. Note: Keeping your transmitted signal from damaging your receivers. QST April 2018, p 54 by W1ZR.
- ◆ How to isolate a receiver from a keyed transmitter:
<https://ham.stackexchange.com/questions/1685/share-antenna-between-receiver-and-transceiver>
- ◆ Buddy Pole Antenna – High SWR: Feed-line Impedance matching.

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. 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 Coordinators: Mike Vespoli (KE0HFH) or Brennan Pate (AD0UZ), at emcomm@w0tx.org.

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.

If we don't have the answer here on the net, we have a lot of experienced hams in the club that can help. Questions can also be submitted on the YAHOO Learning Net web page <https://groups.yahoo.com>. Here you will also find information from past activity that you might find of interest.

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 / 448.625.

(Note: The third Wednesday of the month is devoted to the DRC club meeting. See the [W0TX web site](#) for additional information.)

73,

Fred
AA0JK**ELMER SESSION START TIME**

The Elmer Session Starts at 6 p.m. before the regular 3rd Wednesday DRC Meeting! All are welcome. Meet in Hearing Room # 2.

Come join in on the sharing of information.

EMCOMM NOTE

PROVIDED BY BRENNAN PATE, AD0UZ

We are still awaiting details but the Lakewood siren test is planned for May 1st. Jim Beall (K0TOR) is also still trying to get the details nailed down for the Wheatridge test. We will keep you posted in the Roundtable and on the nets as additional information is received.

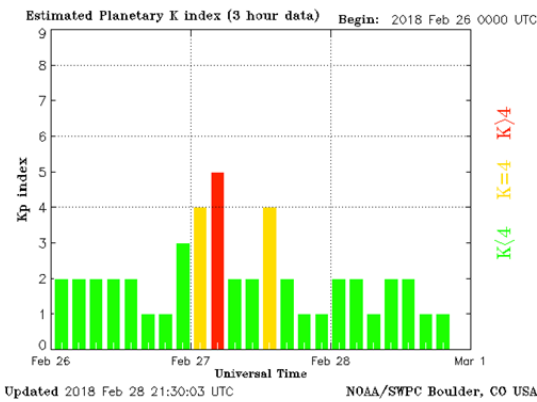
SOLAR UPDATE

PROVIDED BY FRED HART, AA0JK

February closed with: The Sun's spotless streak had come to an end. A new region numbered AR2700 formed in the northern hemisphere, but was not considered to be a threat of producing any noteworthy solar flares.

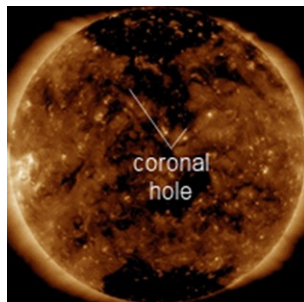
In other news, a slightly elevated solar wind stream, containing a sector of southward Bz, was moving past Earth. A Kp index of 4 was expected to follow.

March, Week One: Earth was exiting a stream of solar wind that sparked brief G1-class geomagnetic storms when it arrived on February 27th. The odds of additional storms, according to NOAA, were waning to 25% on March 1st.

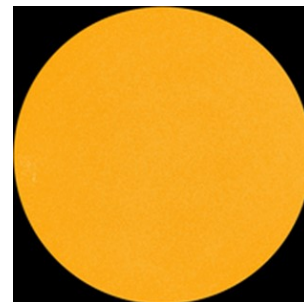


Solar activity would remain at very low levels with no major events to report.

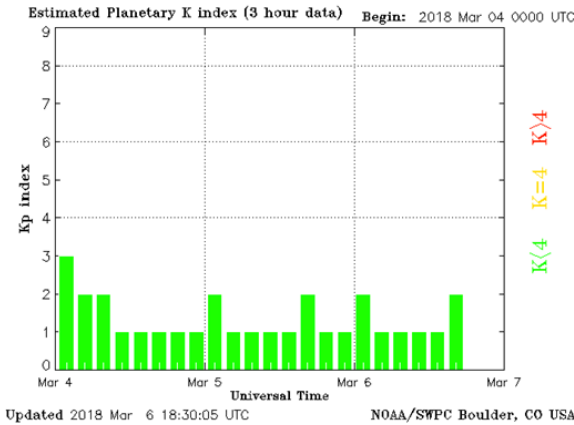
March 6th -



Solar wind flowing from this coronal hole was expected to reach Earth on March 8th. Credit: SDO/AIA



The Sun was blank - no sunspots. Credit: SDO/HMI



Solar-Terrestrial Data - http://www.n8nbh.com		
06 Mar 2018 2055 GMT	VHF Conditions	HF Conditions
SFI 67 SN 0	Item Status	Band Day Night
A 5 K 2 / Pintry	Aurora Band Closed	80n-40n Fair Good
X-Ray A1.9	6n EsEU Band Closed	30n-20n Poor Poor
304A 94.6 @ SEM	4n EsEU Band Closed	17n-15n Poor Poor
Ptn Flx 0.14	2n EsEU Band Closed	12n-10n Poor Poor
Elc Flx 25.80	2n EsNR Band Closed	Geonag Field QUIET
Aurora 1/n=1.99	EHE Deg Fair	Sig Noise Lvl \$1-\$2
Aur Lat 67.5°	MUF ES - SEASON BREAK	MUF US Boulder 11.55
Bz 3.6 SW 370.1	MS 0 MIN 6 12 18 UTC MAX	Solar Flare Prb 1%

March 7th - Solar activity remained at very low levels with no major events to report.

Solar activity was expected to remain quiet.

The Earth facing side of the Sun had been void of visible sunspots for 5 days in a row.

The last time the Sun was blank more than 50% of the time was in 2009, near the end of the deepest Solar Minimum of the Space Age. Now the sun is entering a new Solar Minimum, and it is shaping up to be even deeper than before.

Periods of spotlessness are a normal part of the 11-year solar cycle. However, the current Solar Minimum may be remarkable as the ambient solar wind and its magnetic field are weakening to low levels never before seen.

"The Worsening Cosmic Ray Situation": The flagging pressure of the solar wind, in turn, is allowing more cosmic rays to penetrate the solar system. These rays are being detected not only by NASA spacecraft in the Earth-Moon system, but also by space weather balloons in Earth's atmosphere.

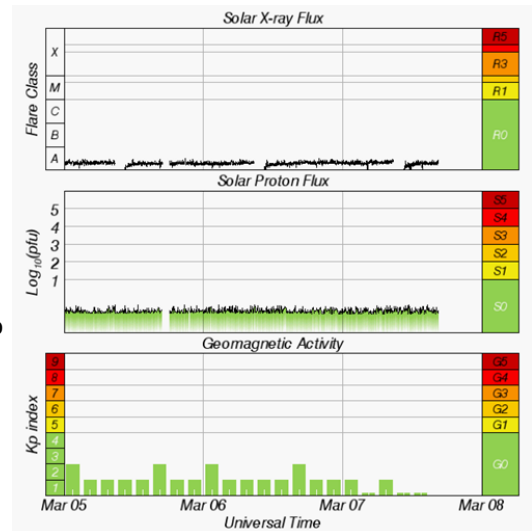
March 8th - A minor geomagnetic enhancement (Kp4) was possible during the following 48 hours when a relatively weak coronal hole stream was expected to move past Earth.

The Sun's activity both fizzles and picks up this week as reported by [Tamatha Skov](#).

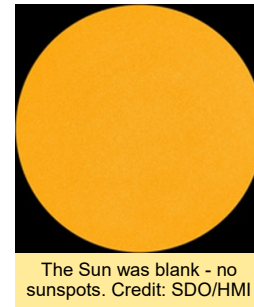
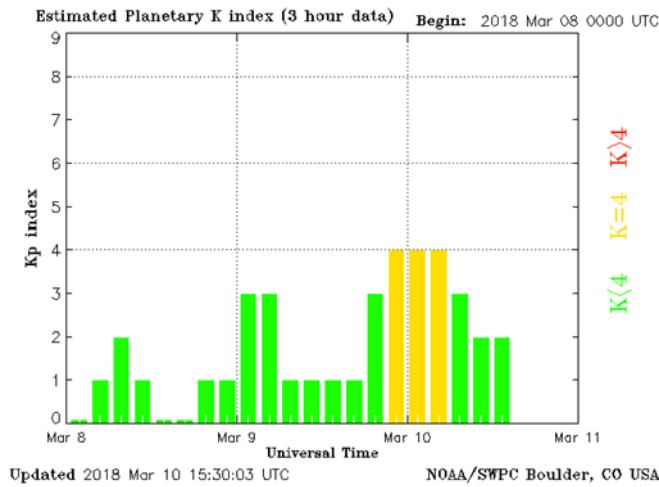
Old region AR2699, that we had high hopes for, would boost the solar flux as it rotated into Earth view, fizzled. That meant amateur radio and emergency communicators would continue to suffer from poor radio propagation during the following week. But the Sun countered by launching several solar storms, one that was Earth directed. Along with the remnants of a coronal hole sending us some sporadic fast wind. We were expecting a mild disturbance from this activity to last several days.

For daily and often hourly updates (during active times) visit Tamitha on Twitter: <https://twitter.com/TamithaSkov>.

March 10th - Bz South / Minor Storm Watch: The Bz component of the interplanetary magnetic field (IMF), carried past Earth via the solar wind, was in a south pointing position. This was helping to stir up geomagnetic activity at higher latitudes. A minor (G1) geomagnetic storm watch was in effect for the next several hours.



Spotless Days - Current Stretch: 6 days



A CRACK IN EARTH'S MAGNETIC FIELD: During the early hours of March 10th, a crack opened in Earth's magnetic field. Solar wind poured in disrupting HF communications.

The "crack" was pried open by the solar wind itself. Magnetic fields in the solar wind pointed south, partially canceling Earth's magnetic defenses against the oncoming gaseous stream. In the jargon of space weather forecasters, "B sub z tipped south."

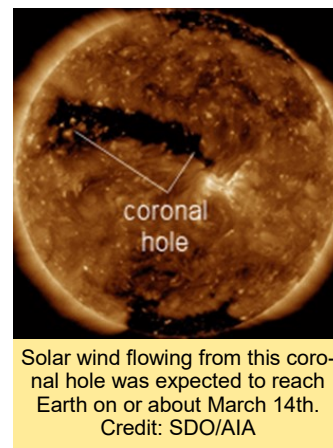
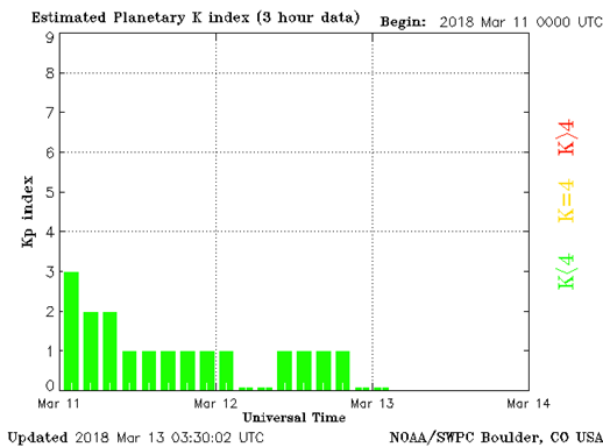
NASA and European spacecraft have been detecting these cracks for years. Some are as large as California, and sometimes they grow wider than the whole planet. They tend to form most often during the weeks around equinoxes--a seasonal phenomenon.

Week Two

March 11th - Spotless Days Stretch: 8 days

EQUINOX CRACKS IN EARTH'S MAGNETIC FIELD: The vernal equinox was less than 10 days away. That meant one thing: Cracks were opening in Earth's magnetic field. Researchers have long known that during weeks around equinoxes fissures form in Earth's magnetosphere. Solar wind can pour through the gaps to wreak havoc with HF propagation.

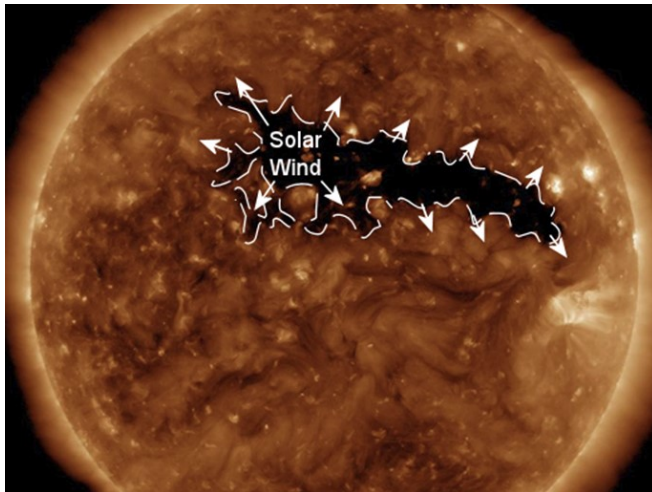
A stream of solar wind barely grazing Earth's magnetic field during this time of year is all it takes, even a gentle gust of solar wind can breach our planet's magnetic defenses.



A 75-year study shows that March is the most geomagnetically active month of the year, followed closely by September-October--a direct result of "equinox cracks". <http://www.arrl.org/propagation-of-rf-signals>

March 14th - PI Day. (3.14)

A GASH IN THE SUN'S ATMOSPHERE: A canyon-like hole opened in the Sun's atmosphere, and it was spewing a broad stream of solar wind toward Earth.



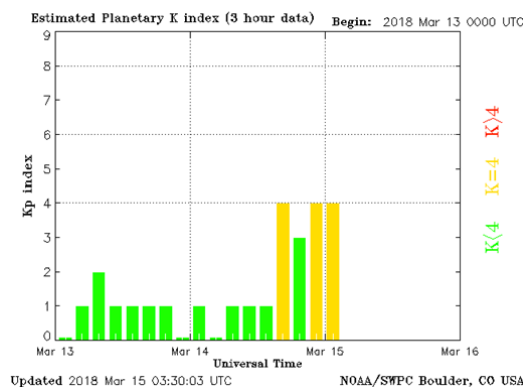
NASA's Solar Dynamics Observatory was monitoring the structure, shown here on March 13th.

This coronal hole was unusually wide, stretching more than 800,000 km across the face of the Sun.

NOAA forecasters said that there was a 55% chance of G1- class geomagnetic storms when the solar wind stream was expected to arrive on March 14th or 15th. G1-class storms are relatively minor and have little effect on satellites and global power grids.

Spotless Days Stretch: 11 days

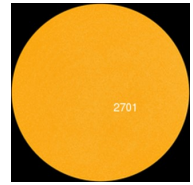
Large coronal hole #79 located in the northern hemisphere was facing our planet. A high speed solar wind stream flowing from this zone was predicted to reach our planet by Wednesday March 14th. Minor G1- geomagnetic storming was possible at higher latitudes.



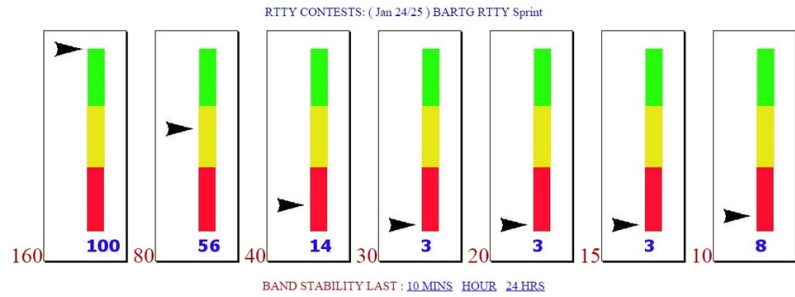
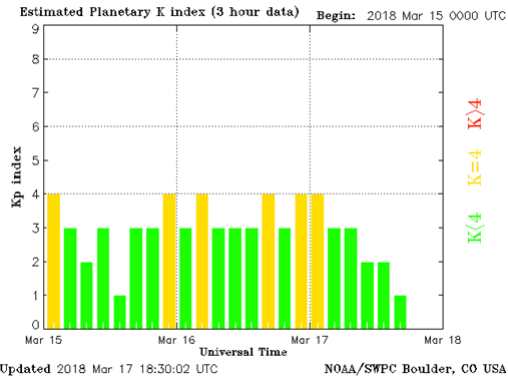
March 15th - Spotless Days Stretch: 12 days

The Grand Solar Minimum: THE GEOMAGNETIC STORM SCALE - IS G1 DANGEROUS? THE GEOMAGNETIC STORM SCALE. <https://youtu.be/ASf1nEXOVNM>

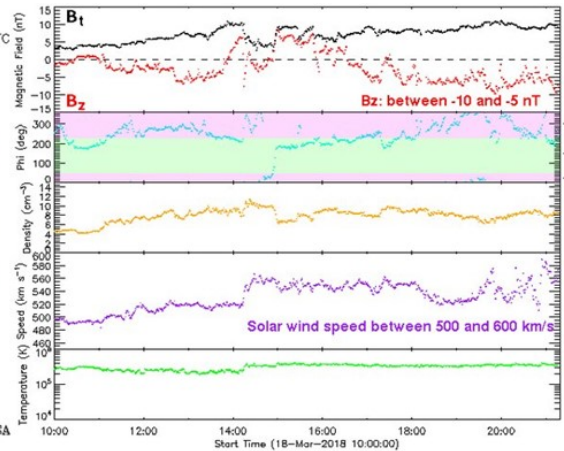
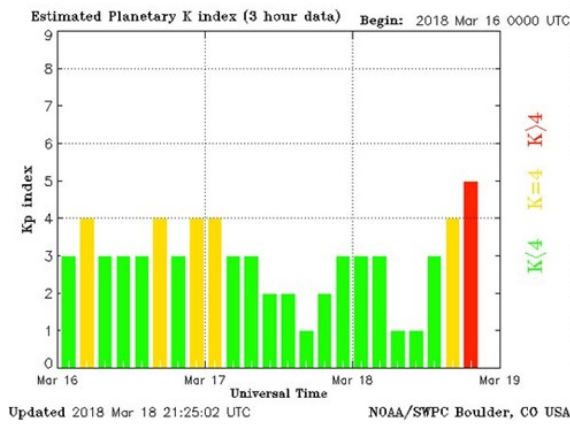
March 16th - Tiny new sunspot AR2701 was nearly invisible as it quickly faded away. Credit: SDO/HMI



March 17th - A coronal hole stream continued to move past Earth. Isolated periods of enhanced geomagnetic activity was being observed at higher latitudes. A minor (G1) geomagnetic storm watch would remain in effect during the following 12 hours.

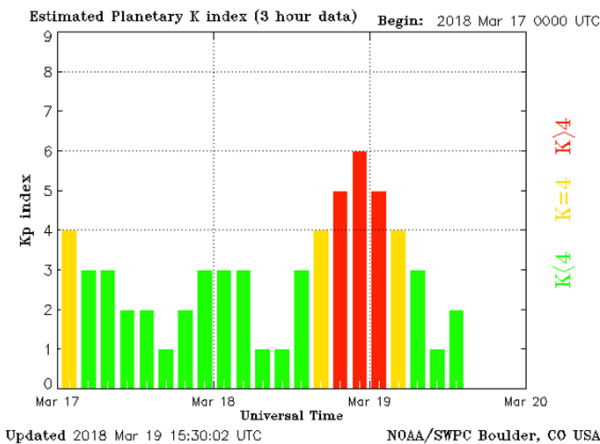


Week three



March 18th - NOAA/SWPC has posted a G1 (Kp=5) storm. A solar wind stream flowing at above 550 km/s, was triggering moderate (G2) geomagnetic storm at higher latitudes.

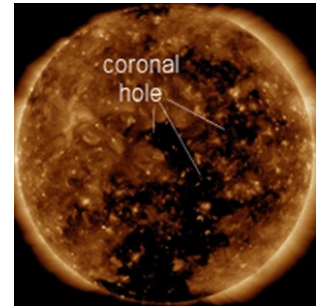
March 19th



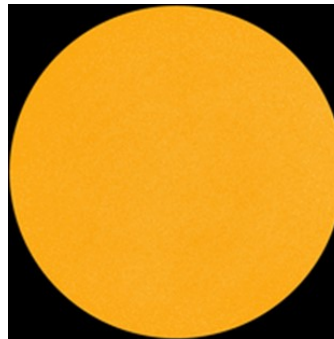
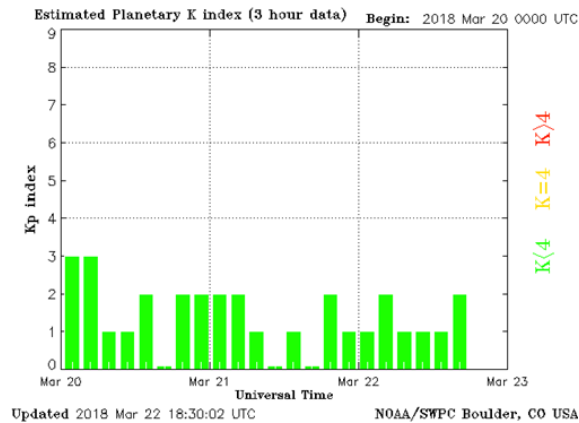
March 20th - The spring equinox began at 1615 UTC on Tuesday, March 20th, in the Northern Hemisphere. At that moment solar radiation was equally distributed and unsettled between the Northern and Southern Hemisphere. Except for the low solar activity, the beginning of spring should be an ideal time for worldwide HF communication.

March 22nd - This week had an extended coronal hole that covered nearly the entire Earth facing side of the Sun. It was actually a weak connection between two coronal holes and darkened the face of the Sun for the entire week.

Solar storming had subsided only momentarily, but the coronal hole connection that sent us fast solar wind was still very prominent. The coronal hole wasn't well formed, so pockets of fast wind, and sporadic storming was expected. This sporadic storming was expected to possibly help emergency communications and amateur radio operations. (As reported by Dr. Tamitha Skov.)



Solar wind flowing from this complex network of coronal holes was expected to reach Earth as early as March 22nd. Credit: SDO/AIA



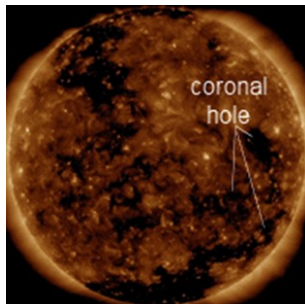
The Sun was blank--no sunspots. Credit: SDO/HMI

Spotless Days Current Stretch: 3 days.

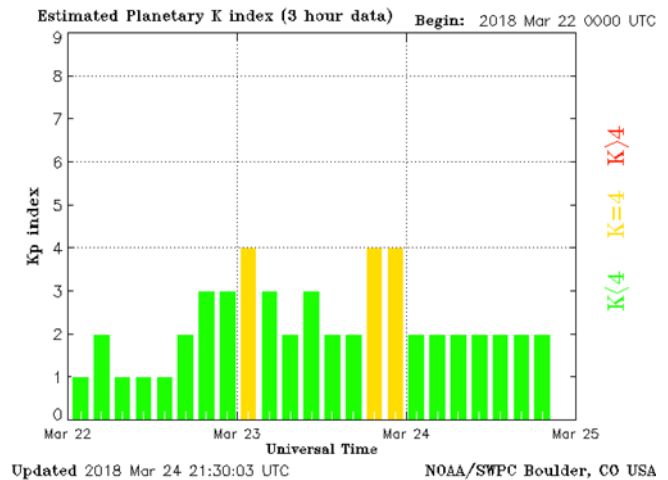
March 23rd - Coronal hole #82 was facing Earth and a solar wind stream flowing from this zone was beginning to flow past our planet. Active conditions (Kp4) was being observed at higher latitudes. A minor (G1) geomagnetic storm watch in effect for the following 48-72 hours.

Week Four

March 25th - NOAA forecasters estimate a 55% chance of G1-class geomagnetic storms, when a fast-moving stream of solar wind was expected to reach Earth. The gaseous material was flowing from a southern hole in the Sun's atmosphere.

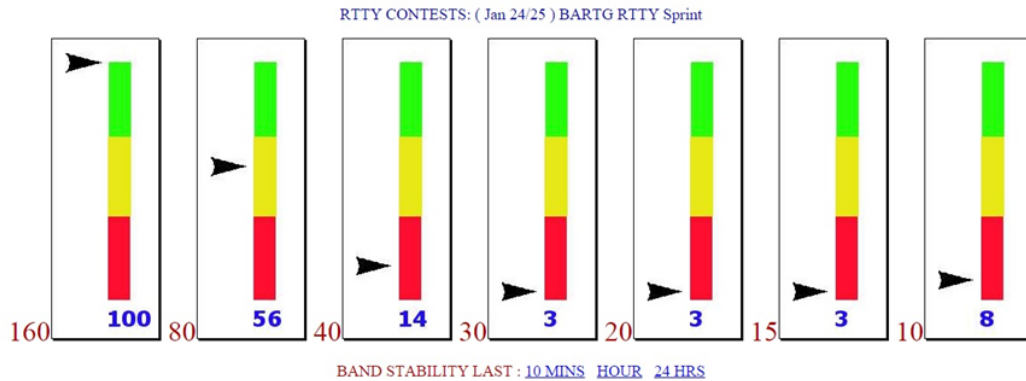


Solar wind flowing from the indicated coronal hole was expected to reach Earth on March 25th. Credit: SDO/AIA



The Sun was blank--no sunspots. Credit: SDO/HMI. Sunspot number: 0. Spotless Days Stretch: 6 days.

Band Conditions:



CONUS HF BAND CONDX: <http://www.bandconditions.com/>

Forecast Summary: Solar activity was very low and the visible disk remained spotless. No Earth-directed CMEs were observed in available coronagraph imagery. Solar activity was expected to be very low over the following three days.

NASA Science Casts: Earth's magnetosphere enveloping our planet, and protecting us from the fury of the Sun, is the magnetosphere, a key to helping to keep Earth a habitable planet. <https://youtu.be/o4FSg-90XIA>

73,

AA0JK
Fred



220 MHz Band

By GERRY VILLHAUER, W0GV

Have you thought about the 220 MHz band? It is a great band and the DRC has a 220 repeater that covers the Denver metro very well. We as hams would not want to loose privileges on this great band do to lack of use. In past years we did loose a portion of the band to commercial users. I for one would not want to see us loose it altogether. I saw an ad from BridgeCom Systems, Inc. offering a brand new 5 watt 220 portable for \$85. That is a great price for a new radio. Go to their website <https://www.bridgecomsystems.com/> and check it out.



CUSTOM OPENING SCREEN

BY TOM KOICIALSKI, KC2CAG

I recently bought a TYT MD-2017 DMR radio, and found that I could create a custom opening screen. I made a customized 256 color BMP file of exactly 160 by 128 pixels, and downloaded it to the radio. The instructions for the process are in: <http://www.miklor.com/MD2017/2017-OpenScreen.php>

And a copy of my 256 color BMP is included here:




Below is a picture of the finished result on the radio. I modified mine to add my callsign using Microsoft Paint:



I thought this would be pretty nifty for anyone else in the club who owns a TYT MD-2017.



The Denver Radio Club
is an ARRL Special Service
Club; Support your hobby &
[join the ARRL TODAY!](#)



NEW LASER DIPOLE ANTENNA DEVELOPED BY FAKE INDUSTRIES (REVISED 03/14/18A)

PROVIDED BY WOODY LINWOOD, W0UI

At a recent closed-door meeting, Colorado's famous FAKe Industries shared limited information about their new antenna technology to Denver Radio Club's own Bill Rinker (W6OAV) and "Woody" Linwood (W0UI).

Using rarely-discussed Blue Laser Beam (BLB) technologies, this software-controlled antenna creates opportunity for hams to use all current (and future) frequencies from the newest 135.7 KHz band all the way up to, and beyond, the 10.5 GHz bands. The BLB, desirable as it is almost impossible to see both in daylight and at night, emits a helium-cadmium gas light carrier wave at 441.6 nm. It is from this beam that the ham's signal is launched.

Implementation of this new transmission technology is revolutionary in that no RF generating equipment is required. In a similar vein, no antenna or power wires are required.

Via Bluetooth, a computer sends three primary signals to an outdoor rotor-mounted "Facilitation Acceleration Kilometric Exciter" Component.

One signal determines the length of the BLB based on the desired frequency. This then causes the BLB carrier beam to be generated upon which your transmitted signal will be attached.

The second signal uses Automatic Link Establishment (ALE) technologies. ALE automatically manages the creation of a communication link using MIL-STD-188-141B and FED-STD-1045A ALE standards.

The third signal is the modulated transmitted (AM, SSB, FM, CW or digitally-based) message.

Optional Automatic Message Display (AMD) and Link Quality Analysis (LQA) polling signals are available.

FAKe BLB antenna software:

- * supports CCIR493-4 based four and six digit Selective Calling (Selcall) open standards that are widely used on various HF networks and calling systems
- * has built-in BiTE (Built-in test equipment) functionality
- * many other features commonly found in software-defined radios (SDR)

No wires, instant band switch, amazing dbi gain factor percentages that are far superior to any other (already impressive) simple wire dipole dbi ratings! Sounds almost too good to be true! It is likely to be available directly from the FAKe Industries webpage soon.

Below: A leaked, somewhat-grainy, 2017 photo showing FAKe engineers testing their proprietary BLB Facilitation Acceleration Kilometric Exciter Component



FAKe INDUSTRIES is a subsidiary of WHACK CORPORATION
Remember: If it's FAKe then it's out of WHACK!

ELECTRO-STATIC DISCHARGE (ESD)

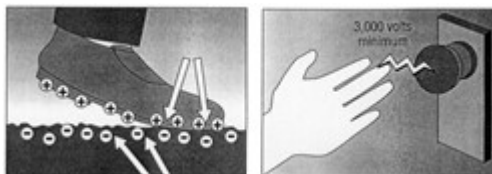
PROVIDED BY FRED HART, AA0JK

The generation of ESD, its hazards, and some ways of avoiding damage to your radio equipment, and components. Making your shack ESD safe.



ESD Generation

Static electricity is a normal part of our environment. Anyone who has been shocked when reaching for a metal door-knob after walking across a carpet on a dry, crisp, winter day has experienced an ESD first-hand. Whenever a charged object approaches or passed near another object (triboelectric charging), or when two objects contact, rub together, and separate, there exists the possibility of an electrostatic discharge and its associated damage. When the relative potential difference between two surfaces are discharged (as when the two oppositely charged surfaces are brought into contact with each other), a Bright flash, a crackle of static, is heard.



ESD protection: What is an electrostatic charge and discharge? <https://youtu.be/bWXNOemu2j4>

Preventing ESD Damage

ESD damage can be avoided by eliminating potentially dangerous electrostatic buildups, by preventing the coupling of ESD-induced energy into sensitive equipment and sensitive circuits.



Ways of avoiding damage to your radio equipment and components:

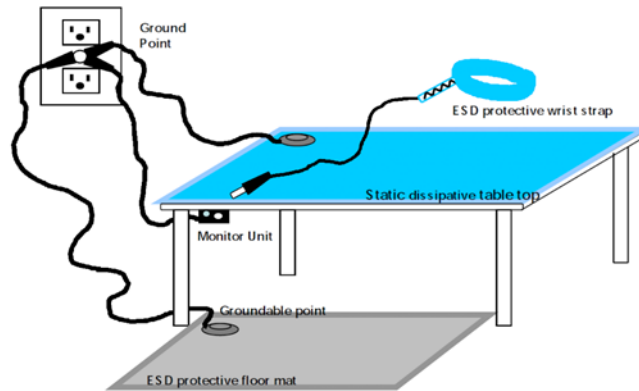


Mats: Static-dissipative plastic mats, available for both floors and desktops, are useful for making flat surfaces ESD safe for your operating position and workbench. For proper operation, static-dissipative mats must be connected to ground through a meg-ohm resistor from a single point on the mat. Mats are relatively inexpensive.

Desk top, flat surface mats:



Pictured: Diana Eng, KC2UHB.



Improve grounding by installing **snaps** onto mats to connect **grounds** onto mats.



Electro-static Discharge (ESD) whitepaper: [Ata Khan Cyrpess Semiconductor Corp.](http://ata.khan.cypress.com)

By observing a few inexpensive and easily implemented precautions during operation and handling, damage can be minimized, if not eliminated entirely. Is your shack ESD safe?

73,

Fred
AA0JK

~ GET PUBLISHED ~

We welcome and encourage all members to share their experiences and stories so that we can all learn from one another. It can be long or short. If we can't fit it into one newsletter, we can split it across multiple issues. Not a writer? We have volunteers that will listen to your story and put it into an article, and of course you will have the opportunity to review and approve prior to publication. Your contribution to the club is welcomed and appreciated. ~Editor

FACT OF THE DAY

LF & MF Nondirectional Radio Beacons

The first nondirectional radio beacon (NDB) was placed in service in 1921. It was operated by the Bureau of Lighthouses to assist marine navigation by means of manual radio direction finders. A manual radio direction finder that was light enough for airborne use was developed in 1934. Much easier-to-use automatic direction finders (ADFs) were developed soon after that and thousands were installed in aircraft. A large number of LF and MF NDB's were installed throughout the world between 1934 and 1955. By June 30, 1955, 173 were operating in the United States. Since then a variety of much more dependable and accurate systems have been developed and most of the former NDB's have been decommissioned. The few that still remain in service are kept operating primarily to provide means of emergency navigation using simple equipment if more sophisticated modern systems fail.

©2005 Martek International All rights reserved



amazon smile
You shop. Amazon gives.

Search for Denver Radio Club @ smile.amazon.com

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

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>

HAM SITE OF THE MONTH

[K7AGE - Randy's You Tube](#)

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. Issues of the *RoundTable* are available at [http://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201009\(SEP\).pdf](http://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201009(SEP).pdf)



Bill's flux will be back next month...

UPCOMING EVENTS
HAMFESTS & CONVENTIONS

Event	Date	Location	Sponsor Website
LARCFest 2018	04/07/18	Boulder County Fairgrounds - Exhibit Building	Longmont ARC

UPCOMING ARRL CONTESTS & EVENTS [ARRL CONTEST CALENDAR](#)

Contest	Start Date	Start Time	End Date	Stop Time	Notes
Rookie Roundup - SSB	04/15/18	1800 UTC	04/15/18	2359 UTC	

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
Mississippi	04/07/2018	04/08/2018	ARRL Mississippi Section	Based on 2017 date.
Missouri	04/07/2018	04/08/2018	Boeing Employees' ARS – St. Louis	Based on 2017 date.
Georgia	04/14/2018	04/15/2018	Georgia QSO Party	
North Dakota	04/14/2018	04/15/2018	North Dakota	
New Mexico	04/14/2018	04/15/2018	Los Alamos Amateur Radio Club	
Ontario	04/21/2018	04/22/2018	Contest Club Ontario	
Michigan	04/21/2018	04/22/2018	Michigan QSO Party	
Nebraska	04/21/2018	04/22/2018	QCWA Nebraska Chapter 25	
Florida	04/28/2018	04/29/2018	Florida QSO Party	

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	2 meter / 20 meter gateway. Useable by Technicians on 2 meters. See January 2015 RT.
2m	145.490MHz (-) 100Hz PL	Linked to the 70cm / 448.625MHz machine.
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 the 2m / 145.490MHz machine.
70cm	449.350MHz (-) 100Hz PL	Wide area coverage with Echolink, node # 4140.
70cm	449.775 MHz (-) 100Hz PL	Yaesu Fusion Digital, Wires-X and analog. 100 Hz tone required for analog.
70cm	446.7875MHz (-)	BrandMeister Repeater: Slot 1 – Wide Area Traffic, Slot 2 – Local Talk Group 310804



HRO 12 STORE BUYING POWER WORKS FOR YOU!!

www.hamradio.com

8400 E. Iliff Ave #9, Denver, CO 80231

303-745-7373 800-444-9476

24 HOUR FAX 303-745-7394

e-mail: denver@hamradio.com

APRIL 2018							<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 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	5	6	7	
8  Last Quarter	9	10	11 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	12	13	14	
15 Rookie Roundup-SSB 1800 - 2359 UTC  New Moon	16	17	18 DRC Meeting Elmer 6 PM General 7 PM	19	20	21	
22  First Quarter	23	24	25 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	26	27	28	
29  Full Moon	30						

DRC BOARD OF DIRECTORS

President	W0GV	Gerry Villhauer	303-467-0223	w0gv@hotmail.com
Vice-President	K0HTX	Dave Gillespie	303-795-8225	k0htx@comcast.net
Secretary	WW0LF	Orlen Wolf	303-279-6264	owolf@mines.edu
Treasurer	K0TOR	Jim Beall	303-798-2351	k0tor@arrl.net
Board Member	WY0J	Jan Alan Dickover	303-697-0725	jad.wy0j@gmail.com
Board Member	AD0GX	Kevin Schmidt	720-641-5920	ad0gx@arrl.net
Board Member	WG0N	Dave Baysinger	303-987-0246	wg0n@arrl.net
Board Member	K0WSU	Paul Olson	303-885-7275	66cadillac@wispertel.net

DRC STAFF AND VOLUNTEERS

Benevolent		Carolyn Wolf	303-330-0721	Contact owolf@mines.edu
Club Librarian	WG0N	Dave Baysinger	303-987-0246	wg0n@arrl.net
Education	AA0JK	Fred Hart	303-420-3536	elmer@w0tx.org
EmComm Coordinator	KE0HFH	Michael Vespoli	303-215-8862	emcomm@w0tx.org
EmComm Coordinator	AD0UZ	Brennan Pate	303-578-6283	emcomm@w0tx.org
Field Day	K0HTX	Dave Gillespie	303-795-8225	k0htx@comcast.net
Membership	KC0CZ	Bob Willson	303-659-0517	rwillso2@centurylink.net
Net Control	K0TOR	Jim Beall	303-798-2351	k0tor@arrl.net
Public Relations	N0USN	James Fariello	303-659-3319	jamesfariello@gmail.com
RT Managing Editor	AD0UZ	Brennan Pate	303-578-6283	drc.editor@gmail.com
RT Associate Editor	W6OAV	Bill Rinker	Check Roster	Check Roster
Hamfest Manager	N0CRZ	Cathy Villhauer	303-467-0223	drcfest@w0tx.org
Tech. Committee Chair	W6OAV	Bill Rinker	Check Roster	Check Roster
Trustee	WW0LF	Orlen Wolf	303-279-6264	owolf@mines.edu
TSA Coordinator	KA0BBQ	Barry Wilson	Check Roster	ka0bbq@arrl.net
VE Team	KC2CAG	Tom Kocialski	720-284-1911	kc2cag@arrl.net
Web Master	N0LAJ	Bill Hester	Check Roster	Check Roster

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...

EDITOR'S NOTE © 2018 Denver Radio Club. Articles in the RT may be reprinted with permission for non-commercial or educational use only.

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 20th of the Month. ~ Editor