ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917 **September 2018**

President's Message

By Gerry Villhauer, W0GV

Hello DRC Members,

You can't say Colorado doesn't have multiple seasons at the same time. Temperatures have been in the 90's and today as I write this message it's 70. Hopefully some of the rain we've gotten lately will be in areas to help suppress the many wildfires still burning.

By the time you read this we will have had our Hamfest and hopefully it will be a great success. A large amount of effort has gone into it I can say for sure. I will report on that next month.

Thanks to Charlie Gilbert (N0PIC) and Sooze Gilbert (KS0OZE) for their very interesting and informative presentation on Community Emergency Response Team (CERT). Lots of questions were asked by the members attending; which is always an indication of a good program. Thanks to both of you for a great job!

Now for our September program…You must pay close attention to this! We will be meeting at West Metro Fire Headquarters on our regular meeting night September 19th 2018…NOT at Jefferson County Court and Administration. We will be taking a tour of the brand new JEFFCOM Communications Dispatch Center. That is where 911 calls are taken and Police, Fire and EMS are dispatched for most of the agencies in Jefferson County. This is a rare opportunity to see this new facility first hand. We will have the Elmer session at 6 p.m. then hold our annual meeting and election of officers at 7 p.m. Then proceed with the tour.

West Metro Headquarters is at 433 South Allison Parkway, Lakewood, CO 80026 in the Lakewood Commons area. Turn South on Allison Parkway from West Alameda Avenue. West Metro Headquarters is the second building on the Right (West) and well marked. Parking is available on the East and North sides of the building. DO NOT PARK IN ANY MARKED SPOTS. Enter the building from the East entrance ONLY. You will be directed to the Board Room, where we will gather and have our meeting.

Please help pass this special information on to other DRC members.

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:

Derek Brady - KE0RVP	Ron Cable - N6RON	John McGill - KE0RVZ
Mike Rosenthal - W8MPR	Chris Kissner - KE0SDR	Curt Mann - N0GTG
	Timothy Burgess - AE0AF	

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.

DRC/TSA Aurora Site (WW0LF)
Goal: Maintain contact with TSA relative to establishing a "communications room" for the DRC.
Status: WW0LF has sent a letter to the TSA describing the services that the DRC can provide and recommendations for the communications equipment and antennas. Orlen has submitted an MOU that the salvation army is reviewing.

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. The internet is working now and the remote control should be operational soon.

Centennial Cone Remote Power Control (W0GV)
Goal: Document equipment to be controlled by the Internet controlled power outlets. Install the outlets.
Status: Orlen will set up the control through the 7330 controller that is in the rack for the other two repeaters.

Fusion Repeater Move (W0GV)
Goal: Discuss the feasibility of moving the Fusion repeater to a better coverage location.
Status: Feasibility study is in progress.

Fusion Repeater WIRES Interface (W0GV)
Goal: Get the WIRES Interface on line.
Status: Pending.

Fusion Repeater WIRES Interface (W0GV)
Goal: Train several club members how to program and maintain the Fusion Repeater system.
Status: Pending

Additional Notes:
Dave (WG0N) will check antennas on the tower at station 4.

September Meeting Announcement

By Gerry Villhauer, W0GV

NOTICE…NOTICE…NOTICE…NOTICE
CHANGE IN SEPTEMBER MEETING LOCATION

The September DRC Meeting Location is being changed for a special event.

We will be meeting at West Metro Fire Headquarters and tour the brand new JEFFCOM communications dispatch center. This is a special opportunity for our members to tour this new facility where 911 calls are taken, Police, Fire and EMS services are dispatched for a majority of the agencies in Jefferson County.

The address is 433 South Allison Parkway, Lakewood, CO 80226 in the Lakewood Commons Area. Turn South on Allison Parkway from West Alameda. West Metro Headquarters is the second building on the Right (West) and well marked. Parking is available on the East and North sides of the building. Do not park in any marked spots. Enter the building from the East entrance ONLY.

We will gather in the board room on the left as you enter the building. We will have a short meeting at 7 p.m. including our election of officers and then proceed with the tour in groups. We will plan on holding our Elmer Session at 6 p.m. as usual; in the board room. The date is the same September 19, 2018.

Please pass along this information to other DRC members so everyone shows up at the correct location.

Learning Net Report

By Fred Hart, AA0JK

Thanks goes out to our net controllers: Doron (K1DBC) and Jim (AD0ZM). The following topics were discussed this past month:

- 2018 Georgetown, Colorado Western Pack Burro Race: Note, Amateur Radio Operators manning the check points, https://youtu.be/TmRyeL_aJ2k
- Burro Racing In Leadville Colorado: https://youtu.be/FgrBhjRdqTw
- DMR out of state, programming your hand-held
- Nifty Ham Radio Guides Simplify Radio Setup and Operation: https://www.niftyaccessories.com/index.php
- Denver Radio Clubs Ham Fest
- Yaesu – Wires-X Amateur Radio Internet Linking: https://systemfusion.yaesu.com/wires-x/
- FCC takes action on Baofeng (UV-5R): https://www.rrmediagroup.com/News/NewsDetails/newsID/17192
www.arrl.org/news/fcc-cites-baofeng-importer-for-illegally-marketing-unauthorized-rf-devices
- US Amateurs Operating Overseas: http://www.arrl.org/us-amateurs-operating-overseas

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 Coordinator: Mike Vespoli (KE0HFH) 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,

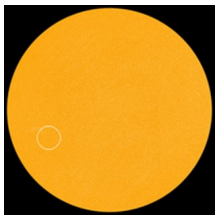
Fred
AA0JK

Solar Update

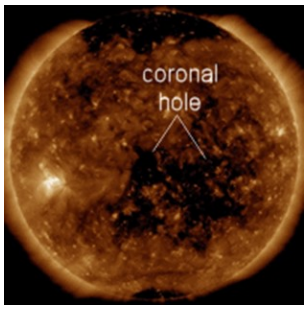
Provided By Fred Hart, AA0JK

August started with solar activity continuing to be quiet. With the exception of one small and short lived sunspot, AR2717, the visible disk was continuing to to remain spotless. Solar minimum is here and activity was expected to remain at very quiet levels for several days.

A new sunspot: A new sunspot was growing in the Sun's southeastern quadrant, breaking a string of 10 consecutive spotless days. It was small, nevertheless, the emerging dark core rated attention because sunspots are so scarce during this minimum phase of the solar cycle.



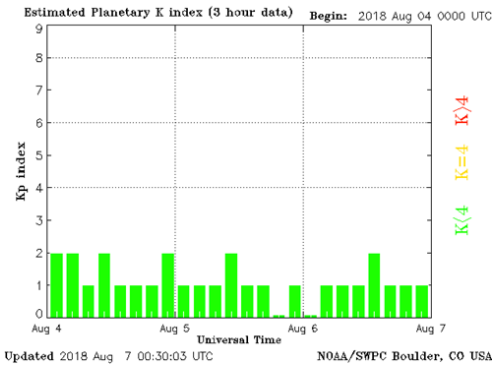
A new, unnumbered sunspot was growing at the circled location. Credit: SDO/HMI

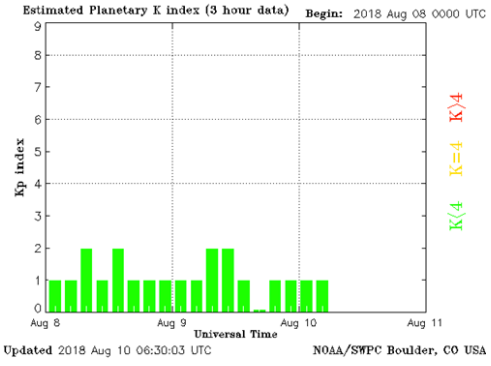


A weakly-organized stream of solar wind flowing from this coronal hole was expected to reach Earth on August 3rd or 4th. Credit: SDO/AIA

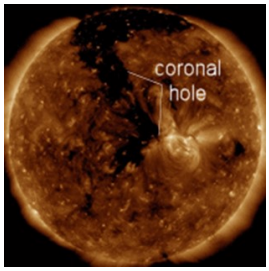
GEOMAGNETIC UNREST POSSIBLE: A weak stream of solar wind was expected to engulf Earth on August 4th, possibly disturbing our planet's polar magnetic field. The gaseous material was flowing from a poorly organized hole in the Sun's atmosphere.

August 4th - All's Quiet. Solar minimum conditions were in effect: The Sun was without sunspots for 38 of the previous 41 days. To find a similar stretch of blank Suns, you have to go back to 2009 when the Sun was experiencing the deepest solar minimum in a century. Solar minimum has returned, bringing extra cosmic rays, long-lasting holes in the Sun's atmosphere, and strangely pink and white auroras.



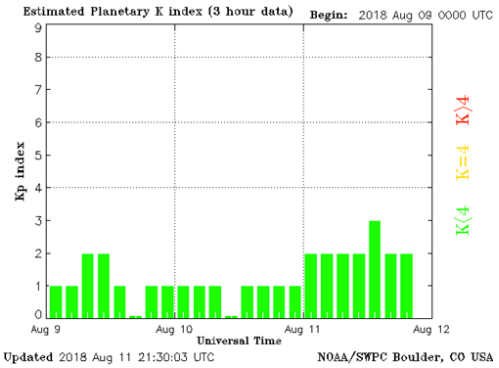


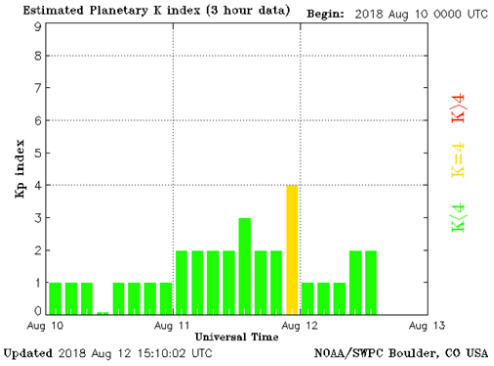
August 9th - Despite being at solar minimum, Space Weather remained active. A small coronal hole was rotating into the Earth-strike zone. Also, one of two unnumbered bright regions were rotating out of Earth-view resulting in amateur radio propagation slowly dropping back to poor conditions.



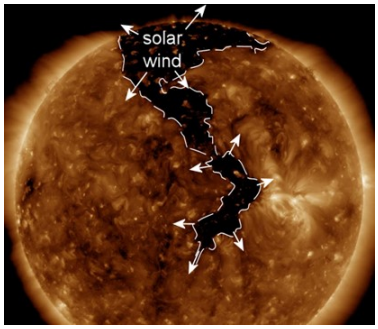
Solar wind flowing from this coronal hole was forecast to reach Earth on August16-17. Credit: SDO/AIA

August 12th - Amateur Radio: Usable HF Frequencies, http://hfpropagation.com/





August 14th - The Sun was without sunspots for 45 of the past 48 days.

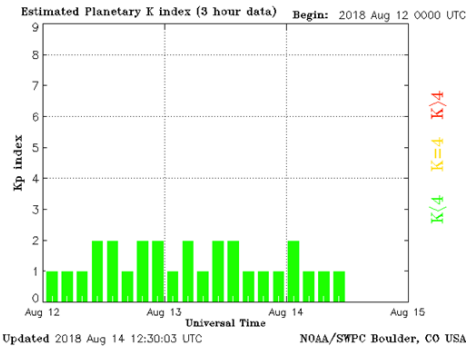


Solar wind, incoming: A long, narrow hole was opening in the Sun's atmosphere, and it was spewing high-speed solar wind into space. NASA's Solar Dynamics Observatory photographed the fissure on August 13th as it was pointing directly at Earth.

This was a "coronal hole", a region where the Sun's magnetic field opens up and allows gaseous material to escape. Solar wind emerging from the hole was expected to reach Earth on August 16th and 17th.

The incoming stream of solar wind was to be preceded by a CIR (co-rotating interaction region). CIRs are transition zones between slow- and fast-moving solar wind. They often contain shock-like density gradients and strong magnetic fields that do a good job of disrupting HF propagation.

PLANETARY K-INDEX: A value of 1 on the K-index indicates calm and 5 or more indicates a geomagnetic storm. The K-index is derived from the maximum fluctuations of horizontal components observed on a magnetometer, during a three-hour interval.

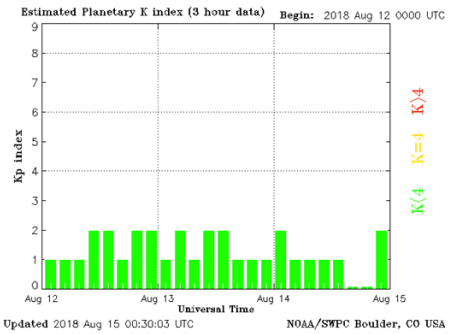


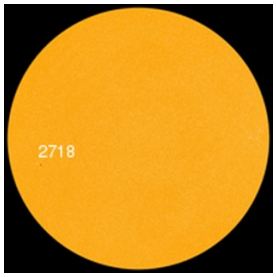
The Worsening Cosmic Ray Conditions During Solar Minimum: How does this affect us?

Cosmic Rays in the Atmosphere - Most people stepping on-board an airplane have no idea they are about to encounter cosmic rays - much less do they know what the dose rate might be.

Researchers have long known that cosmic rays penetrate the hulls of commercial aircraft. At typical cruising altitudes, pilots, flight attendants and passengers typically receive a dose rate 40 to 70 times higher than natural radiation on the ground below. The higher a plane flies, the more radiation it receives. This has prompted the International Commission on Radiological Protection (ICRP) to classify pilots as occupational radiation workers–just like nuclear power plant engineers.

August 15th -

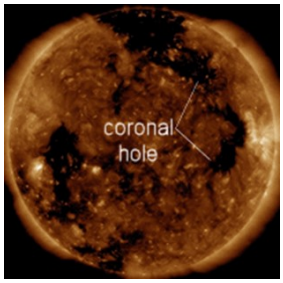


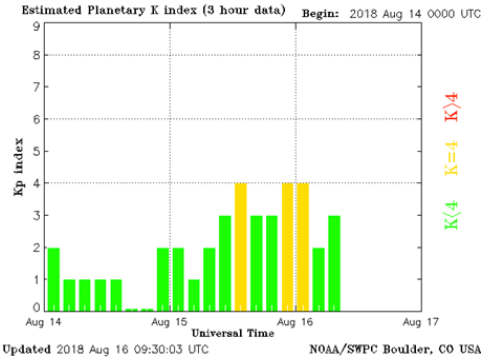


New sunspot group AR2718 broke a string of 11 consecutive spotless days. The emerging group was small and quiet - typical of solar minimum sunspots. Credit: SDO/HMI

After a few weeks of silence the Sun seemed ready to wake up. The arrival of an Earth facing Coronal Hole was expected to bring active Kp4 periods and a possible period of G1 (Kp5) conditions. A sunspot region was also emerging on the SE limb of the Sun.

Solar wind flowing from this coronal hole was expected to reach Earth on August 16-17. Credit: SDO/AIA



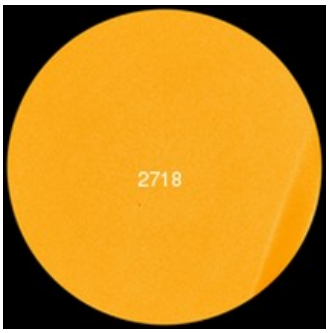


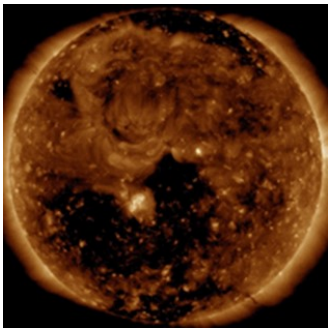
August 16th - A stream of solar wind hit Earth's magnetic field during the late hours of August 15th. The gaseous material was flowing from a 700,000 km-long fissure in the Sun's atmosphere. The Earth would move deeper into the stream August 17th.

August 18th - Sunspot AR2718 was small and quiet--typical of solar minimum sunspots. Credit: SDO/HMI

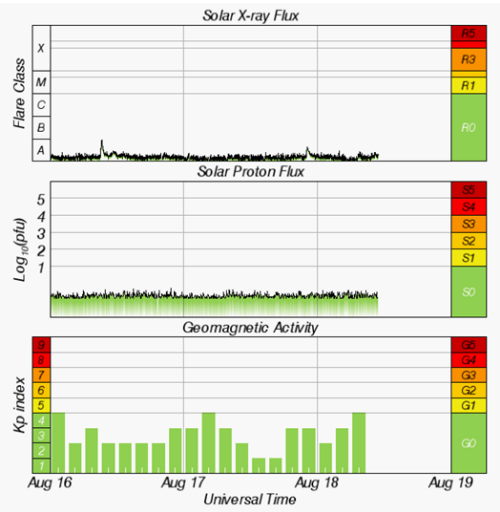
High-speed Solar wind flowing from this large coronal hole was expected to reach Earth on August 20-21. Credit: SDO/AIA

Amateur radio operators were struggling this week despite a new active region emerging into Earth view. Low solar flux remained on Earth's day side and disruption from the solar storms make the bands noisy on the night side.

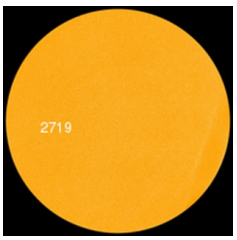




SPACE WEATHER OVERVIEW



August 20th - The solar wind had arrived: Earth was entering a stream of high-speed solar wind, just above 500km/s. An isolated period of minor G1 geomagnetic storming was expected.

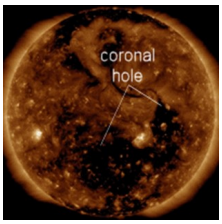


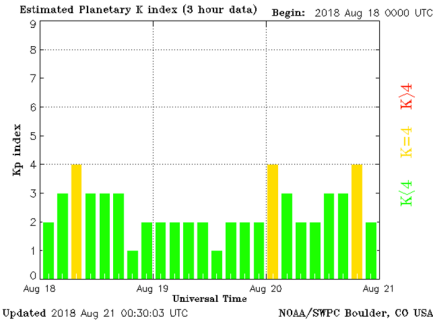
The gaseous material was buffeting Earth's magnetic field as it was flowing from a wide hole in the Sun's atmosphere. It was so wide, Earth was expected to be inside the stream for days, maybe even the remainder of the week.

NOAA forecasters estimate a 50% chance of continued geomagnetic disturbances, August 20th and 21st.

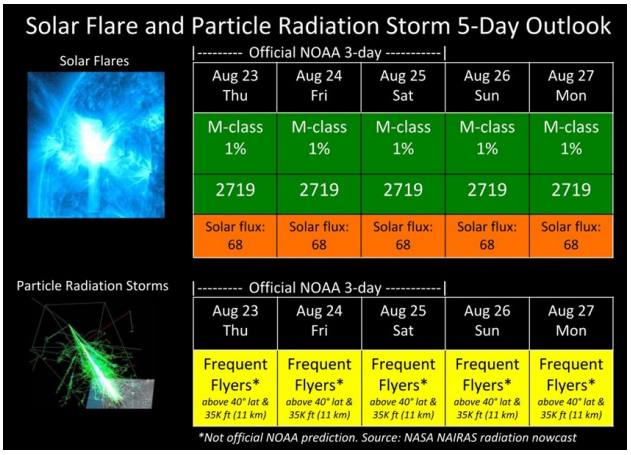
New sunspot AR2719 was growing rapidly, but it did not pose a threat for solar flares. Credit: SDO/HMI

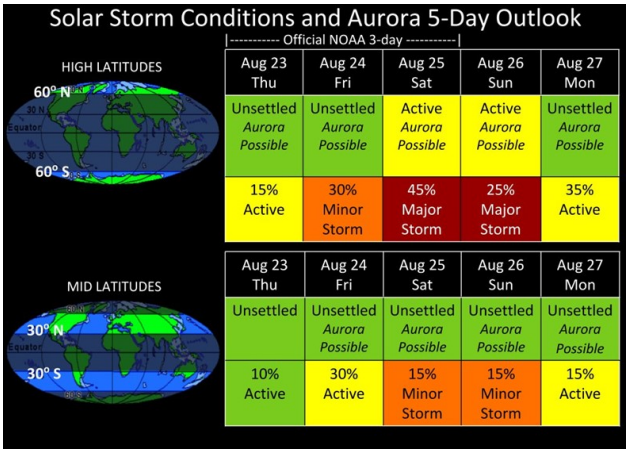
Earth was entering a stream of solar wind flowing from this wide coronal hole. Credit: SDO/AIA

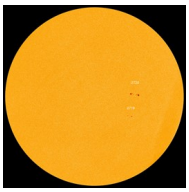




Credit (below): Dr. Tamitha Skov @TamithaSkov, WX6SWW

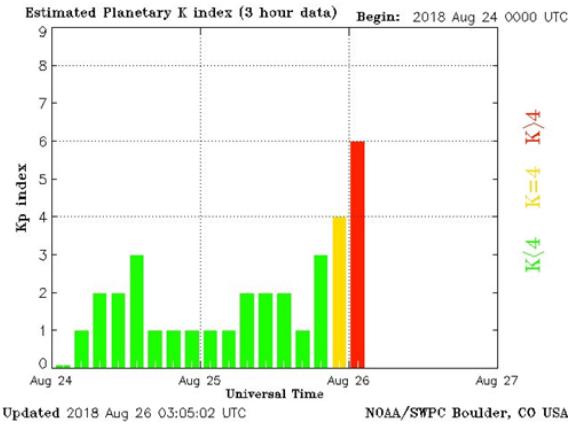






Rapidly growing sunspot: On August 25th, sunspot AR2720 didn't exist. Two days later it was sprawling across more than 75,000 km of the Sun's surface and had two dark cores as wide as Earth. Credit: SDO/HMI

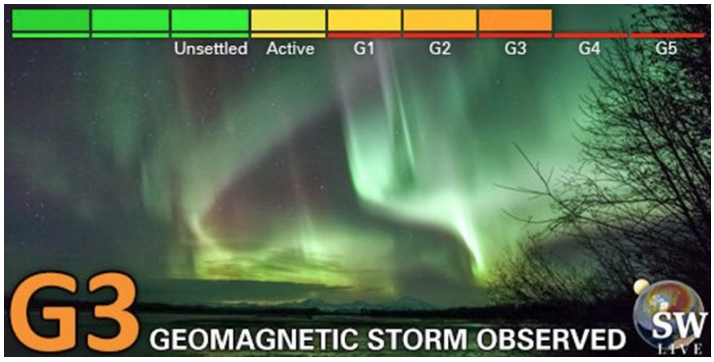
The magnetic canopy of AR2720 was crackling with B-class solar flares - minor explosions hardly befitting a sunspot of its size. This is what we expect during solar minimum when even large sunspots tend to be quiet.



August 25th - The Bz component of the interplanetary magnetic field (IMF) was pointing south for several hours and this was helping to disturb our geomagnetic field. A minor (G1) geomagnetic storm watch was in effect.

UPDATE: The Bz component of the IMF continued to point sharply south (-16nT) and a Moderate (G2) geomagnetic storm was in progress. Geomagnetic K-index of 6 Threshold Reached: 2018 August 26th @ 0257 UTC. Credit: SpaceWeatherLive

Surprise, A strong G-3 class Geomagnetic storm, was in progress on August 26th as Earth passed through the wake of a CME that arrived with little fanfare approximately 24 hours earlier. Strong magnetic fields in the CME's wake had opened a crack in Earth's magnetosphere, allowing solar wind to enter. Credit: SpaceWeatherLive



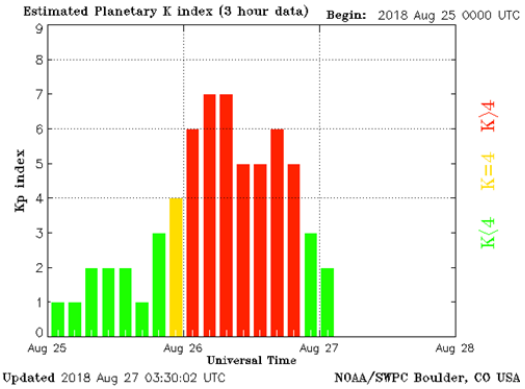
Strong G3 geomagnetic storm increasing, (Kp7). Threshold Reached 07:38 UTC.

Reverse polarity sunspot: New sunspot AR2720 was not only large, but also eccentric. Its magnetic polarity was reversed. The North and South ends of its enormous magnetic field were backwards compared to the norm for sunspots in the current decaying solar cycle, Solar Cycle 24. Could AR2720 be the first big sunspot of the next solar cycle, Solar Cycle 25, popping up now in the middle of solar minimum? Stay tuned for more information about this intriguing possibility.

Dr. Tamitha Skov, WX6SWW: This is surely one for the record books! A solar minimum Sun, sends aurora as far south as Colorado!

My 1st time capturing patches of green aurora that would appear for about a minute before disappearing. Sub-visual due to full moon. Shot between 12-2am mst/600-800utc August 26th Paradox Valley Colorado(38N latitude) Kp7/G3. - Derick Wilson

August 27th - Earth exited the surprise solarstorm that led to a minimum of Dst -169 nT, and the magnetosphere was slowly recovering. A high speed stream following from the storm, was not seen at STEREO-A.



Geomagnetic Forecast: Issued August 26th, 2018 @ 2205 UTC. Prepared by the U.S. Dept. of Commerce, NOAA, Space Weather Prediction Center.

NOAA Geomagnetic Activity Probabilities 27th August thru 29th:
Active: 35/25/35
Minor storm: 25/10/10
Moderate storm: 10/01/01
Strong-Extreme storm: 01/01/01

Notes of interest:
The Worsening Cosmic Ray Situation, March 5th, 2018, Dr.Tony Phillips:
https://spaceweatherarchive.com/2018/03/05/the-worsening-cosmic-ray-situation/

When A Solar Storm Engulfs Earth: https://youtu.be/piehWYdlOQA

Current Dose Rates: http://sol.spacenvironment.net/nairas/Dose_Rates.html

73,

Fred
AA0JK

2019 Utah ARRL Rocky Mountain Division Convention

Provided By Pat Malan, N7PAT

(Editor's Note: Pat sent this over. His is the PIO for the Red Cross in the Salt Lake City area.)

Link for event information (8/10/19): https://goo.gl/forms/jrOOQ1QGqtrDbT4o2

AmazonSmile Funds for the DRC

Provided By Jim Beall, K0TOR

You can contribute to the Denver Radio Club's causes through your purchases at Amazon. When you place a purchase via the following link, Amazon will donate 0.5% of the price of eligible AmazonSmile purchases to the DRC: http://smile.amazon.com/ch/84-0917581. Over the period between April 1st and June 30th the club received $28.23 in donations. It's easy and free so please use the link and help your club!

NIST FY2019 Budget and Possible WWV Shutdown

Link Provided By Paul Deeth, WA2YZT
Article By The SWLing Post

Paul wrote in and noted that WWV and WWVH may be shutdown next year if the NIST FY2019 budget passes with no modifications. See the full post here: https://swling.com/blog/2018/08/nist-fy2019-budget-includes-request-to-shutdown-wwv-and-wwvh/

Attention DMR/Brandmeister Users

By Bill Rinker, W6OAV

If you updated your DMR ID data base after late May you may have noticed that a European DMR user displays only a call sign, first name, and DMR ID. See Figures 1 and 2 (Provided by KC2CAG).The user's last name and city are missing! Well, there is nothing wrong with your radio or its DMR ID data base. The new European General Data Protection Regulation (GDPR) laws which became active on the 25th May 2018 have forced this change. Surprisingly, there is little Internet information on this subject! A few references are listed below.

References:
http://www.opendmr.net/index.php/gdpr/
https://www.rogerclark.net/new-european-data-collection-laws-seem-to-outlaw-ham-digitals-last-heard-system/
https://www.essexham.co.uk/news/gdpr.html

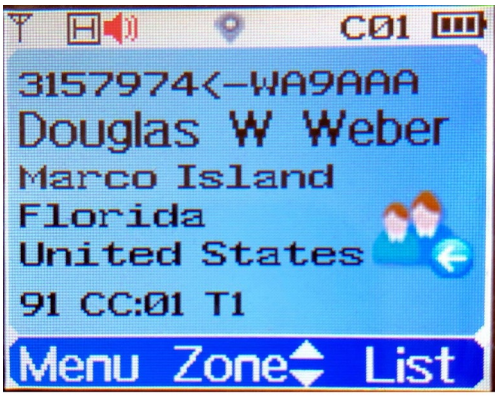


Figure 1 - Non GDPR Format Display

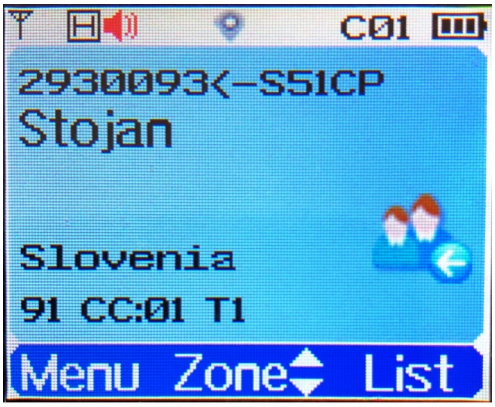
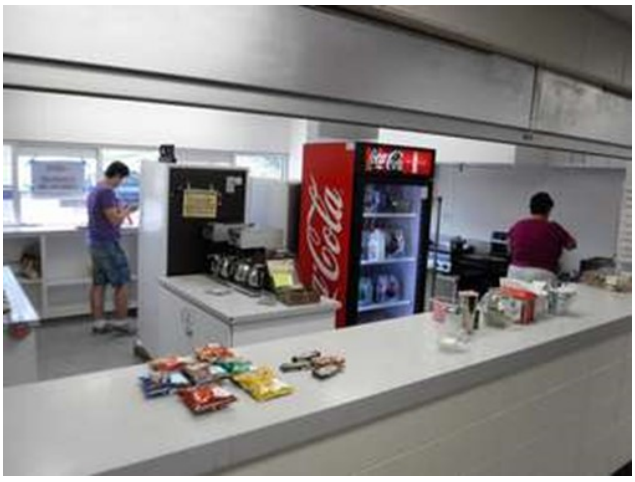


Figure 2 - GDPR Format Display

Denver Radio Club Hamfest 2018

Photos Provided By Fred Hart, AA0JK





Denver Radio Club's VE Session At Hamfest 2018

By Tom Kocialski, KC2CAG

Eight candidates were present at the 2018 DCR Hamfest VE session. That equaled the number of volunteer examiners present at the session!

Daniel Holmes, N7NKR, advanced to Extra Class privileges.

Michael Kawecki passed the Tech and General Class exams.

Daniel Redford and Kaelen Peters earned Tech licenses.

And a good time was had by all, including our newest VE, Doron Ben Chaim, K1DBC.

Thanks to all the VE's who participated and congratulations to the newly licensed and upgraded operators!

VE's participating, in no particular order:

WZ0S, Bill Rogers
AD0WG, Roger Hassell
K0HTX, Dave Gillespie
AC0VC, Bill Burek
K0MEL, Mel Minnick
AA0JK, Fred Hart
K1DBC, Doron Ben Chaim
And me, KC2CAG, Tom Kocialski


FCC Takes Action on Company Marketing Unauthorized Two-Way Radio

Link Provided By Gerry Villhauer, W0GV

Gerry provided the following link for an article on the Radio Resource site regarding the FCC's action against a Baofeng distributor: https://www.rrmediagroup.com/News/NewsDetails/newsID/17192

Beware of Public USB Charging Stations

By Bill Rinker, W6OAV

It appears that no matter what one does these days caution must be maintained against hackers and viruses. The latest issue now is the public USB charging stations appearing in places like airports, libraries, conference centers, coffee shops, etc. What is the issue? The USB cord and compromised USB charging ports. A USB cord has not only charging leads but also has data leads. The USB data leads are used to transfer data between devices. For example, the USB data leads can be used to transfer photos between a smart phone and a laptop.

If a public USB charging port is compromised, there's no limit as to what information a hacker could take via the USB data leads. This includes email, text messages, photos and contact information. It's called "Juice Jacking." So, what does one do to prevent this? One method is to use the "USB-MC1" Fast 1A Charge-Only Adapter" for Android, Apple iOS, and other mobile devices. See Figure 1. The adapter isolates the USB data leads from the charging station. They're available from Wal-Mart or Amazon for $6.41.

Very good articles on "Juice Jacking" can be found at
https://money.cnn.com/2017/02/15/technology/public-ports-charging-bad-stop/index.html

https://www.nytimes.com/2017/05/10/technology/personaltech/the-risk-in-using-a-public-phone-charger.html

So, when you're out and about, carry this little device in your pocket!

Figure 1 - The USB-MC1 Fast 1A Charge-Only Adapter

(Editor's note: A similar device is the PortaPow Data Blocker. This has been recommended by security gurus such as Steve Gibson at GRC (Gibson Research Corporation). It was discussed in June 2017 and July 2018 *Security Now* shows on TWiT.tv See Steve's site and search for PortaPow in the upper right: https://www.grc.com/default.htm The PortaPow can also be purchased at Amazon: https://www.amazon.com/gp/product/B00QRRZ2QM/ref=oh_aui_search_detailpage?ie=UTF8&psc=1 . Don't forget AmazonSmile… :))

Commercial Aircraft Antenna Systems

By Bill Rinker, W6OAV

Most hams love to read about complex antenna systems. If you think some ham's mobiles look like porcupines with many antennas, consider modern commercial aircraft antenna systems. Most commercial aircraft have up to 20 antennas! (See Figure 1 below) With up to 20 antennas per aircraft exposed to high winds, lightning, foreign objects in the air and on the ground, excessive vibrations, etc, many things can go wrong! Click the following link to read about what kind of damages can occur and what it takes to repair them depending upon the type of damage.

https://www.mro-network.com/engineering-design/understanding-today-s-antenna-complexities

Although most commercial aircraft flying between continents use the Satcom antenna for satellite communications, they all have an HF system for backup. Note the two HF antennas in the 787's vertical stabilizer in Figure 1. Remote tuners, usually filled with nitrogen for anti-arc control, are located near the HF antennas. In the case of the 787 there are two HF antenna systems where as smaller aircraft will only have one HF antenna system. You will often hear a ham pilot using the HF system while in "normal auto-pilot" flight mode.

Whereas it is relatively easy constructing and installing small VHF/UHF antennas on aircraft, doing so with larger HF antennas is a challenge. There are many HF antenna configurations. For analysis of various configurations see: https://patents.google.com/patent/US7511674. This site lists technical information for various patented aeronautical HF antenna configurations. Clicking a patent number listed at the bottom of this page will display the technical information for that configuration.

During my 63 year ham career I've worked many commercial ham pilots while they were on "normal auto-pilot" flight mode over the ocean. At altitude over salt water, those small HF antennas layout a nice strong signal!

If you are interested in reading about various aeronautical antennas check out the following links:

http://aeroelectric.com/articles/Antennas/Antennas_for_Aircraft.pdf
https://www.hr-smith.com/images/stories/Airborne-antennas-brochure.pdf
https://www.hr-smith.com/images/stories/fast_tuned.pdf
https://www.hr-smith.com/images/stories/satcom_antennas.pdf

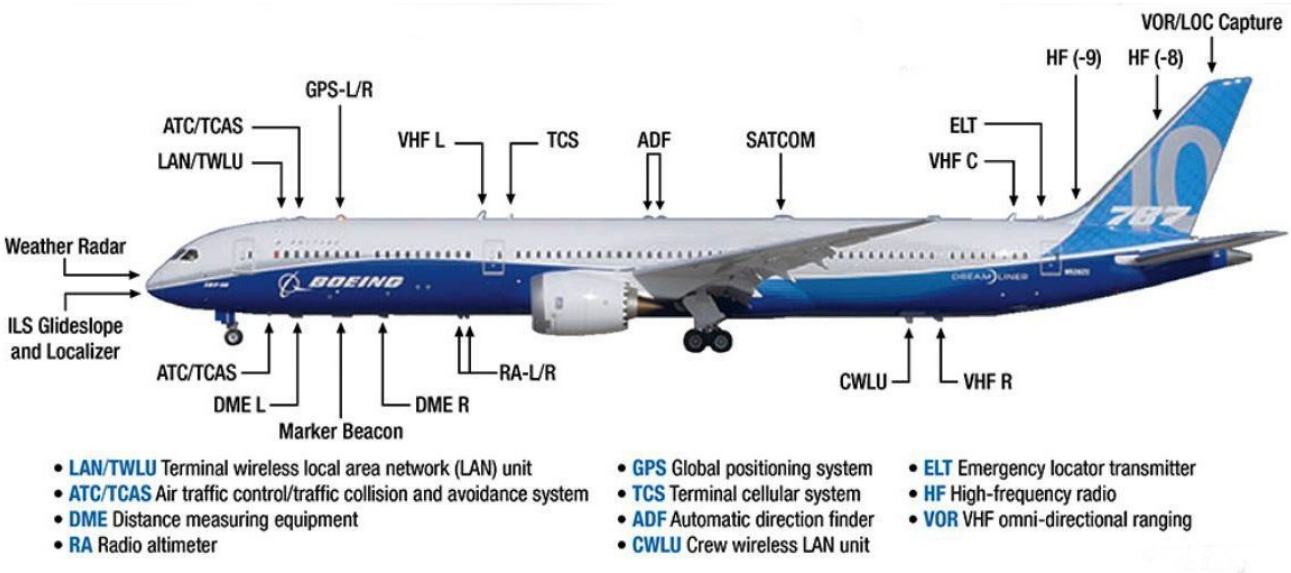


Figure 1 - Boeing 787 Antennas (Source: Boeing Company via MRO Network)

Fact of the Day

Nickel-Cadmium Battery Discharging

Nickel-cadmium (NiCd) batteries should be discharged to 1-volt per cell before they are recharged to avoid reduced runtime following the next charge. The runtime of nickel-cadmium batteries that have been recharged before being discharged to 1-volt per cell can be restored by discharging them to 1-volt per cell, recharging them, and then repeating that deep discharge/recharge cycle two more times. It is easy to design nickel-cadmium battery-life restoration circuits that perform that deep discharge/recharge cycle three times automatically.

Ham Site Of The Month

Colorado DHS and Emergency Management

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

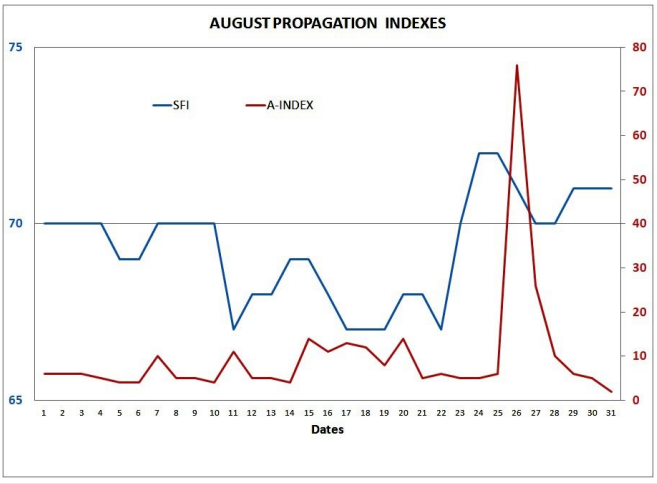
Go to: http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf

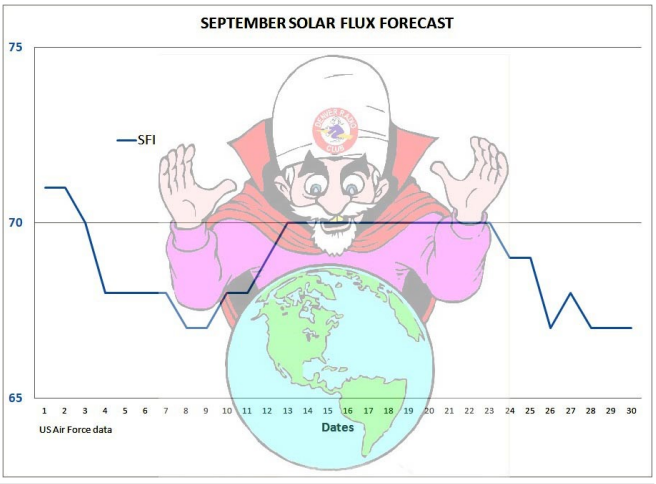
Past & Future Propagation Conditions

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





Upcoming Events
Hamfests & Conventions

Event	Date	Location	Sponsor Website
BARCfest	10/07/18	Boulder County Fairgrounds Exhibit Building, Longmont	BARC
Fall TechFest	11/03/18	Bridge Church at Bear Creek	285 TechConnect

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
Colorado	09/01/2018	09/02/2018	Pikes Peak Radio Amateur Association	Based on 2017 date.
Alabama	09/01/2018	09/02/2018	Alabama QSO Party	
Tennessee	09/02/2018	09/03/2018	Tennessee QSO Party	Based on 2017 date.
Iowa	09/15/2018	09/16/2018	Story County ARC	
New Hampshire	09/15/2018	09/16/2018	Port City Amateur Radio Club	Based on 2017 date.
New Jersey	09/15/2018	09/16/2018	New Jersey QSO Party	Based on 2017 date.
Washington	09/15/2018	09/16/2018	Western Washington DX Club	
Maine	09/22/2018	09/23/2018	Wireless Society of Southern Maine	
Texas	09/29/2018	09/30/2018	Texas QSO Party	
California	10/06/2018	10/07/2018	California 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**

SEPTEMBER 2018

DRC Net Sundays at 8:30 p.m. on 145.490 / 448.625 (no PL)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2  Last Quarter	**3**	**4**	**5** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**6**	**7**	**8** **September VHF -** Begins 1800 UTC
9  New Moon	**10** **September VHF -** Ends 0259 UTC	**11**	**12** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**13**	**14**	**15** **10 GHz & Up -** Begins 6 AM local
16 **10 GHz & Up -** Ends Midnight local  First Quarter	**17**	**18**	**19** **DRC Meeting - @ West Metro Fire Headquarters** Elmer 6 PM General 7 PM	**20**	**21**	**22**
23 **EME 2.3 GHz & Up -** Ends 2359 UTC **30**	**24**  Full Moon	**25**	**26** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**27**	**28**	**29** **EME Contest - 2.3 GHz & Up** - Begins 0000 UTC

DRC Board of Directors

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Board Member	K0WSU	Paul Olson	303-885-7275	66cadillac@wispertel.net

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Trustee	WW0LF	Orlen Wolf	303-279-6264	owolf@mines.edu
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Web Master	N0LAJ	Bill Hester	*Check Roster*	w0tx@w0tx.org

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

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