PostScript Ohio Section

"June 21st Edition"

My Apologies!

You may have noticed that there was no issue of PostScript released last weekend. Late Saturday evening, my business parter, and friend, Michael R Hutsler – WB8VYW – passed away unexpectedly. This past week has been very hectic and busy. I'll carry on, but it will never be the same. Please, always take the time and effort necessary for your family and friends. Tom – WB8LCD

National News
(from arrl and other sources)

Jun 18, 2021

Sun Science Stamps Highlight a Decade of Sun-Watching from Space

To start off the summer, the U.S. Postal Service issued a set of stamps highlighting views of the Sun from NASA's Solar Dynamics Observatory. Showcasing a range of solar activity seen by the spacecraft, the stamps celebrate a decade of Sun-watching for this workhorse mission. The Sun Science stamps were issued by the U.S. Postal Service during a ceremony at the Greenbelt Main Post Office in Maryland on June 18.

"It's such a pleasure to see these gorgeous stamps," said Dr. Nicky Fox, Division Director for NASA's Heliophysics Division at NASA Headquarters in Washington, D.C. "I look at each of these pictures from the Solar Dynamics Observatory and am reminded of how they help us learn more about the Sun and the way its constantly changing atmosphere can affect Earth and the planets. I'm pleased that this imagery will be shared by the Postal Service with the whole country."

The U.S. Postal Service issued a set of stamps highlighting views of the Sun from NASA's Solar Dynamics Observatory on June 18, 2021.
Credits: U.S. Postal Service

The Solar Dynamics Observatory, or SDO, spacecraft was launched on Feb. 11, 2010, and began collecting science data a few months later. With two imaging instruments – the Atmospheric Imaging

Assembly and the Helioseismic and Magnetic Imager, which were designed in concert to provide complementary views of the Sun – SDO sees the Sun in more than 10 distinct wavelengths of light, showing solar material at different temperatures. SDO also measures the Sun's magnetic field and the motion of solar material at its surface, and, using a technique called helioseismology, allows scientists to probe deep into the Sun's interior, where the Sun's complex magnetic fields sprout from. And with more than a decade of observation under its belt, SDO has provided scientists with hundreds of millions of images of our star.

"What SDO has done is given us the ecology of the Sun," said Dr. Dean Pesnell, SDO project scientist at NASA Goddard. "We see events big, we see events small, and now we start to see how each size affects the others. It's giving us the big picture, one detail at a time."

NASA's Solar Dynamics Observatory sees the Sun in more than 10 distinct wavelengths of light, showing solar material at different temperatures.
Credits: NASA's Goddard Space Flight Center
Download this video in HD formats.

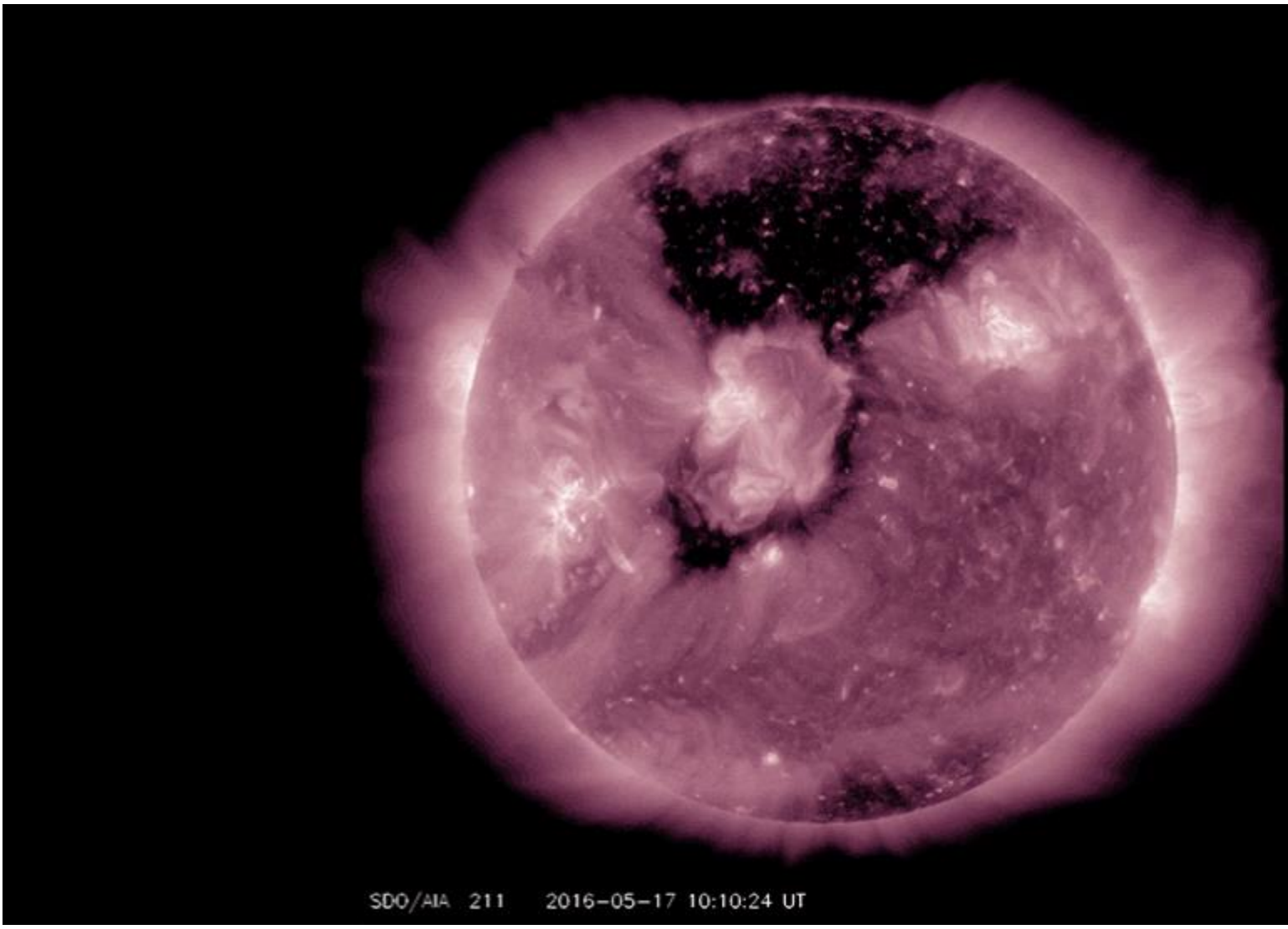
SDO's long data record is particularly useful for studying the Sun's regular activity cycles, which swing between high and low activity approximately every 11 years. During high points in the cycle, solar activity like solar flares and coronal mass ejections – which can impact technology on Earth and in space – are more common. Though scientists' understanding of this cycle has improved in decades and centuries past, SDO's data is helping uncover even more detail.

"If we want to understand what makes the Sun tick, we need to have this long-term record," said Dr. Mark Cheung, principal investigator for SDO's Atmospheric Imaging Assembly at the Lockheed Martin Solar and Astrophysics Laboratory in Palo Alto, California. "We can track all those magnetic fields and sunspots moving around, and how that feeds into the next solar cycle – which is in its nascent phase now."

The new set of stamps features 10 images from SDO. Explore the story behind the stamps' design from the U.S. Postal Service.

Read on for more about the science behind each stamp.

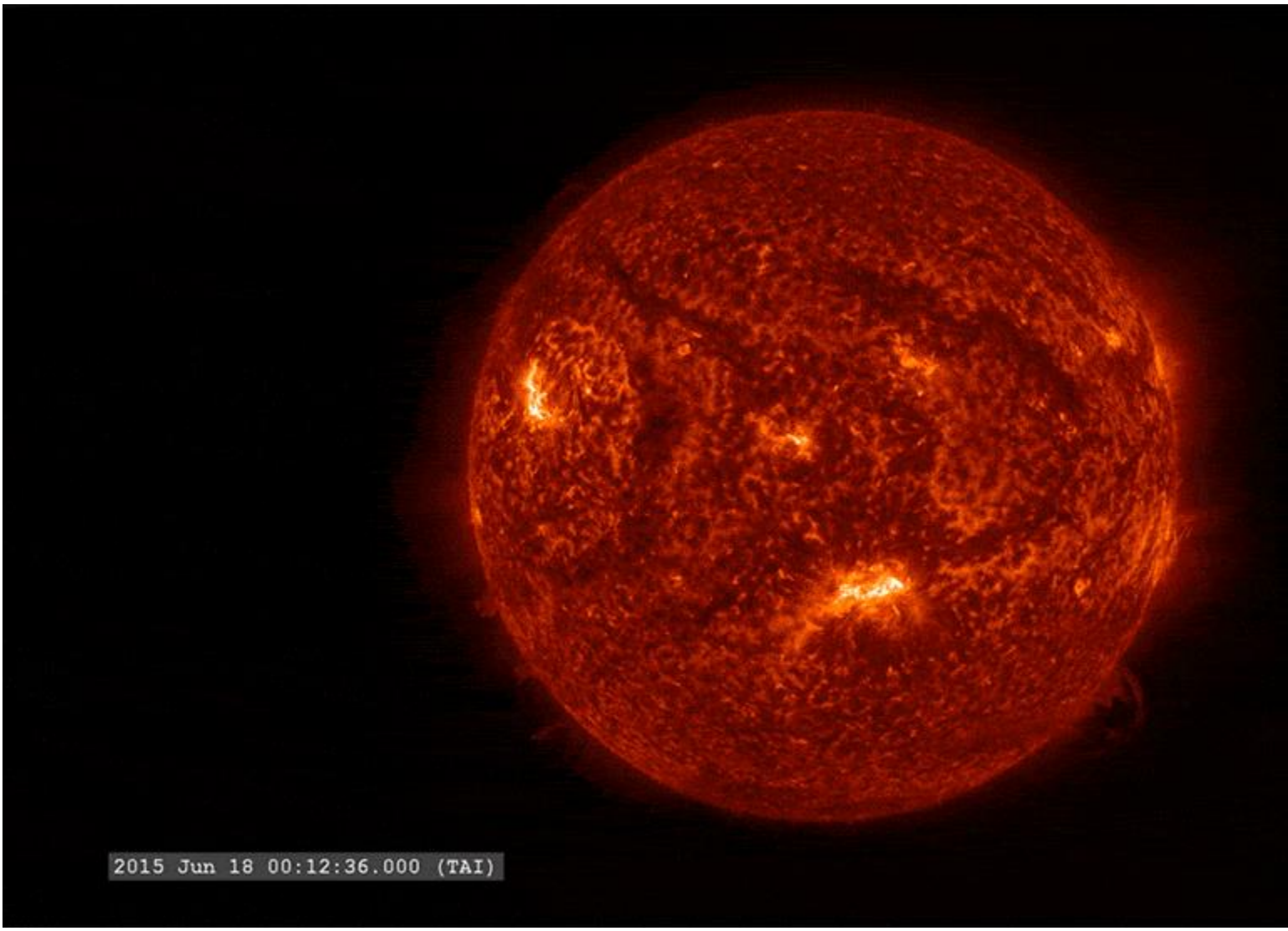
Coronal Hole



Credits: NASA/SDO

The dark area capping the northern polar region of the Sun is a coronal hole, a magnetically open area on the Sun from which high-speed solar wind escapes into space. Such high-speed solar wind streams can spark magnificent auroral displays on Earth when they collide with our planet's magnetic field. These images were captured May 17-19, 2016, and the image on the stamp is from May 17. The images show the Sun in 211 Angstrom light, a wavelength of extreme ultraviolet light. This type of light is invisible to our eyes and is absorbed by Earth's atmosphere, so it can only be seen by instruments in space.

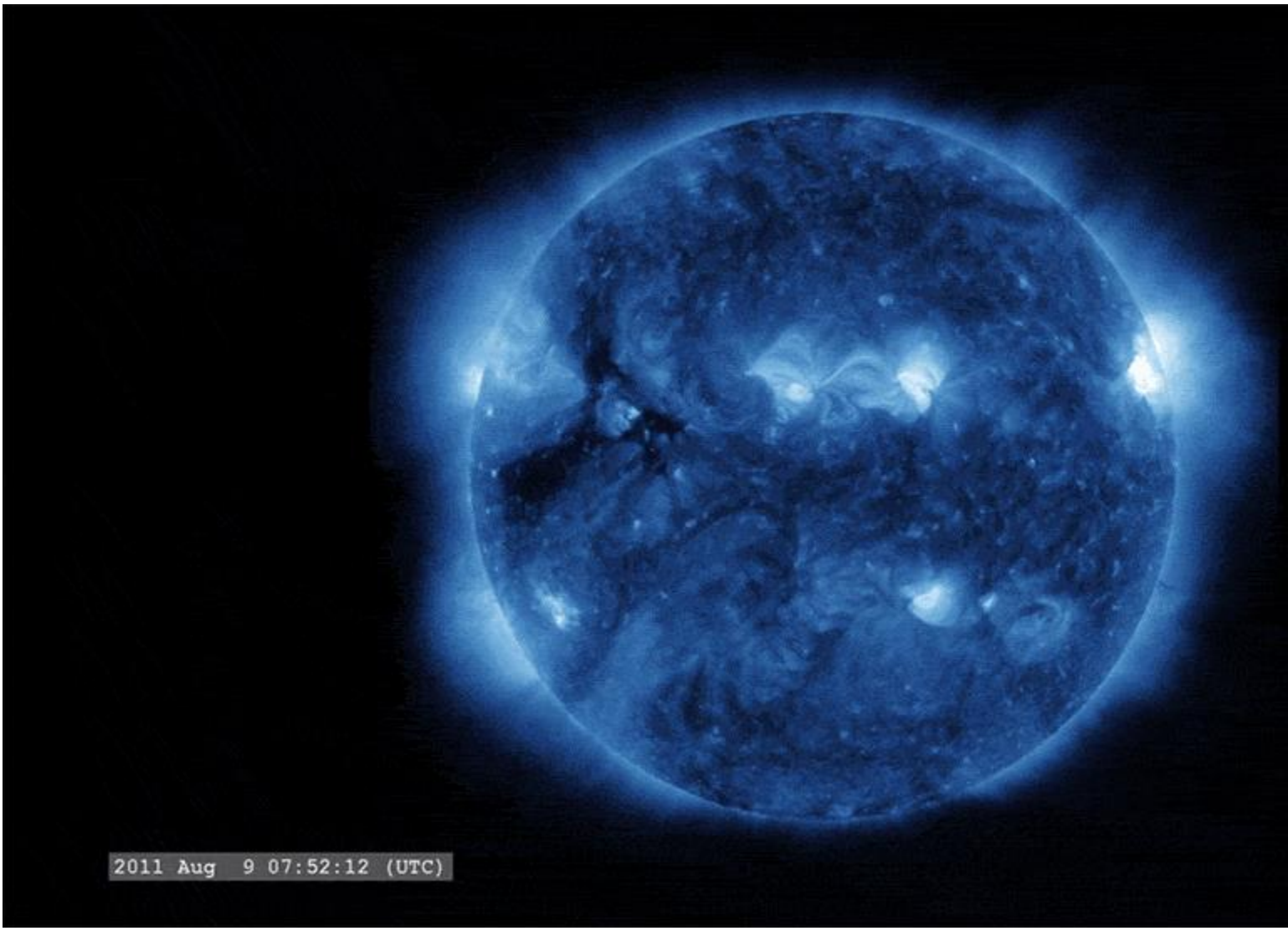
Coronal Loops



Credits: NASA/SDO

Visible on the lower right of the Sun is a prominence, with its bright arcs traced out by charged particles spiraling along the Sun's magnetic field lines. Coronal loops are often found over sunspots and active regions, which are areas of intense and complex magnetic fields on the Sun. These images were captured on June 18, 2015, in light at 304 Angstroms, an extreme ultraviolet wavelength.

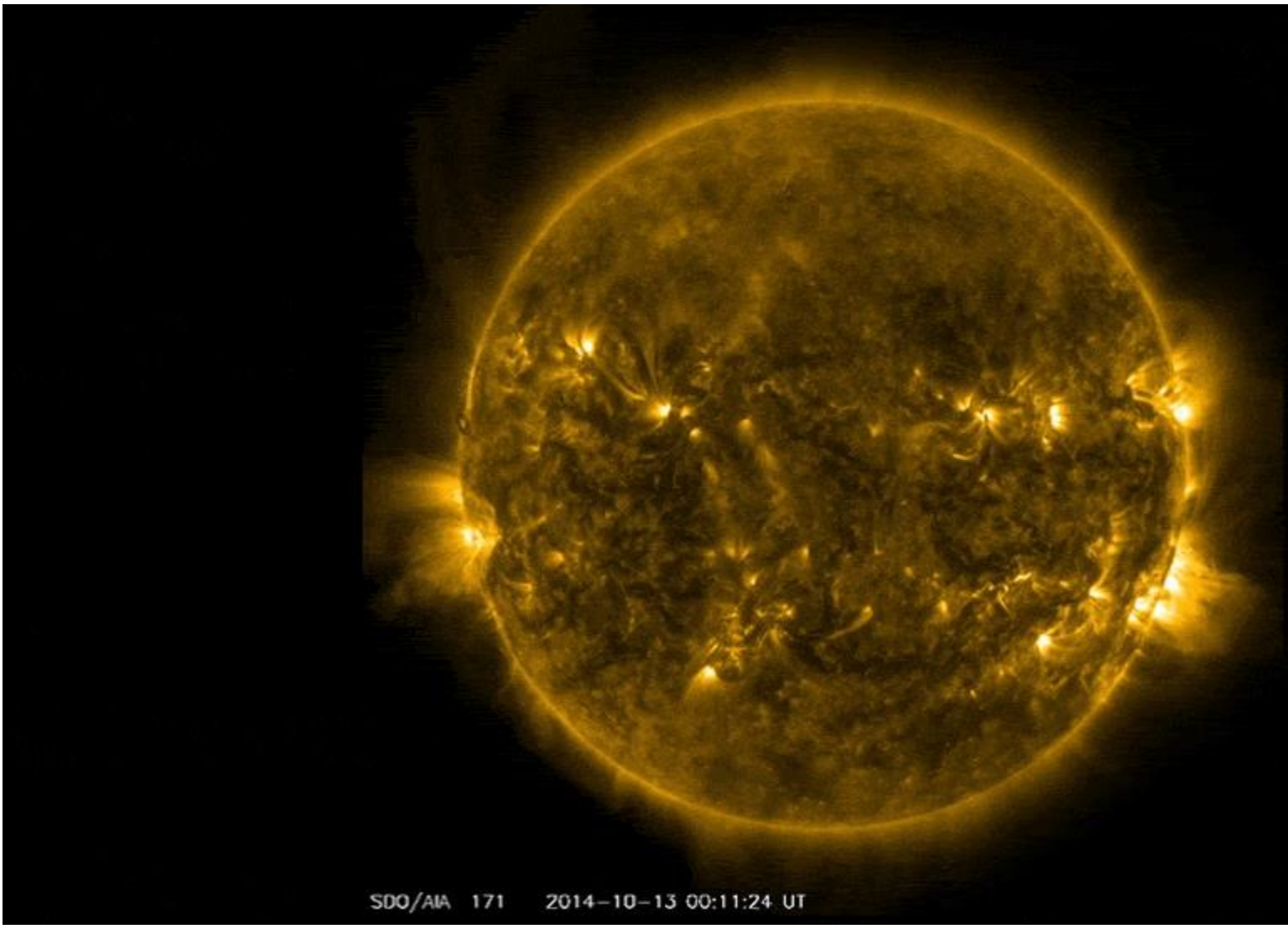
Solar Flare



Credits: NASA/SDO

The bright flash on the Sun's upper right is a powerful X-class solar flare. X-class flares are the most powerful type of solar flare, and these bursts of light and energy can disturb the part of Earth's atmosphere where GPS and radio signals travel. These images were captured on Aug. 9, 2011, in extreme ultraviolet wavelength 335 Angstroms.

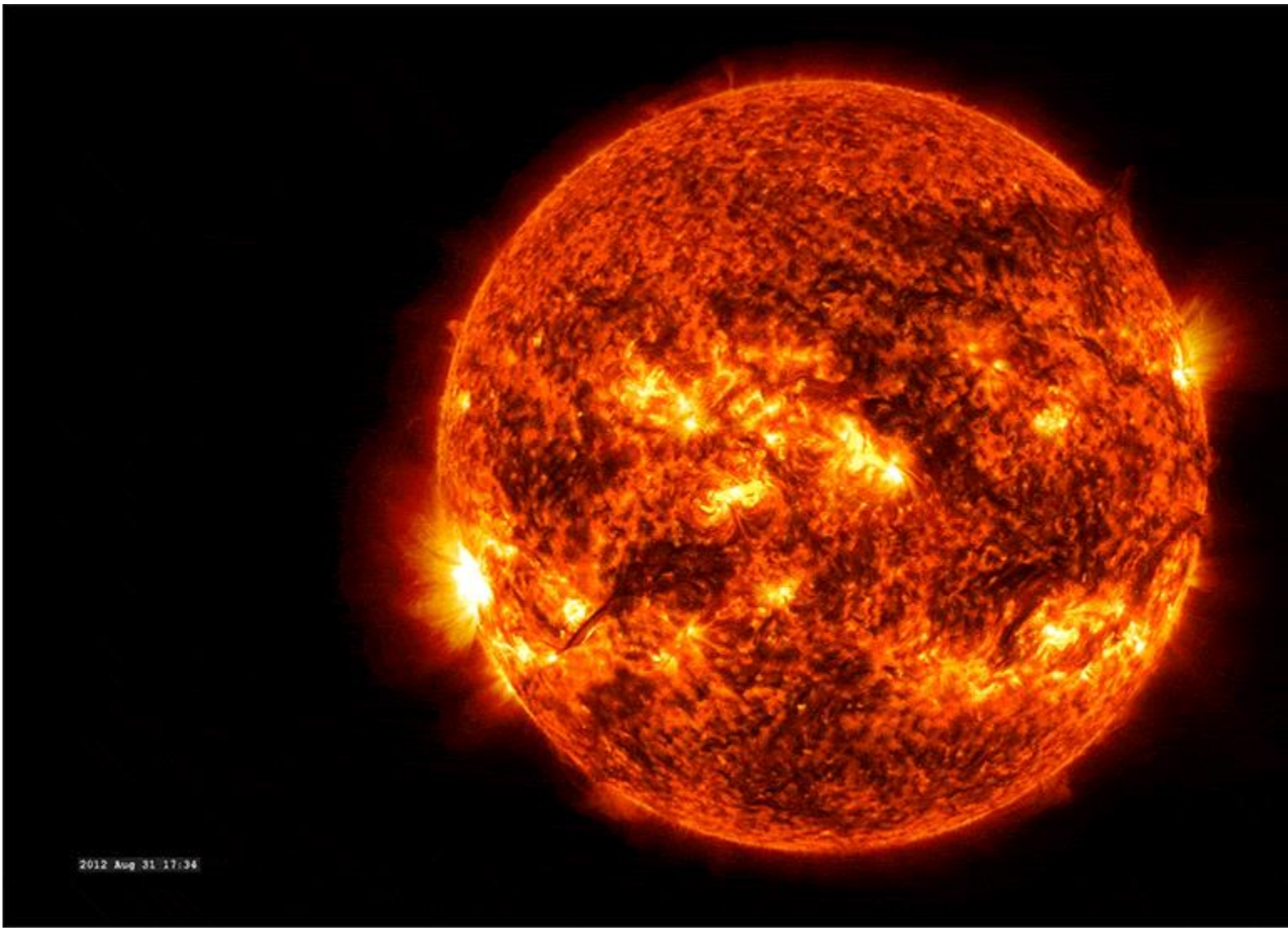
Active Sun



Credits: NASA/SDO

This view highlights the many active regions dotting the Sun's surface. Active regions are areas of intense and complex magnetic fields on the Sun – linked to sunspots – that are prone to erupting with solar flares or explosions of material called coronal mass ejections. This image was captured on Oct. 8, 2014, in extreme ultraviolet wavelength 171 Angstroms.

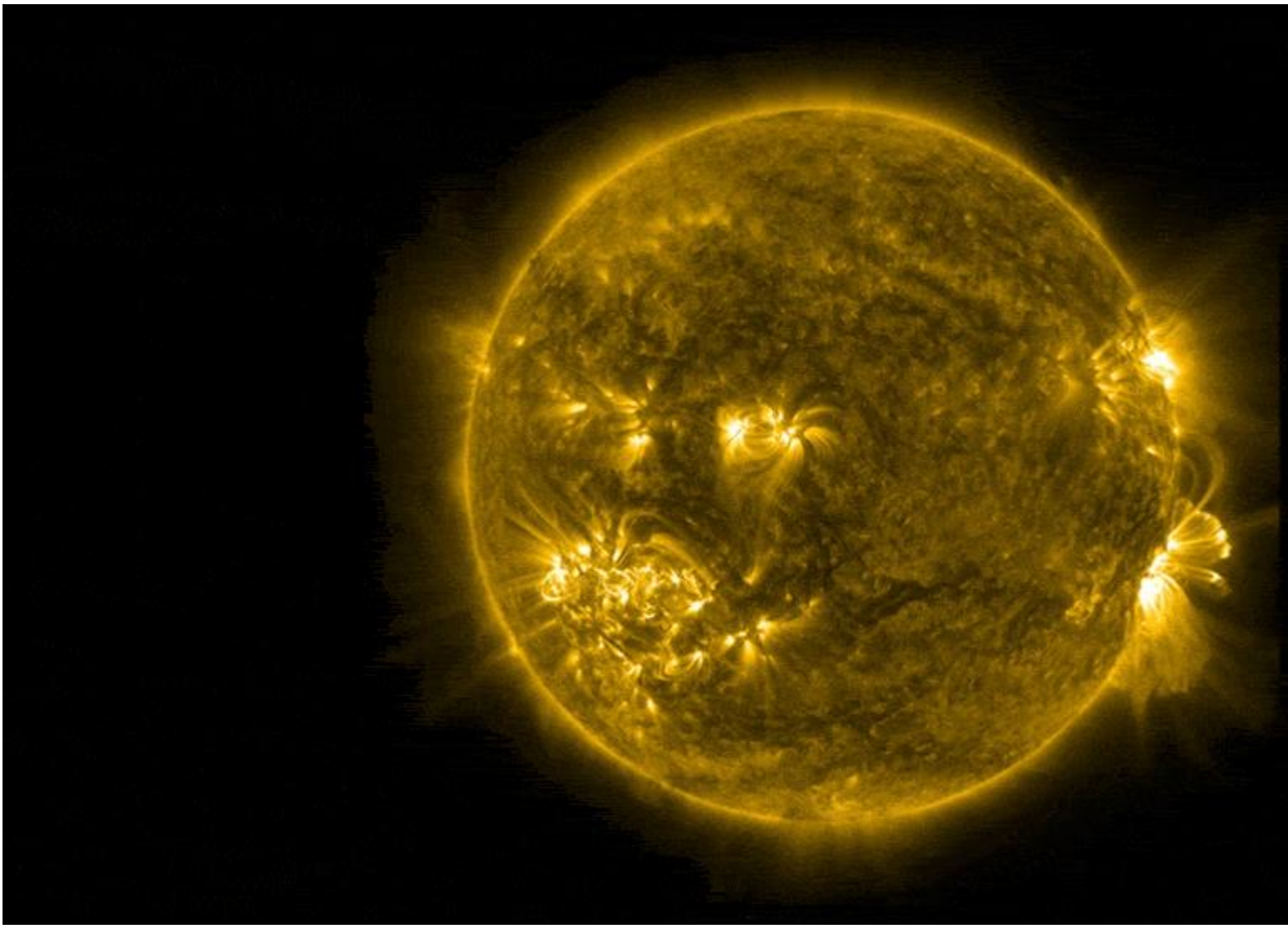
Plasma Blast



Credits: NASA/SDO

These images show a burst of material from the Sun, called a coronal mass ejection. These eruptions of magnetized solar material can create space weather effects on Earth when they collide with our planet's magnetosphere, or magnetic environment – including aurora, satellite disruptions, and, when extreme, even power outages. These images are a blend of extreme ultraviolet wavelengths 171 and 304 Angstroms, captured on Aug. 31, 2012.

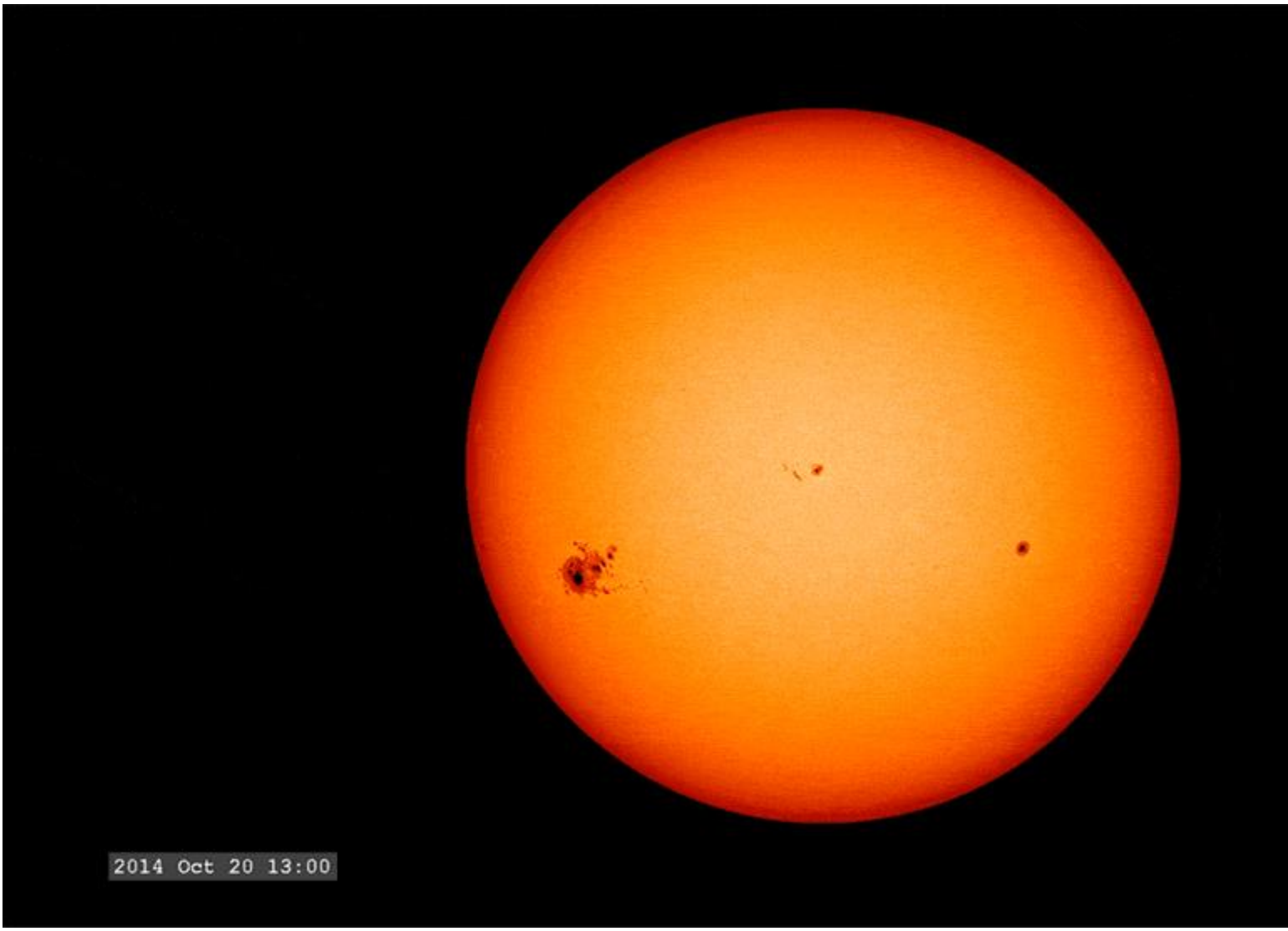
Coronal Loops



Credits: NASA/SDO

These images show evolving coronal loops across the limb and disk of the Sun. Just days after these images were taken, the Sun unleashed a powerful X-class solar flare. These images were captured in extreme ultraviolet wavelength 171 Angstroms from July 8-10, 2012, and the image on the stamp is from July 9.

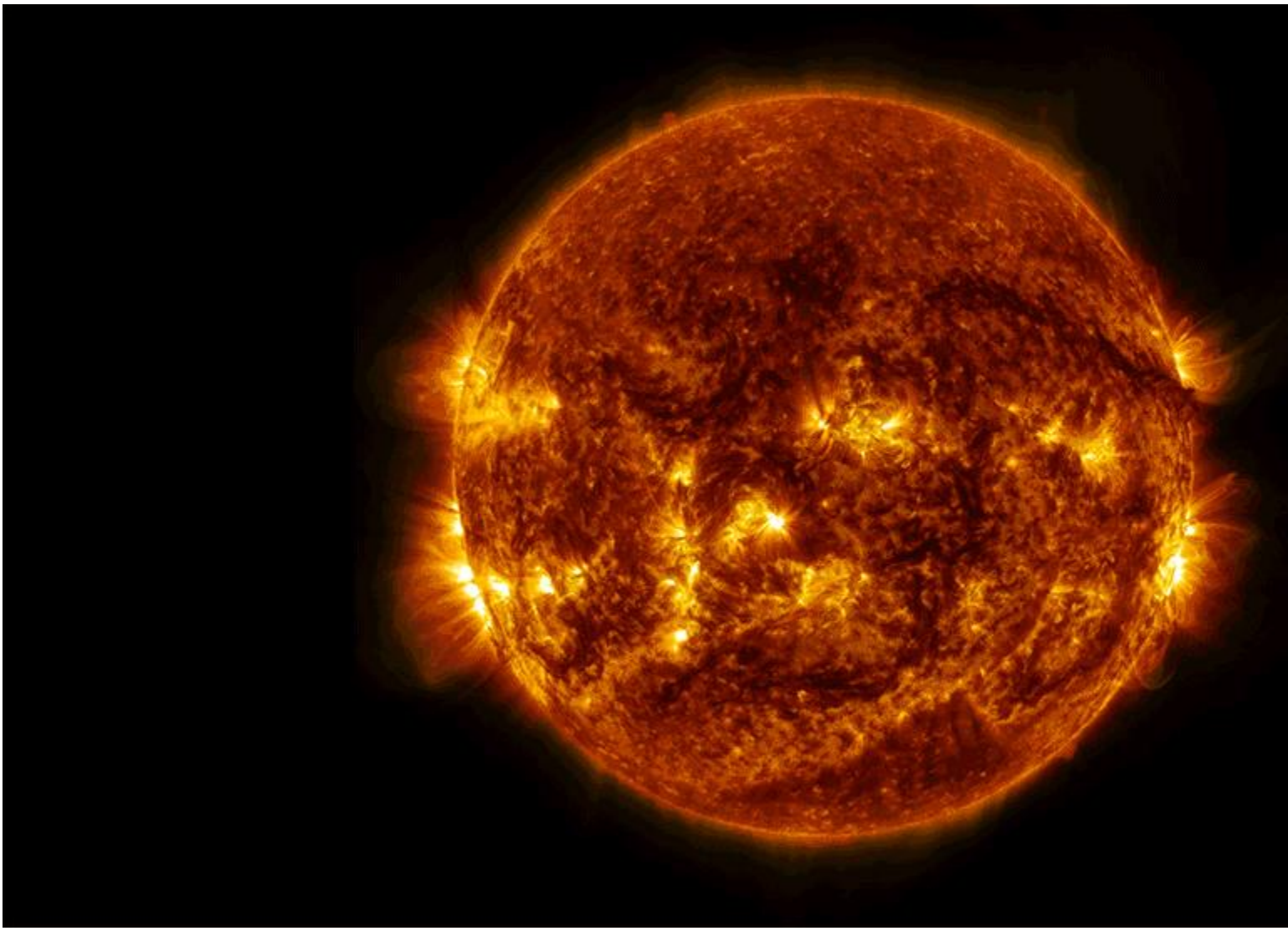
Sunspots



Credits: NASA/SDO

This view in visible light – the type of light we can see – shows a cluster of sunspots near the center of the Sun. Sunspots appear dark because they are relatively cool compared to surrounding material, a consequence of the way their extremely dense magnetic field prevents heated material from rising to the solar surface. These images were captured Oct. 20-26, 2014, and the frame on the stamp is from Oct. 23.

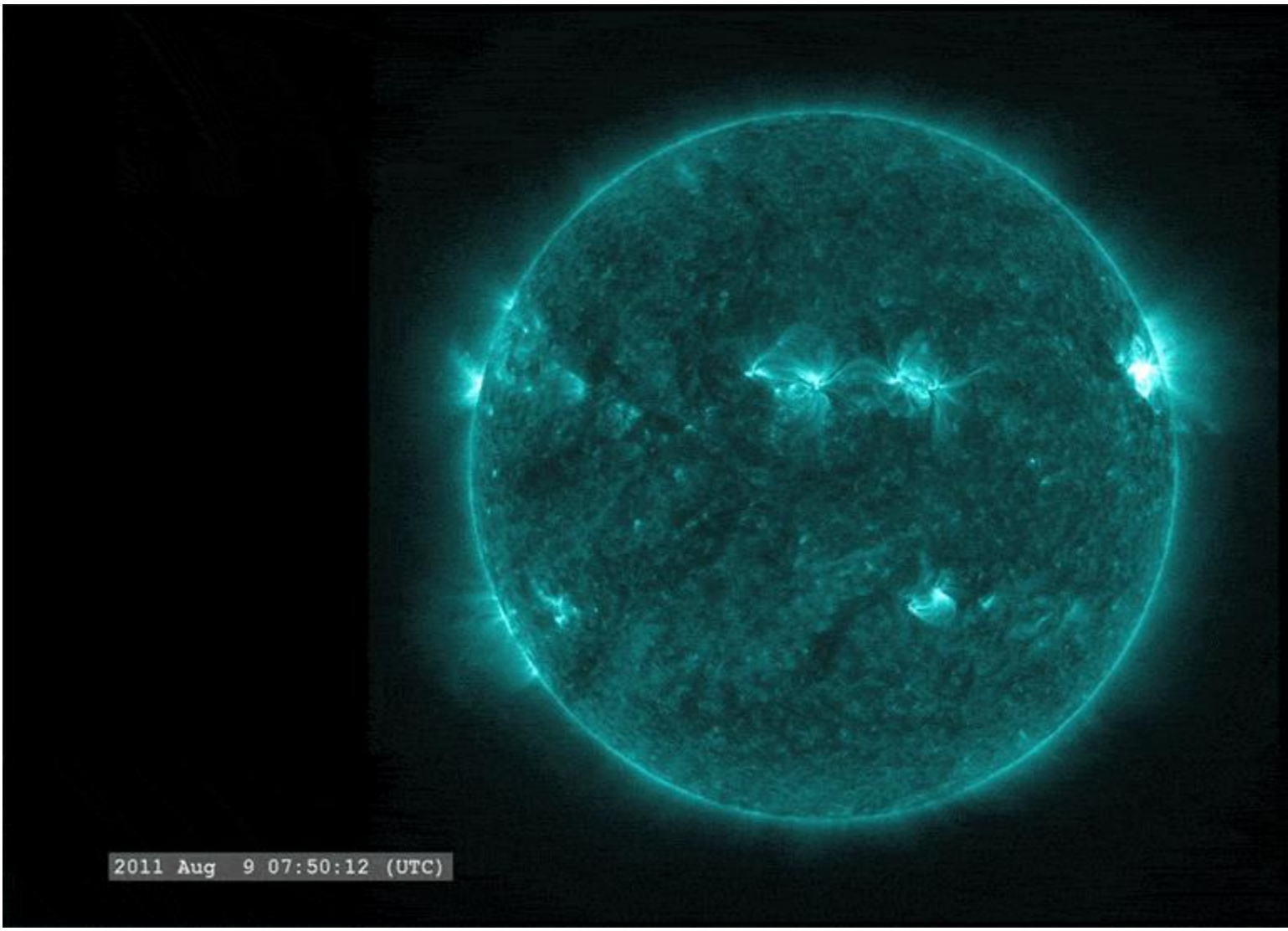
Plasma Blast



Credits: NASA/SDO

These images show a burst of plasma from the lower right of the Sun, which happened in conjunction with a mid-level solar flare. These images are a blend of extreme ultraviolet wavelengths 171 and 304 Angstroms from Oct. 2, 2014.

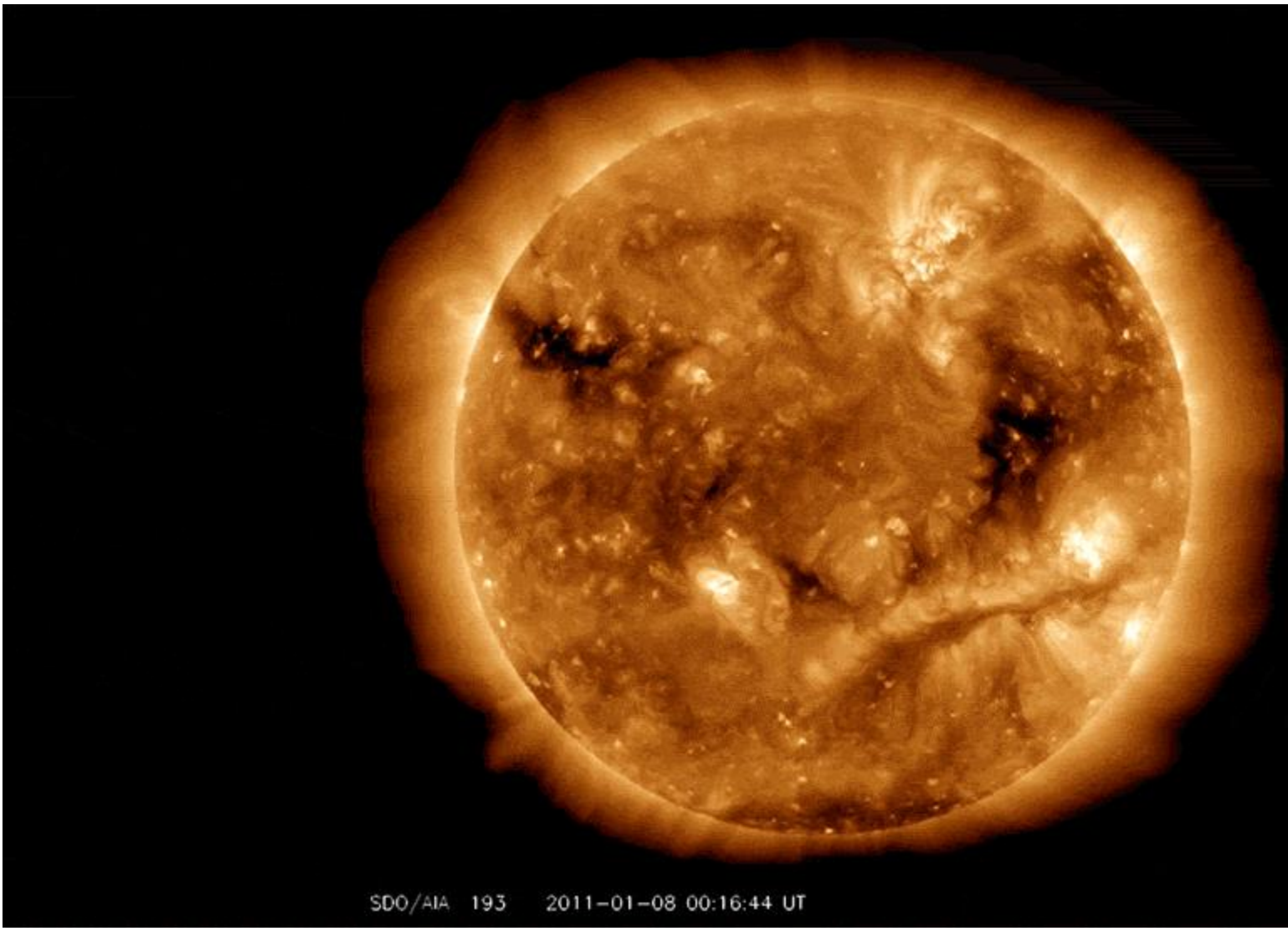
Solar Flare



Credits: NASA/SDO

These images show another view of the Aug. 9, 2011, X-class solar flare featured in the blue-toned 335 Angstrom images. These images were captured in light at 131 Angstroms, an extreme ultraviolet wavelength.

Coronal Hole



Credits: NASA/SDO

These images show a pair of coronal holes, one near the Sun's equator and one at the Sun's South Pole. These images were captured in extreme ultraviolet wavelength 193 Angstroms from Jan. 9-12, 2011, and the frame on the stamp is from Jan. 10.

SDO's Atmospheric Imaging Assembly, which provides extreme ultraviolet views of the Sun, was designed and built by the Lockheed Martin Solar and Astrophysics Laboratory. The Helioseismic and Magnetic Imager was designed by Stanford University and built by the Lockheed Martin Solar and Astrophysics Laboratory. SDO was built and is operated and managed by Goddard for NASA's Science Mission Directorate in Washington, D.C.

Related:

- *U.S. Postal Service: Postal Service Makes the Sun Shine Bright With Forever Stamps*
- *How SDO Sees the Sun*

By Sarah Frazier
NASA's Goddard Space Flight Center, Greenbelt, Md.

Another short article on Solar activity can be found here:
Forbes Magazine:

https://bit.ly/2UbEG0m

Club Corner

This is YOUR cornner of the newsletter. Send me what your club is doing and I'll make sure that it gets in. Got a special event or club project that you want everyone to know about? Send it to me!. Need help with a project? Send it to me.

Let me know what you club is up to. Are you going to have a special guest at your meeting or are you having a special anniversary?
Just sent it to: webmaster@arrl-ohio.org

Ohio ARES

Gang, I just got around to reading the QST "Emcomm Edition" and noted the SET scores were published. Ohio stood in second place with ARES activity, and third place with Section/Local nets. Well done, all- your efforts put us there and I thank you. We can consistently show that here in Ohio amateur radio and ARES is a viable, active service! Thank you!

-Stan N8BHL

THE HIGHLAND COUNTY PRESS
Established 1999 • Hillsboro, Ohio

Friday, June 18, 2021

Comments (0)

Amateur radio club to participate in North American Field Day exercises

When a natural disaster or an area emergency causes smartphones, the internet and other electronic communications to be unavailable, amateur radio operators can serve as the bridge for civic and emergency officials to share information. Those amateur operators, often called "hams," provide free backup communications by using their own equipment for everything from the Red Cross and FEMA to the local government and public service agencies.

Amateur Radio Association will demonstrate their emergency Highland County's Highland communication capabilities on June 26-27 during the club's participation in an annual North American amateur radio training exercise called Field Day.

During the weekend, HARA will be one of over 18,000 amateur radio clubs or groups that will set up a temporary transmitting station in public places throughout the United States and Canada to show ham radio's science, skill and service to the communities they serve according to HARA's Field Day co-chairman Richie Hagen.

"We use events like Field Day to make sure we can set up and operate emergency radio facilities should the need arise," Hagen said.

"Besides serving as a training exercise, our members enjoy learning how to set up our equipment and antennas in an off the grid location and then using it to communicate with other stations operating in similar conditions throughout North America. As some members do not have home stations, it gives them an opportunity to use different frequencies to use not only voice communications, but new digital modes and even 'old-fashioned' Morse Code to communicate with. Plus it's a way to get to know other people who have an interest in radio communications and electronics."

Information Officer John Levo added, "Field Day has become a tradition with Highland County hams who have participated yearly in Field Day activities since a group from the Hillsboro High School Amateur Radio Club first journeyed to Carmel in the late 1950s to operate a station on a high point behind the Chester Baldwin Farm."

According to the sponsoring American Radio Relay League, over 1.3 million contacts between Field Day stations occurred in 2020 with over 80,000 individual amateurs participating.

The public is welcome to visit the HARA Field Day location any time during the weekend. Although set up begins at 9 am on Saturday June 26, the event officially begins that afternoon, and ends at 2 pm on Sunday. The event will be held near Snow Hill at the Levo Century Farm, 810 Levo Road, New Vienna. Signs from SR 73 will be posted. Visitors will not only observe ham radio in action, but be given an opportunity to get on the air and contact people at similar stations across the continent.

The Highland Amateur Radio Association is an organization of over 130 people in Highland and surrounding counties

who are either licensed by the Federal Communications Commission or have an interest in electronics and radio communications.

More information about the hobby and the benefits it provides a community may be found at the American Radio Relay League's website, www.arrl.org, or by contacting HARA's Information Officer John Levo, 937-393-4951.

A New Yaesu FT-891 for $5.00?

The Alliance Amateur Radio Club's 2021 fundraiser is the raffle of a brand new Yaesu FT-891 HF/50MHz All Mode Transceiver
Tickets are on sale now. To learn more, or buy tickets online, you can go to http://www.w8lky.org/about-us/2021-fundraiser/
The winning ticket will be drawn on Wednesday, October 13th at our annual Fall fundraiser, or at our first club meeting after all tickets have been sold; whichever comes First.
Funds generated from this project help us to continue our public service projects in the Alliance area.
Proceeds from last year's fundraiser enabled us to purchase, and outfit our club equipment trailer. One of our projects this year is some necessary upgrades for out 440 repeater.
Each year, we give back to our community with donations to local organizations, such as The Salvation Army, Relay for Life, and the local Police & fire Department programs for Children in the Alliance area
Only 600 chances will be sold for this radio. Tickets are $5 each, or 5 for $20. further details can be found at: http://www.w8lky.org/about-us/2021-fundraiser/
The Alliance Amateur Radio Club is a 501c3 non profit organization.

OH-KY-IN Amateur Radio Society

OH-KY-IN ARS will be participating in the International Museums Weekends special event as station W8M, representing the Cincinnati Art Museum. Club members will be operating during both weekends using all available amateur frequencies and modes. For the first weekend, the club will also operate at the Cincinnati Art Museum itself. The event runs Saturday, June 19th 00:01 UTC to Sunday, June 20th 23:59 UTC and again at the same times the following weekend.

The Cincinnati Art Museum, located in Eden Park in Cincinnati, was founded in 1881 as the first purpose-built art museum west of the Allegheny Mountains. With 67,000+ individual pieces spanning over 6,000 of human history, CAM is one of the oldest and most comprehensive art museums in the midwest.

OH-KY-IN ARS will be participating in this year's ARRL Field Day at their usual site, Mitchell Memorial Forest, with the club call of K8SCH. Setup will commence at 2:00 PM EDT on Friday, June 25th with operations starting at 2:00 PM EDT on Saturday the 26th and running the full 24 hours to Sunday the 27th at 2:00 PM EDT.

The club will operate as 3A with a dedicated sideband station, dedicated CW station and a digital station that will double as a sideband station as needed. There will be a GOTA station and a 6m/VHF/UHF station as well. The club will also have an ARRL VE Test Session at 10:00 AM EDT on Saturday the 26th, an ARDF fox hunt on Saturday afternoon for both beginners and experts, and demonstrations of satellite operations and National Traffic System traffic handling.

Part of the Great Parks of Hamilton County, Mitchell Memorial Forest is located at 5401 Zion Rd, Cleves, OH 45002. Bring a tent and make it a weekend event.

Fulton County Amateur Radio Club – CQ More Light contest!

I wanted to send along the upcoming contest information for our "CQ More Light" Masonic Lodges on the Air event. The main landing page is http://cqmorelight.com/ (links to facebook and twitter feeds are at the bottom of the page).

The first ever attempt at this contest will be September 25, 2021, 10am - 6pm EDT. Future dates are on the Saturday of, or immediately following the Autumnal Equinox.

Once again, John Myers (KD8MQ) has been invaluable in helping us get this started. No one in our radio club has ever attempted organizing a contest, so this might be a little rocky in it's first year. We are attempting to build on the work of OSPOTA to make it as successful as possible.

June 18, 2021

For Immediate Release

Field Day Operations

Amateur Radio Operators all over the country including Seneca County will be participating in an annual Field Day exercise to promote Amateur Radio and to exercise their capabilities for operation under abnormal and emergency conditions. Hams as we are called will attempt to contact as many participating Amateur Radio stations as possible during the 24 hour event beginning at 2 PM on Saturday June 26 through 2 PM on Sunday June 27.

Local Amateurs will set up this year at Hedges Boyer Park at the lower level across from the YMCA in both the Lion and #6 shelters. The public is invited to come out and be a part of this exciting annual event. A special station will be in operation to allow non-licensed visitors to get on the air and experience the thrill of making contacts with other amateurs all over the country. Local amateurs will also be operating several forms of

specialized equipment to facilitate data communications between stations and to exercise many of our capabilities to assist the public in a disaster situation.
The Seneca Radio Club along with the Seneca County Amateur Radio Emergency Service invite you to stop out and see us during the fourth weekend in June at Hedges Boyer Park. We would love to show you the fun and excitement of Amateur Radio and how easy it is to become a Ham. Amateur radio is open to all ages. Additional information can be found at: http://www.w8id.org/ and http://senecacountyares.org/ or contact,

James E Yoder W8ERW
ARES Data Manager
Seneca County ARES Public Information Officer

ARRL the national association for Amateur Radio ™

w8erw@arrl.net
(817) 692-7455

Your Club news should be listed here!

I know you're out there doing things! Send me a write-up (MSWord please) and some photo's (.jpg please) and we'll get your club hi-lited here for the othe OH Section Clubs to see! Send to WB8LCD@ARRL.ORG

"Emergency" Means Third Backup

C. Matthew Curtin, KD8TTE

In thinking back over the stories of activation and conditions of amateur radio providing vital service we often think of the operating context: some exigent condition, where lives and property are at stake. Focusing on this context is useful insofar as it highlights the need for training to operate with the bearing and skill of a professional but amateur radio operators by and large are not "emergency responders." Review again the use of "emergency communications" in the justification for the service and in the stories going back all the way to 1913. The task at hand was to provide the means to communicate when other systems were not available.

The PACE Plan

Military and other government organizations create PACE plans that volunteers should understand to know how they fit into the system that makes their communities more resilient and secure. PACE is an acronym: Primary, Alternate, Contingency, and Emergency. Each organization will have plans for specific operations that they're conducting, and the plans will be built to match the operation's needs from the resources available. The layers where volunteers will be used in an operation like damage assessment might be different from when amateurs are called to support phone outages. We'll discuss each of the four layers as examples.

Primary

Served agencies have plenty of communications services available. The Internet, the Public Switched Telephone Network (PSTN), and the Private Land Mobile Radio Services provide the foundation for these communication methods. Email, web applications, electronic data interchange, voice calls, alerting, and more are all supported through these primary systems. They're used daily and they're part of the infrastructure that these organizations rely on to get their work done. These systems are provided by contracted professionals complete with service level agreements and provisions to ensure availability and reliability of service. Amateur radio is not needed here, even in the most pressing "emergency situation."

All that said, however, providers properly point out that any system has limits and even services boasting extremely high availability are provided under contracts that include *force majeure* language: limitations on the service provided in the event of events including pandemics and riots. Often these are known legally as "Acts of God." Hence, organizations have backups even to these expensive and highly-capable systems.

Alternate

The first backup is usually a straightforward workaround. It can involve unusual uses of what are otherwise primary communications, or it can involve uses of systems that aren't part of normal daily operations. Alternates often provide much the same capability as the primary, though perhaps less at lower capacity, higher latency, or in a different way, generally making them less convenient.

Examples of alternates can be the use of radio where phone would be the usual method, routing over a fallback Internet circuit, or sending a FAX when email would be normal. In some cases alternate plans could call for activating support teams like amateur radio volunteers to get them in place and begin operation should things further degrade.

Contingency

Contingency plans are where things often start feeling like fallbacks. Procedures might start looking different from daily operations. In environments where volunteers have been activated, they might now be put to work. In environments where auxiliaries and other partners have not been activated, they almost certainly will be here.

Continuing the same thread of example, if phone and normal radio systems have failed, personal devices or easily-acquired voice services, or expensive options like satellite phones might be used. Special care might need to be employed to use the services in accordance with policy or law. Where primary and alternate phone and radio systems might have normally-maintained records used for recordkeeping and record preservation obligations, conversations with contingency-layer services might need to be used only in conjunction with something like the ICS Form 214 Activity Log. Where a message might be maintained in an email message or FAX, the ICS Form 213 General Message might need to be used.

Emergency

The third backup is the option reached "when all else fails." Massive failure, whether local or widespread: that means Internet, PSTN, towers, and maybe fixed stations are out of the picture. Now we're talking field-expedient antennas, HF, and maybe non-grid power. Winlink will work only among hybrid (RF-only capable) servers. Repeaters are out. DMR is out. This is the last resort: the hardest operating conditions with the least support. If amateur radio is needed, it's *really* needed.

Preparing for "emergency mode operation" means working at an unusually high level of self-sufficiency and cooperation of similarly-working stations. This brings us to the question of how you operate.

Your PACE Plan

Much of what we do in amateur radio is not "emergency mode operation" (thank goodness). We do things like build tools and toys for the joy of doing it, support public event like marathons, and use our radios to help protect lives and property as volunteers in programs like CERT and SKYWARN.

In these conditions, we're typically able to use high frequencies supporting fast data transfer, clear sound, and integration with other infrastructure. We get the benefit of Internet connectivity, the footprint afforded by repeaters, and integration with our computers and mobile devices. These are all things to use, they provide convenience and capability that otherwise don't exist. These technologies also help newer licensees get on the air and begin operations.

Having the ability to use DMR or a VHF repeater, for example, gives us the ability to establish both primary and alternate pathways for our communications.

As we start looking at what we would do in the event of a battery going out, or an HT going bonkers we start addressing things like contingencies.

Finally, running from non-grid power for long periods of time, working without any infrastructure, we're getting into emergency mode operations. We do some of these for fun but also get useful information and experience in the process. NVIS Day and Field Day are both examples of when we exercise these capabilities.

Do you have a PACE plan for your station? Do you keep track of how often you exercise each of the layers? Do you have a checklist or a plan that helps you to choose the mode of operation that best fits the need at hand?

Do you collaborate with others and test your PACE plans together? If you're a team that serves an agency after all else has failed, are you able to work together? Are your individual PACE plans compatible?

Any service rendered faithfully and attentively is generally welcome. Whatever your interests, pursuing them within the rules of amateur radio is perfectly legitimate. If you're going to be an "emergency station" and advertise "emergency communications," though, be sure that you're ready to deliver as promised by having the capability and the PACE plan to organize your operation to fit the need.

(Editor's Note: After the recent security "Hacks" we have experienced – the following is a "Must Read" article!"

Your Resilient Operation

C. Matthew Curtin CISSP KD8TTE

Cybersecurity failures make for routine headlines. For amateur radio stations engaged in emergency communications preparation is more than having a go-kit; you need to protect yourself and your own operation. You just aren't in a position to help others when you've got a crisis of your own to manage. So how can you protect yourself and your family so that you can stay "in the fight?"

If you take nothing else away from this article, practice these points:

1. Always use multifactor authentication when available and if not available, consider whether another service is a better option,

2. Avoid single points of failure, and
3. Have a plan ready to execute when needed, which invariably is at the most inconvenient moment.

Before what I've advised makes sense, we need to understand the problem. Media reports are generally unhelpful in this regard and the notices issued by entities suffering security failures typically run through both the security and legal departments before release, ensuring that they're completely incomprehensible. Individual reports might not be helpful but taking a step back and looking at them all together, they become data that help us to see what's happening.

Reports vary based on sources but as of this writing, SecuLore's *Cyber Attack Archive* reports attacks against public infrastructure in the past 24 months affected 125 public safety agencies and 296 local governments. Dozens attacks have been in Ohio, ostensibly our served agencies with sampling of the reports showing Ashtabula, Athens, Belmont, Butler, Clark, Columbiana, Cuyahoga, Darke, Fayette, Hamilton, Henry, Huron, Licking, Lorain, Lucas, Marion, Montgomery, Ross, Sandusky, and Summit counties. Even more important for our purposes is that these have affected communications services in some cases, e.g.,

- Law enforcement dispatch systems' service interruption,
- 311 service interruption,
- Phone services taken down,
- 911 service degradation, and
- Email service interruption.

These are important to understand because they highlight that attacks are real and they affect our local agencies, sometimes in the form of interrupted or degraded communications, which means that they need their volunteer communicators. Furthermore, they help us to understand common weaknesses that we can avoid in our own daily lives and operations.

Information on the weaknesses that attackers find and exploit is usually sparse but they fall into several common categories. These are *weak authentication systems, weak authentication processes,* and *unpatched software.*

A few terms are important to understand before we discuss these issues and how to protect yourself.

- *Identification* is claiming a name,
- *Authentication* is proving that the identification is correct, and
- *Authorization* is confirming the right to take the requested action.

Identification happens all the time. On the phone, via email, and so on. What's important to remember is that anyone can claim to be anyone. How do you know if the person on the other end of that email or phone call (or radio transmission) is using the right identity? That's authentication.

Authentication is the process of proving identity. It can be something you know, something you have, or something you are. Something you know could be a password. Something you have could be a fingerprint. When we hear a voice, we often implicitly authenticate because we recognize the voice.

Once someone has identified and authenticated, the business at hand can be addressed. Maybe it's a request for something. That brings us to the next issue: authorization. Is the request something that can be fulfilled? I can go to the pharmacy then identify and authenticate with my state-issued identification. That doesn't mean that they'll sell me any 3-Methylfentanyl because they don't have authorization to give me the controlled substance.

Multifactor Authentication

Many of the organizations we deal with have "self-service portals" that they want us to use "for convenience." (Really it's more their convenience, but that's another article.) Most of us now use email systems that are hosted. We've got usernames and passwords galore, and a steady stream of breach notifications that our accounts have been compromised, our passwords deduced, and so on.

Where a username is identification, and a password is authentication, adding a second form of authentication is "two-factor authentication," sometimes written 2FA. Most second factor involve a time-sensitive code that is presented by a trusted device like a phone.

While SMS text is better than nothing, those have been known to be hijacked by attackers calling customer service reps (or, more commonly) using self-service portals (!) to impersonate a mobile phone user and switch the SIM card attached to the number from the legitimate user's to the attacker's SIM card. The attacker claims to be the customer with a new phone and a need to switch the service to the new phone. Voila!

The better options are going to be things like devices or apps that have some kind of cryptographic key that only the provider and the trusted device know about. That, typically combined with time, means that after the right password has been entered, the user must enter a code generated by the authenticator device, synchronized with the provider. Examples of apps that you can use for this purpose are Google Authenticator, Authy, and FreeOTP.

Also, be sure that you get your recovery codes when you set this up. We'll come back to that in a few minutes.

Of course, this also means that if you're authenticating yourself to others, you should demand that they authenticate themselves to you. A phone call that claims to come from your bank isn't necessarily so. Same with FBI, IRS, or any other organization. Know how to contact your bank, your credit card providers, your phone provider, and so on, so you can reach them through a known-good means.

Avoid Single Points of Failure

Some of the biggest personal disasters have come from everything being tied to a single email account, the password being compromised (thanks to no 2FA), and the attacker changing the password. Once the attacker has seized control of the account, the attacker goes through the email in the account finding the statements from the banks and others, then going to those portals and resetting the passwords, which of course leads to links all going to that same now-compromised email account. Thus one compromise becomes the compromise of many things.

Of course 2FA would seriously frustrate this effort not only with the first compromise but also in avoiding the other accounts' compromise.

Having a second email address in those accounts can also be helpful in recovery; should one be lost, a recovery process should trigger email to the second account. If the seconda account is getting password recovery links that you didn't initiate, you know that there's a problem and can respond quickly.

Not keeping all of your email history online is another option that avoids creating the critical "single point" where compromise leads to complete compromise. The attacker doesn't know where to go to initiate password recovery links if there's nothing saved in the account.

Have a Plan Ready

Just like your emergency communications plan, your recovery plan should be written. It should not be stored online where it can be compromised. It should not just be in your phone which can run out of battery. Consider having a written one that you keep in paper, even in a safe with valuables, perhaps in addition to a secure storage mechanism on your computer or phone.

Be sure to include an inventory of your software, including your various computers' operating systems, and know that you're updating the software on the right schedule. Many applications on phones and even computers now automatically update. On average, following the automatic updates is a good practice. Keep them on your plan, though, so you can be sure that you haven't forgotten something along the way.

You'll need to keep it up to date as you make changes, whether adding software, opening and closing accounts, or getting rid of things you don't use anymore. You'll need to make sure you have contact numbers in it, and so on. Thus the loss of access to an account, or confirmation of a compromise doesn't become an exercise in panic but an inconveniently-timed execution of a drill. It doesn't need to be elaborate and in fact should be straightforward, easy to follow even under stress and fatigue.

There are many things that you can do to protect yourself and your operation but these critical elements can help you to avoid compromise where it will affect you most and to reduce the impact of compromise wherever it does happen.

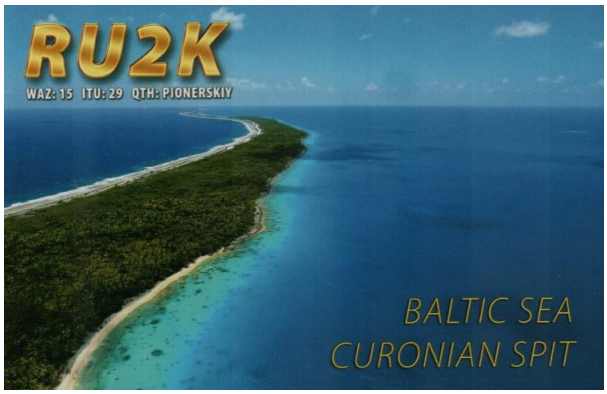
C. Matthew Curtin, CISSP, KD8TTE is the Founder of Interhack Corporation. He leads teams preparing for, responding to, and forensically analyzing data in security incidents throughout North America. His research has been used to find statistically significant correlations between the proximate causes of data breaches and industry. He is the author of Brute Force: Cracking the Data Encryption Standard *(Copernicus, 2005), his memoir of helping to lead the effort to defeat the U.S. Government Data Encryption Standard for the first time in open research.*

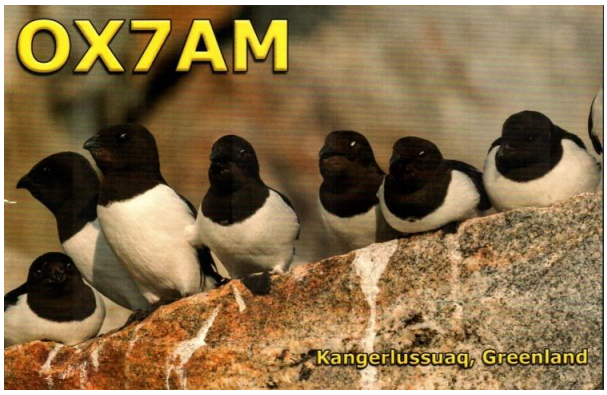
DX This Week – DXCC Application

Bill AJ8B (aj8b@arrl.net, @AJ8B, or www.aj8b.com)
CWOPs Member #1567

The Midwest DX Cluster spots included Alaska, Austria, Belgium, Brazil, Ceuta & Melilla, England, European Russia, Fed. Rep. of Germany, France, Greece, Hawaii, Italy, Kazakhstan, Kenya, Mexico, North Macedonia, Puerto Rico, Sicily, Slovenia, Spain, and Wales. This brings the total number of entities spotted in the Midwest in 202 1to 181.

I received a beautiful card from RU2K, Leri in Kaliningrad, SV9MBH – Tzanakis in Crete, and OX7AM – Alex in Greenland. What did you get?





DAH DIT DIT DIT DAH DAH DIT DIT DIT DAH

I received an email from a new DXer asking where his next expenditure should be made, antenna or amplifier? I have an excellent article from a seasoned DXer, Jay, K4ZLE, that address that very question. Secondly, I have part two of the DXCC application article by Dave, K8DV. Finally, a bit of sad news for the DX Community from Bernie, W3UR:

To the global DX community.

We regret to inform you of the following news.

The global pandemic has impacted the expedition charter vessel business very hard; this includes the venerable RV Braveheart which has provided outstanding safety and service to many DXpeditions. As you know, we had signed a contract with Braveheart for 3Y0J.

Today, we were informed that Braveheart will be sold. As a result, Nigel Jolly will no longer be associated with the ship, our contract with the ship has been cancelled and our deposit will be refunded. This is a very disappointing development to all involved.

At this time, we are cancelling the 3Y0J DXPedition. We have ceased accepting donations and we will begin refunding 100% of the donations using the same method they were received, i.e., PayPal, cash or check. This process will take several weeks to sort out, so please be patient.

We wish to thank our team for putting their trust in us. We wish to thank all of the donors and sponsors that gave generously to this project. We will continue to research other ships and possibly find another suitable vessel for a future project.

73,
Paul Ewing, N6PSE
Kenneth Opskar LA7GIA

Tower or Power? - By Jay Slough, K4ZLE

Buy or build? CW or SSB? Yaesu, Kenwood, ICOM or TenTec? New or used? Questions, Questions, Questions! This time we will attempt to answer a question almost every DXer has asked themselves, "Should I spend money for a linear or on improving my antenna?"

Back in the middle ages of ham radio (when I was first licensed), the old timers used to say, "Put it in the antenna." The court counselors of that day claimed you got more bang for the buck in the antenna and like good little pages, most of us blindly accepted their words as gospel. As a matter of fact, once I reached the rank of *Sage*, I often regurgitated the same 'truism' when some minor minion posed the same question to me. Now many years later, I question that advice. Let's quantitatively examine that question.

In order to do a quantitative comparison, we have to use the same yardstick and measure from the same point of reference. For this analysis we will measure dollars spent per band affected, relative to using a dipole at the same height. We assume dipoles are already in the air for the five so-called pre-WARC bands, 80 – 10 meters. The structure to hold them is zero cost and not suitable as a sky hook for a beam. We also assume zero labor costs, and everything is purchased new. The following table lays out the basic numbers:

Linear	$2200.00	11.7 dBd gain	$37.60/dBd/band
Tower			
40' Rohn 25 w/ guys	658.00		
Concrete	400.00		
Tri-bander	650.00		
Rotator and cable	790.00		
Total	$2,49800	7 dBd gain	$118.95/dBd/band

There are other considerations you should weigh or consider. For instance, a linear only improves the transmitted signal while a directional antenna will improve your transmitted AND received signal. There will probably be an expense to run a good 220 VAC circuit to the ham shack for the linear. Towers usually require building permits and possibly zoning hearings and other related hassles, all of which have certain monetary and /or physical and psychological costs.

Now for an explanation of my background assumptions. The linear is from the class that provides 1.5 Kw out for 100 w drive. It covers 80 – 10 meters. This nets a gain of 15 (11.7 dB) on each of the 5 bands. As a bonus, most of these amps will provide some gain on 17 and 12 meters as well.

The tower is a Rohn 25 kit complete with top section, guys, and other associated hardware to withstand 90 mph winds. This is a bit of an overkill for most areas, but not unreasonable. I have allocated for 4 yards or concrete, delivered. The tri-bander is a Cushcraft A3S and the rotor is a Ham IV. The power gain figure of 7 dBd is an average, since a 3 element yagi can have between 6 and 9.5 dBd gain. A trap beam of this nature will

have an average of 7, maybe 8, dB gain over a dipole for the three bands. If we allow 8 dB instead of 7, the cost is still better than $120/dBd/band.

Obviously, the right choice for you depends upon your individual needs. For instance, if you want to work *all* bands and/or have antenna restrictions or have specific aesthetic desires, the linear is a no brainer. If you seek superiority on a subset of bands, desire the advantage of a rotary antenna, prefer to work QRP and/or could care less what your neighbors think, you might want to go the tower and beam route. If so, don't stop at just one tower or with a simple tri-bander!

Other things to consider are whether my assumptions fit your circumstances. If you already have a tower, can get the various components at different places or have different requirements, such as a different tower height, you should plug your numbers into the above chart and derive your own personal analysis.

As you can see there is no simple answer to the age old question, "Should I spend money on a linear or on improving my antenna?"[1] However, the intent of this treatise is to help you define the criteria for making the decision most appropriate to your needs and wants. Of course, the REAL answer for the REAL DXer is: Why either/or? Do both! To quote some of my best friends (and pileup adversaries), "Life's too short for QRP!"[2] Turn that beam and turn up the wick!

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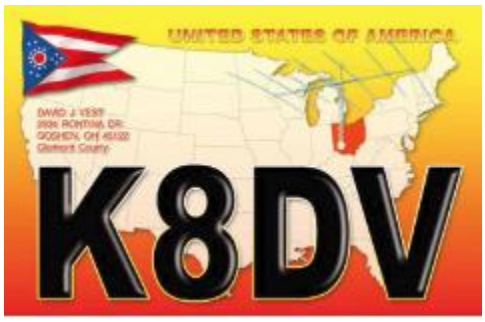
DXCC Card Checking de Dave, K8DV

In the last issue I gave a very high-level view of DXCC and card checking. This week we can start to break down the process piece by piece. I am going to start with Electronic DXCC Online Application,



http://www.arrl.org/online-dxcc-application which has to be one of the best things the ARRL and DXCC Desk have done since the creation of the program back in the thirties. No more worrying about the order of the cards, no more do multiple QSO cards go at the front or back of the list, just enter as you receive new QSLs in whatever order.

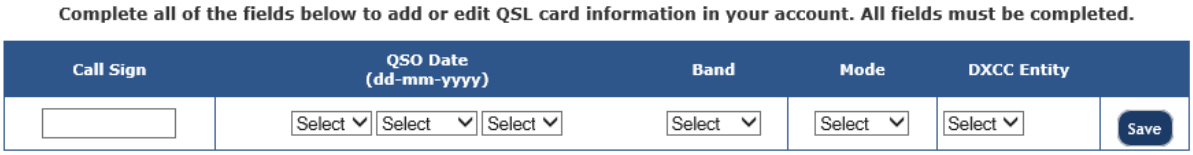
When you use the link above you will be taken to a page that looks something like this:

From there click on "ARRL DXCC online application system" and you will end up at the sign in screen.

Once at the sign in screen, in the upper right-hand corner you will see two boxes, labeled "Username" and "Password". These are the same credentials that you would use to log into the ARRL members section of the ARRL homepage. This is most likely your "Callsign" and a password that you created.

Once you have entered your login information you should see a page where the top of it looks something like the image to the left.

On this page you will also find the step by step instructions, so I will not include those here. The next step is to start entering QSL/QSO information. Start by clicking on "Enter QSLs" in the gray menu bar. You will end up on a page and down at the bottom you should see an entry screen.



You are now ready to enter QSL/QSO information. When entering your data use the drop downs, you may find that the DXCC Entity may be filled out for you or give you a choice of several entities, such as when you enter a callsign starting with VP8 you will have several choices and you should select the entity that is printed on the card itself. Once you start entering QSO/QSL information you will see the list appear below the entry screen.

After you have entered all your data and have all your cards in the same order at which they are entered you will need to click the "Submit Application" button in the gray toolbar at the top of the screen. At this point you can enter your payment info and other information. Once you do this you will see a button to review application this will bring up a PDF of your application, print all pages of this as this is the application itself and the QSL listing. Bring the printout, QSLs and envelope with at least one unit of first-class postage to me for

checking. Also did I mention that the fees for using this for your DXCC application is cheaper than the manual form and usually faster as well.

Have a good DX season and keep those DXCC applications coming and if there is a card checking topic you would like to see covered in the future just let me know at k8dv@cinci.rr.com

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The Southwest Ohio DX Association was proud to announce the winners of the annual DX Contest. This year long contest allows the members of this prestigious club to claim bragging rights for a year! The top finishers were: First Place, Pete, N0FW; Second Place, Dwight, K4YJ; and third place goes to Rob, W8MRL. The picture on the right shows Dwight (right) accepting his plaque from the Vice- President, Richard, KC8RP.

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Congratulations to W8GEX, Joe for officially achieving 10 Band WAS and unofficially achieving 11 Band WAS. Joe has confirmed all 50 states on 60 meters, but that band doesn't count so he officially has a 10 Band WAS certification! Congratulations to Joe!

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Here is an update from Bernie, W3UR, of the DailyDX and the WeeklyDX, the best source for DX information. http://www.dailydx.com/. Bernie has this to report:

PA The Netherlands - Marking the 375th anniversary of the founding of urban district of Brooklyn will be special event stations PC375BR, PD375OO, PA375KL and PA375YN from 15 June up to 31 December 2021. Details of this event can be found at https://www.qrz.com/db/pc375br.

JW – Svalbard - The final permit has been received to land on the nature reserve island three hours by boat west of Longyearbyen has been received. VDAs and verticals will be used and a "Spanish Quad." The 20M VDA will be fixed on North America and located close to the saltwater. Five K3 and KX3 stations with KW amps are planned. Polar bears are a risk. There will be a fulltime security man with two dogs on alert. Including the risk insurance, the budget is now $16,000. W4IPC has been added as the NA pilot. Working West Coast NA is a particular priority. Support may be sent through PayPal: jw0wpk@gmail.com

SV/A - Mount Athos - The QTH "cell" of SV2RSG/A experienced a strong storm and was flooded. New QSL manager SV1RP, George, says everything was lost, including QSL cards and the transceiver. There is now no working rig there. QSL manager George does have some blank cards he had previously been sent, so if you are waiting for your card from Monk Iakovos you will need to request it again.

EX – Kyrgyzstan - The headline reads "Kyrgyzstan latest to arrive on 60M, 5 MHz." G4MWO, Paul Gasketall, Editor of the 5 MHz Newsletter, notes that ARUKR, the Union of Radio Amateurs of Kyrgyz Republic has announced that July 4th the country's telecom made the WRC-15 second allocation of 5351.5-5366.5 kHz available to radio amateurs. Allowed is a maximum of 100 watts.

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CONTEST CORNER

Below is a list of upcoming contests in the "Contest Corner". I think this is important for someone who is trying to move up the DXCC ladder since entities that are on the rarer side and easiest to work in contests. Some of my best "catches" have been on the Sunday afternoon of a contest when the rarer entities are begging for QSOs. Of course, the gamble is that if you wait until Sunday, conditions may change, or they simply won't be workable. However, it is not a bad gamble. Of course, why not work the contest and have some fun!
Check out the WA7BNM Contest Calendar page (https://www.contestcalendar.com/) and CQ Magazine for more contests or more details.

The contests in red are those that I plan to spend some significant participation time on. PLEASE let me know if you are working contests and how you fared.

Thanks!

June 24	RSGB 80m Club Championship, SSB	http://bit.ly/3avHbk3
June 26-27	ARRL Field Day	www.arrl.org/field-day
June 26-27	His Maj. King of Spain SSB Contest	http://bit.ly/1cKAR5V
June 26-27	Ukrainian DX DIGI Contest	www.izmail-dx.com
June 28	RSGB FT4 Contest Series	http://bit.ly/3mCNXXH
July 1	RAC Canada Day Contest	www.rac.ca/contesting-results
July 2-4	Original QRP Contest	www.qrpcc.de/contestrules/index.html
July 3-4	Marconi Memorial HF Contest	www.arifano.it/contest_marconi.html
July 3-4	DL-DX RTTY Contest	www.drcg.de
July 3-4	PODXS 070 Club 40 Meter Firecracker Sprint	http://bit.ly/2FUmeOL
July 7	VHF-UHF FT8 Activity Contest	www.ft8activity.eu/index.php/en
July 10-11	10-10 Int. Weak Signal QSO Party	http://bit.ly/1FrFeBc
July 10-11	IARU HF Championship	www.arrl.org/iaru-hf-world-championship
July 11	QRP ARCI Summer Homebrew Sprint	www.qrparci.org/contests
July 14	VHF-UHF FT8 Activity Contest	www.ft8activity.eu/index.php/en
July 17-18	CQWW VHF Contest	www.cqww-vhf.com

July 17-18	North American RTTY QSO Party	http://ncjweb.com/NAQP-Rules.pdf
July 18	CQC Great Colorado Gold Rush	https://tinyurl.com/4accen2c
July 18	RSGB International Low Power Contest	https://tinyurl.com/cy7u4ynp
July 24-25	RSGB IOTA Contest	https://tinyurl.com/29m8jb3z
July 25	ARS Flight of the Bumblebees	http://arsqrp.blogspot.com
July 26	RSGB FT4 Contest Series	http://bit.ly/3mCNXXH
July 31-Aug. 1	Missouri QSO Party	https://tinyurl.com/fbfcw8r3
July 31- Aug. 1	Russian WW Multi Mode Contest	http://bit.ly/2CMbWOM
August 28	Ohio QSO Party	https://www.ohqp.org/
August 28	W8DXCC	https://www.w8dxcc.com
Sept. 25-26	CQWW RTTY DX Contest	www.cqwwrtty.com

DX Last Week – Card Checking and K9LA (Bill has too much good info to miss a week)

Bill AJ8B (aj8b@arrl.net, @AJ8B, or www.aj8b.com)
CWOPs Member #1567

The Midwest DX Cluster spots included Aland Islands, Alaska, Argentina, Aruba, Asiatic Russia, Asiatic Turkey, Australia, Austria, Azerbaijan, Belarus, Belgium, Belize, Brazil, Bulgaria, Canada, Canary Islands, Cayman Islands, Chile, China, Colombia, Crete, Croatia, Cuba, Czech Republic, Dominican Republic, Ecuador, England, Estonia, European Russia, European Turkey, Fed. Rep. of Germany, Finland, France, French Guiana, Greece, Guadeloupe, Guatemala, Guernsey, Haiti, Hawaii, Hungary, Iceland, Italy, Japan, Kazakhstan, Kenya, Lithuania, Madeira Islands, Malta, Mexico, Morocco, Netherlands, New Caledonia, New Zealand, North Macedonia, Northern Ireland, Norway, Paraguay, Peru, Poland, Portugal, Puerto Rico, Republic of Korea, Romania, Saudi Arabia, Scotland, Senegal, Serbia, Sicily, Singapore, Slovak Republic, Slovenia, Spain, Switzerland, Ukraine, United States, US Virgin Islands, and Venezuela.. This brings the total number of entities spotted in the Midwest in 2021to 181

DAH DIT DIT DIT DAH DAH DIT DIT DIT DAH

I have two interesting articles to pass along. The first is on the details of being a DXCC card checker. My "Elmer", K8DV – Dave, in addition to being an HF card checker, is also a 160M card checker.

As all of the talk about solar cycles are ongoing, I thought it would be good to go back and review all of the previous solar cycles. This review is provided by Carl, K9LA. Thanks to Carl for permission to reprint this.

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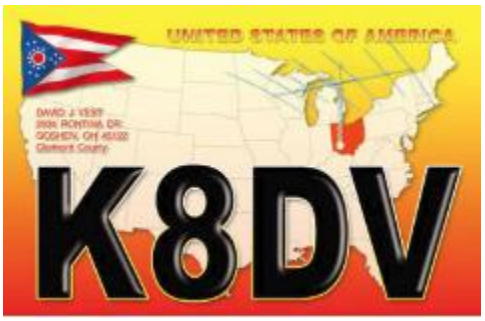


To avoid problems with field checking your application be sure to follow the instructions on the ARRL website http://www.arrl.org/dxcc-rules Note that as of April 2, 2012, there are 2 ways of doing a paper card submission, online and traditional. You can no longer do a hybrid LoTW and paper card submission on a single application. It is necessary that you follow all the instructions and have all the paperwork properly filled out or a card checker will not be able to check your cards. Submissions via LoTW and paper cards are treated as 2 separate applications, the good news is there is no longer any up charge for submitting more than a single application per year.

If you use the preferred Online Electronic DXCC Application http://www.arrl.org/online-dxcc-application for your paper cards it will be easier and cheaper for you. It will also go a lot faster at HQ when they get your paperwork since you already entered your card data in the ARRL system. With the online application you can enter the cards in any order. Just make sure to enter the QSOs on cards with multiple QSOs together to facilitate checking. The reason you don't have to sort by band then mode is because there is minimal data entry work at HQ when they get your field checked application. Payment is made online and not handled by the card checker.

You can also use the Traditional Application forms http://www.arrl.org/dxcc-forms where you fill in and print the PDF forms for the application and record sheets. Make sure to follow those instructions. A traditional application will cost you roughly twice as much as the online application to cover data entry costs at HQ. With a traditional application you must sort cards by band then by mode with all the multiple QSO cards being listed last to facilitate data entry at ARRL HQ. If you use the traditional application, make sure you include valid credit card info on the bottom of the PDF application form. Payment by card is best as cash presents problems for the checker as I must deposit the cash and pay via my own card or write a check to cover.

Whichever way you do it, follow those instructions and make sure the cards are properly sorted in the same order as your DXCC Record Sheet. Also make certain that all the QSL card information (call, date, band, mode, country) has been entered correctly on the record sheet.

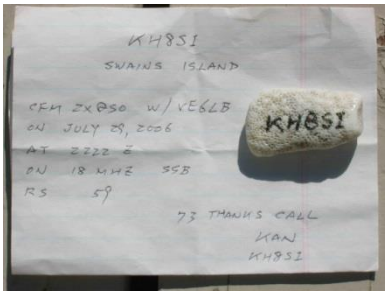
As a card checker and holder of 160 DXCC, I can check cards for 160, I can also check deleted countries. In addition to DXCC, I can check WAS, VUCC, WAC cards for award credit.

If you are meeting with a field card checker, remember to bring the following:

· Cards sorted per your Record Sheet
· Printed copy of the signed and dated Application Sheet
· Printed copy of the DXCC Record Sheet
· Stamped envelope addressed to DXCC Desk, ARRL HQ, 225 Main Street, Newington, CT 06111 so we can mail your application to HQ.

What does the field checker review on each card? Each card should have the Entity Name as it is shown on the DXCC List, the call signs of both stations, the date, time, band, and mode. RS(T) is NOT required. To avoid confusion for the station and the checker, always use UTC for the time and date. QSL cards not containing all required information may be rejected.

Does it have to be a formally printed QSL card? This is a picture of a QSL "napkin" that was submitted and accepted for credit.



Other errors that occur can be that the DX station left your call sign off and handwriting can be an issue.

You may receive a QSL that shows your freq as 10M when you worked him on 10.1 MHZ. Is that 10 M or 30M? Check them yourself first and then get them certified!

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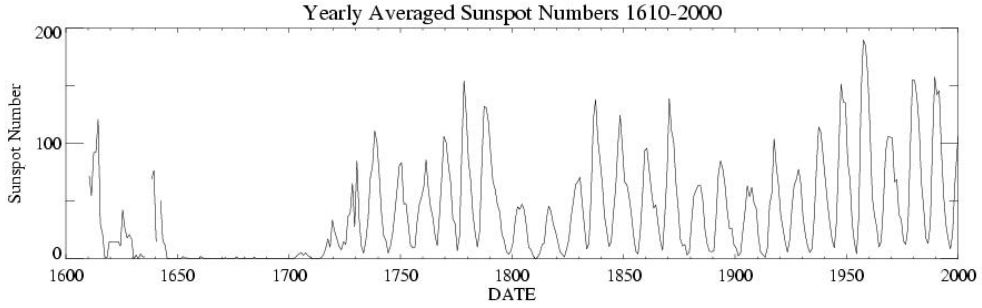
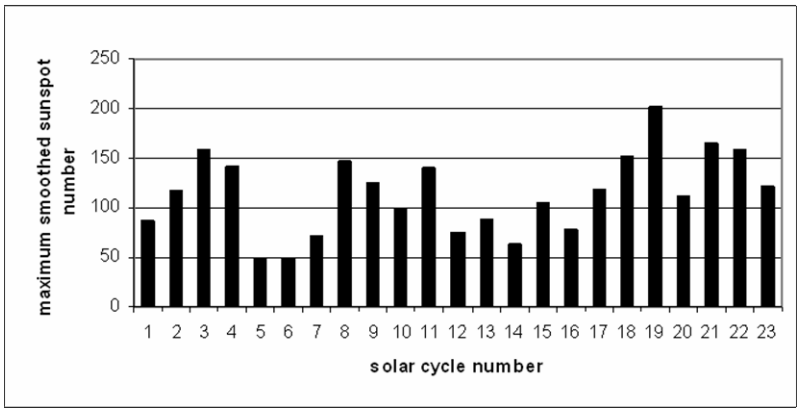
A Look at All Twenty-Three Solar Cycles

Carl Luetzelschwab K9LA

Although we've observed sunspots for several thousand years, it wasn't until the middle of the 18th century that Hendrick Schwabe discovered that sunspots come and go in roughly 11-year cycles. Shortly after Schwabe's discovery, Rudolph Wolf devised a mathematical expression that created a common standard to count sunspots, resulting in data for 23 solar cycles. A form of that data is plotted in the figure below.



If you're wondering why Cycle 19 doesn't reach 201 (which was its maximum smoothed sunspot number), note that what is plotted is the yearly averaged sunspot numbers not the maximum smoothed sunspot numbers. You can see the long-term cyclic nature of sunspot cycles in this plot. Now let's plot the maximum smoothed sunspot number of each cycle - it will make this cyclic nature a bit more obvious.



One observation from this data is that there have been three long-term periods of higher sunspot activity and two long-term periods of lower sunspot activity.

A second observation from the data is that we have lived through the highest period of the three higher periods. How fortuitous it was that radio came along at the beginning of this highest period.

A third observation is that we appear to be headed for another long-term period of lower solar activity. Although what Cycle 24 will do is still debated, I believe that scientists will have a single consensus for Cycle 25 - it will be low, followed by several more low ones.

Of course, the history of the Sun may not be a good predictor of future activity (sounds like the caveat for investing in the stock market, doesn't it?). Not only don't we fully understand the solar cycle process, we only have a couple hundred years of data for a process that has likely been going on for thousands or millions of years ñ a small sample size indeed.

The moral here is that if you're going after any awards on the higher bands (10m DXCC, for example) you may want to hit those bands really hard during Cycle 24. It may be very tough if you wait until Cycle 25

DX News

SB DX ARL ARLD024
ARLD024 DX news

This week's bulletin was made possible with information provided by HA0HW, LU4AAO, The Daily DX, the OPDX Bulletin, 425 DX News, DXNL, Contest Corral from QST and the ARRL Contest Calendar and WA7BNM web sites. Thanks to all.

AZERBAIJAN, 4J. Special event station 4J880M is QRV from Mingechevir until July 1 to commemorate the birth of writer and philosopher Nizami Ganjavi.

KENYA, 5Z. Jacob, AK0SK is QRV as 5Z4/AK0SK from Nairobi. Activity is mostly on 40 to 10 meters. His length of stay is unknown. QSL to home call.

ITALY, I. Operators Simone, IK5RUN and Carlo, IK5MES are QRV as IG9/IK5RUN and IG9/IK5MES, respectively, from Lampedusa Island, IOTA AF-019, until June 25. Activity is holiday style on 40 to 6 meters using SSB. QSL to home calls.

ARGENTINA, LU. Members of the Radio Club QRM Belgrano will be QRV as LU4AAO, LU4AAO/A and LU4AAO/D from June 19 to 27 to commemorate Argentine Flag Day. Activity will be on the HF and V/UHF bands using CW, SSB, SSTV and FT8. QSL direct to LU4AAO.

ALAND ISLANDS, OH0. Special event station OH0100AX is QRV until June 9, 2022 to celebrate the 100th anniversary of the Aland Islands' self-government from Finland. QSL via operators' instructions.

The RTTYOPS Weeksprint and Worldwide Sideband Activity Contest are scheduled for June 22.

The CWops Mini-CWT Test, Phone Fray and SKCC CW Sprint are scheduled for June 23.

ARRL Field Day Corner

SB SPACE @ ARL $ARLS006
ARLS006 International Space Station to be in Cross-Band Repeater Mode for Field Day

Space Bulletin 006 ARLS006
From ARRL Headquarters
Newington, CT June 10, 2021
To all radio amateurs

SB SPACE ARL ARLS006
ARLS006 International Space Station to be in Cross-Band Repeater Mode for Field Day

The Amateur Radio on the International Space Station (ARISS) cross-band repeater will be available for ARRL Field Day, June 26 - 27. Contacts will count toward Field Day bonus points as satellite contacts and Field Day contacts.

Field Day rules limit stations to one contact on any single-channel FM satellite. Note that contacts made during Field Day by ISS crew would only count for contact credit, but not for satellite bonus points. ISS cross-band repeater contacts are also valid AMSAT Field Day satellite contacts.

The ARISS cross-band repeater uplink is 145.990 MHz (67 Hz tone), with a downlink of 437.800 MHz.

ARISS suggests that those unfamiliar with the ISS repeater may want to practice with it prior to Field Day. ARISS had planned to switch modes to the Automatic Packet Reporting System (APRS) during

the second week of June, but this won't happen until after the first ARISS school contact following ARRL Field Day.

QST de W1AW
Special Bulletin 7 ARLX007
From ARRL Headquarters
Newington CT June 17, 2021
To all radio amateurs

SB SPCL ARL ARLX007
ARLX007 K9JM to transmit CW and Digital Versions of 2021 W1AW Field Day Bulletin

West Coast ARRL Qualifying Run station K9JM is again slated to transmit the CW and Digital versions of the 2021 W1AW Field Day Bulletin.

CW

On Saturday, June 26, the CW version will be transmitted at 7:30 AM PDT (1430 UTC). On Saturday evening, the CW version will be transmitted at 5:30 PM PDT (Sunday, June 27, at 0030 UTC).

On Sunday, June 27, the CW version of the bulletin will be transmitted at 7:30 AM PDT (1430 UTC). The CW frequencies are 3581.5 kHz and 7047.5 kHz. The CW speed is 18 WPM.

Digital

On Saturday, June 26, the Digital version will be transmitted on 7095 kHz using BPSK31 at 6:30 PM PDT (Sunday, June 27, at 0130 UTC) and using MFSK16 at 6:40 PM PDT (0140 UTC).

On Sunday, June 27, the Digital version will be transmitted on 3597.5 kHz using BPSK31 at 9:30 AM PDT (Sunday, June 27, at 1630 UTC) and using MSFK16 at 9:40 AM PDT (1640 UTC).

Please visit the ARRL Field Day web page at,
http://www.arrl.org/field-day .

From ARRL Headquarters
Newington, CT June 17, 2021
To all radio amateurs

SB SPACE ARL ARLS007
ARLS007 Slow-Scan TV Event from International Space Station Set

A slow-scan television (SSTV) event from June 21 - 26 will focus on amateur radio on the Space Shuttle, the Mir space station, and the International Space Station, Amateur Radio on the International Space Station (ARISS) has announced. Transmissions will be on 145.800 MHz FM using PD120 SSTV mode.

"The ARISS team will be transmitting SSTV images continuously from June 21 until June 26," ARISS said in

announcing the upcoming event. "The images will be related to some of the amateur radio activities that have occurred on the space shuttle, the Mir space station, and the International Space Station."

Transmissions will start at or about 0940 UTC on Monday, June 21 and will end by 1830 UTC on Saturday, June 26. "Those that recently missed the opportunity during the limited period of MAI transmissions should have numerous chances over the 6-day period to capture many - if not all 12 - of the images."

The ARISS SSTV blog - located at http://ariss-sstv.blogspot.com/ - will post the latest information. Signals should be receivable on a handheld with a quarter-wave whip antenna. Use 25 kHz channel spacing if available.

Pass time predictions are available on the AMSAT website at, https://www.amsat.org/track/ .
NNNN
/EX

Upcoming *Hamfests*

We **DO** have some hamfests scheduled for 2021!! Yes, take a good look at the list, it's growing every day!

07/10/2021 - Mansfiled Mid-Summer Trunkfest
Location: Mansfield, OH
Sponsor: InterCity Amateur Radio Club
Website: http://iarc.club

Learn More

07/17/2021 - NOARSFEST
Location: Elyria, OH
Sponsor: N. Ohio Amateur Radio Society
Website: http://noars.net

Learn More

07/18/2021 - Van Wert Hamfest
Location: VAN WERT, OH
Sponsor: Van Wert Amateur Radio Club
Website: http://W8FY.ORG

Learn More

08/07/2021 - 2021 Columbus Hamfest
Location: Grove City, OH
Sponsor: Aladdin Shrine Audio Unit
Website: http://columbushamfest.com

Learn More

08/07/2021 - MOVARC HAMFEST
Location: Bidwell, OH
Sponsor: Mid-Ohio Valley Amateur Radio Club

Learn More

08/28/2021 - Cincinnati Hamfest℠
Location: Owensville, OH
Sponsor: Milford ARC
Website: http://CincinnatiHamfest.org

Learn More

09/12/2021 - Findlay Hamfest
Location: Findlay, OH
Sponsor: Findlay Radio Club
Website: http://www.findlayradioclub.org/hamfest
Learn More

09/18/2021 - Mound Amateur Radio Assoc.
Location: Miamisburg, OH
Sponsor: MARA
Website: http://W8DYY.ORG

Learn More

09/26/2021 - Cleveland Hamfest
Location: Berea, OH
Sponsor: Hamfest Association of Cleveland
Website: http://www.hac.org

Learn More

10/02/2021 - 10th Annual Vette City Hamfest, ARRL Great Lakes Division Convention

Location: Bowling Green , KY
Sponsor: Kentucky Colonels Amateur Radio Club
Website: https://ky4bg.com
Learn More

10/31/2021 - Massillon (Ohio) Hamfest
Location: Green, OH
Sponsor: Massillon Amateur Radio Club
Website: http://w8np.org
Learn More

11/06/2021 - GARC Hamfest
Location: Georgetown, OH
Sponsor: Grant Amateur Radio Club

Learn More

12/04/2021 - FCARC WinterFest
Location: Delta, OH
Sponsor: Fulton County Amateur Radio Club
Website: http://k8bxq.org/hamfest

Learn More

The South 40

Here's hoping this finds all well and with most of the pandemic restrictions now removed, ready to enjoy summer and play some radio. For those of us in Southern Ohio a recent highlight was the reopening of the R & L Electronics showroom after months of being closed to the public.

In this week's column we make our next to last visit to known clubs throughout the Southern Ohio region. Through the column we have visited clubs in communities close to large cities and in smaller out of the way portions of Appalachia. We've visited clubs on both sides of the Ohio River. We've seen both large and small clubs. In each case, each club serves as an important way to bond the amateur radio community. I hope you have found these past columns about the various clubs interesting and see ham radio is alive and well in Southern Ohio.

This time we're visiting-the **Marietta Amateur Radio Club**, W8HH-traces its beginnings to 1920, although there was amateur radio activity before that. The earliest evidence of a club is a "Charter of Affiliation" issued by the American Radio Relay League to the **Marietta Amateur Radio Society**. The original document is dated August 27, 1920--signed by the "Old Man" himself, Hiram Percy Maxim, W1AW--and graces a wall at the Club's station. Perhaps you noted the October 2020 QST recognized the Club for being a 100 year affiliate. Quite an honor! The Club is one of only a handful of Ohio clubs with their own property and station. However during its formative years the Club would meet at the local YMCA, but in the 1950s they were able to move to a quonset hut in Marietta. In the 1964/65 time frame they acquired the present clubhouse location on high ground in the Stanleyville area just outside of Marietta. According to an article in the *Marietta Times* the Club is a part of Washington County's emergency preparedness plan. According to Club President Richard Miller, K8KYE, the original call sign for the Club was W8KYC. The current W8HH call sign was acquired around 1959 to honor Marietta resident James Sesser who was active with the Club in the early days and died in 1935. You can usually find that call active during Field Day, the Ohio QSO Party and most major contests. Speaking of contesting, the **Marietta ARC** is the home club for well-known contester Ralph Matheny, K8RYU, who often operates as a 'rover' during the Ohio and Pennsylvania State QSO Parties and is probably already planning his itinerary for September's Ohio State Parks on the Air Contest.

The club maintains a 146.88 and a 443.400 repeater each with a 91.5 tone.

A big tip of the cap goes to Richard Miller for his assistance preparing this article.

As we make our homeward trip from historic Marietta let's take a look at what ham radio is doing in other parts of the South 40.

In case you didn't realize it, this coming weekend is Field Day. Most of our South 40 clubs will be participating. Those we know of are: Athens County ARC, Fairgrounds, Athens; Cambridge ARC, near New Concord; DeForest ARC, Adams County Health Department, West Union; Grant RC, KB8WCW QTH near Blanchester; Highland ARC, Levo Century Farm, New Vienna; Hocking Valley ARC, KB8GUN QTH, Laurelville; Marietta ARC, Clubhouse, Marietta; Parkersburg ARK, Fort Borman Hill, Parkersburg, WV; Milford ARC, Mulberry Elementary School, Milford; Parkersburg, WV; Portsmouth RC, Mound Park, New Boston; Queen City Emergency Net, W8VND site, Cincinnati; Scioto Valley ARC, Clubhouse, Scioto Trails State Park, Chillicothe and the Tri State ARA, Tri-State Fire Academy, Huntington, WV. I believe at least four other clubs are fielding operations; however no information was provided by them by the column submission deadline.

As of June 10 Fayette County has a new ham. Gordon Garringer passed his Technician test and received KE8SGO as his call sign. His father is Good Hope's Bill Garringer, N8SBT, and his brother is Norman Garringer, KE8DUW, at Chillicothe. He's already been heard on the air. WELCOME.

Word from Ken Klousterman, KD8FKU, is that planning for the popular **Grant RC** hamfest in Georgetown is proceeding with all intentions of it taking place this year. It will be held on Saturday, November 6 at the ABCAP Building in Georgetown. Tickets will soon be on sale.

Bill Sayler, AJ8B, has provided an update on the upcoming **W8DXCC** to be held in conjunction with the August 28 **Milford ARC** Cincinnati Hamfest. Bill says the speakers and presentations for the event are set. The emcee for the afternoon is DXpeditioner Jay Slough,K4ZLE, who has put over 40 different entities on the air. Propagation expert and DXpeditioner Carl Luetzelschwab, K9LA, will be on the program as will Hal Turley, W8HC, a DXpeditioner and author of the "Rig In A Box" article recently appearing in the *NCDXF Journal*. QST 'How's DX' columnist Bernie McClenny, W3UR, is the keynote speaker.

Bud Cyr, KB8KMH, reminds members of the **Tri-State ARA** of their June 15 meeting. It's at the Museum of Radio and Technology in Huntington, WV at 7 pm. A change in location will have the **Cambridge ARA**'s June meeting held at the Field Day site near New Concord.

Jeff Slattery, N8SUZ, says the first test operation of the **Athens County ARA**'s new radio station at the county EMA center took place on Thursday, June 17, when a full scale LEPC emergency exercise was held. The simulated emergency was a train derailment with a chemical spill in Athens. Jeff states communications was closely looked at during the exercise. He was pleased that several ACARA members participated over the air or in other ways.

Recently it was mentioned that Ashton Killen, KD8QII, had graduated from Morehead State University with a degree in Geology. We now understand she has been accepted to continue her geological engineering studies at the Colorado School of Mines. Parents Mark and Teresa (KD8QIG and KD8QIH) must be proud. Ashton got interested in science through her interest in ham radio and was involved with the radio club at Morehead State while a student there.

Harley Maines, K8HM, reminds his fellow amateurs and MARS operators of 60 meter interoperability exercises during the first full week of each month. During that week the Air Force MARS will have the band Sunday through 1701 UTC Wednesday. Army MARS then picks it up through 0501 UTC on Saturday. There is no cross over service. The MARS-amateur phone interface will mostly take place on Channel 1. Air Force uses Channel 2 for digital interface.

The **Athens County ARA** will hold ARRL VE testing on Monday, June 21, with registration starting at 6:30 pm. If the Red Cross Building is still not open for groups, the session will be held in the parking lot.

As of June 9, the Ohio State Parks on the Air website shows plans are already set to activate 20 parks during the September contest/event. Of those nine are in Southern Ohio. Those are: A. W. Marion, Lake Adams, Caesar Creek, Deer Creek, East Fork, Great Seal, Paint Creek, Rocky Fork and Strouds Run. There are some other clubs in the region yet to post their plans. Those are at Cowan, Blue Rock and Shawnee. This year marks rovers as a separate category entry. It would be great to see every one of our region's state parks with an activation by either a portable, mobile or rover operation.

Several Scioto River Valley hams along with members of the **Scioto Valley ARA** and **Portsmouth RC** were kept busy recently as they raced through the and simplex frequencies were

providing assistance to the Southern Ohio Forest Rally Scioto Trails and Shawnee State Forests. Club repeaters very active.

The **Highland ARA** was honored with a proclamation from the Ohio Senate recognizing the Club's "Tremendous Attainment" for recently achieving the ARRL's Special Service Club designation. The proclamation was presented to current HARA President Pat Hagen, N8BAP, and 2020's President Jeff Collins, KD8VUY, at the recent club meeting.

The easing of COVID restrictions is going to allow the **Portsmouth RC** to conduct their Field Day operations from the Mound Park. The park is located off SR 139 near the eastern edge of Portsmouth.

Although there is no **Hocking Valley ARC** Foxhunt in June, the Club was involved with assisting the Logan Washboard Festival Committee by setting up the Festival's Car Show on Friday, June 18 along Logan's Main Street.

Ross County's Doug Broyles, KE8ORQ, is burning the midnight oil making contacts through the International Space Station's repeater. During those late night/early morning passes he is heard and is getting known as "Bainbridge Doug". Doug states he is looking forward to more daylight passes so he can get some sleep.

The weather was perfect for the **Athen's County ARA**'s first Fox Hunt of the year. KE8ICP, Michael Baxla, was the first to locate the 'fox' and spent only 1 hour 15 minutes to locate it. Phil Stanley, KB8NZB, from Logan came in second after a 1 hour 30 minute chase.

Twenty-two hams from Brown, Clinton, Fayette, Highland and Ross Counties recently gathered at Stephanie's Restaurant in New Vienna for the **Highland ARA**'s Brunch Bunch breakfast. Following an enjoyable breakfast many traveled to the nearby Levo Century Farm to start planning for the Field Day activities that will take place at that location. Based on the site visit and those discussions, Field Day co-chairman Richie Hagen, N8CUB, indicated it should be an enjoyable experience especially for the Club's newly licensed members. The club will again use W8O as their primary call sign. The Club's K8HO will be used for the GOTA station.

Members of the **Fayette ARA** will assist the Washington CH July 3 Fireworks display to be held that evening at the Fayette County Fairgrounds.

The **Grant RC** reports they will not officially operate a club station during Field Day, but member Steve Neal, KB8CWC, will operate on behalf of the Club from his QTH near Blanchester.

The South 40 region is the home of two excellent radio museums. The Museum of Radio and Technology in Huntington, WV and the Gray Wireless Museum at the Voice of America Museum in West Chester. These museums indicate there is a lot of interest in collecting antique radios throughout the region. Where is this going? The **Cincinnati Antique Radio Society** will hold their RADIOrama 29 antique radio sale and swap meet on Saturday, August 7 at the Raffel's Catering Center, 10160 Reading Road, Cincinnati. More information can be found at www.cincinnati-antique-radio.org.

It's time to put a wrap on the column for this time. Next week we'll jump across the Ohio River and visit the Mountain State's **Parkersburg (WV) Amateur Radio Klub (PARK**). We hope to learn a bit about that club, its history and activities. In the meantime, please pass along any interesting highlights from your club's Field Day participation to jlevo@cinci.rr.com. Stay safe, healthy, radio-active while taking some time to visit your father if he is still with you or honor your father in another appropriate way if he is not.

Print an Official or Unofficial Copy of Your Amateur Radio License

(By Anthony Luscre, K8ZT)


UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
AMATEUR RADIO LICENSE

KE3GK

John Q. Amateur
123 Maple Avenue
Anytown, State 00000

NONE

Grant Date	Effective Date	Print Date	Expiration Date
01/01/2000	01/01/2015	01/12/2000	01/01/2025

File Number	Operator Privileges	Station Privileges
0000000000	Advanced	PRIMARY

THIS LICENSE IS NOT TRANSFERABLE

John Q. Amateur

(Licensee's Signature) FCC 660 – May 2007

As of February 17, 2015, the **FCC no longer routinely issues paper license documents** to Amateur Radio applicants and licensees. The Commission has maintained for some time now that the official Amateur Radio license authorization is the electronic record that exists in its Universal Licensing System (ULS). The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one.

Licensees also will be able to print out an official authorization — as well as an unofficial "reference copy" — from the ULS License Manager. I've created a set of instructions on how you can request an **"official" printed copy of your license***

Click here to download the instructions

One Question Questionnaire

Hey Gang,

I've got a new question, so how about going to www.ARRL-OHIO.org and giving me a click? (It's in the bottom left corner of the page)

"Do you ever operate CW?"

From the last Poll: 31% of you are using a VHF/UHF vertical as your main station antenna. 17.5% use an HF vertical, 36.24% use a wire antenna, 12% a Yagi and 3% "other" (out of 149 responses).

V.E. Test Sessions

Many V.E.'s have decided to start testing once again, but with restrictions that need to be adhered to for sure. Here's the link to find that V.E. Test session and what is expected of YOU before going. http://www.arrl.org/find-an-amateur-radio-license-exam-session

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Ohio Section Cabinet

Section Manager – Tom Sly, WB8LCD	Section Traffic Manager – David Maynard, WA3EZN
Section Emergency Coordinator – Stan Broadway, N8BHL	Section Youth Coordinator – Anthony Luscre, K8ZT
Technical Coordinator – Jeff Kopcak, K8JTK	Affiliated Clubs Coordinator – Tom Sly, WB8LCD
State Government Liaison – Bob Winston, W2THU	Public Information Coordinator – John Ross, KD8IDJ

Hey Gang,

Have you taken a look at the **Swap & Shop** page on the Ohio Section webpage yet?? Here's a link that will take you there… http://arrl-ohio.org/sm/s-s.html

Do you have equipment that you just don't need or want anymore? Here's a great venue to advertise it, and it's FREE!! Is your club doing a fund raiser to help raise money? After a lot of thought, it was decided that the Swap & Shop webpage could also contain these types of items as well. The same rules will apply as do for the For Sales and Give-A-Ways and will only be posted for a month at a time. Please see the Terms & Conditions on the webpage.

If your club is doing a fund raiser and wants more exposure, please forward the information to me and I'll advertise it on the Swap & Shop webpage for you.

Now, I still want to remind you that it won't be listed in this newsletter because it would take up way too much space, so your ad will only appear on the website. It is there for any individual to post equipment Wanted / For Sale or Give-Away as well as for Club Fund Raisers. No licensed vehicles/trailers or business advertising will be posted. Postings are text only (no pictures or graphics) will be posted for a maximum of 1 month from date posting and require a contact phone number or email within the posting. Send your Wanted / For Sale or Give-Away post to: swap@arrlohio.org

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Back Issues of the PostScript and Ohio Section Journal

Hey, did you know that PostScript and Ohio Section Journal (OSJ) are archived on the website? You can go back and look at any edition simply by clicking: http://arrl-ohio.org/news/index.html

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Want to Share your Club Newsletter With Others?

We have a webpage where you can download and read all of the newsletters that I get from around the state and even other sections!

Here's the link to the page…. http://arrl-ohio.org/club_news/index.html

Please, if you don't see your club newsletter posted, it's because I'm not receiving it. Just have your newsletter editor contact me and I'll get your club's newsletter listed on the site!!

We all learn and steal (I mean, share) from each other's work. So, get me your newsletter!!! Send it to: webmaster@arrl-ohio.org

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Chit – Chat, and All That!

Do you know someone that's not getting these Newsletters? Please, forward a copy of this Newsletter over to them and have them "Opt-In" to start receiving them. Heck, just have them send an email to: webmaster@arrl-ohio.org and we'll get them added to the Ohio Section Emailing list.

We now have many thousands of readers receiving these newsletters weekly. Quite impressive, I'd say! I urge all of you to make sure that everyone, regardless of whether they are a League member or not, get signed up to receive these weekly Newsletters.

You can always "Opt-Out" at any time if you feel this is not what you were expecting. It's fun and very informative. All of your favorite past newsletters are now archived too. You can go back at any time and read them.

Just go to: http://arrl-ohio.org/news/

The pictures on the front page and throughout this newsletter are from various newsletters, Facebook posts and/or were sent directly to me in recent weeks. Take a good look at them, you just might be in one of the pictures! "SMILE… you're in the Ohio Section News!!"

PostScript is produced as a weekly newsletter. I want to thank everyone that has contributed articles and ideas to make this an even better news source. I sincerely hope that you have enjoyed this edition and will encourage your friends to join with you in receiving the latest news and information about the Ohio Section, and news and events happening around the world!