

COMMUNICATIONS UPDATE

December 2023

MERT's primary role is to support all open

Evacuation Shelters throughout Marion County
during declared Emergency events. We also
support EOC and emergency personnel along with
Community Emergency Response Teams (CERT)
with voice, image and data communications
resources. "Call MERT.... When all else fails!"

No Monthly Meeting

In December

Next Meeting -

January 20th

Annual Meeting

Thank You All for a Fantastic Year!



Harlan Cook (KN4VRM)
MERT Coordinator

I extend my very warmest wishes to everyone for a wonderful Merry Christmas and Happy New Year. I hope everyone has a relaxing, enjoyable and safe holiday season. Blessings to all!

From MERT's <u>Standard Operating Guidelines; I. Introduction...</u>
"The Marion County Emergency Radio Communications Team
(MERT) consists of volunteers with the interest to help their
community during times of disaster."

What we did together as volunteers in support of the Division of Emergency Management "...to help their community..." is nothing short of **AMAZING**!

From the completion of the huge EOC Tower re-cable project, rewiring the radio room, adding UPS capacity at every radio station, consolidate all MERT inventory in a single location allowing 24x7 access, conducting our first MERT 20 Exercise by making contacts with 7 countries and 24 states... *to*... creating a completely new Member Skill Book & New Member Orientation Guide and staffing the shelters/EOC during one Activation... shows how MERT members worked together and accomplished the major tasks needed for a better future.

My sincere thanks for your wonderful support and dedication to our Mission!



Monthly Meeting Update Special Presentation

The combined MERT, ARES, CERT and HEC November monthly meeting had 34 attendees learning more about ways to protect expensive amateur radios and personal electronics from Coronal Mass Ejections (CME), Solar Flares and Electromagnetic Pulse (EMP) events.

Pat Davis, Bill Davis and Gray Moffett organized the presentation and arranged to have Scott Davis visit as guest speaker sharing more details on what these events are, the potential destructive energy fields they produce and some resources detailing ways to protect your equipment.

Attendees learned that solar flares are the least powerful natural events and will cause communications blackouts but very rarely cause









We thank these event organizers: Top Row: Scott Davis, Guest Speaker and Pat Davis (KQ4BRW) 2nd Row: Bill Davis (KQ4ILZ) and **Gray Moffett (KC3DWY)**

equipment failures. CMEs are the next most powerful events that can and have caused radio equipment failures, electrical grid blackouts, radio/TV stations going off-air and satellite failures with warning times of 18-40 hours. The most powerful events are EMP's which are manmade devices designed to cause catastrophic levels of electrical equipment and system failures across entire continents with only minutes notice. Protective devices were shared including Faraday shields & electrical protective shunts.

Thanks to Scott, Pat, Bill and Gray for a fascinating and thought-provoking presentation!



wction (CME) weform.	omagnetic Pulse with Geomagnetic Distu CMEs are similar in system interaction an	
Table 1	I. EMP versus GMD Characteristics	
Cause	Attenuated from	Natural Instant
Warning	Strategic: unknown. Tactical: none to several minutes	Strategic: 18 to 72 hours Tacticial: 20 to 45 minutes
Effects	27 Figh peak field - quick rise time 22 Medium peak field 23 tow yeak field, but quicker rise time and higher field than by GMO (possibly 2 times treater)	No comparable E1 was fame. No comparable E2 were force. E3 for peak field - fluctuating magnifieds and direction.
Duration	E1 less than a 1 microsecord E2 less than 10 millionism E3 Blast - 10 seconds E3 Blast - 10 seconds	No comparable E1 wave force No comparable E2 wave force E2 hours
Erguipment at Risk	ET felicitaren proletter, electronica selle cuestial systems, nelsys, flythorg america. 22 lightneys power limes and tuwer structures. — Tambower', selectronical citizens, electronical professional selectronical contributes professional professional selectronical professional selectronical professional selectronical professional selectronical professional selectronical selectro	E3 transfermers and protective relays - long-hast transmission and communications - generator step-up transfermers
Postprint	Regional to continental depending on height of bariet.	Regional to workfields, depending upon magnitude
Geographic Variability	Can maximize coverage for E1 or E3 63: interestly increases at the lower latitudes and as distance from ground zero is decreased or as yest is increased.	£3 intensity increases near large bodies of water and generally at higher latitudes atthough events have been seen in content latitude



Unable to attend? Contact Pat Davis or Harlan Cook for copies of the handouts.



Sign up for Space Weather Alerts on Solar Flares and CME's at: NOAA Space Weather Prediction Center https://w ww.swpc.noaa.gov/

Click the "Subscribe" tab near the top of the page.





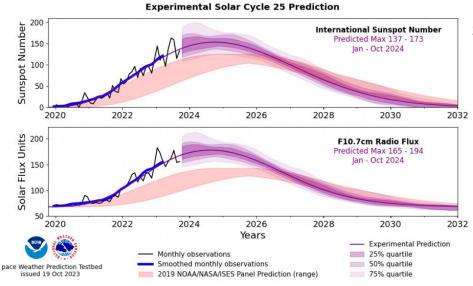




MERT thanks everyone who attended this special presentation!

NOAA Update – Revised Forecast Solar Cycle Peaks in 2024!

NOAA FORECASTS QUICKER, STRONGER PEAK OF SOLAR ACTIVITY



See Note A for more Information about sunspot activity.

See Note B for more Information about F10.7 cm Radio Flux activity.

On October 25th, 2023 NOAA's Space Weather Prediction Center (SWPC) issued a revised prediction that concludes Sunspot and F10.7 cm Radio Flux activity <u>will increase</u> more quickly and peak at a **higher level** between January and October of 2024.

NOAA's statement goes on to share... "No two solar cycles are the same. Solar magnetic variability - here measured by sunspot number - regulates the frequency and severity of

space weather events and hazards, which can interfere with the electrical grid, degrade GPS signals, increase orbital drag on satellites, and pose radiation hazards to airline crews and astronauts. Stronger solar cycles produce more solar storms with greater intensity and therefore pose a larger hazard for these critical technologies and services." (Credit: Mark Miesch, CIRES scientist serving as the solar cycle lead at SWPC)

Note A: Sunspots indicate solar activity which affects the ability of the ionosphere to refract radio signals back to earth. More solar activity means more of ultra violet rays will reach the earth's atmosphere and increase ionization.

Note B: The solar radio flux at 10.7 cm (2800 MHz) is an excellent indicator of overall solar activity. It is commonly called the "F10.7 index".

Why is this useful information for MERT?

As MERT uses HF communications for long distance contacts with the State EOC in Tallahassee and with the Federal government via the SHARES frequencies, Members can better predict our potential success with contacts. This information also helps all Hams anticipate better worldwide radio propagation. The facts are when more sunspots exist, the sun puts out more radiation which charges particles in the earth's ionosphere. Radio waves bounce off of (refract from) these charged particles, and the denser these clouds of ions, the better the HF propagation.

Important Note: While NOAA predicts solar activity will increase - the opportunity of Solar Flares and Coronal Mass Ejections are more frequent during peak sunspot activity as well! This has very negative potential impacts for all. (See the summary above on this month's meeting topic.)

For more information, visit the NOAA Space Weather Prediction Center website @ https://www.swpc.noaa.gov/

MERT Presentation to Retired Teachers Group

On November 16th, Kraig Pritts (KA2LHO)
Administration Manager and Harlan Cook (KN4VRM)
MERT Coordinator attended the monthly meeting of
the Marion Education Association – Retired and
presented an update on MERT and its activities.

Kraig created a wonderful slide deck sharing who MERT is, the specialized training we complete and what we do whenever the Division of Emergency Management activates us for service in the Shelters.



(L-R) Sherry Savage, President of MEA-R, Kraig Pritts, MERT Administration Manager and Harlan Cook, MERT Coordinator.

We received many questions and several comments that all the attendees... "Had no idea this group existed!"

We also received many compliments for our service and support of the citizens of Marion County during emergencies. We thank Sherry Savage, President of the Marion Education Association – Retired for her invitation to speak at the meeting.

Editor's Note: At the bottom of their Agenda was this... "If you can read this, thank a teacher!" MERT acknowledges all teachers and thanks them for their outstanding work.

MERT COMPLETES "Training Skill Book and New Member Orientation Guide"

TRAINING SKILL BOOK and New Member Orientation Guide Skill Book Assigned To: Name: Call: MERT Member Since: Position/Assignment: Email: Phone Number: Skill Book Initiated By: MERT Leader: Date: Position: License: Phone Number: Email: The Marion County Emergency Radio Team (MERT) is a Volunteer organization created, supported and administered by the Marion County Sheriff's Office (MCSO) Division of Emergency Management. Specific Information on Emergency Management Volunteer Programs along with an Applicatic can be found at: https://www.marionso.com/emergency-management-volunteering All questions about MERT, its roles, responsibilities and the materials herein are to be directed the MERT Coordinator or MERT Assistant Coordinator at: KGANXO@marionso.com.	Marion	County Emergency Radio Team
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MERT's new resource will guide existing and new Members towards increased EMCOMM skills and knowledge. WE DID IT!

Working together over the last 16-months, MERT completed a complete rewrite of prior training and new member guides into a totally new and updated combined document.

This document was created by the coordinated efforts of MERT Members. It is designed to help all Members advance their knowledge and skills in Emergency Communications (EMCOMM) and focused on having increasingly competent Members supporting the Marion County Sheriff's Office Division of Emergency Management whenever and wherever Activated or Deployed.

The format follows that used by ARRL (ARES) and Cybersecurity & Infrastructure Agency (CISA – AUXCOMM) focused on documenting progress.

MERT's new resource was designed to support a self-directed training effort which encourages the responsibility of learning by the Member. This gives each Member the opportunity to make every decision when it comes to gaining the knowledge and skills needed for MERT membership.

The 19-page document details four (4) levels of skill and accomplishment from New Member through Leadership and then a final Deployment qualified Member. The new binder will be distributed in December. Please contact Harlan or Bill for your copy.

Another MERT Member is... "On the Road Again!"

Kraig Pritts (KA2LHO) and his wife have made another trip enjoying this wonderful hobby of amateur radio in supporting the World-Wide Flora & Fauna in Amateur Radio group (in the U.S. – KFF group) during a trip to the Florida Panhandle. Here's more:

<u>Total contacts</u>: 211 <u>Miles Traveled</u>: 643

Total Hours of Operation (over two days): 11.38

States Contacted 28: AR, CA, CO, CT, FL, IA, ID, IL, KS, MA, MI, MN, MO, NE, NC, NH, NM,

NY, OH, OK, UT, SC, TN, TX, VA, WA, WI, WV

<u>US Regions Contacted</u>: All regions of the continental United States

Modes of Operation Used: CW, USB, LSB (based on the frequency of operation)

Foreign Countries Contacted (5) # shown after each is number of contacts per country):

Belgium (3), Democratic Republic of Germany (6), Finland (1), France (3), Italy (4) Operated from these <u>three parks</u>:

Apalachicola National Forest, St. Joe Peninsula S. Park, St. George Island S. Park Operated from these fourteen Florida Counties:

Alachua, Columbia, Dixie, Franklin (twice), Gilchrist, Gulf. Jefferson (twice), Lafayette, Levy, Liberty, Marion, Suwannee, Taylor (twice), Wakulla (twice)

I do the radio operation while my wife drives. It passes the time and I have come to make some great friends around the country and world.

In the parks we often take a stroll through the park or on the beach to experience the peace of nature.













We thank Kraig for sharing his trip with us in words and photographs! Going on a trip? Share it with MERT!

A DX'ing Note: (DXing - listening and/or contacting distant, and foreign, hams)

From Kraig Pritts (KA2LHO):

Good morning Harlan.

A bit of DX interesting info. I just received these two DX QSL cards via the mail. You may already know this but DX is normally sent via the ARRL QSL Bureau. You will note that these cards were for contacts in 2016 and 2021.

Generally, cards will sit at a Bureau for months or more until there are multiple cards to be sent, thus being cost effective. FYI - Mail is Europe is infamous for being slow and unreliable... but it is what it is.

Also note that one of these operators made the contact with me while I was mobile as indicated by the /M. I will send a QSL back but I will do it via direct mail to the operator. It may take a couple of months to get there, but it probably will make it OK!

Just thought I would share this very interesting update with you.

Happy Thanksgiving.

Kraig

DX QSL Cards





(Above) This QSL card from Carl Matousek (OK1CF) living in the Czech Republic confirms a contact Kraig made in... April, 2016!

(Left) This QSL card from Ulf Ehrlich (DL5AXX) living in Germany confirms a contact with Kraig in August, 2021. The cover of the QSL is an incredible view of Ulf working on a high gain directional HF antenna. Wow... what a photograph!

Congratulations to our Newest MERT Member!

MERT congratulates Dee Seagraves (KO4TMZ) in meeting all membership requirements specified in the Standard Operating Guidelines to successfully pass her probationary status for full Member rights.



Congratulations Dee!

(L-R) Harlan Cook, MERT Coordinator; Member Dee Seagraves; and, Bill Gillespie MERT Assistant Coordinator present Dee with her Membership Letter and uniform shirt.

The Great ShakeOut



(L-R) MERT participants included Harlan Cook, Sharon Malik, Bill Davis, Pat Davis, Mike Condon and Leon Jurcyszyn. Bill Sobel also participated but was out of town.

Certificates of Participation were received from The Great ShakeOut sponsors that included the Federal Emergency Management Agency (FEMA), United States Geological Survey (USGS) and the National Science Foundation.

Would you like to participate? MERT will share more on the 2024 details in September.

Merry Christmas to The Division of Emergency Management Staff

MERT presented a Christmas Poinsettia plant to the staff we work with at the Division of Emergency Management in thanking them for their support of MERT throughout the year.

Erin Miller, Deputy Director and Caitlin Rath, Grants Coordinator appreciated the surprise gift and wished all the Members a Happy Holiday Season!

(L-R) Erin Miller, Deputy Director and Caitlin Rath, Grants Coordinator accepting MERTs surprise holiday plant to brighten up the Emergency Operations facility.



Is it really.... Holiday Season already?

If you are like me, it seems each year passes more quickly than the previous one so I thought to do a little research on the topic.

"It's sometimes known as 'log time'. It's that as we age, a year becomes a smaller fraction of our entire lives up to that point. A year for a 5-year-old is one fifth (or 20%) of their life so far, but a year to a 50-year-old is one fiftieth of their life (or 2% of it) so it seems to pass ten times faster." David R Hamilton PHD

Dr. Hamilton's input makes sense but my question is.... How can I **slow it down** to enjoy more of the experience? I found this input:

"You need to stop, slow down, put your devices away (yep, all of them), look your loved ones in the eyes, and spend quality time with them. The connection that comes from those moments will help you slow down and be at peace."

Another input was...

"Spend a few quiet minutes every day to relive the experiences of that day <u>focused</u> on the positive things done at being a better person... and helping others do the same!"

Thanks for letting me share a few personal thoughts on enjoying each day a little more. I am very fortunate to be able to join with you in actively volunteering time to a worthy cause which helps others when they need help. Thank you all for being MERT Members!



Silver Springs Hamfest is this Saturday, 7:30 am to 2:30 PM at the First Christian Church, 1908 East Ft. King Street, Ocala, FL 34470

Interested in learning more about MERT? Visit https://KG4NXO.com