

CQ Chatter

AUGUST 2019

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WOOD COUNTY AMATEUR RADIO CLUB

President	WB8NQW	Bob Willman
Vice President	KD8VWU	Doug Perez
Secretary	N1RB	Bob Boughton
Treasurer	KD8NJW	Jim Barnhouse

Field Day Report

Saturday, June 22 was a perfect day for holding Field Day. The sun was bright and the temperature moderate. Activities commenced around noon at the Wood County Historical Museum Boomtown area with the erection of the loop antenna, starting with an anchor at the old oil derrick. Participants included: KE8CUZ-Jim, KE8CVA-Terry, NM8W-Craig, KD8NJZ-Eban, WB8NQW-Bob, and Yours truly.

There were four stations active at various times during the two-day operation: KE8CVA on SSB, KE8CUZ on SSB, NM8W/KD8NJZ on Digital, and N1RB on CW, so the Club's entry qualifies as class 4A. All stations operated using emergency power. Special thanks to Wood County ARES for the loan of their generator.

Operations commenced at 2:00 pm and continued more or less until the dinner bell was rung around 5 pm. Bob, WB8NQW, handled the grilling duties

with traditional expertise. Burgers and hot dogs were the main entrees, but there were many salads, sides and desserts provided by those who joined the operators for dinner (see pictures on pages 9-10).

After the many desserts had been sampled, operations continued with KE8CVA and NM8W/KD8NJZ operating well into the wee hours of Sunday morning. Sunday morning dawned with bright sunshine, and NQW again fired up the cooking station by offering a fine breakfast of pancakes and bacon.

Around noon on Sunday, the consensus was to end it, so the antennas were dismantled and other signs of the operation cleaned up to restore the grounds to their original condition.

In the editor's opinion, this year's Field Day was a very enjoyable and successful Club event. Even though we had fewer operators than last year and a lower score, those who did participate will want to do it again. Look for the K8TIH listing when the scores are reported in QST. ■

Net Check Ins

Jul 2

Traffic: 0

N1RB (NCS)

K8BBK

KE8CVA

KG8FH

KD8NJW

WB8NQW

W8PSK

KD8RNO

KC8EKT

KD8VWU

**WA8LUC-Jerry
(11)**

Jul 9

Traffic: 0

KD8VWU (NCS)

KC8EKT

KG8FH

KE8CVA

WB8NQW

KD8NJW

N1RB

W8PSK

KE8IJR

N8VNT

KD8RNO (11)

BRAIN TEASERS

1. Which band is best suited for communications by meteor scatter?
 - a.) 10 m
 - b.) 6 m
 - c.) 2 m
 - d.) 70 cm
2. When may amateur radio operators use their stations to notify other amateurs of the availability of equipment for sale or trade?
 - a.) when the equipment is normally used in an amateur station and such activity is not conducted on a regular basis
 - b.) when the asking price is \$100 or less
 - c.) when the asking price is less than the appraised value
 - d.) when the equipment is not the personal property of either the station licensee or the control operator
3. Which of the following is equal to 500 milliwatts?
 - a.) 0.02 watts
 - b.) 0.5 watts
 - c.) 5 watts
 - d.) 50 watts

August Contests

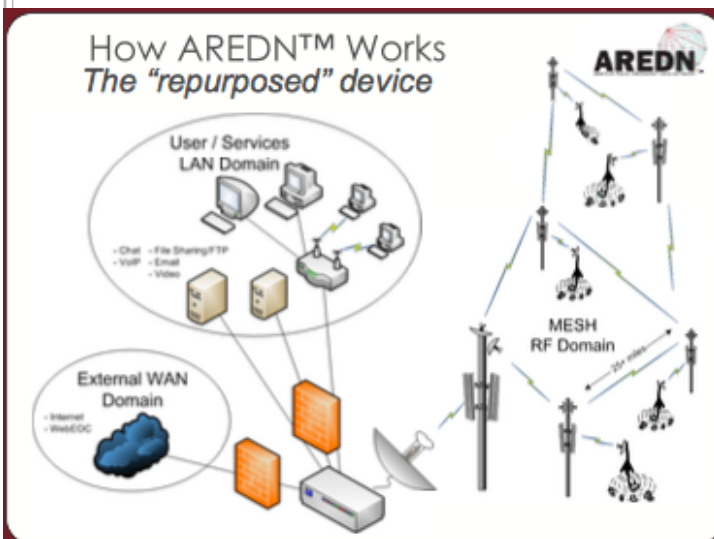
The contest lineup for the month of August is given below. Please note that the WARC bands (60, 30, 17 and 12 m) are never open to contesting.

Aug 3-4	0001 to 2359 Z	10 m
10-10 Int'l Summer 'test		SSB
Aug 3-4	1800 to 0559 Z	160 m to 10 m
North American QSO Party		CW
Aug 10-11	0000 to 2359 Z	80 m to 10 m
WAE DX 'test		CW
Aug 10-11	1400 to 0400 Z	160 m to 10 m
Maryland-DC QSO Party		all modes
Aug 17-18	0800 to 0800 Z	160 m to 10 m
Russian District Award 'test		CW SSB
Aug 17-18	1800 to 0559 Z	160 m to 10 m
North American QSO Party		SSB
Aug 24-26	0400 to 0400 Z	160 m to 10 m
Hawaii QSO Party		all modes
Aug 24-25	1200 to 0300 Z	160 m to 10 m
W/VE Islands QSO Party		all modes
Aug 24-26	1400 to 2000 Z	80 m to 10 m
Kansas QSO Party		all modes
Aug 24-26	1600 to 0400 Z	80 m to 10 m
Ohio QSO Party		all modes
Aug 24-26	1200 to 1200 Z	80 m to 10 m
YO (Romania) DX HF 'test		CW SSB
Aug 31-Sep 1	1200 to 1200 Z	80 m to 10 m
UK/EI 'test		SSB

August Club Meeting to Include Presentation on MESH Networking

A special presentation on Amateur Radio Emergency Data Network (AREDN) mesh for emergency communications will be given by Jim, W8ERW, who has had a great deal of experience working with this concept.

The basic idea is to provide a mesh network such as is used in many Local Area Network (LAN) computer installations, but utilizing the amateur bands with easily obtainable equipment. A diagram taken from the AREDN website which describes the concept pictorially is shown



below:

Quoting from the website, the goal is to “deliver quality, high-speed, data communications for Emcomm via Amateur Radio”. Please consult the AREDN web page for further information at:

<https://www.arednmesh.org>

The main idea is to be able to facilitate data transmission in case of an emer-

gency. This approach promises to greatly increase the efficiency of emergency communications when needed. ■

Dayton Hamvention Attendance Approaches All-Time Peak

from ARRL Letter

The Hamvention Executive Team announced on July 15 that attendance at [Dayton Hamvention](#)® 2019 was 32,472. This marks the highest attendance recorded since Hamvention moved in 2017 from Hara Arena to the Greene County Fairgrounds and Exposition Center in Xenia, Ohio.



This year’s attendance also approached an all-time Hamvention high. Attendance at the show peaked in 1993 at 33,669, before the 1996 change in date from April to May while Hamvention was still being held at Hara Arena. Last year, Hamvention welcomed 28,417 visitors in its second year in Xenia. Attendance in 2016 for the show’s final year at Hara was 25,364. [Hamvention](#) hosted the ARRL 2019 National Convention, and both embraced the theme of “Mentoring the Next Generation.”

“Our early indications were that 2019 would be a big year, and it lived up to our

continued—on p. 7

WCARC Weekly Net

Tuesdays at 2100 all year

147.18 MHz 67 Hz PL

Net Control Roster

Aug 6	N1RB
Aug 13	KD8VWU
Aug 20	KD8NJW
Aug 27	K8OVO
Sep 3	WB8NQW
Sep 10	N1RB

NEXT MEETING

Business Meeting

Monday

August 12

TIME: 7:30 PM/7:00 EB

PLACE:

Sheriff's Training Room

S. Dunbridge Rd. &

E. Gypsy Lane Rd.

Bowling Green, OH

10 meter Net

***informal group
meets***

Sunday

@ 20:30

on 28.335 MHz

Fusion Net

Thursday

@ 19:30

on 442.125 MHz

67 Hz PL on FM

discussion of all

things digital

Net Check Ins

Jul 16

Traffic: 0

KD8NJW (NCS)
KE8CVA
KG8FH
WD8LEI
WB8NQW
KD8RNO
N1RB
K8LL
K8JU (9)

Jul 23

Traffic: 0

K8OVO (NCS)
KE8CVA
WB8NQW
KD8RNO
N8VNT
KC8EKT
KG8FH
KE8CUZ
KE8JPZ
WD8LEI (10)

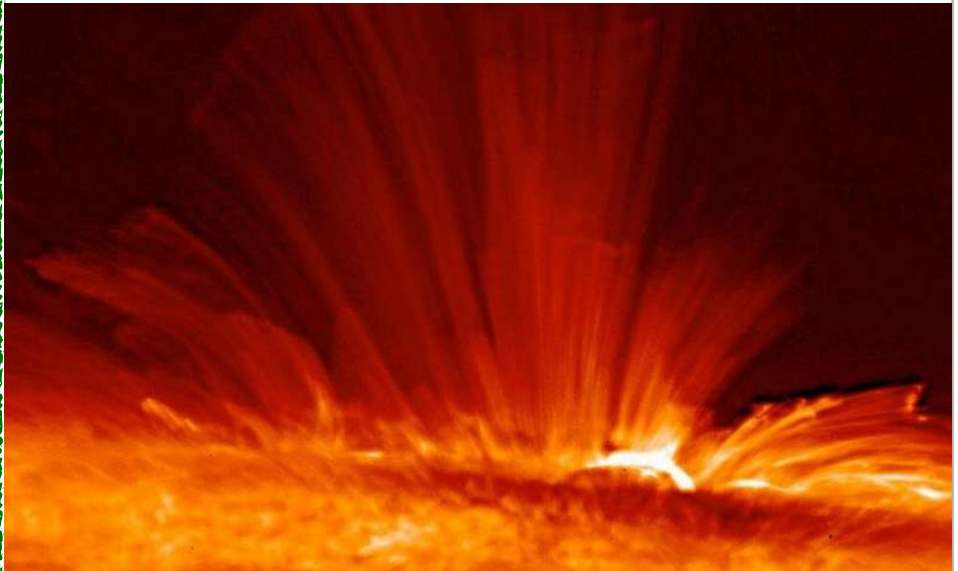
Jul 30

Traffic: 0

WB8NQW (NCS)
WD8LEI
KG8FH
KD8NJW
N1RB
KE8JPZ
KD8RNO
KE8CVA
WD8JWJ
KE8IJR (14)

Solar Weather Has Real Material Effects on Earth

by Michael Batu, [The Conversation](#)



Solar flares and other phenomena can have a surprising effect on our Earthly activities. Credit: *Shutterstock*

On Sep. 1, 1859, solar astronomer Richard Carrington [witnessed sunspots that suddenly and briefly flashed brightly before they disappeared](#). Just before dawn the next day, auroras erupted over most of the Earth, reaching as far south as the Caribbean and Hawaii while southern lights were seen as far north as Chile. The event produced not only a visible light show in areas where they do not typically appear, [but it also sent telegraph systems around the world haywire](#).

Given the state of technology during Carrington's time, the impact of a geomagnetic [storm](#) was limited to disruptions of telegraph service. If something similar happened today, the world's technological infrastructure could grind to a halt. Extreme space weather events such as [geomagnetic storms](#) are [more disruptive now](#) than in the past. This is because of our greater dependence on technical systems that can be affected by electric currents and energetic particles high in the Earth's atmosphere. We might think of space as a silent, empty void and the sun as only a distant source of light and heat. This is not necessarily true. [The sun](#)

continued—on p. 7

Brain Teaser answers: (T) 1-b, 2-a, 3-b

solar—from p. 6

and the Earth are connected in more complex, intimate and sometimes dangerous ways.

Sunspots are temporary phenomena on the sun's photosphere that appear darker than the surrounding areas. Sunspots can change continuously and may last for only a few hours to days; or even months for the more intense groups. The total number of sunspots has long been known to vary with an approximately 11-year repetition known as the solar cycle. The peak of sunspot activity is known as solar maximum and the lull is known as solar minimum.

An active region on the sun — an area of intense and complex magnetic fields — has rotated into view on the sun in this video captured by NASA's Solar Dynamics Observatory between July 5-11, 2017. The dark core of this sunspot is larger than Earth.

Indicating intense magnetic activity, sunspots accompany secondary phenomena such as bursts of electromagnetic

continued—on p. 8

hamvention—from p. 4

expectations,” Hamvention General Chair Jack Gerbs, WB8SCT, said. “Our more than 700 volunteers worked hard to ensure that we presented a great show for

our visitors. It wouldn't have been possible without them. I also want to thank all our vendors and visitors and hope they will all be back next year.”

Hamvention officials suggested that a small factor behind the increased attendance could have been the free admission on Sunday. Sunday-only tickets accounted for some 800 of the total attendance. The open admission day was an effort to allow local non-hams to experience Hamvention, and free Sunday admission is expected to be continued next year, Hamvention officials said.

Assistant General Chair Rick Allnutt, WS8G, said that amateur operators from all US states and territories and 60 other countries attended Dayton Hamvention 2019. According to Allnutt, comments received about the show were overwhelmingly positive. Gerbs said the Agricultural Society, Greene County, Xenia Township, and the City of Xenia cooperated in making Hamvention 2019 a success.

The world's largest Amateur Radio exposition, Dayton Hamvention is sponsored by the Dayton Amateur Radio Association (DARA) every third full weekend in May. Hamvention 2020 will take place on May 15, 16, and 17.

Now is the time to start making plans for next year—the Hamvention promises to be even bigger and better. ■

August Hamfests

August 10 DX Engineering Hamfest. Summit Racing Retail Super Store, 1200 Southeast Ave., Talmadge, OH. web: <https://www.dxengineering.com>

netic radiation (flares) and coronal mass ejections (CME) —which are sudden eruptions of material —accompanied by solar energetic particles (SEPs). A [solar flare](#) is a sudden release of energy from the sun, while a CME shoots hot plasma from the sun into space.

The precise mechanisms that trigger flares and CMEs are still being debated, but the bigger the group of sunspots, [the more intense solar activity tends to be](#). The sun continually ejects high-energy electrons, protons and other nuclei that bombard the Earth. [Solar flares and CMEs send enormous amounts of energy](#) and charged particles hurtling into collision with the Earth's upper atmosphere, where they can cause geomagnetic storms.

Charged particles during geomagnetic storms cause disturbances in the Earth's magnetic field, generating effects on electrical systems. [Geomagnetic storms produce numerous effects](#) such as voltage disruptions leading to [power outages](#); changes in soil voltage that enhance corrosion in oil pipelines; disruption in satellite, radio and cellular communications networks; exposure to elevated levels of radiation; and reductions in flights with polar routes.

For the most part, the Earth's magnetic field protects humans from the barrage of radiation which comes from the sun. However, the Earth's magnetic field is weaker at either pole and therefore some particles of enter the Earth's atmosphere through geomagnetic storms.

The adverse economic impacts of solar activity on the North American power grid

have been well-documented. For instance, [four percent of the power disturbances](#) between 1992 and 2010 reported to the U.S. Department of Energy are attributable to strong geomagnetic activity.

I have been working on the [economic effects of climate change](#) for some time now and thought: "How about the sun?"

Interestingly, while the study of space weather is a rapidly growing field, [academic work](#) to assess its overall social and economic impacts appears to be in its infancy.

I am currently working with one of my former graduate students, Zichun Zhao, on the economic impacts of space weather. In our [empirical analysis](#), we found that the [Gross Domestic Products \(GDP\) of the 34-member countries of the Organization for Economic Co-operation and Development](#) decreases as solar activity increases. On average, GDP decreases by at least 0.06 percent for every increase of one percent in solar activity.

We find that the negative economic effects of geomagnetic storms are more significant in northern latitudes. However, the effects of geomagnetic storms [are not restricted to high latitudes](#) and have been documented in the United Kingdom, Finland, Sweden, Spain, the U.S., Canada, South Africa, Japan, China and Brazil.

Our empirical results indicate that damages caused by geomagnetic storms are much greater in the information and communications sectors. ■

Field Day Fun—June 22-23

photos by: KE8CVA -all captions L to R



**WB8NQW-Bob prepping breakfast
N1RB-Bob on CW using loop antenna**



**KE8CVA-Terry's operation center
using dipole antenna**



**KD8NJZ-Eban and NM8W-Craig
in front of their operating tent**



KE8CVA-Terry at his operating position



WB8NQW-Bob, WD8LEI-Eric, KD8RNO-Lynn, and KE8CVA-Terry at dinnertime on Saturday



KE8CUZ-Jim, WD8JWJ-Bill, WB8NQW-Bob, WD8LEI-Eric, and KD8RNO-Lynn, enjoying dinner



Master chef WB8NQW cooking flapjacks and bacon for breakfast



Breakfast on Sunday, NM8W-Craig, KD8NJZ-Eban, N1RB-Bob, and W8PSK-Phil

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