



ARES COMMUNICATOR

Information for Scott County Amateurs

Wish you were here!



August, 2013

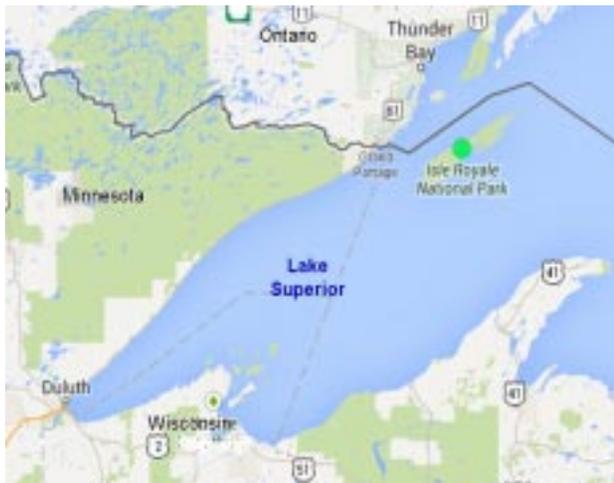
Accurate, Reliable Emergency Communications for our Community

Volume 13, Number 8

Isle Royale Expedition

Aug. 9-11, 2013

What is the result when you have a group of hams, experienced in emergency communications, who are accustomed to brainstorming problems and are slightly bored with the routine? The result in this case was a plan for a special event station. Not just any special event but an expedition to a National Park! Not just any National Park but one smack



dab in the largest fresh water lake around! Hey, lets go to Isle Royale and set up stations for a couple of days!

Several ARES group members from northeast Minnesota and Northwest Wisconsin are mounting an expedition to Isle Royale National Park in Lake Superior. Those participating on the island are treating this as a minimally-invasive deployment of radio resources to a very remote location.

Isle Royale National Park was settled by native American copper miners long before the days of Christopher Columbus. In the late 1800's, it became the home of numerous commercial fishing families, many of whom were Scandinavian and German immigrants.

The Isle Royale archipelago, extending over 50 miles, is the

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“eye” of Lake Superior. The main island is 45 miles long and 8 miles wide, covering over 571,790 acres, most of which is back country wilderness. Isle Royale National Park was authorized in 1931, and in 1980 was designated a biosphere reserve. The park is home to many interesting species of wildlife.

Let's get on the air and make sure these guys have plenty of stations calling to take their minds off the no-see-ems! The planned operation details are as follows:

	SSB	PSK	RTTY
10m:	28.450	28.120	28.070 - 28.150
15m:	21.350	21.070	21.070 - 21.100
20m:	14.250 - 14.260	14.070	14.070 - 14.099
40m:	7.250	7.070 or 7.040	7.080 - 7.100
80m:	3.850 or 3.950	3.580	3.605 - 3.645

(All frequencies in MHz)

Check out the expedition website for more info:

<http://www.n8i.org/>

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ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, August 10th

Digital Monday, August 12th

ARES Nets

MN ARES Phone Net

6:00PM Sunday Freq: 3.860 mhz

ARRL MN Phone Net

12:00p, 5:30p CST Daily Freq: 3.860 mhz

ARRL MN CW Net

6:30p, 9:50p CST Daily Freq: 3.568 mhz

NETS WITH OUR NEIGHBORS

North Dakota: Daily 3.937 mhz 6:30pm

South Dakota: Daily 3.860 mhz 6:00pm

Wisconsin: Daily 3.985 mhz 5:30pm

Iowa: Daily 3.970 mhz 12:30/5:30pm

Test Your NIMS Knowledge

This month we will continue our review of ICS-700a: National Incident Management System (NIMS) An Introduction. Check your recall of the course material with this question.

1. The act of directing, ordering, or controlling by virtue of explicit statutory, regulatory, or delegated authority at the field level is referred to as:

- A. Coordination
- B. Command
- C. Direction
- D. Leadership

Check next month's ARES Communicator for the solution

May NIMS Knowledge Solution

Incident managers begin planning for the demobilization process:

- C. As soon as possible to facilitate accountability of the resources.

ARRL Membership

Frank Karnauskas, N1UW
MN Affiliated Club Coordinator

Many amateurs view ARRL membership as merely a magazine subscription. Many do not have an appreciation for what the League does for not just ARRL members but also for all radio amateurs. They also do not understand the extended benefits and extra information available to them as members. For sure these are difficult economic times and even the low annual membership dues are beyond the reach of some. But, more often than not, most hams are not members because they haven't experienced first hand the benefits of an ARRL membership.

How can we help them see what's going on? The home page of www.ARRL.org offers a 90-day guest account...for free. Make mention of this free guest account offer at your next club meeting and challenge non ARRL members to sign up and give it a try. Remind them to go past the home page and explore the product reviews and technical information that is not generally available.

Will this help increase your ARRL membership count? I don't know, but it doesn't cost anybody anything to take advantage of the guest membership offer and it just might make a difference in one ham's mind.



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NBEMS Current Versions

Be sure to check to make sure you have the current software on your thumb drive.

Now is a good time to check to your digital software to make sure you are running the newest versions. You can find the most recent versions posted at both:

www.w1hkj.com/download.html
and <http://www.scottares.org/NBEMS.htm>

Here are the most recent releases as of July 29, 2013.

Software	Version
Fldigi	3.21.73
Flwrap	1.3.4
Flmsg	1.1.32

The Monday evening training net is a great place to have your digi questions answered and problems solved! Join the Scott ARES group on 146.535 mHz simplex at 7:00pm on Monday evenings.



BREAK - OVER

United States Citizenship!

Have you ever thought about your United States citizenship? Probably not since that Civics course a long time ago! Foreigners who want to become a United States Citizen must pass a short exam that covers some key concepts important to America. Test your knowledge on the citizenship test.

Check next month for the answer to this month's question.

2. Where is the Statue of Liberty?

- A Long Island
- B New York Harbor
- C San Francisco Bay
- D Boston Harbor
- E The Atlantic Ocean

July Citizenship Exam Answer

1. Why does the flag have 13 stripes?

- C because the stripes represent the original colonies

DX Nets

Contacting stations in foreign countries is always a fun activity. There are some foreign hams who only operate within the structure of a net. They may have marginal station equipment or antennas, have poor English language skills, dislike pile-up operation, or rely on a QSL Manager to handle the verification on their contacts. The net manager will often compile a list of stations wishing to make a contact with the DX station and manage the contacts in order. Here are a couple of DX nets.

W7PHO Bill Bennett Family Hour DX Net

14.244 MHz 1430 to 1700 UTC

Week Days only at the present time

NEVER ON US National Holidays or MAJOR Contest

Operations

14.251 DX Net

NOW 14247 DX NET

14.247MHz 2000 UTC until ?

Every day except Sundays

web page www.251net.org.

Southern Cross DX Net

14.238.5 MHz

Begins at 1215 Zulu and runs to 1400 Zulu, propagation permitting.

Targets VK's, ZL's, and island stations. Often picks up ZS's long path over Australia.

Connects in Europeans when they show up and want to join, which is frequently. Also Caribbean and South American stations.

BREAK - OVER

Take a Dip in the General Pool

Time to test your knowledge of the information covered by the General Class license exam. Each month we'll take a look at a selection from the question pool. Here is this month's sample:

1. Which HF antenna would be the best to use for minimizing interference?

- A. A quarter wave vertical antenna
- B. An isotropic antenna
- C. A unidirectional antenna
- D. An omnidirectional antenna

2. How many data bits are sent in a single PSK31 character?

- A. The number varies
- B. 5
- C. 7
- D. 8

3. What is the sunspot number?

- A. A measure of solar activity based on counting sunspots and sunspot groups
- B. A 3 digit identifier which is used to track individual sunspots
- C. A measure of the radio flux from the Sun measured at 10.7 cm
- D. A measure of the sunspot count based on radio flux measurements

(Check next month's issue of the ARES Communicator for the answer.)

June General Pool Answers

1. What does it mean when a CW operator sends "CL" at the end of a transmission?

- D. Closing station

2. Which of the following is required by the FCC rules when operating in the 60 meter band?

- A. If you are using other than a dipole antenna, you must keep a record of the gain of your antenna

3. What information is traditionally contained in a station log?

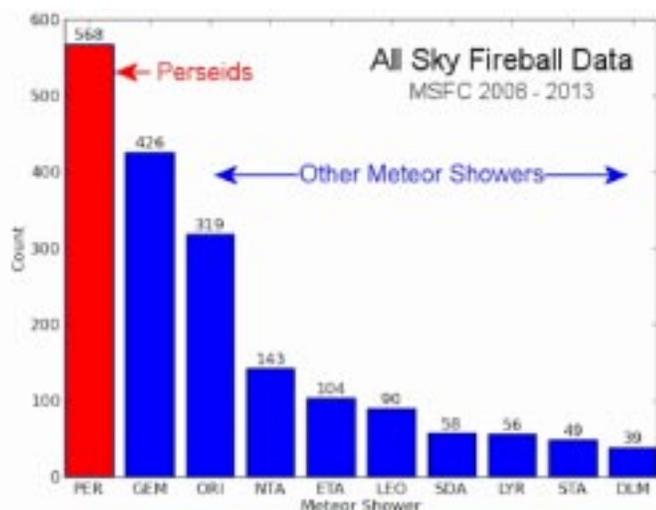
- A. Date and time of contact
- B. Band and/or frequency of the contact
- C. Call sign of station contacted and the signal report given
- D. All of these choices are correct**

Perseid Fireballs

Meteor Shower Lights up the Sky

In astronomy, there's nothing quite like a bright meteor streaking across the glittering canopy of a moonless night sky. The unexpected flash of light adds a dash of magic to an ordinary walk under the stars.

New research by NASA has just identified the most magical nights of all.



“We have found that one meteor shower produces more fireballs than any other,” explains Bill Cooke of NASA’s Meteoroid Environment Office. “It’s the Perseid meteor shower, which peaks on August 12th and 13th.”

Using a network of meteor cameras distributed across the southern USA, Cooke’s team has been tracking fireball activity since 2008, and they have built up a database of hundreds of events to analyze. The data point to the Perseids as the ‘fireball champion’ of annual meteor showers.

A fireball is a very bright meteor, at least as bright as the planets Jupiter or Venus. They can be seen on any given night as random meteoroids strike Earth’s upper atmosphere. One fireball every few hours is not unusual. Fireballs become more numerous, however, when Earth is passing through the debris stream of a comet. That’s what will happen this August.

The Perseid meteor shower comes from Comet Swift-Tuttle. Every year in early- to mid-August, Earth passes through a cloud of dust sputtered off the comet as it approaches the sun. Perseid meteoroids hitting our atmosphere at 132,000 mph produce an annual light show that is a favorite of many backyard sky watchers.

Cooke thinks the Perseids are rich in fireballs because of the size of the parent comet.

“Comet Swift-Tuttle has a huge nucleus—about 26 km in diameter,” comments Cooke. “Most other comets are much smaller, with nuclei only a few kilometers across. As a result,

Comet Swift-Tuttle produces a large number of meteoroids, many of which are large enough to produce fireballs.”

Cooke recommends looking on the nights of August 12th and 13th between the hours of 10:30 PM to 4:30 AM local time. Before midnight the meteor rate will start out low, then increase as the night wears on, peaking before sunrise when the constellation Perseus is high in the sky.

For every fireball that streaks out of Perseus, there will be dozens more ordinary meteors.

“Get away from city lights,” advises Cooke. “While fireballs can be seen from urban areas, the much greater number of faint Perseids is visible only from the countryside.”

In total, the Perseid meteor rate from dark-sky sites could top 100 per hour.

That’s a lot of magic. Enjoy the show.

BREAK - OVER

August Contests

The Grid Dip psk-rtty Shindig

3rd Aug. 2013 00:00 UTC through 24:00 UTC

Operating Modes: *PSK* (includes all sub modes ie PSK31, PSK63) and *RTTY*

Exchange: Send *name + 4 digit grid locator* - Maidenhead Grid

Locator. Example: EL95. Sources of Grid Square info: <http://www.arrl.org/locate/grid.html> for ARRL Grid Square Calculator and WM7D’s Callsign Database at: http://www.wm7d.net/fcc_uls/

Additional info: http://www.n2ty.org/seasons/tara_grid_rules.html

North American QSO Party – SSB

1800 UTC August 17 to 0559 UTC August 18, 2013

Exchange: Operator name and station location (state, province or country) for North American stations

Eligibility: Any radio amateur licensee may enter.

Object: To work as many North American stations as possible during the contest period.

North American Station: Defined by the ARRL’s DXCC list with the addition of Hawaii.

Additional info: <http://www.ncjweb.com/naqprules.php>

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LIGHTNING STRIKES

Stay Safe

Thunderstorms are dangerous due to lightning. Although lightning fatalities have decreased over the past 30 years, lightning continues to be one of the top three storm-related killers in the United States. Most lightning deaths and injuries occur when people are caught outdoors in the summer months in the afternoon and evening.

Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms. Be smart this summer to help reduce your risks. Below are a few tips to start:

- Postpone outdoor activities [and antenna work — ed.] when a storm is being forecasted.
- Unplug electronic equipment before the storms begins.
- Remember the 30/30 Lightning Safety Rule: The first “30” represents 30 seconds. If the time between when you see the flash and hear the thunder is 30 seconds or less, the lightning is close enough to hit you.
- During a storm, use your NOAA Weather Radio for updates from local officials.
- Avoid contact with any metal - tractors, motorcycles, bicycles, and golf clubs.
- Avoid contact with plumbing. Do not wash your hands, do not take a shower or wash dishes and do not laundry. Plumbing and bathroom fixtures can conduct electricity.

For more tips and helpful information visit: <http://www.ready.gov/thunderstorms-lightning>

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SKYWARN Spotter Tips

The following tips are the result of the severe weather activity during late June. There are a number of areas where spotters can improve the usefulness of the information they provide. Please read and practice the following tips when reporting on the Skywarn net.

1. Make sure what you are going to report is reportable.
2. Know your spotter number.
3. Know your current and accurate location.
4. NEVER estimate wind speed. If you can't measure it, don't report it. It is that simple!
5. Know the difference between ponding and flooding.
6. If you are going to make a hail report, please have the correct size determined.
7. Know what you're going to say before you key up that microphone!

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This Side Up!

Russian rocket crashed due to upside down sensors

A Proton-M rocket crashed headlong into the ground shortly after take off on July 2. According to independent website Russian Space Web, which has been monitoring Russian media since the crash, reports that crash investigators examining the wreckage had found the angular velocity sensors had been installed the wrong way up.

According to the website, the sensors are marked with an arrow which is supposed to point upwards. However, several sensors were found among the wreckage were found to be pointing the other way. It's thought that the signals picked up by the wrongly installed sensors threw the rocket's flight control system into disarray, causing the rocket to turn upside down



shortly after take off, and crash roughly a kilometer from the launchpad. A video of the ill-fated flight can be seen here:

www.youtube.com/watch?v=ZWv4ZZArP-g

Though it appears that the error can be traced back to a young technician, if reports that no visual checks were made are accurate, it would seem unfair to lay the blame there.

The crash, which reportedly caused a crater up to 200 m (650 ft) across, posed a significant risk as it failed to clear the launch complex at Baikonur in Kazakhstan. However, no one was hurt as a result of the crash.

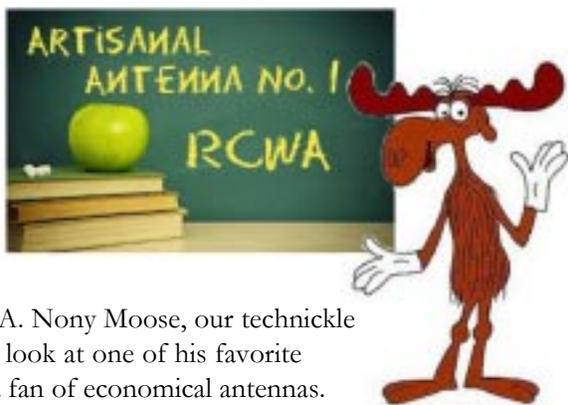
You can see more details of the accident itself, the investigation timeline, and a fuller explanation of the actual cause here:

www.russianspaceweb.com/proton_glonass49.html

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“You have not failed until you quit trying.”

Gordon B. Hinckley



This month A. Nony Moose, our technickle expert, takes a look at one of his favorite topics. He is a fan of economical antennas. (Ed Note: A. Nonny is so cheap he can squeeze a nickel till the buffalo squeals!) He likes to term these 'Artisanal Antennas' to class things up. Moose lovingly describes this antenna as a 'Really Cheap Wire Antenna'. Otherwise referred to as 'Artisanal Antenna No. 1'.

The antenna suspect this month is a half-wave dipole stood on its end. Yup a 1/4 wave vertical, for less than two bucks!

The main part of the antenna is a SO 239 four-hole coax connector. You will also need five pieces of wire about 21" long. (A. Nonny scrounged some cheap wire coat hangers from the back of the closet.)



Now for a little math. We know the overall length of the half-wave dipole, measured in feet, is calculated as

$$1/2 \text{ wave length (ft)} = \frac{468}{f \text{ (mHz)}}$$

We only need a quarter-wave so we'll use this version of the formula:

$$1/4 \text{ wave length (ft)} = \frac{234}{f \text{ (mHz)}}$$

Let's run the numbers for a frequency of 147.0 mHz. The length will be 1.59 ft or a bit over 19 inches. Let's call it 19 1/4 inches.

Time to grab your wire cutter and chop off one wire 19 1/4 inches long and four pieces 20 inches long. Next solder the shorter wire to the center terminal of the SO 239. Next attach the other four wires to the four corners of the SO239.

Now it is time to tune it up. Connect your HT and SWR meter to the antenna. First, take an SWR reading at our design frequency, 147.0 mHz. Make sure you have the antenna at least a couple of feet away from any large metal objects that may interfere with our measurements. Chances are you will find a reading higher than you expected. This is because the formulas we used do not allow for the velocity factor of the wire used for antenna elements (or any other real-world interactions). We expect the antenna to be longer than ideal for our design frequency. If you take an SWR reading at 148.0, 146.0, and 145.0 mHz you will probably find a better SWR at a lower frequency, a longer wavelength.

You can do a couple of things to improve the SWR of your

new antenna. First, bend the four wires attached to the square base downward at about a 45 degree angle. Next, you can shorten the vertical wire a little, try 1/4 inch to start, and measure the SWR again. If the SWR improved at 147.0 mHz you can clip a little more from the vertical element. Is the SWR getting better? If so, clip off a little more. Check SWR again. Oops,

go too far? Did you cut it off twice and it is still too short? No problem.

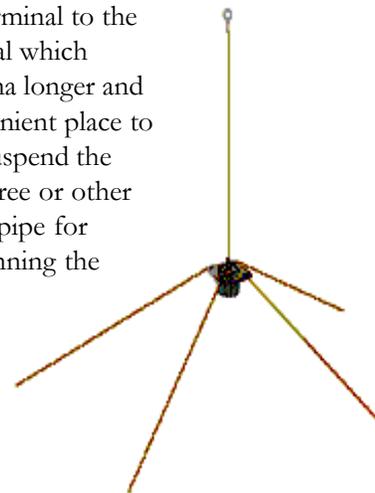
Solder a 'ring' terminal to the end of the vertical which makes the antenna longer and provides a convenient place to attach a line to suspend the antenna from a tree or other

support. You can also use a pipe for support from the bottom, running the coax down the center of the tube.

Now that you have completed your antenna you are a certified eutectic artisan! You very own Artisanal Antenna. Is anyone up for an Artisan Antenna night on the Monday net?

Disclaimer: Of course the usual disclaimers apply: this was done by professionals on a closed course, your results may vary, do not pick up the soldering iron by the hot end!

BREAK - OVER



National S'mores Day

August 10th



S'mores are a favorite campsite treat for young and old kids. The origin of S'mores dates back to the 1920's. It's believed the recipe was created by the Campfire Girls. Girl Scouts soon discovered it, and found it to be chocolaty delicious. Before long, S'mores became a campfire staple for everyone.

Copper Theft Suspect Found Dead

An attempted copper theft from a southeastern Minnesota electric cooperative's utility pole apparently resulted in the suspect's electrocution, according to investigators.

The incident is among the latest in a series of metal theft investigations completed or under way in southern Minnesota, where authorities have noted an upswing in unauthorized salvage activity since late 2012.

In the June 18 case, the suspected thief came in contact with an energized People's Energy Cooperative power line on a rural road in Haverhill Township.

An anonymous 911 caller "made a statement to our dispatcher that 'he's fallen, send help,'" said Capt. Scott Behrns of the Olmsted County Sheriff's Department. "When officers responded, they found a 21-year-old local male dead at the scene."

It appeared the suspect, Alexander David Crandall of Oronoco, was trying to take metal off of a power pole, said Behrns. "He was killed instantly."

Metal thefts from utility poles and television and radio towers have been ongoing issues in southeastern Minnesota, said Behrns. "The high cost of scrap metal is making this worth it for the people, but sometimes the results are deadly."

An area extending from southeastern Minnesota and northeastern Iowa to the Twin Cities of Minneapolis and St. Paul has seen increased illegal drug activity and a corresponding uptick in metal theft, Behrns added.

When arrests have been made, or evidence collected during autopsies, investigators have noted a common thread connecting many of the cases to the area's illegal drug trade.

"It can be summed up in one word—methamphetamine," said Behrns. "The majority of the scrap metal theft is done by people connected to the use, distribution or sale of meth."

Authorities have urged utilities, contractors and others to encourage the public, including consumer-members of electric cooperatives, to report any suspicious activity.

"This is part of our continuing electric safety education program," said Tyler Larsen, a member relations specialist a People's Energy Cooperative. The Oronoco-based co-op serves nearly 12,000 meters in Olmsted and five other counties in southern Minnesota.

"We tell our members to contact us or the authorities anytime they see suspicious activities at one of our substations or near our power lines," said Larsen. "If there is no co-op vehicle at the scene, it should be reported."

Authorities are trying to identify whether a second person was at the scene when the suspect was killed, but they declined to provide more details because the investigation is ongoing.

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USS Minnesota SSN 783

Commissioning Ceremony Sep. 7, 2013

Ellen Roughead, wife of Chief of Naval Operations (CNO) Adm. Gary Roughead, is the sponsor of the USS Minnesota and will officially activate the ship at the Norfolk Naval Station, Norfolk, VA.

On September 7, 2013 she will announce 'Man Our Ship, and Bring Her to Life!' At this time the 'Minnesota' will be an active ship in the United States Navy, taking her place in defense of our great country. The United States Ship (USS) designator will be given to her for the first time and she will be the most advanced warship in the United States Navy. Visit the commissioning homepage at: www.ussminnesota783.org/



Ships Sponsor Mrs. Ellen Roughead smashing the champagne bottle against the hull of SSN 783, formally christening this boat MINNESOTA on October 27, 2012



ARES Breakfast

Saturday August 10th
7:30AM
Perkins Restaurant
Savage, MN

NECOS Schedule August 2013

5 Aug	KC0YHH Tony
12 Aug	N0PI Dan
19 Aug	W0NFE Bob
26 Aug	KB0FH Bob
2 Sep	KC0YHH Tony
9 Sep	N0PI Dan
16 Sep	W0NFE Bob
23 Sep	KB0FH Bob
30 Sep	KC0YHH Tony