



ARASWF

Newsletter



Vol. MMXIV No. 4 - The Journal of the Amateur Radio Association of Southwest Florida
April 15, 2013

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The next Club Meeting will be held April 25th 2013 at 7:00pm
at the Red Cross - 2610 Northbrooke Plaza Drive Naples, FL

Nickels & Dimes

Summer is easing into southwest Florida early this year. Last weekend my wife and I rode our tandem bicycle in the 3rd annual Immokalee Ride for Literacy. When we finished our 32 mile trek it was approaching 93 degrees! This might be a good project for the club to consider next year. We could provide support communications for the ride organizers. Many amateur radio clubs provide SAG (support and gear) communications for bicycle and run events. Our growing D-Star network would be perfectly suited for these services, plus it would get us involved with the community.

Shifting gears (pun intended)... We have the Florida QSO Party coming up at the end of the month. Details can be found in this month's ARASWF Newsletter. Please mark your calendars and plan to visit the Red Cross for at least for a few hours to support the operators. This is a good warm up for Field Day, which of course is just around the corner. This traditionally is the biggest event of the year and we can use everyone's help to make this year the best. It's time for everyone to ask, "What can I do for my Club".

The Marbella project is nearing completion. We have an operating Internet connection at the site, thanks to Tim – KC4SSD and Jesse – KI4HEU and their expert team from Air Conditioning by Commercial. They invested many hours to pull about 500' of CAT cable through tight conduits and small closets to provide Internet access to the repeater room. Our Echolink node should be back up shortly without the need of the UHF link and our new D-Star AB4NP (146.370 MHz) repeater should follow.

Two repeater repeaters on Macro Island will be converted to D-Star within the next month or so, also we are working with Collier County EOC to find tower sites in Immokalee and Everglades City. Details and timing will roll out over the next few months.

Community Emergency Response Team (CERT) training was mentioned at the last meeting. Check out the link below to the North Naples Fire Department website where Jerry Sanford describes in detail the nature and involvement of area CERT teams.

There is a lot of activity behind the scenes and we are always looking for more people to get involved and lend a hand with the mechanical and electrical installations. Don't just sit back and read about it... jump in and get involved! That's the whole concept of special interest teams and activity groups. Absent leadership and membership involvement, they are another good idea.

See you at the Red Cross for the Florida QSO Party!

Ken-W9KB
ARASWF Treasurer

Monthly Bonus Links:

<http://www.northnaplesfire.com/cert/>

<http://www.immokaleerunsandrides.com/>

Amateur Radio Association of Southwest Florida

Regular Membership Meeting held at the Naples American Red Cross.
Tuesday, March 26th, 2013

Officers and
Directors Present: Uli Altvater, AGØX – President
Eric Gissendaner, KF4IXA – Vice President
Ken Bills, W9KB – Secretary/Treasurer
George Tomlinson, AA4GT – Director
Henrietta Horvay, KA1JVN – Director
Frank Halas, W4RBW – Director

Absent: Bill Krauss, N1MMQ – Past President
Gary Lee, K8YMN – Director

MEETING MINUTES

Meeting Called To Order: The President called the meeting to order at 7:00 pm with the Pledge of Allegiance. Thirty members and guests were in attendance.

Introductions: All attendees introduced themselves by name and call sign.

President's Opening Remarks: Uli-AGØX welcomed all the members and guests in attendance for their continuing support and their club participation.

Reading & Approval of Previous Minutes: Harry – KD4JMV moved that the meeting minutes be accepted dispensed since they were published previously in the February 2013 ARASWF Newsletter. Mark-AC4ZM supported the motion.

Treasurer's Report: Ken-W9KB reported that as of March 26th the club's bank balance was \$4,191.56. Expenses were \$100 (Club radio repair) and \$85 (repeater battery), collected dues were \$100.00.

Officers' Reports: W9KB reported that that at the previous VE session, two candidates successfully passed their Extra class upgrade, John Whiteman-KF5UEK and Denis Stevens-KK4NFR. Craig Berntsen (KK4QAA) passed his Technician's examination.

Old Business: Uli-AGØX reported on the improvement plan for the 146.670 repeater. The Internet cable has been installed a router will be installed latter this week. The returned duplexers will be installed shortly thereafter.

D-Star continues to grow; two repeaters (146.985 mHZ and 443.650 mHZ) on Macro Island will be converted with the addition of DVRPT external controller boards.

W9KB proposed a modification to the Field Day Raffle. First prize will be either an IC-80AD HT or \$400, a \$100 second prize and \$25 third prize were added. He suggested this should make tickets easier to sell to friends and family. The number of tickets was increased from 80 to 100 to cover the additional prizes. George-AA4GT moved to accept the proposal, Harry-KD4JMV seconded the proposal. The change passed unanimously.

Mark-AC4ZM reported on a successful meeting with Collier County EOC Director – Dan Summers, along with Ed-K1UQE, Uli-AG0X, and Ken-W9KB. Dan outlined what requirements the County has for Club members to help during emergencies. He proposed a Memorandum of Understanding between Collier County and ARASWF Inc. This will allow members who have completed their NIMS training (ICS-100, ICS-200, and ICS-700) to man the emergency shelters during either practice or real events situations. The group toured the radio room after the meeting and it was agreed to test the EOC VHF station (3/28/13) during a regular EmComm Net.

Community Emergency Response Training (CERT) will be offered through the North Naples Fire Department. Contact Jerry Sanford at ges@northnaplefire.com or phone 239-597-3222 for upcoming class information.

W9KB reported the MOU has been signed and returned to EOC Director's office.

New Business: Uli-AG0X further discussed an idea to promote amateur radio in the community through the introduction of a technical education program. This program could be offered through the school system. Uli – AG0X plans to have a luncheon meeting with Dan Summers to discuss this idea.

Proposed changes to the Club bylaws were previously discussed and included in last month's ARASWF Newsletter. The changes were discussed in brief and George-AA4GT made a motion to accept the changes, Frank-W4RBW seconded the motion. The bylaw changes were accepted by the membership unanimously. A final copy will be posted on the Club website.

Ken- W9KB discussed the upcoming Florida QSO Party which will be held at the red Cross the last weekend in April. A practice session will be held (4/16/13) to acquaint operators with the radio and logging operations. Additional details will be included in the Newsletter.

Presentation: Eric – KF4IXA gave a very good and informative presentation on D-Star technology and the many ways members can get involved on the air for little addition expense.

50/50 Raffle: \$79.00 - The winning funds were donated to the treasury.

Adjournment: George-AA4GT moved to adjourn at 8:55pm, it was seconded and carried.

Respectfully Submitted,
Ken Bills – W9KB
Secretary

Amateur Radio Association of Southwest Florida

Executive Board Meeting held at Trimax Wireless, Naples, Florida, on Tuesday, April 15, 2013.

Present: Uli Altvater, AG0X – President
Eric Gissendaner, KF4IXA – Vice President
Ken Bills, W9KB – Secretary/Treasurer
George Tomlinson, AA4GT – Director
Gary Lee, K8YMN – Director
Frank Halas, W4RBW – Director

Absent: Bill Krauss, N1MMQ – Past President
Henrietta Horvay, KA1JVN – Director

MEETING MINUTES

Meeting called to order: The meeting was called to order at 1:32 pm.

President's Report – Uli-AG0X dispensed with a formal report and welcomed everyone this afternoon.

Treasurer's Report – Ken-W9KB provided a current treasurer's report commencing April 1st with a bank balance of \$4,285.56. No expenses were incurred this month; \$25.00 in dues were collected and \$240 in Field Day Raffle sales were deposited, leaving a present checking account balance of \$4,550.56.

Old Business: Uli-AG0X gave a brief wrap-up of the improvement project for the 146.670 FM repeater located at the Marbella in Pelican Bay. The Internet is working at the repeater site, however, some port forwarding must be made to accommodate Echolink and D-Star. The retuned duplexers will be installed within a week. Hopefully, all systems will be operational within the next few weeks.

Two Macro Island Radio Club (MIRC) repeaters will be converted to D-Star within the next few weeks depending upon schedules; they will continue to operate with the same coordinated call sign and frequency splits as before (K5MI – 146.985 mHZ & K5MI – 443.650 mHZ)

Ken-W9KB reported that 25% of the Field Day Raffle tickets have been sold and encouraged the Board to promote sales with friends and family.

New Business: Ken-W9KB discussed the upcoming Florida QSO Party which will be held at the Red Cross facility on April 27 & 28th. A planning and practice session will be Tuesday April 16th at the Red Cross to acquaint new operators with the equipment and logging procedures. He encouraged the Board to visit the Red Cross over the QSP weekend and make a few contacts.

The 2013 Field Day event was discussed. It will be held at Veteran's Park again this year. Frank-W4RBW has secured the location and we will have the same shelter facility as last year. Operations were discussed and more attention on food and family involvement will be planned for this year.

Ken-W9KB reported that expenses should be minimal and proposed a budget of \$300. It was seconded by Frank-W4RBW and passed without dissent.

The Board discussed the Naples Information Net operation over the upcoming summer months. Activity has been traditionally low during this timeframe, so a temporary net suspension was discussed. Frank-W4RBW moved to suspend the net between May 1st and October 1st, George-AA4GT seconded the motion. The motion passed unanimously.

Eric-KF4IXA will work on a schedule of Net Control Operators for the fall season.

The agenda for the next GM membership meeting was set for 7:00 April 25th.

The next VE testing date was set for 5:30pm April 25th.

Specific assignments that were taken out of the meeting:

- W9KB – Follow-up with Webmaster and provide new repeater information
- KF4IXA – Develop a Naples Information Net Control Operator Schedule

Next Board Meeting – Trimax Wireless, Monday May 15th @ 1:30 pm

Adjournment: Gary-K8YMN moved to adjourn the meeting, Frank-W4RBW seconded the motion. The meeting was adjourned at 2:35 pm.

Respectfully submitted,
Ken Bills, W9KB
Secretary

Upcoming Contest Calendar

April 2013

Holyland DX Contest	2100Z, Apr 19 to 2100Z, Apr 20
TARA Skirmish Digital Prefix Contest	0000Z-2359Z, Apr 20
+ ES Open HF Championship	0500Z-0859Z, Apr 20
CQ Manchester Mineira DX Contest	1200Z, Apr 20 to 2359Z, Apr 21
+ EU Spring Sprint, SSB	1600Z-1959Z, Apr 20
Michigan QSO Party	1600Z, Apr 20 to 0400Z, Apr 21
+ Ontario QSO Party	1800Z, Apr 20 to 1800Z, Apr 21
YU DX Contest	2100Z, Apr 20 to 1700Z, Apr 21
+ Run for the Bacon QRP Contest	0100Z-0300Z, Apr 22
SKCC Sprint	0000Z-0200Z, Apr 24
+ CWops Mini-CWT Test	1300Z, Apr 24 to 0400Z, Apr 25
10-10 Int. Spring Contest, Digital	0001Z, Apr 27 to 2359Z, Apr 28
+ SP DX RTTY Contest	1200Z, Apr 27 to 1200Z, Apr 28
Helvetia Contest	1300Z, Apr 27 to 1259Z, Apr 28
+ QRP to the Field	1500Z, Apr 27 to 0300Z, Apr 28
Florida QSO Party	1600Z, Apr 27 to 2159Z, Apr 28

May 2013

AGCW QRP/QRP Party	1300Z-1900Z, May 1
+ Araucaria VHF Contest	0000Z, May 4 to 1600Z, May 5
10-10 Int. Spring Contest, CW	0001Z, May 4 to 2359Z, May 5
+ ARI International DX Contest	1200Z, May 4 to 1159Z, May 5
7th Call Area QSO Party	1300Z, May 4 to 0700Z, May 5
+ Indiana QSO Party	1600Z, May 4 to 0400Z, May 5
New England QSO Party	2000Z, May 4 to 2400Z, May 5
+ CWops Mini-CWT Test	1300Z, May 8 to 0400Z, May 9
EUCW Fraternizing CW QSO Party	1000Z, May 11 to 2000Z, May 12
+ SKCC Weekend Sprintathon	1200Z, May 11 to 2359Z, May 12
CQ-M International DX Contest	1200Z, May 11 to 1159Z, May 12
+ VOLTA WW RTTY Contest	1200Z, May 11 to 1200Z, May 12
FISTS Spring Sprint	1700Z-2100Z, May 11
+ His Maj. King of Spain Contest, CW	1200Z, May 18 to 1200Z, May 19
Baltic Contest	2100Z, May 18 to 0200Z, May 19



The Florida QSO Party

Florida QSO Party 2013 - April 27 & 28

We're having a party, and you're invited! Be sure to mark your calendar and join us in having fun operating the next Florida QSO Party. We will operate 3 stations this year at the Red Cross location. Visit the website for rules, results, records, and more information:

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

Since the re-introduction of the Florida QSO Party to the contest scene in 1998, the Florida QSO Party has become one of the fastest growing and most popular State QSO Parties around today. This is due, in part, to the tremendous effort by the mobile teams to activate as many counties as they can in order to allow those participating from out-of-state, to achieve a county "Sweep" (working all 67 Florida Counties). Florida stations operating from home are also valuable, since that increases the chances that stations will work all counties!

Regardless if you are a serious or casual participant ... from Florida, or from outside of Florida ... the Florida QSO Party was designed to be a FUN operating event. Why not give it a try?

A reminder for Home stations (both in and outside Florida), please do not call CQ or "run" stations in the "Mobile window". This window is for mobile stations only. Frequencies to avoid, are:

CW 7.025-7.035, 14.040-14.050, 21.040-21.050, 28.040-28.050 MHZ

SSB 7.180-7.190, 14.265-14.275, 21.340-21.350, 28.480-28.490 MHZ

+ **FCC News:** FCC Seeks to Reassess RF Exposure Limits



On March 27, the FCC released a **First Report and Order, Further Notice of Proposed Rulemaking** and a **Notice of Inquiry** (ET Docket Nos. 13-84 and 03-137). The documents seek to reassess the FCC's RF exposure limits and policies, as well as to propose changes to the FCC's rules regarding human exposure to RF electromagnetic fields. These proposed changes would affect the Amateur Radio Service (Part 97) rules.

In its **Notice of Inquiry**, the FCC included clarifications related to the application of occupational exposure limits for devices and at fixed transmitter sites. The FCC noted that it "should be helpful to licensees to codify our earlier adopted policy with regard the use of occupational/controlled limits at Amateur Radio stations." This policy

was first established in the **RF Report and Order of 1996**, but it was not incorporated in the rules at that time. It allows amateur stations to be evaluated "with respect to occupational/controlled exposure limits, as long as appropriate training and information has been provided to the amateur licensee and members of his or her immediate household. Other nearby persons who are not members of the amateur licensee's household must be evaluated with respect to the general population/uncontrolled exposure limits."

"The ARRL has an RF Safety Committee, consisting of experts in the field," explained ARRL Chief Executive Officer David Sumner, K1ZZ; "The committee members, as well as Board members and staff are reviewing the lengthy document and will formulate a response."

Comments will be accepted until 90 days after the R&O, FNPRM and Notice of Inquiry are published in the Federal Register (this can take up to six weeks after its release by the FCC). Reply comments will be accepted until 150 days after publication in the Federal Register.

+ **On the Air:** World Radiosport Team Championship 2014 Organizers Solicit Volunteers for Station Test



The WRTC 2014 Organizing Committee will be conducting a capability and training test for the World Radiosport Team Championship stations and volunteers during the 2013 running of the IARU HF Championship, July 13-14. According to WRTC 2014 Co-Chairman Randy Thompson, K5ZD, the organizing committee is looking for local hams and volunteers willing to visit New England during the contest to assist with station setup and operation; preference will be given to those

volunteers who intend to return and assist with the 2014 event. Thompson said the committee is looking to set up and operate up to 30 stations during for the final station test before the WRTC 2014 competition in July 2014.

The goals of the 2013 Station Test are:

- Expand the pool of experienced teams for station setup.
- Evaluate proposed site locations for radio quietness and equality.
- Confirm logistics and procedures to set up and tear down a large number of stations.
- Gather log data under competition conditions to share with WRTC 2014 competitors.

A WRTC 2014 press release stated that station equipment will be staged at two locations -- a north site and a south site -- "in order to efficiently supply WRTC sites located across over 60 miles of territory in Central Massachusetts. Volunteers will be divided into Beam Teams and Site Teams. The Beam Teams have the job of setting up the stations ahead of the event and taking them down afterward. The Site Teams are responsible for managing the generator and site security."

Thompson said that the WRTC 2014 organizers are also looking for 10-15 operating teams that would be willing to compete on site in the IARU HF Championship using the WRTC 2014 equipment configuration and scoring rules in order to provide log and propagation information for the WRTC 2014 competitors. "This is a chance to have the WRTC operating experience for those who will not qualify to participate as competitors," he explained. "Operating teams will be responsible for supplying their own radios and accessories per the WRTC 2014 rules."

If you are interested in helping with the WRTC 2013 Station Test, please contact Tom Frenaye, K1KI Operating Teams/Site Teams) or Mark Pride, K1RX (Beam Teams) as soon as possible.

The World Radiosport Team Championship (WRTC) is held every four years in July during the IARU HF Championship. WRTC consists of approximately 50 two-person teams of Amateur Radio operators from around the world, competing in a test of operating skill. Unlike most on-air competitions, all stations operate from the same geographic region and are required to use identical antennas, eliminating all variables except operating ability. Previous WRTCs have been held in Seattle (1990), San Francisco (1996), Slovenia (2000), Finland (2002), Brazil (2006) and Russia (2010).

This looks like an interesting opportunity (editor).

What the Numbers Mean, and Propagation Predictions

a brief introduction to propagation and the major factors affecting it

By Carl Luetzelschwab, K9LA

The sun emits electromagnetic radiation and matter as a consequence of the nuclear fusion process. Electromagnetic radiation at wavelengths of 100 to 1000 Angstroms (ultraviolet) ionizes the F region, radiation at 10 to 100 Angstroms (soft X-rays) ionizes the E region, and radiation at 1 to 10 Angstroms (hard X-rays) ionizes the D region. Solar matter (which includes charged particles--electrons and protons) is ejected from the sun on a regular basis, and this comprises the solar wind. On a "quiet" solar day the speed of this solar wind heading toward Earth averages about 400 km per second.

The sun's solar wind significantly impacts Earth's magnetic field. Instead of being a simple bar magnet, Earth's magnetic field is compressed by the solar wind on the side facing the sun and is stretched out on the side away from the sun (the magnetotail, which extends tens of earth radii downwind). While the sun's electromagnetic radiation can impact the entire ionosphere that is in daylight, charged particles ejected by the sun are guided into the ionosphere along magnetic field lines and thus can only impact high latitudes where the magnetic field lines go into the Earth.

Additionally, when electromagnetic radiation from the sun strips an electron off a neutral constituent in the atmosphere, the resulting electron can spiral along a magnetic field line (it spirals around the magnetic field line at the electron gyrofrequency). Thus Earth's magnetic field plays an important and critical role in propagation.

Variations in Earth's magnetic field are measured by magnetometers. There are two measurements readily available from magnetometer data--the daily A index and the three-hour K index. The A index is an average of the eight 3-hour K indices, and uses a linear scale and goes from 0 (quiet) to 400 (severe storm). The K index uses a quasi-logarithmic scale (which essentially is a compressed version of the A index) and goes from 0 to 9 (with 0 being quiet and 9 being severe storm). Generally an A index at or below 15 or a K index at or below 3 is best for propagation.

Sunspots are areas on the sun associated with ultraviolet radiation. Thus they are tied to ionization of the F region. The daily sunspot number, when plotted over a month time frame, is very spiky. Averaging the daily sunspot numbers over a month results in the monthly average sunspot number, but it is also rather spiky when plotted. Thus a more averaged, or smoothed, measurement is needed to measure solar cycles. This is the smoothed sunspot number (SSN). The SSN is calculated using six months of data before and six months of data after the desired month, plus the data for the desired month. Because of this amount of smoothing, the official SSN is one-half year behind the current month. Unfortunately this amount of smoothing may mask any short-term unusual solar activity that may enhance propagation.

Sunspots come and go in an approximate 11-year cycle. The rise to maximum (4 to 5 years) is usually faster than the descent to minimum (6 to 7 years). At and near the maximum of a solar cycle, the increased number of sunspots causes more ultraviolet radiation to impinge on the atmosphere. This results in significantly more F region ionization, allowing the ionosphere to refract higher frequencies (15, 12, 10, and even 6 meters) back to Earth for DX contacts. At and near the minimum between solar cycles, the number of sunspots is so low that higher frequencies go through the ionosphere into space. Commensurate with solar minimum, though,

is less absorption and a more stable ionosphere, resulting in the best propagation on the lower frequencies (160 and 80 meters). Thus, in general, high SSNs are best for high-frequency propagation, and low SSNs are best for low-frequency propagation.

Most of the disturbances to propagation come from solar flares and coronal mass ejections (CMEs). The solar flares that affect propagation are called X-ray flares due to their wavelength being in the 1 to 8 Angstrom range. X-ray flares are classified as C (the smallest), M (medium size), and X (the biggest). Class C flares usually have minimal impact to propagation. Class M and X flares can have a progressively adverse impact to propagation.

The electromagnetic radiation from a class X flare in the 1 to 8 Angstrom range can cause the loss of all propagation on the sunlit side of Earth due to increased D region absorption. Additionally, big class X flares can emit very energetic protons that are guided into the polar cap by Earth's magnetic field. This can result in a polar cap absorption event (PCA), with high D-region absorption on paths passing through the polar areas of Earth.

A CME is an explosive ejection of a large amount of solar matter, and can cause the average solar wind speed to take a dramatic jump upward--kind of like a shock wave heading toward Earth. If the polarity of the sun's magnetic field is southward when the shock wave hits Earth's magnetic field, the shock wave couples into Earth's magnetic field and can cause large variations in Earth's magnetic field. This is seen as an increase in the A and K indices.

In addition to auroral activity, these variations to the magnetic field can cause those electrons spiraling around magnetic field lines to be lost into the *magnetotail*. With electrons gone, maximum usable frequencies (MUFs) decrease, and return only after the magnetic field returns to normal and the process of ionization replenishes lost electrons. Most of the time, elevated A and K indices reduce MUFs, but occasionally MUFs at low latitudes may increase (due to a complicated process) when the A and K indices are elevated.

Solar flares and CMEs are related, but they can happen together or separately. Scientists are still trying to understand the relationship between them. One thing is certain, though--the electromagnetic radiation from a big flare traveling at the speed of light can cause short-term radio blackouts on the sunlit side of Earth within about 10 minutes of eruption. Unfortunately we detect the flare visually at the same time as the radio blackout, since both the visible light from the flare and the electromagnetic radiation in the 1 to 10 Angstrom range from the flare travel at the speed of light--in other words, we have no warning. On the other hand, the energetic particles ejected from a flare can take up to several hours to reach Earth, and the shock wave from a CME can take up to several days to reach Earth, thus giving us some warning of their impending disruptions.

Each day the Space Environment Center (a part of NOAA, the National Oceanographic and Atmospheric Administration) and the US Air Force jointly put out a Solar and Geophysical Activity Report. The current and archived reports are on the Near-Earth Data Online at [SEC page](#) in the "Daily or less" section in the "Solar and Geophysical Activity Report and 3-day Forecast" row. Each daily report consists of six parts.

Part IA gives an analysis of solar activity, including flares and CMEs. Part IB gives a forecast of solar activity. Part IIA gives a summary of geophysical activity. Part IIB gives a forecast of geophysical activity. Part III gives probabilities of flare and CME events. These first three parts can be summarized as follows: normal propagation (no disturbances) generally occurs when no X-ray flares higher than class C are reported or forecasted, along with solar wind speeds due to CMEs near the average of 400km/sec.

Part IV gives observed and predicted 10.7-cm solar flux. A comment about the daily solar flux--it has little to do with what the ionosphere is doing on that day. This will be explained later.

Part V gives observed and predicted A indices. Part VI gives geomagnetic activity probabilities. These last two parts can be summarized as follows: good propagation generally occurs when the forecast for the daily A index is at or below 15 (this corresponds to a K index of 3 or below).

WWV at 18 minutes past the hour every hour and WWVH at 45 minutes past the hour every hour put out a shortened version of this report. A new format began March 12, 2002. The new format gives the previous day's 10.7-cm solar flux, the previous day's mid-latitude A index, and the current mid-latitude three-hour K index. A general indicator of space weather for the last 24 hours and next 24 hours is given next. This is followed by detailed information for the three disturbances that impact space weather: geomagnetic storms (caused by gusts in the solar wind speed), solar radiation storms (the numbers of energetic particles increase), and radio blackouts (caused by X-ray emissions). For detailed descriptions of the WWV/WWVH messages, visit www.sec.noaa.gov/Data/info/WWVdoc.html and www.sec.noaa.gov/NOAAscales/.

Normal propagation (no disturbances) is expected when the space weather indicator is minor. A comment is appropriate here. Both the Solar and Geophysical Activity Report and WWV/WWVH give a status of general solar activity. This is *not* a status of the 11-year sunspot cycle, but rather a status on solar disturbances (flares, particles, and CMEs). For example, if the solar activity is reported as low or minor, that doesn't mean we're at the bottom of the solar cycle; it means the sun has not produced any major space weather disturbances.

In order to predict propagation, much effort was put into finding a correlation between sunspots and the state of the ionosphere. The best correlation turned out to be between SSN and monthly median ionospheric parameters. This is the correlation that our propagation prediction programs are based on, which means the outputs (usually MUF and signal strength) are values with probabilities over a month time frame tied to them. They are not absolutes; they are statistical in nature. Understanding this is a key to the proper use of propagation predictions.

Sunspots are a subjective measurement. They are counted visually. It would be nice to have a more objective measurement, one that actually measures the sun's output. The 10.7-cm solar flux has become this measurement. But it is only a general measure of the activity of the sun, since a wavelength of 10.7-cm is way too low in energy to cause any ionization. Thus 10.7 cm solar flux has nothing to do with the formation of the ionosphere. The best correlation between 10.7-cm solar flux and sunspots is the smoothed 10.7-cm solar flux and the smoothed sunspot number--the correlation between daily values, or even monthly average values, is not very acceptable.

Since our propagation prediction programs were set up based on a correlation between SSN and monthly median ionospheric parameters, the use of SSN or the equivalent smoothed 10.7-cm solar flux gives the best results. Using the daily 10.7-cm solar flux--or even the daily sunspot number--can introduce a sizable error into the propagation predictions outputs due to the fact that the ionosphere does not react to the small daily variations of the sun. Even averaging 10.7-cm solar flux over a week's time frame can contribute to erroneous predictions. To reiterate, for best results use SSN or smoothed 10.7-cm solar flux, and understand the concept of monthly median values.

For short-term predictions, the use of the effective SSN (SSNe) may be helpful. In this method, an appropriate SSN is input to the propagation prediction software to force it to agree with daily ionosonde measurements. Details of this method can be found at

<http://www.nwra.com/spawx/ssne24.html>



Immokalee Ride for Literacy



W9KB & XYL



SAG Team (No radio onboard)

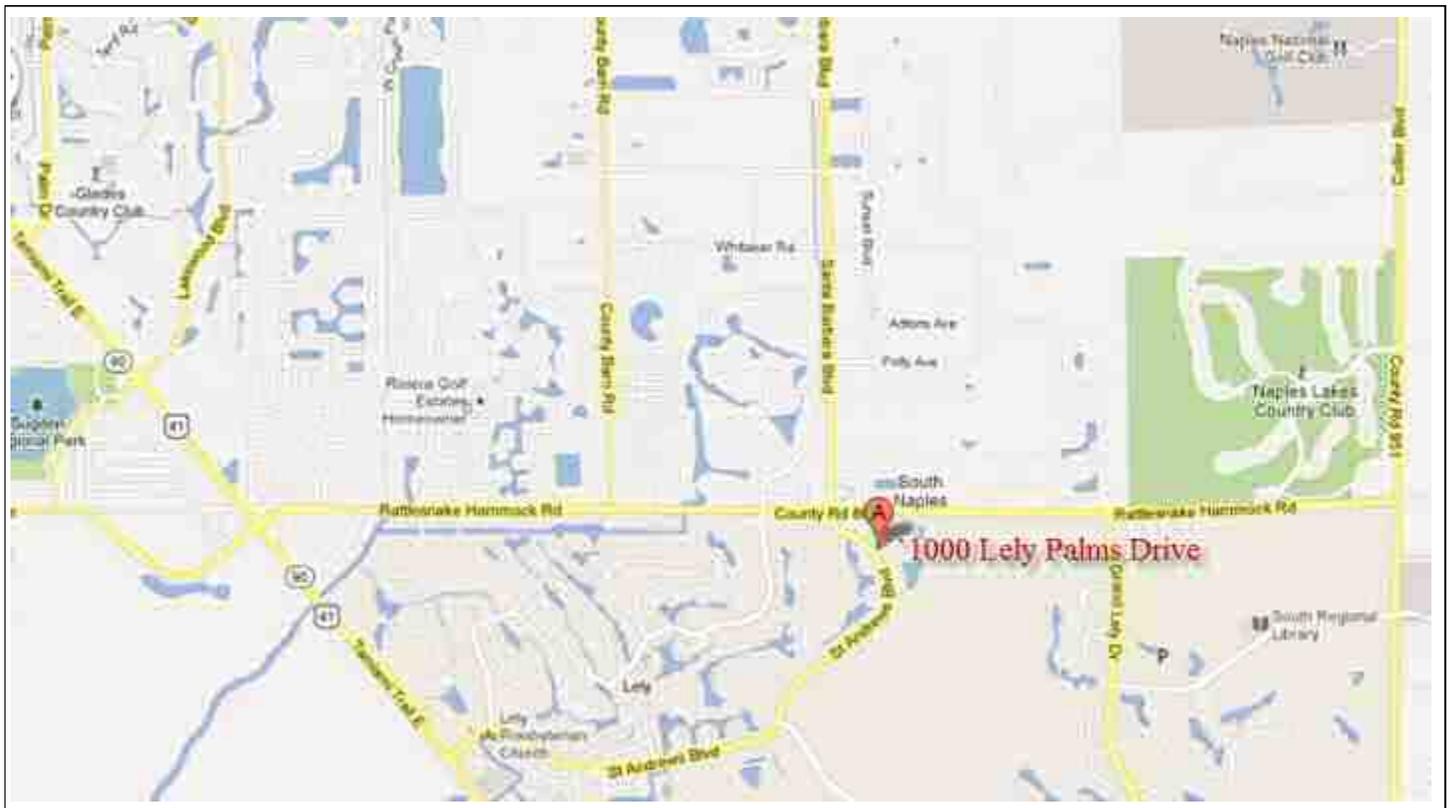


Lely Palms Chapter 152 meets every second Thursday of the month

at the Lely Palms Manor, Next Luncheon Meeting: May 9th 12:30pm

1000 Lely Palms Blvd.

Naples, FL 34114



Club Information

Next Meeting Time: April 25th @ 7:00PM

Meeting Location:
American Red Cross
2610 Northbrooke Plaza Drive
Naples, FL

Club Repeaters:

- ARASWF FM - WB2QLP 146.670 mHz (-600 kHz) PL 136.5 Hz
- ARASWF D-Star – AA4PP 145.490 mHz (-600 kHz)/441.5 mHz (5.0kHz)
- Collier EOC – WB2WPA 147.030 mHz (+600 kHz)

Club Officers:

President: Uli Altvater – AG0X@araswf.org
Vice President: Eric Gissendaner – KF4IXA@araswf.org
Secretary/Treasurer: Ken Bills – W9KB@araswf.org
Director: George Tomlinson – AA4GT@araswf.org
Director: Gary Lee – K8YMN@araswf.org
Director: Henrietta Horvay – KA1JVN@araswf.org
Director: Frank Halas – W4RBW@araswf.org
Past President: Bill Krauss – N1MMQ@araswf.org
Newsletter Editor: Ken Bills – W9KB@araswf.org
Webmaster: Bob Graf – W2HI@araswf.org

Club Website:

<http://www.araswf.org>



Visit the  **Amateur Radio Association
of Southwest Florida, Inc.**

Web Site

www.araswf.org