



THE COMMUNICATOR



Mailing Address: P. O. Box 976, Nokomis, FL 34274

W4AC Repeaters: 444.100 MHz (DMR) & 146.805 MHz (-) (PL100Analog)

Incorporated 1984

<http://www.tamiamiarc.org>

April, 2019

In this issue:

- President's Message:** 1
- Meeting Notice:**1
- Meeting Minutes:** 2
- Minutes & Tent:** 3
- DX Jack's Page:** 4
- Shark's Tooth 10 K:** . 5-6
- Flagpole:** 6
- OP OPS:** 7
- Project Icarus:** 8-9
- 5 K + StiffRadio:** ...10
- Club Calendar:** ... 11
- Membership Application:** . 12

President's message.....KB1HIP

Several members of the club participated in monitoring the Shark's Tooth 10K race on Saturday, March 2, and the Sharkfin 5K race on Sunday, March 3. Our operators used their digital handheld radios on our Englewood UHF repeater using the Local 9 channel. Everything went smoothly on both races, and the event organizers thanked TARC for its professional assistance during the races. Thanks to Frank Wroblewski, W2XYZ, and Steve Phillips, WA1ZKN, for coordinating these two events, and to all the operators that participated.

As we go to press for this newsletter we have just completed the general class course held at the Coast Guard Auxiliary building. We had a total of twelve students attending. It's interesting to note that we had students from Arcadia, Englewood and Sarasota in addition to Venice.

Our next event will be the Florida State Parks on the Air which will take place on April 6 and 7. We plan to set up operation at the Oscar Scherer State Park in Nokomis. Final plans are being made as of this writing. Please contact me if you want to participate/operate.


We will have an exhibit again this year at the Shark's Tooth Festival which will take place on April 12 to April 13 at the Airport Festival Grounds. We have approval again this year to use the K4S call sign thanks to the work of Jack Sproat, W4JS.

We will be setting up two stations. One station will be using the club's ICOM 756 Transceiver, an Ameritron ALS 600 amplifier (500watts) and a Mosely two element tri-band beam antenna. The second station will be using the club's second ICOM 756 transceiver, an Ameritron ALS 600 and a long wire antenna. If you have not signed up yet, we need help to put up and take down the tent and antennas, and operators to run the two K4S stations during the three day event. Please contact me to sign up for this event.

Al Culbert, K0AL, is organizing our third event this month, the Florida QSO party, which will take place on April 27 and April 28. Al has volunteered the use of his station for this operation. We will discuss the details of this event at the next club meeting which will be held on April 10.

I hope everyone has an enjoyable April. **VY 73 to All de Andy-KB1HIP**

Next Month
Shark's Tooth TARC station report



Next meeting April 10, 2019
 Our meeting will start at **7:00 PM** on Wednesday, **10 April, 2019** at the Coast Guard Auxiliary Training Center, 1200 South Harbor Drive.

TAMIAMI AMATEUR RADIO CLUB *Minutes of the 03/13/19 Meeting*

The meeting was called to order at 7:00 PM by President Andy Durette, KB1HIP. The pledge to the flag followed. Introductions were made by name and call sign.

MINUTES: President Durette requested a motion to accept the minutes of the February 13, 2019 meeting as published in the Communicator. Motion was made, seconded and approved.

CORRESPONDENCE: None

TREASURER'S REPORT: Treasurer Frank Wroblewski, W2XYZ, reported an ending balance of \$6,561.04 as of February 28, 2019. The Treasurer's report was approved by the membership.

SUNSHINE: N/A

VE TESTING: Steve Phillips, WA1ZKN, reported that three candidates presented. Two successfully upgraded to Extra (including TARC member Tom Zirolli, KN4RKF). One, now a new ham, passed the Technician test. This new ham is working with Elmer volunteer Jerry Spears, W9PB.

LIAISON TO QCWA: QCWA meeting was held at Denny's Restaurant on Bee Ridge Road, Sarasota, FL at 11:00 AM, March 4, 2019. There were 25 members, spouses and guests present. The program was "Human Memory vs. Computer Memory" by Hans Napfel, WB2ZZB.

REPEATER / TECHNICAL: Frank Wroblewski, W2XYZ, reported that both the digital and analog repeaters were working well. The frequency for digital operations is 444.10 MHz, Talk Group TAC 311. The club 2 Meter analog repeater is 146.805 MHz (-) PL 100. The digital net opens Tuesday at 7:30 PM. The 2 Meter net opens Thursday at 7:30 PM. The 10 meter net on frequency 28.450 MHz, upper side band, begins immediately after the conclusion of the 2 Meter net. Steve Phillips, WA1ZKN, is net control. This 10 Meter frequency was chosen so Novice/Technician licensees could participate. About 10-12 members on average have participated in each net this month.

MEMBERSHIP: Chet Fennell, KG4IYS, reports that there are 71 Regular members, 28 first year members, 7 Life members and 1 comp member, for a total of 107.

OLD BUSINESS:

1. Tom Porada, W4IEE advised a last call for QSL cards for the back panel of the new tent. Tom volunteered to help club members create a QSL card if necessary.
2. Frank Wroblewski, W2XYZ, reported that radio support for the Shark Tooth 10K road race was accomplished professionally and smoothly by TARC volunteers. The digital radios used frequency Englewood Channel 1, Local 9 Repeater. All reporting stations were loud and clear. Frank reported that the event went well. The same frequency was used for the Shark Fin 5K road race the next day. Steve Phillips, WA1ZKN, in charge of radio support for the 5K Shark Fin race, reported that the event went smoothly and that all reporting stations performed admirably. The event organizers thanked TARC for its professional assistance during the races.
3. Ongoing General Class Course: Paul Nienaber, KN4BAR, reported that 13 students signed up for the course, but 12 showed up for the course sessions. The course is ongoing.
4. Reorganization of Emergency Amateur Radio Support at Sarasota. Paul Nienaber, KN4BAR, advised that a formal ARES organization is in the process of organizational creation. The web site for hams wishing to volunteer for Sarasota ARES is: www.srgares.org. This website provides links on how to get started and join. Training requirements are also listed.

NEW BUSINESS: 1. Contribution to USCG Auxiliary. President Durette, KB1HIP, noted that our club used the USCGA classroom for monthly meetings and for ham training classes, **Continued >>>**

Minutes, con't

and that use occasioned some wear and tear on the room. He asked the Club for a motion to donate \$100.00 per month for the months of March and April to help support ongoing building maintenance. The motion was moved by Guenther Henning, AJ4QX, seconded by Paul Nienaber, KN4BAR, and unanimously approved.

2. Shark Tooth Festival, 4/12, 4/13, 4/14. President Durette, KB4HIP, discussed the coming festival and passed out signup sheets for festival operations. He advised that the festival call sign would be K4S and that two HF stations and a CW station would be in operation. He encouraged new Technician license hams to come and enjoy operating a well set up stations. "We'll train you to operate," he said. "You'll have great fun and learn a lot about operating a station." Volunteers should contact Andy soon (af_durette@hotmail.com) to get on the festival operation list.
3. Florida State Parks on the Air, Saturday 4/6 and Sunday, 4/7. Florida State Parks will be open during normal business hours for this event. The two closest State Parks are Oscar Sheerer and Myakka State Park. Members participating in this event in previous years report that they had a great time and made a lot of contacts.
4. The Florida QSO Party is scheduled for Saturday, April 27 and Sunday, April 28. Al Culbert, K0AL, has agreed to hold the Florida QSO party at his radio shack. There will be a sign up sheet passed around at the next meeting for participation. Technician class members should plan to participate, as working this station provides lively training and sound instruction by experienced operators.
5. An inventory of Club property is ongoing. A completed inventory will be reviewed by the Board of Directors at the March 29th meeting. If the Board approves, the inventory will be published in the members section on the club web site.
6. Reminder: The Board of Directors meeting will be held on March 29th, 1:00 PM at the Jacaranda Library.

ADJOURNMENT: The meeting adjourned at 7:37 PM. There were 37 members and visitors present. The 50-50 winner was Stan Robinson, W9SMR, who won \$26.00.

PROGRAM: Hans Napfel, WB2ZZB, presented a well received program on human memory vs. computer memory.

Tent back artwork set for second tent

Tom Porada, W4IEE, has prepared the artwork for the back of the TARC second tent. Purchase of an additional tent was approved by the members a few months ago. Tom solicited QSL cards for the new back wall. For those who didn't have a card already printed, he designed one for them - including a card to honor SK N4MXQ. The new tent should arrive in time for the Shark's Tooth Festival. Thanks, Tom for all your hard work.

The artwork for the back of the TARC second tent features a central image of a sunset over a body of water in Venice, Florida, with a sailboat and palm trees. The call sign **W4AC** is prominently displayed in the center. Above the image, the text **Amateur Radio** is written in a large, bold font. Below the image, the text **Emergency communications When all else fails** is written. The artwork is flanked by two vertical columns of call signs and logos, including KE0DD, KB1HIP, ALG1, W1XXV, KW4IT, K13527, K4G4, KJ4ND0, W9PB, and K4BU. At the bottom left is the logo for the Amateur Radio Emergency Service (ARES) and at the bottom right is the logo for the Florida State Parks on the Air program.

DX Jack's page....

..... By Jack Sproat, W4JS

MAJOR CURRENT/UPCOMING DX ACTIVITY & PROPAGATION HIGHLIGHTS



CURRENT and/or SCHEDULED DX ACTIVITY

COUNTRY – CALL SIGN	ACTIVITY PERIOD	BEARING	HF BANDS and OPENING TIMES (UTC)							
			80	40	30	20	17	15	12	10
Senegal – 6W/IV3FSG, CW & FT8	Now to 14 April	87	00-07	21-10	20-11	10-02	14-23	15-22	17-21	NO
Guinea Bissau – J52EC by IZ3BUR	Now to 15 April	90	00-08	21-10	20-11	10-04	11-23	12-22	16-22	18-21
Belize – V31RF by K8NDS	Now to 19 April	211	--	00-24	--	16-01	--	--	--	--
French Guiana – TO2BC by DL7BC, ++	Now to 22 April	123	--	21-13	00-24	11-08	13-06	16-01	15-23	16-18
Niue – E6AF by SP9FIH, SSB, Digital	Now to 25 April	252	07-08	03-13	02-14	00-14	16-03	17-03	--	--
South Sudan – Z81D by Y11DZ, FT8 & SSB	Now to 10 June	74	NO	00-05	22-06	19-02	12-01	15-00	16-19	NO
Maldives – 8Q7DM by SP3DX, SSB & FT8	01 to 07 April	41/221	--	--	--	20-22	13-17	0200	0200	NO
Norfolk Is – VK9NI by 4-op team, all modes	01 to 14 April	250	NO	05-13	04-15	02-15	19-03	--	--	--
Gambia – C5DL by 6-op team, all modes	01 to 15 April	88	00-08	21-10	19-12	10-02	14-23	15-22	17-21	NO
St. Kitts & Nevis – V47JA by W5JON	01 to 22 April	114	22-12	00-24	00-24	11-02	13-01	17-00	20-23	NO
So, Cook Is - E51AUZ & E51NPQ holiday stl	02 to 11 April	246	05-08	03-13	00-13	22-13	16-03	17-03	17-02	18-02
Liechtenstein – HB0/PA2RDX and friends	06 to 13 April	46	00-07	22-09	19-12	11-23	13-21	19-20	NO	NO
Burkina Faso – XT2AW by DF2WO, all mod	07 to 26 April	83	02-05	22-09	21-10	10-01	12-22	13-21	19-20	NO
Mark Reef - OJ0W by OH3WS, **	13 to 14 April	31	00-06	22-10	20-02	12-22	16-20	NO	NO	NO
Ghana – 9G5GS by IZ4YGS, FT8	13 to 20 April	88	03-05	22-08	21-10	17-04	--	--	--	--
Djibouti – J20DX/p by 2-op team	14 to 20 April	61/241	NO	00-04	21-05	18-03	13-00	14-20	15-19	NO
Iceland – TF/EB3GCP, mostly FT8	14 to 22 April	28	01-09	21-11	19-02	12-00	NO	NO	NO	NO
Somalia – 6O100 by EP3CQ, mostly FT8	15 Apr – 15 May	66	NO	00-04	22-05	19-01	12-00	13-00	19-21	NO
American Samoa – KH8/OZ0J, KH8/OZ1RH	16 to 22 April	256	07-08	03-13	02-14	00-14	16-03	17-03	--	--
East Kiribati – T32AZ by KH6QJ	16 to 23 April	267	05-10	03-13	--	15-13	--	17-02	--	20-01
Burkina Faso – XT2MAX by DK1MAX, **	17 to 25 April	83	02-05	22-08	21-10	10-04	12-22	13-21	18-21	NO
Kosovo – Z66Z by 2-op team, all modes	18 to 22 April	46/226	01-05	22-08	20-06	11-22	12-21	14-16	NO	NO
So. Cook Is – E51DLD by W6HB, holiday stl	21 to 28 April	246	06-07	03-13	00-13	23-13	16-03	17-03	17-02	17-02
French Polynesia – FO/KE1B, mainly 20m	21 Apr – 03 May	243	04-10	02-13	00-15	15-12	16-03	16-03	17-02	23-02
Vietnam – XV9XX by JL8AQH, **	27 Apr – 04 May	348	--	NO	NO	13-15	23-00	--	--	--
Reunion Is – TO19A by 7-op team	27 Apr – 08 May	91	NO	00-03	22-05	1300	12-18	14-17	15-16	NO
Jersey – GJ6EFW by 8-op team, all modes	30 Apr – 05 May	46	00-08	21-11	19-02	11-00	13-22	2000	NO	NO

Prepared 27 March based on 25 March *The Weekly DX*, <https://dx-world.net/> and <http://www.ng3k.com>

Notes: Times shown are generally for 60% or better opening probability; ??? = Call Sign not yet known; ++ = Mostly SSB; ** = Mostly CW; NO = No Opening forecast. Long Path bearings and opening times are underlined. Propagation forecasts are calculated using W6ELProp propagation software and VOACAP <http://www.voacap.com/hf/>.

-- MARCH SOLAR ACTIVITY --

Through 28 March, the 10.7 cm Solar Flux ranged from 68 to 82, with a mean value of 71.8 (vs. 68.4 for Mar 2018 and 74.6 for Mar 2017). The A_p index was ≥ 7 on 16 days. The Sun did exhibit spots on 15 days thru 27 March.

-- APRIL SOLAR FORECAST --

Solar activity is expected to be very low between 01-07 Apr, with low levels expected between 08-20 Apr with the return of Region 2736.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 01-07 Apr with normal to moderate levels expected throughout the remainder of the outlook period.

Geomagnetic field activity is expected to reach active levels on 12 and 23-24 Apr due to influence from multiple, recurrent CH HSSs. Quiet to unsettled levels are expected throughout the remainder of the outlook period.

The 10.7 cm Solar Flux Index is forecast to be range from 70 to 75 and average 72.2 during April.

(From NOAA *Weekly Highlights and Forecasts*, 25 Mar 2019, NOAA *27-day Space Weather Outlook Table*, 25 Mar 2019, and *45 Day AP Forecast*, USAF, 25 Mar 2019)

-- CLARIFYING PROPAGATION INFO --

Perhaps some clarification of how the above band opening times are derived and how they should be used is warranted. The NOAA *27-day Space Weather Table* and the USAF *45 Day Forecast* are used to show the Solar Flux and A-Index forecasts for an entire month. The approximate middle date of each DX operation is determined and the appropriate SF for those dates is used with the W6ELProp program to determine potential band opening times for each operation. VOACAP <http://www.voacap.com/hf/> is then used to verify and/or adjust these opening times. Opening times based on VOACAP which show 60% probability are then put into the table. This is no guarantee of signal strength—just the probability of the band openings. (Here's where weak signal FT8 is valuable.) If the time shows, for instance, "22-05" that means the band should be open from 2200 UTC through the 0500 UTC hour, i.e., until 0600 UTC.

Shark's Tooth 10K report

by Frank, W2XYZ

Lots of "Thank You" is what we heard from the organizers and the participants of the Suncoast Shark's Tooth 10k Race. On Saturday, March 2 of this year, the Tamiami Amateur Radio Club assisted for the tenth time in providing communication assistance for the 10k race. The race itself is well organized and starts at the Venice Airport Fairgrounds.



Participants proceed down Airport Road a short distance and then do a jug handle through some side streets and come out on Airport Road again. At the corner of Airport Road and Harbor Road, the racers make a left and travel a long stretch to Caspersen Park where they then enter the Venetian Waterway Park.



The runners have now completed about four miles and only have two more to go. Heading northerly through the park along the Intra-

coastal the runners get a change of scenery. They might see a manatee or a gopher tortoise, but are probably too busy focusing on breathing and their pace to notice the sights. Up ahead, they can see the park entrance/exit which is their turning point and their home stretch. Back into the fairgrounds, across the finish line and there is a crowd there cheering and congratulating these racers.



All along their journey they were under the watchful eyes of race monitors and TARC members.

We were there to observe and report race progress and more importantly to convey to medical personnel anyone with injuries or experiencing other medical difficulties. Fortunately, only one minor incident occurred this year. One runner twisted/sprained an ankle. We reported the injury, and medical personnel were available to aid him, but he refused treatment. Ironically, Chet, KG4IYS was returning to the main tent after completing his duties and spotted the injured runner. He offered him a ride back to the tent which he readily accepted.

The TARC participation was larger this year than in the past. We added two communication stations which brought the total number of TARC volunteers to 13 this year. Our day began at Peach's for coffee+ at 6 AM. We then moved to our assigned positions around 6:45 AM and conducted a network radio check at 7 AM.



All checked well and the race began as scheduled at 7:25 AM. For communication we used the TARC UHF repeater which operates in the DMR mode. We chose to use talkgroup 9 (Local 9) on timeslot 1 to avoid any possible interference from other local users or distant users via the Internet. All equipment operated flawlessly, which was a big improvement over the difficulties encountered last year. All communicated perfectly with each other and with net control.

Now the good part. After the last runner passed your station, you were allowed to close from the net and come to the main tent. At the main tent



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Shark's Tooth 10K - see page 10 for coverage of Sunday's 5K

sponsors of the race provided what looked like tons of food. To name a few things: there were smoothie parfaits, juices, water, bagels, pastries, cookies, pizza, fruit and FREE BEER. Needless to say, all TARC volunteers availed themselves to whatever and how many they desired. The entire event was finished before 9 AM, although many of us



remained longer to show the sponsors how much we appreciated their donations. I know I'm looking forward to participating again in next year's 10k run. I hope you join us too.



Favorite Light Antenna Gain Providing Outstanding Log Entries - Revisited

By Steve, K4EU

As there is some club interest in my Off-Center-Fed Dipole, aka 20' Flagpole, here is a short update on my progress. A LDG RT-600 remote antenna tuner has been installed at the base of



the antenna. Prior to installing the remote tuner, my FT-1000MP Mark-V Field internal tuner could easily match the radio to the antenna on 20/17/15/12 and 10 meters. However, the internal tuner could/would not tune on 30 meters and below. Now that the LDG remote tuner is in place, I can

easily match the radio to the antenna on all bands, 80 meters and up, with a respectable SWR. I've buried approximately 25' of RG-213 50 ohm coax feedline from the base of the antenna to the



entry point to my shack. And, I've placed a black plastic plant bucket, surrounded by flowers, over the entire base of the flagpole to present a more stealthy appearance to those who may wander into my backyard.

Performance: While I will be doing some A/B testing soon with my stealth 84' End-Fed-Long-Wire up in an oak tree, the antenna seems to be performing very well. Over the past few days, I've logged XR0ZRC on 30m/CW and S01WS on 40m/CW. I've also logged a number of 'garden-variety' European DX on 40 and 20 meter CW.... Additionally, I've begun once again operating the 1-hour CWops sprints on Wednesday morning with respectable results. To my ears and to my experience using the 84'EFLW, the flagpole OCF-dipole antenna appears to be on-par or better.... Next real test of the antenna will be during the Florida QSO Party and the WPX CW Contest.

Any/everyone is invited to take a personal look at the flagpole antenna. Please email me at k4eu@arrl.net or text me ((cell number is listed on the members section of the club website)) if you are interested.

73, Steve, K4EU



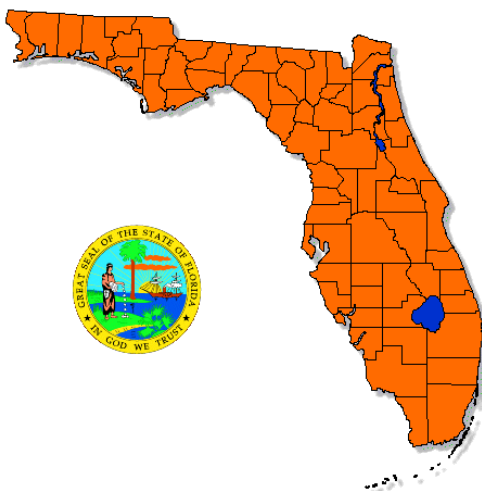


Be sure to mark your calendar for the Florida State Parks on the Air contest! Whether you are a casual operator, contestant, in Florida, out of Florida, or even outside the United States, this contest is for you. This annual event is organized by the Lakeland Amateur Radio Club.

This is a two day event, on the **first full weekend every April**. Operating time is from 1400 UTC to 2200 UTC each day, Saturday and Sunday. Most Florida parks open at 8:00 AM local time, and close at sundown. The operating time period of 10:00 AM – 6:00 PM (local) should allow time to enter the park, set up a station, operate, and tear down in time to leave before park closing. See the [rules page](#) for more details.

This is a **GREAT** opportunity for club members to learn about and practice with **NVIS** (Near Vertical Incidence Skywave) propagation since the objective here is to contact other parks within the state. I'm told that a vertical antenna without radials or counterpoise makes a great NVIS antenna. Also a dipole low to the ground, about 0.1 to 0.25 of a full wavelength off the ground, is a good NVIS antenna. So, operating at 20 meters during the day you would only need to have that dipole about 6 to 15 feet above the ground. No tall trees needed! I plan to be at Oscar Sherer State Park, Park Code: OSC, ID: KFF-1909, in Nokomis near the lake on Saturday with Sunday as my rain date.

Paul, KN4BAR



The 2019 Florida QSO Party will be held 1600Z Apr 27 to 2159Z Apr 28

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!

This year, AL, K0AL has graciously agreed to allow club members to use his station in Nokomis for the event. A signup sheet for operating times will be available at the April 10 club meeting.

Visit the website for info and rules <https://floridagsoparty.org/>

Technician Class License Training Course

A Technician Class license training course is scheduled for April and early May on Saturdays, 4/20, 27, and 5/4 at the Jacaranda Public Library from 1 to 5 pm each day. Anyone interested in this three session course should contact Paul Nienaber, KN4BAR by email to paul9aber@gmail.com or by phone at 941-468-3843 to register.

PROJECT ICARUS

By Steve, WA1ZKN

As Amateur Radio Operators, I am sure we have all heard about the “dead” bands and the relationship to sunspots, or lack thereof. In this brief discussion, I am going to provide some insight into what sunspots are, how sunspots affect band conditions, and exciting news about how NASA intends to address this issue.

What is a sunspot?

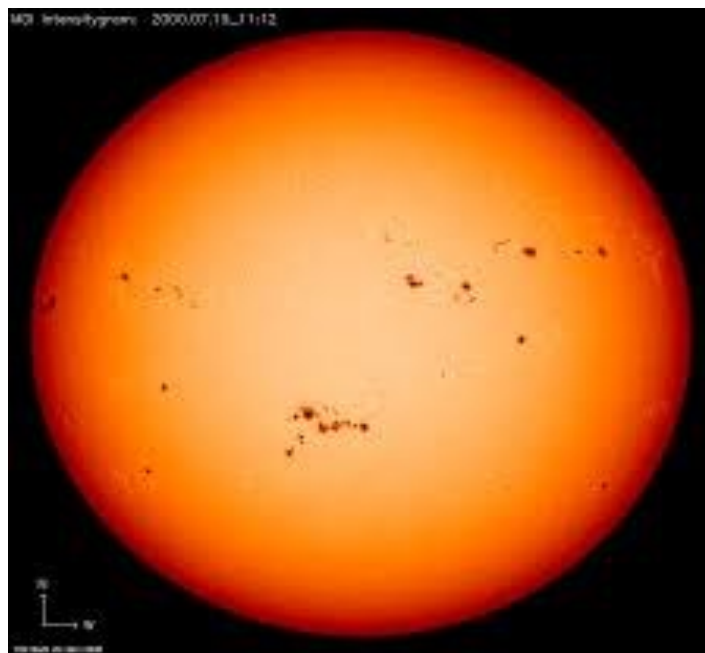
Sunspots, which appear as dark spots on the face of the sun, are caused by concentrations of magnetic field flux that inhibit convection of the solar material. They appear dark to us because they are cooler than the surrounding material (but are still extremely hot, about 2,700 – 4,200C). Researchers believe that sunspots form when the magnetic flux tubes of the sun’s convective zone get “wound up” by differential rotation. When the stress on the flux tubes reaches a certain limit, they curl up and puncture the sun’s surface. This inhibits convection at the puncture point, reducing energy flux from the interior of the sun and reducing surface temperature.

How do sunspots impact propagation?

Long distance propagation of “high frequency” or “shortwave” signals depends in large part on the condition of the ionosphere – a layer of charged particles (ions) in the upper regions of earth’s atmosphere. Because this layer of particles is electrically charged, electro-magnetic radiation (e.g., radio waves) can interact with these particles. When the conditions are right, our radio signals can reflect or “skip” off the ionosphere, allowing communication far beyond line of sight. In simple terms, the stronger the layer of charged particles, the better the reflections and the better the propagation.

Sunspots in and of themselves do not impact the ionosphere, but the intense ultraviolet radiation associated with the sunspots generates a stronger “F” layer in the ionosphere which is the layer

most responsible for reflection of signals above 15MHz.



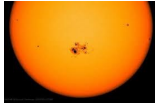
Why are there so few sunspots now?

Sunspots have been observed and recorded since about 800 B.C. Since the invention of the telescope around 1600 detailed observations have been possible. In 1843, a German astronomer named Samuel Schwabe discovered that the number of sunspots rises and falls on a somewhat predictable schedule that we now call the Solar Cycle. It was found that the number of sunspots, and the associated electromagnetic activity, rises and falls roughly on an 11-year period which is measured from one period of minimum activity to the next minimum. We are currently at the end of Solar Cycle 24. Because we are at a minimum, the F layer is weak and HF propagation is poor and will remain poor until solar activity increases.

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PROJECT ICARUS

So, we just wait???



No, I have very exciting news! Because of the strategic importance of HF propagation and the current near historic low in sunspot activity, NASA has implemented a new and largely unreported program to stimulate the magnetohydrodynamic waves in the solar corona to increase sunspot activity. After talking to my contacts at the Department of Energy and NASA, I have been authorized to provide a brief overview of this initiative. This program, code named Icarus, will utilize the significant advances in fusion technology, along with new spacecraft propulsion systems to create sunspot seeds on the solar surface. It is hoped that these seeds will grow and generate large sunspots and the associated magnetic activity, increasing the strength of the "F" layer of the ionosphere.

This is a very ambitious program, utilizing several new technologies.

The spacecraft, named the Umulig (for the Norwegian explorer Umulig Looflirpa). Built around a General Products hull for protection from gravitation forces and electromagnetic radiation, the Umulig will be launched on a special version of the Space X Falcon Heavy rocket. After launch, the Umulig will accelerate away from earth using an Electrostatic Torque or EM Drive propulsion system. The flight path will swing past Mars and then around Jupiter for a gravitational assist or "slingshot" maneuver, using the motion and gravitation fields of the planets to reach a target speed of 880,000 MPH back towards the sun. The EM Drive is used because it requires little power and no on-board fuel, minimizing launch weight.

As the Umulig heads back towards the sun, it will deploy a Bussard Collector, a very large electromagnetic field which will collect deuterium and antideuterium for use as fuel for the next phase of the operation. While Bussard Collectors are not efficient enough to collect fuel for interstellar propulsion systems, that is not an issue in this application. Since the density of particles increases

as the distance to sun decreases, efficiency is not the primary concern.

As the fuel is collected it is directed to a Gravitric Field Displacement Manifold where the deuterium and antideuterium are confined in a Spheromak magnetic confinement fusion system and forced to annihilate each other, generate massive amounts of energy. This energy is used to charge a Flux Capacitor so that by the time the Umulig reaches the sun enough energy has been stored to begin seeding. The Umulig will maintain a highly elliptical orbit around the sun, collecting fuel as it approaches the aphelion (furthest point from sun) and seeding as it approaches the perihelion (closest point) of about 4 solar radii on each orbit.

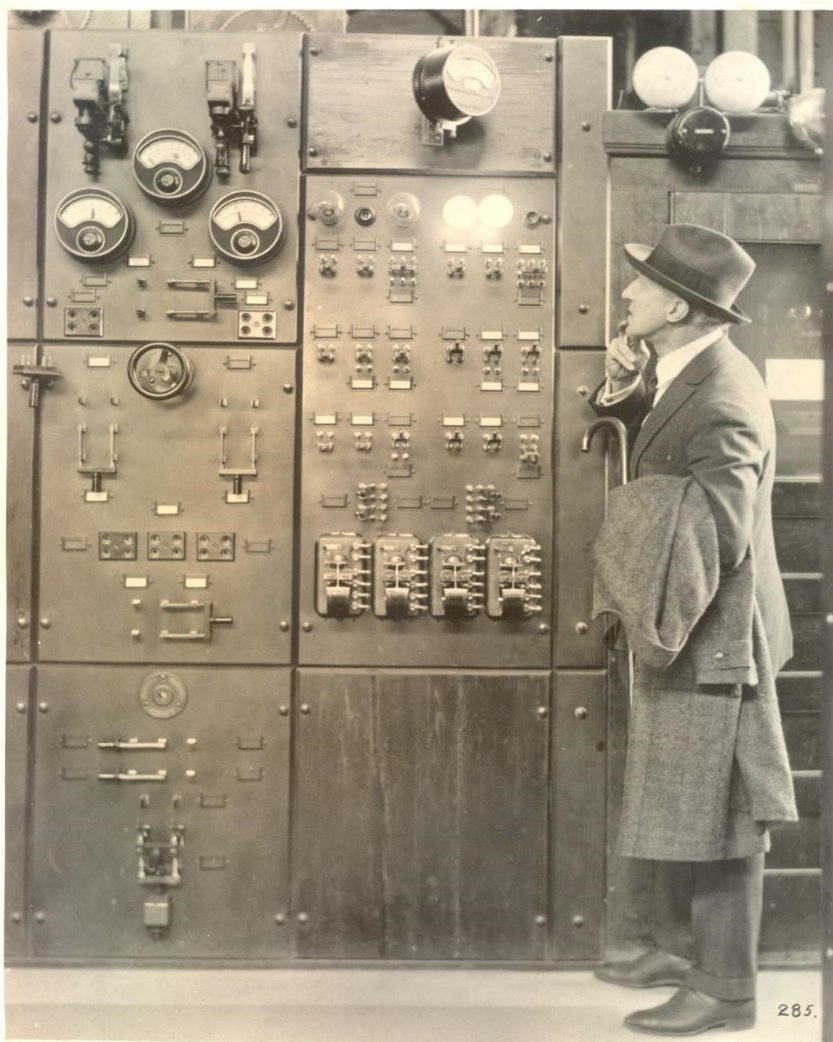
The actual seeding operation will use Dynamorphic Power Generators (DPG) to discharge temporal plasma fields to project a 1.21 Gigawatt twisting electromagnetic pulse directly at the surface of the sun. This twisting pulse is expected to create a Detwiler Vortex that will pierce the surface of the sun and connect with the magnetic flux tubes under the surface, forcing the tubes to the surface and creating a sunspot. The DPG will fire multiple shots on each pass which should create sufficient electromagnetic activity to regenerate the "F" layer.

Will it work?

Project Icarus is a very ambitious project but based on reports from my sources in the government the chances of success are very high. Much of the technology has already been demonstrated in small scale experiments. Obviously, full scale testing is not possible on earth due to the possibility of the Detwiler Vortex creating a temporal rift, stopping all progress for an indefinite period. Launch is expected by Stardate 72712.5, with clear results obvious in about 600 Kiloseconds. I am sure, you, like me, are anxiously awaiting the results.

73, Steve, WA1ZKN

Meet the new StiffRadio 20/20



Tom, W4IEE contemplates the merits of the new StiffRadio Model 20/20 expected to be announced April 1st, 2020. The main attraction of this new hardware defined radio (HDR) is that you don't need 20/20 vision to operate. Instead of squinting incessantly at those tiny waterfalls, each signal is displayed on a highly visible gauge. No more carpal tunnel hurts from chasing those mice around - substantial, ergonomically designed knobs are there for the tweaking.

Rumor has it that The Stiff Corporation is working on a foot-operated CW keyer. Who wouldn't want to keep their hands free to spin those dials while eating a ham sandwich and working big-time CW DX? Price TBD, but this is one of those units that you'll have to have no matter what the price.

And, the best news of all - the Stiff factory straddles the US/Mexico DMZ with the last screw installed on the US side, making it the only rig made in the USA!

Mobile model in the works.

Shark's Tooth 5K follows the 10K on Sunday

TARC has provided radio communications for the Shark Tooth 10K run for 10 years now. This year we were also asked to provide communications support for the Shark Fin 5K run, which was held on Sunday, March 3rd. The 5K event is rapidly growing in popularity and had several hundred participants registered. TARC staffed 5 positions on the 5K (3.2 mile) race course which was on the Airport Festival grounds and Venice Waterway trail. Stations participating included: Tom Porada, W4IEE - Tom Zirolli, KN4RKF - Tom Phillips, N1CBD - Larenia DePalma, KN4RKL - John Lyth, KN4NFT - Jim Shortill, KJ4NDO - Pat Milardo, K1BBZ - Patti Phillips, N4IGI.

I was very pleased to have several of our newest members participate in this very fun event. I recall only one runner having any difficulty, however no

medical treatment was required. Lots of drinks and snacks were available and several of the TARC team took advantage of the yummy treats. A good time was had by all!








At the conclusion of the race, both the race organizer and the medical director approached the team (easily identifiable in our snazzy green shirts!) and thanked us for a very professional performance at both the 5K and 10K events. Karen has already reached out to us about next year's races - I can't wait!

de Steve, WA1ZKN



April, 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
DMR net meets on TAC 311 + 10 meter net follows the 2 meter net at 28.450 mhz	1 QCWA 11:30 AM Denny's Bee Ridge Road	2 Breakfast @ Peaches * DMR net @ 7:30 PM W4AC 444.1	3	4 TARC net @ 7:30 PM W4AC / RPT 146.805 ** +10 M net	5 Breakfast @ Peaches *	6  Florida State Parks ON THE AIR
7  Florida State Parks ON THE AIR	8 DARN Emergency net @ 11AM Starts on NI4CE/RPT 145.43 pl100	9 Breakfast @ Peaches * DMR net @ 7:30 PM W4AC 444.1	10 <u>TARC meeting @ Coast Guard Training Center 7:00 PM.</u>	11 TARC net @ 7:30 PM W4AC / RPT 146.805 ** +10M net	12 Breakfast @ Peaches *  SHARK'S YOUTH FESTIVAL Venice, Florida	13  TARC VE Session @ Jacaranda Public Library 10:00 AM
14 	15	16 Breakfast @ Peaches * DMR net @ 7:30 PM W4AC 444.1	17	18 TARC net @ 7:30 PM W4AC / RPT 146.805 ** +10M net	19 Breakfast @ Peaches *	20
21	22	23 Breakfast @ Peaches * DMR net @ 7:30 PM W4AC 444.1	24	25 TARC net @ 7:30 PM W4AC / RPT 146.805 ** +10 M net	26 Breakfast @ Peaches *	27  MULTIPLIERS ARE Florida QSO Party
28  MULTIPLIERS ARE Florida QSO Party	29	30 Breakfast @ Peaches * DMR net @ 7:30 PM W4AC 444.1				* Peaches opens at 6:00 AM, orders taken at 7:00.

**The W4AC 146.805 Repeater is ANALOG, PL100. [If the 2-m repeater is down, please QSY to 146.58 simplex]

**TAMIAMI AMATEUR RADIO CLUB, INC.
MEMBERSHIP APPLICATION**

Name _____ Call sign _____ Class _____ ARRL, (Y/N) _____

Local Address _____ City _____ Zip _____

Phone _____ Cell _____ E-Mail _____

Summer Address _____ City _____ St. _____ Zip _____

Phone _____ Alt. E-mail _____

Application Date _____ Amount enclosed _____

Please check items of interest:

- | | | |
|---|--|---|
| <input type="checkbox"/> A - ATV/SSTV | <input type="checkbox"/> L - Echo Link | <input type="checkbox"/> S - Special Events |
| <input type="checkbox"/> C - Contests | <input type="checkbox"/> N - Net Control | <input type="checkbox"/> T - Training |
| <input type="checkbox"/> D - Digital (DMR, PSK, etc.) | <input type="checkbox"/> O - Computers | <input type="checkbox"/> U - VHF/UHF |
| <input type="checkbox"/> E - Emergency Comm. | <input type="checkbox"/> P - Packet | <input type="checkbox"/> V - VE Testing |
| <input type="checkbox"/> F - Field Day | <input type="checkbox"/> Q - Publicity | <input type="checkbox"/> X - DX |
| <input type="checkbox"/> I - RFI/TVI | <input type="checkbox"/> R - Repeater | <input type="checkbox"/> Y - RTTY |
| <input type="checkbox"/> Other (Specify) _____ | | <input type="checkbox"/> Z - QRP |

**For payments by mail send to:
TAMIAMI AMATEUR RADIO CLUB, INC.
PO Box 976
Nokomis, FL 34274**

**Web site payments accepted via PayPal.
(Add \$1.00 convenience fee.)**

2019 TARC OFFICERS:		
President:	Andy Durette	KB1HIP
Vice President:	Gary Hagens	K6OC
Secretary:	Jim Shortill	KJ4NDO
Treasurer:	Frank Wroblewski	W2XYZ
Directors:	Peter Boers	KV4LR
	Larry Bryan	W8LIG
	Chet Fennell	KG4IYS
	Guenther Hennig	AJ4QX
	Paul Nienaber	KN4BAR
	Steve Phillips	WA1ZKN
	San Yoder	K3SY
Public.. Inf. Off.	Tom Porada	W4IEE

Dues:	
Regular member	\$20.00/yr.
After 6/1 -	\$10.00 to yr. end
After 10/31	\$20.00 thru next yr.
Family Membership	\$25.00/yr
Non Voting Student	\$5.00/yr
New licensee - first year free.	

For office use:
RR EM CR MC

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