



# SPARK GAP

Vol. 35, Issue 12, December 2019 *MARC - Serving Central Indiana Communities for thirty-five years*

*On Our MARC:*

## Season's Greetings!

A New Year is right around the corner. Where did the year go? I would like to thank everyone for all they have done for the club in 2019. We have accomplished a lot and hopefully 2020 will be just as fun as 2019 has been. The officers are working on new ideas for 2020.

Saturday, Dec. 21st at 8:00 a.m., we will have our annual Christmas pitch breakfast and club meeting. We will also be having a white elephant gift exchange. We hope that you will be able to join us.

Just a reminder that Dec. 31st marks the end of our membership year. It is time for all of us to renew our dues and support our club. At \$18 per year, a MARC membership is one of the best deals around. Please see Chris, about getting your dues current for 2020.

Finally, I would like to wish everyone a Merry Christmas and a Happy and safe New Year!! May your holiday season be filled with the joy of family, friends and peace. This will be the first time in years that I will have family in town for the holidays. My sister arrives on the 24<sup>th</sup> and my mom is looking forward to having her here. May good health and prosperity be yours in 2020.

*Jacki K16QOG*

President



*Birthdays.*



*December:*

*AE9H - Phil Melick  
KC9YIA - Chris Rose  
KQ9Y - Chris Frederick  
W9HR - Doug Chapman*

### **Winter Field Day is Next Month; Long Island RACES Club to Participate**

Winter Field Day is around the corner -- the last full weekend in January -- and that means, for 2020, it will be held on January 25-26. The ARRL-Affiliated Great South Bay Amateur Radio Club (GSBARC) on Long Island, New York, will be conducting its WFD operation at the Babylon Town Hall with three stations up and running. Depending on band conditions, the HF bands will be employed, operating from the club trailer. GSBARC will enter as an "Outdoor Operation," defined in the rules as a location partly or fully exposed to the elements and at least 30 feet away from a normal station location and not using any part of a previously erected antenna system or ham station. A campground, park pavilion, canopy, picnic table, tent, pop-up camper, or a backyard shed/tent/deck, etcetera may be used. Operation from a non-insulated car/truck/van/boat (mobile or not) is considered "outdoor." Bonus points go to stations not using commercial power, and operations which are "Outdoors." For full details, please see the WFD website.

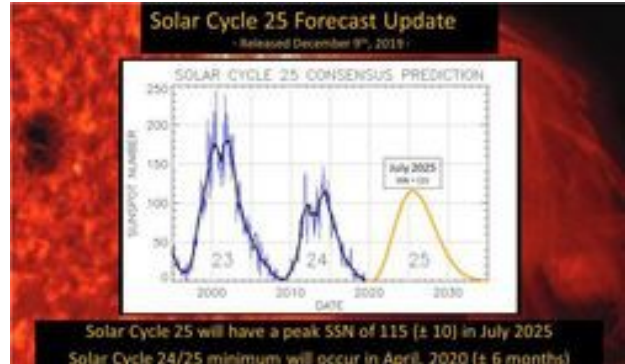
..... *Chris KQ9Y*



**NOAA/NASA Panel Concurs that Solar Cycle 25 will Peak in July 2025**

The NOAA/NASA-co-chaired international Solar Cycle Prediction Panel has released its latest forecast for the coming Solar Cycle 25. The panel's consensus calls for a peak in July 2025 ( $\pm 8$  months), with a smoothed sunspot number of 115. The panel agreed that Cycle 25 will be of average intensity and similar to Cycle 24. The panel additionally concurred that the solar minimum between Cycles 24 and 25 will occur in April 2020 ( $\pm 6$  months). If the solar minimum prediction is correct, this would make Solar Cycle 24 the seventh longest on record at 11.4 years. In its preliminary forecast released last April, the scientists on the panel forecast that Solar Cycle 25 would likely be weak, much like the current Cycle 24.

"Solar Cycle 25 may have a slow start, but is anticipated to peak with solar maximum occurring between 2023 and 2026, and a sunspot range of 95 to 130. This is well below the average number of sunspots," the panel said last spring, adding with "high confidence" that Cycle 25 "should break the trend of weakening solar activity seen over the past four cycles." The panel said the expectation that Cycle 25 would be comparable in size to Cycle 24 suggests that the steady decline in solar cycle amplitude seen from Cycle 21 through Cycle 24 has ended and that there is no indication of an approaching "Maunder-type" minimum. Cycle 24 peaked in April 2014 with an average sunspot number of 82.



The Solar Cycle Prediction Panel forecasts the number of sunspots expected for solar maximum, along with the timing of the peak and minimum solar activity levels for the cycle. It is comprised of scientists representing NOAA, NASA, the International Space Environment Services, and other US and international scientists.

..... *ARRL News December 2019*



### Famous Hams

**Across**

- 1. VU metro (not meter)
- 6. Call to Bo-peep
- 9. T.O.M.
- 14. TN made rig
- 15. Rear panel label
- 16. 7X neighbor
- 17. Used before flip tops
- 19. More unwet
- 20. Infrequent frame rate mode
- 21. Major Armstrong, familiarly
- 23. Wiring harness parts
- 24. IT9 peak
- 26. Prefix with -tuner
- 28. Kind of drum
- 31. Contact plating solution?
- 36. Boatanchor unit
- 37. Part of ARRL: Abbr.
- 39. Enter
- 40. Suffix with reson-
- 42. In reserve
- 44. Produces radiator supports
- 45. Giving up
- 47. GM monster place
- 49. Viking partner
- 50. Callsign of 31 across
- 52. Overcome utterly
- 54. First QTH?
- 55. Hand (out)
- 57. Small fight
- 60. Field unit?
- 62. Competent
- 66. Loafed around
- 68. Nonphysical, say
- 70. Met show
- 71. Feed lines to
- 72. Partner of 9-across
- 73. Rocking ham

1	2	3	4	5		6	7	8		9	10	11	12	13
14						15				16				
17						18				19				
20						21				22		23		
				24	25				26		27			
28	29	30				31	32					33	34	35
36				37	38				39					
40				41		42			43		44			
45				46			47			48		49		
50							51			52	53			
				54					55	56				
57	58	59				60		61			62	63	64	65
66				67			68			69				
70							71			72				
73							74			75				

- 74. Hockey's Bobby
- 75. DXpeditioner's instruction

**Down**

- 1. Manuals, slangily
- 2. Times past
- 3. Fuzz
- 4. ARRL president, and president's grandson
- 5. Rev. of out.
- 6. Wound covers
- 7. All over again
- 8. Of a heart chamber
- 9. Cap. unit
- 10. Missile type
- 11. Ancient WARC band?
- 12. Prof. org. with many ham members

- 13. Elser-Mathes Cup objective
- 18. Poetic dusk
- 22. Pushes, gently
- 25. Leaves in a bag
- 27. The one above six?
- 28. Two or more yagis, say
- 29. Do and so
- 30. Tube terminal
- 32. Gasket
- 33. Possible Congo prefix
- 34. \_\_\_ alcohol
- 35. Malyj Vysotskij prefix
- 38. Suffix with electro-
- 41. Force-12 element fasteners, say
- 43. More lethal
- 46. Homer's neighbor
- 48. Pre-ham?

- 51. Int'l org. promoting learning
- 53. What the shack might do with the amplifier on
- 56. Crew tool
- 57. QRS
- 58. Between Oscar and Quebec
- 59. Kind of antenna aimer
- 61. A receiver annoyance, briefly
- 63. Arrest
- 64. 47-across is one
- 65. Exuberance
- 67. CW word
- 69. Zone type

## FCC Formally Adopts Proposals to Remove Amateur 3-GHz Band

At its December 12 meeting, the FCC formally adopted a *Notice of Proposed Rulemaking* (NPRM) in WT Docket 19-348 and invited comments on its plan to remove “existing non-federal secondary radio location and amateur allocations” in the 3.3 – 3.55 GHz band and relocate incumbent non-federal operations. The FCC said it’s seeking comment on appropriate “transition mechanisms” to make that happen. ARRL has indicated that it will file comments in opposition to the proposal. The amateur 9-meter allocation is 3.3 – 3.5 GHz. The *NPRM* comes in response to the MOBILE NOW [Making Opportunities for Broadband Investment and Limiting Excessive and Needless Obstacles to Wireless] Act, approved by the 115th Congress to make available new spectrum for mobile and fixed wireless broadband use.

“By proposing to delete the existing non-federal secondary allocations from the 3.3 – 3.55 GHz band, we are taking an important initial step towards satisfying Congress’s directives and making as much as 250 megahertz of spectrum potentially available for advanced wireless services, including 5G,” the FCC said in the Introduction to its *NPRM*.

Currently, the entire 3.1 – 3.55 GHz band is allocated for both federal and non-federal radiolocation services, with non-federal users operating on a secondary basis to federal radiolocation services, which have a primary allocation, the *NPRM* explains.

The FCC said it is seeking comment on relocating non-federal licensees to another band. With respect to amateur operations, the FCC invited comments on whether sufficient amateur spectrum exists in other bands that can support the operations currently conducted at 3.3 – 3.5 GHz. The 3.40 – 3.41 GHz segment is earmarked for amateur satellite communication. “We seek comment on the extent to which the band is used for this purpose, whether existing satellites can operate on other amateur satellite bands, and on an appropriate time frame for terminating these operations in this band,” the FCC said. If non-federal licensees are relocated to 3.1 – 3.3 GHz band, the FCC proposes that they continue to operate on a secondary basis to federal operations, consistent with current band allocations.

Some comments began to arrive before the FCC formally adopted the *NPRM*, as it points out in a footnote. Kevin Milner, KD0MA, the secretary/treasurer of the Ski Country Amateur Radio Club in Colorado, has argued that the club’s equipment cannot be re-channeled below 3.4 GHz, and the club is

seeking relocation costs. Devin Ulibarri, W7ND, told the FCC that amateur networks in the current band cannot move easily into other amateur allocations because there is no readily available commercial equipment to support the bandwidth, the FCC recounted.

In the event the proposed amendments are adopted, the FCC “seeks comment on relocation options and on transition and protection mechanisms for incumbent non-federal operations.”

Also at its December 12 meeting, the FCC considered another *NPRM* in WT Docket 19-138 that would “take a fresh and comprehensive look” at the rules for the 5.9 GHz band and propose, among other things, to make the lower 45 MHz of the band available for unlicensed operations and to permit “cellular vehicle-to-everything” (C-V2X) operations in the upper 20 MHz of the band. The FCC is *not* proposing to delete or otherwise amend the amateur allocation, which would continue as a secondary allocation, but the primary allocation for 5.850 – 5.925 GHz would change. The amateur radio 5-centimeter allocation is 5650.0 – 5925.0 MHz, and the *NPRM*, if approved, would address the top 75 MHz of that amateur secondary band. Although no changes have been proposed to the amateur allocation, an increase in primary use is anticipated, which could restrict secondary amateur use. The Amateur Radio Emergency Data Network (AREDN) has offered its voice in challenging the FCC proposals on the two bands, saying their adoption would “eliminate our use of the most-effective resource hams have to build its networks.”

“The AREDN Project is able to leverage low-cost commercial devices solely because they are designed to operate on adjacent allocations,” AREDN said on its website. “Moving to other allocations would be difficult if not impossible without a complete redesign, manufacture, purchase, and installation of new custom amateur hardware and software..., raising the price out of reach for the typical ham.”

Interested parties may file short comments on WT Docket 19-348 via the FCC’s Electronic Comment Filing Service (Express). Visit the FCC “How to Comment on FCC Proceedings” page for information on filing extended comments.

..... *ARRL News December 2019*

## Year-Long German Special Event to Honor Beethoven

German special event station DL250BTHVN will be active between December 16, 2019, and December 17, 2020, to honor the 250th anniversary of the birth of famed composer Ludwig van Beethoven. The Beethoven anniversary year will take place under the auspices of Germany's Federal President Frank-Walter Steinmeier. Beethoven was born in December 1770 in Bonn, Germany, and lived there for the first 22 years of his life. The anniversary event is aimed in part at highlighting Beethoven's extensive oeuvre as a composer and to boost Bonn's reputation as a "Beethoven city." QSL via direct or by the bureau.

..... *ARRL News December 2019*

## WB2ITX dares us to embrace the future

December 17, 2019 by dan kb6nu 3 comments

In the January issue of QST, ARRL CEO Howard Michel, WB2ITX, dares us to imagine the future of amateur radio. He points out that the demographics of the ARRL membership does not match the demographics of amateur radio as a whole, and then say, "They are different, and they want different things."

He then goes on to enumerate some of the steps the ARRL is taking to meet the needs of the future generation of hams, including starting a new magazine called *On the Air* aimed at new hams and the Lifelong Learning Program.



He then talks about "verticals." This terminology is kind of unfortunate because he's not talking about antennas that need radials, but rather special interest groups (SIGs), including "Radiosport, Experimenters, and Emergency Communications." The ARRL already has contesting and emergency communications departments, and publishes QEX magazine for experimenters. I'm not really sure how the "verticals" are going to differ from the ARRL's current activities in these areas, but it is a good idea



to think about how to serve special interest groups. Another SIG that the ARRL might consider is digital communications. I'm sure you all have some ideas about this, too.

What really caught my eye is what he has to say about clubs. He writes:

*Another way we play to engage hams is through local clubs. ARRL will be hiring a national club coordinator in 2020, who will be charged with developing new ways for clubs to organize and operate. We will continue to support traditional clubs, clubs that meet monthly for business and social events, organize ARRL Field Day activities, etc. But traditional clubs are not the future of clubs. Young people join causes, not clubs.*

*Our focus will be on developing ways, and an infrastructure, that members can use to organize themselves in ways they want, to do things that they consider meaningful. I can see these new clubs organized to support special events, such as a marathon; to engage in STEM education; or prepare for disasters. These types of clubs exist now, but they may need to conform to a set of rules designed for traditional clubs. Can we scrap the rules and provide meaningful support? To aid in this, club leadership could be another vertical. ARRL could provide training in soft skills, such as how to run a meeting or give an effective presentation.*

I think some of these ideas are spot on. I've written many times here about what the ARRL might do to help clubs. I have also served as the Michigan Section Affiliated Club Coordinator and developed and provided leadership training for club officers here in Michigan.

I'm excited really that WB2ITX realizes how poor the ARRL support for clubs has been and is considering creating the position of a national club coordinator. Heck, I might even apply for the job myself!

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not trying to keep up with ham radio, he likes to build stuff and operate CW on the HF bands.



## UP – COMING ACTIVITIES AND HAMFESTS

**12/21/2019** – 0800 MARC Monthly meeting and Annual Christmas Breakfast at the Johnson County REMC. Johnson County REMC 750 International Drive Franklin, IN 46131.

**01/18/2020** - 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

**02/15/2020** -- 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

**02/29/2020** – Laporte Hamfest – Laporte, IN

**03/21/2020** – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

**04/18/2020** – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

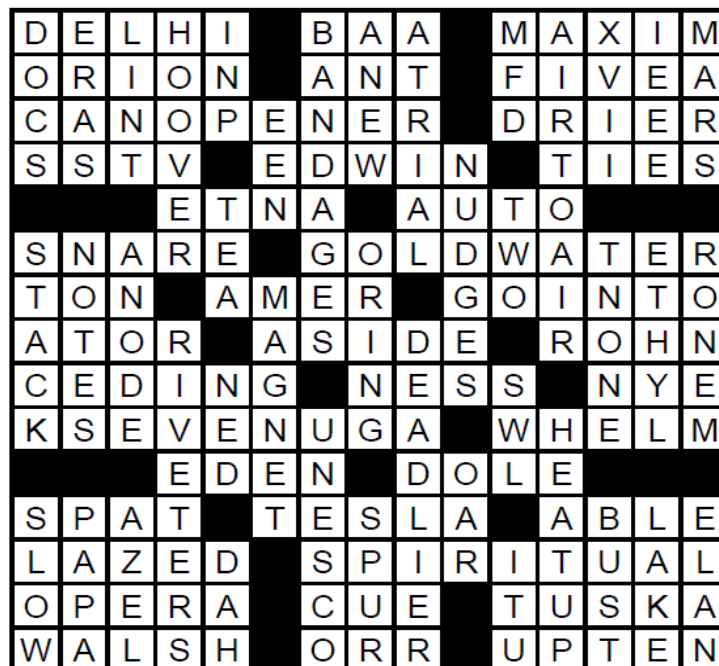
**05/16/2020** – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

**06/20/2020** – East Central Indiana Hamfest – Randolph County Fairgrounds

If you would like to be part of Johnson County ARES please contact Bob LaGrange

[N9SIU@YAHOO.COM](mailto:N9SIU@YAHOO.COM)





## MID-STATE AMATEUR RADIO CLUB

The Mid-State Amateur Radio Club meets the **THIRD SATURDAY** of each month at the Johnson County REMC 750 International Drive Franklin, IN 46131.

See our website, [www.midstatehams.org](http://www.midstatehams.org), for maps on how to get to our meeting.

Everyone is welcome; you do not have to be a *HAM* to attend our meetings or a member of the club.

**W9MID Repeater:**

146.835/  
146.235 MHz  
(151.4 Hz PL Tone)

**Club Officers:**

**President:** Jacki Frederick – KI6QOG  
**Vice President:** Bruce Tisdale – K9ICP  
**Secretary:** Chris Read – W9OQ  
**Treasurer:** Chris Mazzarella – KC9VGQ  
**Repeater Trustee:** Chris Frederick – KQ9Y

**W9MID Repeater:**

443.525/  
448.525 MHz  
(151.4 Hz PL Tone)

**Weekly Net: Sunday evening 7:00 PM ARES/RACES members and ALL RADIO AMATEURS**  
146.835/146.235 MHz (151.4 Hz PL Tone)

**The Official Newsletter of the Mid-State Amateur Radio Club**

P.O. Box 836  
Franklin, Indiana  
46131

**Spark Gap Editor: Robert LaGrange N9SIU**

*Please send your articles to my email: [n9siu@yahoo.com](mailto:n9siu@yahoo.com) no later than the 2nd week of the month.*



*Special thanks to Johnson County REMC for the use of their community room for meetings and testing.*