

# S.A.R.A.



# WD6EJF

WWW.SARACLUB.NET

145.390 – PL 136.5



# February 2019 Newsletter

Next general meeting is:

Tuesday February 19, 2019 at 3705 Oakdale Road

Modesto, CA 95357. Meeting begins at 7:00PM.

There is an informal meet and greet at Perko's

3500 Oakdale Road Modesto, CA 95357

Club members begin to arrive between 5:30pm and 6:00pm and usually sit in the back-dining room. All are welcome to attend.



From the desk of the Readout editor:

I hope that everyone enjoyed last month's Readout. In this edition I have updated the title page with a new header. Also, an alternate logo was placed on the SARA application page. These items were sent to me by Bob WA6ZLO and I appreciate his contributions. There is also a very informative article on sunspots written by our very own Scott N6CIC. There is an article about 5G wireless that was in "The Near Future" written by Jeff Brown. This article was submitted by Don K6RUS.

I have also attached to the e-mail that was used to send the Readout the presentation for working public service events. This was presented at our last club meeting. We have an article by our club president Wally KK6CPN and the meeting minutes from January submitted by club secretary Robin KG6ZYQ.

If you are interested in emergency communications and public service please checkout the Stanislaus ARES section of the newsletter.

If anyone has information that they want included in the Readout please submit to the editor at <u>kf6npg@aol.com</u>. Please try and have the information or articles to the editor by the  $5^{\text{th}}$  of each month.



We learned at our last meeting that Al KD6WYO became a SK (Silent key). He was a long-time member of the SARA Club and Stanislaus A.R.E.S. Our thoughts and prayers go out to his family. In the first picture Al is sitting with Jimmy another long-time SARA Club and Stanislaus ARES member. These pictures were taken at community events. Both Al and Jimmy were in attendance at most every event that the club was called upon to work.



Al Jimmy KD6YWO KF6BPC



Al KD6WYO



## Message from the Club President Wally KK6CPN

Welcome to a new year and it is that time of year to renew your membership. As you know this year our dues went up to \$30 for a single member or \$45 for family membership (you and one family member in your household).

Your membership dues go to upkeep of your repeater systems, rent, electricity and insurance for Mount Oso where our radio equipment is located.

I hope this will be a very good year for the club and we have an almost new board this year and I look forward to working with them.

That's all for now, see you at our next membership meeting on February 19<sup>th</sup>. Remember we can't leave the door open as we have in the past so if the door is closed please knock on the door. Please do not use the door buzzer.

Because of a room scheduling conflict, the SARA club meeting will be in the training room on March 19, 2019. This is the interior room that is across from the ARES room at 3705 Oakdale. Please be patient when waiting at the door to get into the building.

Wally KK6CPN

Stanislaus Amateur Radio Association

January 15, 2019

(conducted at OES 3705 Oakdale Rd)

#### MINUTES

President Wally, KK6CPN called the meeting to order at 7:00 p.m.

Sergeant at Arms Danny, W6DMC led the Pledge of Allegiance

President Wally, KK6CPN led the round of introductions

The minutes from December 19, 2018 were read, **Bill**, **AE6J** moved and **Scott**, **N6CIC** seconded to accept the minutes.

President **Wally, KK6CPN** reported Justin, KK6DHX was home for the holidays, update on ARES Connect and FEMA site, upcoming club presentation will be on low levels.

Vice President Jason, KA6TIO: had no report.

Treasurer Vicki, KJ6RCV gave her treasurer's report. As of January 14, 2019, our account balance is \$5,742.28 of which \$600.22 is the Field Day Fund. Four bills paid: PG&E (Mt Oso utilities), Moeller Mt. Oso (Repeater Site Rent), Sam Gardali (D-Star yearly utility Mt. Bullion), and USPS PO Box Rent total of \$314.19. Income: Split the Pot, Anonymous Donation, and Dues total of \$662.00, moved John, K6JRO and Mel, W6EOV, seconded to accept the treasurer's report.

Sergeant at Arms **Danny, W6DMC** brought cookies to enjoy and has raffle tickets for Field Day fund, one ticket for a \$1 or (6) tickets for \$5,

Board Members: Paul, W6UHF nothing to report.

Equipment/Mt Oso: Paul, W6UHF reported everything is fine.

**ARES:** Lucian, KF6NPG next meeting is February 2, 2019 will be doing packet and Winlink training. ECO testing 9:00 a.m.

<u>Community Events:</u> Lucian, KF6NPG Snelling Road Race, February 23, Turlock Road Race, April 6 and March of Dimes, April 6 8:00-12:00 p.m., Lucian is needing a few operators for these events. Newsletter is out deadline to submit articles is Feb. 4, 2019.

Weather: President Wally, KK6CPN reported flash flood warnings through Thursday

Ham Cram: John, K6JRO reported on Ham Cram February 16, registered so far (9) Tech. and one upgrade. No FCC licenses were issued during the Shutdown.

<u>Un-Finished Business</u>: President Wally, KK6CPN discussed the By-Laws in regards to the number of Board Members, which is three now, need to approve a fourth member with a re-vote. Fourth Board Member re-voted and approved moved by Lucian, KF6NPG and seconded by Randy, KJ6RJS.

Break/Raffle: 50/50 raffle \$32.00 won by Jason, KA6TIO donated back to Field Day fund.

<u>Presentation:</u> Lucian, KF6NPG did a presentation on Public Service Events (Why? What you need)

Vice President, Jason KA6TIO reported Al Carpenter, KDGYWO became a Silent Key.

Meeting Adjourned: approximately around 8:00 p.m.



### Where Oh Where Have the Sunspots Gone?



As amateur radio operators we are not solar scientists, but we certainly do have an interest in the behavior of the sun because of the huge impact it has on short wave communications. The phenomenon that interests us most in the sunspot cycle, and in particular the appearance and number of sunspots. As sunspots appear and disappear amateur radio operators have learned they must be adaptable to effectively communicate over the high frequency bands.

Sunspots are dark specks on the surface of the sun that are cooler than the surrounding area and are caused by intense concentrations of magnetic flux that inhibit convection. Sunspots usually appear in pairs of opposite magnetic polarity. Their number varies according to the approximately 11-year solar cycle. Individual sunspots or groups of sunspots may last anywhere from a few days to a few months but they eventually decay.<sup>1,2</sup>

The size of sunspots varies but the largest are as big as earth and contain magnetic fields that are thousands of times stronger than the earth's magnetic field. The appearance of sunspots also coincides with increased explosive solar activity such as solar flares and coronal mass ejections which emit powerful radiation and energetic particles into space and towards earth. We are protected on earth from this radiation by the atmosphere and magnetic fields but for satellites and humans exploring space there is no protection.<sup>3</sup>

It is exactly this solar activity which interests radio amateurs as sunspots become more numerous the level of ultraviolet radiation pumped into the earth's ionosphere increases. The ionosphere contains electrified levels of ions and this increase in ultraviolet radiation causes higher levels of ionization in the electrified layers surrounding the earth. This in turn increases the ability of the ionosphere to bend radio waves back to earth and return them great distances from their source.<sup>4</sup>

But where are we now in the approximately 11-year solar cycle? The solar cycle refers to an 11year long period in which the magnetic poles of the sun flip from north to south or vice versa with a concomitant increase and then decrease in magnetic activity as evidenced by the appearance and disappearance of sunspots. We are in solar cycle 24 which began on January 4, 2008 and is expected to end (reach its minimum) in 2019.<sup>5</sup> Below can be seen the progression of sunspot activity in cycle 24 through September 2018 (chart from NOAA).



It can be seen that cycle 24 was not as active as the previous cycle 23. This is not unexpected as the intensity of sunspot maximums vary from cycle to cycle as shown below in the charts from NASA.



For amateur radio old-timers (like me) solar cycle 19 was a banner period for radio communications, with world-wide contacts possible using low power and minimal antennas. But what about the upcoming solar cycle 25-is it expected to show more or less sunspot activity compared to cycle 24? As of yet there is no consensus on cycle 25 but solar experts and scientists will be convening in forthcoming months to review their predictions.

Weekly solar activity is reported on the ARRL website (The K7RA Solar Update), and more details are available on the NOAA website<sup>6</sup> and at solarham.net<sup>7</sup>. Besides daily and average counts of sunspots these sites report solar flux measurements, which is a measure of the total radiation received from the sun, and the effect of solar activity on the geomagnetic fields of the earth-the planetary K and A indices. Higher solar flux levels are observed during sunspot maxima (200-300)<sup>8</sup> with current averages around 70 during the end of solar cycle 24. Intense

solar storms and solar flares cause large perturbations in the earth's geomagnetic field result in higher planetary K and A values (The A index is a daily average of K indices)<sup>8</sup>. Planetary A indices less than 15 usually indicate satisfactory HF communications, with levels higher than 15 resulting in an adverse effect-even to a complete HF blackout.

Despite the current bottom of solar cycle 24, amateur radio operators will continue to adapt to changing solar activity and thus to varying band conditions. It is a chance to try the lower HF bands, 80 and 160 meters, to improve antennas, and to use HF propagation tools like the WSPR mode of WSJT-X. That is what makes the amateur radio hobby so much fun and interesting!

Scott Griffin, N6CIC

#### **References**

- (1) "Sunspots", NOAA, retrieved 22 Feb., 2013.
- (2) "How are Magnetic Fields Related to Sunspots?", NASA, retrieved 22 Feb., 2013.
- (3) K. R. Lang, Tufts Journal, March 3, 2010.
- (4) K. Larsen, https://ham.stackexchange.com/questions/125/how-and-why-sunspots...
- (5) Solar-Terrestrial Centre of Excellence, <u>www.ste.be/node/359</u>
- (6) www.swpc.noaa.gov
- (7) VE3EN, www.solarham.net
- (8) Ian Poole, G3YWX, "Understanding Solar Indices", QST, Sept. 2002, pp 38-40.

# Why 5G Won't Make You Sick

#### Dear Reader,

With 5G wireless network construction happening at an accelerated pace, and early 5G wireless broadband internet services already available in a few markets around the U.S., 2019 is the year when consumers will see the first 5G smartphones available in the market.

Even just the last month has been exciting, with Verizon and Samsung announcing that they will release a 5G smartphone in the first half of this year. While any consumer can buy these new 5G smartphones, only those that live in areas where the 5G network has been constructed will benefit from the incredible performance of these new networks.

Not surprisingly, we've been receiving a lot of questions about whether or not 5G wireless technology is safe for consumers. It's important for us to ask these questions, and also to understand the facts behind the research.

Mobile phones emit radio frequency radiation, or radio waves, which are a form of non-ionizing radiation. This kind of radiation is normal and all around us. Nonionizing radiation only has enough energy to excite a molecule, and the byproduct is merely heat.

lonizing radiation, by contrast, is higher-frequency and can be a severe health hazard. It can cause radiation sickness, burns, cancer, and even genetic damage. Ionizing radiation is the kind of radiation we find in using nuclear power.

It is important to be clear that 5G wireless technology is a form of *non-ionizing radiation*. And for that matter, so is the current 4G wireless technology and every other generation prior to that.

Since radio frequencies (RF) have been used in radio, TV, wireless networks, and many other services for decades, this is a careful area of study for regulatory agencies to ensure that these RF waves have no negative impact on consumers' health.

To be very clear, there has been no conclusive evidence that RF wireless technology causes any side effects in consumers that use, or even those in the presence of, wireless networks. <u>A recent study in Denmark</u>, published in the *Journal of the National Cancer Institute*, analyzed the records of more than 358,000 mobile phone subscribers with brain tumor incidence data from the Danish Cancer Registry. The "analysis found no association between cell phone use and the incidence of glioma, meningioma, or acoustic neuroma, even among people who had been cell phone subscribers for 13 or more years."

Last year, there was some very bad reporting concerning a recent study on the effects of high exposure of radiofrequency energy on rats. It found that male rats exposed to radio waves developed schwannomas (small tumors) on their hearts at statistically higher rates than the control group. However, mice and female rats exposed to the same radio waves did not develop any of these small tumors.

Somewhat ironically, those animals that were exposed to the radiofrequency radiation actually lived longer than the control animals that weren't.

Also worth mentioning is that there have only been a handful of documented cases in humans of schwannomas of the heart... They are incredibly rare in humans.

This study was conducted by the National Toxicology Program (NTP), which is part of the National Institutes of Health (NIH). Worth noting is that the study was performed at the request of the Food and Drug Administration (FDA) which is responsible for determining the safety of such radiofrequency energy.

Left out of the negative reporting on this research was the fact that the study used levels of radiofrequency energy that were considerably above what the FDA deems as the current safety limit for cell phones. And the current safety limits have a 50-fold safety margin to ensure consumer safety.

In the <u>words of the FDA</u>, "the levels and duration of exposure to radiofrequency radiation were much greater than what people experience with even the highest

level of cell phone use, and exposed the rodents' whole bodies. So, these findings should not be directly extrapolated to human cell phone usage."

The FDA summarized that "we have not found sufficient evidence that there are adverse health effects in humans caused by exposures at or under the current radio frequency energy exposure limits."

In support of the FDA's position, the National Cancer Institute notes that it does not see increasing numbers of brain tumors in the general population. Given that humans have been exposed to radio frequency energy for decades, if there was a direct correlation to our health, we should have seen the impact already. So far, we have not.

For obvious reasons, I'll be tracking this topic closely as 5G wireless networks become more widespread. My readers know well that 5G wireless networks use as much as 5 times more cell phone towers than 4G, and more power, in order to deliver 100x or more speed to smartphones. It's important to note that all 5G-enabled smartphones will still meet the safety limits and standards set by the Federal Communications Commission (FCC), which is informed by the FDA.

The above research should dispel any concerns you might have about 5G's impact on your health. But if you're still worried about it, I'll leave you with a couple extra steps you can take to minimize your RF exposure...

First, use a landline phone whenever possible and try to avoid long conversations on mobile phones. Second, and more importantly, when you do have long conversations on mobile phones, I strongly recommend using some kind of headset (wired or wireless) that allows you to talk without having the mobile phone right next to your head. For those who have any health concerns at all with mobile phones, this is a simple step of precaution that anyone can take. With that, we're in for an incredible year as 5G wireless technology becomes available throughout the U.S. and in other major developed markets around the world. Within the next 12 months, we're going to see such incredible improvement in wireless service, we'll wonder how we ever survived without it.

Regards,

Jeff Brown Editor, *The Near Future Report* 

**Joining S.A.R.A.:** We are currently taking membership applications for 2019.

One-year membership dues are \$30.00 for individuals, or \$45.00 for a Family.

To join S.A.R.A., fill out the registration form on the next page and bring to any S.A.R.A. meeting or mail to: P.O. Box 4601, Modesto, Ca., 95352-4601.





# STANISLAUS AMATEUR RADIO ASSOC. MEMBERSHIP FORM

Check One: New Member Renewin	g Member Family Membership	
NAME:	CALLSIGN:	
ARRL Member:(Yes) (No)		
ADDRESS:	CITY:	
ZIP: PHONE: Home	Cell:	
E-Mail:		
ADDITIONAL FAMILY MEMBERS A	AT SAMEADDRESS:	
NAME: ARRL: (Yes) (No)	CALL SIGN:	
NAME: ARRL:(Yes) (No)	CALL SIGN:	
TOTAL DUES PAID: Date:		
One-year membership dues are \$30.00, l	Family Dues are \$45	

Note: Bring membership form to SARA Meeting or Mail to: SARA Club, P.O. Box 4601, Modesto, CA 95352-4601

# Ham Cram Information

Study for new amateur radio license or upgrade your current license Sponsored by SARA and Stanislaus County ARES



When and Where? February 16, 2019 3705 Oakdale Road, Modesto, CA

Registration opens at 7:45AM and the study session begins promptly at 8:30AM

Test begins at 4:00 PM

Please bring the following:

• A valid identification, preferably CDL (California Driver's License)

• Cash or check for \$25 for the Ham Cram study and testing session, check preferred and payable to Stanislaus Amateur Radio Association (SARA).

• If you are attending the test only session at 4:00pm the cost is \$15.00

• If you are upgrading your license, please bring a copy of your current license as well as the ORIGINAL.

#### Sign Up

Please send the following information to hamcram@stanares.org

Full name Address Phone Call Sign if you have one If you're interested in the all-day Cram (study session) or Test only? Any other comments





# The Stanislaus ARES Report

The Stanislaus County Amateur Radio Emergency Service is composed of FCC licensed Amateur Radio operators who have voluntarily registered their capabilities and equipment for public service communications duty under Federal regulations, Amateur Radio public service communications are furnished without any compensation of any kind. ARES® personnel are prepared to respond during emergencies by a continual training program, and by maintaining their radio equipment and other response items in excellent condition. The team consists only of those who want to help, and who are dedicated to staying prepared to render radiocommunications assistance during emergency conditions.

ARES® operates under the authority of the Stanislaus County Office of Emergency Services (OES), and the Stanislaus County Assistant Director for OES. ARES® is organized under the auspices of the American Radio Relay League, the San Joaquin Valley Section Manager, and the San Joaquin Valley Section District Emergency Coordinator. Operational control is under the Stanislaus county OES.

If you are interested in joining Stanislaus ARES go to the ARES connect web site <u>https://arrl.volunteerhub.com/lp/sjv</u> and create an account. Please check in on the ARES radio net very Wednesday at 7:30 pm on the 145.390 – pl. 136.5 S.A.R.A. repeater and attend the monthly training meeting at 10:00am on the first Saturday of the month at 3705 Oakdale Road Modesto, CA. Meeting dates and times can change due to operational needs. Please check the web site for updates.

At the last ARES meeting we had training on the winlink Peer to Peer message section. The next ARES meeting will be Saturday March 2, 2019 and there will be training on the use of the tigertronics signal link sound modem.

#### **ARRL EC-001 Emergency Communications Course**

If you need to take the ARRL Emergency Communications Course (EC-001) Stanislaus ARES can help. The EC-001 workbook is out of print, however The Indian River County ARES has all of the study information (including test and answers) posted on their web site. Recent amateurs who have taken the test have printed out the test questions and answers and have studied like they would for a ham cram. Pass rate has been about 100 percent.

Here is the web site for the ARRL Introduction to Emergency Communications Course (EC-001):

Go to <u>www.ircares.org</u> This is the web site for the Indian River County ARES. Once you are on the web site click on the training and reference tab. Then click on the ARRL Introduction to Emergency Communications (EC-001) tab. That will take you to the course information.

Once you complete the on-line study you can arrange with Stanislaus ARES to take the ARRL test. We generally give the test at a ham cram session or before or after the monthly ARES meeting. Please e-mail Pat KG6JXZ at <u>kg6jxz@charter.net</u>, or Lucian KF6NPG at <u>kf6npg@aol.com</u> or John K6JRO at <u>k6jro@arrl.net</u> to arrange to take the test. *There is a \$15.00 test administration fee payable to ARRL*.



## COMMUNITY EVENTS





### January

Saturday – Sunday 26<sup>th</sup> and 27<sup>th</sup> Winter Field Day

### February

Saturday 16<sup>th</sup> Ham Cram 7:30a-5p

Saturday 23<sup>rd</sup> Snelling Road Race Henderson Park Snelling, CA 7a-4p (depending on assignment) need 7 operators

## March

## April

Saturday 6th ARES Meeting 10a-12pm

Saturday 6<sup>th</sup> Turlock Road Race 7a-3p (depending on assignment) Turlock Lake 22600 Lake Rd. La Grange need 15 operators

Saturday 6<sup>th</sup> March of Dimes Walk 8a-12p Beyer Park 4 operators

Saturday 20<sup>th</sup> Copperopolis Road Race 7a-3p (depending on assignment) Hunt Road and Milton Road need 8-9 operators

Saturday 27th MS Walk 8a-12p Beyer Park need 4 operators



#### LOCAL NETS

All SARA nets meet on the 145.390 – pl 136.5 repeater except where noted.

SARA Club net is every Tuesday (except the 3<sup>rd</sup> Tuesday) at 7:30pm.

The morning traffic and information net meets Monday through Friday from 7:00am to about 8:00am.

The Stanislaus County ARES net meets every Wednesday at 7:30pm.

The Space net meets every Friday at 8:00pm

S.A.R.A. meets the Third Tuesday of every month at 7:00pm at 3705 Oakdale Road Modesto, CA 95357. The club website is <u>www.saraclub.net</u>.

The Stanislaus County ARES generally meets the First Saturday of the month at 10:00am at 3705 Oakdale Road Modesto, CA 95357. Meetings can be changed due to training requirements please check the web site for current information. The web site is <u>www.stanaresorg</u>.

S.A.R.A. operates several repeaters.

These are located on Mt. Oso in Patterson, CA:

145.390 – pl 136.5	51.800 - pl 136.5
224.240 - pl 136.5	440.225 +pl 136.5

Digital node 144.910, digipeater name "SARA".

145.110 - pl 136.5 is a low-level repeater located in Modesto, CA.

Turlock Amateur Radio Club (W6BXN) has several nets as well:

Morning commute and Beer and Pizza Net Monday through Friday 6:30am to 7:00am 147.030 + pl 100 or 447.700 + pl 94.8.

Weekly club net every Tuesday (except the 2<sup>nd</sup> Tuesday) at 7:00pm on the above repeaters.

DMR round table net every Monday at 7:00pm on the TARC regional talk group. Brandmeister TG 310658 which is linked to the W6BXN DMR repeaters.

TARC meets the second Tuesday at 7:00pm at the Salvation Army 893 Lander, Turlock, CA.

Merced ARES has a weekly net on Mondays at 8:00pm on the TARC repeaters. They have a monthly meeting the third Wednesday at 6:00pm at the Merced County Health Department, 260 East 15<sup>th</sup> Street Merced, CA.

TARC web site is <u>www.w6bxn.org</u> and Merced ARES is <u>www.mercedares.org</u>.



# 2019 SARA Club Officers:

President	Jim Walsh KK6CPN
Vice President	Jason Peitz KA6TIO
Secretary:	Robin Axton KG6ZYQ
Treasurer	Vicki Peitz KJ6RCV
Sergeant at /Arms	Danny Cortez W6DMC
Board Member	Paul Owen W6UHF
Board Member	Tom Brawley K6KQR
Board Member	Brendon Church NK6M
Board Member	Bill Danforth AE6J
Committees/Workgroups:	
Club Technician	Patrick Dunbar KG6JXZ
Readout Editor	Lucian Thomas
Community Events	Lucian Thomas
Stanislaus County ARES	Emergency Coordinator
	Pat Mandas KG6JXZ

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