

## **In the news from Amateur Radio New South Wales for this week;**

Next weekend is the 2023 Remembrance Day Contest. It is held each year over the weekend closest to the 15<sup>th</sup> of August, the date on which hostilities ceased in the southwest Pacific. The contest commemorates the Amateurs who died during World War II and is designed to encourage friendly participation and help improve the operating skills of participants.

The contest starts at 1pm local time on Saturday and runs until 1pm on Sunday. Subject to delivery, VK2WI and automated relays will broadcast the opening address prior to the contest commencement – check usual frequencies from about 12:45pm.

VK2WI News would like to hear from clubs and groups planning Amateur Radio activities; just email the details and contact information, to [news@arnsw.org.au](mailto:news@arnsw.org.au). We also welcome reports on recent activities.

General enquires can be directed to the ARNSW office via email, to [office@arnsw.org.au](mailto:office@arnsw.org.au), or by leaving a phone message on 02 9444 0123.

Tonight, we also welcome listeners on the EchoLink “HAM” conference, and the Australian & New Zealand EchoLink Network. Callbacks will also be taken after tonight’s bulletin; our thanks to John VK3HJQ, and the Australian & New Zealand EchoLink Network team, for making this relay available.

# Weekly Solar and Geophysical Report

For the period of the 28<sup>th</sup> of July to the 3<sup>rd</sup> of August.  
First, the summary of activity;

Dates across the columns are	28 <sup>th</sup>	29 <sup>th</sup>	30 <sup>th</sup>	31 <sup>st</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
10cm Flux	168	179	174	177	175	173	163
Fredericksburg A-Index	5	8	18	8	9	10	7 estimated
Australian A-Index	4	6	5	3	5	9	3 estimated
T index	101	111	122	112	108	131	106

Solar activity was at R1 levels all week. The 1<sup>st</sup> of August saw the most flares, with six M-class flares in total; the strongest, M3.6 at 0657UTC.

Geomagnetic activity in the Australian region was low to moderate all week, remaining below warning threshold.

F2 critical frequencies in Southern Australia remained mostly near predicted monthly values, with periods of enhancement; 15% on the 30<sup>th</sup> of July; 15% at day and 20% at night on the 31<sup>st</sup>; 15% during local night on the 1<sup>st</sup> of August; 20% during the day and 30% at night on the 2<sup>nd</sup>; and 15% enhancement during local night on the 3<sup>rd</sup>.

The forecast, issued on the 4<sup>th</sup> of August, through until the 10<sup>th</sup>;

Solar activity is expected to be at R0 to R1 levels, with a possibility of isolated R2 flares.

Geomagnetic activity is expected to be G0 to G1, with a chance of G2 or G3 on the 5<sup>th</sup> and 6<sup>th</sup>.

Maximum usable frequencies may be mildly depressed up until the 7<sup>th</sup>, particularly during local nights and after local dawn. MUFs mostly near predicted otherwise.

*Data courtesy of the Australian Space Weather Forecasting Centre.*

# Space Weather Summary for July 2023

*Compiled with data from the Australian Space Weather Forecasting Centre*

Solar activity was predominately at the R1 level throughout July with a total of 51 M-class and 1 X-class flare. The 2<sup>nd</sup> of July reached R3 – with the largest flare, X1.0 at 2314UTC. R2 conditions were observed on the 11<sup>th</sup>, 12<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup>; and R1 flares on 25 days throughout the month.

Three periods of Proton flux elevation were observed in July. The first reached S1 level on the 16<sup>th</sup>. The second reached S2 on the 18<sup>th</sup>, before returning to S1, where it remained until the 20<sup>th</sup>. Another elevation from the 29<sup>th</sup> to the 30<sup>th</sup>, was mostly at S1 level with a brief S2 period.

Solar wind speed saw several elevated periods; over 06 to 07<sup>th</sup>, 15<sup>th</sup> to 18<sup>th</sup>, 25 to 27<sup>th</sup> and 30<sup>th</sup> to 31<sup>st</sup>. Most of these increases were due to CME impacts, with only minor coronal hole influences. The peak interplanetary magnetic field strength was 15 nanotesla, observed on the 14<sup>th</sup> of July, due to a CME impact.

The strongest geomagnetic disturbance was observed on the 17<sup>th</sup>, with a local A-index of 17. Overall, Australian region geomagnetic conditions remained below warning threshold for July. Planetary geomagnetic conditions reached G1 on the 16<sup>th</sup> to 18<sup>th</sup> and again from the 25<sup>th</sup> to 26<sup>th</sup>, due to CME impacts.

No significant ionospheric depressions were observed, though mild depression up to 15% were observed on the 5<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> and 18<sup>th</sup>. Ionospheric frequencies of support were near predicted for the first half of the month and generally enhanced over the second half of the month.

Mild depressions to maximum usable frequencies (MUFs) were observed during local night hours. Spread-F was observed at high and mid-latitudes during local night and dawn hours. Ionospheric scintillation was observed at Niue island on 04, 17, 21, 30 and 31 July. Twelve shortwave fadeouts occurred to the Australian region over the month, however, most of these fadeouts were short in duration and affected lower frequencies only.

Australian T-index average for the month was 104.

## Foundations of Amateur Radio

This series, written and produced by Onno VK6FLAB, continues a weekly examination, of the building blocks of Amateur Radio.

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### **[Play File: 15-FOAR053.wav]**

*Duration: 3m27s*

*In: "Training is a word..."*

*Out: "...I'm Onno VK6FLAB"*

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For more information about this series, including audio, transcripts and other useful amateur radio resources, Onno's website is; [vk6flab.com](http://vk6flab.com); you can follow him on Twitter, @VK6FLAB; and you can contact Onno by email, to [cq@vk6flab.com](mailto:cq@vk6flab.com).

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### **[Play File: 16-E-ID2.wav]**

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## [WICEN News]

And now with this week's WICEN News, here's Richard VK2SKY;

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### [Play File: 17-E-WNS0730.wav]

*Duration: 1m52s*

*In: "The monthly WICEN meetup..."*

*Out: "... at wicen.org.au."*

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#### [Transcript]

*The monthly WICEN meetup was on here at Dural this morning; the next one is on 3 September.*

*Otherwise, all is quiet on the activities front, so time to rest up and make sure you're ready for the next activation.*

*To participate in any WICEN event, or just find out more about how to use your Amateur Radio skills in times of need, you can email [wicen.ops@vrarescue.org](mailto:wicen.ops@vrarescue.org).*

*The theme for the September/October edition of Amateur Radio magazine will be "When All Else Fails". If you have a story to tell about using your radio skills in a time of emergency, why not get it in print?*

*WICEN nets take place every Sunday evening, using FM voice, DMR, or HF voice, depending on the week. All WICEN members and other Amateurs are welcome to join in.*

*Next Sunday, the 6pm net will be on the Kurrajong 70cm FM repeater, 439.825MHz and a 91.5Hz tone, with net controller VK2WIB; and the 6.30pm net will be on DMR Talk Group 3810, with net controller VK2WID.*

*WICEN NSW is a support squad of VRA Rescue NSW, specialising in tactical radio communications. In between activations, WICEN supports local community events: these provide practical training for members, and help raise the public profile of Amateur Radio.*

*To find out more, check out the WICEN NSW web site, at [nsw.wicen.org.au](http://nsw.wicen.org.au), that's*

*N - S - W DOT W - I - C - E - N DOT O - R - G DOT A - U*

*WICEN is also on Facebook, and on Twitter @wicennsw [at WICEN N S W]; there, you can find photos and information about recent and upcoming WICEN activities.*

*For information about other WICEN groups around Australia, visit the web at [wicen.org.au](http://wicen.org.au).*

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[WICEN NSW web site: <https://nsw.wicen.org.au/> ]

[WICEN NSW facebook at <https://www.facebook.com/WICENNSW> ]

[WICEN NSW twitter at <https://twitter.com/wicennsw> ]

## Club News

The Club's AGM was held yesterday, Saturday the 5<sup>th</sup> of August in the SES Building in Port Macquarie. A short August Monthly General Meeting was held at the conclusion of the AGM. At the AGM, the following office bearers were elected;

President, Henry VK2ZHE; Vice President, Paul VK2ICQ;  
Secretary, Henry VK2ZHE; Treasurer, Dennis VK2DAM;  
Committee Members, Larry VK2CLL, Rob VK2CRF and Lyle VK2SMI.

With the exception of the QSL Manager and Social Director positions which were not filled at the AGM, all the other existing office bearers were re-elected for the 2023-2024 Financial Year. In addition, Des VK9FLI and Bob VK2CAN were awarded Life Membership and Rob VK2CRF was made 2023 Clubman of the Year.

The Club's monthly Coffee Morning is at 10am on this Thursday the 10<sup>th</sup> of August 2023 at Brooklyn's Burger Bar, Thrumster.

Members are reminded that membership subscriptions became due on the 1<sup>st</sup> of July 2023. Thank you to the members who have already renewed, and Prompt payment of outstanding renewals will be greatly appreciated.

Installation of the VK2RPM RadNet DMR repeater at Middle Brother has been delayed, but has now been rescheduled for early August.

There are two club nets each week; the mid-week net from 7:30pm on Thursday nights, and the weekend net at 9am Sunday mornings. Both are on the VK2RPM 2 metre repeater, 146.7MHz with a 91.5Hz sub-audible tone for access, and on EchoLink as VK2RPM-R. Members and visitors are encouraged to participate in the club on air nets as often as possible.

For more information about the Oxley Region Amateur Radio Club, visit the website at [orarc.org](http://orarc.org). The newly published July 2023 issue of the club's bimonthly newsletter "Oxtales" is now online, and past issues are on the website as well. This features a detailed report on the Annual Field Day. You can also find the club on Facebook; just search for Oxley Region Amateur Radio Club.

*From Henry VK2ZHE  
For the Oxley Region Amateur Radio Club.*

## **Illawarra Amateur Radio Society**

The next meeting of the Society is on this coming Tuesday the 8<sup>th</sup> of July. The general meeting starts at 7:30pm, directly following the Society's Committee Meeting at 6:30pm. Attendees are most welcome to arrive from 6.30 onwards to enjoy a pre-meeting chat and cuppa in the foyer.

Meetings are at the BlueScope Steel Visitors Centre, on the southern side of the Wollongong CBD. After turning off Springhill Road into the BlueScope main entrance road, attendees then turn immediately right before the security gates, following the large signs towards the Visitors Centre.

July's meeting is also the Society's Annual General Meeting, with all Executive and Committee positions vacated and up for election. While many on the current Board are willing to stand for re-election, "new blood" is both welcomed and needed. All Members of the Illawarra Amateur Radio Society are able to nominate for any positions.

Following the AGM, there will be the opportunity for a chinwag with fellow attendees. As an added bonus, Supper will be homemade plum pudding and custard for a belated Christmas in July Celebration held in August. This rather unusual idea was an off-the-cuff suggestion made many months ago, that then grew into an eagerly supported proposal with the Society's Treasurer John VK2EJL offering to be the cook.

On Saturday the 16<sup>th</sup> of September, both the Mid-South Coast ARC and the IARS are having a picnic day at Fitzroy Falls. These days always prove to be very popular. All listeners are most welcome to come along. Further details next month.

The Society has three weekly Nets. The Saturday morning net starts at 9:30am, run by Steve VK2BGL. This Net often has check-ins from all over Australia and the world and is usually an open topic forum. You can join via the 2 metre repeaters, VK2RMP on 6850 or VK2RUW on 6675, or from out of town via EchoLink, VK2BGL-R.

The Thursday afternoon net starts at noon, run by Chris VK2CY. This Net is made up of many retired Marine Radio Operators and Radio Inspectors, but everyone is welcome. As you can imagine their topics of discussion can be far reaching, informative and enlightening. The Net is also on the 2 metre repeaters 6850 and 6675, while out-of-towners can check-in on Echolink via VK2MT-R.

The third weekly Net is on 80 metres on Tuesday evenings, except for meeting nights, at 8:30pm; this Net is a get together of Society members having a casual chin-wag. The usual frequency is 3666kHz, plus or minus for other usage.

You can find out more about the Illawarra Amateur Radio Society, including details on Amateur Radio training and examination activities, on the web at [iars.org.au](http://iars.org.au), and the society is also on Facebook. The website again; [iars.org.au](http://iars.org.au).

To conclude, all listeners are invited to attend the next meeting of the Illawarra Amateur Radio Society, 7.30pm this coming Tuesday the 8<sup>th</sup> of August, at the BlueScope Steel Visitor Centre, just south of Wollongong city.

*Rob VK2MT*

*President of the Illawarra Amateur Radio Society.*

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## Central Coast Amateur Radio Club

The club rooms at Kariong are open on Saturdays from 10:30am; and, as always, members and visitors are most welcome.

Yesterday, the club held its Annual General meeting. The CCARC expresses its thanks to the outgoing executive and committee; and congratulations to the incoming with best wishes for the coming year.

Last week's open day began with a PowerPoint presentation, taking us on a brief journey on the development of microcontrollers – and how functionality has evolved from dedicated hardware, to transducers interfaced to an microcontroller with functionality provided in software. The ease of use of the Arduino and support available was highlighted.

To demonstrate what's possible, various ham radio Arduino projects were shown, ranging from station accessories such as power meters, rotator controllers etc up to the micro BITX Arduino based transceiver. We had a look at the Arduino software to show some of its features. Prototyping of projects was covered, followed by lunch provided by Glenn and Steve.

We wrapped up the session with a show and tell of Arduino parts and projects. The audience went away with some support documentation, and all remarked that they enjoyed the day and were eager to try an Arduino based project.

At the VK2RAG Somersby repeater site, the D-Star, Rad-Net DMR and 2m Echolink services are fully functional. The 23cm repeater is currently off-air, being replaced.

The Somersby WebSDR is online at [websdr.ccarc.org.au](https://websdr.ccarc.org.au); its configured to listen on 6 metres, 2 metres, 70 centimetres and 23cm.

The Club's Morning Tea Net is on each weekday from 10am, and the weekly Net is at 8pm on Thursday night. Both nets are on the VK2RAG 2 metre repeater - 146.725MHz with a 91.5Hz sub-audible tone, and on the CCARCNSW and HAM EchoLink conferences. The Thursday evening net is also live video-streamed on the club's Facebook page.

You can find out more about the CCARC, including information on upcoming social events and all the details we can't tell you about here; on the web at [ccarc.org.au](http://ccarc.org.au) – by phone, 02 43402500 – or social media, search Central Coast Amateur Radio Club; remember to “like” to follow for updates.

*73 Alan VK2MG*

*Publicity Officer, Central Coast Amateur Radio Club.*

## Fisher's Ghost Amateur Radio Club

The next Amateur Radio Repeater Group fox hunt will be on the 20<sup>th</sup> of August, in the Macarthur area. The format will be the same as usual with 4, or maybe even 5 foxes to find, after check-ins are taken on the VK2RFG repeater at 9:00am.

The location of the foxes will be somewhere between Casula and Narellan Rd in the vicinity of the Hume Hwy corridor. A more precise location hint will be given after check-ins are taken. There will be a BBQ lunch provided at the location and anyone is welcome to attend. More updates will be provided closer to the date, or keep an eye on the website, <https://arrg.club>.

The next Meeting of the Fisher's Ghost Amateur Radio Club is on Wednesday the 30<sup>th</sup> of August, in Block M, Campbelltown School of Performing Arts, Beverley Road Campbelltown. The meeting starts at 7:30pm, and visitors wishing to learn more about the hobby of Amateur Radio are most welcome to attend.

Weekly nets are on Thursday evenings from 7:30pm on the Club repeater, VK2RFG. Anyone is welcome to check-in. The repeater has a negative 7MHz input and a 91.5Hz CTCSS tone is required for access.

To find out more about the Club's activities, visit the website at [fgarc.org.au](http://fgarc.org.au), and Facebook, by searching for VK2FG.

*Advised by Peter VK2PR  
For the Fishers Ghost Amateur Radio Club.*

## St George Amateur Radio Society

Listeners who can access the Society's VK2RLE 2 metre repeater at Engadine on 146.8MHz, may have wondered about the strange sounds being heard on Tuesday evenings. For some time, several amateurs have been experimenting with digital modes such as DRM - Digital Radio Mondiale and various flavors of SSTV - Slow Scan Television.

Anyone interested in these modes are invited to join the group, either as just a listener or taking a turn and sending a picture. You can join in via the VK2RLE repeater or via EchoLink - details are on the Society's website, [www.sgars.org](http://www.sgars.org).

Listeners with 6 metre capability are also invited to join a new 6 metre net to be run in association with the Society's 2 metre net on Thursday evenings. The 6 metre net will be simplex on 52.525 MHz.

Since the antenna replacement on the Mt. Bindo 2 metre FM repeater on 146.65MHz, coverage has improved greatly, with callbacks after VK2WI News broadcasts, from stations as far west as Orange. Amateurs west of the Blue Mountains are invited try out the repeater and don't forget to call back.

Details about all of the Society's repeaters, along with the Society's other activities, are on the website, [www.sgars.org](http://www.sgars.org).

*73 de Peter VK2EMU  
Publicity Officer, St George Amateur Radio Society.*

## Hornsby and Districts Amateur Radio Club

This Tuesday evening, the Club's mid-monthly meeting will be at the the Hornsby Rifle Club. The theme for the evening is to bring along the strangest thing from your shack to show and tell. Knowing the dark corners of some fellow amateurs shacks, this could be a rather interesting evening.

The rifle club offers a warm and comfortable location to meet and is always a popular evening. The Club looks forward to seeing you there at 8pm.

Looking up the word 'skip' in the dictionary, gives the definition "moving along lightly stepping from one foot to the other with a hop or bounce." While you may want to try working the HF bands with this approach, a more comfortable approach is to tune up on 20 metres in the afternoon, and make contacts in France or wider Europe letting the RF do the work for you. The DX has been excellent on 20 meters so why not give it a try?

*73 and let's keep radio-active,  
Matt VK2BAI.*

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## Activities on the air

### *Daily;*

**Manly-Warringah** “early bird” net, 6:30am on or near 3690kHz LSB; if that’s too early, the “morning” net is from 8am on or near 7189kHz.

The **CCARC Morning Tea net** *weekdays* from 10am; VK2RAG, 146.725MHz with 91.5Hz tone, also on EchoLink.

**Amateur Radio Central West Group** lunchtime net; 1pm on VK2RCW.

### *Mondays;*

**Westlakes ARC** net 9:30am on 40 metres, 7115kHz, VK2ATZ Portable.

**Great Lakes Radio Club** net 7pm on VK2RGL; 147.1MHz with 91.5Hz tone, EchoLink VK2RGL-R.

**Hunter Radio Group** VK2AWX News 7:30pm, 146.9Mhz and 438.025MHz.

**Amateur Radio Central West Group** net at 8pm on VK2RCW.

**Lightning Net** 8pm on 1860kHz, net control Steve VK2STG.

**HADARC** net 8pm on VK2RNS, 147.25MHz

**Waverley ARS** net 8pm on VK2RBV, 438.1125MHz with 91.5Hz tone.  
Activities online and on air; see website.

### *Tuesdays;*

**National VKDMR Net:** from 7:30pm on Talkgroup 505.

**Blue Mountains ARC** net from 8pm, 3543kHz.

**Illawarra ARS** 80m net at 8:30pm, 3666kHz.

### *Wednesdays;*

**Westlakes ARC** net 9:30am on 7115kHz. 2 Metre nets throughout the week, see website for details.

**Hunter Radio Group** net 7:30pm on 146.9MHz.

**HADARC** 8pm on 3608.5kHz

**Blue Mountains ARC** 8pm on VK2RBM, 147.05MHz, 123Hz tone.

**Amateur Radio Central West Group** from 8pm on 3653kHz.

***Thursdays;***

**Illawarra ARS** net 12pm; VK2RMP 146.850 and VK2RUW on 146.675.

**Fishers Ghost ARC** net 7:30pm on VK2RFG, 438.65MHz with -7MHz offset and 91.5Hz tone; also, on EchoLink.

**Oxley Region ARC** 7:30pm on VK2RPM 146.7Mhz with 91.5Hz tone.

**St George ARS** 8pm, VK2RLE 146.8MHz.

The **CCARC weekly net** from 8pm on VK2RAG, 146.725MHz with 91.5Hz tone, and EchoLink.

***Fridays;***

**Morning tea with HADARC** 9am on 7106kHz.

**Westlakes** 9:30am on 7115kHz.

**Amateur Radio Central West Group** at 8pm, VK2RCW.

***Saturdays;***

**Westlakes** Stone the Crows net; 6am on 3588kHz.

**Illawarra ARS** net 9:30am on VK2RMP and VK2RUW.

**Snowy Mountains ARC** net 7:30pm on Southeast network; VK2RFS 146.75MHz, VK2RSE 147.375, VK3RDH 146.625, and EchoLink.

***Sundays;***

**Westlakes** DMR Net, now from 8:00am, usually on Talkgroup 3802.

**Oxley Region ARC** from 9am, VK2RPM.

**WICEN NSW** nets; 6pm on Chatswood 2m or Kurrajong 70cm repeater; and 6:30pm on DMR or HF. Check website for details.