

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

Later in this bulletin, we have a summary of on-air activities from both Sydney, and across New South Wales. We would welcome any updates from club and groups; simply email [news@arnsw.org.au](mailto:news@arnsw.org.au) – we don't need full items, just the details of the activity and contacts. Don't forget, we always welcome reports on the outcome of recent activities, as well.

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.

VK2WI news bulletins are streamed live from our website, [arnsw.org.au/audio](http://arnsw.org.au/audio), and recordings of previous bulletins are also available.

Tonight, we 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 1<sup>st</sup> to the 7<sup>th</sup> of March.

First, the summary of activity;

Dates across the columns are	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>
10cm Flux	153	152	146	140	142	136	137
Fredericksburg A-Index	9	3	20	8	7	5	8
Australian A-Index	4	3	19	6	4	4	12 estimated
T index	122	109	113	84	108	119	119

Solar activity reached was low all week, remaining below warning levels.

Geomagnetic reached G1 on the 3<sup>rd</sup>, with low to moderate activity was observed on other days. A weak geomagnetic impulse of 22 nanoTesla was observed on the 3<sup>rd</sup> at 0958UTC. On the 7<sup>th</sup>, a geomagnetic impulse of 11 nanoTesla was observed at 0105UTC, and 9 nanoTesla at 0733UTC.

F2 critical frequencies in Southern Australia were mostly near predicted monthly values. Depressions of 20% were observed after local dawn on the 3<sup>rd</sup>; depressions of 30% during local day and 15% during local night were observed on the 4<sup>th</sup>.

The forecast, issued on the 8<sup>th</sup> of March, through until the 14<sup>th</sup>;

Solar activity is expected to be at R0 to R1 levels; Active region AR3599 is growing, and flare activity is becoming more likely.

Geomagnetic activity may reach G1 on the 9<sup>th</sup> and 10<sup>th</sup>, with low levels expected on other days.

Maximum usable frequencies are likely to be depressed after local dawn on the 9<sup>th</sup> and 10<sup>th</sup> if geomagnetic activity eventuates; otherwise, MUFs are expected near predicted monthly values.

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

# Space Weather Summary for February 2024

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

Solar activity in February ranged from R1 to R3 levels, with 44 R1, two R2 and five R3 flares. The largest flare of the month was X6.3 observed on the 22<sup>nd</sup>, which was also the largest flare of solar cycle 25 so far.

Several shortwave fadeouts were observed in the Australian region throughout the month, including strong fadeouts on 16<sup>th</sup>, 21<sup>st</sup> and the 22<sup>nd</sup>, in association with X-class solar flares. S2 solar radiation storms were observed on the 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, and 13<sup>th</sup>, following flares and coronal mass ejections (CMEs). While several CMEs were observed in February, none were significantly Earth-directed. CME shock arrivals were observed in solar wind data on the 4<sup>th</sup>, 11<sup>th</sup> and 24<sup>th</sup>.

Geomagnetic conditions were mostly quiet throughout February. An isolated period of G1 activity was observed in the Australian region on the 11<sup>th</sup>, due to a component arrival of a southwest solar limb CME observed on the 9<sup>th</sup>. Planetary G1 activity was observed on the 27<sup>th</sup>, associated with an interval of southward interplanetary magnetic field conditions.

Weak CME arrivals were observed on the 4<sup>th</sup> and 24<sup>th</sup>, but did not result in significant geomagnetic activity. The maximum planetary A-index observed during February was 15 on the 11<sup>th</sup> – the maximum Australian A-index reached 17.

Ionospheric conditions for HF radio communications were generally good. The 26<sup>th</sup> of February saw depression up to 30% in ionospheric frequencies of support, but the depression was restricted to east coast Australia during local daylight hours. Numerous shortwave fadeouts were observed during the month, impacting the lower HF frequencies. Strong HF fadeouts were observed in association with R3 flare activity, in particular the X6.3 flare on the 22<sup>nd</sup>. Ionospheric equatorial scintillation was observed at Darwin and Weipa on the 8<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup>, 19<sup>th</sup>, 22<sup>nd</sup>, 23<sup>rd</sup> and 25<sup>th</sup>.

Australian T-index average for the month was 137.

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**[Play File: 15-E-ID2.wav]**

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## Technical Feature

Continuing with our series, introducing various aspects of DMR... last week, we looked at talk groups and their role in networking; this week, Matt VK2FLY provides an overview of some of the DMR networks, that amateurs can use.

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### **[Play File: 16-TF-DMR5.wav]**

*Duration: 4m55s*

*In: As we have learned ...*

*Out: ...website for more information.*

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*[Transcript]*

*As we have learned, DMR is a type of modulation used to send digital audio over VHF and UHF. But there seems to be different networks. You might ask, isn't DMR all the same? Well, while DMR is all the same, the repeaters used are often connected to each other via the internet. These connections are through a central server, or in some cases, groups of network servers, which allow users of one repeater to talk to people within the range of another. These networks can be run by a wide range of people, and as you can imagine, they don't always see eye to eye. As a result, these networks can sometimes be disparate and not connect to each other. A good example of this is Brandmeister and DMR MARC - Both have international English calling channels. However, if you call CQ on a repeater connected to the Brandmeister network, and call CQ on that talk group, someone on the international talk group on DMR MARC network won't hear you.*

*So here's a quick rundown of the major networks worldwide - in no particular order.*

*Brandmeister is the biggest network. It consists of a group of network servers, typically geographically based. It has both connected hotspot users and repeaters. However, the largest group of connected users are on via hotspots. International calling is popular, especially on the International Talk Group 91. There are lots of short, sharp, DX-type contacts, and often a lot of doubling and confusion. There are many users and often users experimenting on the network. As a result, it can be unreliable at times. The BrandMeister network supports DMR APRS, SMS messaging, and has gateways to some other types of networks. SMS messaging can be, however, unreliable due to the incompatibility between different brands of radios.*

*The TGIF network, or Thank God It's Friday network, is mostly about chat. They have a large net that operates on Friday evenings, US time. The network uses a central server, so connection is easy and generally fairly reliable. The network has well over 6, 000 users, and you will usually find someone to chat with. The network also tends to be fairly reliable, being a central server under the control of a small group of admins. Users are friendly and minimal experimentation is permitted.*

*The FreeDMR network is a bit of a Wild West. Mostly operating out of the UK, it's a loose amalgamation of DMR networks that all run the open source DMR code based on HBLink. Experimentation is encouraged, and most of the users operate on hotspots. These servers could run at home on Raspberry Pis right up to datacentre-based servers, so your mileage will definitely vary. It's a great network if you want to play around with code, experimenting with linking, and generally do things that Amateur Radio is famous for.*

*DMR MARC Worldwide Network, incorporating DMR PLUS, is the original amateur DMR network. Originally initiated by the Motorola Amateur Radio Club, the DMR MARC network concentrates on simple programming and reliable communications. To that end, the network administrators do not endorse experimentation, and things like linking other networks or connecting analog gateways are typically prohibited.*

*In general, the DMR MARC network is a network that consists of a number of regional bodies running their own servers that are linked together for global communications. But generally, the local groups make their own rules. and configure the local network to suit local operations. In Australia, the VKDMR network, of which Amateur Radio NSW RADNET repeaters form a part, belong to the DMRMARK network group. In Australia, that's around 60 repeaters and growing, and almost 1,000 repeaters worldwide. At any one time in Australia, more than 270 hotspots are connected, with tens of thousands of users worldwide. The size of this amateur network is truly staggering. If you're interested in Australia's biggest network, check out [vkdmr.net](http://vkdmr.net) or [ARNSW.net](http://ARNSW.net).*

*Now that's just a quick rundown of some of the different options available for connecting to DMR networks. And it's by no means complete. These networks are so large, their user base so vast, some of the information I have discussed here might even have changed by the time you're hearing this. So, it's always best to check your local group's website for more information.*

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## 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: 17-FOAR069.wav]**

*Duration: 4m15s*

*In: Technology is a...*

*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); and you can contact Onno by email, to [cq@vk6flab.com](mailto:cq@vk6flab.com).

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### **[Play File: 18-E-ID3.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: 19-E-WNS0310.wav]

*Duration: 2m07s*

*In: WICEN is supporting...*

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

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*[Transcript]*

*WICEN is supporting Dementia Australia's "Memory Walk and Jog" events throughout 2024. Today WICEN was active at events in Cronulla and Penrith. The next one is on the Central Coast on 12 May.*

*The Memory Walks are great "starter" events for new (or rusty) WICEN members, as they take only a couple of hours. WICEN also provides the radios for these events, so you don't even need to bring your own gear. Why not give one a go? You'll find a link to the events list in the text edition of this news.*

*WICEN has also been asked to support a navigation exercise in the Turon Valley area northeast of Bathurst, on 21-23 March, so operators are being sought for this event.*

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

*WICEN nets take place every Sunday evening, using FM voice, DMR, P25, or HF voice, depending on the week. All WICEN members and other Amateurs are welcome to call 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 HF, on or near 7110kHz LSB. Net controller VK2WIZ will announce the call-in sequence and other information.*

*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)*

*WICEN is also on Facebook, and on X; there, you can find photos and information about recent and upcoming WICEN activities. Links are in the text edition of this news.*

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

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[ Memory Walk and Jog Events: <https://www.memorywalk.com.au/find-an-event> ]

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

[ "National" WICEN on Facebook: <https://www.facebook.com/groups/124735400158> ]

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

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

## Club News

We start this week with news from the Oxley Region Amateur Radio Club.

The Club's March coffee morning is at 10am this coming Thursday the 14<sup>th</sup> at Brooklyn's Burger Bar, Thrumster; followed by the Friday Night Get together at 7pm on Friday the 15<sup>th</sup>, in the SES Building, Port Macquarie.

The club's very popular 2024 calendar will be available at all upcoming Club gatherings.

The next Foundation Licence training and assessment weekend will be held once the new arrangements with ACMA are in place. Candidates for the Foundation Licence and for assessments for all grades of licence can register their interest via the contact form on the ORARC website.

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 site contains a wealth of Amateur Radio items in addition to club information. The January 2024 issue of the club's bimonthly newsletter "Oxtales" is now online, and past issues are on the website as well. The club is also on Facebook; just search for Oxley Region Amateur Radio Club.

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



## 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.

At the VK2RAG Somersby repeater site, the 6-metre repeater, D-Star, Rad-Net DMR and 2m EchoLink, 70cm and 23cm, are all fully functional. The WICEN UHF MMDVM is still having problems.

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 Weekly net is on Thursday Nights at 8pm. It's on the VK2RAG 2 metre repeater – 146.725MHz with a 91.5Hz sub-audible tone, and on the CCARCNSW and HAM EchoLink conferences. It 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](https://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.*

## Blue Mountains Amateur Radio Club

The next meeting of the Club's is on Friday the 5<sup>th</sup> of April at the clubrooms, 4 Moore Street Glenbrook, in the Blue Mountains – doors open from 7pm.

April's guest speaker will be Russell Bryant; an all-round radio scanner aficionado, who will give us the benefit of his broad experience in the field from simple systems to the modern complex devices seen today.

The clubrooms are also open twice a month from about 10am, on the morning of the first and third Saturdays – unless otherwise noted on the Club's Facebook page.

Visitors and prospective new members are always welcome.

The Clubs has several weekly nets – we have details in “Activities on the air” later in this bulletin – and a new net time, Sunday nights at 8pm. On the 1<sup>st</sup> and 3<sup>rd</sup> Sunday of the month, the net is on the Club's 6 metre repeater, and on the 70cm repeater on the second and fourth Sunday.

The next Foundation Class will be on Saturday the 13<sup>th</sup> of April. Upgrade classes continue on Wednesday nights, both on Zoom and in-person at the Glenbrook clubrooms.

With a 98% pass rate, the Club's courses and exam days do fill-up quickly; please contact Club secretary, Irene VK2VAN via email to; [secretary@bmarc.org](mailto:secretary@bmarc.org) for class dates, to register, or for more information.

More information about the club can be found on the website, at [www.bmarc.org](http://www.bmarc.org).

*Steven VK2TSG  
President, Blue Mountains Amateur Radio Club.*

## [ID4 and Activities on the air]

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### [Play File: 20-E-ID4-AOTA2.wav]

Duration: 5m33s

In: [IDENT 4]

Out: ...the office phone, 02 9444 0123.

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[Transcript]

I'm Mathew VK2YAP.... And I'm Stuart VK2BMX.

It's time for your quick trip around the bands for this week, with; 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.

**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, on 146.975MHz.

The **Blue Mountains ARC** D MR Net at 7:30pm on Brandmeister 50520, hosted by Ben VK2AFK.

**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:** starts at 8pm on Talkgroup 505.

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

**St George ARS** digital net, 8pm on 146.8MHz

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

[...continues]

***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 146.975MHz and EchoLink node 1474.

**HADARC** 8pm on 3608.5kHz

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

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

**Armidale District ARC** net 8:30pm on 3633kHz.

***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 from 8:00am, usually on Talkgroup 3802.

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

**WICEN NSW** nets; 6pm on Chatswood 2m or Kurrajong 70cm repeater, 6:30pm on DMR or HF, and 6:45pm on P25. Check website for details.

*Don't forget to get your activities on the air here... send us through the details of your activity!  
Email the details, to [news@arnsw.org.au](mailto:news@arnsw.org.au)... or leave a message on the office phone, 02 9444 0123.*

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