

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

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.

Just a reminder, if you are \*not\* travelling to the Oxley Region Field Day on the King's birthday long weekend... the ARNSW buildathon is on Sunday the 11<sup>th</sup> of June. Starting at 10am, members will be able to build baluns and dipoles, with balun kits and high-quality Kevlar antenna wire at a discount price. All items must be pre-ordered and paid for on the day. For enquiries or bookings, you can email [balun@arnsw.org.au](mailto:balun@arnsw.org.au) or leave a phone message with the office, on 02 9444 0123.

# Weekly Solar and Geophysical Report

For the period of the 26<sup>th</sup> of May to the 1<sup>st</sup> of June.

First, the summary of activity;

Dates across the columns are	26 <sup>th</sup>	27 <sup>th</sup>	28 <sup>th</sup>	29 <sup>th</sup>	30 <sup>th</sup>	31 <sup>st</sup>	1 <sup>st</sup>
10cm Flux	149	157	151	154	162	161	164
Fredericksburg A-Index	6	5	11	5	6	11	14
Australian A-Index	4	1	7	1	2	5	7 estimated
T index	82	74	87	75	86	93	96

Solar activity reached R1 level on the 26<sup>th</sup> and 28<sup>th</sup>, each with one M-class flare; on the 30<sup>th</sup>, with three M-class flares; on the 31<sup>st</sup> with four M-class flares; the largest, M4.2 at 2252UTC; and on the 1<sup>st</sup> of June, with two M-class flares.

Geomagnetic activity was at low to moderate levels, remaining below warning threshold.

F2 critical frequencies in Southern Australia remained mostly near predicted monthly values, with depressions of 15% observed during local night on the 29<sup>th</sup>.

The forecast, issued on the 2<sup>nd</sup> of June, through until the 8<sup>th</sup>;

Solar activity is expected to reach R1 levels with a chance of R2 due to complex solar region AR3323, which has recently rotated onto the solar disk.

Geomagnetic conditions should be quiet, with some isolated G1 periods possible.

Maximum usable frequencies in the Southern Australian are expected to be near predicted monthly values, with some depressions on the 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup>. Shortwave fadeouts are also possible.

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

# Space Weather Summary for May 2023

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

A total of sixty solar flares were observed throughout May. The two largest flares – both R2 class, were M9.6 at 1643UTC on the 16<sup>th</sup> of May, and M8.9 at 1235UTC on the 20<sup>th</sup>. Solar flare activity was at R2 level on the 1<sup>st</sup>, 3<sup>rd</sup>, 9<sup>th</sup>, 16<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>; and another 15 days were at R1 levels.

Earth transiting coronal mass ejections (CME) were observed on the 6<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 12<sup>th</sup> and 13<sup>th</sup>, and from the 19<sup>th</sup> to the 22<sup>nd</sup>; most of these induced only minor activity. The strongest activity for the month was during the period of the 19<sup>th</sup> to the 22<sup>nd</sup>, which saw both CME and coronal hole wind stream induced activity.

S1-Minor solar proton events were observed from the 8<sup>th</sup> to the 11<sup>th</sup>. The first event reached a peak flux of 38.4PFU at 0150UTC on the 9<sup>th</sup>, and the second peak flux of 83.5PFU was observed at 1250UTC on the 10<sup>th</sup>, following an M4 flare.

Geomagnetic disturbance in the Australian region reached G1 level on the 20<sup>th</sup> of May, with a local A index of 20. Planetary Kp index reached G2 on the 6<sup>th</sup>, 20<sup>th</sup> and 21<sup>st</sup>; however, activity in the Australian region was considerably weaker, remaining below G1.

No significant ionospheric depressions were observed during the Month. Spread-F was frequently observed during local night hours in the southern Australian region. A positive ionospheric response was observed on the 20<sup>th</sup> following the onset of geomagnetic activity. The M4.2 flare on the 31<sup>st</sup> was associated with a minor fadeout observed at Niue and to a lesser extent Darwin, impacting lower HF frequencies.

Most flare activity this month occurred outside local day time in the Australian mainland region, greatly reducing the impact on daytime Australian regional HF communication. International HF communication may have been more frequently impacted. Transpolar HF communication may have been degraded by increased absorption of the polar cap ionosphere from the 8<sup>th</sup> to the 11<sup>th</sup> in association with S1-Minor solar proton events.

Australian T-index average for the month was 98.

## 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-FOAR024.wav]**

*Duration: 2m23s*

*In: "Whenever I go out..."*

*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-WNS0604.wav]

*Duration: 2m24s*

*In: "Last Sunday ..."*

*Out: "... click on the map."*

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#### [Transcript]

*Last Sunday, Compton VK2HRX crossed the border to provide communications support for Dementia Australia's Memory Walk and Jog in Brisbane.*

*This morning WICEN had its regular monthly meetup here, where Simon VK2TW gave a presentation on the Public Safety Network and VRA Field radios, both of which were used at the recent land search activation on the Central Tablelands. The next meetup is on 2 July.*

*Later this month, on the 16th to 18th, WICEN will provide safety communications for the Glow Worm Tunnel Marathon in the scenic Blue Mountains. This is a great opportunity to go bush without straying too far from home.*

*Next month, on 15-16 July, NSW State Emergency Services have their Bush Search and Rescue "NavShield" event, at a location several hours drive from Sydney. Six WICEN operators will be providing safety communications for this bush navigation event.*

*To participate in any WICEN event, or just find out more about WICEN, you can email [wicen.ops@vrarescue.org](mailto:wicen.ops@vrarescue.org).*

*WICEN nets take place every Sunday evening at 6pm and 6.30pm, 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) – and click on the map.*

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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

We start this week from the Oxley Region Amateur Radio Club; and their next monthly coffee morning is at 10am this Thursday the 8<sup>th</sup> of June, at Brooklyn's Burger Bar, Thrumster.

Next weekend is the Club's annual Field Day, at the spacious Wauchope Showground Hall. The Field Day dinner is at Port Macquarie Golf Club on Saturday night. The Field Day will have all the usual activities including fox hunts, trade displays on both days, trash and treasure, and home brew competition and display. Breakfast and lunch from the barbeque will be available on both days. Camp sites at the showground or accommodation should be booked ahead, as the area is a popular tourist destination for the June long weekend.

Those interested in Foundation training weekends, or assessments for the Standard or Advanced licence, can contact the club via the website contact form, or by mail to PO Box 712 Port Macquarie NSW 2444. A date will be set when sufficient candidates have registered their interest.

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.

To find out more about the Oxley Region Amateur Radio Club, visit the website at [orarc.org](http://orarc.org). The newly published May 2023 issue of the club's bimonthly newsletter "Oxtales" is now online, and past issues are on the website as well; and 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 Tuesday the 13<sup>th</sup> of June. 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.

At the June meeting, IARS Member Keith VK2KQB will be presenting and demonstrating the use of spectrum analysers, low-cost signal generators and oscilloscopes for the testing of filters and other radio items. He plans to show how to tune cavities, filters and even simple coaxial stub filters to demonstrate the success that can be found in using everyday low-cost equipment.

After Keith's presentation, there will be the usual fantastic supper to conclude the night, along with the opportunity to have a great chin wag with your old and new mates. And not forgetting the disposals table where an excellent bargain can be had for that item you didn't know you even needed.

The Society now 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, at 7.30pm on Tuesday the 13<sup>th</sup> of June, at the BlueScope Steel Visitor Centre, just south of Wollongong city.

*Rob VK2MT*

*President of the Illawarra Amateur Radio Society.*



## Westlakes Amateur Radio Club

The next car boot sale is on Saturday the 15<sup>th</sup> of July. Its at the Club grounds, 6a York Street Teralba, starting at 8am.

You can set up a stall at no charge; but bring your own table. There will also be a BBQ and hot and cold drinks available.

All are welcome.

Westlakes has several on air nets each week, details are a little later on in this bulletin.

*Advised by Barrie VK2QG  
For the Westlakes Amateur Radio Club*

## [ID 3 and CCARC News]

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### [Play File: 18-E-ID3-CCN0604.wav]

Duration: 4m18s

In: [IDENT 3]

Out: "73 Alan VK2MG"

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[Transcript]

*In news from the Central Coast Amateur Radio Club...*

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

*The Club had yet another successful show and tell at our clubrooms last Saturday. We had a good roll-up of both members and visitors. The event wasn't themed so there was a good variety of interesting stuff.*

*Ryan kicked the day off with a live presentation of what SDR radios can do. He had a Hack RF SDR modified by the addition of a Temperature Compensated Crystal Oscillator for increased stability and frequency accuracy. A small antenna was pulling in strong signals including some nearby interference. The SDR was easily able to lock onto the GRN and with the use of SDR trunk software was able to decode the control channel and various user traffic channels. The waterfall display clearly showed the various signals. Ryan reported that a cheap RTL dongle can be had for about \$30 and with the addition of readily available software, most digital transmissions including pagers can be decoded. A \$30 SDR can take the place of an \$800 scanner. Very impressive to see what Ryan has achieved.*

*Glen demonstrated two very different classic CB sets from the same year. One was more classical styling whilst the other was more space age in appearance with rounded corners. He had restored this unit from the grave by replacing the burnt transformer, adding a heatsink to overcome a heat issue and re-capping it. The power supply and speaker live in a base unit that cradled the rig with a companion frequency display on top rounding out the full setup. All told something very unique from a period of rapid innovation in radio design. Ryan kindly followed with a display of photos and commentary of the "Micro DXpedition" from Girrakool to Wondabyne that Graham VK2GRA and Ryan VK2FRTS did mid-week. Ryan's photos were very well done, especially the panorama looking west from mount Kariong. Details of this 11km trek are on the club's website and Facebook page.*

*Graham was up next with a display of some "Outback" style radios; including a small yellow AWA TR105 HF set that runs off "D" cells and a classic Codan 6924 "lunchbox" HF rig running off a car battery. A Codan 8528 land mobile 100watt radio showed the advancement of technology. A Brisbane manufactured "Scout" HF rig with built in antenna tuner was last up.*

*Thanks to all those who "Showed and Told" and to those who came along.*

*On June 17 and 18, a Foundation and education training weekend is planned at the club rooms with training on the Saturday and exams on the Sunday.*

*At the VK2RAG Somersby repeater site, the D-Star, Rad-Net DMR and 2m Echolink services are fully functional.*

*The club Web SDR at Somersby. Websdr.ccarc.org.au is configured to listen on 6 metres, 2 metres, 70 centimetres and 23 centimetres.*

*The Morning Tea Net is run on weekdays at 10:00am and the Weekly net on Thursday at 8:00pm.*

*Both nets are run on on the VK2RAG 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, our upcoming social events and other details that we can't tell you about here on the web at ccarc.org.au, by phone on 02 4340 2500, or on social media by searching for "Central Coast Amateur Radio Club". Remember to give the club a "like" to follow for any updates.*

*73, Alan VK2MG*

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## Blue Mountains Amateur Radio Club

A reminder about the Club's monthly meetings on the first Friday of the month. Meetings are at the Club Rooms, 4 Moore Street Glenbrook, in the Blue Mountains – doors open from 7pm for a 7:30pm start.

Visitors and prospective new members are most welcome.

There are several weekly nets – we have details in “Activities on the air” later in this bulletin – and the Club is trialling a DMR Net on Monday nights on Brandmeister channel 50520.

The Club has Foundation Classes bi-monthly, and Upgrade classes on Wednesday evenings, both online and at the Glenbrook clubrooms. Exams for other licence grades are also available on Foundation weekends.

Courses and exam days do fill-up quickly, so please contact the Club Secretary, Irene VK2VAN, via email [secretary@bmarc.org](mailto:secretary@bmarc.org) 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).

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

## St George Amateur Radio Society

The Society's next gathering is coming up on Wednesday the 7<sup>th</sup> of June.

Digital Mobile Radio (DMR) networks have been active in Australia for a number of years now, providing local, national and international voice communications. The VK DMR network now includes over 50 DMR repeaters in most Australian states, over 800 VK registered DMR users, with nearly 300 registered hotspots.

Tony VK2ALE, will share his experience on getting started with DMR including equipment selection, registration, and radio configuration aka code plug, how to utilise connections both locally and internationally, and between various DMR networks.

Come along to hear Tony's informative presentation at the June SGARS gathering, at the Scout Hall in Donnelly Park; Kyle Parade, Connells Point near South Hurstville. Doors open at 7.15 pm. Meet up with fellow amateur radio operators, browse the disposal and enjoy a warm cuppa. Members and visitors are most welcome.

A reminder about a change coming soon to the Society's VK2RDX 2 metre repeater at Mt. Bindo in the Western Blue Mountains, which has been in service for over 40 years. Due to recent interference on the input frequency, the Society has decided to fit a CTCSS tone to the input. The tone will be 91.5Hz, with planned implementation in July. This advanced notice is given so that users of the of the repeater can enable CTCSS on their radios.

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

At the recent HADARC AGM, Chris VK2YMW was elected as HADARC's new President.

Now, Chris has thrown out a challenge for the next HADARC mid monthly meeting on the 13<sup>th</sup> of June; its "Bring an Interesting Valve Night". The challenge is to dig deep in the garden shed, under your bed, or in that hidden corner of the shack, and find 1 or 2 valves that bring back memories or are just interesting.

At the mid monthly we will look at how the valves are designed, how they operate, and the coding used. We will also have a few manuals to help decode that mystery value you've held for years but are unsure what it does.

Did you know that in 1904, British engineer John Ambrose Fleming invented and patented the thermionic valve, the first vacuum tube. With this advance, the age of modern wireless electronics was born.

Please join us at the next mid-monthly experimenters meeting on 13th June at the Hornsby Rifle Club.

73 for now and let's keep radio-active,

*Matt VK2BAI*

*For the Hornsby and Districts Amateur Radio Club.*

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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 from 8:30am, usually on Talkgroup 3802; listen to Talkgroup 505 at 8:28am.

**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.