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(seen by Kendra, Trish and Lesa).

November 2025 submissions required by 23 October.

UNIVERSE Correspondence and Contributions -

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Front Cover by Bernie & Eddie Bernard: NGC 1300 data was captured at Dungog NSW 17-18 October 2023. NGC 1300 lies in the constellation of Eridanus and was discovered by John Herschel in 1835. This galaxy is an SBbc grand design spiral with a distinct bar. It lies about 61M Ly away and appears to be part of the Eridanus galaxy group. The galaxy has an approximate diameter of 110K Ly. The galaxy does not have an active galaxy nucleus (AGN) but spectra from the Hubble space telescope indicates from analysis of the derived kinematics of the nuclear gas, evidence of a supermassive black hole (SMBH) with a mass of approximately ~$7x10^7$ $M_{0.}$

A two day stay at this site was all we had so noise was an issue in the image but Topaz DeNoise AI got rid of most of it. I used Starnet to remove the stars then reduced the noise in the galaxy part of image. Image Acquisition: MaxIm DL Processing: Pixinsight, Adobe PS,Topaz Labs DeNoise AI Exposures: Lum 9 X 10min subs, Red 3 X10 subs, Green 3X 10 min subs, Blue 3 X 10 min Subs, Total time 3 hrs, Orientation N down, Luminance data: 17th October 2023, Colour data: 18th October 2023, Reprocessed: Sept 2025 Camera: SBIG STT 8300 Mono, Telescope: Meade 10" ACF, Mount: Losmondy G11

Rear Cover by Chi Chan: Moon The blood Moon was captured from Chi's Sydney NSW backyard 8 September 2025 when it reached maximum eclipse at 4:11am. A 3 year wait for the total lunar eclipse didn't disappoint. The Moon went deeper into Earth's shadow resulting in a much darkened image. Equipment: Celestron Edge HD 9.25, Nikon D850, EQ6-R. Exposure details: 2350mm, f/10, 8s, ISO 400, single shot. Processing: Lightroom 6.14.

October Observer

By Geoff Smith

Planets in October

Mercury is well-placed for evening observation in the western evening sky. It reaches its greatest elongation of 24° east of the Sun on 30 October. **Venus** is too low in the eastern dawn sky for reasonable observation. Forget about **Mars**—it's only 3.9" in angular diameter. **Jupiter** in Gemini rises about 1am midmonth. **Saturn** just past opposition on 21 September rises about 4pm midmonth. The rings are gradually widening.

Moon Cycles

Full Moon	Third Quarter	New Moon	First Quarter
7 Oct 2:47pm	14 Oct 5:12am	21 Oct 11:25pm	30 Oct 3:20am

Meteor Showers

The **Southern Taurids** are active from September 10 to November 20. They are a long-lasting shower that reaches a barely noticeable maximum on October 10. The shower is active for more than two months but rarely produces more than five shower members per hour, even at maximum activity. The Taurids are rich in fireballs and are often responsible for increased number of fireball reports from September through November.

The **Orionids** are visible from October 2 until November 7. Maximum activity is expected from the late evening of October 21 through to dawn. Over the past 20 years the Orionids have produced about 20 meteors per hour, typically swift, often bright and with occasional trains. This year's peak occurs around New Moon, so moonlight will not be an issue.

The Sky in October

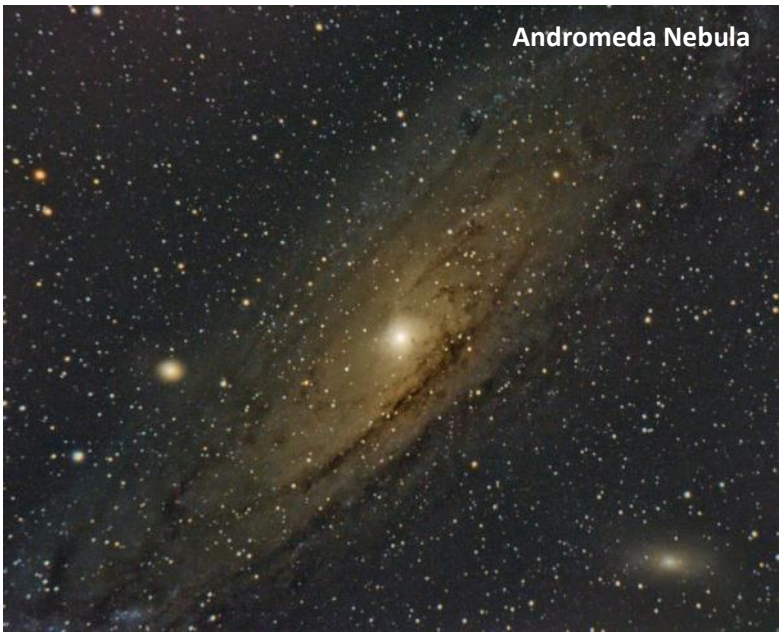
At the end of twilight the Milky Way is in the western sky, clearing the way for galaxy observation in the east. Capricornus is at transit overhead, while Sculptor, Cetus, Phoenix and Grus are in the western sky. In the northern sky we get good views of Delphinus and Equuleus, while Pegasus is rising in the north-eastern sky.

October is Galaxy Season

October is the time to leave behind bright and dark nebulae, star clusters and planetary nebulae and to shift our attention to some of the beautiful galaxies on offer. Let me begin with **M31**, the **Andromeda Galaxy**. Why? Isn't it too far north for us? In fact, I maintain that it is possible to get good photos of this object from our latitudes. I took this (not very good) picture in my early years (2008). It was a 30 minute exposure with a 4" refractor and a DSLR. Surely we can do a whole lot better now, so hopefully somebody reading this will take up the challenge. You will need a low northern horizon, clear skies and several nights of limited exposures around the time of transit.

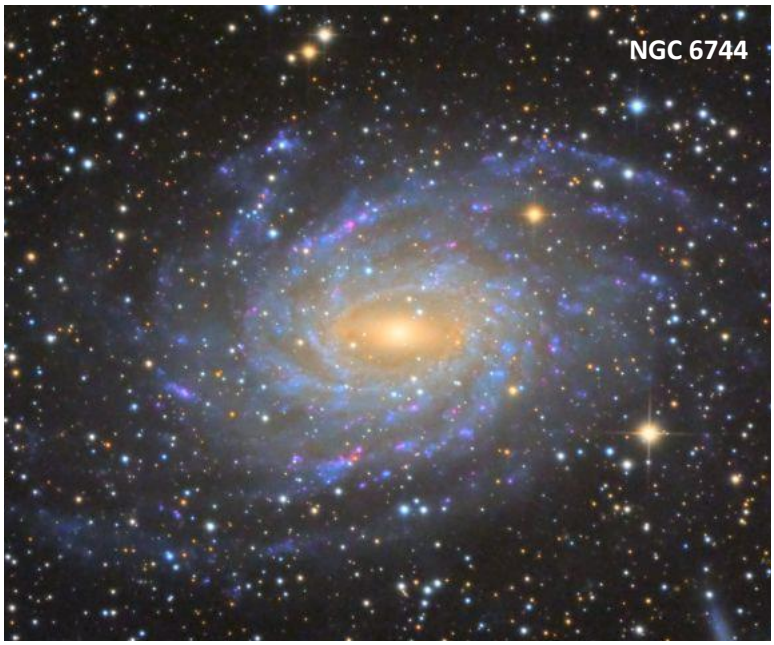
For a less challenging northern galaxy try **M33**. It has a maximum altitude of 26° from Wiruna.

The Andromeda Galaxy is a barred spiral galaxy and is the nearest major galaxy to the Milky Way. It was originally named the **Andromeda Nebula** and is catalogued as **Messier 31**, **M31**, and **NGC 224**. It has been known since antiquity since it is clearly visible to the naked eye under dark skies. The first historical reference that we have was made around the year 964 by the Persian astronomer Abd al-Rahman al-Sufi, who described the Andromeda Galaxy in his *Book of Fixed Stars* as a "nebulous smear" or "small cloud". In 1612, the German astronomer Simon Marius gave an early description of the Andromeda Galaxy based on telescopic observations. Pierre Louis Maupertuis conjectured in 1745 that the blurry spot was an island universe. Finally in 1764, Charles Messier catalogued Andromeda as object M31.



The mass of the Andromeda Galaxy is of the same order of magnitude as that of the Milky Way, at about 1 trillion solar masses. The mass of either galaxy is difficult to estimate with any accuracy, but it was long thought that the Andromeda Galaxy was more massive than the Milky Way by a margin of some 25% to 50%. However, this has been called into question by early-21st-century studies indicating a possibly lower mass for the Andromeda Galaxy and a higher mass for the Milky Way. The Andromeda Galaxy has a diameter of about 46.56 kpc, making it the largest member of the Local Group of galaxies.

Pavo (the Peacock) has passed transit, so make an early start to catch **NGC 6744**, a face-on spiral galaxy resembling our own Milky Way galaxy. It is one of the most aesthetically appealing galaxies in the sky and is one of the largest barred spirals known. Unfortunately, NGC 6744 is not a retina burner. With good conditions you will need a 4" telescope to spot it visually owing to its very low surface brightness—each square arcminute shines with roughly the brightness of Pluto. Photography yields a totally different result. The galaxy displays remarkable star formation, prominent flocculent spiral arms, and an elongated core. It has at least one distorted companion galaxy (**NGC 6744A**) superficially similar to one of the Magellanic Clouds.



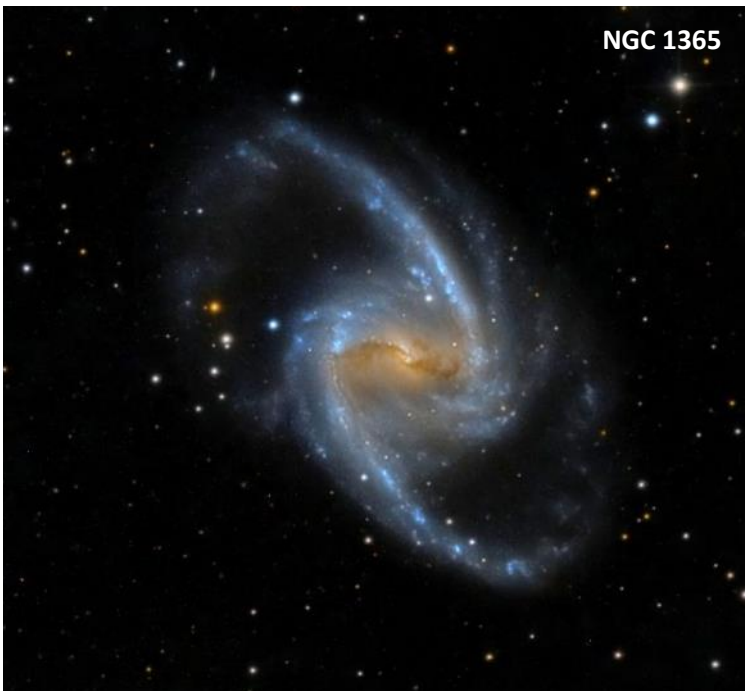
While you are in the region of NGC 6744, don't miss an opportunity to look at (or photograph) **NGC 6752**, one of the best globular clusters in the sky. At magnitude 5.4 it is visible, with effort, to the naked eye under clear skies. It is an easy binocular object, so you won't need to dismantle your photographic equipment to have a quick look.

Next, we move north-east from Pavo to Grus (the Crane) for a group of three close-ish galaxies (the **Grus Triplet**) and another one further away from the trio to make up the **Grus Quartet**. Moving from left to right in the picture we have **NGC7599**, **NGC 7590, NGC 7582** and **NGC 7552**. High starburst activity of NGC 7552 and NGC 7582 is thought to be a result from tidal interactions. All four galaxies will fit in a 1° field of view, while the triplet will comfortably fit into a 0.5° field.

My next featured galaxy is **NGC 253**, variously known as the **Silver Coin Galaxy**, the **Silver Dollar Galaxy** or just the **Sculptor Galaxy**. It is undoubtedly the finest object never to have made it into the Messier catalogue. It was discovered by Caroline Herschel in 1783 during one of her systematic comet searches. Many years later, John Herschel observed it using his 18-inch metallic mirror reflector at the Cape of Good Hope. He wrote: "very bright and large (24’ in length); a superb object.... Its light is somewhat streaky, but I see no stars in it except 4 large and one very small one, and these seem not to belong to it, there being many near..."

The Sculptor Galaxy is located at the centre of the Sculptor Group, one of the nearest groups of galaxies to the Milky Way. The Sculptor Galaxy (the brightest galaxy in the group and is one of the intrinsically brightest galaxies in the vicinity of the Milky Way.

Next, move east to Fornax (the Furnace) where we encounter the magnificent **NGC 1365**, a large barred spiral galaxy in the Fornax Cluster. Within the larger long bar stretching across the centre of the galaxy appears to be a smaller bar that comprises the core, with an apparent size of about 50” × 40”.This second bar is more prominent in infrared images of the central region of the galaxy, and likely arises from a combination of dynamical instabilities of stellar orbits in the region, along with gravity, density waves, and the overall rotation of the disc. The inner bar structure likely rotates as a whole more rapidly than the larger long bar, creating the diagonal shape seen in images.



The spiral arms extend in a wide curve north and south from the ends of the east–west bar and form an almost ring like Z-shaped halo. Astronomers think NGC 1365's prominent bar plays a crucial role in the galaxy's evolution, drawing gas and dust into a star-forming maelstrom and ultimately feeding material into a central black hole.

NGC 1365, including its two outer spiral arms, extends around 300,000 light-years in its longest dimension.

I would now like to draw your attention to the *Atlas of Peculiar Galaxies* published by Halton Arp in 1966. A total of 338 galaxies are presented in the atlas, which was originally published by the California Institute of Technology. The primary goal of the catalogue was to present photographs of examples of the different kinds of peculiar structures found among galaxies. For a very accessible guide to this catalogue see reference 4 below.

Arp realized that the reason why galaxies formed into spiral or elliptical shapes was not well understood. He perceived peculiar galaxies as small "experiments" that astronomers could use to understand the physical processes that distort spiral or elliptical galaxies. With this atlas, astronomers had a sample of peculiar galaxies that they could study in more detail. The atlas does not present a complete overview of every peculiar galaxy in the sky but instead provides examples of the different phenomena as observed in nearby galaxies. Most objects are best known by their other designations, but a few galaxies are best known by their Arp numbers. Today, the physical processes that lead to the peculiarities seen in the Arp atlas are better understood than in the 1960s when Arp's catalogue was published. A large number of the objects have been interpreted as interacting galaxies, including M51 (Arp 85), Arp 220 and the Antennae Galaxies. A few of the galaxies are simply dwarf galaxies that do not have enough mass to allow the galaxies to form any cohesive structure. Some other galaxies are radio galaxies with active galactic nuclei that produce powerful radio jets. The atlas includes the nearby radio galaxies M87 (Arp 152) and Centaurus A (Arp 153).

Unfortunately, many of the Arp objects are in the northern skies since Arp was based in Mount Palomar. However, there are some nice examples accessible to southern observers this month and I'll list them in a separate table below.

A Selection of Arp Peculiar Galaxies for October

In the table below all times are AEDT, transit times are for 15 October at Wiruna, the Society's premier dark sky site (longitude 149° 46' 49'' E). MA denotes the altitude of the object at transit time. Coordinates are for Epoch 2000.

Object	Const	RA	Dec	Mag	Size	Transit	MA (°)	Notes
NGC 7252	Aqr	22h 20m 45s	-24° 40' 42"	12.1	52"	21:43	82	Arp 226, Atoms for Peace Galaxy
NGC 7714	Psc	23h 36m 14s	02° 09' 18"	12.5	49"	22:58	55	Arp 284, interacting with 7715, 2' away
Arp 295	Aqr	23h 41m 53s	-03° 38' 59"	14.5	11'	23:03	56	Pair of galaxies in 11' field, tidal tails
NGC 535	Cet	01h 25m 31s	-01° 24' 30"	13.8	46"	00:47	58	Target centre for Arp 133 and Arp 308
NGC 1097	For	02h 46m 19s	-30° 16' 30"	9.5	10'	02:08	87	Arp 77. Spiral with Jets
NGC 1232	Eri	03h 09m 46s	-20° 34' 45"	9.9	6.6'	02:31	78	Arp 41. Spiral with companion on arm

NGC 1232 (**Arp 41**) is an interesting galaxy. At first glance it appears to have a nearby companion galaxy **NGC 1232A** at the end of one of its spiral arms. This is a good object for those people who are sceptical about the "red shift measures distance" statement. For many years NGC 1232A was unquestionably assumed to be a satellite galaxy of NGC 1232 and you will find plenty of references on the internet which still quote NGC 1232A as a satellite of NGC 1232 or mention that there is evidence of tidal interaction between the two galaxies. It's a good illustration of how blind copying of material from the internet without checking real data leads to the perpetuation of fake news—in this case really fake and not fake fake. However, reputable sites such as the NASA/IPAC Extragalactic Data Base (*https://ned.ipac.caltech.edu/*) or the SIMBAD Astronomical Database (*http://simbad.u-strasbg.fr/simbad/sim-fid*) give discordant redshifts 0f 0.005347 and 0.022161 for NGC 1232 and NGC 1232A respectively. These redshifts equate to a distance of about 70 million light years for NGC 1232 and 308 million light years for NGC 1232A.

There is no way that NGC1232A can be a satellite of NGC 1232 if our current understanding of the meaning of red shift is correct.

More Deep Sky Objects for October

In the table below all times are AEDT, transit times are for 15 October at Wiruna, the Society's premier dark sky site (longitude 149° 46' 49'' E). MA denotes the altitude of the object at transit time. Coordinates are for Epoch 2000.

Object	Const	RA	Dec	Mag	Size	Transit	MA (°)	Notes
NGC 6744	Pav	19h 09m 46s	-63° 51' 27"	8.5	17'	18:32	59	Face-on spiral galaxy
NGC 6752	Pav	19h 10m 52s	-59° 59' 04"	5.3	20'	18:34	63	Great Peacock Globular Cluster
NGC 6769	Pav	19h 18m 23s	-60° 30' 03"	11.8	2.6'	18:41	62	Close interaction with NGC 6770
NGC 7410	Grus	22h 55m 01s	-39° 39' 41"	10.3	5.9'	22:17	83	Barred spiral galaxy
NGC 7424	Grus	22h 57m 18s	-41° 04' 14"	10.5	6.9'	22:19	82	Face-on barred spiral. Magnificent!
NGC 7552	Grus	23h 16m 11s	-42° 35' 05"	10.6	4.1'	22:38	80	Part of Grus Quartet
NGC 7582	Grus	23h 18m 24s	-42° 22' 13"	10.6	6.2'	22:40	81	Part of Grus Quartet
NGC 7590	Grus	23h 18m 55s	-42° 14' 21"	11.5	1.9'	22:41	81	Part of Grus Quartet
NGC 7599	Grus	23h 19m 21s	-42° 15' 25"	11.5	4.7'	22:41	81	Part of Grus Quartet
M 31	And	00h 42m 44s	41° 16' 07"	3.4	3.3°	00:04	16	Andromeda Galaxy
M 33	Tri	01h 33m 51s	30° 39' 37"	5.7	1°	00:55	26	Triangulum Galaxy
MCG -06-07-001	For	02h 39m 59s	-34° 26' 57"	7.4	27'	02:01	88	Fornax Dwarf Galaxy
NGC 1365	For	03h 33m 36s	-36° 08' 26"	9.6	11'	02:55	87	Great Barred Spiral Galaxy

References:

1. *Astronomy 2025 by Wallace, Dawes and Northfield*
2. *Double Stars for small telescopes by Sissy Haas*
3. *Annals of the Deep Sky by Jeff Kanipe*
4. *The Arp Atlas of Peculiar Galaxies by Jeff Kanipe and Dennis Webb, https://shopatsky.com/products/arp-atlas-of-peculiar-galaxies*
5. *The constellation charts are from http://www.iau.org/public/themes/constellations/ and were produced by the IAU in collaboration with Sky & Telescope magazine. Their use here is permitted under the creative commons licence http://creativecommons.org/licenses/by/3.0/*
6. *Hartung's Astronomical Objects for Southern Telescopes by David Malin and David Frew*
7. *Recent Double Star Information from WDS catalogue https://www.astro.gsu.edu/wds/*
8. *All photographs by Geoff Smith.*

October Comets

By Greg Bryant

Comet C/2025 R2 (SWAN): Ukrainian amateur Vladimir Bezugly reported on 10 September the discovery of a suspected comet in images taken with the SWAN camera onboard the SOHO spacecraft in the previous 5 days. Pre-discovery images of the comet taken with SWAN were then found dating back to mid-August, and the comet was also imaged and visually observed by amateurs in the next few days, showing the comet to be about 7th magnitude.

It soon became apparent that the comet was discovered near perihelion (the date of perihelion was 12 September, 0.6 au from the Sun) and would approach Earth to within 0.3 au on 21 October. The below ephemeris, with magnitudes based on visual observations in mid-September, suggests that the comet may become bright enough to be easily seen in binoculars in mid-October, though its proximity to Earth will make the comet more diffuse and harder to see. The predicted brightness is fainter than the CBET that interested ASNSW members would have received via email on 16 September, but brighter than the Minor Planet Electronic Circular that came out prior.

Still, the comet will be well-placed for us to observe this month. Climbing higher each night until late October, which sees its setting time move from mid-evening till after midnight by month's end, comet SWAN is moving quickly as it nears Earth. Early October sees the comet move through Libra and Scorpius (north of the Scorpion's head) and into Ophiuchus around mid-month. By 21 October, the night of closest approach, SWAN has moved into Aquila and then it will cross into Aquarius in the last week of the month.

However, there's a lingering question as to how comet SWAN will behave in October. Calculating the comet's position over past months shows that it would have been detectable by the large professional surveys during the first half of this year if it had brightened at a typical rate coming in towards the Sun. The non-detection raises the possibility that comet SWAN is in a temporary outburst (less likely now as the comet has not subsequently faded dramatically as at the time of writing in mid-September) or has undergone a rapid rate of brightening.

That rapid brightening rate scenario is supported by Lowell Observatory astronomer Qicheng Zhang who measured the pre-discovery images of comet SWAN recorded in the STEREO-A spacecraft data, and found it brightened at a significantly high rate from 21 August to 1 September, only to flatten after that date through to 11 September. If the comet is of very long-period, then perhaps it has just become active. How all this will play out for the health of the comet, as it is below average in intrinsic brightness, and its lightcurve in October and beyond, remains to be seen – literally.

Comet C/2025 R2 (SWAN)

Date	R.A.	Dec.	Delta (au)	R (au)	Elong. (^{o})	Mag.
4 Oct	15^h 05.8^m	-15^o 44'	0.435	0.709	38	6.6
11 Oct	16^h 20.5^m	-16^o 36'	0.324	0.822	49	6.4
18 Oct	18^h 17.9^m	-14^o 27'	0.264	0.940	70	6.4
25 Oct	20^h 26.8^m	-7^o 49'	0.283	1.060	96	6.9
1 Nov	21^h 55.3^m	-1^o 33'	0.368	1.179	112	7.9

Comet C/2025 A6 (Lemmon): Earlier this year, on 3 January, images taken with a 1.5m reflector as part of the Mt Lemmon survey in the United States found an apparently asteroidal object that was revealed to be cometary a few days later in images taken with larger telescopes. The comet reaches perihelion on 8 November at 0.53 au from the Sun, but at the time of discovery it wasn't expected to be any brighter than 10th magnitude at its best next month.

In early August, after it emerged from solar conjunction, it was found to be several magnitudes brighter than expected and was brightening at a fairly rapid rate. It's a long-period comet (1,300 years since it was last in the inner Solar System) and sometimes these returning long-period comets "turn on" as they near perihelion. At this stage, the comet might reach 4th magnitude in early November, becoming briefly visible in November's evening twilight skies. More on this comet in next month's column.

I think the comet drought has ended a little earlier than expected.

Comet C/2025 R2 (SWAN) was a fine sight for observers and imagers in mid-September. This image was taken on 15 September from Hazelbrook with a Celestron Origin RASA 152mm f/2.2 telescope. Integrated exposure time 5 minutes.

Credit: Ken Wallace

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August 2025 - By Alessandro Spina

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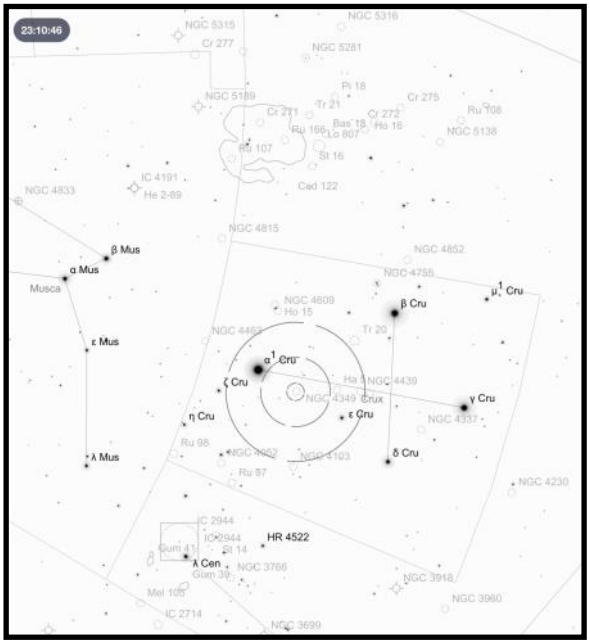
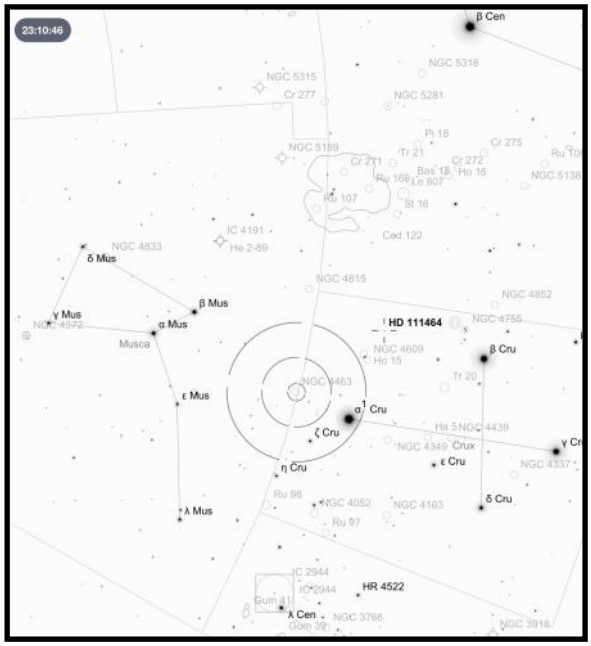
After missing Wiruna in July I was looking forward to escaping to Wiruna in August. August was the wettest in ~28 years so I was glad to get out of Sydney. I arrived on site on Friday afternoon with just enough time to pitch the tent before a band of rain set in. Although the afternoon teased with some blue sky, by sunset it was a mostly cloudy sky with the odd sucker hole. So, it was a relaxed night of sitting around the fire in the kitchen. Although by 10.30pm the sky was threatening to clear, I decided to call it a night and try my luck the next day. Conditions on Saturday looked more promising, with sun and blue sky. Several more members arrived throughout the day. By sunset most of the cloud had dissipated and the wind had died down. I began by tinkering with a few fixes I had made to the telescope's RA drive, but nothing seemed to be working. So, after an hour of fighting the telescope I gave up and focused on some observing.



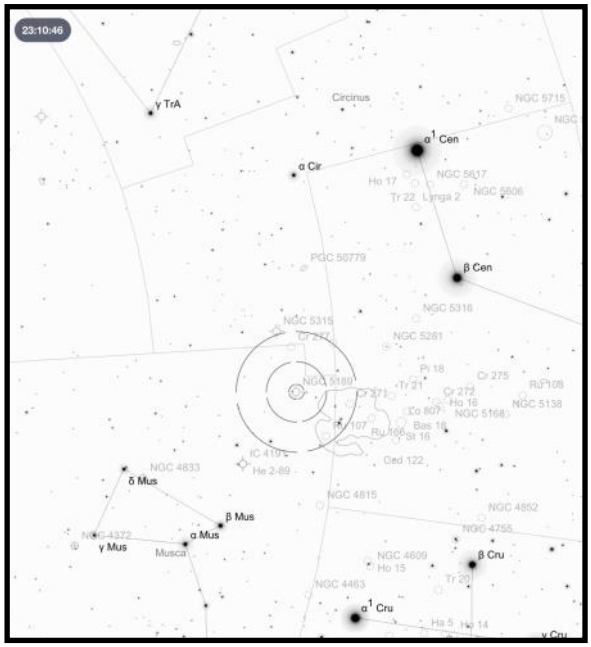
Acrux (α Cru) makes an easy jumping off point to find the open cluster **NGC 4339**. Using the Telrad, I started by pointing the telescope halfway between α Cru and ε Cru (a bright star halfway towards δ Cru). With Acrux at the edge of the field, I could easily pick up a ball of stars in the finderscope. At ~20 arc-min this open cluster takes up a large portion of the FOV in a 35mm Panoptic. This is a bright 6.2 magnitude cluster, with a loose collection of ~30 stars arranged in a circular pattern, rising to a slightly denser core. One particular yellow/orange star sitting in the top-right corner of the cluster jumped out at me. Averted visions helped to bring out even more stars in the core. An attractive cluster to start the night, in an area of sky littered with open clusters.

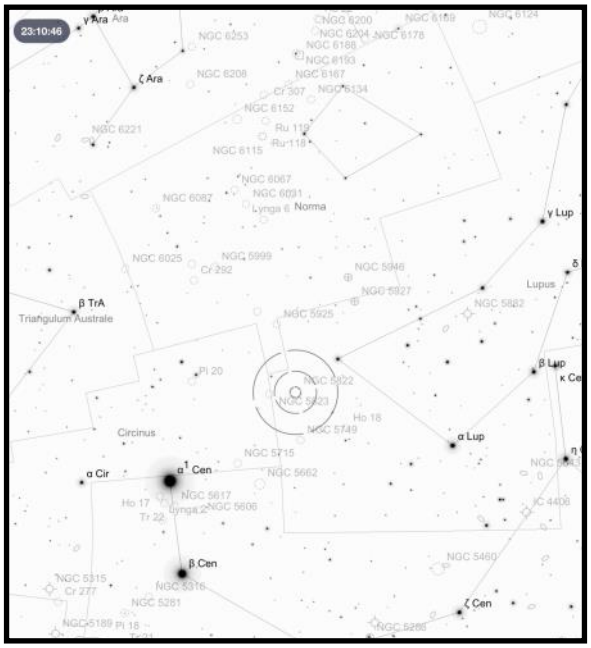


Again starting from Acrux, but moving a few degrees in the opposite direction, a chain of 6th magnitude stars in the finderscope points towards **NGC 4463** in Musca. It was tough to pick out this 9th magnitude open cluster in the finderscope. In the eyepiece it appears as a small (3 arc-min) cluster, with a dense cluster of 7-10 brighter stars in a tight formation almost resembling an arrow pointing left (ß).

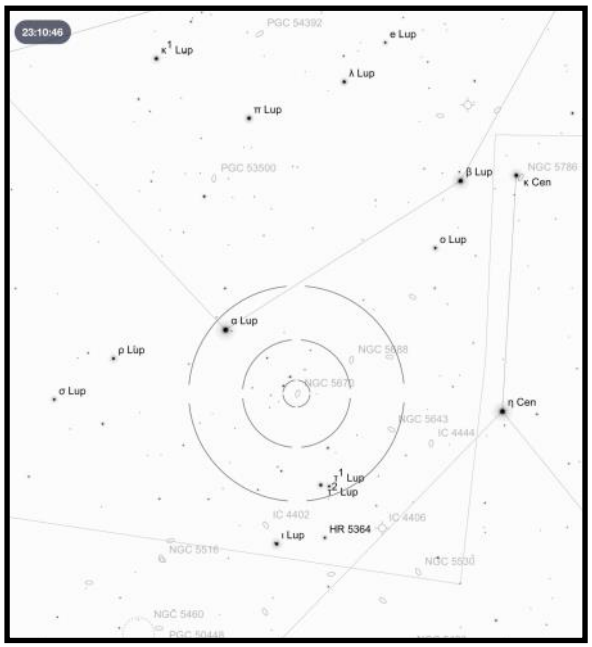
Next, I attempted to find IC4191 a nearby planetary nebula in Musca, but with no success. So, I moved onto its neighbour **NGC 5189**, otherwise known as the "Spiral Planetary". To hunt this down, I placed the Telrad outer ring on the top edge of the Coalsack. Using Sky Atlas 2000.0 (Map 25 for those playing at home) I was able to identify a pair of 5-6th magnitude stars, with a nearby equilateral triangle of stars that I could use in the finderscope to "plate solve" my way to tracking down this planetary. Placing the telescope just to the left of the triangle of

stars, positioned NGC 5189 in the FOV of the 35mm eyepiece. Unlike some of its smaller compatriots, this 2.3 arc-min planetary jumps out immediately in a starry field of view with its irregular shape. Sitting at a relatively bright 10.3 magnitude, it easy to make out the bright core and surrounding nebulous halo of this planetary. The field is marked by a number of bright stars that nicely frame this planetary. I then switched to the 15mm Panoptic and added an OIII filter. This significantly improved the contrast, and I could begin to make out some of the internal structure of the nebula. With a bright extended central bar tapering around into the surrounding halo, NGC 5189 has the characteristic look of a barred spiral galaxy. This superbly detailed planetary was a real pleasure even in my 10-inch telescope.





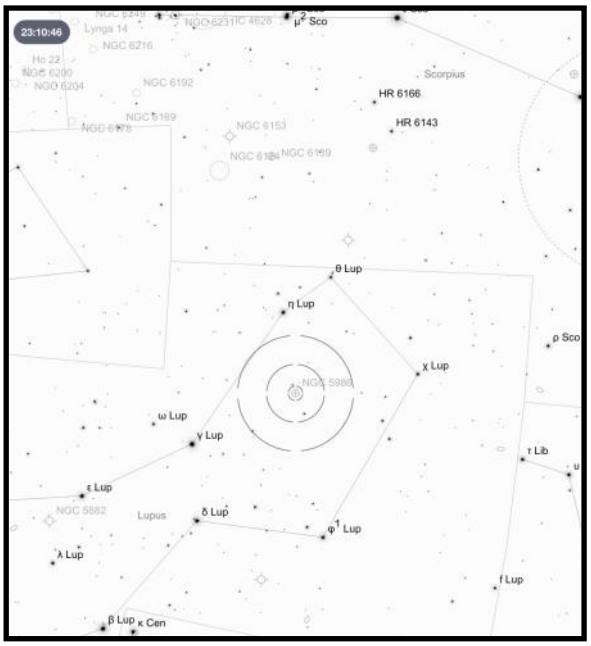
I then moved up to the constellation of Lupus. To locate Lupus I draw two lines from the Pointers (Hadar and Rigil Kent) towards two stars ς Lupi and α Lupi. From there, you can trace Lupus out as a curved cone shape of stars in the shape of a large rhinoceros' horn. I began by placing the outer edge of the Telrad on ς Lupi, that situates **NGC 5822** in the finderscope as bright diffuse mass of individual stars. NGC 5822 is a large open cluster, filling the entire FOV of the 35mm. It is a bright cluster (6.5 magnitude), with a sparse, but uniform concentration of 150+ stars. Panning the telescope around the edges of the cluster helped to distinguish the cluster from the background stars. This cluster would certainly benefit from an eyepiece with a larger FOV. Sitting in the same finderscope view, I could make out another open cluster, **NGC 5823**. This cluster sits right on the border of Lupus and Circinus. Although also relatively bright at 7.9 magnitude, this is a much smaller (10 arc-min) and more condensed cluster than its neighbour. A semi-circle of stars forms the top half of the cluster, with loose chains of stars trailing off the bottom, giving it the distinct appearance of a stellar jellyfish floating in space.



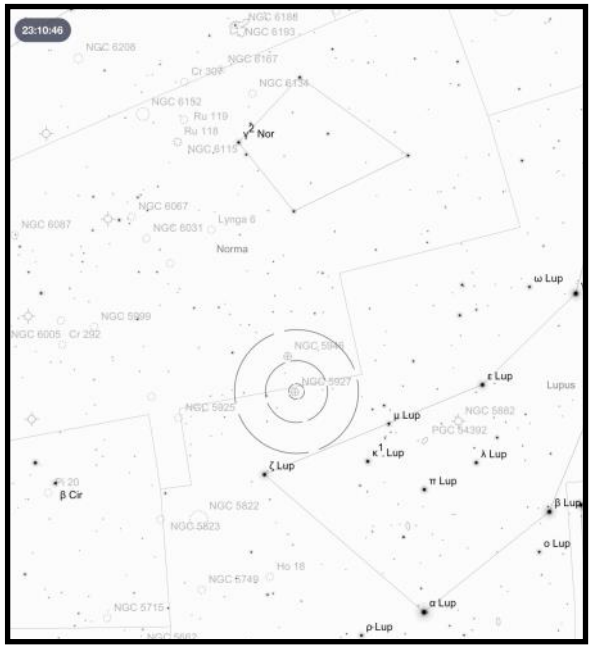
Next, I pushed the telescope towards α Lupi. On my Sky Atlas 2000.0 (Map 21) I noticed a small galaxy **NGC 5670** sitting nearby I thought I could use as a stepping stone to next object. Not knowing its exact magnitude, I decided to have a crack. Which I immediately regretted. This was a real struggle, but with averted vision I could catch glimpses of a thin side-on galaxy hiding in the field of view. The only reason I was reasonably certain of its location, was the galaxy formed an equilateral triangle with two others bright stars in the FOV.

Next on the list was **IC 4406**, also known as the Retina Nebulae (images show tendrils of dust that resemble the eye's retina). To hunt down this planetary nebula I drew two perpendicular lines

using stars in Lupus and Centaurus. Draw the first line through ς Lupi and α Lupi. Draw a second perpendicular line from η Centuari. The intersection of these two lines makes a good starting point to jump off from. In the finderscope I could pick out bright stars τ_1 and τ_2 Lupi, combined with two other bright stars which point towards the planetary's location. Once confident I was in the general vicinity I used an OIII filter to confirm. In the eyepiece it appears as a small slightly elongated blue-grey disk, looking more galaxy like. With averted vision seeming to expand the size of the disk.



Next was the globular cluster **NGC 5986**. To locate it, I again drew two imaginary lines. The first line through ε and γ Lupi and a second perpendicular line down from η Lupi. I pointed the telescope at the intersection of these two imaginary lines and after a bit of panning around could make out the unmistakable glow of a globular cluster. With the 35mm still in, it appears as a compact core with halo (8.2 magnitude). I could not fully resolve it, but with averted vision I started to make out the brighter stars in the halo giving it a grainy appearance. A bright star marked the top edge of the halo. Next was another globular in Lupus, **NGC 5927.** To hunt this one down I used a straight line in between ζ and μ Lupi and placed the outer edge of the Telrad on that straight line. By panning the telescope up and down this line, I was able to pick up the under the faint glow of NGC 5927 in the finderscope. In the eyepiece, its bright core is mostly unresolved (maybe a few foreground stars in the halo are resolved). I noted the halo seems bigger and more dispersed than previous globular NGC 5986.



Up until midnight the dew had been relatively mild with the Telrad working fine uncovered. However, I did make the mistake of leaving the eyepiece cap off when I wandered down to the kitchen for a snack. As the Milky Way began its descent towards the western horizon, I swung the telescope through Sagittarius and hopped across a few old favourites including the Lagoon and Triffid nebulae to enjoy in the 35mm eyepiece I did not have in June. I then swung over to Sagitta, a faint constellation sitting beneath Aquila which I typically overlook. Sagitta is quite a faint constellation, discernible by its skinny isosceles triangle shape. Using δ and γ Sagittae, I aligned the telescope somewhere in between to pick up the glow of **M71** in the finderscope. In the eyepiece, what sets this globular apart is its irregular shape and uniformity in brightness. At 8.2 magnitude it is bright, and I could partially resolve the brighter stars in the halo. However, its loose irregular shape is more akin to a compact open cluster like M11 Wild Duck cluster than a regular globular cluster. This is not your classic globular and I really enjoyed the view. Worth coming back to with a higher magnification eyepiece.

Until next month. Clear Skies.

National Australian Convention of Amateur Astronomers

The NACAA Secretariat, in collaboration with the Tamworth Regional Astronomical Club (TRAC), is pleased to advise that NACAA 2026 will be held in Tamworth over the weekend of the 3rd - 5th April 2026.
TRAC operates the Tamworth Astronomy and Science Centre (TASC). It can be found in Victoria Park, East Tamworth, via the gate at the eastern end of Piper Street (opposite the Tamworth Botanic Gardens). The TASC is open to the public from 5 pm every Thursday evening, and Saturday mornings from 10 am until 1 pm.
The convention will be held at Wests Diggers Club (***4 Kable Ave., Tamworth***) over the course of the weekend. The Sunday night BBQ for the NACAA is planned to be held at the TASC.

Getting to Tamworth is quite straightforward:
- By air, there are about four flights per day between Sydney and Tamworth with Qantaslink.
- By Rail, there is a daily train from Sydney to Tamworth.
- By road, Tamworth is located on the New England Highway, approximately halfway between Sydney and Brisbane.

Tamworth is about 500km north of Sydney, and a little more from Brisbane. As Tamworth is a major regional centre, there is plenty of accommodation, including:
- BIS STYLES Tamworth (A discount is being offered to Delegates of NACAA)
- MECURE HOTEL Tamworth
- CH Boutique Hotel & Apartments

Details of the venues and contact details are available on the NACAA website: ***https://nacaa.org.au/2026***

A Call for Papers, Posters and Workshops will be issued shortly by the Programme Committee. We encourage everybody to consider how they might contribute to what we believe will be a rich technical program.
Please put **3rd - 5th April 2026** in your diaries and start planning for the event.
Note: At this stage, we are evaluating the feasibility of broadcasting the event via Zoom for those who are unable to attend in person.

Comino's Comment

Crux Quiz

The Questions:

1. Where in the sky would you find the Belt of Venus?

2. What is the youngest supernova remnant in the Milky Way (and strongest extra-solar radio source in the sky)?

3. In 1965, astronaut John Young caused an incident when he smuggled what food aboard Gemini 3?

4. What element, rare on Earth but common in meteorites, was key evidence in the dinosaur extinction impact theory?

5. Which deep-sky object contains the Pillars of Creation?

6. Who is the only astronomer buried on the Moon?

7. What is the difference between type I and II supernovae?

8. What is the main advantage of using a cooled CCD camera for deep-sky imaging?

9. What wavelength corresponds to the famous 21 cm line observed in radio astronomy?

10. What happens when the Chandrasekhar limit is exceeded?

11. Are cosmic rays made of photons?

With thanks to Markus Stone, Astronomical Society of Victoria

Questions, comments and corrections can be directed to ***astroquiz@markusstone.com*****.**

October Sky Events

By Kendra Melson

Date	Time GMT	Syd Date	Syd Time		Event
2	11:00	2	10:00pm	22:00	**Venus** at Perihelion
5	9:20	5	8:20pm	20:20	Moon at Ascending Node
6	2:46	6	1:46pm	13:46	**Saturn** 3.8°S of Moon
7	3:47	7	2:47pm	14:47	FULL MOON
8	12:36	8	11:36pm	23:36	Moon at Perigee: 359819 km
10	5:20	10	4:20pm	16:20	**Pleiades** 0.9°S of Moon
13	18:13	14	5:13am	5:13	LAST QUARTER MOON
13	22:31	14	9:31am	9:31	**Jupiter** 4.3°S of Moon
13	23:31	14	10:31am	10:31	**Pollux** 2.5°N of Moon
16	16:56	17	3:56am	3:56	**Regulus** 1.3°S of Moon
18	4:34	18	3:34pm	15:34	Moon at Descending Node
19	20:00	20	7:00am	7:00	**Mercury** 2.0°S of Mars
19	21:37	20	8:37am	8:37	**Venus** 3.7°N of Moon
21	12:00	21	11:00pm	23:00	**Orionid Meteor Shower**
21	12:25	21	11:25pm	23:25	NEW MOON
23	16:15	24	3:15am	3:15	**Mercury** 2.3°N of Moon
23	23:31	24	10:31am	10:31	Moon at Apogee: 406445 km
25	0:15	25	11:15am	11:15	**Antares** 0.5°N of Moon
29	16:21	30	3:21am	3:21	FIRST QUARTER MOON
29	22:00	30	9:00am	9:00	**Mercury** at Greatest Elong: 23.9°E

Adapted from Astropixels.com - 2025 Sky Event Almanac page
http://astropixels.com/almanac/almanac21/almanac2025gmt.html

ASNSW Outreach Events

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By Mark Notary

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Eastwood Public School Astronomy Night Summary

The night was very successful. We were donated $422.60 and have paid into our account.

The showers stopped at 5.30pm. We were able to set up the scopes and we were operating to 8pm.

We were able to show the participants around Centaurus, from splitting stars, globular clusters and the jewel box. There was no moon or planets.

Keith, Allesandro, Glynis and myself used the 4 scopes. We had 8 to 10 people deep throughout the night.

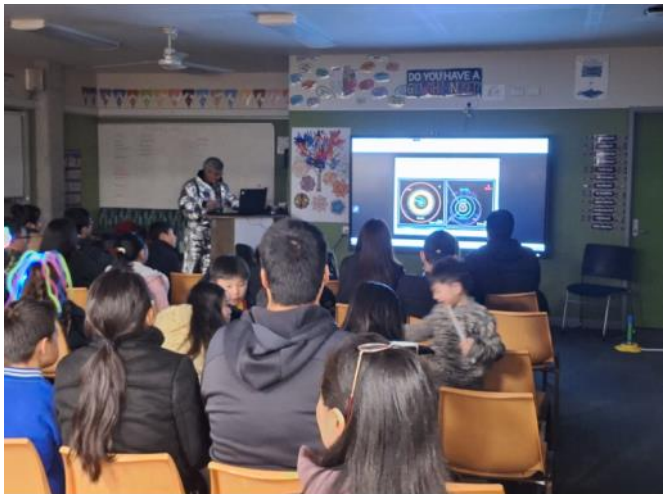
Trish and Ross kept the kids entertained with 2 ticketed sessions showing the solar system.

Thank you from ASNSW to all the volunteers who attended and helped out on the night.

Regards

Mark

Photos Credit: Tim Glanville,
Eastwood Public School teacher



ASNSW Member News

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By Lesa Moore & Greg Priestley

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Since last issue, two new members have joined the ASNSW. The society welcomes Jack Phillips and Attila Rozgonyi.

These members celebrate the following significant anniversaries this month (5, 10, 15, 20+ yrs):

Congratulations to these members!

John	Gardner	52
Cathi	Humphrey-Hood	42
John	Flavin	38
Mick	McCullagh	37
Michelle	Elliott	25
Stephen	Moore	25
David	Sevier	25
John	Farmer	22
Frederick	Vanderhaven	21
Alex	Comino	20
Trish	Berthon-Jones	15
Nigel	Garvey	5
Robert	Bochno	5

Memberships

Current membership stands at 408 members, including 392 paid-up members , 5 honorary members and 11 life members.

Call for Expressions of Interest – Astronomical Convention

At the last AGM, a suggestion was put forward to host a mini-convention at the ECC where members of the ASNSW and other clubs could meet and display their current projects and or equipment and discuss ideas. If you have something to share, would be willing to make a small presentation and are interested in seeing this idea become a reality, please email ***committee@asnsw.com*** with information about how you would like to participate. It would most likely be a daytime event. No date has been arranged until the level of interest is assessed.

Wiruna Policy Updates

Regulars at Wiruna should check the current policies, as there have been a few updates and tweaks. The Policies page is here: ***https://www.asnsw.com/policies***. Of significance:

- The height limit on observatories includes solar panels and aerials (refer MOFMaP 2025).
- "Strictly no camping on the observing field" also means that observatory owners are NOT permitted sleep in observatories or telescope shelters (refer Wiruna Sites Policy 2025). This is an important usage factor which may impede any future DA if policy is not followed.
- The usage requirements for a site includes observing sites as well as caravans and tents (refer Wiruna Sites Policy 2025). Key points:
    - ◊ A site is defined as: a caravan, tent, shed, observatory, mat, pier, or box, and immediate surrounding area.
    - ◊ The Site Holder must pay fees annually in advance, maintain ASNSW membership and **attend at least six nights per year** over at least four scheduled weekends.
    - ◊ Site holders who fail to meet the usage requirements may be asked to remove all equipment from the site.
- Charging of Electric Vehicles (EVs) at Wiruna is strictly prohibited at all times. The nearest charging stations are at Lithgow, Bathurst and Mudgee.

Advance Notice – Solstice Dinner at Wiruna – Saturday 20th December

Members may have realised that there is no Christmas Party on the calendar this year. Instead, the end-of-year event will be a communal dinner at Wiruna. Menu – to be decided. Save the date and members will be advised of further details as we get closer.

Joint Society Meeting 13 March 2026

It has been proposed that members of the NSAS and the ASNSW could meet up at the ECC for a joint meeting. Greg McCall has offered to secure a guest speaker for this meeting. Further details will be advised in due course.

Macquarie University Observatory – Free Observing Nights for ASNSW Members

Through our liaison with Macquarie University, we have been scheduling free observing nights for our members. Unfortunately, some have been cancelled because of unfavourable weather, the bane of all astronomers. However, when you receive the notices that these nights are happening, do please book and take advantage of this great opportunity to do some observing without driving all the way to Wiruna. As these nights are only available to our members (and their families), you must log in to the website to book. Log in and check the website "Events Schedule and Bookings" page for the next available evening. Bookings essential as numbers are limited to 40 people per session.

2026 Calendar

Next year's calendar is available on the website as a one-page PDF here: ***https://www.asnsw.com/calendar*** (look for the link near the top of the page). Events are soon to be added to the website and the calendar feed will be updated in due course.

Meetings & Dates

ASNSW Events

Recordings from Ordinary Meetings link: ***https://www.asnsw.com/ordinary***

Astroimaging ZOOM Meetings: 8 Oct, 5 Nov, 3 Dec

Ordinary Meetings—Epping: 10 Oct, 14 Nov

Committee Meetings: 15 Oct, 12 Nov

Wiruna Weekends: 17-18 Oct, 21-22 Nov, 19-20 Dec

For Wiruna bookings and enquiries contact Joe Cauchi on m. 0428 363 878 or e. ***vp_wiruna@asnsw.com***

Mudgee Caravan Hire has opened on the corner of Sofala Road and Castlereagh Highway, just 8 kms from Wiruna. Joe Cauchi (Wiruna Vice President) has spoken to the owner and he offers small, medium and large caravans at $50 / $75 / $100 per night respectively. He can tow a caravan to and from Wiruna on request giving you the convenience of staying onsite in a private caravan, without needing to own a caravan or managing the logistics.

If this appeals to you, please contact Warren Cramond m: 0417029047 e: ***hot_spud2006@yahoo.com.au*** for more information. Note this is an independent business and the ASNSW will not be involved in your commercial arrangement with this business. The normal Wiruna camping fees would remain payable to the ASNSW. As this is a new business and no one has utilised them so far, we're keen for any feedback from anyone who utilises this service.

Committee Communiqué - 16 July, 13 August, 17 September 2025

- Correspondence received regarding a Sydney-based bid for a future International Astronomical Union (IAU) General Assembly in Sydney exploring potential involvement of ASNSW.
- Various planning and activities relating to the AGM.
- The installation of a solar panel, solar controller, 240v AC inverter and white LED light strips and dimmable red LED light strips in the storage shed has been completed.
- A Victron battery monitor has been installed on the main batteries in the hall to monitor all power generation and usage.
- No EV Charging signs have been installed across relevant locations at Wiruna.
- Portable electric fridges with a limit of 100W peak or 50W continuous are approved for usage at Wiruna.
- The VP Wiruna has undertaken First Aid training on behalf of the ASNSW.
- 2026 Calendar preparation and finalisation.
- Discussions around the process for tracking of maintenance and other to do items.
- Equinox dinner in September will be held with a variety of curries and accompaniments.
- Lesa Moore appointed the Public Officer of ASNSW in order to be able to liaise with the ATO.
- Discussions around upcoming meetings, and the results of the meeting survey where Friday was the first preference with Wednesday being the second preference.
- Donations to the local Scouts and RFS has been made.
- Discussions about the suggestion at the AGM for an “astronomical convention”.
- End of year / Christmas dinner will not be held as a separate event and will instead be part of the Solstice dinner at Wiruna in December.
- Long term development of Wiruna: Based on the high cost of the previously received proposal for project management activities, an alternative fee proposal was sought from the existing bush fire consultant to also undertake the town planning related elements. The first element of this proposal was approved and a document outlining the various issues has been prepared and sent to council requesting a pre-DA planning meeting to come to agreement on key items.