
# Wollongong Amateur Astronomy — Galaxy Gazette

August 2025 • Southern Hemisphere • Wollongong, NSW

## Welcome from the Committee

Hi everyone! August will soon bring clear Illawarra nights, the Milky Way arcing overhead, and a photogenic Saturn returning to the evening sky. We are working to re-establish Jerrara as a site again and we have secured a Dairy farm at Albion Park for a darker site viewing/imaging.

## Astronomy Headlines (August 2025)

• **Jupiter–Venus morning meetup + a slim crescent Moon (mid-Aug):** Eye-catching pre-dawn pairing widely visible from Australia; Jupiter's moons line up nicely in binoculars.

• **Saturn heads for prime viewing:** Rising by ~10 pm and earlier each night through August; rings well-tilted—excellent for small telescopes.

• **Interstellar visitor 3I/ATLAS discovered (July 2025):** The third known interstellar object shows a developing coma and tail; not a naked-eye sight but a big science story.

• **Rubin Observatory begins early commissioning imagery:** First-light images and early detections hint at a flood of discoveries once LSST begins full survey operations.

Sources: NASA "What's Up" August 2025; Astronomy.com Southern-Hemisphere guide; Timeanddate; ALPO/ICQ & Skyhound for comet updates; press coverage of 3I/ATLAS.

## Wollongong Planner — Late August 2025

| Date | Moon | Targets | Notes |
|---|---|---|---|
| Aug 21 (Thu) | Waning gibbous | Saturn evening; Scutum–Sagittarius star clouds | Seeing often steadier after midnight. |
| Aug 23 (Sat) | Last Quarter | M22, Lagoon (M8), Trifid (M20) | Moon rises late—good deep-sky window. |
| Aug 25 (Mon) | Waning crescent | Eta Carinae region twilight-evening; Centaurus A late | UHC/O-III helps with Carina. |
| Aug 27 (Wed) | Thin crescent | SMC + 47 Tuc pair; NGC 362 | Great binocular sweep of the Clouds. |
| Aug 30 (Sat) | New Moon | Sculptor Galaxy (NGC 253), NGC 4945, Helix Nebula | Prime dark-sky night. |
| Aug 31 (Sun) | Waxing crescent | Tarantula Nebula (30 Dor) after midnight | Imaging: bracket exposures for core/filaments. |

## Planets & Moon — August at a Glance (Wollongong)

| Object | Best Time | Approx. Mag | Notes |
|---|---|---|---|
| Venus | Pre-dawn | −4.3 | Brilliant in NE before sunrise; close to Jupiter mid-month. |
| Jupiter | Pre-dawn | −2.1 | Four moons in binoculars; pairs with Venus mid-Aug. |
| Saturn | Evening–overnight | 0.5–0.3 | Rings crisp; easiest planet for small scopes in Aug. |
| Mars | Early evening very low W | 1.7 | Low and fading; challenging in twilight. |
| Mercury | Low pre-dawn around 21 Aug | 0 to +1 | Requires flat horizon and clear air. |
| Moon | New: Aug 30 | — | Best deep-sky window Aug 28–31. |

## Meteor Activity (August)

• Perseids (Aug 12–13 peak): Favours Northern Hemisphere; from NSW expect only a few per hour at best, low in the north before dawn. Try anyway if you're up for the Venus–Jupiter show.
• Southern δ-Aquariids: Active late July–August; radiant well-placed for Australia with modest rates under dark skies.

## Deep-Sky Targets — Nebulae & Clusters

| Object | Type | Constellation | Mag. | Size | Distance | Observing Tips | Facts |
|---|---|---|---|---|---|---|---|
| Eta Carinae Nebula (NGC 3372) | Emission nebula + cluster | Carina | 4 (SB) | 120×80′ | ≈7,500 ly | UHC/O-III filters reveal Keyhole; bright visually. | Eta Car is an unstable massive star; 1840s outburst created the Homunculus. |
| Tarantula (30 Dor, NGC 2070) | Giant H II (in LMC) | Dorado | — (SB) | 40′+ | ≈160,000 ly | Moonless nights; detail explodes in photos. | Home to R136, a super-cluster of hot O-stars. |
| Lagoon (M8) | Emission nebula + cluster | Sagittarius | 5 | 90×40′ | ≈4,100 ly | UHC filter; dark lane + NGC 6530 cluster. | Contains Bok globules—stellar nurseries. |
| Trifid (M20) | Emission + reflection | Sagittarius | 6.3 | 28′ | ≈5,200 ly | Use moderate magnification to split dark lanes. | Blue reflection + red emission make M20 unique. |
| Helix (NGC 7293) | Planetary nebula | Aquarius | 7.3 | 25′ | ≈650 ly | Best with O-III; looks like a 'cosmic eye'. | Closest large planetary nebula to Earth. |
| IC 2602 | Open cluster (Southern Pleiades) | Carina | 1.9 | 50′ | ≈480 ly | Gorgeous in binoculars; bright θ Car shines. | Young cluster ~30–50 Myr old. |

## Deep-Sky Targets — Galaxies

| Galaxy | Type | Constellation | Mag. | Size | Distance | Observing Tips | Facts |
|---|---|---|---|---|---|---|---|
| Sculptor Galaxy (NGC 253) | Spiral (starburst) | Sculptor | 7–8 | 27×7′ | ≈11 Mly | Slim spindle; mottled dust lanes in 8–12″ scopes. | Vigorous star formation; strong IR emission. |
| Centaurus A (NGC 5128) | Peculiar elliptical | Centaurus | 6.8 | 25×20′ | ≈12 Mly | Distinct dust lane even in small scopes. | Powerful radio galaxy with active nucleus. |
| NGC 4945 | Edge-on spiral | Centaurus | 8.6 | 20×3′ | ≈13 Mly | Needle-like; dust lane pops in dark skies. | Seyfert nucleus obscured by dust. |
| SMC | Dwarf irregular galaxy | Tucana | 2.7 | 5° | ≈200 kly | Naked-eye patch in dark skies; pair with 47 Tuc. | Distorted by Milky Way tides; rich in clusters. |
| LMC | Dwarf irregular galaxy | Dorado | 0.9 | 10° | ≈160 kly | Huge naked-eye glow; hosts 30 Doradus. | Likely on first infall to the Milky Way. |

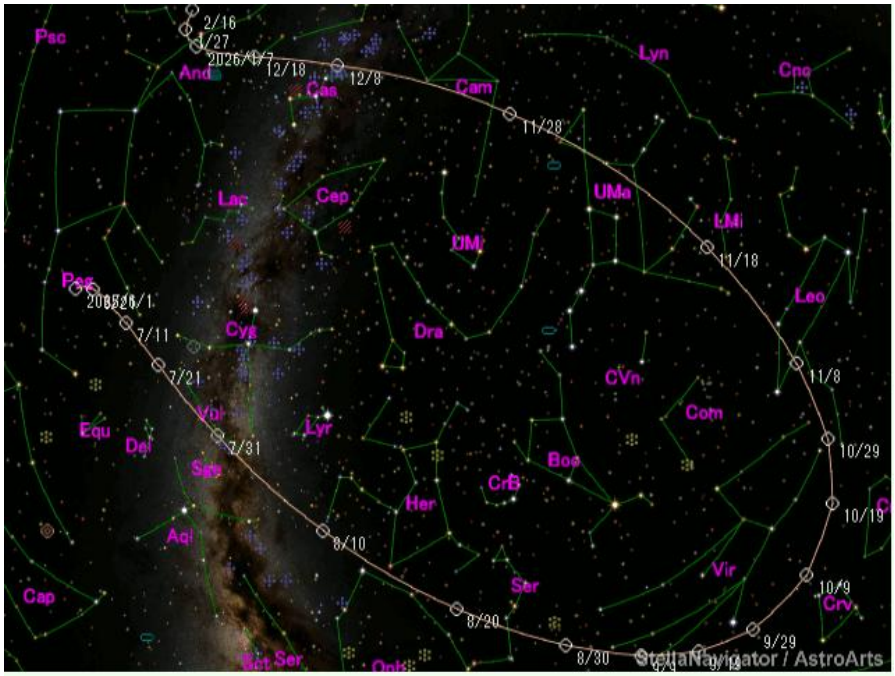
## Globulars & Bright Clusters

| Object | Type | Constellation | Mag. | Size | Distance | Observing Tips | Facts |
|---|---|---|---|---|---|---|---|
| Omega Centauri (NGC 5139) | Globular | Centaurus | 3.7 | 36′ | ≈15,800 ly | Begins to set earlier but still fine after dusk in Aug. | Possible remnant nucleus of a dwarf galaxy. |
| 47 Tucanae (NGC 104) | Globular | Tucana | 4.1 | 31′ | ≈13,000 ly | Jaw-dropping near SMC; handle with higher power. | Hosts many millisecond pulsars. |
| M22 (NGC 6656) | Globular | Sagittarius | 5.1 | 24′ | ≈10,600 ly | Easy in star clouds; resolves in small scopes. | Among the closest globulars to Earth. |
| NGC 362 | Globular | Tucana | 6.4 | 12′ | ≈27,000 ly | Compact; tolerates magnification; near 47 Tuc. | Different stellar population than 47 Tuc. |
| NGC 4755 (Jewel Box) | Open cluster | Crux | 4.2 | 10′ | ≈6,400 ly | Dazzling colors; best earlier in winter evenings. | Named by John Herschel for its gem-like stars. |

## Observable Comets — August 2025 (Southern Hemisphere)

| Comet | Where to Look | Est. Mag. | Best Time | Notes & Facts |
|---|---|---|---|---|
| C/2025 K1 (ATLAS) | Evening sky (S–SW, varies) | 11–12 | Moonless evenings late Aug | Brightening through August; likely binocular/imager target in dark skies. Predictions vary—track weekly updates. |
| C/2024 E1 (Wierzchos) | Evening sky (varies) | ≈13 | Late evening | Faint; 20–30 cm telescopes recommended. Good imaging candidate. |
| C/2023 A3 (Tsuchinshan–ATLAS) | Late night/early morning (high N for AU) | ≈13 | After midnight | Post-perihelion remnant; generally a photographic target by 2025, not a showpiece. |

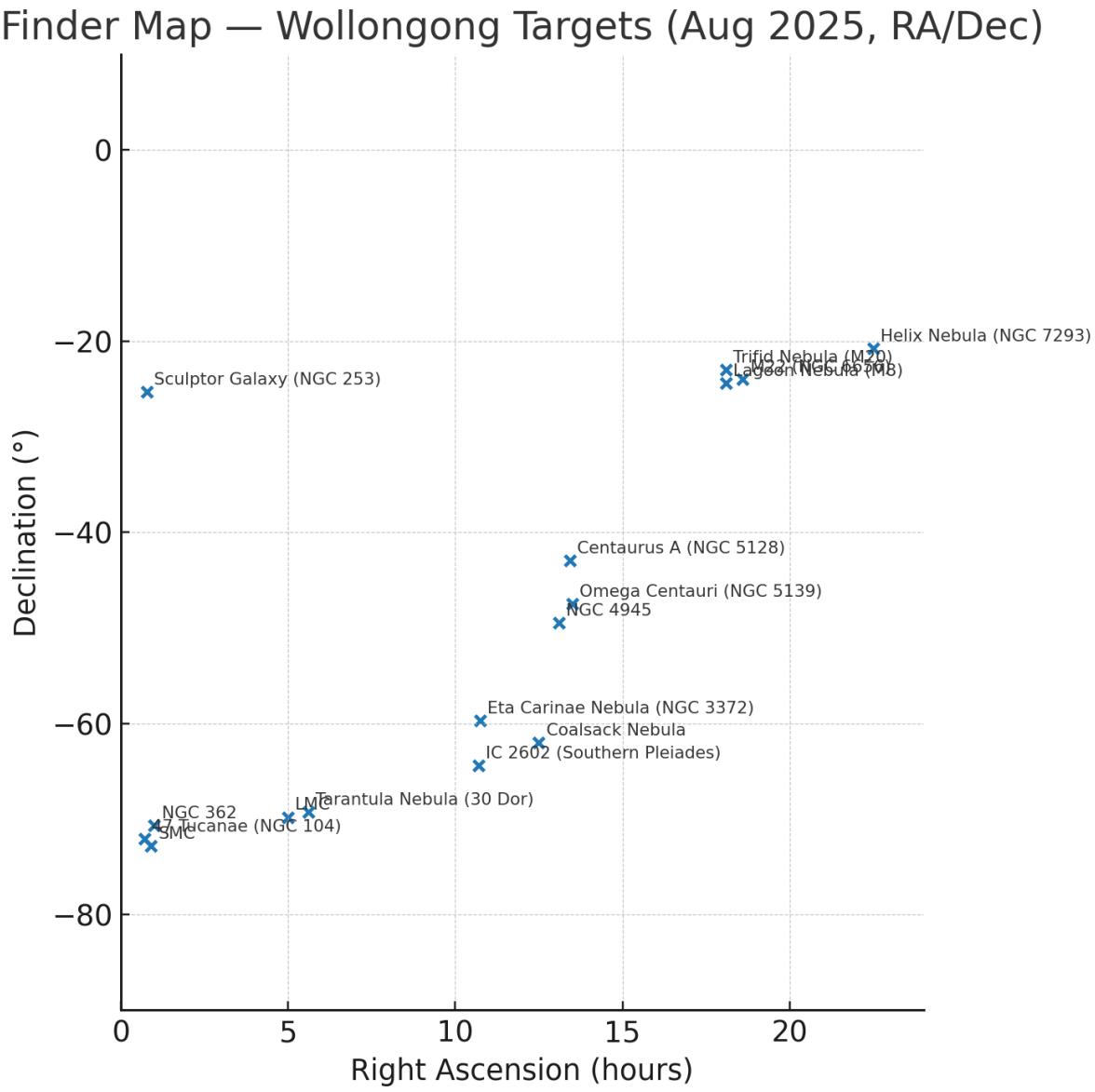
Tip: Comet magnitudes are notoriously unreliable. Check ALPO/ICQ, Skyhound 'Comet Chasing,' and aerith.net for weekly updates. Use high ISO, short exposures, and stack; a mild green tint suggests C2 emission.




Comet C/2025 K1 finder chart

## All-in-One Finder Map

RA/Dec plot of the featured Southern targets. Use a planetarium app for hour-by-hour positions from Wollongong.



## Image Gallery

Small Magellanic Cloud


NGC7331 with a recent supernova

Eagle Nebula — Pillars of Creation

Observatories under the Milky Way

# DIY Dew Heaters for Amateur Astronomy

If you've ever set up on a crisp Wollongong night only to watch your telescope's optics fog over, you'll know that dew is the backyard astronomer's biggest nemesis. Commercial dew heater bands can be pricey, but the good news is: making your own is straightforward, affordable, and fun.

**How Dew Heaters Work**

Dew forms when your optics cool below the surrounding air's dew point. A dew heater gently warms the telescope tube or lens cell just enough to keep condensation at bay — without disturbing your views. Most DIY designs use resistive heating wire or inexpensive resistor strips powered from a 12-volt supply.

**What You'll Need**

Resistive heating wire (nichrome or similar), or a string of 10–20 Ω resistors

Velcro strap or fabric band to wrap around your scope

Soldering iron & heat-shrink tubing

12V DC power source (field battery or cigarette-lighter plug)

Optional: PWM dimmer or simple rheostat to control output

Simple Build

Measure the circumference of your telescope's corrector plate or eyepiece barrel.

Lay out resistors or heating wire along this length — calculate so total resistance draws ~0.5–1.5 A at 12V.

Solder everything in series and insulate with heat-shrink tubing.

Sew or tape the heater element into a fabric band with Velcro.

Attach power leads and plug into your 12V supply.

Safety Tips

Always insulate joints — exposed wires and dew don't mix!

Use a fuse in your power line.

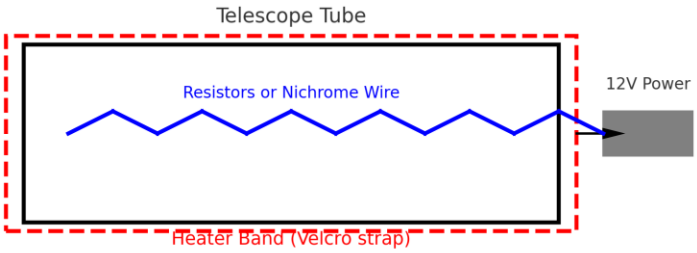
Don't over-power the heater — you only need to stay a degree or two above ambient.

Field Use

Slip the heater band over your scope before observing, power it up, and you'll enjoy fog-free views all night. A simple dimmer switch lets you adjust heat output on damp vs. dry nights.

Schematic Diagram

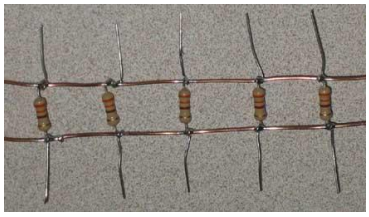
Below is a simple schematic showing how the DIY dew heater band wraps around the telescope tube. Resistors or nichrome wire are embedded in the Velcro strap and connected to a 12V power source.




**Schematic: DIY Dew Heater**

**Additional Resources**

For more detailed guides and alternative methods of building dew heaters, you can visit this excellent resource: **http://test.blackwaterskies.co.uk/2013/05/making-your-own-nichrome-dew-heater.html**



## Club Corner

Next dark-sky weekend: Aug 30–31 (New Moon) possibly at Dairy farm Albion Park or Jerrara.

Bring binoculars/Scope for SMC/47 Tuc and a UHC filter for Carina.

Share your sketches and photos for the September issue!

Jeff will be there to teach us all how to navigate the night sky !!

## Club Committee

**Joe Perulero -President (0479188381)**

**Barry Munro -Treasurer**

**Graham Kettlewell -Secretary**

**Jeff Pountney -Observation Officer**