

WEYMOUTH ASTRONOMY

Trips / Events

Ideas for trips and events
always welcome!

events@weymouthastronomy.co.uk

Society Meetings

Jul 20—CADAS—Tim
Wetherell *The end of the
Universe...*

Aug 2 —WAS—Fire and
Ice: *Introducing the Two
Most Volcanically Active
Bodies in the Solar Sys-
tem* by Richard Miles
(BAA Comet Section)

Aug 17—CADAS- Chris
Starr *Heavy Metal
World: Mission to Aster-
oid Psyche*

Sept 6 —WAS-Time and
Calendars by Steve Ton-
kin

Sep 21—CADAS—
Gadgets and Gizmos
Evening

WAC Upcoming Events:

12/13 Aug	Members Viewing Evening for the Perseid Meteors and Summer Constel- lations.
9 Sept	Ask the Panel (Face to face and Zoom)
14 Oct	Bob Mizon - The Names of the Stars - Meanings and Origins (Face to face and Zoom)

Sky Watcher



Latest News:

An interesting article appeared recently in Scientific American entitled 'Betelgeuse 'Great Dimming' Mystery Solved by Satellite Photobomb'.

As the article reminds the reader 'In late 2019, astronomers were concerned with a ruddy, fading point of light more than 500 light-years away. Betelgeuse, the red supergiant star easily recognizable as the right "shoulder" of the constellation Orion, had suddenly and mysteriously dimmed by more than a factor of two. Some astronomers speculated that it was on the verge of exploding as a supernova—an event otherwise predicted to occur within the next 100,000 years or so. By early February of 2020, however, the fading had stopped, and within weeks the star had returned to its regular brightness, which left researchers with lingering questions about this bizarre episode they called the "Great Dimming." The article explains the conclusion to this remarkable effect.

<https://tinyurl.com/3tx94aby>

Until next month...Clear Skies! ~ Sheri

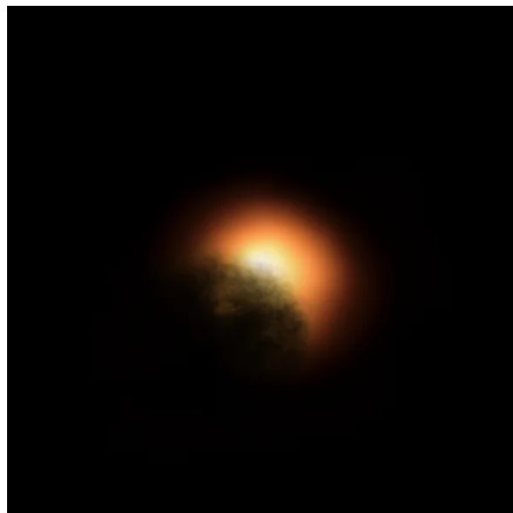


Find Hercules and His Mighty Globular Clusters

by David Prosper

Hercules is one of the standout heroes of Greek mythology, but his namesake constellation can be surprisingly hard to find - despite being one of the largest star patterns in our night skies! Once you find the stars of Hercules, look deeper; barely hidden in the space around his massive limbs and "Keystone" asterism are two beautiful globular star clusters: M13 and M92!

Since the constellation itself is relatively dim but bordered by brighter constellations, you can find the stars of Hercules by looking between the bright stars Vega and Arcturus. They are fairly easy to identify, and we have tips on how to do so in previous articles. Vega is the brightest star in the constellation Lyra and one of the three stars that make up the Summer Triangle (June 2020: Summer Triangle Corner: Vega). Arcturus is the brightest star in the



An artist's impression of Betelgeuse's dust cloud was generated using an image of the red supergiant taken with the SPHERE instrument on the European Southern Observatory's Very Large Telescope in late 2019. Credit: ESO, ESA/Hubble, M. Kornmesser

constellation Boötes, and can be found by "arcing to Arcturus" from the handle



Composite image of the dense starry core of M92 imaged in multiple wavelengths. While your own views of these globular clusters won't be nearly as crisp and detailed, you might be able to count some of its member stars. How far into their dense cores can you count individual stars? Credits: ESA/Hubble & NASA; Acknowledgment: Gilles Chapdelaine.

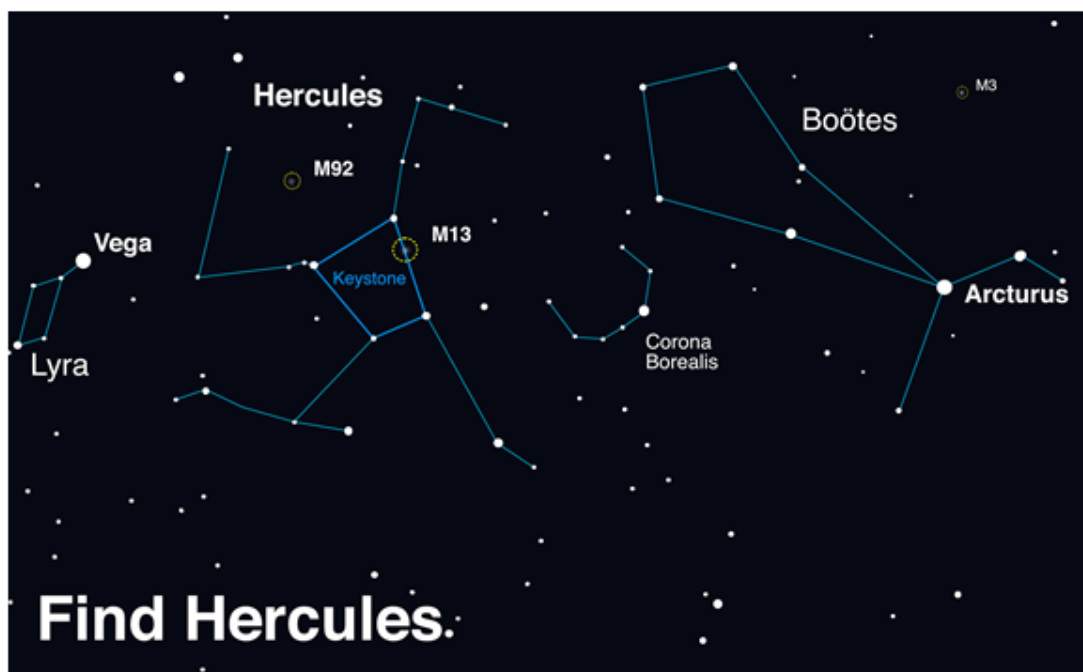
Sky Watcher

Hercules (more!)

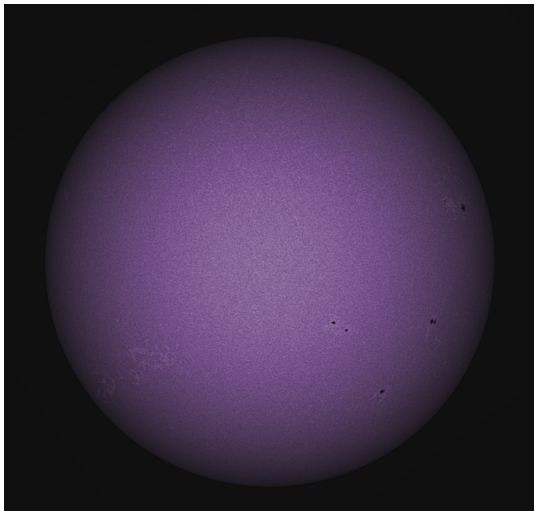
of the Big Dipper (*May 2021: Virgo's Galactic Harvest*). You may be able to Hercules's "Keystone" asterism first; this distinct pattern of four stars is traditionally shown as the torso of the great hero, though some illustrators prefer marking the Keystone as the head of Hercules. What pattern do *you* see in the stars of Hercules?

Globular star clusters appear "fluffy," round, and dense with stars, similar to a dandelion gone to seed, in contrast to the more scattered and decentralized patterns of open clusters. Open clusters are generally made up of young stars that are gradually spreading apart and found inside our Milky Way galaxy, while globular clusters are ancient clusters of stars that are compact, billions of years old, bound to each other and orbit around our galaxy. Due to their considerable distance, globular clusters are usually only visible in telescopes, but one notable exception is M13, also known as the Great Cluster or Hercules Cluster. During very clear dark nights, skilled observers *may* be able to spot M13 without optical aid along the border of the Keystone, in between the stars Zeta and Eta Herculis - and a bit closer to Eta. Readily visible as a fuzzy "star" in binoculars, in telescopes M13 explodes with stars and can fill up an eyepiece view with its sparkling stars, measuring a little over half the diameter of a full Moon in appearance! When viewed through small telescopes, globular clusters can appear orblike and without discernable member stars, similar in appearance to the fuzzy comae of distant comets. That's why comet hunters Edmund Halley and Charles Messier discovered and then catalogued M13, in 1714 and 1764 respectively, marking this faint fuzzy as a "not-comet" so as to avoid future confusion.

While enjoying your view of M13, don't forget to also look for M92! This is another bright and bold globular cluster, and if M13 wasn't so spectacular, M92 would be known as the top celestial sight in Hercules. M92 also lies on the edge of naked-eye visibility, but again, binoculars and especially a telescope are needed to really make it "pop." Even though M92 and M13 appear fairly close together in the sky, in actuality they are rather far apart: M13's distance is estimated at about 25,000 light years from Earth, and M92's at approximately 27,000 light years distant. Since M13 and M92 appear so close together in our skies and relatively easy to spot, switching between these two clusters in your scope makes for excellent star-hopping practice. Can you observe any differences between these two ancient clusters of stars?



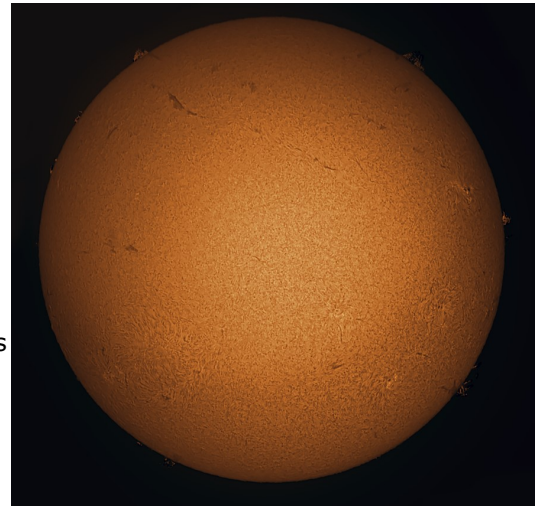
Look up after sunset during summer months to find Hercules! Scan between Vega and Arcturus, near the distinct pattern of Corona Borealis. Once you find its stars, use binoculars or a telescope to hunt down the globular clusters M13 and M92. If you enjoy your views of these globular clusters, you're in luck - look for another great globular, M3, in the nearby constellation of Boötes. Image created with assistance from Stellarium: stellarium.org



The sun's activity is increasing but the seeing conditions in the summer can be a challenge too.

Atmospheric turbulence makes it a challenge to focus on the solar features when imaging.

Solar images from 3 June.
—SLKarl



The next GoSpaceWatch Online Lecture: "THE UK'S ROLE IN THE JAMES WEBB

SPACE TELESCOPE" by Dr Caroline Harper. Head of Space Science, UK Space

Agency. Thursday 28th July at 8:00 pm UK.



SYNOPSIS: NASA's James Webb Space Telescope launched on Christmas Day 2021 and has now reached operational orbit at the second Lagrange Point, roughly 1.5M km from Earth. During commissioning of the science instruments Webb has already exceeded expectations in terms of performance, promising great things from the first science data release on 12 July. Webb is optimised to observe in the infrared and is set to transform our understanding of the Universe, building on and complementing the work of the Hubble Space Telescope. It will be able to capture the faint light from the first stars in the Universe, effectively looking back in time to soon after the Big Bang. It will also allow us to peer inside the dense dust clouds surrounding newly forming stars and galaxies. The UK is playing a major role in this space observatory for the next decade, and UK investment in the mission places our researchers at the forefront of the exciting new discoveries that will be made. This talk will describe how the UK led the European Consortium which designed, built and tested the Mid InfraRed Instrument (MIRI) for Webb, in collaboration with NASA's Jet Propulsion Laboratory, and what the future may hold for the UK research community working on data from this fascinating mission.

THE SPEAKER Caroline joined the UK Space Agency at its creation in 2011, transferring into the new organisation from the Science & Technology Facilities Research Council. She became Head of the Agency's Space Science Programme in April 2020. This Programme provides support for the design, development and operation of innovative scientific instrument payloads and data processing capabilities for European Space Agency missions. Caroline's role includes working with the space R&D community in academia and industry to develop the sector through strong, focused participation in missions with ESA and with other national space agencies.

She has also been responsible for the Agency's first national cubesat programme, launched successfully in July 2014, and for managing some of the Agency's International Partnership Programme (IPP) overseas development aid projects. She is the UK delegate on a number of international steering groups, including ESA's Science Programme Committee.

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www.gospacewatch.co.uk

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The Evening Sky Map

FREE: EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

Sky Calendar – July 2022

Get Sky Calendar on Twitter
<http://bit.ly/skymaps>

- 1 Venus 4.1° N of Aldebaran at 10h UT (30° from Sun, morning sky). Mags. -3.9 and 0.9.
- 1 Moon near Beehive cluster M44 at 17h UT (evening sky).
- 3 Moon near Regulus at 14h UT (evening sky).
- 4 Earth at Aphelion (farthest from Sun) at 7h UT. The Sun-Earth distance is 1.016715 a.u., or about 152.1 million km.
- 7 First Quarter Moon at 2:14 UT.
- 7 Moon near Spica at 20h UT (evening sky).
- 11 Moon near Antares at 2h UT (evening sky).
- 13 Moon at perigee (closest to Earth) at 9:04 UT (distance 357,264km; angular size 33.4').
- 13 Full Moon at 18:37 UT.
- 15 Moon near Saturn at 23h UT (morning sky). Mag. 0.5.
- 16 Mercury at superior conjunction with the Sun at 19h UT. The innermost planet passes into the evening sky.
- 19 Moon near Jupiter at 4h UT (morning sky). Mag. -2.6.
- 19 Pluto at opposition at 17h UT. Mag 14.3.
- 20 Last Quarter Moon at 14:18 UT.
- 21 Moon near Mars at 17h UT (78° from Sun, morning sky). Mag. 0.3. Occultation visible from NW Asia and Japan.
- 22 Moon near Uranus at 7h UT (71° from Sun, morning sky). Occultation visible from E South America and NW Africa. Mag. 5.8.
- 23 Moon near the Pleiades at 7h UT (morning sky).
- 24 Moon near Aldebaran at 1h UT (morning sky).
- 26 Moon at apogee (farthest from Earth) at 10h UT (distance 406,275km; angular size 29.4').
- 26 Moon near Venus at 15h UT (morning sky). Mag. -3.9.
- 28 New Moon at 17:54 UT. Start of lunation 1232.
- 30 Moon near Mercury at 1h UT (14° from Sun, evening sky). Mag. -0.7.
- 30 Moon near Regulus at 19h UT (evening sky).

More sky events and links at <http://Skymaps.com/skycalendar/>

All times in Universal Time (UT). (USA Eastern Daylight Time – UT – 4 hours.)

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All sales support the production and free distribution of The Evening Sky Map.

Photos from the Solar System Walk, June 17th Weymouth Bay

June 17th was a very warm and sunny evening when sixteen WAC members and friends met at the rock groyne for a Solar System Walk along the seafront.

Passing all the planets on the way, John Macdonald gave a brief introduction to each one and demonstrated how small they would be when 2.8 billion miles is scaled down to just 1 mile.

Other members of the Club added more interesting facts and figures, so it was an enlightening evening for all.

After arriving at the Sun - The King's Statue (and being slightly drowned out by the noise from a military vehicle parade), many members retired to the Gloucester for a summer get together. (Photos: Geoff Kirby)

