

## SKYWATCHER NEWSLETTER

## LATEST NEWS

This month's big news is the First Anniversary of the JWST!! What a milestone! No words can describe.... <https://tinyurl.com/35z5wt2w> Until next month... SLK



## Find a Ball of Stars

By: Linda Shore, Ed.D

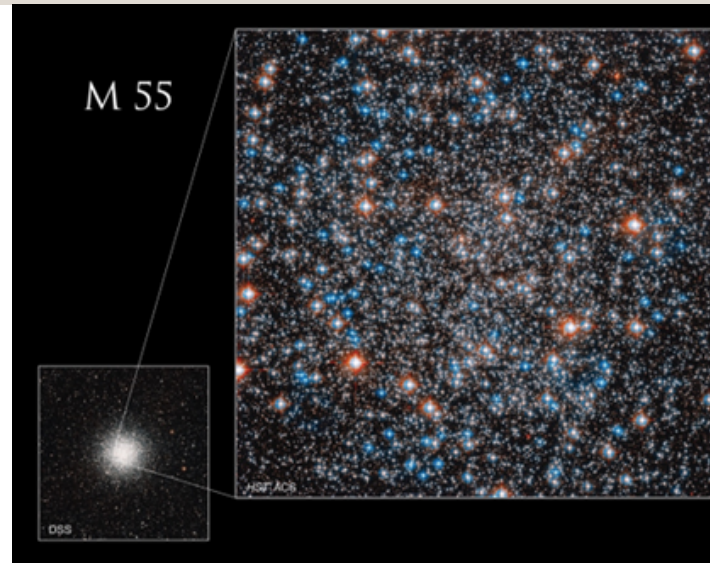


French astronomer Charles Messier cataloged over 100 fuzzy spots in the night sky in the 18th century while searching for comets – smudges that didn't move past the background stars so couldn't be comets. Too faint to be clearly seen using telescopes of the era, these objects were later identified as nebulas, distant galaxies, and star clusters as optics improved. Messier traveled the world to make his observations, assembling the descriptions and locations of all the objects he found in his Catalog of Nebulae and Star Clusters. Messier's work was critical to astronomers who came after him who relied on his catalog to study these little mysteries in the night sky, and not mistake them for comets.

Most easily spotted from the Southern Hemisphere, this "faint fuzzy" was first cataloged by another French astronomer, Nicholas Louis de Lacaille in 1752 from Southern Africa. After searching many years in vain through the atmospheric haze and light pollution of Paris, Charles Messier finally added it to his catalog in July of 1778. Identified as Messier 55 (M55), this large, diffuse object can be hard to distinguish unless it's well above the horizon and viewed far from city lights.

But July is great month for getting your own glimpse of M55 – especially if you live in the southern half of the US (or south of 39°N latitude). Also known as the "Summer Rose Star," M55 will reach its highest point in northern hemisphere skies in mid-July. Looking towards the south with a pair of binoculars well after sunset, search for a dim (mag 6.3) cluster of stars below the handle of the "teapot" of the constellation Sagittarius. This loose collection of stars appears about 2/3 as large as the full Moon. A small telescope may resolve the individual stars, but M55 lacks the dense core of stars found in most globular clusters. With binoculars, let your eyes wander the "steam" coming from the teapot-shaped Sagittarius (actually the plane of the Milky Way Galaxy) to find many more nebulas and clusters.

As optics improved, this fuzzy patch was discovered to be a globular cluster of over 100,000 stars that formed more than 12 billion years ago, early in the history of the Universe. Located 20,000 light years from Earth, this ball of ancient stars has a diameter of 100 light years. Recently, NASA released a magnificent image of M55 from the Hubble Space Telescope, revealing just a small portion of the larger cluster.



The large image shows just the central portion of M55 taken by the Hubble Space Telescope. Above Earth's atmosphere, this magnificent view resolves many individual stars in this cluster. How many can you count through binoculars or a backyard telescope? [Original Image and Credits: NASA, ESA, A. Sarajedini \(Florida Atlantic University\), and M. Libralato \(STScI, ESA, JWST\);](#)

This is an image that Charles Messier could only dream of and would have marveled at! By observing high above the Earth's atmosphere, Hubble reveals stars inside the cluster impossible to resolve from ground-based telescopes. The spectacular colors in this image correspond to the surface temperatures of the stars; red stars being cooler than the white ones; white stars being cooler than the blue ones. These stars help us learn more about the early Universe. Discover even more: <https://www.nasa.gov/feature/goddard/2023/hubble-messier-55>

The Hubble Space Telescope has captured magnificent images of most of Messier's objects. Explore them all: <https://www.nasa.gov/content/goddard/hubble-s-messier-catalog/>

## LOCAL EVENTS

Aug 1 - WAS -  
Equipment night and Quiz evening

Sept 5 - WAS - David Bryant –  
Meteorites (exact title to follow)

Sep 20 - CADAS - Gadgets and Gizmos  
Evening followed by Observing Session

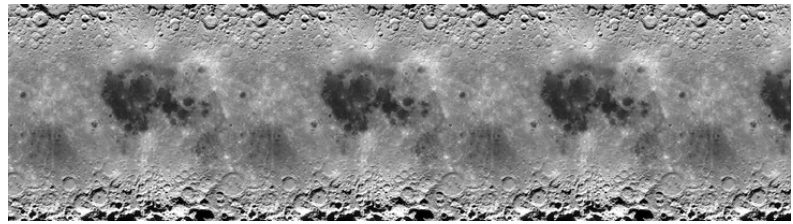
Oct 3 - WAS - AGM and the Bob Mizon  
Memorial Lecture presented by Barry  
Fitzgerald – A New Look at an Old  
Moon

VISIT OUR WEBSITE FOR THE LATEST CLUB INFORMATION

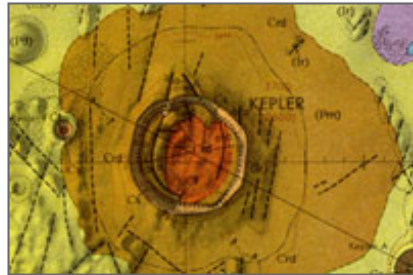
## SKYWATCHER NEWSLETTER

### Google Moon

<https://www.google.com/moon/>



Example topographic chart

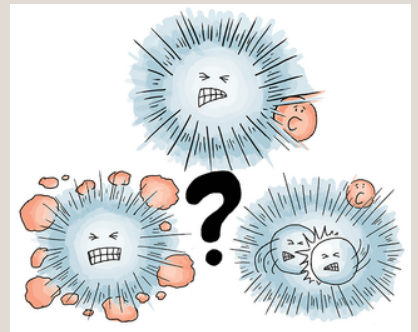
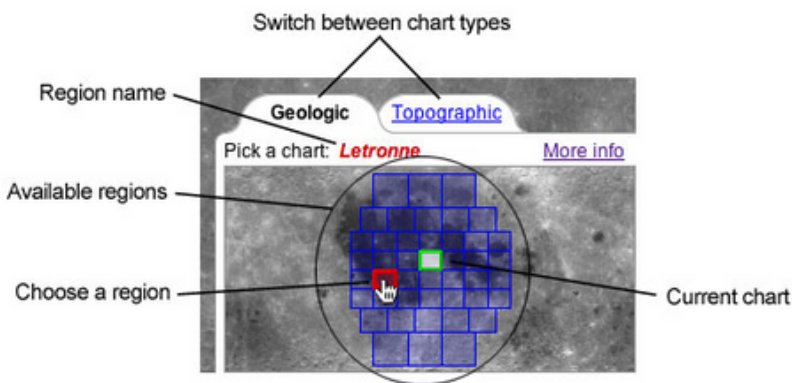


Example geologic chart

You can use the Google Moon Charts layer for anything from studying lunar geology to planning your own mission to the Moon. These maps were originally created during the 1960s in preparation for the Apollo program. They cover most of the front of the moon, the side that is visible from Earth. The geologic maps will tell you all about the rocks and minerals found in different places on the moon and how they got there, so you can plan where you want to go. The topographic maps will give you a clear picture of the terrain, so you can plan how to get there.

To use the charts, first turn on the Charts layer in Google Moon, and then pick the chart type and region you want from the panel that appears in the lower-right: The Geologic charts were produced from the USGS Geologic Atlas of the Moon, and the Topographic charts were produced from USAF/NASA LAC Lunar Chart series. If you want to download the complete maps, they are archived at the Lunar and Planetary Institute. Just remember the region name for the chart, and then pick the map type here. Happy exploring!

<https://www.google.co.uk/moon/chartinfo.html>



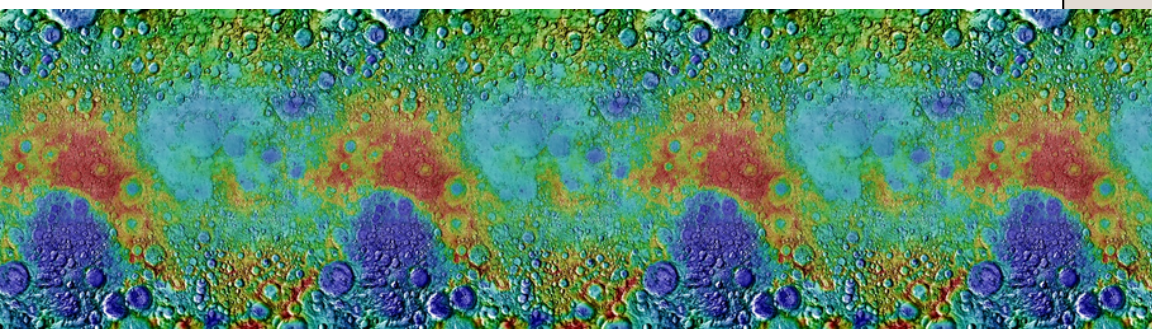
### WAC Upcoming Events

AUG 11 - MEMBERS VIEWING EVENING FOR THE PERSEID METEORS AND SUMMER CONSTELLATIONS.

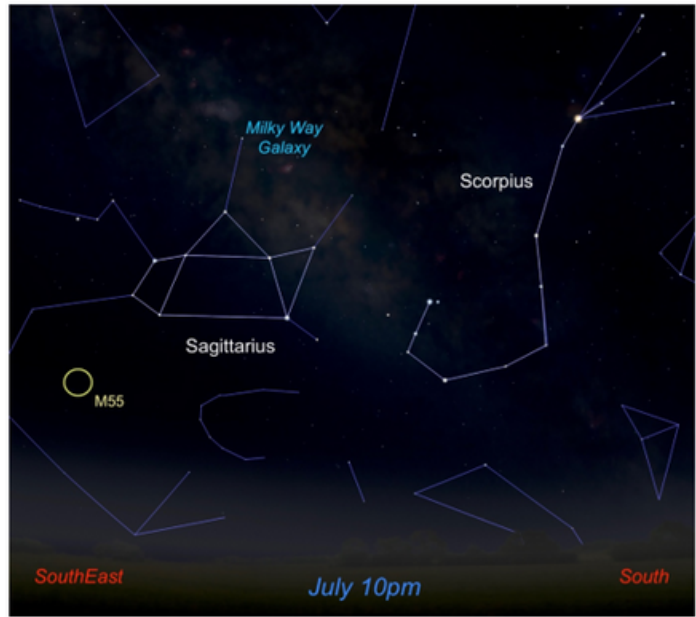
SEPT 8 - ROCKETS ON THE BEACH

OCT 13 - RICHARD MILES: THE HISTORY OF AN EXPLOSIVE COMET (FACE TO FACE AND ZOOM)

MORE TO COME!!



Continued from page 1:



Look to the south in July and August to see the teapot asterism of Sagittarius. Below the handle you'll see a faint smudge of M55 through binoculars. More "faint fuzzies" can be found in the steam of the Milky Way, appearing to rise up from the kettle.

Image created with assistance from Stellarium; stellarium.org

Spaceweather.com  
 MYSTERIOUS "AURORA BLOBS" EXPLAINED  
 18 May 2023



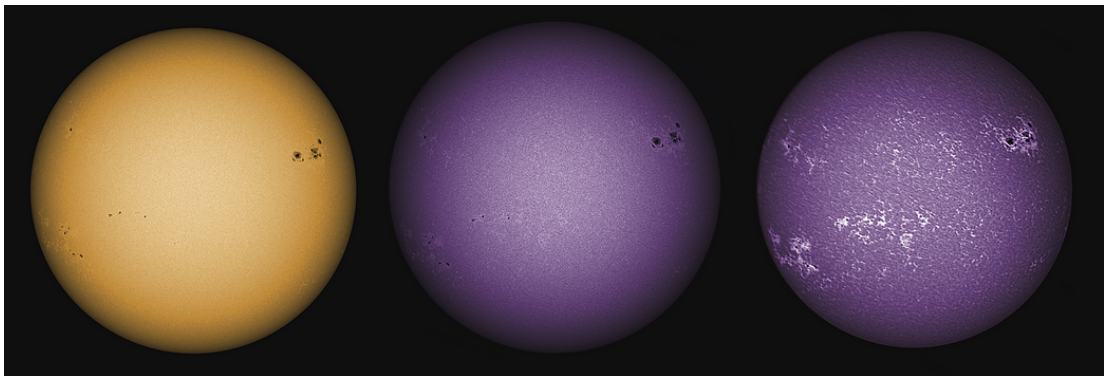
SUNSPOT COUNTS HIT A 21-YEAR HIGH: The sun is partying like it's 2002. That's the last time sunspot counts were as high as they are now. The monthly average sunspot number for June 2023 was 163, according to the Royal Observatory of Belgium's Solar Influences Data Analysis Center. This eclipses every month since Sept. 2002:



Above: This plot is based on NOAA's interactive Solar Cycle Progression. Check it out!

Solar Cycle 25 wasn't expected to be this strong. When it began in Dec. 2019, forecasters believed it would be a weak cycle akin to its immediate predecessor Solar Cycle 24. If that forecast had panned out, Solar Cycle 25 would be one of the weakest solar cycles in a century.

Instead, Solar Cycle 25 has shot past Solar Cycle 24 and may be on pace to rival some of the stronger cycles of the 20th century. The last time sunspot numbers were this high, the sun was on the verge of launching the Great Halloween Storms of 2003, which included the strongest X-ray solar flare ever recorded (X45), auroras as far south as Texas, and a CME so powerful it was ultimately detected by the Voyager spacecraft at the edge of the solar system.



2 July - Sun in white light and calcium-k line. ~SLKarl

