

# WEEKLY STARGAZERS' NEWSLETTER

by Dr. Bob

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These are the notes that I use for the weekly radio broadcast on Rome Radio Station WLAQ AM 1410 and FM 96.9. The program airs at 7:50 a.m. each Tuesday morning. The radio station also has a live FaceBook broadcast at the same time: WLAQ-Rome. Send questions to: ryoung@highlands.edu

Etowah GYSTC  
Website QR code



**OBSERVATION PERIOD:**  
01/31/23 – 02/06/23

## **FUN FACT OF THE WEEK:**

### **THERE ARE MORE STARS IN THE UNIVERSE THAN GRAINS OF SANDS ON EARTH**

The universe extends far beyond our own galaxy, The Milky Way, which is why scientists can only estimate how many stars are in space. At the same time, scientists can only estimate how many grains of sand are on the Earth. None the less, it is estimated that there are approximately 1,000,000,000,000,000,000,000,000 stars, or a septillion stars. The estimated grains of sand are around seven quintillion, five hundred quadrillion grains. I don't know about you but I get lost in the number of zeros in those numbers!!!

## **MOON FOR THE WEEK:**

The Moon is Full on Sunday, February 5<sup>th</sup>. As the Moon increases its distance from the Earth, it will reach Apogee on Saturday, February 4<sup>th</sup>. The Moon will be 406,476 Kms from Earth when it reaches Apogee.

February Full Moon is called the Full Snow Moon. Usually the heaviest snows fall in February. Hunting becomes very difficult, and hence to some Native American tribes this was the Hunger Moon.



Full Moon

To convert kms to miles, multiply kms by 0.62 miles/km.

## **HORIZON TO HORIZON PLANET VIEW**

The sun rises at 7:38 a.m. and sets at 6:07 p.m. This means that there are 10 hours, 29 minutes of daylight hours compared to 10 hrs. and 18 mins of daylight last week.

The Sun is still in the **constellation Capricornus**. Capricornus is a faint zodiac constellation located in the southern sky. Its name means “the goat” in Latin.

Like other zodiac constellations, Capricornus was first catalogued by the Greek astronomer Claudius Ptolemy in his Almagest in the 2nd century CE. In Greek mythology, the constellation is associated with Pan, the god of the wild, and with the goat Amalthea, who suckled Zeus when he was very young.

The is Earth 0.985 AUs from the Sun, still a little further than last week. It is 38.3 degrees altitude at the meridian compared to 36.4 degrees last week.

### **The Planets:**

**Mercury** rises at 6:09 a.m. This is about 90 minutes before the Sun. This is the best time to try to see Mercury in the pre-dawn sky.

**Venus** rises at 8:59 a.m. which is about 80 minutes after sunrise. Venus sets at 7:56 p.m. which is 1.5 hrs after sunset. You will begin to see it high in the evening sky. Since we can see it in the evening sky, it is often called the “Evening Star”.

**Mars** rises up in the eastern horizon at 1:18 p.m. and will be up all night long, The Red Planet crosses the meridian at 8:30 p.m. It will be easy to see this planet with its amber hue. Mars sets in the western sky at 3:44 a.m. If you see it with a telescope, look for the two moons: Phobos and Demos.

**Jupiter** crosses the meridian at 4:22 p.m. leading Mars by 30 degrees or so. At 1,000 times larger than Earth, Jupiter is the largest planet in the solar system by far. This huge planet is very bright and easy to spot with the naked eye. The four Galilean Moon are visible with nothing more than a pair of binoculars: Io, Callisto, Ganymede, and Europa. This planet sets at 10:24 p.m. This planet is like a small solar system with its 79 moons.

**Saturn** crosses the meridian at 1:53 p.m. as the sun begins to head toward the western horizon. Saturn, **Ringed Planet**, has 82 moons, the most moons of any planet in the solar system. The planet sets in the west at 7:12 p.m. Saturn sets before Venus now and is very difficult to spot in the Western sky.

## MARS ROVER PERSEVERANCE

To get regular and current updates on the progress of NASA's Perseverance rover on Mars, go to the website:

<https://www.space.com/news/live/mars-perseverance-rover-update>

## SATELLITES FOR THE WEEK (ISS PASSES)

<a href="#">02 Feb</a>	-3.8	19:32:29	10°	NW	19:35:49	59°	NE	19:36:08	55°	ENE	visible
<a href="#">03 Feb</a>	-2.9	18:43:57	10°	NNW	18:47:01	32°	NE	18:50:04	10°	ESE	visible
<a href="#">03 Feb</a>	-1.2	20:21:04	10°	W	20:23:24	19°	SW	20:23:24	19°	SW	visible
<a href="#">04 Feb</a>	-2.3	19:31:48	10°	WNW	19:34:56	37°	SW	19:38:01	10°	SSE	visible
<a href="#">05 Feb</a>	-3.6	18:42:52	10°	NW	18:46:13	78°	SW	18:49:34	10°	SE	visible

## STAR PATTERNS IN THE SKY

### Canis Minor (Little Dog)

This is a small constellation in the northern celestial hemisphere. In the second century, it was included as an asterism, or pattern, of two stars in Ptolemy's 48 constellations, and it is counted among the 88 modern constellations.

Its name is Latin for "lesser dog", in contrast to Canis Major, the "greater dog"; both figures are commonly represented as following the constellation of Orion the hunter.

Canis Minor contains only two stars brighter than the fourth magnitude, Procyon (Alpha Canis Minoris), with a magnitude of 0.34, and Gomeisa (Beta Canis Minoris), with a magnitude of 2.9.

Procyon is the seventh-brightest star in the night sky, as well as one of the closest. A yellow-white main sequence star.

Procyon is bright, not because of its energy but more by how close it is to us. It lies at a distance of just 11.46 light-years (3.51 parsecs), and is therefore one of Earth's nearest stellar neighbors (16th closest star).

Procyon's brother star, The Dog Star, Sirius, is only 8.7 ly away and is the 7th closest star as well as the brightest star in the night sky.

### **SPACE HISTORY OF THE WEEK**

#### **February 1, 2003: Space Shuttle Columbia destroyed during reentry.**

The loss of the crews of the Challenger Space Shuttle and the Columbia Space Shuttles speaks to the strength of the human spirit when others individuals are waiting to join the ranks of being Astronauts. I believe it is much more than just "it will never happen to me" kind of thinking, it is a spirit of adventure and pushing against the edge of knowledge spirit. Through out the ages, people have put adventure ahead of their own personal wellbeing. From the first adventures to take to the oceans while the prevailing thought was they would fall off the edge to today's adventures who travel into space and the depths of the oceans. We might think that they are fearless but I tend to think that their spirit of wonder and excitement is more powerful than the fear that they feel. Hats off to all of the adventures of times past, times present, and times future.

#### **February 3, 1966: First unmanned spacecraft to soft land on the moon.**

Soviet Union's Luna program Luna 9 spacecraft became the first spacecraft to achieve a soft landing on the Moon. It would be a mere 3 years and 4 months when USA would put a person on the Moon, July 20, 1969.

### **QUESTION OF THE WEEK:**

**Not sure that this is an astronomy or stargazing question but, how did they set the date for Ground Hog Day? Jamie S.**

This is a good question and it does have to do with the Earth and its motion about the Sun, so yes, it is relevant.

We know that, according to the story, if the ground hog sees his shadow we are in for 6 more weeks of winter. Punxsutawney Phil at Gobbler's Knob, PA.

While this is unquestionably the most famous prognosticator, there are dozens of others including Chattanooga Chuck in Chattanooga, TN: General Beauregard Lee in Lilburn, GA: and Gus, in Athens, GA.

If the prognosticator see his shadow, we have 6 more weeks of winter. In fact, Ground Hog Day is set in the middle of Winter and Spring. There are 6 weeks since winter and 6 weeks.

The timing of present-day rituals, traditions, and holidays was influenced by the ancient Celts. Their calendar year was divided into four seasons or major sections, marked by four Quarter Days. These seasons are the two Solstices and two Equinoxes. Then, each section was divided in half, creating four **Cross-Quarter days**.

For the ancient Celts, Cross-Quarter days signaled the beginning of a season! For example, what is now Groundhog Day (Candlemas) would be considered the start of spring. The cross-quarter days fall more or less midway between the equinoxes (when the sun sets due west) and solstices (when the sun sets at its most northern or southern point on the horizon). Halloween – October 31 – is approximately midway between our autumn (September) equinox and winter (December) solstice.

In other words, in traditional astronomy, there are eight major seasonal subdivisions of every year. They include the March and September equinoxes, the June and December solstices, and the intervening four cross-quarter days.

In modern times, the four cross-quarter days are often called Groundhog Day (February 2), May Day (May 1), Lammas (August 1), and Halloween (October 31).