July 2021 Astronomy Update for the Chippewa Valley

Editor's note: *Astronomy Update is provided by the Chippewa Valley Astronomical Society and is compiled by Dr. Lauren Likkel, an emeritus of the University of Wisconsin--Eau Claire department of physics and astronomy.*

Figure caption: The moon is seen here in an almost full lunar phase. Craters are clearly seen in this telescopic image. Image by Ed Henry, a member of the Chippewa Valley Astronomical Society.

"They want to Move the Moon"

By Lauren Likkel

The moon: yea or nay? Do you like it just the way it is, orbiting the Earth once each month? Last month Texas congressman Gohmert asked if the Forest Service could "change the course of the moon's orbit or the Earth's orbit around the sun" because that

would have “profound effects on our climate”. He was hoping that something besides burning gas, oil and coal could be causing climate change. We don’t actually have the technology to change orbits. Besides, changes in the orbits of the sun or moon could NOT have caused the rapid global warming of the last 160 years.

I advocate leaving the moon in its current orbit. At that distance from Earth it takes a month to go through all phases. At that distance the moon has the same angular size in the sky as the sun and we get total solar eclipses when it passes in front of the sun. I am looking forward to the total solar eclipse in April 2024 that will be visible in the US in a band stretching from Texas to Maine. If the moon was moved slightly farther from Earth it would be a smaller angular size and be too small to completely block out the sun -- creating an “annular” eclipse. We already get annular eclipses when a solar eclipse features a moon that happens to be at the farther from earth point of its orbit. An annular eclipse is not as good as a total solar eclipse because you can’t look directly at it during totality.

Some of my fellow backyard astronomers might favor getting rid of the moon for entirely different reasons. The moon makes light pollution that interferes with “deep sky” observing for about a week every single month near full moon. Just like light pollution from city lights, the nearly full moon causes a sky glow which hides the milky way and dim stars, and makes it difficult to see “deep sky objects” through a telescope (galaxies, star clusters and nebulae). To stop lunar light pollution, we could just paint the moon black since the moonlight is just reflected sunlight. And since only one side of the moon always faces Earth, we would only have to paint one side of it black. OK, I’m just kidding because I don’t want to ruin the view through a telescope of the craters on the moon surface, craters that formed when rocks crashed into the moon. Head out tonight and examine the moon with binoculars!

-- Lauren Likkel is a member of the Chippewa Valley Astronomical Society