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Eyes to the skies: Look for these astronomical events in 2022

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TERRY HANCOCK and TOM MASTERSON/Grand Mesa Observatory

In the early morning of Dec. 3, this photo was taken and processed by Terry Hancock and Tom Masterson at the Grand Mesa Observ and a meteor that streaked into the scene. It's a "once-in-a-lifetime" photo, Hancock said. While this kind of deep space view doesn't offer sights to look for with the naked eye in 2022.

TERRY HANCOCK and TOM MASTERSON/Grand Mesa Observatory

It's a zing, a thrill of light crossing the sky so fast that it makes you wonder if you really did see a falling star.

Yes, technically it was a meteoroid instead of a star, but still.

Falling stars or shooting stars have a drama about them that never fades for most of us. In fact, there is always a certain amount of wonder that comes with simply looking up as the night reveals to the naked eye a little of what is beyond our planet.

Nancy McGuire, president of the Western Colorado Astronomy Club, and Terry Hancock, director of the Grand Mesa Observatory, are two area residents with a deep interest in astronomy.

When asked what astronomical events folks in the Grand Valley should put on their calendars for 2022, they began an intense bit of research.

Here are their top five astronomical events for 2022 that will be visible to the naked eye from the Grand Valley.

This means binoculars or a telescope won't be needed to view these events. However, if you have those helpful tools handy, you're welcome to pull them out for better viewing.

It's also good to keep in mind that every astronomical event is weather permitting, McGuire said.

As these events draw closer, check the weather, and look for breaks in the clouds. When it comes to seeing astronomical events, "you always try for it," she said.

No. 1: Total lunar eclipse in May

McGuire ranked this event at the top of the list because it happens during the evening and won't require setting an alarm clock for any odd, wee hours.

This eclipse will begin at 8:11 p.m. May 15 and will end at 12:50 a.m. May 16.

You could sit out for hours and watch as the moon passes into the darkest part of Earth's shadow — It looks like little black bites are being taken out of the moon, McGuire said — or you could put an eye to the sky shortly before 10:11 p.m. May 15. That will be the time of the eclipse's totality, the point at which the moon will be completely covered. "The moon is usually a dark red color," she said.

No. 2: Total lunar eclipse in November

Unlike the May lunar eclipse, this one will require you to set an alarm. It begins at 1:02 a.m. Nov. 8 and ends at 6:56 a.m. Nov. 8.

One of the nice things about lunar eclipses is that they span hours, which allows plenty of time for different views, McGuire said.

Totality for this lunar eclipse will be at 3:59 a.m., and once again the moon may not be completely dark. The appearance of the moon at totality "varies from an orange color to a very dark red or almost blackish kind of look," she said.

If, come November, you find yourself feeling underwhelmed by lunar eclipses and rather unwilling to don the warm apparel needed for an early fall morning, consider this: The next total lunar eclipse visible from here won't be until March of 2025, according to McGuire.

Set your alarm.

No. 3: Planetary alignment in June

From June 18–27, Mercury, Venus, Mars, Jupiter and Saturn will line up to create "a necklace string of planets across the sky," McGuire said.

From Earth's vantage point, the planets will appear to line up across the night sky in the same order that they are from the sun, and the last time this happened was in 2002.

The next time it will happen will be in 2040. So it's a "don't-miss-it kind of thing," McGuire said. "A lot of us won't be around in 30 years."

The best time for those of us in the Grand Valley to view this alignment likely will come during the twilight hours before sunrise on June 24 when there also will be a crescent moon, she said.

You will need to have an unobstructed view of the horizon to the east-southeast because Mercury and Venus are closest to the sun and won't be that high in the sky, she said.

For most stargazers, picking out Venus and Jupiter will be fairly easy as they will be the brightest of the five planets. Mercury, Saturn and Mars will be tougher to identify, so it may help to use a smart- phone stargazing app that will show you the planets' locations, she said.

No. 4: Conjunction of Venus and Jupiter in April

Set your alarm to get up early on April 30. At 5:15 a.m., Venus and Jupiter will appear to almost touch, side-by-side in the dark sky, McGuire said.

To see this, you will need an unobstructed view of the horizon to the east-southeast.

The two planets also will appear to be just a few degrees apart early on the morning of April 27, and there will be a crescent moon, she said.

"These are the brightest planets visible from Earth and they will look very spectacular together," McGuire said.

(Side note: If you like planetary conjunctions, get your binoculars out on March 28 when you will be able to get Venus, Mars and Saturn along with a crescent moon in one binocular field, McGuire said.)

No. 5: Major meteor showers

Who doesn't like a good meteor shower? Fortunately, there are several to choose from each year.

Most meteor showers are best seen between 2–4 a.m., but before you bundle up and grab a hot beverage to enjoy, check the moon phases and the weather, McGuire advised.

Strong moonlight will wash out your view of meteors and complete cloud cover will block them from sight completely.

For the best viewing, you also should consider leaving city lights behind in favor of a dark sky location, she said, noting that it helps to look toward the radiant constellation for each meteor shower.

For example, during the Geminids look toward the constellation of Gemini and during the Orionids look toward Orion.

So here are the peak nights for some 2022 meteor showers. Keep in mind you may be able to spot meteors during the nights around these peak dates:

n **Lyrid meteor shower** — April 21 night into April 22 morning. This is a “medium-strength shower,” according to McGuire. “They typically lack persistent trains but can produce fireballs.”

n **Eta Aquarid meteor shower** — May 4 into May 5. Keep in mind that meteor rates can vary from year to year, making it hard to predict how many meteors you may (or may not!) see, McGuire said.

n **Perseid meteor shower** — Aug. 11 into Aug. 12. This is one of the most popular meteor showers and it nicely happens during the warmth of summer. Unfortunately, the moonlight will make viewing tougher this year, she said.

n **Orionid meteor shower** — Oct. 20 into Oct. 21. The moon won't be out for this one, so it might be a better bet than the Perseids, she said.

n **Leonid meteor shower** — Nov. 17 into Nov. 18.

n **Geminid meteor shower** — Dec. 13 into Dec. 14. This is usually the strongest meteor shower of the year, McGuire said. Unfortunately, a nearly full moon on this night could wash out viewing from here.

LOOKING AHEAD

If you find these 2022 astronomical events interesting, then you likely will want look-ahead to an even bigger event.

The next total solar eclipse that will be visible in the United States will happen on April 8, 2024. “People should really not miss that,” Nancy McGuire said. It's a “once in a lifetime thing.”

The specific path of totality will go through part of the southwestern U.S. and travel into the northeast, she said.

During the 2017 total solar eclipse, McGuire went to Wyoming and camped out on BLM land to be in the path of totality.

“A lot of people are very content to stay local and watch the partial eclipse,” she said.

But if you can travel and get into the path of totality, then do it. “If I could recommend one thing, that would be it,” she said. “If you wait, you won't get a hotel.”

GET AN APP

Terry Hancock, director of the Grand Mesa Observatory, takes amazing deep sky photos of galaxies, globular clusters, nebulae, comets and more.

For those, he uses a telescopes and astrophotography cameras.

However, even Hancock has a stargazing app on his smart phone.

He uses Sky Map for Android, but for folks with an Apple phone, SkySafari is quite popular, he said. He's also heard good things about Stellarium.

Stargazing apps are helpful when it comes to finding planets or identifying constellations. Hold the phone up to the sky and, whoa, there's Saturn! Or, there's the constellation Orion!

If you're looking for a stargazing app, here are a few to consider.

SkySafari — The best overall stargazing app, according to space.com.

Stellarium — If you have the time, you could find 1.69 billion stars with this app. It's very comprehensive.

Star Walk 2 — This was the top ranked app at viotechnology.com and ranked best for beginners at space.com. There is a paid version and a free version, Star Walk 2 Free.

SkyView — This was ranked best stargazing app for learners by space.com. There's also SkyView Lite.

Other stargazing app options include Star Tracker, Night Sky, Sky Rover and Starlight.

LEARN MORE

If you are an amateur astronomer or keenly interested in learning more about astronomy, the Western Colorado Astronomy Club is great place for meeting those who are equally enthusiastic.

To learn how you can get involved, go to wcacastronomy.org.

The Grand Mesa Observatory has amazing resources for students and scientific research as well as for enthusiasts of astronomy and astrophysics.

For information about the observatory, go to grandmesaobservatory.com.

The club and observatory currently aren't planning public events because of the pandemic. Both plan to resume those events when it is safer to do so.