

# Stars over Sisters

By Rylee Funk  
Correspondent

Though the weather is getting colder as winter approaches, a clear night sky won't fail to impress.

Astronomically speaking, November is probably best known for the annual Leonid meteor shower that occurs mid-month. What is particularly noteworthy about this shower is that it has produced some of the greatest meteor displays ever seen.

These meteors are associated with a trail of dust and ice left behind by comet Temple-Tuttle. When the earth arrives at a point in its orbit that intersects the path of the comet, some of that material enters the atmosphere to become meteors that we can watch. Sometimes, when the comet is close to the earth, many more particles become available that produce greater meteor displays. This happens once every 33 or 34 years.

In 1833, the greatest meteor display in recorded history occurred the evening of November 12 and early morning of November 13 in the skies over America and Europe. The storm released

hundreds of thousands of meteors over a spectacular nine hours. At its peak, an estimated 72,000 meteors per hour filled the sky.

In 1966 a similarly intense storm amazed many in the central and western U.S. The event started slowly but it picked up fast, with too many meteors to count. This time the appraised tally reached an astounding 40 meteors per second at one point!

Sisters resident and amateur astronomer Ron Thorkildson remembers watching the 2001 Leonid storm on November 18, from the dark skies and unobstructed horizons of Tygh Ridge in north central Oregon.

"When my wife and I arrived at the site about 11 p.m., the action was pretty slow," recalls Thorkildson.

From 11:30 p.m. to midnight, however, a number very bright meteors burst on the scene.

"The light from one of them lit up the entire sky as well as the ground, then exploded into several pieces that continued to streak across the sky," said Thorkildson. At the height of the storm, occurring

between 2:30 and 3:30 a.m., Thorkildson estimated that there were two to three meteors every second.

"It was the greatest display of meteors I've ever witnessed, by far!" he recalled.

Unless the orbit of comet Temple-Tuttle is perturbed by one of the gas-giant planets in our solar system, the Leonids will probably storm again around the year 2034.

On November 2, Saturn, Venus and the crescent moon will be clustered together in Ophiuchus just above the southwestern horizon about 45 minutes after sunset. Mars lies farther east in the constellation of Sagittarius.

Uranus will be located in Pisces, but you need visual aid to see the planet because its brightness is on the border of naked-eye detection. Try using binoculars or a telescope.

Many of the brighter fall constellations such as Andromeda, Aries, Pegasus and Perseus are nearly overhead throughout November. Later in the month the constellations that form the Winter Hexagon will rise

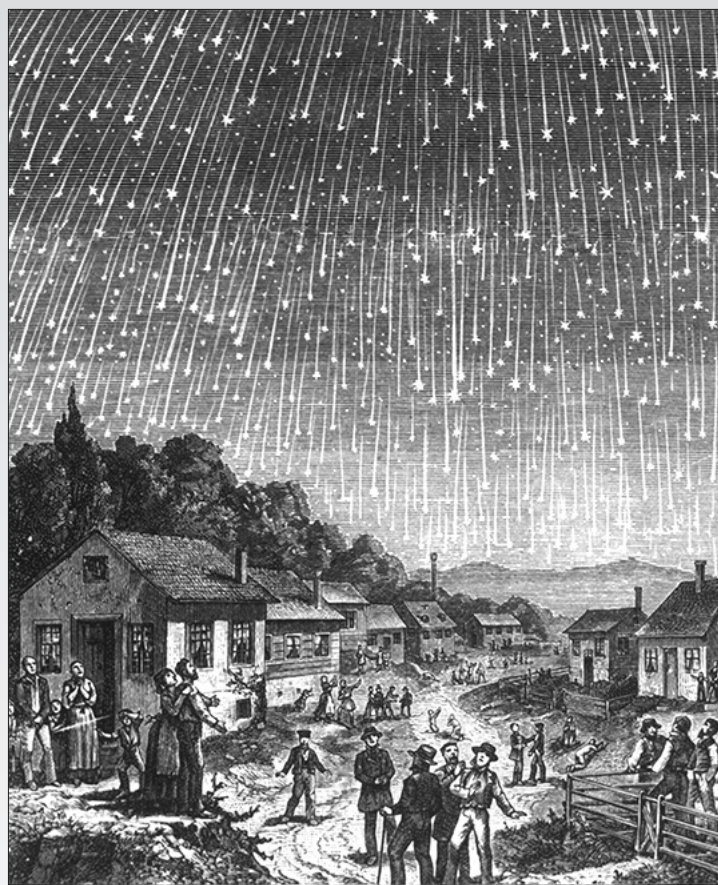


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Woodcut depiction of the great meteor storm of 1833.

in the east, including Orion, Gemini, Taurus, Auriga, Canis Major and Canis Minor.

On November 14, there is a "super full moon," where the moon is at its closest point to the earth, making it appear to be 12-14 percent

larger than it does when the moon is at its farthest point from the earth. The super full moon, located in Taurus, will be visible all night. From then on the moon will be on the wane until November 29 when it becomes a new moon.

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