'Great show' predicted for Perseid meteor peak on August 12–13

August 7 2018, by Diana Hannikainen

The Perseid meteors appear to stream away from the shower's "radiant" point near the border of Perseus and Cassiopeia. Click image for larger star-chart version. Credit: Sky & Telescope

The Perseid meteor shower, an annual celestial event beloved by millions of skywatchers around the world, is about to make its annual return to the night sky. And thanks to a new Moon, there'll be no bright moonlight to hinder the view.

Sky & Telescope magazine predicts that this year's Perseid shower will reach its peak on Sunday night, August 12th, and early morning on the 13th. You can also see some Perseids, though fewer in number, for several nights before and after that date.

"The moonless sky this year means the viewing will be excellent, and the shower's predicted peak is timed especially well for North America," notes Diana Hannikainen (pronounced huhn-ih-KY-nen), Sky & Telescope's Observing Editor. "Under a very dark sky, you might see up to one Perseid per minute late on Sunday night or after midnight on Monday morning."

Although an occasional Perseid meteor might catch your attention shortly after evening twilight ends, the prime viewing hours are from about 11 p.m. or midnight (local time) until the first light of dawn. This is when the shower's "radiant," its perspective point of origin, is high up in your sky. The higher the radiant, the more meteors appear all over the sky.

To enjoy the Perseids, you need no equipment but your eyes. Find a dark spot with a wide-open view overhead. Bring a reclining lawn chair or a ground cloth so you can lie back and watch the sky in comfort. Bundle up in blankets or a sleeping bag, both for mosquito shielding and for warmth; clear nights can grow surprisingly chilly under the open stars (due to radiational cooling).

"Relax, be patient, and let your eyes adapt to the darkness," suggests Senior Editor J. Kelly Beatty. "The Perseids will put on a great show."

These "shooting stars" can appear anywhere and everywhere in the sky. So the best direction to watch is wherever your sky is darkest, usually straight up. Faint Perseids appear as tiny, quick streaks. Occasional brighter ones might sail across the heavens for several seconds and leave

a brief train of glowing smoke.

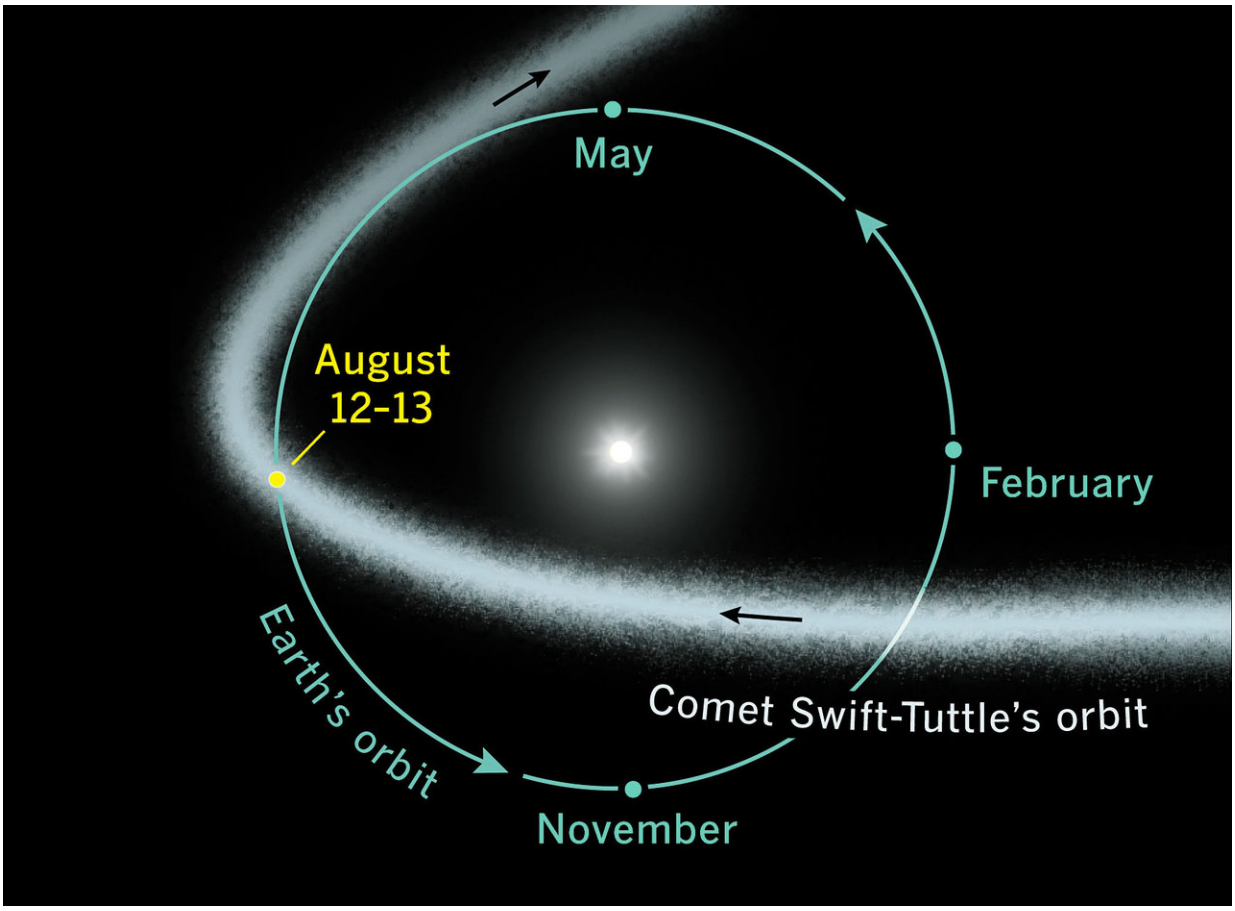
When you see a meteor, track its path backward. If you eventually come to the constellation Perseus—which climbs the northeastern sky as the night progresses—then a Perseid is what you've just witnessed.

The higher the radiant, the more meteors you'll see. But when the shower's radiant is still low above the horizon, the few Perseids that do appear can be spectacularly long "Earthgrazers" skimming far across the sky along the top of the atmosphere.

The nuggets of Grape Nuts cereal are a good proxy for the cometary dust grains that create meteor showers. Credit: Sky & Telescope

Occasionally you might spot an interloper. The weaker Delta Aquariid and Kappa Cygnid showers are also active during Perseid season, and there are always a few random, "sporadic" meteors. All of these track back to other parts of the sky.

Any light pollution will cut down the numbers visible. But the brightest few meteors shine right through light pollution. In fact, a NASA analysis of all-sky images taken from 2008 to 2013 shows that the Perseids deliver more bright meteors (those that outshine any star) than any other annual meteor shower.



Every year, in mid-August, Earth passes collides with particles spread along the orbit of Comet Swift-Tuttle. Credit: Sky & Telescope

How and Why

Meteors are caused by tiny, sandgrain- to pea-size bits of dusty debris streaking into the top of Earth's atmosphere roughly 80 miles up. Each Perseid particle zips in at 37 miles (60 km) per second, creating a quick, white-hot streak of superheated air. The nuggets in Grape Nuts cereal are a close match to the estimated size, color, and texture of typical meteor-shower particles.

These particular bits were shed long ago by Comet Swift-Tuttle and are distributed all along the comet's 133-year-long orbit around the Sun. Earth passes through this tenuous "river of rubble" every year in mid-August. The comet is so named because it was independently discovered by Lewis Swift and Horace Parnell Tuttle in July 1862.

A bright Perseid meteor streaked down on August 7, 2010, over buildings at the Stellafane amateur astronomy convention in Springfield, Vermont. Credit: Sky & Telescope / Dennis di Cicco

More information: More information about the discovery of the Perseid meteor shower in the 1830s: www.skyandtelescope.com/observ … the-perseid-meteors/

Tips on how to photograph the Perseid meteor shower: www.skyandtelescope.com/astron … aph-a-meteor-shower/

Provided by Sky & Telescope