

# A Near-Perfect Year for Perseids

Sit back, relax, and enjoy this summer meteor spectacle.

The forecast couldn't be better. When the annual Perseid meteor shower peaks on the night of August 11–12, the Moon will be a thin crescent and safely tucked in bed shortly after the end of evening astronomical twilight. With no extraneous light to mar the view, this year's shower should be one of the best. Up to 100 meteors per hour will flare from the darkest skies, but 60–80 per hour is a more realistic number for most observers.

As shown in the chart below, Perseids stream from a radiant in Perseus, just near the W of Cassiopeia. In the same way parallel railroad tracks appear to converge in the distance, meteors follow parallel paths that seem to come from a



▲ Rafael Schmall took nearly 1,000, 120-second exposures over three evenings to create this montage of the 2017 Perseid meteor shower. He used a Canon EOS 6D camera (set to ISO 6400) and a 16-mm lens at f/2.8.

particular spot in the sky. Most meteoroid particles are no bigger than a grain of sand, with a few as large as M&M candies. Each Perseid is a fragment shed by Comet 109P/Swift-Tuttle during one of its many trips around the Sun.

Every August, the Earth intersects the comet's path and plows through it at high speed. As each fragment slams into the atmosphere at some 60 kilometers (37 miles) per second, it glows white-hot from friction and burns to

soot. At the same time, it excites (ionizes) the air molecules along its path. When those molecules relax back to their previous, unexcited state they emit light. Both the glowing, hot particle and trail of ionized air are responsible for the familiar and eye-catching meteor streak. Picture an incandescent pebble traveling 200 times faster than a jet airplane at the center of a self-created tunnel of luminous air. That's a meteor!

The best time to look for Perseids will be on the 12th from about 2 a.m. until dawn, when the radiant is highest in the sky. But you'll see a modest number as early as 10 p.m. on the 11th, even with the radiant low in the northeast. The later you stay up, the higher Perseus rises and the more meteors you'll see.

Pleasant August weather often makes it easy to stay up watching meteors all night. Bring the kids, and make sure you have comfortable lounge chairs so everyone can relax while gazing skyward. Dress warmly and cover up with a blanket to keep the chill at bay. Perseids streak all over the sky, so you can face any direction you like. Lie back and watch the constellations lazily drift by carried by Earth's rotation as you anticipate the next meteor flash.\*\*\*



Looking Northeast at 11 p.m.