



Night of 100 Perseids

The year's most eagerly anticipated meteor shower peaks under nearly moonless conditions.

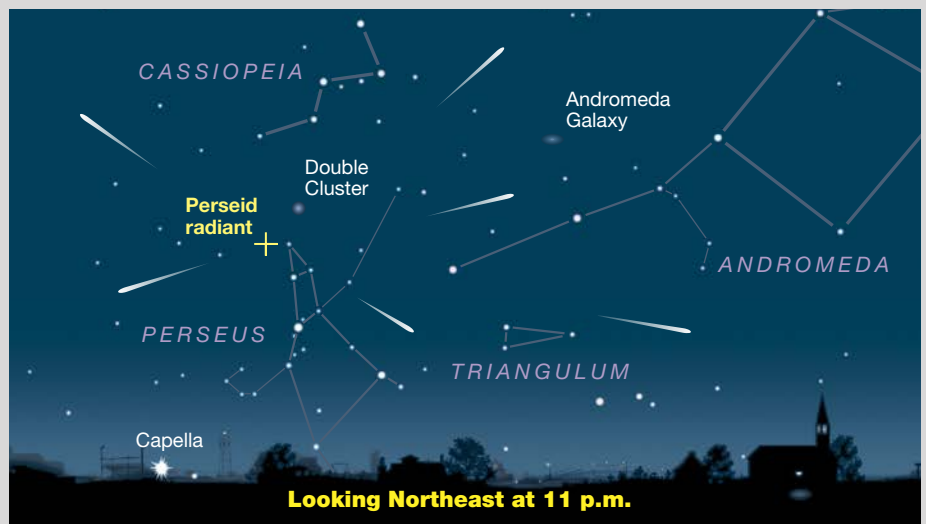
The most popular annual meteor shower, the Perseids, plays out under excellent circumstances this year. The first-quarter Moon sets before local midnight on the night of the shower's climax, which is fortunate because the display is most active in the hours after midnight.

The Perseid peak occurs on August 12th between 13 UT and 16 UT (9 a.m. to 12 p.m. EDT) making the predawn hours of the 12th the best for meteor watching. However, given the timing of the peak, the night of August 12–13 may also prove worthwhile. Under ideal circumstances, up to 100 Perseids per hour may be seen during maximum, but I always apply a 50% light-pollution discount when I tell family and friends what to expect. A rate of 50 meteors per hour is more realistic for most observers.

Moonlight will reduce meteor counts somewhat before midnight, as will the

low altitude of the *radiant* — that invisible gusher in Perseus from which the display's meteors appear to originate. As the chart below shows, on the date of maximum the radiant is located about 7° east of the famed Double Cluster.

really is a perspective effect that occurs when parallel paths appear to converge at a point in the distance, the same way railroad tracks do. Its location gives us a handy way to distinguish Perseids from random meteors (called *sporadics*): If you



Looking Northeast at 11 p.m.

can trace a luminous streak back to the radiant, it's a genuine Perseid. Look about halfway up the sky and off to either side of the radiant for the best views. In the morning hours that means facing approximately south-west or northwest.

The shower is active from mid-July to late August as Earth crosses a broad stream of debris scattered along the orbit of Comet 109P/Swift-Tuttle, the display's parent object. Most particles are sand-size grains, but occasionally peanut-size pieces flare into spectacular fireballs when they plummet into Earth's atmosphere at a speed of 59 kilometers per second (132,000 mph). According to French astronomer and meteor researcher Jérémie Vaubaillon, Earth will encounter five very old meteoroid streams within the comet's debris cloud, primarily on August 12th from midnight to 8 a.m. EDT. You might get to enjoy heightened activity during those hours.

I plan to get out after nightfall on the 11th for a quick taste, and then wake up around 2 a.m. for the main feast. August evenings can be chilly, so I always bring along a wool blanket and a folding lawn chair — being comfortable makes the experience so much more enjoyable.

If you decide to photograph the display, a tripod-mounted camera equipped with a remote shutter-release (the modern version of the old cable release) or an intervalometer will do the job. That way you can let the camera shoot photos automatically while you kick back and take it easy. Use an exposure time of around 30 seconds at ISO 1600 and a wide-angle lens set to its widest aperture (lowest f-stop). With luck, you should net some truly impressive Perseids. ***
