

How to See the Best Meteor Showers of 2010: Tools, Tips and 'Save the Dates'

April 22 2010



A Geminid meteor. Image credit:Jimmy Westlake

(PhysOrg.com) -- There are seven major meteor showers remaining in 2010 (the Quadrantids occurred in early January 2010), with some more active than others. For example, April's Lyrids are expected to produce about 15 meteors an hour at their peak for observers viewing in good conditions. Now, if you put the same observer in the same good conditions during a higher-rate shower like August's Perseids or December's Geminids, that person could witness up to 100 meteors an hour during peak activity.

Whether you're watching from a downtown area or the dark countryside, here are some tips to help you enjoy the best meteor showers of 2010.

First a word about the moon -- it is not your (the expectant meteor watcher's) friend. Light reflecting off a bright moon can be just as

detrimental to good meteor viewing as those bright lights of the big city. There is nothing you can do except howl at the moon, so you'll have to put up with it or wait until the next favorable shower. Even though the 2010 Perseids and Geminids will share the night sky with the moon, they are still expected to produce more visible meteor activity than other major showers that don't have an interfering moon.

The best thing you can do to maximize the number of [meteors](#) you'll see is to get as far away from urban light pollution as possible and find a location with a clear, unclouded view of the night sky. If you enjoy camping, try planning a trip that coincides with dates of one of the meteor showers listed below. Once you get to your viewing location, search for the darkest patch of sky you can find, as meteors can appear anywhere overhead. The meteors will always travel in a path away from the constellation for which the shower is named. This apparent point of origin is called the "radiant." For example, meteors during a [Leonid meteor shower](#) will appear to originate from the [constellation Leo](#). (Note: the constellation only serves as a helpful guide in the night's sky. The constellation is not the actual source of the meteors. For an overview of what causes meteor showers click on [Meteor Showers: Shooting for Shooting Stars](#))

Whether viewing from your front porch or a mountaintop, be sure to dress for success. This means clothing appropriate for cold overnight temperatures, which might include mittens or gloves, and blankets. This will enable you to settle in without having to abandon the meteor-watching because your fingers are starting to turn colors.

Next, bring something comfortable sit on. While Mother Nature can put on a magnificent celestial display, meteor showers rarely approach anything on the scale of a July 4th fireworks show. Plan to be patient and watch for at least a half-hour. A reclining chair will make it far more comfortable to keep your gaze on the [night sky](#).

Lastly, put away the telescope or binoculars. Using either reduces the amount of sky you can see at one time, lowering the odds that you'll see anything but dark sky. Instead, let your eyes hang loose and not look in any one specific spot. Relaxed eyes will quickly zone in on any movement up above, and you'll be able to spot more meteors.

The meteor showers listed below will provide casual meteor observers with the most bang for their buck. They are the easiest to observe and most active. All these showers are best enjoyed in the hours after midnight. Be sure to also check the "Related Links" box for additional tools and information.

Major Meteor Showers of 2010

Lyrids

Comet of origin: C/1861 G1 Thatcher

Radiant: constellation Lyra -- which rises in the northeast at about 10 p.m.

Active: April 16-25

Peak Activity: Early Morning April 22

Peak Activity Meteor Count: Approximately 15 meteors per hour

Time of optimal viewing: On the night of expected peak activity (April 22) a moon between half and full will set between 1 and 2 a.m. for most of the northern hemisphere, leaving a dark sky until dawn. Viewers in the southern hemisphere will receive a smattering of Lyrid meteors compared to viewers north of the equator.

Meteor Velocity: Lyrid meteors hit the atmosphere at a moderate speed of 48 kilometers (30 miles) per second. They often produce luminous trains of dust that can be observed for several seconds.

Eta Aquarids

Comet of origin: 1P Halley

Radiant: constellation Aquarius

Active: April 28-May 21

Peak Activity: Early morning May 6

Peak Activity Meteor Count: Up to approximately 60 meteors per hour (southern hemisphere), 15 meteors per hour (northern hemisphere). A less-than-half-full moon is expected to severely hamper viewing

Time of optimal viewing: Just before dawn

Meteor Velocity: 67 kilometers (42 miles) per second

Delta Aquarids

Comet of origin: unknown

Radiant: constellation Aquarius

Active: July 14-Aug. 18

Peak Activity: No definite peak, but nights surrounding July 30 may be best

Peak Activity Meteor Count: Approximately 15 meteors per hour (northern hemisphere). Unfortunately, an almost-full moon will obscure many a meteor during this year's peak.

Time of optimal viewing: An hour or two before dawn. Meteor watchers in the southern hemisphere and in the northern hemisphere's tropical latitudes will enjoy the best views.

Meteor Velocity: 42 kilometers (26 miles) per second

Perseids

Comet of origin: 109P/Swift-Tuttle

Radiant: constellation Perseus

Active: Perseids begin to rise early August.

Peak Activity: Night of Aug. 12-13

Peak Activity Meteor Count: Approximately 50 meteors per hour

Time of optimal viewing: Crescent moon will set early in the evening, allowing for dark skies all the way up until peak viewing just before dawn

Meteor Velocity: 61 kilometers (38 miles) per second

Note: The Perseid meteor shower is one of the most consistent

performers and considered by many as this year's best shower. The meteors they produce are among the brightest of all meteor showers.

Orionids

Comet of origin: 1P/Halley

Radiant: just to the north of constellation Orion's bright star Betelgeuse.

Active: Oct. 4-Nov. 14

Peak Activity: Night of Oct. 22, but the light reflecting off an almost-full moon makes 2010 a less-than-spectacular year for one of Mother Nature's most spectacular showers.

Peak Activity Meteor Count: Approximately 15 meteors per hour, if the sky is dark

Time of optimal viewing: An hour or two before dawn

Meteor Velocity: 68 kilometers (42 miles) per second

Note: With the second-fastest entry velocity of the annual meteor showers, meteors from the Orionids produce yellow and green colors and have been known to produce an odd fireball from time to time.

Leonids

Comet of origin: 55P/Tempel-Tuttle

Radiant: constellation Leo

Active: Nov. 7-28

Peak Activity: Night of Nov. 17-18

Peak Activity Meteor Count: Approximately 15 per hour

Time of optimal viewing: A half-full moon sets after midnight, allowing for a dark sky. Best viewing time will be just before dawn.

Meteor Velocity: 71 kilometers (44 miles) per second

Note: The Leonids have not only produced some of the best meteor showers in history, but have sometimes achieved the status of meteor storm. During a Leonid meteor storm, many thousands of meteors per hour can shoot across the sky. Scientists believe these storms recur in cycles of about 33 years, though the reason is unknown. The last documented Leonid meteor storm occurred in 2002.

Geminids

Comet of origin: 3200 Phaethon

Radiant: constellation Gemini

Active: Dec. 4-16

Peak Activity: Night of Dec 13 -14

Peak Activity Meteor Count: Approximately 50 meteors per hour

Time of optimal viewing: 2 a.m.

Meteor Velocity: 35 kilometers (22 miles) per second

Note: Generally, the Geminids or August's [Perseids](#) provide the best [meteor shower](#) show of the year. Geminids are usually considered the best opportunity for younger viewers because the show gets going around 9 or 10 p.m. Unfortunately the moon does not set until after midnight this year, making for the possibility of drooping eyelids from the pre-teen set.

Provided by JPL/NASA

Citation: How to See the Best Meteor Showers of 2010: Tools, Tips and 'Save the Dates' (2010, April 22) retrieved 19 April 2024 from <https://phys.org/news/2010-04-meteor-showers-tools-dates.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.