

Meteor Activity Outlook for September 12-18, 2020

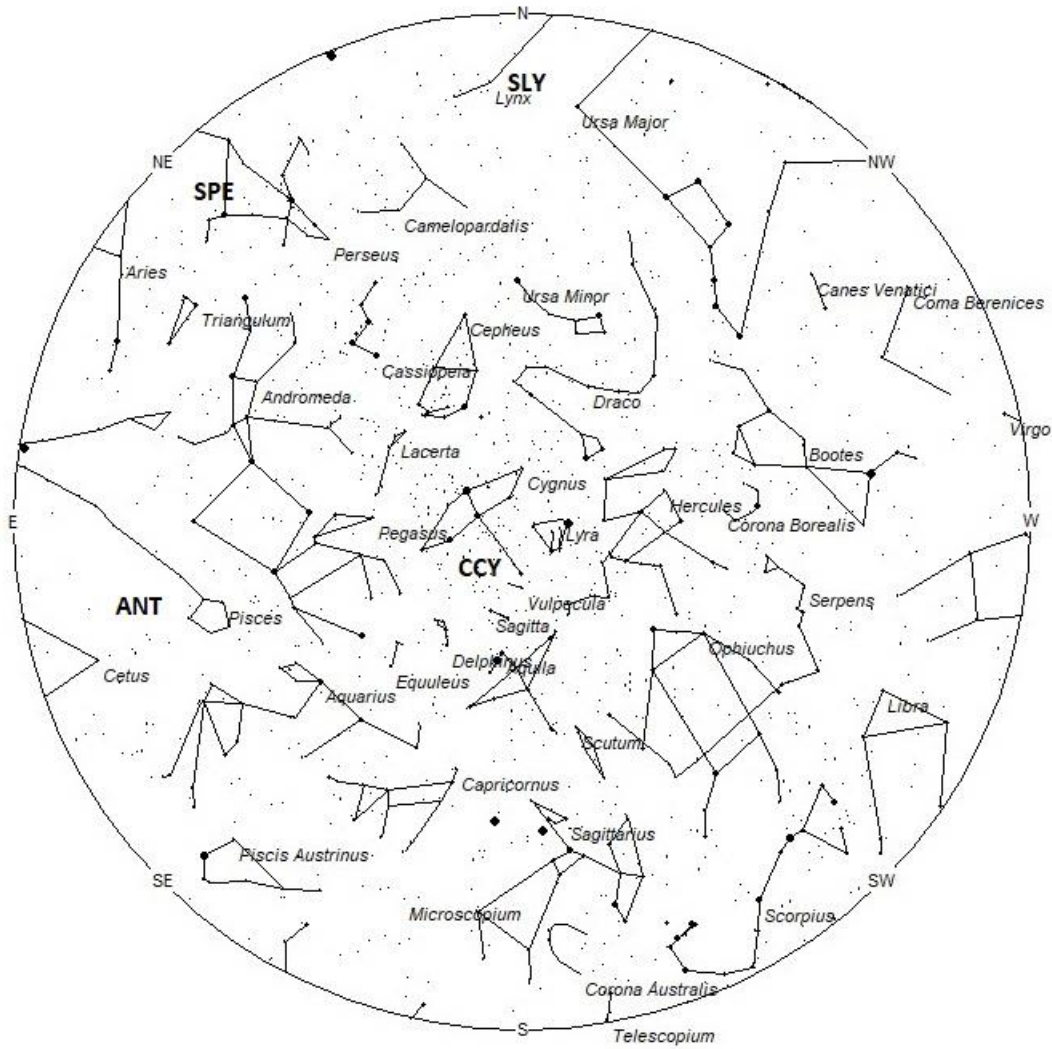


Thomas Heckl was photographing Comet Neowise outside München, Bayern, Germany on the night of July 20, 2020, when at 22:59 CEST a bright meteor shot downward just to the right of the comet. This object was well seen over Germany and surrounding countries. Check out the [AMS Event#3578-2020](#) page for more information on this object. Credit: Thomas Heckl

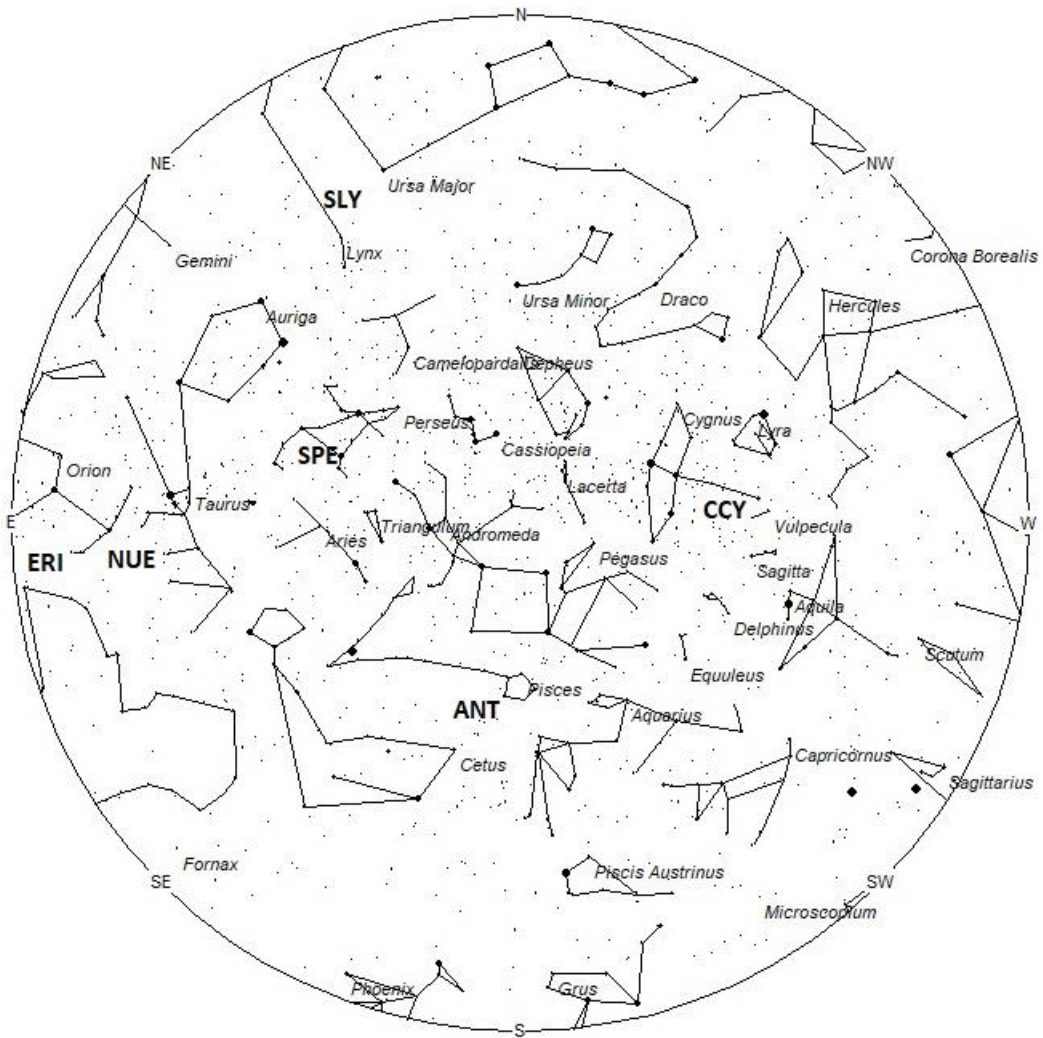
During this period, the moon reaches its new phase on Thursday September 17th. At this time, the moon is located near the sun and is invisible at night. This weekend the waning crescent moon will rise during the early morning hours and will not be too much of a nuisance as long as you keep it out of your field of view while observing. The estimated total hourly meteor rates for evening observers this week is near 4 as seen from mid-northern latitudes and 3 as seen from tropical southern locations (25S). For morning observers, the estimated total hourly rates should be near 15 as seen from mid-northern latitudes (45N) and 10 as seen from tropical southern locations (25S). The actual rates will also depend on factors such as personal light and motion perception, local weather conditions, alertness, and experience in watching meteor activity. Note that the hourly rates listed below are estimates as viewed from dark sky sites away from urban light sources. Observers viewing from urban areas will see less activity as only the brighter meteors will be visible from such locations.

The radiant (the area of the sky where meteors appear to shoot from) positions and rates listed below are exact for Saturday night/Sunday morning September 12/13. These positions do not change greatly day to day so the listed coordinates may be used during this entire period. Most star atlases (available at science stores and planetariums) will provide maps with grid lines of the celestial coordinates so that you may find out exactly where these positions are located in the sky. A planisphere or computer planetarium program is also useful in showing the sky at any time of night on any date of the year. Activity from each radiant is best seen when it is positioned highest in the sky, either due north or south along the meridian, depending

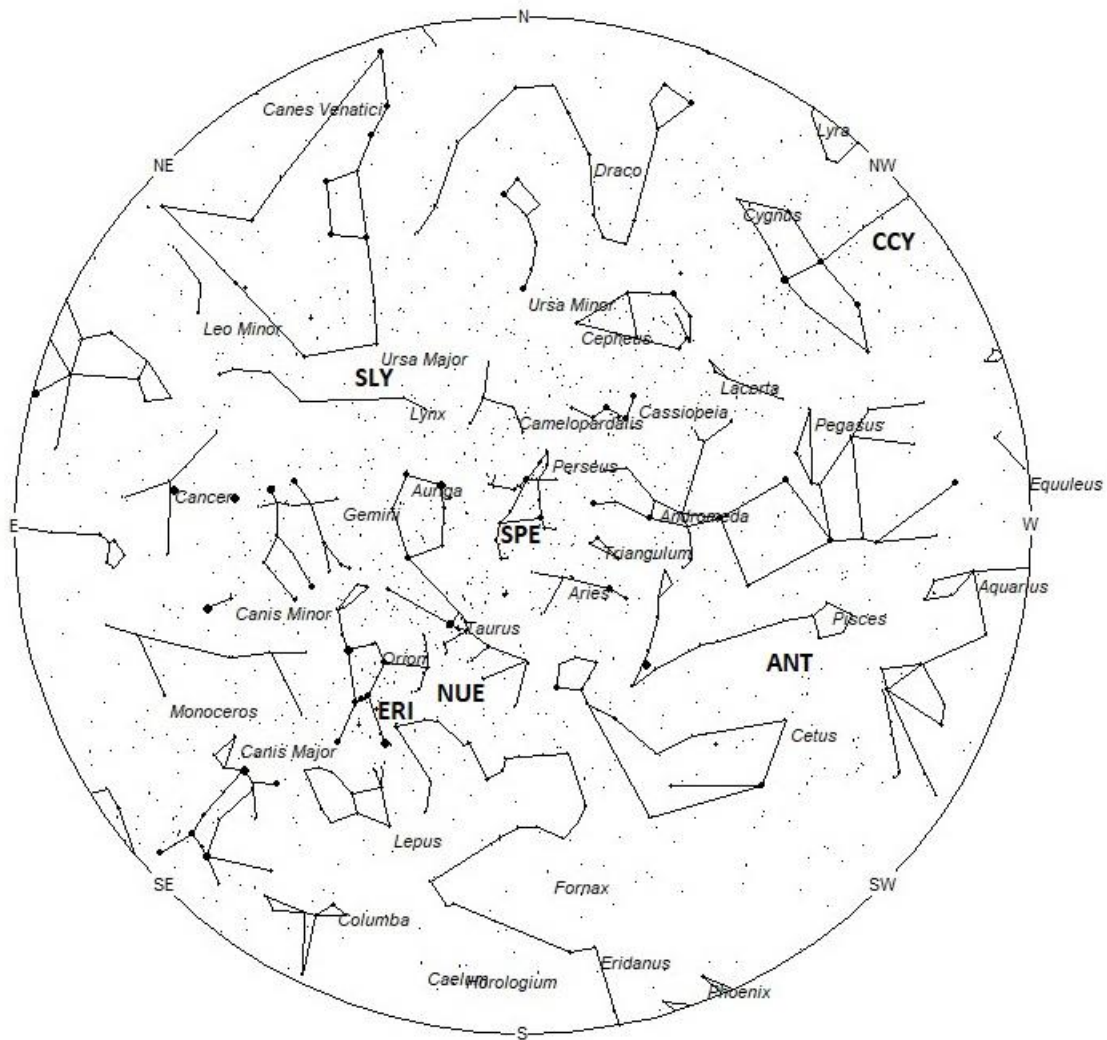
on your latitude. It must be remembered that meteor activity is rarely seen at the radiant position. Rather they shoot outwards from the radiant, so it is best to center your field of view so that the radiant lies at the edge and not the center. Viewing there will allow you to easily trace the path of each meteor back to the radiant (if it is a shower member) or in another direction if it is a sporadic. Meteor activity is not seen from radiants that are located far below the horizon. The positions below are listed in a west to east manner in order of right ascension (celestial longitude). The positions listed first are located further west therefore are accessible earlier in the night while those listed further down the list rise later in the night.



Radiant Positions at 9pm Local Daylight Time



Radiant Positions at 1am Local Daylight Time



Radiant Positions at 5am Local Daylight Time

These sources of meteoric activity are expected to be active this week.

The **chi Cygnids (CCY)** were discovered on the night of 14/15 September 2015, when a weak outburst of meteors occurred where none had been observed before. Since then little activity has been detected until August of this year when another mini outburst of possible CCY activity occurred south of the normal radiant between the constellations of Delphinus and Aquila. Some astronomers believe this early appearance may herald another return of the CCY's from their normal radiant in southern Cygnus. The most probable dates of this occurring would be on the nights from September 13-15. At that time the radiant should be located near 20:00 (300) +31, a position 3 degrees southeast of the variable star chi Cygni. An easier method of locating the radiant would be to draw an imaginary line from the bright stars Albireo (beta Cygni) to Aljanah (epsilon Cygni). The radiant lies just short of the half-way point of this line. These meteors can be seen all night long but are best seen from 21-22 Local Daylight Saving (LDST) when the radiant lies nearly overhead as seen from the northern hemisphere. Rates are expected to be low but anyone seeing any of these meteors should report them to the International Meteor Organization on an online visual meteor report form. With an entry velocity of 19 km/sec., the average meteor from this source would be of very slow velocity. Unfortunately, these meteors are not well seen from southern hemisphere as Cygnus does not rise high into the sky from those locations.

The center of the large **Anthelion (ANT)** radiant is currently located at 00:12 (003) +01. This position lies in southern Pisces, 6 degrees southeast of the 4th magnitude star known as omega Piscium. Due to the large size of this radiant, anthelion activity may also appear from western Cetus and northeastern Aquarius as well as central Pisces. This radiant is best placed near 0200 LDST, when it lies on the meridian and is located highest in the sky. Rates at this time should be near 2 per hour as no matter your location. With an entry velocity of 30 km/sec., the average anthelion meteor would be of slow velocity.

The **September Epsilon Perseids (SPE)** are active from September 3 through October 3 with the peak occurring on September 9th. The radiant is currently located at 03:24 (051) +40. This position lies in southwestern Perseus, 3 degrees southeast of the 2nd magnitude variable star known as Algol (beta Persei). The radiant is best placed near 0500 LDST, when it lies highest above the horizon. Rates are expected to be near 2 as seen from the northern hemisphere and 1 as seen from south of the equator. With an entry velocity of 65 km/sec., most activity from this radiant would be swift.

The **nu Eridanids (NUE)** were co-discovered by Japanese observers using SonotoCo and Juergen Rendtel and Sirko Molau of the IMO. Activity from this long-period stream stretches from August 24 all the way to November 16. Maximum activity occurs on September 24th. The radiant currently lies at 04:27 (067) +04, which places it in northeastern Eridanus, 5 degrees southwest of the 3rd magnitude star known as Tabit (Pi³ Orionis). This area of the sky is best seen during the last dark hour before dawn when the radiant lies highest in a dark sky. Current rates are expected to be near 1 per hour during this period no matter your location. With an entry velocity of 67 km/sec., the average meteor from this source would be of swift velocity.

The **eta Eridanids (ERI)** are active from a radiant located near 04:50 (073) -03. This position lies in western Orion, 1 degree northeast of the 4th magnitude star known as mu Eridani. This source

is active until September 16th, with maximum activity having occurred on August 10th. Current rates are expected to be less than 1 per hour no matter your location. These meteors are best seen during the last dark hour prior to dawn when the radiant lies highest above the horizon in a dark sky. With an entry velocity of 65 km/sec., the average meteor from this source would be of swift speed.

The **September Lyncids (SLY)** were discovered by Sirko Molau and Juergen Rendtel using data from the IMO network of video cameras. This source is active from September 7-15, with peak rates occurring on the 11th. At maximum, the radiant is located at 07:54 (111) +56. This position lies in northeastern Lynx, 7 degrees southwest of the 3rd magnitude star known as Muscida (omicron Ursae Majoris). This area of the sky is best placed, highest in a dark sky, during the last hour prior to dawn. Rates are expected to be near 1 per hour as seen from the northern hemisphere and less than 1 as seen south of the equator. With an entry velocity of 59 km/sec., the average meteor from this source would be of swift speed.

The **Daytime Sextantids (DSX)** are not well known due to the fact that the radiant lies close to the sun and these meteors are only visible during the last couple of hours before dawn. The radiant is currently located at 9:18 (140) +04. This position lies in western Hydra, 2 degrees north of the 4th magnitude star known as theta Hydrae. This area of the sky is best placed in the sky during the last hour before dawn, when it lies highest above the horizon in a dark sky. Current rates would be most likely less than 1 per hour no matter your location. Spotting any of this activity would be a notable accomplishment. With an entry velocity of 33km/sec., most activity from this radiant would be of medium-slow speed.

Morning **sporadic** rates are expected to be near 10 per hour as seen from mid-northern latitudes and 6 as seen from tropical southern latitudes. Evening rates should be near 3 as seen from the northern hemisphere and 2 as seen from tropical southern latitudes. The list below offers the information from above in tabular form. Rates and positions are exact for Saturday night/Sunday morning except where noted in the shower descriptions.

The list below offers the information from above in tabular form. Rates and positions are exact for Saturday night/Sunday morning except where noted in the shower descriptions.

SHOWER	DATE OF MAXIMUM ACTIVITY	CELESTIAL POSITION	ENTRY VELOCITY	CULMINATION	HOURLY RATE	CLASS
		RA (RA in Deg.) DEC	Km/Sec	Local Daylight Saving Time	North-South	
chi Cygnids (CCY)	Sep 13	20:00 (300) +31	19	22:00	<1 - <1	IV
Anthelion (ANT)	-	00:12 (003) +01	30	02:00	2 - 2	II

September epsilon Perseids (SPE)	Sep 09	03:24 (051) +40	65	05:00	2 - 1	II
nu Eridanids (NUE)	Sep 24	04:27 (067) +04	67	06:00	1 - 1	IV
eta Eridanids (ERI)	Aug 10	04:50 (073) - 03	65	06:00	<1 - <1	IV
September Lyncids (SLY)	Sep 11	07:54 (111) +56	59	08:00	1 - <1	IV
Daytime Sextantids (DSX)	Sep 28	9:18 (140) +04	33	10:00	<1 - <1	IV