

# Meteor Activity Outlook for April 2-8, 2022



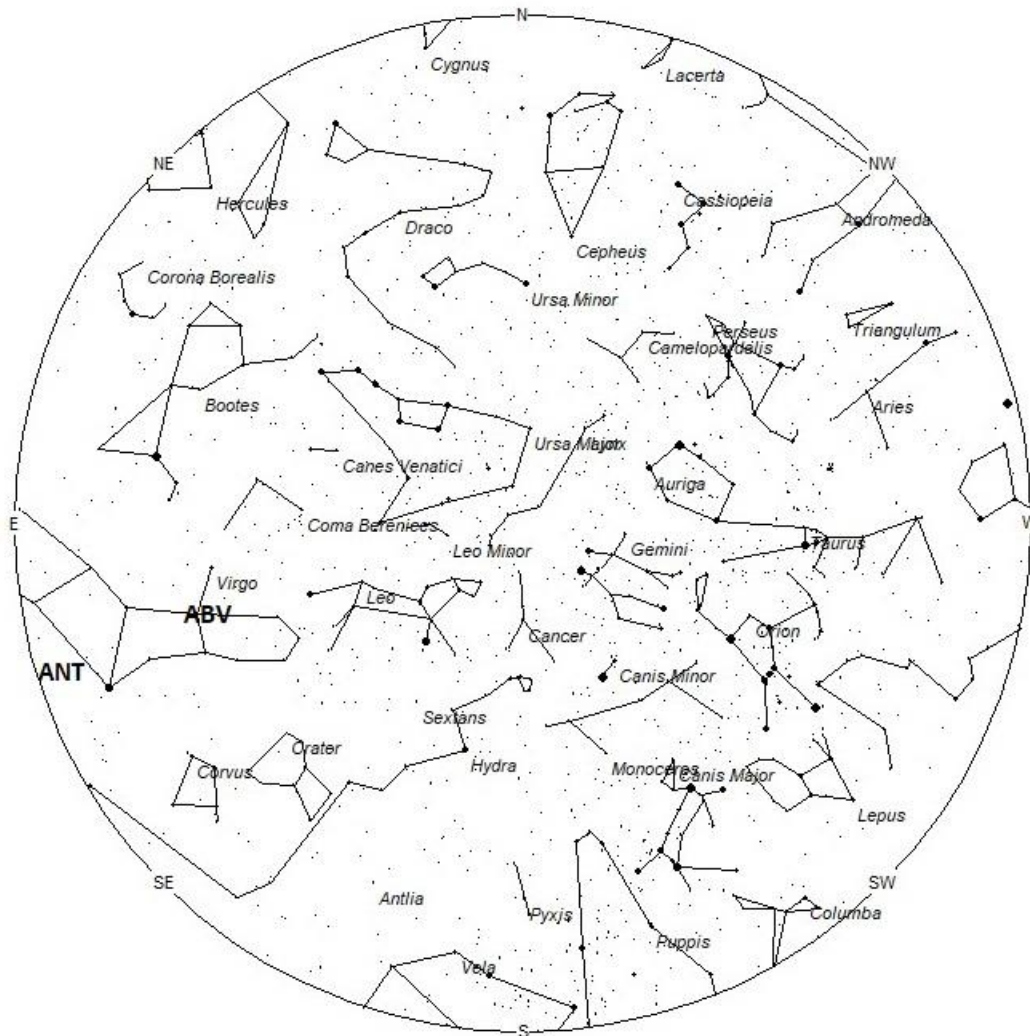
Jordan Ragsdale captured this impressive fireball using his [AllSky Camera System](#) on February 5, 2022, at 4:58 MST (11:58 UT) from Eagle, Idaho, USA. The faint secondary trail is an artifact of the camera. ©Jordan Ragsdale

Meteor activity picks up a bit during April as the Lyrids become active during the month. They are active from the 15th through the 29th, with a pronounced maximum on the 22nd. Sporadic rates during April are steady as seen from both hemispheres with southern observers enjoying more activity that can be seen from the mid-northern hemisphere. The eta Aquariids will become active the second half of the month, adding a few swift meteors to the late morning scene.

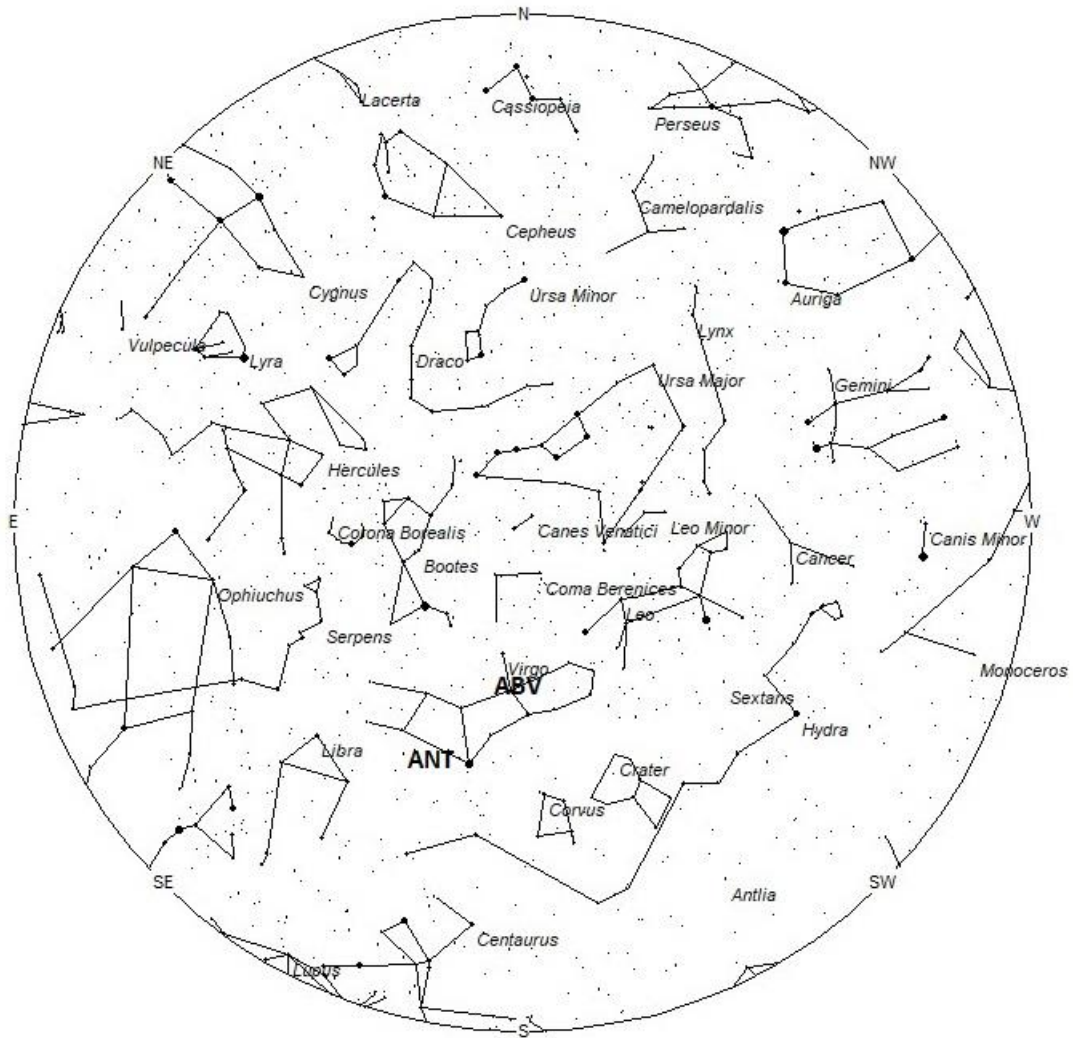
During this period, the moon waxes from a thin crescent to nearly half-illuminated. This weekend the thin crescent moon will set shortly after dusk, so no moonlight will interfere during the remainder of the night. Late in the period the evening hours have interfering moonlight, but the more active morning hours are still free from any interference. For evening observers, the estimated total hourly rates should be near 3 as seen from mid-northern latitudes (45N) and 4 as seen from tropical southern locations (25S) For morning observers, the estimated total hourly rates should be near 7 as seen from mid-northern latitudes (45N) and 11 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. Evening rates are slightly reduced during this period due to moonlight. 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 April 2/3. 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. I have also included charts of the sky that display the radiant positions for evening, midnight, and morning. The center of each chart is the sky directly overhead at the appropriate hour. These charts are oriented for facing south but can be used for any direction by rotating the charts to the desired direction. 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 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 Saving Time



**Radiant Positions at 1am Local Daylight Saving Time**



**Radiant Positions at 5am Local Daylight Saving Time**

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

The **alpha Virginids (AVB)** were first mentioned by R. B. Southworth and G. S. Hawkins in their publication known as Smithsonian Contributions to Astrophysics (1963). These meteors are active from April 6 through May 1 with maximum occurring on April 18<sup>th</sup>. The current location of this radiant is 12:52 (193) +04. This position is located in central Virgo, just west of the 3<sup>rd</sup> magnitude star known as Minelauva (delta Virginis). This radiant is best placed near 01:00 local Daylight Saving time (LDST) when it lies on the meridian and is highest in the sky. Rates at this time should be less than 1 per hour no matter your location. With an entry velocity of 21 km/sec., the average meteor from this source would be of very slow velocity. This source is far enough from the core of the anthelion radiant to be noticed but care must be taken to differentiate between the two radiants.

The large **Anthelion (ANT)** is currently centered at 13:44 (206) -11. This position lies in east-central Virgo, 4 degrees east of the 1st magnitude star known as Spica (alpha Virginis). Due to the large size of this radiant, these meteors may also be seen from Libra as well as eastern Virgo. This radiant is best placed near 02:00 LDST when it lies on the meridian and is highest in the sky. Rates at this time should be near 2 per hour as seen from the Northern Hemisphere and 3 as seen from south of the equator. With an entry velocity of 30 km/sec., the average Anthelion meteor would be of slow velocity.

The **April epsilon Delphinids (AED)** were discovered by P. Jenniskens and R. Rudawska from CAMS and SonotaCo meteoroid orbit surveys published in 2014. This weak source is active from March 31 through April 20, with maximum activity occurring on April 9<sup>th</sup>. The radiant currently lies at 20:06 (302) +08. This position lies in the northeastern Aquila, 3 degrees southeast of the 1<sup>st</sup> magnitude star known as Altair (alpha Aquilae). With an entry velocity of 61 km/sec., the average meteor from this source would be of fast velocity. These meteors are best seen during the last dark hour prior to morning twilight. Current hourly rates would be less than 1.

The **delta Pavonids (DPA)** were discovered by Michael Buhagiar from Australia in the 1970's. These meteors are active from March 11 through April 16, with maximum activity occurring on March 30<sup>th</sup>. The current position of the radiant lies near 20:45 (311) -63. This area of the sky lies in eastern Pavo, 4 degrees north of the 3<sup>rd</sup> magnitude star known as beta Pavonis. These meteors are best seen during the last dark hour prior to dawn. With an entry velocity of 58 km/sec., the average meteor from this source would be of fast velocity. Expected rates are less than 1 per hour during this period. These meteors are poorly seen from the Northern Hemisphere.

As seen from the mid-northern hemisphere (45N) one would expect to see approximately 5 **sporadic** meteors per hour during the last hour before dawn as seen from rural observing sites. Evening rates would be near 2 per hour. As seen from the tropical southern latitudes (25S), morning rates would be near 8 per hour as seen from rural observing sites and 3 per hour during the evening hours. Locations between these two extremes would see activity between the listed figures. During this period evening rates are slightly reduced due to moonlight.

You can keep track of the activity of these meteor showers as well as those beyond the limits of visual observing by visiting the NASA Meteor Shower Portal available at: <https://meteorshowers.seti.org/> You can move the sky globe to see different areas of the sky. Colored dots indicate shower meteors while white dots indicate sporadic (random) activity. The large orange disk indicates the position of the sun so little activity will be seen in that area of the sky.

<b>SHOWER</b>	<b>DATE OF MAXIMUM ACTIVITY</b>	<b>CELESTIAL POSITION</b>	<b>ENTRY VELOCITY</b>	<b>CULMINATION</b>	<b>HOURLY RATE</b>	<b>CLASS</b>
		<b>RA (RA in Deg.) DEC</b>	<b>Km/Sec</b>	<b>Local Daylight Saving Time</b>	<b>North- South</b>	
alpha Virginids (ABV)	Apr 18	12:52 (193) +04	21	01:00	<1 - <1	IV
Anthelions (ANT)	---	13:44 (206) -11	30	02:00	2 - 3	II
April epsilon Delphinids (AED)	Apr 09	20:06 (302) +08	61	08:00	<1 - <1	IV
Delta Pavonids (DPV)	Mar 31	20:45 (311) -63	58	09:00	<1 - <1	III