

Meteor Activity Outlook for February 20-26, 2021

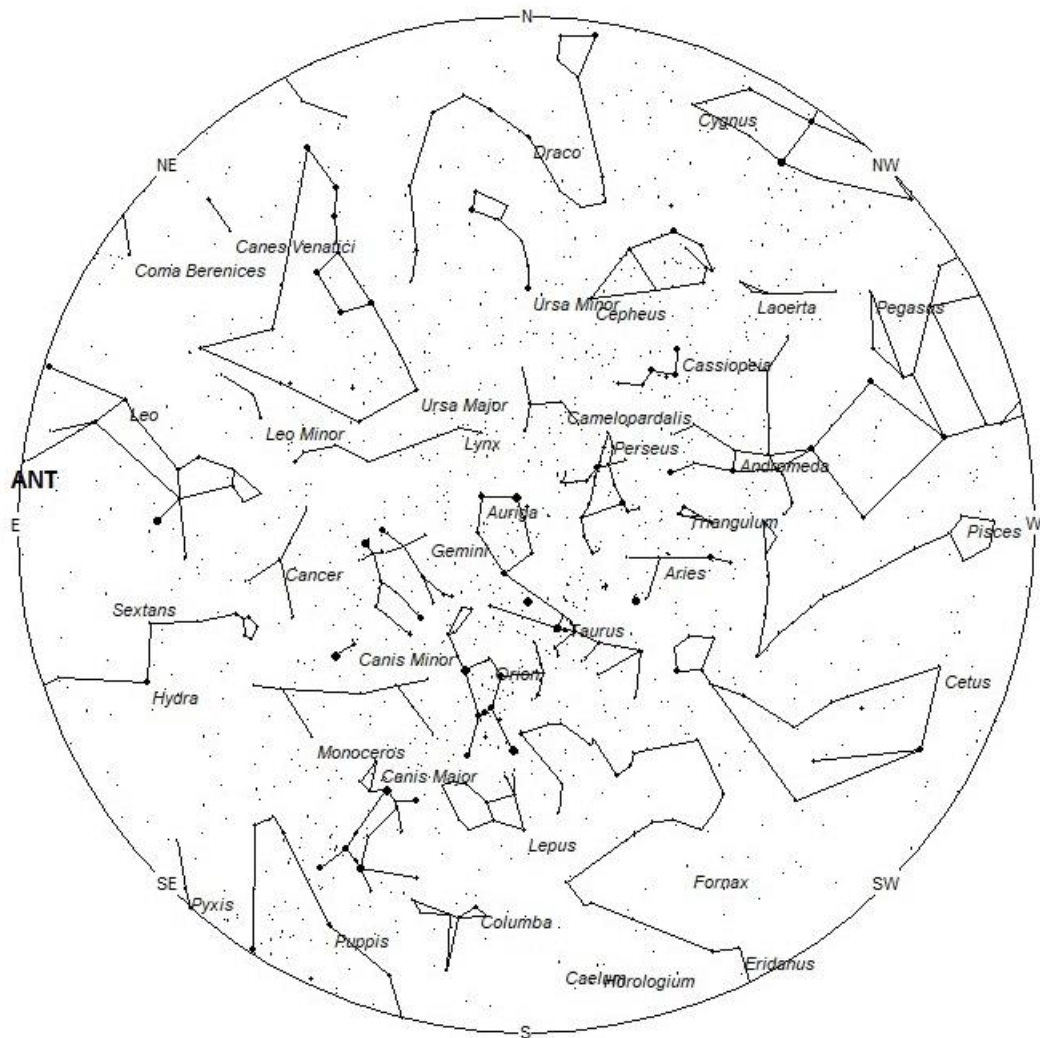


Daniel Bush captured this brilliant fireball from Albany, Missouri, USA, on 28 November 2020, at 07:41 UT (1:41am CST). Credit Daniel Bush

During this period the moon waxes from half-illuminated to full. This weekend the waxing gibbous moon will set during the early morning hours, leaving the remainder of the night free of interfering moonlight. With each passing night this window of dark sky decreases until late in the period the moon will set at the start of morning twilight. The estimated total hourly meteor rates for evening observers this week is near 3 as seen from mid-northern latitudes and 4 as seen from tropical southern locations (25S). For morning observers, the estimated total hourly rates should be near 8 as seen from mid-northern latitudes (45N) and 14 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 reduced 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 February 20/21. 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 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 7pm Local Standard Time



Radiant Positions at Midnight Local Standard Time

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

The **Anthelion (ANT)** radiant is active from a position located at 11:00 (165) +06. This position lies in southeastern Leo, 4 degrees west of the 4th magnitude star known as sigma Leonis. Since this radiant is a very large oval, some thirty degrees wide by fifteen degrees high, activity from this radiant can appear from more than one constellation., This week these meteors can also be seen from the constellation of Sextans and western Virgo, as well as southeastern Leo. The position listed here is for the center of the radiant. This radiant is best placed near 01:00 LST when it lies on the meridian and is highest in the sky. Rates at this time should be near 2 per hour no matter your location. With an entry velocity of 30 km/sec., the average Anthelion meteor would be of slow velocity.

As seen from the mid-northern hemisphere (45N) one would expect to see approximately 6 **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 12 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. Evening rates are reduced due to moonlight.

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 Standard Time	North- South	
Anthelion (ANT)	-	11:00 (165) +06	30	01:00	2 - 2	II