

Meteor Activity Outlook for March 6-12, 2021

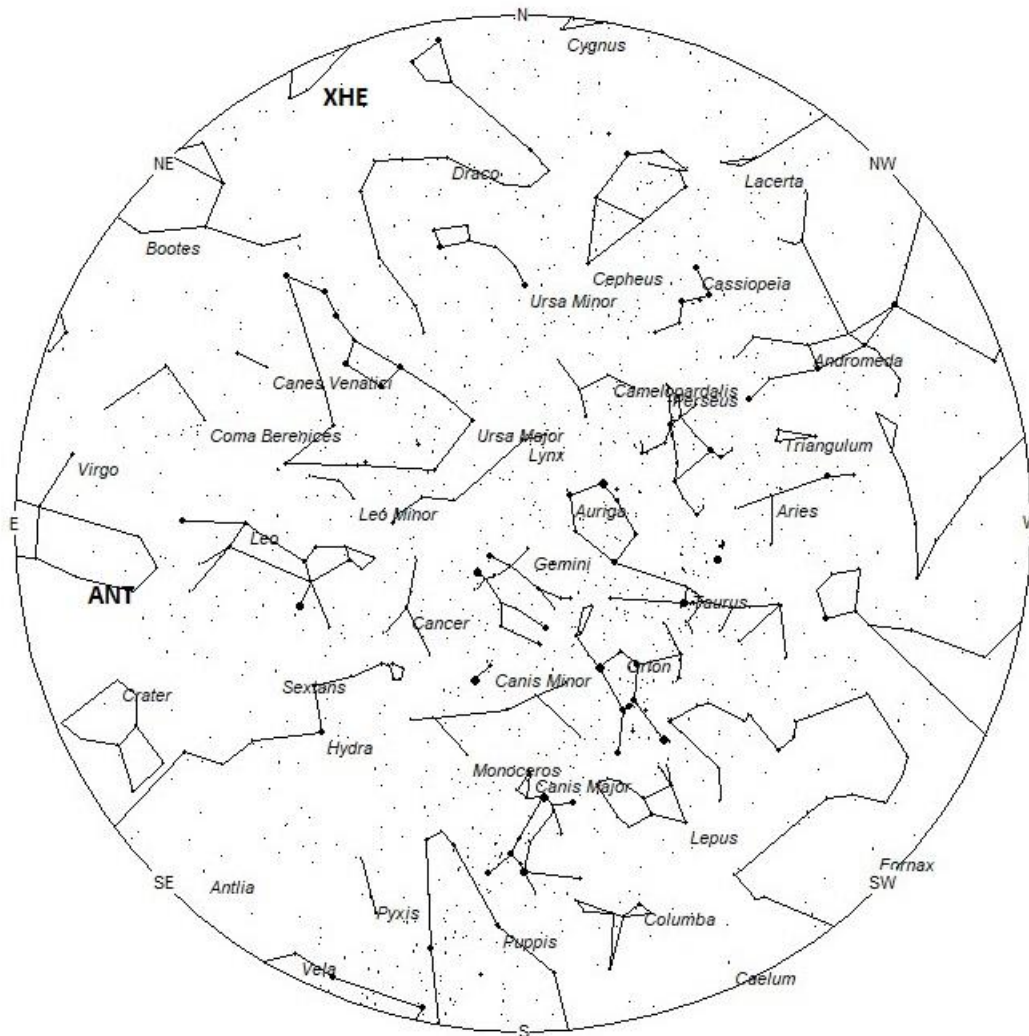


Daniel Brannon captured this bright fireball from San Luis Obispo Bay, California, USA, on 10 February 2021, at 21:21 PST (5:21 UT on February 11). For more reports on this fireball, visit: https://fireball.amsmeteors.org/members/imo_view/event/2021/778 Credit Daniel Brannon

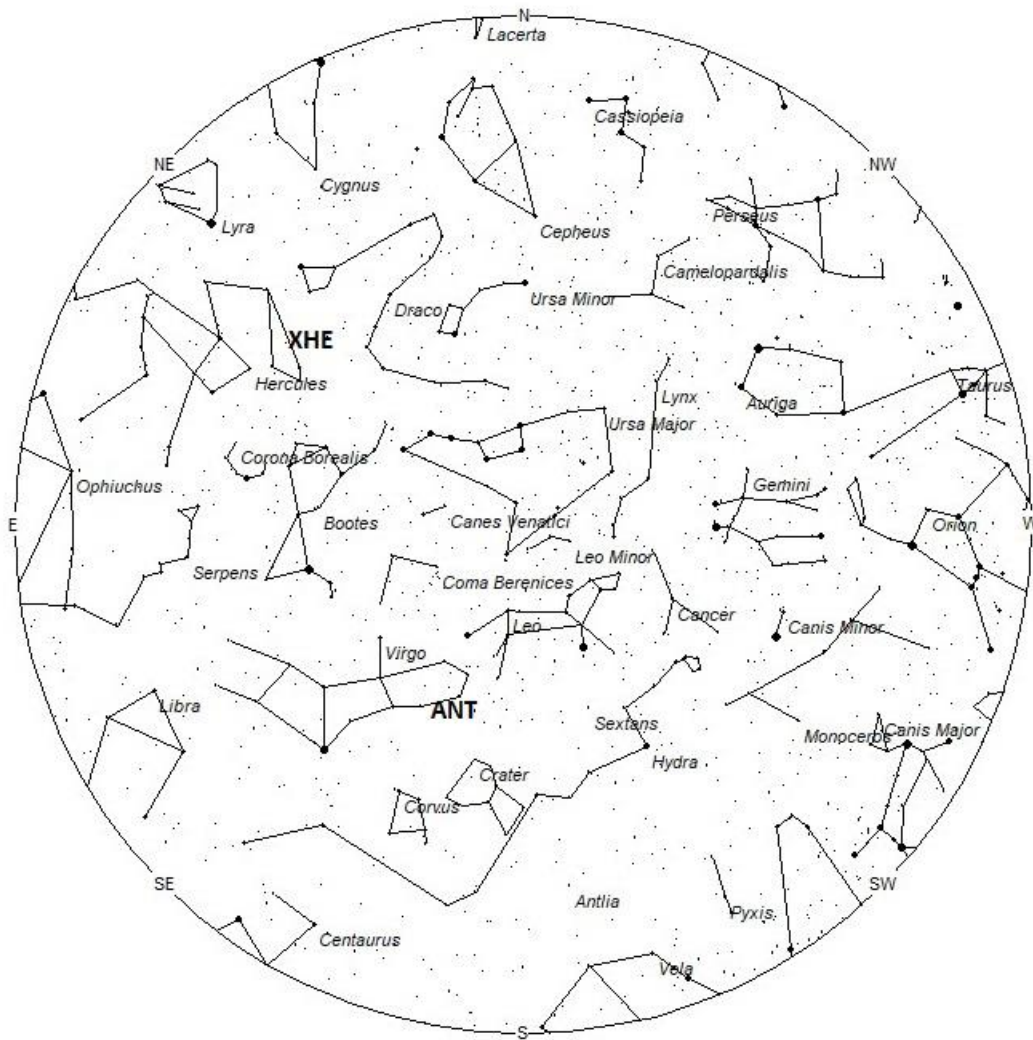
During this period, the moon reaches its last quarter phase on Saturday March 6th. On this date the half-illuminated moon will rise near 2:00 local standard time (LST) and will remain in the sky the remainder of the night. Lunar interference will decrease with each passing night as the moon's phase wanes and the moon rises later each morning. The 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 6 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. Morning rates are 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 March 6/7. 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

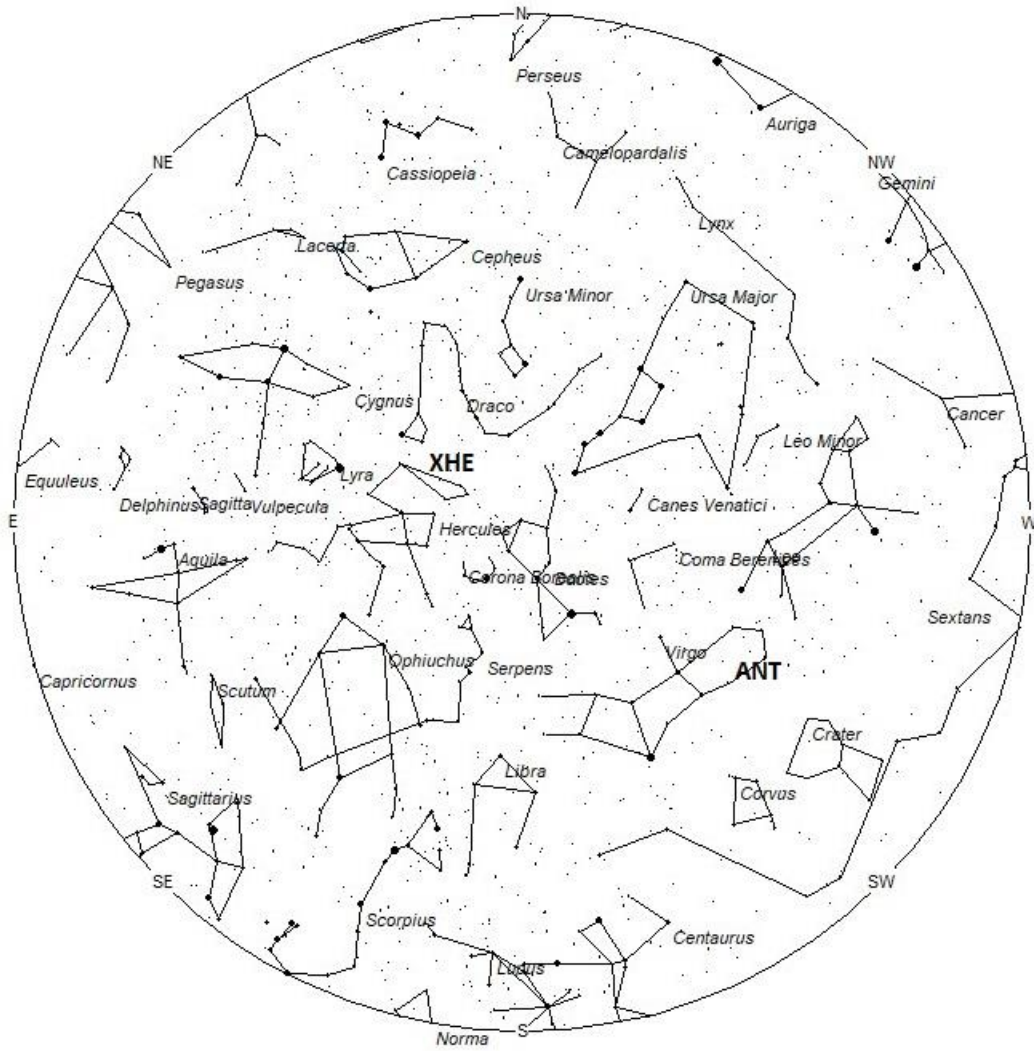
sky, either due north or south along the meridian, depending on your latitude. It must be remembered that meteor activity is rarely seen at the radiant position. Rather they shoot outwards from the radiant, so it is best to center your field of view so that the radiant lies at the edge and not the center. 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 8pm Local Standard Time



Radiant Positions at Midnight Local Standard Time



Radiant Positions at 4am Local Standard Time

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

The center of the large **Anthelion (ANT)** radiant is currently located at 11:56 (179) +00. This position lies in western Virgo, 2 degrees southeast of the 4th magnitude star known as Zavijava (beta Virginis). Due to the large size of this radiant, Anthelion activity may also appear from eastern Leo and Crater, as well as western Virgo. This radiant is best placed near 0100 LST, when it lies on the meridian and is located 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.

The **xi Herculids (XHE)** were discovered by Sirko Molau and Javor Kac in 2009, using data from the IMO Video Network. These meteors are active from March 6-20, with maximum activity occurring on March 12th. Rates are low during the entire activity period, never surpassing 1 per hour. The radiant is currently located at 16:41 (250) +50. This position lies in extreme northern Hercules, just north of the faint star known as 42 Herculis. The 3rd magnitude star Rastaban (beta Draconis), lies 8 degrees to the northeast. These meteors are not well seen from the Southern Hemisphere due to the high northern location of the radiant. These meteors are best seen during the last dark hour before dawn, when the radiant lies highest in a dark sky. With an entry velocity of 36km/sec., the average meteor from this source would be of medium velocity.

As seen from the mid-northern hemisphere (45N) one would expect to see approximately 4 **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. Morning rates are reduced during this period 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
xi Herculids (XHE)	Mar 12	16:41 (250) +50	36	06:00	<1 - <1	IV