



Comet, Asteroid and Meteor Section

CAMNotes 2026 No.4 October to December

Observations of the following are requested during the fourth quarter of 2026.

COMETS

After peaking at magnitude 8 in August, Comet **10P/Tempel** will likely have faded to between magnitude 10-11 by early October. The comet might be visible early in the month as it slowly crosses Piscis Austrinus, but the coma is diffuse and will require careful planning and a telescope to observe. An image by Kos Coronaios on 8 September shows the appearance, with a broad circular coma 9' in diameter with a prominent central condensation offset towards the south.



Comet 10P/Tempel on 8 September, stack of 50 x 60 second images on S30 Pro in EQ mode, courtesy Kos Coronaios. South is up, east towards the right. The brightest star towards lower left is magnitude 9.1 HIP 110639.

Tim Cooper observed the comet under dark skies on September 9.80 UT, the coma diffuse, slightly condensed towards the centre, DC=3, diameter 9' and magnitude $m_1 = 8.2$ in 16x50 binoculars. Magda Streicher observed the comet the same evening using a 40cm SCT x97, seeing a large hazy coma with starlike central condensation

or pseudo-nucleus surrounded by a bright envelope. The coma appeared flattened in direction of p.a. 189° , which is also evident in the image by Kos Coronaios.

Comet **161P/Hartley-IRAS** reaches perihelion in its 21.5-year orbit on 27 November. It should be at its brightest around closest approach to Earth on 2 October, when it might be a magnitude 9-10 object located in Aquarius.



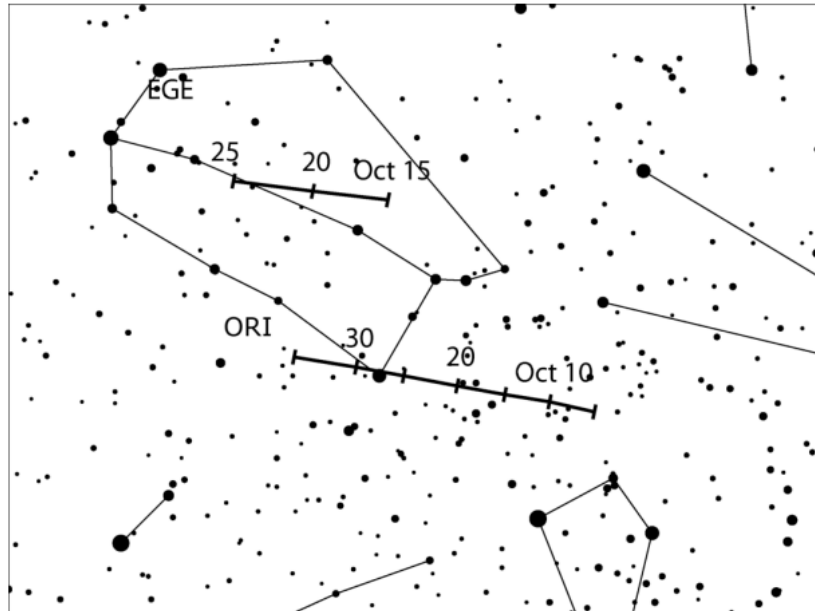
Path of comet 161P/Hartley-Iras during its period of maximum brightness (close approach on 2 October). The comet passes through the Water Jar asterism of Aquarius on 6 October. The Circlet of Pisces is at the bottom of the map.

The comet will fade thereafter and should reach magnitude 12 by the end of the year. Observers should be alert to possible outbursts in brightness, and during its 1984 apparition it brightened by 3 magnitudes after perihelion, reaching nearly sixth magnitude. However, no outburst occurred at its 2005 apparition. Visual observations will help to confirm any outbursts during the current apparition.

METEOR SHOWERS

The Orionids (ORI) reach their maximum about 21 October, with zenithal hourly rate (ZHR) about 20 per hour. However this date can vary by as much as a couple of days either side, and the maximum is quite broad, often showing several sub-maxima. Therefore observation for several mornings centred on the predicted peak is recommended. On predicted maximum date the waxing gibbous Moon sets around 2.30am local time, allowing for about two hours of observation before dawn. From 24 October onwards the bright Moon will become problematic.

The Orionids appear to radiate from about RA 06h20, Decl. +16° on the night of maximum. However the radiant will appear to drift eastwards by about one degree each day, due to the motion of the Earth in its orbit by about the same amount (see the diagram below).

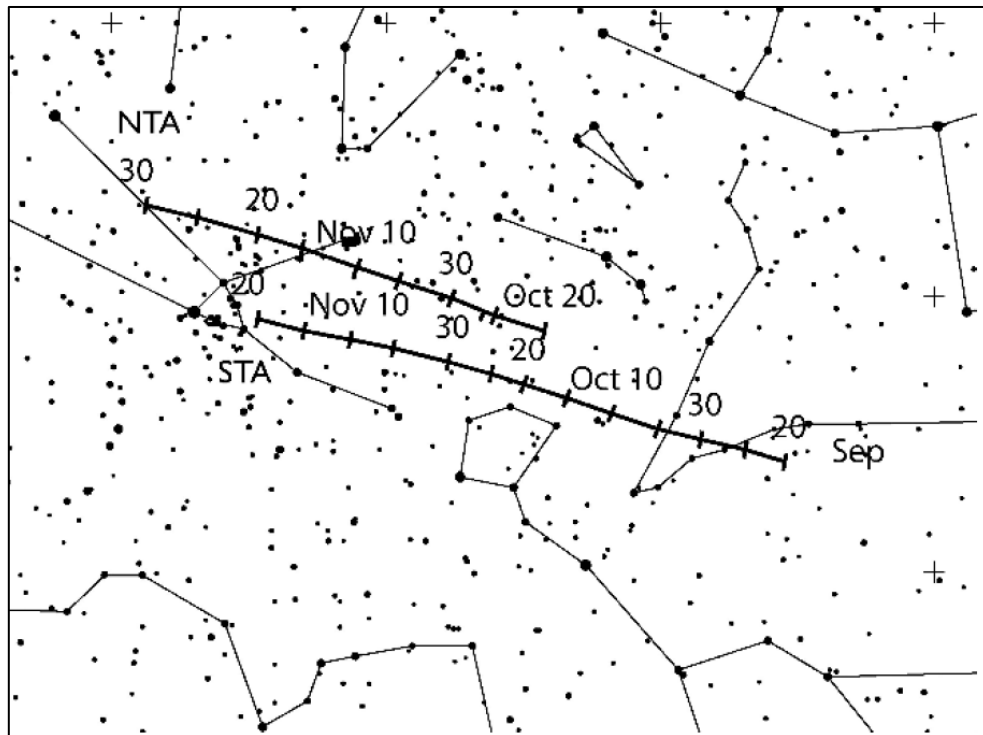


Position of the Orionid radiant, credit IMO Meteor Shower Calendar

The radiant rises around 11pm local time but needs to rise to an altitude of about 25° or more for observations to be of value. Observations are recommended from 1am until dawn, when the radiant will be highest in the sky, nearly 50° up. Orionid meteors enter the atmosphere at 66 km/sec and so appear fast-moving. Like their sister shower the eta Aquariids, brighter Orionids have a tendency to leave persistent trains. Observations should ideally be carried out for one-hour sessions, noting the start and end times, faintest star visible to the naked eye at start and end of watch, and recording the number of Orionids, and sporadics (meteors not associated with any known shower) separately. Note also that there might be activity from the **epsilon-Geminids (EGE)**, which radiate from nearby. They are also fast-moving meteors, but the rate seldom exceeds 2-3 per hour even at their peak around 18 October.

The **Leonids (LEO)** reach their peak on the morning of November 17 or 18. Debris left behind by comet 55P/Tempel-Tuttle, they are well known for their outbursts coinciding with the return of the comet to perihelion every 33 years. The comet was last at that point in its orbit in 1998 and was accompanied by several years of storm activity from the Leonids. During that apparition, Leonid rates began to increase in 1994, about four years before perihelion of the comet. While no significant Leonid activity is expected in 2026, the shower should nevertheless be observed to help model the particle flux ahead of the comet towards its next perihelion in May 2031. Observations can be conducted in the hour or so before dawn on the mornings of 17 and 18 November, and the Moon will not interfere.

The maxima of the **Southern and Northern Taurids (STA and NTA)** are accompanied by dark skies with no bright Moon interference around their listed maxima on 5 and 12 November respectively.

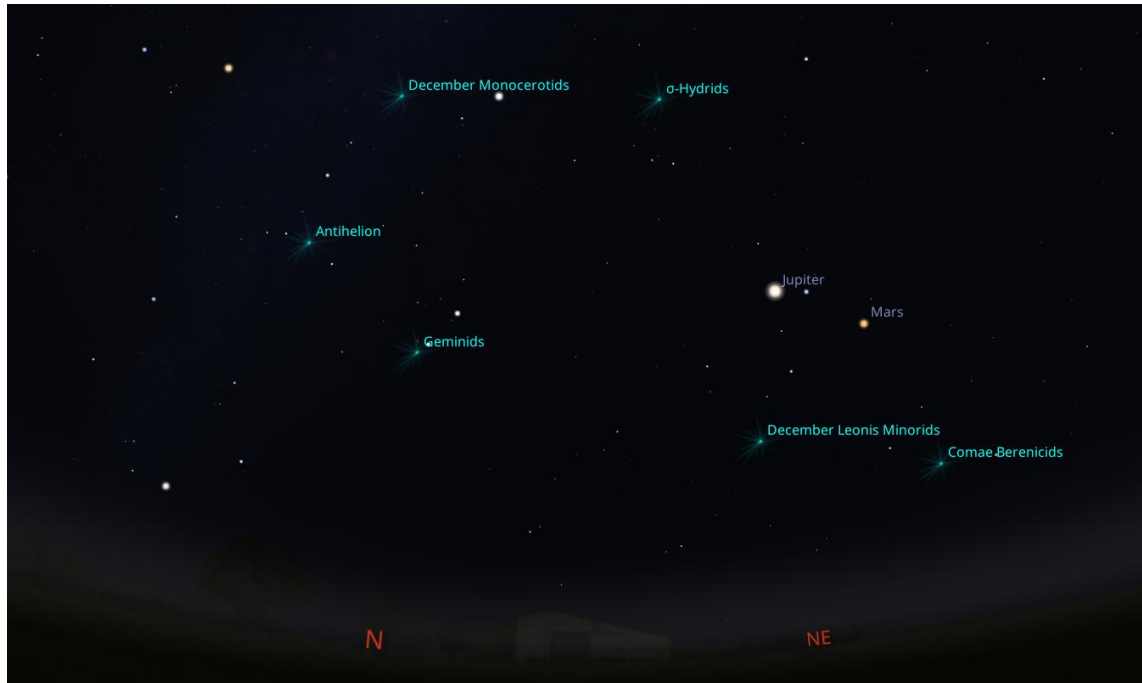


Position and radiant drift of the Taurids, credit IMO Meteor Shower Calendar 2026.

Both showers are part of the Anthelion sources and tend to be rich in large meteoroids leading to occasional bright fireballs. The radiants rise early evening and can be observed all night. Both maxima are flat and can be observed for several days either side of the listed date. The ZHR in both cases is around 5/hr but given the warmer November evenings the Taurid showers provide an opportunity for relaxed meteor viewing and the possibility of the occasional fireball. Given their slow entry velocity of 28 km/sec they also provide excellent practice for plotting.

The **Geminids (GEM)**, despite being a northern hemisphere shower, remain the most active shower annually also from our locations. Predicted maximum in 2026 occurs on 14 December at 14h00 UT, and excellent rates should be visible on the mornings of both 14 and 15 December. Conditions this year are good with the Moon just a few days past new and therefore will pose no hindrance. Observations can begin from about 11pm local time and can continue until dawn, when the radiant is at its highest. The meteor stream is mass-sorted, so the Earth encounters larger particles as the shower progresses, and while rates on the morning after maximum are likely to be lower, the average Geminid may be slightly brighter. The Geminids are medium speed, 35 km/s, mainly white, but to me often display a sparkling appearance with yellowish core. They show little tendency to leave persistent trains, but the sight of very bright, graceful, sparkling Geminids is a sight to behold and will reward those who

put in the effort to observe after midnight. Note that at the same time as the Geminids, there may be minor activity from the **Monocerotids**, **sigma Hydrids**, **December Leonis Minorids** and **Coma Berenicids**, as well as the Anthelion source which is also located at this time in Gemini. Take care not to include these in your Geminid counts. The Geminid radiant is close to the bright star Castor in Gemini, and any meteors which cannot be traced back to that point should not be counted as Geminids.



Location of the Geminid and other minor radiants for 02h00 SAST on December 14/15. The Geminids radiate from the lower left of Jupiter and Mars.

ASTEROIDS

The following occultations are predicted. Both events are of very short duration <1.0 seconds and will require a large telescope with suitable camera and fast integration time to enable accurate determination of any times of disappearance and reappearance of the target star.

21 October 2026 – **(729207) 2011 BP187** occults UCAC4 496-015622 at 00h10 UT.
 Star coordinates (J2000) 05 49 00.1156 +09 08 27.2050
 Star mag 9.3

Asteroid diameter 1.35 ± 0.1 km, duration 0.34 seconds.

Towns within path : Muldersdrift, Ruimsig, Witpoortjie

Towns close to path: Bulawayo, Gweru, Steilloopbrug, Hartebeespoort, Broederstroom, Krugersdorp, Roodepoort, Koppies,

The combined magnitude of the star and asteroid will be 8.6, so that technically the event is within reach of visual observers, although the very short duration will be difficult to time with sufficient accuracy.

30 October 2026 - **(27513) Mishapipe** occults GaiaDR3 2449271522215362432, close approach time 18:15:51 UT.

Star coordinates (J2000) 23 54 53.8041 -01 59 12.598

Star G mag 12.4.

Asteroid diameter 4.2km, duration 0.4 seconds, asteroid is suspected binary.

Towns within path : Sutherland, Struisbaai.

Towns close to path: Matjiesfontein, Bredasdorp.

I hope the foregoing gives visual observers and astro-imagers plenty of opportunities. I will be pleased to receive any reports or images for analysis. Prospective observers who need further information or assistance are welcome to contact the Director at CAM[at]assa.sao.ac.za.

Clear skies,

Tim Cooper

Director, Comet, Asteroid and Meteor Section.

Acknowledgements

Star maps were drawn using Stellarium 0.20.1, Copyright © 2000-2020 Stellarium Developers. Comet magnitudes are from the Comet Observation Database (COBS) website maintained by Crni Vrh Observatory and available at <https://cobs.si/>. Data on meteor showers is courtesy of the International Meteor Organization's Meteor Shower Calendar 2026, and the Atlas of Earth's Meteor Showers, by Peter Jenniskens, published 2024 by Elsevier. Asteroid close approach data is from the ESA Near-Earth Objects Coordination Centre (NEOCC) web page at <https://neo.ssa.esa.int/close-approaches>. Asteroid occultation predictions are from Occult Watcher version 5.4.0.1. as well as the Most important events listed on GAIA Moons at <https://gaiamoons.imcce.fr/mainevent>. Asteroidal ephemerides are prepared using the JPL Horizons Web Application at https://ssd.jpl.nasa.gov/horizons/app.html#.