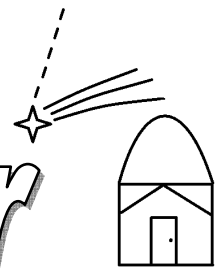


# Comet Calendar



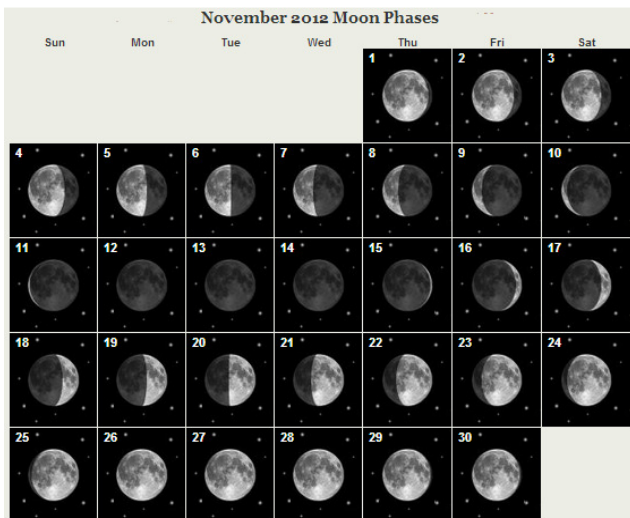
*From Asterion observatory*

COMET VISIBILITY IN THE NORTHERN HEMISPHERE IN NOVEMBER:

Comet	Brightness	Time of observations	Constellations	Instrument
C/2012 K5 (LINEAR)	10	Evening	Böotes, Canes Venatici	8-cm refractor
C/2009 P1 (Garradd)	12	Morning	Sextans	20-cm reflector
168P/Hergenrother	12(?)	First half of night	Andromeda	20-cm reflector
C/2010 S1 (LINEAR)	13.5	First half of night	Cygnus	25-cm reflector
C/2011 UF305 (LINEAR)	13.5	Second half of night	Leo Minor, Leo	30-cm reflector
C/2012 J1 (Catalina)	13.5	First half of night	Pegasus	25-cm reflector

COMET VISIBILITY IN THE SOUTHERN HEMISPHERE IN NOVEMBER:

Comet	Brightness	Time of observations	Constellations	Instrument
C/2009 P1 (Garradd)	12	Morning	Sextans	20-cm reflector
C/2012 J1 (Catalina)	13.5	Evening	Pegasus	30-cm reflector
C/2009 F4 (McNaught)	13.5	All night	Reticulum	25-cm reflector



From the standpoint of lunar conditions, the middle part of the month is going to be the most advantageous time for comet observations, when the Moon will no longer impede the observation of the faint diffuse objects all night long. The waning gibbous Moon at the beginning of the month will enable us to observe comets in the evening, however, due to the upcoming full moon, the last days of November will be unfavorable for the observation of tailed wanderers.

The brightest comet for the Northern hemisphere observers will be **C/2012 K5 (LINEAR)**, the brightness of which is predicted to be at 10-11<sup>m</sup> and is supposed to be steadily increasing in the course of the month. The comet will appear as a condensed object, which means that it will be visible even through small amateur refractors. In the course of almost the whole month the

comet will be passing through Böotes, and only at the very end of November will it appear in the realm of Canes Venatici. In the course of the month the comet's elongation will be increasing from 55 to 74 degrees, but despite this fact, even at the end of November it will be visible low above the horizon in the evening or morning sky (and actually the morning hours will be more favourable). The comet's rate of motion in the sky in November is going to increase several times, from 0.2"/min to 1.3"/min, because it's approaching the Earth and the Sun rapidly. At the end of 2012 – beginning of 2013 C/2012 K5 will approach our planet at a distance of less than 0.3 AU and at a magnitude of 8<sup>m</sup> it will be visible near the zenith in the middle latitudes of the Northern hemisphere. It is highly probable, that in this period the comet will be easily tracked down even with a small telescope, its rate of motion in the sky approaching 5.5 degrees per day (14"/per minute), which means that while observing the comet through a telescope the movement of the object against the stars will be perceptible immediately. The comet will attain a maximum magnitude and maximum rate of motion around New Year's night, which will give new zest to its observation.

Just like C/2012 K5 (LINEAR), **C/2009 P1 (Garradd)** – the second brightest comet of the month – will be visible low in the morning sky, in the constellation of Sextans. One can only reminisce about its bygone splendor in the winter and spring of 2012, because now an observer with a telescope of 20 cm or more in diameter will only make out a dim spot of light with a noticeable condensation in the centre, and the bigger your instrument – the clearer it will be seen.

**C/2012 J1 (Catalina)**  
*Information*

R.A. Gibbs reported the discovery of a new comet with a magnitude of a little less than 16<sup>m</sup> on May 13<sup>th</sup> 2012, when it looked like a small condensed object with a thin tail. At that time the comet was located in the morning sky, close to the borders of the square of Pegasus. C/2012 J1 turned out to be a comet with a parabolic orbit and a perihelion distance of 3.15 A.U. (the beginning of December 2012). With the course of time the comet was quite rapidly increasing its brightness (with a gradient 2.5n of about 25), as a result of which at the beginning of August it was already available for visual observations with a large telescope. In September the brightness of the comet exceeded 14<sup>m</sup>, and its visual observations in this period became more wide-scale. It's exactly this autumn that the brightness of the comet will be maximum (due to its perihelion and the minimal distance from the Earth). When observed through a telescope the comet looks like a small condensed object, CCD-images demonstrate a small coma with a diameter of about an arc minute and a pretty tail. At the beginning of winter the magnitude of the comet is going to fade gradually, and soon it will become unavailable for visual observations.



From then on this comet is going to fade, so its visual observations are unlikely to last long.

Three fainter comets are also worth mentioning here, because one may be able to discern them even with average (by amateur standards) telescopes from darkened observation sites, far from the city glow. The first one is **C/2012 S1 (LINEAR)**, which will be available for observations in the first half of night at magnitude of about 13.5<sup>m</sup>. The comet will be passing some parts of the Milky Way abundant in stars, as well as through the constellation of Cygnus, which may impede its observation. It will be seen as a small and quite condensed object. This comet will pass its perihelion point in the first half of 2013, and probably by that time it will have enhanced its brightness by half a magnitude.

**C/2012 J1 (Catalina)** during November will pass through the square of Pegasus. It will look like a very condensed object at magnitude of 13.5<sup>m</sup>. In November the comet will be close to maximum brightness, because it will be at its closest approach to Earth and perihelion (the beginning of December). If you use a telescope with the diameter of the main mirror being 25 cm or more, provided the sky is dark enough, your chances of

success while observing this comet are high.

For a successful observation of comet **C/2012 UF305 (LINEAR)**, apparently, you will need a telescope with a diameter of the main mirror no less than 30 cm. At the same magnitude of about 13.5<sup>m</sup> this comet is much more diffuse, than the two above-mentioned tailed wanderers, which will substantially impede its observations. In November C/2011 UF305 will be passing through the constellations of Ursa Major and Leo Minor, being available for observations in the second part of the night. Eventually this comet is also going to fade, and unlikely to be available for visual observers for a long time.

A very interesting comet **168P/Hergenrother** deserves our special attention; however it is difficult to predict its brightness or appearance in November. In September of 2012 the comet underwent a series of outbursts, as a result of which its brightness increased by several magnitudes and the comet turned out to be the brightest tailed wanderer of October, available for observations even through the smallest telescopes. At the very end of October the split of its nucleus was documented with certainty, and now the comet is very likely to fade. However, it can be expected that in November 168P will still be available for visual observations, at least with a large (by amateur standards) telescope.

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Just like last month, observers in the Southern Hemisphere with the short pre-summer nights, have many fewer tailed wanderers to observe visually. The brightest of all will probably be **C/2009 P1 (Garradd)**, which will be available for observations in the morning hours, just like in the Northern hemisphere. The conditions for comet observations in the South are going to be slightly worse than in the North.

Only early in the morning and very low above the horizon one will be able to observe comet **C/2012 J1 (Catalina)**, and for its successful search the observer will probably need a telescope with a diameter no less than 30 cm.

Much better visibility conditions will be created for comet **C/2009 F4 (McNaught)**, which, passing through the constellation of Reticulum, will be absolutely unavailable in the North. Despite the fact that the comet already passed its perihelion in December 2011, it maintains its brightness, close to maximum (at 13.5<sup>m</sup>), though it's not likely to be available for visual observations soon.



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Lunar phase calendar obtained from:

<http://www.farmersalmanac.com/calendar/moon-phases/2012/11/>