Astronomy for all

Events for December 2006

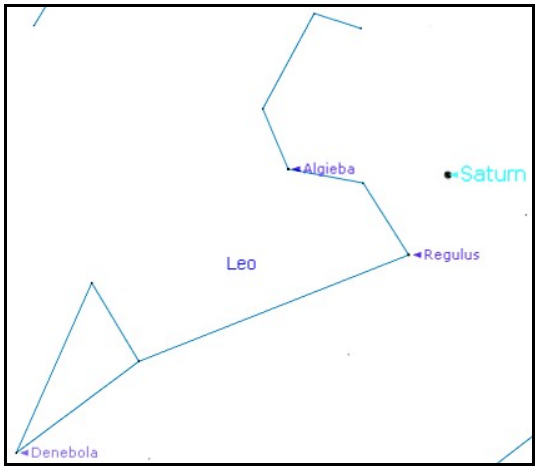
http://www.scottishastronomers.com

Intro

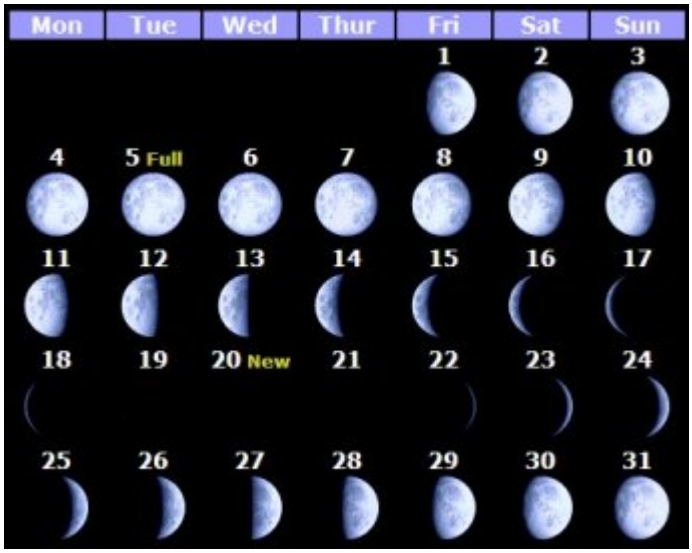
This information sheet is aimed at the novice astronomer or anyone who is curious about astronomical events. It is assumed that the observer will not have access to a telescope though a pair of binoculars may come in handy for some observational targets.
If you have any queries about the content or questions in general please email me ☺ Thanks for your interest.

Planets

As last month, the only planet visible without telescopic aid is Saturn which rises in the constellation of Leo just before 10pm at the start of the month and just before 8pm by the end.

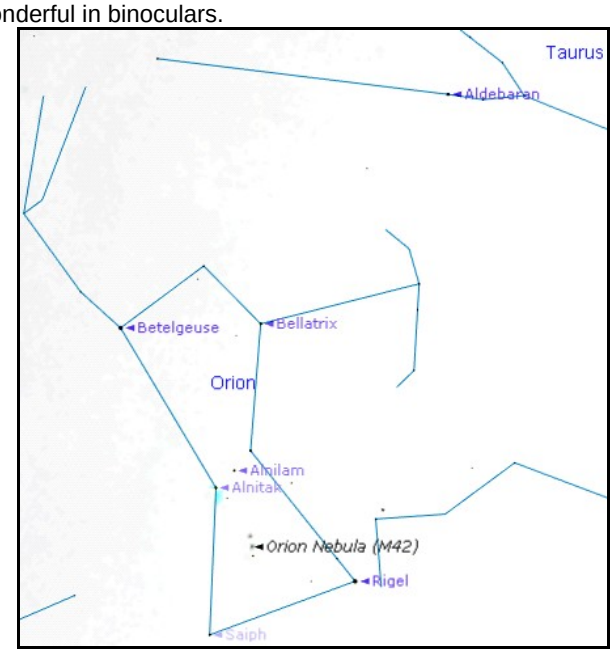


Moon Phases



Orion and M42 – The Orion Nebula

The Great Nebula in Orion is a vast cloud of gas and dust in which new stars are being born. Located at the middle of the Orion's Sword—a line of stars "hanging" beneath Orion's Belt--this stellar nursery lies about 1600 light years away, and is about 30 light years across. From Earth, the nebula covers an area of the sky four times greater than the Full Moon. The visible part of the nebula, however, is actually a small part of a much larger cloud, which spans more than 10 degrees of the sky, covering half of the constellation of Orion. This region looks wonderful in binoculars.



Meteor Showers

The **Geminids** are associated with asteroid 3200 Phaethon, rather than a comet, and their meteoroids seem to be rather denser than those in most meteor showers too. Reliably good rates can be seen for around two nights over their peak, but drop away very quickly after the maximum itself. Medium-speed, and often bright, meteors. Their peak is due on 2006 December 14, within 2h20m of 10h45m UT, badly-timed for British watchers, and with a waning crescent Moon rising near 01h on nights to either side, but some dark-sky watching of the near-peak rates should remain possible.

The minor **Coma Berenicids** are poorly-known, and badly need more observing. Very swift meteors. Perfect for December's new Moon.

The **Ursids** are linked with Comet 8P/Tuttle (period around 13.5 years; next at perihelion in late December 2007). Their peak rates can be quite variable from about 10-50, with especially good activity last in 1986. Medium to slow meteors. The maximum on December 22 is due near 19h-22h UT, excellent for Britain, complete with no Moon!

From: http://www.popastro.com/sections/meteor/showers.htm

Quick Facts

One light year = 10 million million km (approx)
Speed of light = 300,000 km/s (approx)
One AU (Astronomical Unit) = 150 million km (This is the average distance from the Earth to the Sun)
The average distance to the Moon = 382,500 km
Distance to the closest star = 4.2 ly (Proxima Centauri)

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Here is the view southwards for mid-December. The view shows many of the easily recognisable constellations and a few of the more prominent deep sky features e.g.

Messier object M31 – The Andromeda Galaxy – The closest major galaxy to our Milky Way at a distance of about 2.4 million light years. It can be found in the constellation of Andromeda and is the farthest object that can be seen with the naked eye. It is 150,000 light-years wide. Recently, the Hubble Space Telescope found that Andromeda has a double nucleus. This second nucleus is probably from an ancient collision with a smaller galaxy.

Messier object M45 – The Pleiades Cluster – Also known as the Seven Sisters – This open cluster contains approx 500 stars! Only about 6 or 7 can be seen with the unaided eye but many more can be seen through binoculars and even more through a telescope.