



Island Planetarium

Monthly Sky Guide – October 2024

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Greetings Stargazers,

The Autumnal Equinox occurred on September 22nd and was our stepping stone to Autumn. The Sun begins to set earlier each night by just a few minutes thus making hours of darkness longer and more favourable for astronomical observation.

*This month sees the arrival of **Comet ATLAS**, so I'm going to dedicate all of Octobers article to this, but before we talk about it, some general information about Comets.*

Where do Comets live? Located on the outskirts of our Solar System, the Kuiper Belt is a “junkyard” of countless icy bodies left over from the Systems formation far beyond the orbit of Neptune.

Beyond Pluto lies the “Oort Cloud” which also contains billions of Comets. Their orbits may be so large they visit the Earth once. Others like Halley’s Comet return faithfully every 76 years or so, it last appeared in 1986 and is expected to return in 2061.

What are Comets made of? Well, they are best described as a dirty, rocky, snowball, and range in size from a few miles to tens of miles wide. However, as they journey closer to our Sun, they heat up, and spew gases and dust into a glowing head that can be larger than a planet.

Comet behaviour. Some Comets like Halley’s are large enough to be stable, and make a regular return. However, others frequently fail to survive the orbit around the Sun and disintegrate or break up before starting their outward leg back into space. Over the last 50 years of being an amateur astronomer, I have lost count of the number of Comets that were predicted to be the “Comet of the Century” only for them to be so faint it was difficult to see them without a large telescope.

And so to Comet -ATLAS so called after 2 Observatories that found it. Tsuchinshan in China and the Asteroid Terrestrial-impact Last Alert System in the USA confirmed its finding in January 2023. Excitement among astronomers is now growing as it moves closer towards its peak visibility in the middle of the month.

From the IOW, if ATLAS continues to behave as predicted, it’s expected to be at its best on and around the 12th. It is currently just about naked eye brightness and binoculars or a telescope will show the nucleus in greater detail. The tail can stretch out into space for millions of miles. The tail is produced by the dust and gas from the Nucleus, and may produce two tails, one of gas and one of dust. ATLAS is only a few kilometers wide.

As with all Comets, we need to be patient, and not expect too much, or more importantly not become too excited too soon, as they are very unpredictable in nature. That said, I am looking forward to seeing our friend ATLAS from the depths of outer space, once it has successfully completed its orbit around our Sun. It may emerge from Solar Orbit fainter or brighter than predicted. I’m prepared for either outcome.

It remains for me to wish you clear skies, happy viewing and a successful Comet ATLAS experience to you all.

John Ward
Amateur Astronomer
Island Planetarium