

THE SKY THIS MONTH

OCTOBER 2007

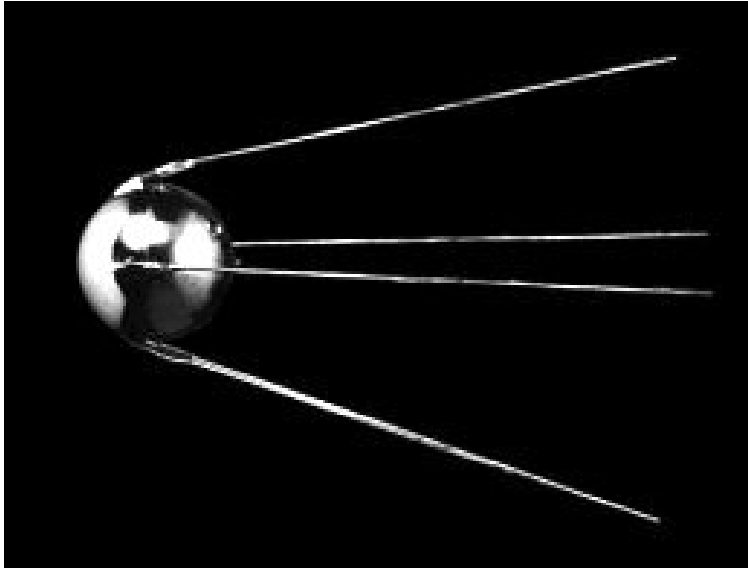
THE FIFTIETH ANNIVERSARY OF THE SPUTNIK SATELLITE

October 4th marks the 50th anniversary of the USSR's launch of Earth's first artificial satellite Sputnik 1. This momentous event was directly responsible for the creation of the American NASA space program.

Today, there are over 11,000 satellites orbiting the Earth. Our satellite population provides vital services (including global communications, weather forecasting and GPS navigation) to the world 24/7.

You might see several moving "stars" in your night sky from time to time. These are artificial satellites launched by us. These are not to be confused with meteors, which move much faster.

As you observe these satellites, marvel at how humanity went from launching Sputnik to constructing our present-day satellite infrastructure, including the International Space Station, in just 50 years!



Sputnik weighed 84 kilograms and was 0.5 metres in diameter. Its immediate successor, Sputnik 2, carried a stray dog (Laika) into orbit.



This 1957 USSR stamp reads: “4 October 1957: The First-ever Soviet Artificial Satellite of the Earth”. Image by Michael A. Earl

Canadian Satellite Tracking and Orbit Research (**CASTOR**) is celebrating Sputnik’s anniversary by tracking 1,957 satellites in 2007. Since January 1, it has tracked over 1,600 satellites. Monitor its progress by visiting www.castor2.ca.

A BIG MOON

When we see the Moon, it looks like it is the same diameter all the time (ignoring the phases). We might conclude that the Moon is at a constant distance from us (a circular orbit). The Moon's orbit is actually slightly elliptical; bringing it closer and further from us periodically every single month. On the 13th it will be 406,500 kilometres away. On the 26th it will be 356,800 kilometres away. The full Moon of October 25th will appear 0.56 degrees in diameter; the largest full Moon of 2007. Compare this with 0.49 degrees on October 13th.



Relative sizes of the Moon at its closest (left) and furthest (right) distance from the Earth. The Moon gradually changes its distance from the Earth every day. Its apparent diameter gradually changes as a result. Image by Michael A. Earl.

OCTOBER'S PLANETS

Venus can be seen in dawn's eastern sky as an extremely bright "star".

Mars rises at 11 p.m. at mid month and can be seen as a bright red-orange object in the eastern sky. The red planet will be visible in the constellation Gemini for the entire month.

Jupiter begins its descent into the twilight glow. At the beginning of the month it will be very prominent in the south-western sky after sunset. By the end of the month, it will be closer to the twilight glow.

THE SKY LAST MONTH – SEPTEMBER 2007



The Sagittarius Milky Way shines at the September 1 Mill of Kintail Star Party. A small amount of light pollution will totally obscure this wonderful sight. Image by Michael A. Earl.

THE SKY NEXT MONTH – NOVEMBER 2007

Close Encounters!
View Jupiter's Solar Eclipses
Mars Takes the Reigns

Questions, comments, observations and/or images can be sent to skythismonth@castor2.ca. We welcome your input!