

# Eye on the Sky: November 2009

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## Spotlight on the Pleiades

It might not be January yet but it is the new year this month...the Hawaiian new year, that is. Known as Makahiki, the Hawaiian new year begins when the first visible crescent of the waxing moon is seen after the star cluster Makali'i (Pleiades) rises at sunset. This celestial event takes place annually in November or December, and this year takes place on November 18.

The Hawaiian word "Makali'i" means the "little eyes", an appropriate moniker for this cluster of bright stars. Although there are actually over 1000 stars included in this cluster, it is dominated by about six or seven bright stars that are visible to the unaided eye. The ability to see seven stars in this cluster was used as a test of good eyesight in old Hawaii. In modern astronomy, this same group of stars is identified as M45, also called the Pleiades. According to Greek mythology, the Pleiades are seven sisters who were placed in the sky by Zeus, after they pleaded with him to help them escape the unwanted advances of the hunter Orion. The Japanese call these stars Subaru. The next time you see a Subaru car, look for this star cluster shining prominently in the logo.

On Tuesday, November 3, the moon occults the Pleiades, but only the end of this celestial event will be visible in Hawaii. In astronomy, an "occultation" is when a celestial body passes in front of a smaller object, causing the more distant object to be hidden from view. As seen from Hawaii, the Pleiades will be kissing the upper limb of the moon as they rise. The moon's glare will conspire to hamper the view, but using binoculars might help. If you have a clear view of the eastern horizon, watch as the moon slowly reveals the Pleiades as it moves higher in the sky. By 10:30 p.m., the Pleiades will be free and clear of the moon, allowing a full view of the star cluster.

The Pleiades can be seen in the night sky throughout November. Early in the month, they rise in the east just before 7:00 p.m. and are visible until dawn. By the end of the month, the Pleiades will already be above the horizon by sunset. Look for a bright cluster of stars in the constellation Taurus, not far from Orion's belt.

If you are interested in learning more about the Hawaiian new year, Native Hawaiian astronomer Dr. Paul Coleman will speak about "Makahiki in Old Hawai'i" at Windward Community College on November 18, from 12:30 to 1:15 p.m. in 'Akoakoa 105. For more information about this free event, please contact [nancyali@hawaii.edu](mailto:nancyali@hawaii.edu).

## **Leonid Meteor Shower**

Meteor experts are predicting that this year's Leonid shower may be a wonderful show. Meteor showers occur when the Earth moves through debris from a nearby comet. This November, the Earth will be passing near the center of the debris stream from Comet Tempel-Tuttle, likely increasing the frequency of visible meteors. The peak night of this meteor shower is November 16-17. Fortunately, it is also new moon on this night, which means that there will be no natural interfering light. The meteors will appear to radiate from the constellation Leo the lion, which rises in the east after midnight. For best viewing, head out in the hours before dawn on November 17 and look east.

## **Moon & Jupiter**

On the evening of November 23, look for a beautiful conjunction of the nearly half moon and the bright planet Jupiter. Visible after sunset, the moon chases Jupiter across the southern sky until the duo set by midnight.

*For information about the Hōkulani Imaginarium's shows and special events, please visit <http://aerospace.wcc.hawaii.edu/imaginarium.html>.*