

April 2015 Skies

Date

Event

Saturday, April 4th:	Hoku (Full Moon) at 2:06am HST Total Lunar Eclipse begins at 12:16am HST, ends at 3:45am HST
Saturday, April 11th: Mon, Apr 13th –	Kāloakūkahi (Third Quarter Moon) at 5:44am HST
Sat, Apr 18th:	International Dark Sky Week 2015
Saturday, April 18th:	Muku (New Moon) at 8:57am HST
Wednesday, April 22nd:	Lyrids Meteor Shower
Saturday, April 25th:	Olekūkahi (First Quarter Moon) at 1:55pm HST

On April 1st, sunrise is at 6:14am and sunset is at 6:35pm. On April 30th, sunrise is at 5:52am with sunset occurring at 6:43pm. Daylight will increase this month by about 31 minutes. It will go from 12 hours and 20 minutes on April 1st to 12 hours and 51 minutes on April 30th.

The week of Monday, April 13th is International Dark Sky Week 2015. Started by Virginia high-schooler Jennifer Barlow in 2003, this week always falls on or near the new moon in April. Its purpose is to raise awareness of light pollution, start conversations on how it can be mitigated and to simply, in the words of Ms. Barlow, “enjoy and appreciate the beauty of the cosmos.” This week make sure you turn off all unnecessary outdoor lights and encourage others to do the same. Most importantly though, don’t forget to look up.

*Though my soul may set in darkness,
it will rise in perfect light.*

*I have loved the stars too fondly,
to be fearful of the night.*

— Sarah Williams (1837-1868) from *The Old Astronomer*

April 2015 Highlights

The premier celestial event this month is the lunar eclipse during the full moon on Saturday, April 4th. Here in Hawai‘i will be one the best places on Earth to view this total lunar eclipse. A lunar eclipse is when the Moon passes through the shadow (called the umbra) of the Earth, turning the moon red. This colour is why lunar eclipses are often called “Blood Moons.” For a blood moon or total lunar eclipse to occur, the sun, earth, and moon must be perfectly aligned. This does not happen too often as the moon does not orbit the earth in the same plane as the earth orbits the sun.

The eclipse will begin when the moon starts to enter the earth’s penumbra or partial shadow at 11:01pm on April 3rd. The moon will begin entering the umbra and start turning red at 12:16am on April 4th. This will last until 3:45am when it exits the umbra. The moon will clear the penumbra at 4:59am (all times in HST [UT -10:00]).

In addition to the lunar eclipse at the beginning of the month, we will also have a meteor shower. The Lyrids Meteor Shower peaks on Wednesday, April 22nd. Like all meteor showers you will likely be able to spot “shooting stars” for a few nights before and after the peak. This is not a major shower: the peak rate will only be around 20 meteors per hour. They will appear to come from the constellation Lyra. Lyra contains the bright star Vega (of *Contact* fame), which is one of the three stars that make up the Summer Triangle asterism.

April 2015 Highlights

Venus can be found in the western sky after sunset. Due to its brightness (second only to the moon), Venus will likely be the first object to appear in the fading twilight. Find it just after sunset in the west.

As Venus sets, look high in the eastern sky for the king of the planets, Jupiter. Jupiter, a gas giant world more massive than all seven other planets combined, shines brightly and will be visible for most of the night. Also view Jupiter through a telescope, or even a steadily-held pair of binoculars, if possible. Through such devices one can observe Jupiter's Galilean moons: Io, Europa, Ganymede, and Callisto in orbit around the planet.

You will need to wait a couple hours for the next planet to rise. Around 11:00pm Saturn will appear in the east. This ringed planet is the most distant world visible to the unaided human eye. Saturn is located just above Antares, the red supergiant often called "the Heart of the Scorpion" for the central position it holds in the constellation Scorpius. In Hawai'i, Antares is named *Lehuakona* and Scorpius is *Ka Makau Nui O Māui* (Maui's Fishhook). Both are part of the starline *Mānaiakalani* (The Chief's Fishline).

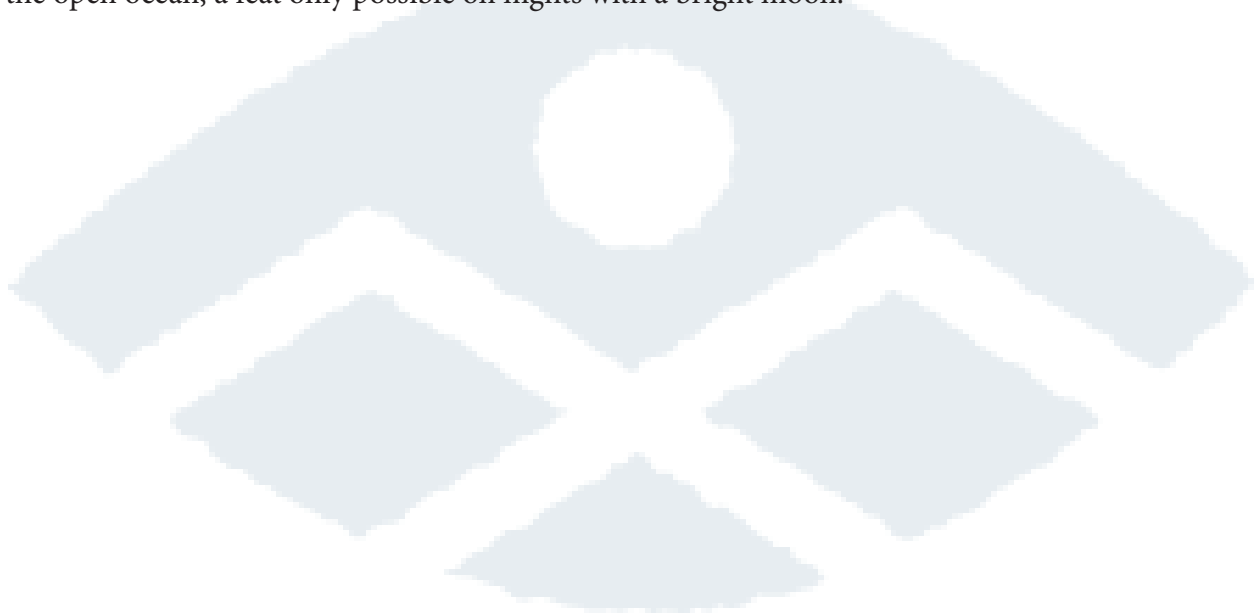
In dark skies, the Andromeda Galaxy can be found in the early evening. It is located, rather obviously, in the constellation Andromeda, next door to the W-shaped constellation of Cassiopeia—also known as *Iwi Keli'i*, part of the starline of *Ka Lupe o Kawelo* (The Kite of Kawelo) in Hawaiian astronomy.

The beautiful open star cluster of the Pleiades is visible all month. This star cluster is also known as *Makali'i* here in Hawai'i and as Subaru in Japan. This star cluster was the inspiration for the logo on Subaru vehicles.

Within the winter constellation of Orion, one can find the Orion Nebula. The Orion Nebula is the closest region of star formation to us here on Earth. It is just below the famous Belt of Orion, in a fainter line with two stars.

Rising in the east, we find the brightest star in the sky, Sirius. This star, also known as 'Aā, part of the starline *Ke Kā O Makali'i* (The Bailer of Makali'i), creates with Jupiter a beautiful pair of bright objects in the April sky.

At the beginning of the month the famous Southern Cross—also known as *Hānaiakamalama* (Cared For by the Moon or Foster Child of the Moon) can be found rising in the, you guessed it, southern sky after 10:00pm. By the end of the month it will be visible as early as 8:30pm. Its Hawaiian name comes from its use as a navigational tool by Hawaiian and Polynesian navigators. The technique using this object requires being able to find the horizon at night in the open ocean; a feat only possible on nights with a bright moon.





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April Sky Chart

