

Blues for the second full moon of July

July 28 2015, by David Dickinson



An artificially created 'blue moon,' using the white balance settings on the camera. Credit: John Chumack

Brace yourselves for blue moon madness. The month of July 2015 hosts two full moons: One on July 2nd and another coming right up this week on Friday, July 31st at 10:43 Universal Time (UT)/6:43 AM EDT.

In modern day vernacular, the occurrence of two full moons in one calendar month has become known as a 'blue moon.' This is a result of the synodic period (the amount of time it takes for the moon to return to a like phase, in this case full back to full) of 29.5 Earth days being less than every calendar month except February.

In the 'two full moons in one month' sense, the last time a blue moon occurred was on August 31st, 2012, and the next is January 31st, 2018. The next time a blue moon occurs in the month of July is 2034, and the last July blue moon was 2004.

We say "once in a blue moon," as if it's a rarity, but as you can see, they're fairly frequent, occurring nearly once every 2-3 years or so.

Now, we'll let you in on a secret. Like its modern internet meme cousin the 'Super-moon,' astronomers don't sit in mountain top observatories discussing the vagaries of the blue moon. In fact, astronomers rarely like to observe during the weeks surrounding the light-polluting full moon, and often compile data from the comfort of their university offices rather than visit mountaintop observatories these days...

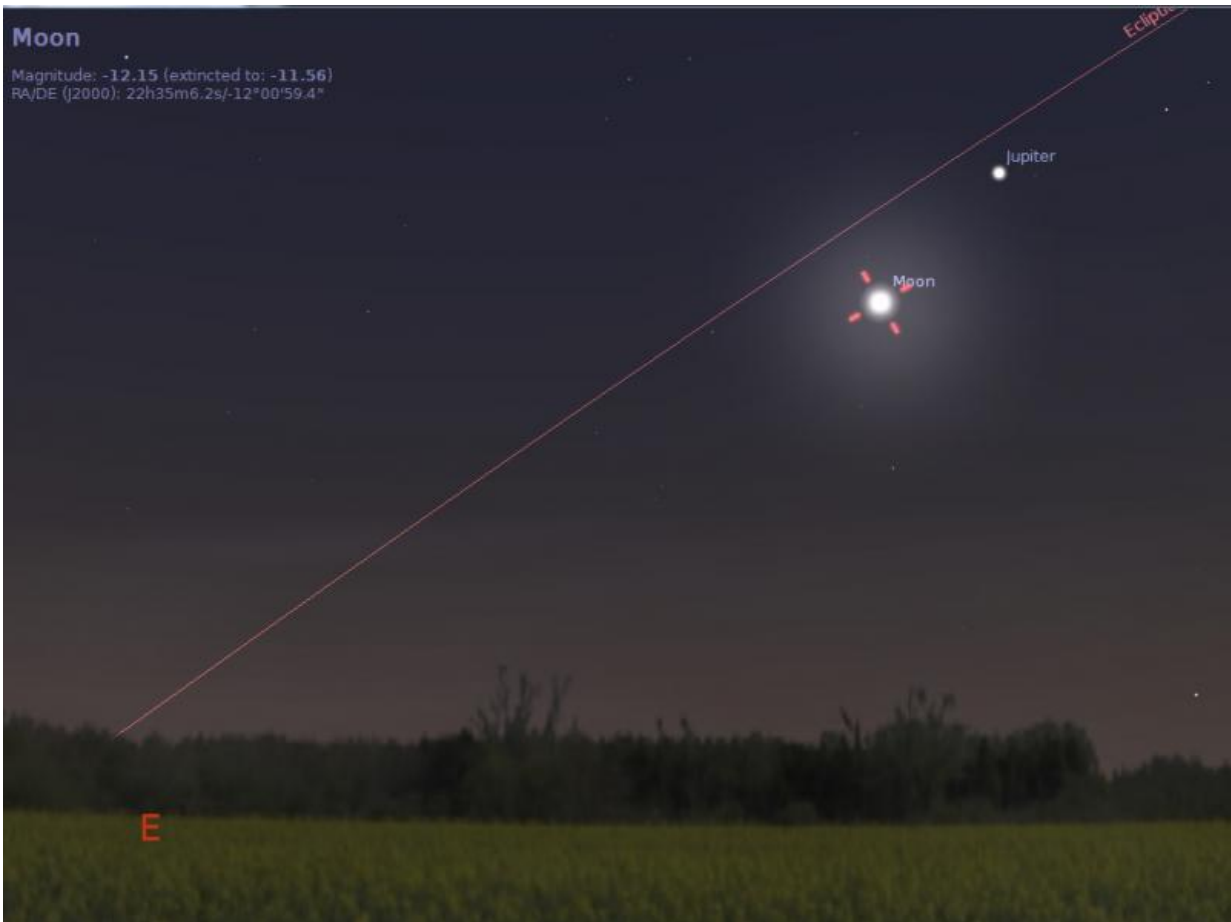
The modern blue moon is now more of a cultural phenomenon. We've written previously about how an error brought us to the current 'two full moons in one month definition.' A more convoluted old timey definition was introduced in ye ole Maine Farmer's Almanac circa 1930s as "the third full moon in an astronomical season with four."

Legend has it that the Maine Farmer's Almanac denoted this pesky extra seasonal [full moon](#) with 'blue' instead of black ink... to our knowledge, no examples exist to support this intriguing tale. Anyone have any old almanacs in the attic holding such a revelation out there?

We've also laid out the occurrences for both types of blue moons for the

remainder of the decade, as well as its New moon cousin and internet meme to be, the black moon.

Of course, the moon most likely won't appear to be physically blue, no matter what friends/family/co-workers/anonymous persons on Twitter say. The moon can actually appear blue, as it did on September 23rd, 1950 for much of the eastern United States and Canada through the haze of several forest fires in western Canada. The moon was actually at waxing gibbous phase on the evening of this phenomenon, and as far as we can tell, no photographic documentation of this event exists. Spaceweather, has, however gathered a gallery of blue moon eyewitness reports over the years, including a few images. This occurs when moonlight is filtered through suspended oil drops about a micrometer in diameter which scattered yellow and red light, leaving a moon with a ghostly indigo glow.



The rising waxing gibbous moon on the night of September 23rd, 1950. Credit: Stellarium

So there's definitely another challenge to catch and photograph a truly 'blue moon' under such rare atmospheric circumstances... and remember, the moon doesn't have to be near full to do it!

Watch that moon, as we've got a few red letter dates coming up through the remainder of 2015. First up: the supermoon season cometh in August, as we have a series of three full moons falling less than 24 hours from perigee on August 29th, September 28th, and October 27th. Our money is on that middle one as having the potential to generate the most

online lunacy, as it's also the last [total lunar eclipse](#) of the current tetrad of four total lunar eclipses for 2014 and 2015, a 'super-blood moon eclipse' anyone? Though the dead won't rise from the grave to mark such an occasion, you can be sure that many a sky aficionado will stumble zombie-like into the office the next day after pulling an all-nighter for the last good North American total lunar eclipse until 2018.



The 2012 Blue Moon as seen rising from Hudson, Florida. Credit: Dave Dickinson

And it's worth noting the path of the moon, as it reaches its shallow midpoint in the last half of 2015. The moon's orbit is tilted about five degrees relative to the ecliptic, meaning that it can ride anywhere from 18 degrees—as it does this year—to 28 degrees from the celestial equator. This cycle takes about 19 years to complete, and a wide-ranging 'long nights moon' last occurred in 2006, and will next occur in 2025.

So don't fear the blue moon, but be sure to take a stroll under its light this coming Friday... and perhaps enjoy a frosty [blue moon](#) beer on the eve of the sultry month of August.

Source: [Universe Today](#)

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