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# ASTRO

## The Partner School Science Program Newsletter

### Blue Moon on New Year's Eve

Party planners take note: for the first time in almost twenty years, there's going to be a Blue Moon on New Year's Eve.

"I remember the last time this happened," says Professor Philip Hiscock of the Dept. of Folklore at the Memorial University of Newfoundland. "December 1990 ended with a Blue Moon, and many New Year's Eve parties were themed by the event. It was a lot of fun."

Don't expect the Moon to actually turn blue, though. "The 'Blue Moon' is a creature of folklore," he explains. "It's the second full Moon in a calendar month."

**Right:** The full moon of Dec. 2, 2009, over Turan, Italy. Photographer Stefano De Rosa notes that the blue colors are cast by Christmas lights surrounding the pictured church.

Most months have only one full Moon. The 29.5-day cadence of the lunar cycle matches up almost perfectly with the 28- to 31-day length of calendar months. Indeed, the word "month" comes from "Moon." Occasionally, however, the one-to-one correspondence breaks down when two full Moons squeeze into a single month. Dec. 2009 is such a month. The first full Moon appeared on Dec. 2nd; the second, a "Blue



Moon," will come on Dec. 31st.

This definition of Blue Moon is relatively new.

If you told a person in Shakespeare's day that something happens "once in a Blue Moon," they would attach no astronomical meaning to the statement. Blue Moon simply meant rare or absurd, like making a date for the Twelfth of Never. "But meaning is a slippery substance," says Hiscock. "The phrase 'Blue Moon' has been around for more than 400 years, and during that time its meaning has shifted."

The modern definition sprang up in the 1940s. In those days, the Farmer's Almanac of Maine offered a definition of Blue Moon so convoluted that even professional astronomers struggled to understand it. It involved factors such as the ecclesiastical dates of Easter and Lent, and the timing of seasons according to the dynamical mean sun. Aiming to explain blue moons to the layman, *Sky & Telescope* published an article in 1946 entitled "Once in a Blue Moon." The author James Hugh Pruett cited the 1937 Maine almanac and opined that the "second [full moon] in a month, so I interpret it, is called Blue Moon."

That was not correct, but at least it could be understood. And thus the modern Blue Moon was born.

Blue moon has other connotations, too. In music, it's often a symbol of melancholy. According to one Elvis tune, it means "without a love of my own." On the bright side, he croons in another song, a simple kiss can turn a Blue Moon pure gold.

The modern astronomical Blue Moon occurs in some month every 2.5 years on average. A Blue Moon falling precisely on Dec. 31st, however, is much more unusual. The last time it happened was in 1990, and the next time won't be until 2028.

So cue up that old Elvis record and "enjoy the extra moonlight on New Year's Eve," says Hiscock. "It only happens once in a Blue Moon."

[http://science.nasa.gov/headlines/y2009/29dec\\_bluemoon.htm?list978193](http://science.nasa.gov/headlines/y2009/29dec_bluemoon.htm?list978193)

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