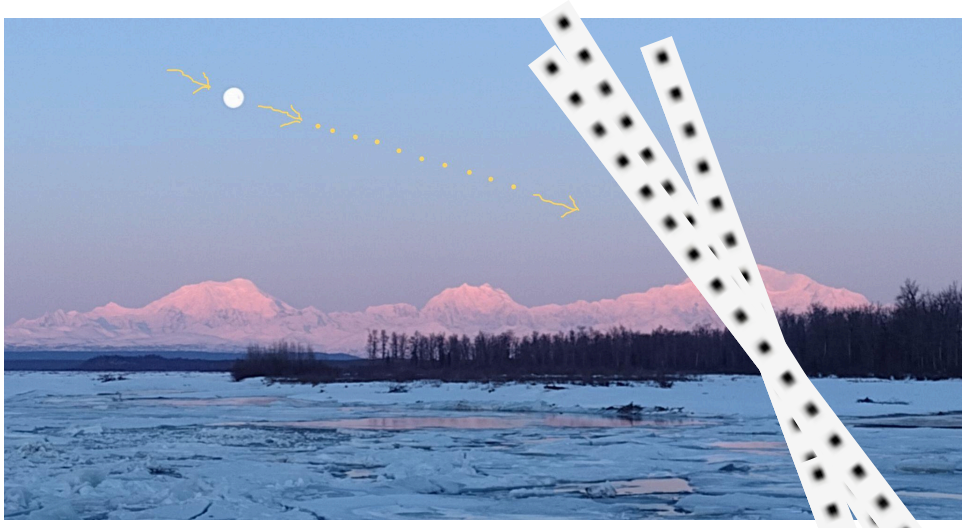


The Moon does not always travel the same path through the background stars. Each time it passes Regulus, for example, it can be above, right in line with (which results in an occultation somewhere on the globe), or below the brightest star in Leo. Each month is a little different, in an 18.6 year cycle.

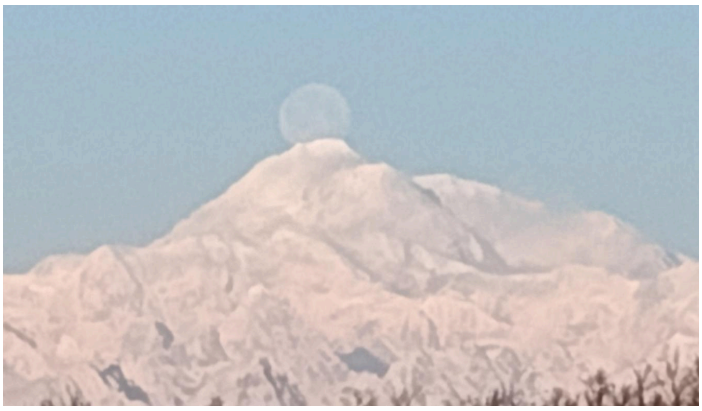
This “paper” is not intended to explain WHY, but it will show how special it is for us to have a few years every 18 with the Moon (each month in a progression of phases) at such a high declination as to make it scoot ABOVE (or through) the peak of Denali. The REASON is interesting, but that’s material for a different study.

On Friday December 5th, several Talkeetna people observed and photographed the day-after-full Moon centered on Denali’s south peak (the highest of the 2, and the one that is on the left as viewed from the KTNA broadcast area).
Roger was at “Rubberneck” at the end of the pavement on the Christiansen Lake Road (dot with Red center). I (Kathleen) was at the end of Main Street, at the confluence of rivers (dot with Brown). And Willi was at an elevated location about a mile west of the TKA Spur Rd around mile 3 (dot with Green).
The observer whose line of sight is furthest to the east of a standard (mine) will see the Moon directly over the peak of Denali first. And, without regard to the observer’s elevation or the distance from the mountain, the

moon will appear higher because it is on a downward trajectory, and so the earlier the alignment the higher the moon. Roger, at a location east of me, was 1st and highest. Here's Roger's photo. The time he took this one was at 11:28 AM. Moon elevation 3° 35', azimuth (direction) from his location 330.2°.

NOTE: Full Moon is ~0.5° (30') diameter.

My line of sight from the end of Main Street was in the middle. Here's my photo taken at 11:35. I'd say nearly 1/4 of the moon was behind the peak.



Time: 11:35 AM
Elev: 3° 10'
Azimuth: 331.7°

NOTE: 12-5-25 Moon's declination was 27° 17', Sun's max on S Solstice is 23°26'.

Willi also sent me a series of pics. The one aligned with the peak of Denali was taken at 11:49. My guestimate is that slightly more than ½ the diameter of the Moon is behind the south peak.

Time: 11:49 AM
Elev: 2° 29'
Azimuth: 334.6°

NOTE: In order to exactly predict future times when the Moon will be aligned with the peak, the observer's Azimuth to the mtn must be known. I determined these by specifying the time of the photo on heavens-above.com interactive sky chart, and seeing the exact position of the Moon. Ask me to explain how and I'll show you. ;-)

This "study" is by Kathleen Fleming, creator of StarDate Susitna on KTNA (12-11-25)