

| Lunar Ephemeris | | | | Naval Observatory** | | | | The moon might be seen due north, approx. local time |
|---|----|-------------|-------|---|----|------|----|--|
| Days each month of highest declination* | | | | Rise/set times 149° 52'W, 61° 16'N AK Standard Time | | | | |
| Date | | Declination | Phase | set | | rise | | |
| month | DA | (d ' ") | | h | m | h | m | |
| 2006 | | | | summer GMT-8 hr | | | | |
| SEP | 13 | 25 15 29.1 | 0.66 | 18 | 25 | 20 | 29 | 7:27 PM |
| SEP | 14 | 27 48 34.0 | 0.55 | ** | ** | ** | ** | 8:30 PM |
| SEP | 15 | 28 43 11.0 | 0.45 | 20 | 12 | 22 | 39 | 9:20 PM |
| SEP | 16 | 28 2 37.1 | 0.35 | 20 | 10 | | | 10:20 PM |
| SEP | 17 | 25 57 7.3 | 0.25 | 20 | 7 | | 30 | 11:10 PM |
| OCT | | | | winter GMT -9 hr | | | | |
| OCT | 11 | 27 3 12.2 | 0.80 | 17 | 42 | 18 | 50 | 6:15 PM |
| OCT | 12 | 28 33 38.8 | 0.71 | 18 | 22 | 20 | 12 | 7:07 PM |
| OCT | 13 | 28 21 11.3 | 0.61 | 18 | 22 | 22 | 5 | 8:00 PM |
| OCT | 14 | 26 36 32.7 | 0.50 | 18 | 20 | 23 | 52 | 9:00 PM |
| NOV | | | | winter GMT -9 hr | | | | |
| NOV | 7 | 25 44 39.6 | 0.97 | 13 | 54 | 16 | 1 | 3:00 PM |
| NOV | 8 | 28 1 21.4 | 0.92 | 15 | 18 | 16 | 45 | 4:00 PM |
| NOV | 9 | 28 28 38.1 | 0.85 | 15 | 30 | 18 | 34 | 5:02 PM |
| NOV | 10 | 27 13 40.5 | 0.76 | 15 | 30 | 20 | 25 | 6:00 PM |
| DEC | | | | winter GMT -9 hr | | | | |
| DEC | 5 | 27 11 27.7 | 1.00 | 12 | 52 | 14 | 30 | 1:41 PM |
| DEC | 6 | 28 22 52.0 | 0.99 | 13 | 34 | 15 | 56 | 2:45 PM |
| DEC | 7 | 27 46 17.2 | 0.95 | 13 | 39 | 17 | 50 | 3:44 AM |
| 2007 | | | | summer GMT-8 hr | | | | |
| JAN | 1 | 27 02 36 | 0.96 | 10 | 21 | 12 | 28 | 11:24 AM |
| JAN | 2 | 27 18 00 | 0.99 | 11 | 35 | 13 | 21 | 12:28 AM |
| JAN | 28 | 26 40 22 | 0.79 | 8 | 0 | 10 | 31 | 9:15 AM |
| JAN | 29 | 27 32 48 | 0.87 | 9 | 36 | 10 | 59 | 10:18 AM |
| JAN | 30 | 26 35 36 | 0.94 | 10 | 0 | 12 | 37 | 11:16 AM |
| FEB | 25 | 27 33 53 | 0.65 | 7 | 32 | 8 | 50 | 8:11 AM |
| FEB | 26 | 27 10 03 | 0.75 | 8 | 13 | 10 | 11 | 9:12 AM |
| MAR | 24 | 27 17 00 | 0.37 | 5 | 9 | 6 | 57 | 6:13 AM |
| MAR | 25 | 27 27 19 | 0.49 | 6 | 20 | 7 | 51 | 7:25 AM |
| APR | | | | summer GMT-8 hr | | | | |
| APR | 20 | 26 25 18 | 0.13 | 3 | 23 | 6 | 9 | 4:43 AM |
| APR | 21 | 27 27 50 | 0.23 | 5 | 7 | 6 | 37 | 5:52 AM |
| APR | 22 | 26 31 04 | 0.33 | 5 | 34 | 8 | 16 | 6:55 AM |
| MAY | 18 | 27 03 28 | 0.04 | 2 | 28 | 4 | 34 | 3:31 AM |
| MAY | 19 | 27 00 31 | 0.10 | 3 | 33 | 5 | 43 | 4:38 AM |

The Quest Continues...

The best chances in 70 years for observing the moon due north from Anchorage happen this winter, starting September 13, 2006, with slightly less astronomically favorable conditions each month until summer. After that, each of the next few years of the 18.6 lunar cycle is lower. The southern limit of the Lunar Arctic Circle can be established when someone documents the moon due north from somewhere near Anchorage.

The biggest problem, as always, will be low lying clouds, which obscured all the best observation days for the past couple years. The closest lunar observation to due north reported in Anchorage last year was February 8, 2006, when the moon slid behind very low clouds ~ 5 degrees of north on a clear morning.

This table differs slightly from previous versions. I've included the first few months of '07 and corrections as I find errors.

The declinations, rise/set, and due north times are far less accurate than the number of digits indicate. This is from inherent inaccuracies at high latitudes as well as using different ephemerides. A day before or after the monthly maximum declination listed might still show the north moon given suitable refraction.

Watch the moon almost set with just the top visible, then rise again; a 1-2 hour photo series showing that should be good enough proof. Good luck, and please share your observations.

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*Declinations for '06 are from NASA's web page; <http://sunearth.gsfc.nasa.gov/eclipse/TYPE/TYPE.html>
Declinations for '07 are from Virtual Moon Atlas; these two ephemerides rarely agree on maximum declination, but generally agree on the best days. Listed declinations may be inaccurate by ± 20' for the time when the moon is due north.

Moon is highest on these days

Declination degrees above ecliptic. Red shows most likely days to see the moon due north

fraction of full moon

Midway between set and rise, not always due north, but close

** The US Naval Observatory's calculator; http://aa.usno.navy.mil/data/docs/RS_OneYear.html#notes; gives the rise/set times, which were merged into this file. I used latitude 61° 16' (~3.5 miles north of 5th Ave.), the lowest latitude this calculator says the moon stays up all day (on 9/14/06), and longitude 149° 52' (about Gambell St.) which is far enough west to have a low northern horizon. Alaska Standard Time is 9 hours west of Greenwich in winter and 8 hours west in summer (April through October, pink text). This rise/set calculator incorporates date specific corrections for parallax, rise/set definition, and standard atmospheric refraction. The Anchorage Daily News reports the rise/set times on the weather page, using latitude 61° 13' (about 6th Ave.).