

# MARCH 2010 CELESTIAL CALENDAR BY DAVE MITSKY

All times, unless otherwise noted, are UT (subtract five hours and, when appropriate, one calendar day for EST and four hours for DST after March 14)

- 3/2 Saturn is 8 degrees north of the Moon at 10:00
- 3/5 Mercury is at its greatest heliocentric latitude south today
- 3/7 The Moon is 1.3 degrees north of the bright first magnitude star Antares (Alpha Scorpii) at 2:00; a double Galilean satellite shadow transit begins at 3:28; Last Quarter Moon occurs at 15:42
- 3/9 The Curtis Cross, an X-shaped illumination effect located between the craters Parry and Gambart, is predicted to occur at 8:56
- 3/10 A double Galilean satellite shadow transit begins at 16:25
- 3/11 Mars is stationary, with prograde (westward) apparent motion to follow, at 9:00
- 3/12 The Moon is at apogee, subtending 29'39" from a distance of 406,008 kilometers (252,282 miles), at 10:05
- 3/13 Asteroid 352 Herculina (magnitude 8.8) is at opposition at 16:00; Neptune is 4 degrees south of the Moon at 16:00
- 3/14 Daylight Saving Time (DST) begins today; a double Galilean satellite shadow transit begins at 5:22; Mercury is in superior conjunction with the Sun at 13:00
- 3/15 New Moon (lunation 1079) occurs at 21:01
- 3/17 Uranus is in conjunction with the Sun at 7:00; Venus is 7 degrees south of the Moon at 12:00; a double Galilean satellite shadow transit begins at 18:19
- 3/20 The vernal equinox occurs at 17:32
- 3/21 The Moon is 0.3 degree south of the bright open cluster M45 (the Pleiades) in Taurus at 0:00; a double Galilean satellite shadow transit begins at 7:16
- 3/22 Saturn (magnitude 0.5, size 19.6") is at opposition at 1:00; the Lunar X (also known as the Purbach or Werner Cross), an X-shaped illumination effect involving various rims and ridges between the craters La Caille, Blanchinus, and Purbach, is predicted to occur at 21:04
- 3/23 A double Galilean satellite shadow transit begins at 1:45; the Moon is 0.5 degree south of the bright open cluster M35 in Gemini at 10:00; First Quarter Moon occurs at 11:00
- 3/24 Mercury is at the ascending node today; a double Galilean satellite shadow transit begins at 20:14
- 3/25 Asteroid 2 Pallas is stationary at 3:00; Mars is 5 degrees north of the Moon at 14:00
- 3/28 The Moon is at perigee, subtending 33'04" from a distance of 361,876 kilometers (224,859 miles), at 4:59; a double Galilean satellite shadow transit begins at 9:11
- 3/29 Mercury is at perihelion today; Saturn is 8 degrees north of the Moon at 18:00
- 3/30 Mars is at aphelion (1.66594 astronomical units) today; Full Moon (known as the Crow, Lenten, and Sap Moon) occurs at 2:25; a double Galilean satellite shadow transit begins at 3:39
- 3/31 A double Galilean satellite shadow transit begins at 22:08

John Herschel (1792-1871), Percival Lowell (1855-1916), Albert Einstein (1879-1955), and Walter Baade (1893-1960) were born this month.

After evening twilight, the zodiacal light is visible in the west from a dark site during early March.

A lunar occultation of some of the bright Pleiads can be seen from Latin America on the evening of March 20. Observers in much of North America will be able to see the waxing crescent Moon occult several of M45's fifth and sixth magnitude stars. See <http://www.lunar-occultations.com/iota/pleiades/pleiades.htm> for additional information. The Moon is located in Leo and is 14.9 days old at 0:00 UT on March 1. It's at its greatest northern declination of +25.3 degrees on March 22 and its greatest southern declination of -25.6 degrees on March 7. Latitudinal libration is at a maximum of +6.7 degrees on March 3 and +6.6 degrees on March 30 and a minimum of -6.6 degrees on March 17. Longitudinal libration is at a maximum of +7.5 degrees on March 5 and a minimum of -6.3 degrees on March 21. The first photograph of the Moon was taken on March 23, 1840. Visit <http://www.astronomyblogs.com/member/saberscorpj/?xjMsgID=50821> for tips on spotting extreme crescent Moons. Times and dates for the lunar light rays predicted to occur this month are available at <http://www.lunar-occultations.com/rlo/rays/rays.htm>

The Sun is in Aquarius on March 1 at 0:00 UT. It crosses the celestial equator at 12:32 p.m. EDT on March 20, bringing spring to the northern hemisphere.

Brightness, apparent size, illumination, distance from the Earth in astronomical units, and location data for the planets and Pluto on March 1: Mercury (-0.7 magnitude, 4.9", 95% illuminated, 1.36 a.u., Aquarius), Venus (-3.9 magnitude, 10.0", 98% illuminated, 1.67 a.u., Aquarius), Mars (-0.6 magnitude, 12.1", 96% illuminated, 0.77 a.u., Cancer), Jupiter (-2.0 magnitude, 33.0", 100% illuminated, 5.98 a.u., Aquarius), Saturn (0.6 magnitude, 19.4", 100% illuminated, 8.57 a.u., Virgo), Uranus (5.9 magnitude, 3.3", 100% illuminated, 21.05 a.u., Pisces), Neptune (8.0 magnitude, 2.2", 100% illuminated, 30.98 a.u., Capricornus), and Pluto (14.0 magnitude, 0.1", 100% illuminated, 32.19 a.u., Sagittarius).

Visibility of the classical planets at midmonth from 40 degrees north latitude: Venus sets in the west at 8:00 p.m.; Mars transits the meridian at 10:00 p.m.; Saturn rises in the east at sunset, transits at midnight, and sets in the west at sunrise.

Mercury and Venus can be seen in the west, Mars in the southeast, and Saturn in the east in the evening. Mars is located in the west and Saturn in the southeast at midnight. Jupiter is in the east and Saturn is in the west in the morning sky.

Mercury is located in the west during evening twilight in late March. On March 31, Mercury and Venus are three degrees apart. The two inferior planets are ten degrees above the horizon half an hour after the Sun sets on that date.

At the end of the month, Venus reaches an altitude of twelve degrees 30 minutes after sunset, eight degrees greater than its position on March 1. Venus changes very little in brightness and appearance during the course of March.

Mars is fainter than magnitude -0.5 on March 5. The apparent diameter of Mars drops below ten arc seconds on March 22 and its apparent brightness decreases to less than zero magnitude three days later. On March 30, Mars is greater than 1.0 a.u. from the Earth. The following Martian surface features will be well-placed for observers in North America on the indicated dates: Tharsis Ridge (March 1), Solis Lacus (March 8), Mare Acidalius (March 15), Arabia (March 22), and Syrtis Major (March 29).

Jupiter reappears at dawn by mid-March but the angle of the ecliptic is not favorable for northern hemisphere observers. On March 31, Jupiter rises approximately 50 minutes before the Sun does. Data on the Galilean satellites is available at <http://skytonight.com/observing/objects/javascript/3307071.html>

Saturn reaches opposition on the night of March 21, which means that it rises at sunset, transits the meridian at local midnight, and sets at sunrise. At opposition, the ring tilt angle is 3.2 degrees. Eight-magnitude Titan is northeast of Saturn on March 6, southwest of Saturn on March 14, northeast of Saturn on March 22, and southeast of the planet on March 29. On the night of March 9, eleventh-magnitude Iapetus is less than 2 arc minutes north of the Ringed Planet. Dione, Rhea, and Enceladus lie to the west of Saturn

and Titan, Tethys, and Mimas lie to the east on the same night. Mimas and Enceladus are at their farthest from Saturn and Iapetus is at its closest to the planet. For further information on Saturn's satellites, browse <http://skytonight.com/observing/objects/javascript/3308506.html>

Uranus is in conjunction with the Sun on March 17 and consequently is not visible this month.

Neptune appears again low in the morning sky but is more easily seen by observers in the southern hemisphere.

Pluto is not readily observable this month.

During March, asteroid 4 Vesta diminishes in magnitude from 6.2 to 6.8 as it heads northwestward through the Sickle of Leo. It passes three degrees to the west-northwest of the second-magnitude star Gamma Leonis (Algieba) on March 1. By the end of March, 4 Vesta is one degree south-southeast of the third-magnitude star Epsilon Leonis. Asteroid 352 Herculina shines at magnitude 8.8 when it reaches opposition on March 13. The 231-kilometer sized asteroid is situated in Coma Berenices until the end of the month when its northwestwardly retrograde movement carries it into Ursa Major.

Comet C/2007 Q3 (Siding Spring) travels northward through Bootes and Draco this month. The tenth-magnitude comet passes two degrees to the east of the tenth-magnitude lenticular galaxy M102 (NGC 5866) and even closer to the tenth-magnitude spiral galaxy NGC 5907 on the nights of March 13 through March 15. The periodic comet 81P/Wild is located in Virgo. Visit <http://cometchasing.skyhound.com/> for additional information on these comets.

A free star map for March can be downloaded at <http://www.skymaps.com/downloads.html>

The famous eclipsing variable star Algol (Beta Persei) is at a minimum, decreasing in magnitude from 2.1 to 3.4, on March 3, 5, 8, 11, 14, 17, 20, 23, 25, 28 and 31. For more on Algol, see <http://stars.astro.illinois.edu/sow/Algol.html> and <http://www.solstation.com/stars2/algol3.htm>

Thirty binary and multiple stars for March: Struve 1173, Struve 1181, Struve 1187, Zeta Cancri, 24 Cancri, Phi-2 Cancri, Iota-1 Cancri, Struve 1245, Iota-2 Cancri, 66 Cancri, Struve 1327 (Cancer); Struve 1270, Epsilon Hydrae, 15 Hydrae, 17 Hydrae, Theta Hydrae, 27 Hydrae, Struve 1347, Struve 1357, Struve 1365 (Hydra); 3 Leonis, Struve 1360, 6 Leonis, Omicron Leonis (Leo); Struve 1274, Struve 1282, Struve 1333, 38 Lyncis, Struve 1369 (Lynx); h4046 (Puppis)

Challenge binary star for March: Struve 1216 (Hydra)

Notable carbon star for March: T Cancri (Cancer)

Thirty-five deep-sky objects for March: M44, M67, NGC 2775 (Cancer); Abell 33, M48, NGC 2610, NGC 2642, NGC 2811, NGC 2835, NGC 2855, NGC 2935, NGC 2992, NGC 3052, NGC 3078 (Hydra); NGC 2903, NGC 2916, NGC 2964, NGC 2968, NGC 3020 (Leo); NGC 2859, NGC 3003, NGC 3021 (Leo Minor); NGC 2683 (Lynx); NGC 2567, NGC 2571 (Puppis); M81, M82, NGC 2639, NGC 2654, NGC 2681, NGC 2685, NGC 2742, NGC 2768, NGC 2787, NGC 2841, NGC 2880, NGC 2950, NGC 2976, NGC 2985 (Ursa Major)

Top ten binocular deep-sky objects for March: M44, M48, M67, M81, M82, NGC 2571, NGC 2683, NGC 2841, NGC 2903, NGC 2976

Top ten deep-sky objects for March: M44, M48, M67, M81, M82, NGC 2654, NGC 2683, NGC 2835, NGC 2841, NGC 2903

Challenge deep-sky object for March: Abell 30 (Cancer)

The objects listed above are located between 8:00 and 10:00 hours of right ascension.