

What's Up, Doc? †

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This document tells you what objects are visible this next month for many of the Astronomical League Observing Programs. If you are working on one of the more advanced observing programs, then I assume that you are also probably tracking where your objects are all the time. I concentrate on the more common and starter level programs. This information is based on 9 PM **Pacific** Time.

Naked-Eye Observing Programs

Meteors – any night, any time, anywhere, the darker the sky the better. The major meteor showers are shown in **BOLD** (times are local time in Houston, TX):

<u>Shower</u>	<u>Duration</u>	<u>Maximum</u>	<u>Type</u>
Geminids	12/7 to 12/17	12/13	Major
Ursids	12/17 to 12/26	12/22	Moderate
Coma Berenicids	12/12 to 1/23	12/20	Minor
Sigma Hydrids	12/3 to 12/15	12/11	Minor
Monocerotids	11/27 to 12/17	12/8	Minor
Dec Phoenicids	11/28 to 12/9	12/6	Minor
Puppids/Velids	12/1 to 12/15	12/6	Minor

Constellations, Northern Skies – any night, any time, anywhere, the darker the sky the better.

Last Chance this cycle: Hercules, Scutum, Aquila, Microscopium.

Transit: Cepheus, Cassiopeia, Andromeda, Pegasus, Pisces, Aquarius, Cetus, Phoenix, Sculptor.

New arrivals: Auriga, Taurus, Orion, Eridanus, Fornax, Phoenix.

Binocular Observing Programs

Binocular Messier – Monthly highlights include:

Easy – 2, 15, 27, 29, 31, 34, 35, 36, 37, 38, 39, 42, 45, 50, 52, 103.

Medium – 30, 33, 78, 79, 81, 82.

Hard – 1, 32, 56, 71.

Big Binoculars – 72, 77, 110.

Deep Sky Binocular – Monthly highlights include:

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 38, 47, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60.

Other Observing Programs

Messier

In addition to those listed under Binocular Messier, check out: 43, 57, 74, 76.

Caldwell

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 27, 28, 30, 31, 33, 34, 37, 39, 41, 42, 43, 44, 46, 47, 49, 50, 51, 55, 56, 57, 62, 63, 65, 67, 70, 72.

Double Star

2, 3, 5, 6, 7, 8, 10, 13, 16, 19, 21, 23, 24, 27, 28, 30, 31, 33, 34, 36, 38, 42, 44, 46, 47, 48, 49, 50, 53, 55, 56, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 88, 89, 90, 95.

Other Observing Programs (continued)

Planetary – These are the tasks that can be done this month:

Sun – Any clear day is a good time to get those sunspots. Sunset is 1618 PT at mid-month.

Moon: The Maria requirement can be done any time the moon is visible. Look after 12/26 and before 12/12 for the best views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 12/25 and 12/26.

The Scarps requirement is best done on 12/27.

Occultations occur all the time, the bright ones can be found on the internet. Objects disappear on the East side of the moon.

Mercury, Venus, and Mars are not available in the evening sky mid-month.

Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid.

Ceres is in Cetus and is up all evening mid-month.

Jupiter is in Gemini and rises at 1825 mid-month.

Saturn is in Aquarius and sets at 2356 mid-month.

Uranus is in Taurus and is up all evening mid-month.

Neptune is in Pisces and is up all evening mid-month.

Pluto is in Capricorn and sets at 1856 mid-month.

Lunar

New Moon – 12/19 at 1743 ET

Key timings are indicated below:

4 days, 12/23 7 days, 12/26 10 days, 12/29 14 days, 12/4

Old moon in new moons arms – before 1743 PT on 12/22, 10 % illuminated. (72 hr > New)

New moon in old moons arms – after 1743 PT on 12/16, 10 % illuminated. (72 hr < New)

Waxing Crescent – before 1743 PT on 12/21, 3 % illuminated. (40 hr > New)

Waning Crescent – after 1743 PT on 12/17, 3 % illuminated. (48 hr < New)

Other Astronomical Events this month:

12/2 – Phoenicid Meteors	12/10 – Neptune Returns to Prograde Motion
12/4 – Mercury at Dichotomy	12/12 – Alpha Hydrid Meteors
12/4 – Lunar Perigee	12/14 – Geminid Meteors
12/5 – Mercury at Highest Morning Altitude	12/16 – Coma Bereniced Meteors
12/6 – December Phi-Cassiopeid Meteors	12/16 – Lunar Apogee
12/7 – Puppis-Velid Meteors	12/19 – December Leonis Minoris Meteors
12/7 – Mercury at Greatest Elongation East	12/21 – December Solstice
12/9 – Monocerotid Meteors	12/22 – Ursid Meteors

* - Although these clubs are not detailed in this “What’s Up Doc?” handout, you can get information on many of their objects by using the “What’s Up Tonight, Doc?” spreadsheet (version 4.1). To get your copy, talk to the Doc, Aaron Clevenson, by sending an email to aaron@clevenson.org. It is also available on the club website.

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