

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>Showers</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:

Ceres, the Dwarf Planet, is not visible in the evening sky.

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

Moon: The Maria requirement can be done any time the moon is visible. Look after 12/30 and before 12/16 for the best views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 12/30 and 12/31.

The Scarps requirement is best done on 12/1 and 12/31.

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

Mercury is in Sagittarius and sets at 1638 PT mid-month.

Venus is in Sagittarius and sets at 1644 PT mid-month.

Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid. See above to identify the bright ones this month.

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

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

Saturn is in Capricornus and sets at 2206 PT at mid-month.

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

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

Pluto, the Dwarf Planet, is in Sagittarius and sets at 1957 PT at mid-month.

Lunar

New Moon – 12/23 at 0216 PT

Key timings are indicated below:

4 days, 12/27 7 days, 12/30 10 days, 12/3 14 days, 12/7

Old moon in new moons arms – before 0216 ST on 12/26, 10 % illuminated. (72 hr > New)

New moon in old moons arms – after 0216 ST on 12/20, 10 % illuminated. (72 hr < New)

Waxing Crescent – before 0216 ST on 12/25, 3 % illuminated. (40 hr > New)

Waning Crescent – after 0216 ST on 12/21, 3 % illuminated. (48 hr < New)

Other Astronomical Events this month:

12/3 – Neptune ends Retrograde motion

12/5 – Lunar Occultation of Uranus

2/6 – Moon at Aphelion

12/7 – Lunar Occultation of Mars

12/7 – Mars at Opposition

12/11 – Moon at Apogee

12/15 – Neptune at Eastern Quadrature

12/21 – Mercury at Greatest Eastern Elongation

12/21 – Winter Solstice

12/22 – Jupiter at Eastern Quadrature

12/23 – Moon at Perihelion

12/25 – Venus at Aphelion

12/29 – Conjunction of Venus and Mercury

* - 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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