

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 **Eastern** 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:

Mercury is not visible in the evening sky.

Sun – Any clear day is a good time to get those sunspots. Sunset is 1647 ET at mid-month.

Moon: The Maria requirement can be done any time the moon is visible. Look after 12/7 and before 12/23 for the best views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 12/6 and 12/7.

The Scarps requirement is best done on 12/8.

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

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.

Venus is in Capricornus and sets at 2011 mid-month.

Mars is in Cancer and rises at 1945 mid-month.

Ceres, the Dwarf Planet, is in Capricornus and sets at 1923 mid-month.

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

Saturn is in Aquarius and sets at 2300 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, the Dwarf Planet, is in Capricornus and sets at 1919 mid-month.

Lunar

New Moon – 12/30 at 1227 ET

Key timings are indicated below:

4 days, 12/4 7 days, 12/7 10 days, 12/10 14 days, 12/14

Old moon in new moons arms – before 2021 ET on 12/3, 10 % illuminated. (72 hr > New)

New moon in old moons arms – after 1227 ET on 12/27, 10 % illuminated. (72 hr < New)

Waxing Crescent – before 2021 ET on 12/2, 3 % illuminated. (40 hr > New)

Waning Crescent – after 1227 ET on 12/28, 3 % illuminated. (48 hr < New)

Other Astronomical Events this month:

12/5 – Mercury at Inferior Conjunction

12/6 – Mercury at Perihelion

12/7 – Jupiter at Opposition

12/8 – Saturn / Moon Conjunction (0.3')

12/9 – Moon at Ascending Node

12/12 – Moon at Perigee

12/14 – Geminids Meteor Shower

12/18 – Mars / Moon Conjunction (0.9')

12/21 – December Solstice

12/22 – Ursids Meteor Shower

12/24 – Mercury at Greatest Elongation West

* - 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.

† - “What’s Up Doc?” is used with permission from Warner Bros. Entertainment Inc.

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