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 Programs. If you are working on one of the more advanced programs, then I assume that you are also probably tracking where your objects are all the time. I have concentrated on the more common and starter-level programs. This information is for the **Pacific Time Zone**, **Seattle**, **WA**.

Naked-Eye Programs

Meteors – any night, any time, anywhere, the darker the sky the better.

| <u>Shower</u> | Duration | Maximum | Type |
|-----------------|-----------------|----------------|----------------|
| Eta Draconids | 3/22-4/8 | 3/29-3/31 | Minor |
| Beta Leonids | 2/14-4/25 | 3/19-3/21 | Minor |
| Rho Leonids | 2/13-3/13 | 3/1-3/4 | Minor |
| Leonids-Ursids | 3/18-4/7 | 3/10 & 3/11 | Minor |
| Delta Mensids | 3/14-3/21 | 3/18 & 3/19 | Minor |
| Gamma Normids | 3/11-3/21 | 3/16 & 3/17 | Minor |
| Eta Virginids | 2/24-3/27 | 3/18 & 3/19 | Minor |
| Pi Virginids | 2/13-4/8 | 3/3-3/9 | Minor |
| Theta Virginids | 3/10-4/21 | 3/20 & 3/21 | Minor |
| March Aquarids | 2/1-4/30 | 3/15-3/18 | Daytime Shower |

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

Last Chance this cycle: Cassiopeia, Andromeda, Traingulum, Aries, Caelum.

Transit Camelopardis, Lynx, Gemini, Canis Minor, Monoceros, Canis Major, Puppis.

New arrivals: Canes Venatici, Coma Berenecis, Crater, Corvus, Antlia, Pyxis.

Binocular Programs

Binocular Messier – Monthly highlights include:

Easy -31, 34, 35, 36, 37, 38, 41, 42, 44, 45, 46, 47, 48, 50, 52, 67, 93, 103.

Medium – 33, 40, 49, 63, 64, 78, 79, 81, 82, 94.

Hard – 1, 32, 51, 65, 66, 97, 101, 106.

Big Binoculars – 58, 59, 60, 61, 77, 84, 85, 86, 87, 88, 89, 90, 95, 96, 99, 100, 102, 105, 108, 109, 110.

Deep Sky Binocular – Monthly highlights include (by Astronomical League numbers):

1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 60.

Other Programs

Messier: Messier Marathon (seeing all 110 in one night) is ideal on 3/14/2015 and 3/21/2015! In addition to those listed under Binocular Messier, check out: 43, 74, 76, 91, 98.

Caldwell

1, 2, 3, 5, 7, 8, 9, 10, 11, 13, 14, 17, 18, 21, 23, 24, 25, 26, 28, 29, 31, 32, 35, 36, 38, 39, 40, 41, 46, 48, 49, 50, 53, 54, 58, 59, 64, 71, 73.

Double Star (by Astronomical League numbers):

2, 3, 5, 8, 11, 16, 17, 19, 20, 23, 24, 25, 27, 28, 32, 33, 34, 40, 42, 45, 49, 51, 52, 53, 55, 57, 59, 60, 61, 63, 65, 66, 67, 68, 69, 70, 71, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 85, 95, 98, 99.

Other Programs (of the Solar System)

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

Ceres, Saturn and Pluto will not be visible during the evening hours. They are morning stars or too close to the sun.

Sun – Any clear day is a good time to get those sunspots. Sunset is at 1916 mid-month.

Moon:

The Maria requirement can be done any time the moon is visible. Look before 3/22 and after 3/6 for the fullest views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 3/5 or 3/6.

The Scarps requirement is best done on 3/7.

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 Pisces and sets at 2031 mid-month.

Venus is in Pisces and sets at 2030 mid-month.

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

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

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

Neptune is in Pisces and sets at 1926 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.

Lunar

Key timings are indicated below:

New, 3/29 4 days, 3/3 7 days, 3/6 10 days, 3/9 14 days, 3/13

Old moon in new moon's arms – before 1645 on 3/2, ~10 % illuminated. (72 hr > New) New moon in old moon's arms – after 0358 on 3/26, ~10 % illuminated. (72 hr < New)

Waxing Crescent – before 1645 on 3/1, ~4 % illuminated. (48 hr > New)

Waning Crescent – after 0358 on 3/27, ~4 % illuminated. (48 hr < New)

Major Astronomical Events:

3/1 – Lunar Perigee 3/19 – Neptune at Solar Conjunction

3/2 – Venus begins Retrograde Motion 3/20 – Vernal Equinox

3/7 – Mercury at Dichotomy 3/22 – Venus at Inferior Conjunction

3/8 – Mercury at Highest Altitude 3/23 – Saturn Ring Crossing 3/8 – Mercury at Greatest Elongation East 3/24 – Mercury at Inferior Conjunction

3/12 – Saturn at Solar Conjunction 3/29 – Partial Solar Eclipse

3/14 – Total Lunar Eclipse 3/29 – Lunar Apogee

3/15 – Mercury begine Retrograde Motion 3/31 – Makemake at Opposition

3/17 – Lunar Apogee and Lunar Aphelion

Although many Astronomical League Observing Programs 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 Astronomical League website: (https://www.astroleague.org/navigating-the-night-sky-guides/).

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