What’s Up, Doc? †
August 2022 (Central Daylight Time)
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This document presents those objects are visible this next month for many Astronomical League Observing Programs. If you are working on a more advanced program, I assume you are tracking where your objects are all the time. It concentrates on the common and starter level programs. This is based on 9 PM Central Daylight Time at about 30° North Latitude (Houston, TX).

Naked-Eye Clubs
Meteors – any night, any time, anywhere, the darker the sky the better.

<table>
<thead>
<tr>
<th>Shower</th>
<th>Duration</th>
<th>Maximum</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Delta Aquarids</td>
<td>7/21 to 8/23</td>
<td>7/30 after midnight</td>
<td>MAJOR (ZHR: 16)</td>
</tr>
<tr>
<td>Perseids</td>
<td>7/13 to 8/26</td>
<td>8/13 @ midnight to 3 AM</td>
<td>MAJOR (ZHR: 100)</td>
</tr>
<tr>
<td>Orionids</td>
<td>8/25 to 11/19</td>
<td>10/22 after midnight</td>
<td>MAJOR (ZHR: 15)</td>
</tr>
<tr>
<td>Alpha Capricornids</td>
<td>7/8 to 8/10</td>
<td>8/1 &amp; 8/2</td>
<td>Moderate (ZHR: 5)</td>
</tr>
<tr>
<td>Aurigids</td>
<td>8/29 to 9/4</td>
<td>9/1</td>
<td>Moderate (ZHR: 6)</td>
</tr>
<tr>
<td>Kappa Cygnids</td>
<td>8/6 to 8/31</td>
<td>8/17</td>
<td>minor (ZHR: 3)</td>
</tr>
<tr>
<td>July Pegasids</td>
<td>6/30 to 8/3</td>
<td>7/10</td>
<td>weak (ZHR: &lt; 2)</td>
</tr>
<tr>
<td>Eta Eriddanids</td>
<td>7/31 to 8/17</td>
<td>8/5</td>
<td>weak (ZHR: &lt; 2)</td>
</tr>
<tr>
<td>Beta Perseids</td>
<td>7/24 to 8/20</td>
<td>8/7</td>
<td>weak (ZHR: &lt; 2)</td>
</tr>
<tr>
<td>Northern Delta Aquarids</td>
<td>8/8 to 9/1</td>
<td>8/20</td>
<td>weak (ZHR: &lt; 2)</td>
</tr>
<tr>
<td>August Gamma Cepheids</td>
<td>8/22 to 9/1</td>
<td>8/28</td>
<td>weak (ZHR: &lt; 2)</td>
</tr>
</tbody>
</table>

Constellation Hunter, Northern Skies (and some Southern Skies) – any night, any time, anywhere, the darker the sky the better.

Last Chance this cycle: Ursa Major, Leo Minor, Coma Berenices, Virgo.
Transit: Ursa Minor, Draco, Hercules, Corona Borealis, Serpens, Ophiuchus, Scoprius.
New arrivals: Lacerta, Cygnus, Pegasus, Capricornus, Sagittarius.

Binocular Clubs

Binocular Messier – Monthly highlights include:
Easy – 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 22, 23, 24, 25, 27, 29, 39, 52, 55, 92, 103.
Medium – 14, 19, 28, 40, 49, 53, 62, 63, 64, 80, 81, 82, 83, 94.
Hard – 9, 26, 51, 54, 56, 71, 75, 97, 101, 104, 106.
Big Binoculars – 58, 59, 60, 61, 69, 70, 72, 84, 85, 86, 87, 88, 89, 90, 99, 100, 102, 107, 108, 109.

Deep Sky Binocular – Monthly highlights include (by Astronomical League numbers):
1, 3, 4, 5, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60.

The Astronomical League now offers a total of 9 Binocular Certifications. They include the Solar System and Lunar.

Other Clubs

Messier
In addition to those listed under Binocular Messier, check out: 21, 57, 73, 91, 98.

Caldwell
1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 26, 27, 29, 30, 32, 33, 34, 35, 36, 37, 38, 42, 45, 47, 52, 55, 57, 66, 68, 69, 75, 76, 78, 81, 82.

Double Star (by Astronomical League numbers):
1, 4, 7, 9, 10, 12, 13, 14, 15, 17, 18, 22, 26, 29, 31, 35, 36, 37, 38, 39, 41, 43, 44, 45, 46, 47, 48, 50, 51, 52, 54, 56, 57, 58, 60, 62, 63, 64, 66, 67, 68, 69, 70, 71, 72, 74, 84, 86, 87, 88, 90, 91, 93, 94, 96, 97.
Other Clubs (of the Solar System)

**Solar System** – These are the tasks that can be done this month:
- Sun – Any clear day is a good time to get those sunspots.
- Sunset is 2002 mid-month.
- Venus, Mars, Ceres, and Uranus are too close to the Sun or are morning objects.
- Moon:
  - The Maria requirement can be done any time the moon is visible. Look before 820, and after 8/4 for the fullest views.
  - The Highlands requirement can be done at the same time.
  - The Crater Ages requirement is best done on 8/3 or 8/4.
  - The Scarps requirement is best done on 8/5.
- 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 Leo and sets at 2108 at mid-month.
- Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid.
- Jupiter is in Cetus and rises at 2210 mid-month.
- Saturn is in Capricornus and is up all evening mid-month. All requirements can be done when Saturn is visible: markings, moons, etc.
- Neptune is in Aquarius and rises at 2133 mid-month.
- Pluto is in Sagittarius and is up all evening mid-month.

**Lunar**

Key timings are indicated below:
- New, 8/27
- Old moon in new moons arms – before 0317 on 8/30, ~10 % illuminated. (72 hr > New)
- New moon in old moons arms – after 0317 on 8/24, ~10 % illuminated. (72 hr < New)
- Waxing Crescent – before 0317 on 8/29, ~4 % illuminated. (48 hr > New)
- Waning Crescent – after 0317 on 8/16/25, ~4 % illuminated. (48 hr < New)

The Astronomical League Observing Programs:
(www.astroleague.org/al/obsclubs/AlphabeticObservingClubs.html)

- Analemma
- Binocular Double Star
- Comets
- Dark Sky Advocate
- Flat Galaxy
- Herschel 400
- Lunar
- Meteor
- Planetary Nebulae
- Southern Skies Binocular
- Universe Sampler

- ARP Peculiar Galaxies
- Binocular Messier
- Constellation Hunter – North
- Deep Sky Binocular
- Galaxy Groups & Clusters
- Herschel II
- Lunar II
- NEO
- Planetary Transit
- Southern Skies Telescope
- Urban

- Asterisms
- Caldwell
- Constellation Hunter – South
- Double Star
- Galileo
- Local Galaxy Group & Neighborhood
- Master Observer
- Open Clusters
- Solar System Observers
- Sunspots
- Variable Star

- Asteroids
- Carbon Star
- Dark Nebulae
- Earth Orbiting Satellite
- Globular Clusters
- Mars
- Messier
- Outreach
- Sky Puppy
- Stellar Evolution
- Planetary Transit

* - 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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