

UNA Planetarium Newsletter

April, 2014

One of the fun things about astronomy is that it is a science that nearly everyone can share and enjoy. Even if you do not have an expensive telescope with the latest GPS and computerized technology, you can still go out on a clear night and look out into space from your backyard.

Amateur astronomers contribute in meaningful ways to astronomical research. Projects such as the Galaxy Zoo give anyone the chance to help reveal new insights into galaxies or exploding stars. Dedicated amateurs also help discover new comets and asteroids and measure timings of asteroids blocking out light from stars which helps study the asteroids shape and orbits.

Astronomy itself started out with people noticing the cycles in the sky. The Sun, Moon and stars made their way east to west every day; the Sun followed a path through the constellations in time with the seasons and eventually even dramatic events like eclipses were noticed to have a cycle called the Saros cycle. Some events like meteor showers seemed to occur the same night every year, while comets came and went. These cycles helped to plan agriculture and various celebrations.

These days we tend not to be as connected to the sky. Technology lets us download instantly the latest images from space telescopes of exploding stars or eruptions on the Sun. However, a picture of the Grand Canyon or Niagara Falls can't compare to the real thing. The sky outside your door on a clear night is a bounty of stars, planets and flashing meteors and there's no charge and anyone can participate in the fun. No GPS needed!

Mel Blake.

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Image of the Month



This image from the Hubble Space telescope shows the star forming region NGC2174 which is about 6400 light years away in the constellation Orion. Stars are forming in the cloud of gas and dust which is being shaped into cone-like structures or pillars by nearby hot stars. Astronomers can use infrared telescopes which detect the heat of young stars to study what is taking place inside the nebula. **Courtesy NASA.**

Astro Quote: *"For my part I know nothing with any certainty but the sight of the stars makes me dream."*

Vincent van Gogh

Upcoming Events

April 8

Planetarium Public Night



April 15

Planetarium Public Night



April 15

Total Lunar Eclipse



April 22

Lyrid Meteors Peak



April 22

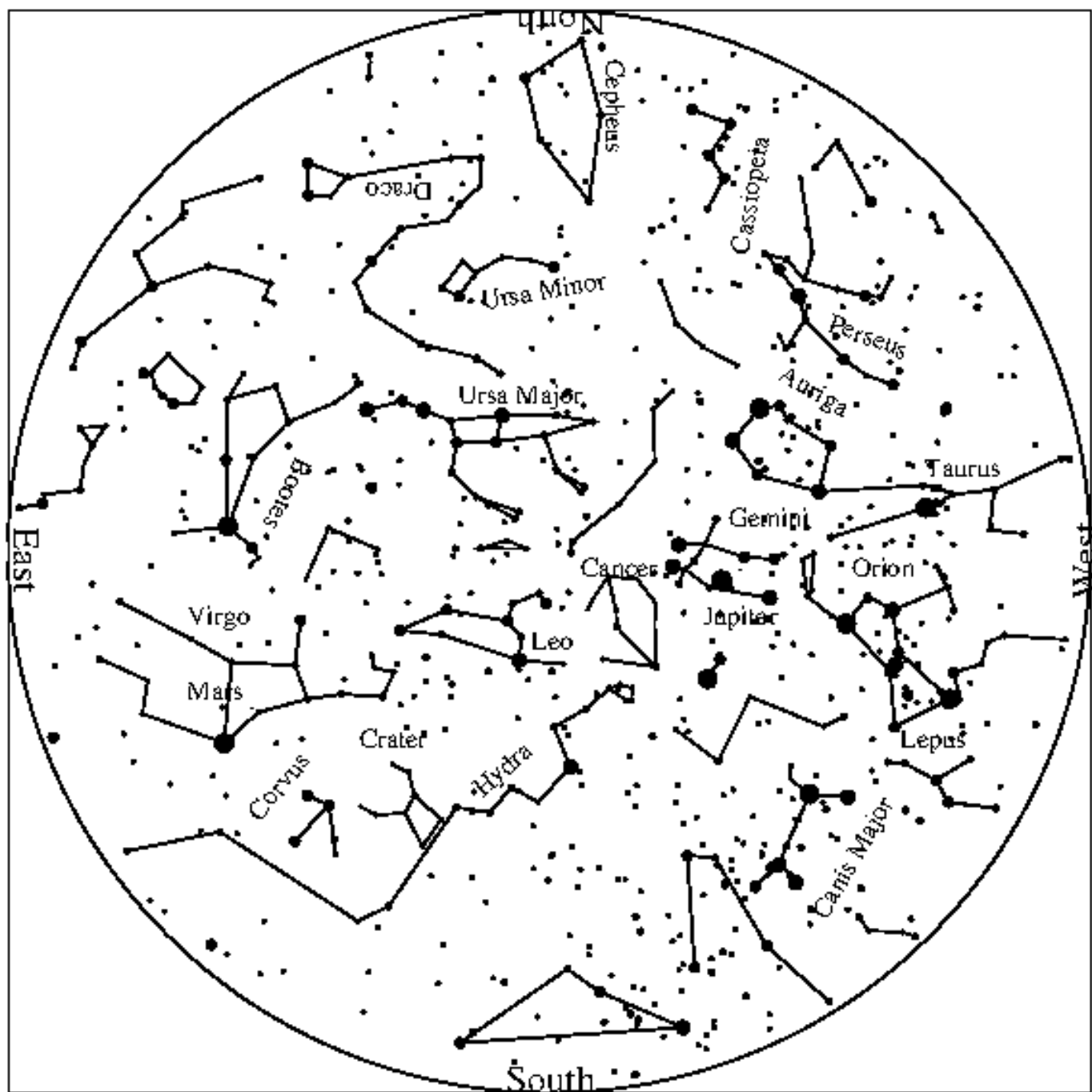
Planetarium Public Night



April 29

Planetarium Public Night

The April 2014 Sky for North Alabama



How to use this Chart: The sky is shown for 9:00PM, April 15th for Florence, Alabama. It will appear this way one hour earlier for each week difference in time. The stars brightness's are represented by different sized dots. The faintest stars you can see are the small dots; the brightest ones are large dots. Hold the chart with the direction you are facing down. So if you are facing north, hold the chart with north down. The circle represents the horizon and the center of the chart the point directly over your head. So an object half-way between the center and edge of the chart is half-way up in the sky. This chart was prepared using the SkyNow software of R. M. Blake. This chart may be reproduced for non-commercial purposes with the following acknowledgement included: Courtesy UNA Planetarium and Observatory. <http://www.una.edu/planetarium/>.

The April 15th, 2014 Total Lunar Eclipse

April 14/15th will bring a special treat for sky watchers. Starting late on April 14th and continuing into the pre-dawn hours of April 15th, observers in North Alabama will be able to watch a total eclipse of the Moon. Lunar eclipses occur when the Moon on its orbit around the Earth passes into the Earth's shadow. These do not occur every month because the Moon's orbit around the Earth is tilted compared to the orbit of the Earth around the Sun. When things line up just right the full Moon slowly gets darker and darker until it becomes a red color and we have a total lunar eclipse. The Moon then drifts out of the Earth's shadow to become bright and full again. The totally eclipsed Moon looks red because light travels through the Earth's atmosphere onto the Moon's surface even in the middle of the eclipse.

The part of the Earth's shadow where an observer on the Moon would see part of the Sun blocked off by the Earth is called the penumbral shadow, while the part of the Earth's shadow where an observer on the Moon would see the Sun completely blocked by the Earth is called the umbral shadow. Most observers will not notice the penumbral stages of the lunar eclipse that occur just before and after the partial eclipses. North Alabama will see the beginning of the partial phase of the April 15th eclipse starting at about 12:58AM CDT on the morning of April 15th when the first visible shadow of the Earth appears to creep across the lunar disk. The total eclipse stage will begin around 2:07AM CDT, and ends at 3:25AM CDT with mid-eclipse at 2:46AM CDT. The second partial eclipse phase ends around 4:33AM CDT. No special equipment is needed to watch a lunar eclipse although a telescope or binoculars will help see the details. The event lasts several hours, so even if the weather is poor at the start it can improve and allow observers to watch the remaining stages of the eclipse. If the weather is poor all night don't despair; North Alabama will be able to observe most of the lunar eclipse that will take place on Oct 8th so there's another chance this year.

If weather permits, UNA planetarium will hold a public observing session with telescopes available for viewing the eclipse.

