



## Mooncusser's 21<sup>st</sup> Century Almanac By Jim Carlson

**First Quarter** – Mon. July 03 at 12:38 EDT  
**Full Moon** – Mon. July 10 at 23:03 EDT  
**Last Quarter** – Mon. July 17 at 15:14 EDT  
**New Moon** – Tue. July 25 at 00:32 EDT

Object	July 01 (EDT)	July 15 (EDT)	July 30 (EDT)
<b>Sun</b>	R: 05:09 S: 20:19	05:20 20:13	05:33 19:59
<b>Mercury</b>	R: 07:02 S: 21:24	05:53 19:54	04:22 18:47
<b>Venus</b>	R: 03:12 S: 17:54	03:19 18:21	03:39 18:40
<b>Moon</b>	R: 10:56 S: 23:47	23:30 11:50	11:47 22:46
<b>Mars</b>	R: 08:15 S: 22:27	08:04 21:51	07:54 21:15
<b>Jupiter</b>	R: 15:15 S: 01:46	14:17 00:43	13:22 23:46
<b>Saturn</b>	R: 07:42 S: 22:05	06:52 21:11	06:03 20:17
<b>Uranus</b>	R: 23:26 S: 10:46	22:27 09:46	21:27 08:45
<b>Neptune</b>	R: 22:21 S: 08:37	21:21 07:37	20:21 06:36
<b>Pluto</b>	R: 18:35 S: 04:48	17:35 03:47	16:35 02:47

### July 2006 Events (UT)

<b>01</b> – Moon at apogee (251,312 miles)
<b>03</b> – Earth at aphelion (94,507,886 miles).
<b>04</b> – Mercury stationary and at aphelion. Spica 0.1° north of the Moon.
<b>06</b> – CCAS meeting at 7:30. Dinner at 6:00 at H 'n K restaurant on Rte. 28 in S. Yarmouth. Did everybody get a mineral from long: 70° 11' 38" W, lat. 41° 40' 39 N"? Be stealthy, people are watching.
<b>06</b> – Jupiter stationary and 5° north of the Moon.
<b>08</b> – Antares 0.2° north of the Moon.
<b>13</b> – Neptune 3° north of the Moon. Moon at perigee (226,358 miles).
<b>14</b> – Uranus 0.4° north of the Moon.
<b>18</b> – Mercury at inferior conjunction.
<b>20</b> – Moon 0.4° north of M45. Venus 1.5° south of M35.
<b>22</b> – Mars 0.7° north of Regulus.

<b>23</b> – Venus 6° south of the Moon.
<b>25</b> – Mercury at greatest southern heliocentric latitude.
<b>27</b> – Mars 1.1° south of the Moon.
<b>28</b> – Southern delta Aquarid meteors peak about 3:00 EDT. Mercury stationary.
<b>29</b> – Moon at apogee (251,908 miles).

Sources: TheSky6, Software Bisque  
*Observer's Handbook 2006*, Royal Astronomical Society of Canada  
 The times of rise and set are for the days listed. On June, for example, Jupiter will set at 03:49 EDT; rise at 17:22 EDT.

### July 6th CCAS Meeting

The presentation at the July 6<sup>th</sup> meeting will be a discussion of the results of the scavenger hunt. A list of items for the hunt was handed out at the June meeting. For those who did not attend that meeting, here they are again.

- 1., 2., & 3. Provide the right ascension, declination, constellation, and a sketch for M57, M51, and M106.
4. Describe Cepheus by providing a) what/who it is, b) when it is visible from Cape Cod, and c) what is its mythological significance.
5. Describe where Tycho Brahe's observatory was.
6. In 1450AD, what was considered to be the closest star to Earth?
7. What is the popular name for Brocchi's cluster?
8. Who was the Royal Astronomer during the year that Neptune was discovered?
9. Describe or find an optical diagram of a Gregorian telescope.
10. Locate W70 11' 36.9" N41 40' 42" and pickup a mineral found there.

## A New Career for Jon

Ya know. It's a great feeling when you find that certain dim nebula that you've been looking for over the past two years. No GOTO mind you; just you, your star chart, and a finder. Wow, what an accomplishment! Jon Greenberg must get an even greater kick out of having one of his students find that nebula. Jon, a former, aka retired, pathologist has given up finding out what's doing folks dirt for teaching astronomical newbies what to look for and how to find it.

Jon teaches, has been teaching for many years, a course on "Observational Astronomy for Beginners" through Nauset Public Schools community education program. Cosponsored by Nauset Community Education and Cape Cod Astronomical Society, the course is designed for those with no or little experience observing the skies. Jon uses binoculars, a 10" Schmidt-Cassegrain, and two Dob's to give his students a wide range of observing experiences. The photo below shows the second floor observing deck, on his house, that is the primary classroom. The secondary classroom, just off the deck, is used to cover history of astronomy, archaeoastronomy, instrument design, etc. on those nights (or days) when our Cape Cod weather doesn't cooperate.



The observing deck is the brown structure, just below the black arrow, on top of the house. It provides a good view of the sky down to the horizon. If you look closely at the tip of the arrow, you will see a white object sticking above the railing of the deck. That is a nylon bag which covers a Mylar bag which in turn covers Jon's permanently mounted 10" main scope. This is what is known as a "two bagger" observatory. It is quite effective in protecting the optics, mount, and electronics from hurricane force nor'easters, rain, snow, and occasional tropical storms. The photo below shows that scope with the bags off.



It also shows two of Jon's students conducting solar observations. Notice the full aperture solar filter on the front of the scope. Not only does it protect the observers' eyes, it protects mirrors and lenses from the concentrated rays of the sun. Readers take note.

Here we see Jon, left, discussing observation techniques with a student. The tops of the mature trees in the background show the wide open horizon that can be obtained with a house top observing deck. If an object is above the horizon, Jon and class can see it.

