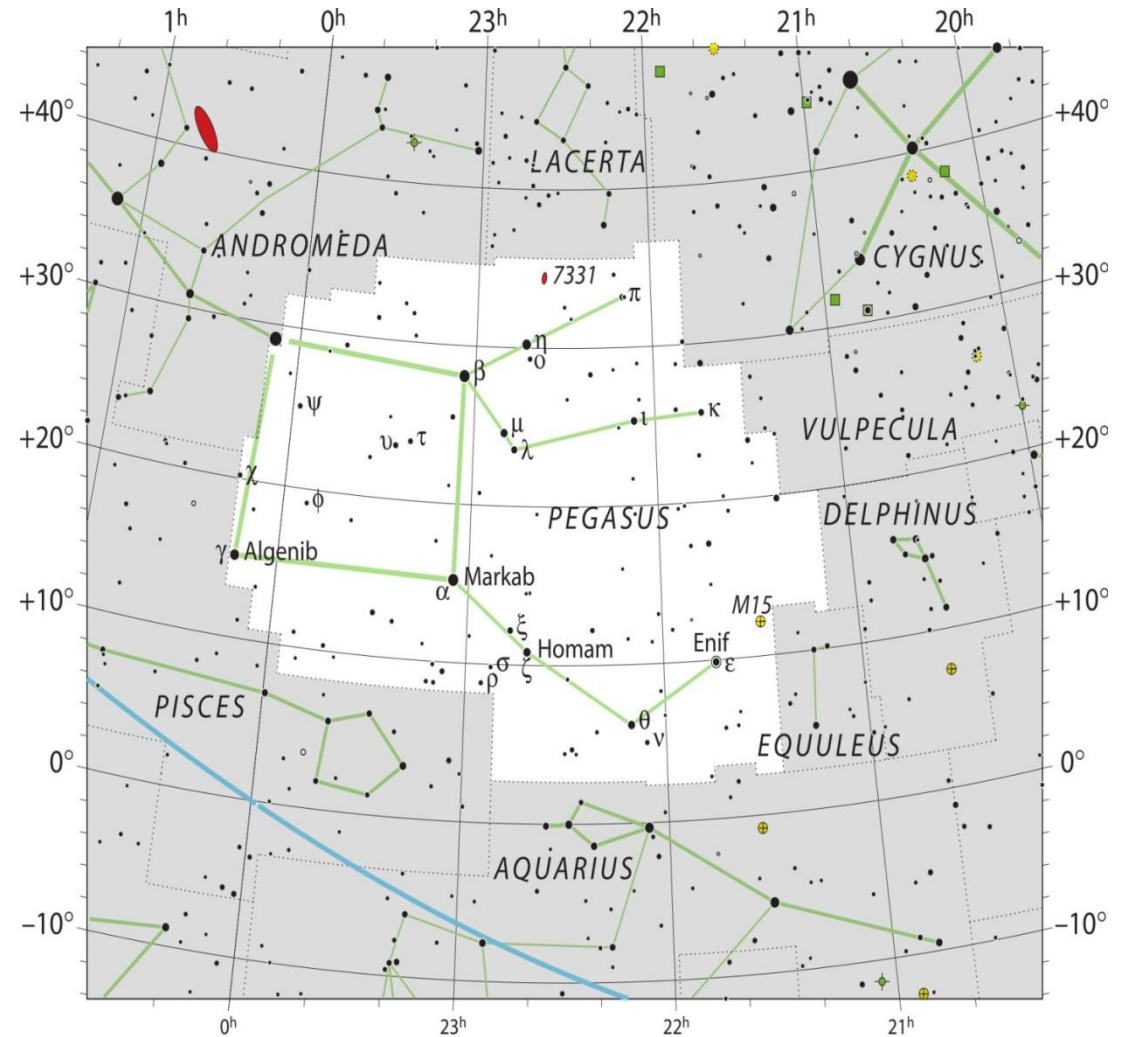


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Target List Pegasus

Object	Description	Magnitude
NGC 7317-7320	Galaxy Cluster	13.2
NGC 7331	Spiral Galaxy	10.4
NGC 7479	Spiral Galaxy	10.9
NGC 7217	Spiral Galaxy	11
M15	Globular Cluster	6.2



● 1 ● 2 ● 3 ● 4 ● 5 ● 6



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Object	Description	Magnitude	Date/Time Observed	Location	Notes (scope & eyepiece used, weather conditions, general characteristics of the object observed)
NGC 7317-7320	Galaxy Cluster	13.2			
NGC 7331	Spiral Galaxy	10.4			
NGC 7479	Spiral Galaxy	10.9			
NGC 7217	Spiral Galaxy	11			
M15	Globular Cluster	6.2			

Charlie Elliott Astronomy

The Evening Sky Map

FREE* EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

www.skymaps.com

Get Sky Calendar on Twitter
http://twitter.com/skymaps

The Night Sky Map is available online & in paperback form. It is easy to recognize. Turn the Sky Map around 115° counter-clockwise so the compass direction that appears along the bottom of the map is the direction that you face. Begin by using the sky map to find a bright star pattern in the sky.

NORTHERN HEMISPHERE SEPTEMBER 2014

SKY MAP SHOWS HOW THE NIGHT SKY LOOKS

EARLY SEPT 9 PM
LATE SEPT 8 PM
(Add 1 Hour for Daylight Saving)
SKY MAP DRAWN FOR A LATITUDE OF 40° NORTH AND IS SUITABLE FOR LATITUDES UP TO 15° NORTH OR SOUTH OF THIS

From northern latitudes, stars appear to rotate around the North Celestial Pole (NCP). Compass directions are indicated along the horizon circle (horizon). Celestial objects are located between the zenith and the horizon.

The sky map shows how the night sky looks from the horizon to horizon as it appears on certain dates and times. The center of the map is the "top of the world".

The Milky Way stretches across the sky. Ancient stars identified as the "top of the world".

The Summer Triangle - Vega, Altair, and Deneb - three bright stars overhead.

INSTRUCTIONS: THE SKY MAP SHOWS THE ENTIRE NIGHT SKY FROM HORIZON TO HORIZON AS IT APPEARS ON CERTAIN DATES AND TIMES. THE CENTER OF THE MAP IS THE "TOP OF THE WORLD".

Sky Calendar - September 2014

- 1 Moon near Mars (evening sky) at 1h UT. Mag. +0.6.
- 2 Moon near Antares (evening sky) at 10h UT.
- 2 First Quarter Moon at 11:11 UT.
- 8 Moon at perigee (closest to Earth) at 4h UT (358,389 km; angular size 33.3').
- 9 Full Moon at 1:38 UT. Last Supermoon of 2014.
- 14 Moon near the Pleiades (morning sky) at 6h UT.
- 15 Moon near Aldebaran (morning sky) at 1h UT.
- 16 Last Quarter Moon at 2:05 UT.
- 19 Moon near Beehive Cluster (49° from Sun, morning sky) at 19h UT.
- 20 Moon near Jupiter (43° from Sun, morning sky) at 8h UT. Mag. -1.9.
- 20 Moon at apogee (farthest from Earth) at 14h UT (distance 405,845 km; angular size 29.4').
- 20 Mercury 0.55° SSW of Spica (26° from Sun, evening sky) at 20h UT. Mags. +0.1 and +1.0.
- 21 Mercury at greatest elongation, 26° east of Sun (evening sky) at 22h UT. Mag. +0.1.
- 23 September equinox at 2:29 UT. The time when the Sun reaches the point along the ecliptic where it crosses into the southern celestial hemisphere marking the start of autumn in the Northern Hemisphere and spring in the Southern Hemisphere.
- 23 Moon near Venus (8° from Sun, morning sky) at 13h UT.
- 24 New Moon at 6:12 UT. Start of lunation 1135.
- 26 Moon near Spica (21° from Sun, evening sky) at 3h UT.
- 26 Moon near Mercury (25° from Sun, evening sky) at 12h UT.
- 28 Moon very near Asteroid 1 Ceres (43° from Sun, evening sky) at 0h UT. Mag. +8.2. Occultation visible from S. Pacific.
- 28 Moon very near Saturn (44° from Sun, evening sky) at 4h UT. Mag. +0.6. Occultation visible from Hawaii.
- 28 Moon very near Asteroid 4 Vesta (51° from Sun, evening sky) at 15h UT. Mag. +7.0. Occultation visible from North Africa.

More sky events and links at <http://Skymaps.com/skycalendar/>
All times in Universal Time (UT). (USA Eastern Summer Time - UT - 4 hours.)

SAVE ON RECOMMENDED PRODUCTS • <http://Skymaps.com/store>

- STAR ATLASES & PLANISPHERES
- STAR CHARTS & ASTRO POSTERS
- BOOKS FOR SKY WATCHERS
- TELESCOPES & BINOCULARS

All sales support the production and free distribution of The Evening Sky Map.

Symbols

- Galaxy ☁
- Double Star ●●
- Variable Star ●
- Diffuse Nebula ☁
- Planetary Nebula ⊕
- Open Star Cluster ○
- Globular Star Cluster ⊕

Star Magnitudes ●●●●●

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Charlie Elliott Astronomy

About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy – A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) – A time system used by astronomers. Also known as Greenwich Mean Time. USA Eastern Standard Time (for example, New York) is 5 hours behind UT.

Variable Star – A star that changes brightness over a period of time.

NORTHERN HEMISPHERE
 SEPTEMBER 2014
 CELESTIAL OBJECTS
 Sky maps .com

Easily Seen with the Naked Eye

- | | | |
|------------|-----|--|
| Altair | Aql | • Brightest star in Aquila. Name means "the flying eagle". Dist=16.7 ly. |
| Capella | Aur | • The 6th brightest star. Appears yellowish in color. Spectroscopic binary. Dist=42 ly. |
| Arcturus | Boo | • Orange, giant K star. Name means "bear watcher". Dist=36.7 ly. |
| δ Cephei | Cep | • Cepheid prototype. Mag varies between 3.5 & 4.4 over 5,366 days. Mag 6 companion. |
| Deneb | Cyg | • Brightest star in Cygnus. One of the greatest known supergiants. Dist=1,400±200 ly. |
| α Herculis | Her | • Semi-regular variable. Magnitude varies between 3.1 & 3.9 over 90 days. Mag 5.4 companion. |
| Vega | Lyr | • The 5th brightest star in the sky. A blue-white star. Dist=25.0 ly. |
| Algol | Per | • Famous eclipsing binary star. Magnitude varies between 2.1 & 3.4 over 2,867 days. |
| Fomalhaut | PsA | • Brightest star in Piscis Austrinus. In Arabic the "fish's mouth". Dist=25 ly. |
| Antares | Sco | • Red, supergiant star. Name means "rival of Mars". Dist=135.9 ly. |
| Polaris | UMi | • The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433 ly. |

Easily Seen with Binoculars

- | | | |
|----------------|-----|--|
| M31 | And | ◊ The Andromeda Galaxy. Most distant object visible to naked eye. Dist=2.93 million ly. |
| M2 | Aqr | ◊ Resembles a fuzzy star in binoculars. |
| η Aquilae | Aql | • Bright Cepheid variable. Mag varies between 3.6 & 4.5 over 7,166 days. Dist=1,200 ly. |
| M3 | CVn | • Easy to find in binoculars. Might be glimpsed with the naked eye. |
| μ Cephei | Cep | • Herschel's Garnet Star. One of the reddest stars. Mag 3.4 to 5.1 over 730 days. |
| χ Cygni | Cyg | • Long period pulsating red giant. Magnitude varies between 3.3 & 14.2 over 407 days. |
| M39 | Cyg | ◊ May be visible to the naked eye under good conditions. Dist=900 ly. |
| ν Draconis | Dra | • Wide pair of white stars. One of the finest binocular pairs in the sky. Dist=100 ly. |
| M13 | Her | • Best globular in northern skies. Discovered by Halley in 1714. Dist=23,000 ly. |
| M92 | Her | • Fainter and smaller than M13. Use a telescope to resolve its stars. |
| ε Lyrae | Lyr | • Famous Double Double. Binoculars show a double star. High power reveals each a double. |
| R Lyrae | Lyr | • Semi-regular variable. Magnitude varies between 3.9 & 5.0 over 46.0 days. |
| M10 | Oph | • 3 degrees from the fainter M12. Both may be glimpsed in binoculars. Dist=14,000 ly. |
| IC 4665 | Oph | ◊ Large, scattered open cluster. Visible with binoculars. |
| 6633 | Oph | ◊ Scattered open cluster. Visible with binoculars. |
| M15 | Peg | • Only globular known to contain a planetary nebula (Mag 14, d=1"). Dist=30,000 ly. |
| Double Cluster | Per | ◊ Double Cluster in Perseus. NGC 869 & 884. Excellent in binoculars. Dist=7,300 ly. |
| M8 | Sgr | ◊ Lagoon Nebula. Bright nebula bisected by a dark lane. Dist=5,200 ly. |
| M25 | Sgr | ◊ Bright cluster located about 6 deg N of "teapot's" lid. Dist=1,900 ly. |
| M22 | Sgr | • A spectacular globular star cluster. Telescope will show stars. Dist=10,000 ly. |
| M6 | Sco | ◊ Butterfly Cluster. 30+ stars in 7x binoculars. Dist=1,960 ly. |
| M7 | Sco | ◊ Superb open cluster. Visible to the naked eye. Age=260 million years. Dist=780 ly. |
| Mizar & Alcor | UMa | • Good eyesight or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion. |
| Cr 399 | Vul | ◊ Coathanger asterism or "Brocchi's Cluster". Not a true star cluster. Dist=218 to 1,140 ly. |

Telescopic Objects

- | | | |
|---------------|-----|---|
| γ Andromedae | And | • Attractive double star. Bright orange star with mag 5 blue companion. Sep=9.8". |
| 7009 | Aqr | + Saturn Nebula. Requires 8-inch telescope to see Saturn-like appendages. |
| 7293 | Aqr | + Helix Nebula. Spans nearly 1/4 deg. Requires dark sky. Dist=300 ly. |
| γ Arietis | Ari | • Impressive looking double blue-white star. Visible in a small telescope. Sep=7.8". |
| ε Boötis | Boo | • Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split. |
| M51 | CVn | ◊ Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly. |
| η Cassiopeiae | Cas | • Yellow star mag 3.4 & orange star mag 7.5. Dist=19 ly. Orbit=480 years. Sep=12". |
| Albireo | Cyg | • Beautiful double star. Contrasting colours of orange and blue-green. Sep=34.4". |
| 61 Cygni | Cyg | • Attractive double star. Mags 5.2 & 6.1 orange dwarfs. Dist=11.4 ly. Sep=28.4". |
| γ Delphini | Del | • Appear yellow & white. Mags 4.3 & 5.2. Dist=100 ly. Struve 2725 double in same field. |
| β Lyrae | Lyr | • Eclipsing binary. Mag varies between 3.3 & 4.3 over 12,940 days. Fainter mag 7.2 blue star. |
| M57 | Lyr | + Ring Nebula. Magnificent object. Smoke-ring shape. Dist=4,100 ly. |
| M20 | Sgr | ◊ Trifid Nebula. A telescope shows 3 dust lanes trisecting nebula. Dist=5,200 ly. |
| M17 | Sgr | ◊ Omega Nebula. Contains the star cluster NGC 6618. Dist=4,900 ly. |
| M11 | Sct | ◊ Wild Duck Cluster. Resembles a globular through binoculars. V-shaped. Dist=5,600 ly. |
| M16 | Ser | ◊ Eagle Nebula. Requires a telescope of large aperture. Dist=8,150 ly. |
| M33 | Tri | ◊ Fine face-on spiral galaxy. Requires a large aperture telescope. Dist=2.3 million ly. |
| M27 | Vul | + Dumbbell Nebula. Large, twin-lobed shape. Most spectacular planetary. Dist=975 ly. |

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CHARLIE ELLIOTT CHAPTER



Atlanta Astronomy Club
Membership Form

(Please PRINT Clearly in BLOCK Letters)

Name: _____

Address: _____

Address: _____

City: _____ State: _____ ZIP _____

Home Phone: _____ Day Phone: _____

E-mail: _____

Additional Family Members:

Name As to appear on Badge: _____

Name As to appear on Badge: _____

Name As to appear on Badge: _____

Name As to appear on Badge: _____

Family/Single Membership (\$30) _____

Student Membership (\$15) _____

Online Newsletter (\$ 0) _____

Sky & Telescope Magazine (\$33) _____

Astronomy Magazine (\$34) _____

(Please note magazine prices are subject to change, please check website or contact Treasurer if in doubt.)

Badges _____ (Number x \$1) _____
(One Badge is included membership. Additional badges are One dollar each)

Total _____

Remember to download our monthly newsletter, The Focal Point, from the club's website.

NEW ! We accept PayPal payments. Pay online by check or credit card.

Check made payable to "The Atlanta Astronomy Club", mail along with form to address below

PayPal: go to [www. PayPal. com](http://www.PayPal.com) and post payment to [AAQDues@AtlantaAstronomy. org](mailto:AAQDues@AtlantaAstronomy.org) (Note, this is case sensitive – please type exactly as written). Then e-mail membership form to [Treasurer@AtlantaAstronomy. org](mailto:Treasurer@AtlantaAstronomy.org)

Or mail it to: Atlanta Astronomy Club, Inc.

PO BOX 76155

ATLANTA GA 30358-1155

(WEB DOC – 02.24.2014 – CEA)

CHARLIE ELLIOTT CHAPTER

Please tell us something about yourself and your interest in astronomy. This will assist us in planning programs and activities which you will find the most beneficial.

1. How would you classify yourself as an amateur astronomer? Beginner ___ Intermediate ___ Advanced ___
2. Do you own a telescope? No ___ Yes ___ Type/Size _____
3. Are you looking for assistance in choosing a telescope? _____
4. If you do own a telescope, would you like assistance with using it? _____
5. Which aspects of the Atlanta Astronomy Club and astronomy are you most interested in: (Check as many as you wish.)
 - social
 - meetings
 - observing
 - astro photography/imaging
 - computing
 - speaker program
 - having access to professional quality equipment
 - Amateur Telescoping Making (ATM)
 - Sidewalk Astronomy
 - other _____

6. Do you have any special skills/job/occupation that might benefit the club: _____

7. Would you volunteer for committee work? _____
8. Questions or Comments: _____

New member packages with badges will be mailed by the Treasurer within 2-3 weeks of receiving your membership application.
The electronic *FocalPoint* is available on the Club's web site: <http://www.atlantaastronomy.org> (usually within the first week of the month.)

(WEB DOC – 02.24.2014 – CEA)

Charlie Elliott Astronomy

Peach State Star Gaze Registration															
October 19 - October 26, 2014															
Camping Registration															
Name: _____															
Street Address: _____															
Address: _____															
City						State:			Zip:						
Phone: _____						E-Mail: _____									
2nd Name: _____															
3rd Name: _____															
4th Name: _____															
PSSG REGISTRATION FEE															
Adult registration						Individual		\$50		X		=			
Family registration: two adults and dependant children						Family		\$75							
Student anyone attending an educational institution						Student		\$15		X		=			
CAMPING FEE															
<i>Please circle the nights you will be attending the event.</i>															
Arrival and Departure Dates															
Sun		Mon		Tue		Wed		Thu		Fri		Sat			
Oct 19		Oct 20		Oct 21		Oct 22		Oct 23		Oct 24		Oct 25			
INDIVIDUAL						\$ 10.00		X				=			
FAMILY						\$ 15.00		X				=			
STUDENT						\$ 3.00		X				=			
TOTAL CAMPING FEE															
TOTAL NIGHTS															
PSSG Tee Shirts															
Size		Quantity		Cost		Total \$		Size		Quantity		Cost		Total \$	
S				\$15.00				XL				\$15.00			
M				\$15.00				XXL				\$18.00			
L				\$15.00				XXXL				\$18.00			
Tee Shirt Total															
REGISTRATION FEE															
Camping Fee															
T-Shirts															
Make check payable to the Atlanta Astronomy Club for this TOTAL															

This form should be used if you re going to camp on the field for the PSSG. Please complete this form and the Release form. Mail check and forms to Peter Macumber, 1057 Trestle Dr, Austell GA 30106. The forms must be received by October 3rd.

Charlie Elliott Astronomy

Peach State Star Gaze

Atlanta Astronomy Club, Inc

Release and Hold Harmless

October 19 - October 26, 2014

In consideration for being allowed to attend the Peach State Star Gaze,

I (We), *(please list all names of attendees)*

agree to the following:

- I. I (we) will abide by the rules and guidelines of the Peach State Star Gaze Committee.
- II. I (we) acknowledge that there are risks inherent in astronomical observing including injuries caused by falling, and that there are risks inherent in camping outdoors. I hereby agree to assume all of those risks.
- III. I (we) agree to hold the Atlanta Astronomy Club and the Deer Lick Group LLC, its officers, or any persons acting on their behalf harmless for any accident or injury that may occur while I am attending the event. I further agree to hold the Atlanta Astronomy Club and the Deer Lick Group LLC harmless for any loss or damage to property that may occur while I am attending the event

Signature(s): *(please have each person sign below (or in the case of a minor, parents signature.))*

Date:

Mail completed form with check or money order to:

PSSG
c/o Peter Macumber
1057 Trestle Dr
Austell GA 30106

Make check payable to the Atlanta Astronomy Club.
Registration with payment must be received by
October 3rd.
After this date, bring completed form to the PSSG.
You will be assessedd the Walk-in Rate!!