



**A presentation of what's up, what's rising and what's setting  
In short...**

**“All of the Above”**

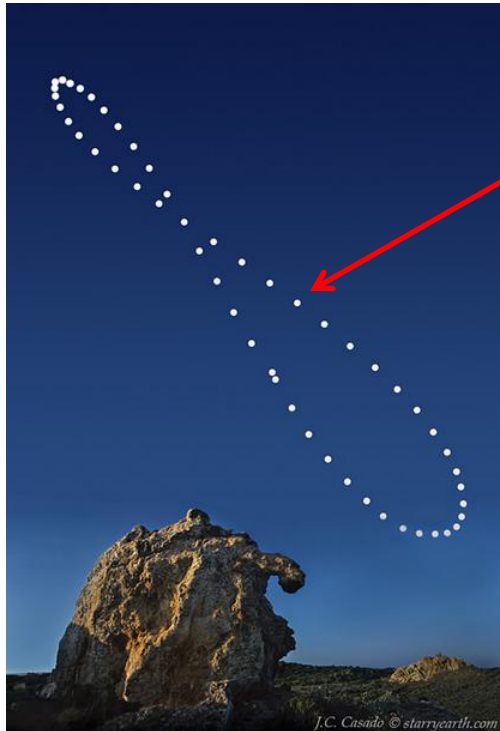
**HeeHeeHee...Get it?**



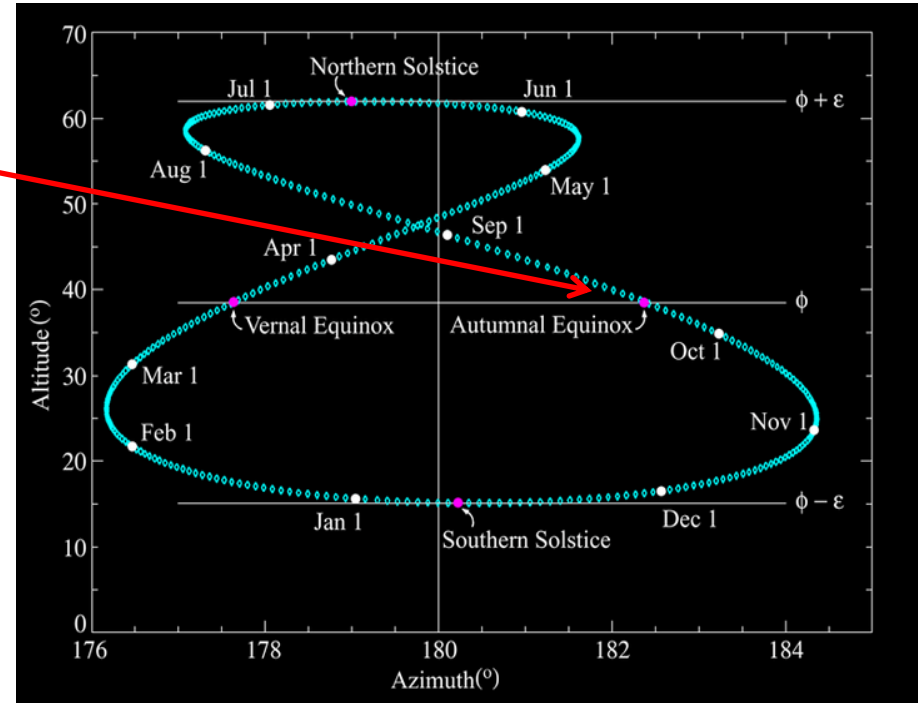
# The Equinox!

## September 23, 2015: 4:21 EST

Earlier sunsets, longer nights, clearer skies, more sleep!



You are Here



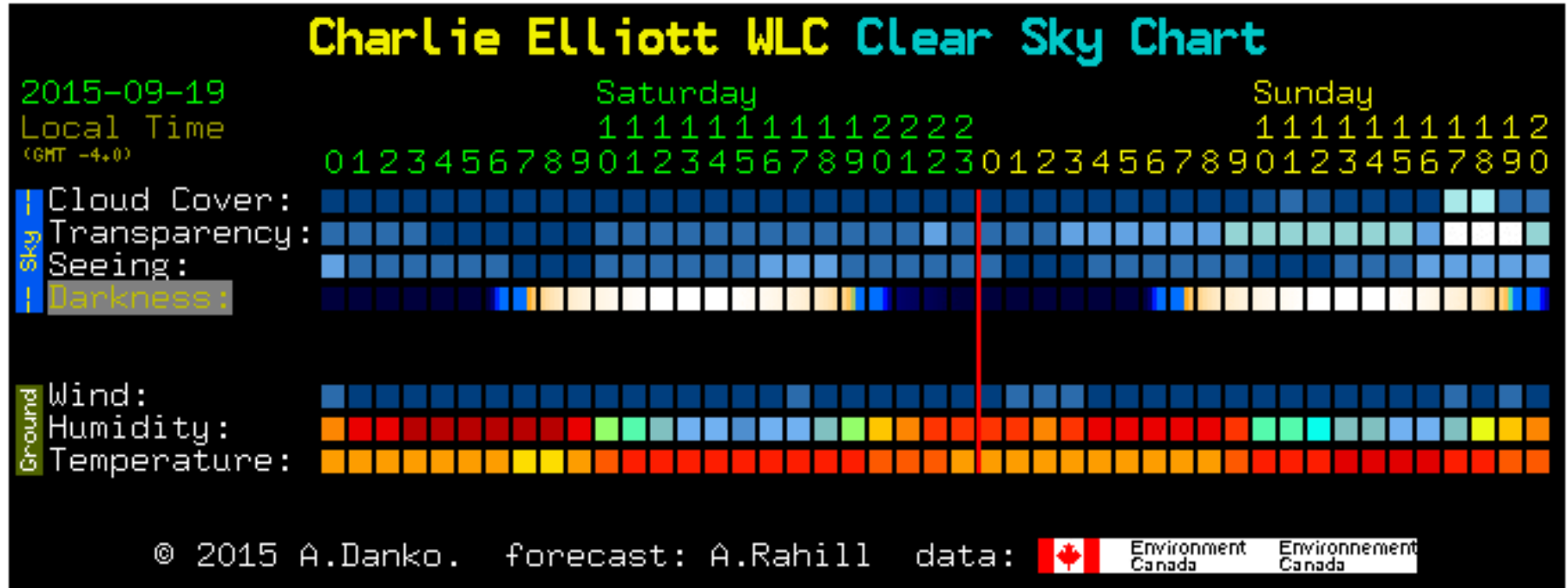


# This Month's Sky: September 2015

- **Conditions over the Jon Wood Field**
- **The Planets**
- **The Sun**
- **The Moon (International Observe the Moon Day)**
- **Celestial Events**
- **The Constellations**
- **Target List**
- **Challenges**

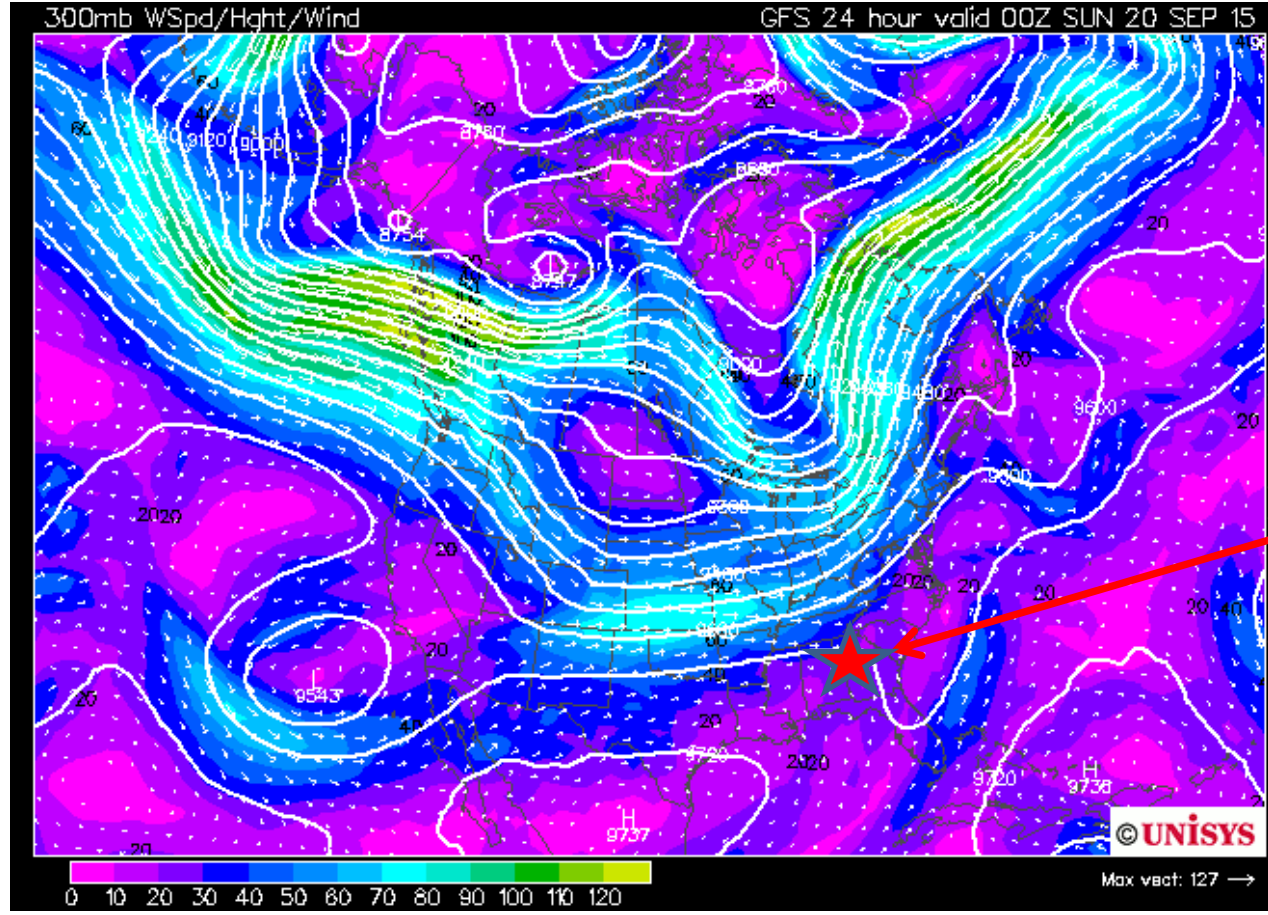


# Current Conditions at Jon Wood Field





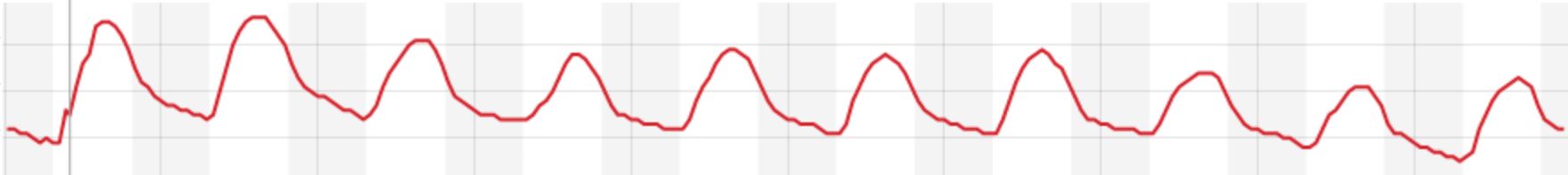
# Current Conditions at Jon Wood Field



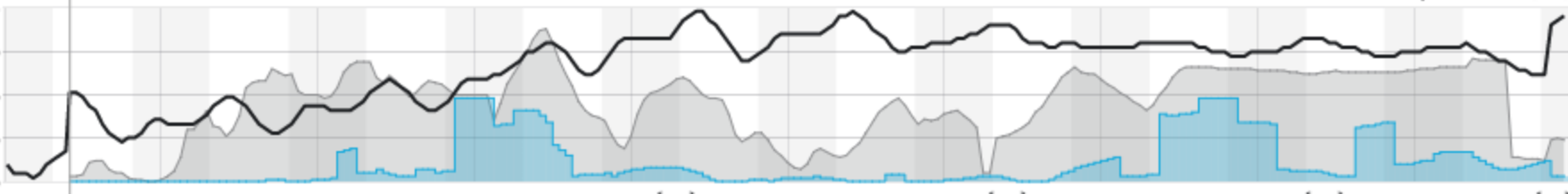


# Current Conditions at Jon Wood Field

Sat 09/19	Sun 09/20	Mon 09/21	Tue 09/22	Wed 09/23	Thu 09/24	Fri 09/25	Sat 09/26	Sun 09/27	Mon 09/28
87°   63°	88°   64°	83°   63°	80°   60°	81°   60°	80°   60°	81°   59°	76°   57°	73°   54°	75°   57°
Clear	Partly Cloudy	Partly Cloudy	Chance of a Thunderstorm	Partly Cloudy	Clear	Clear	Chance of Rain	Chance of Rain	Partly Cloudy
0 in	0 in	0.17 in	0.02 in	0 in	0 in	0 in	0.18 in	0.04 in	0 in

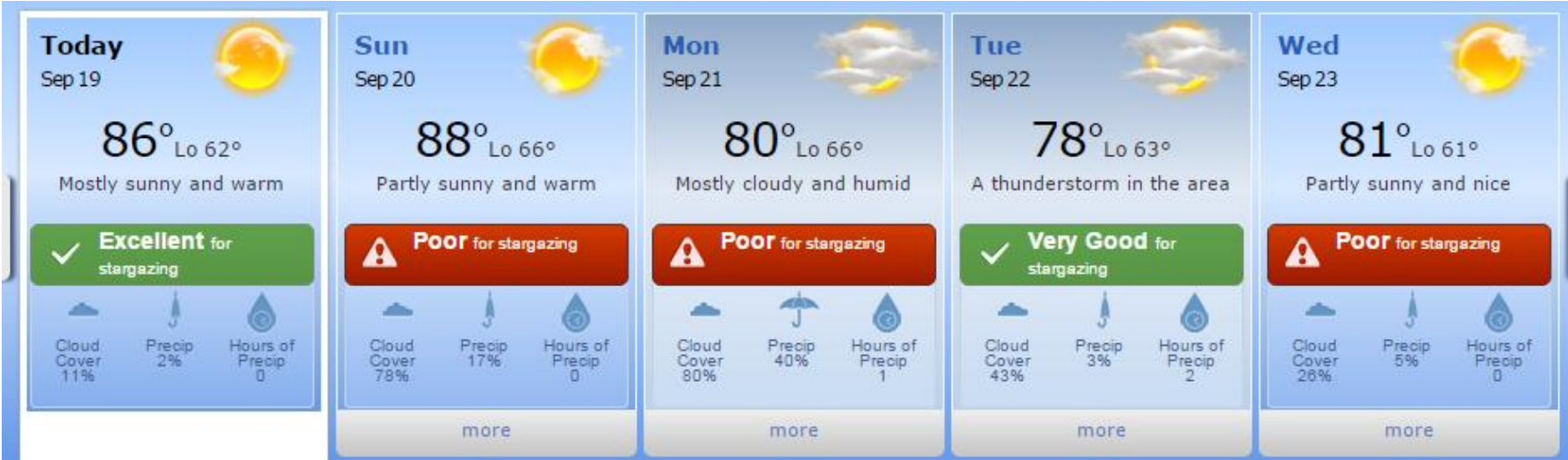


■ Temperature [°F]





# Current Conditions at Jon Wood Field





# The Planets: September 19, 2015

Body	Constellation	Rise	Set	When to View
Sun	Virgo	7:23 AM	7:39 PM	Really?
Moon	Ophiuchus	12:55 PM	11:41 PM	Early Evening
Mercury	Virgo	8:59 AM	8:09 PM	Too Bad
Venus	Cancer	4:25 AM	5:29 PM	Dawn
Mars	Leo	5:00 AM	6:20 PM	Dawn
Jupiter	Leo	5:58 AM	6:52 PM	Dawn
Saturn	Libra	12:25 PM	10:46 PM	Early Evening
Uranus	Pisces	8:33 PM	9:18 AM	All night
Neptune	Aquarius	6:44 PM	6:01 AM	All night
Pluto*	Sagittarius	3:35 PM	1:44 AM	Early Evening

\* I know Pluto isn't a Planet but it stays in my list anyway.



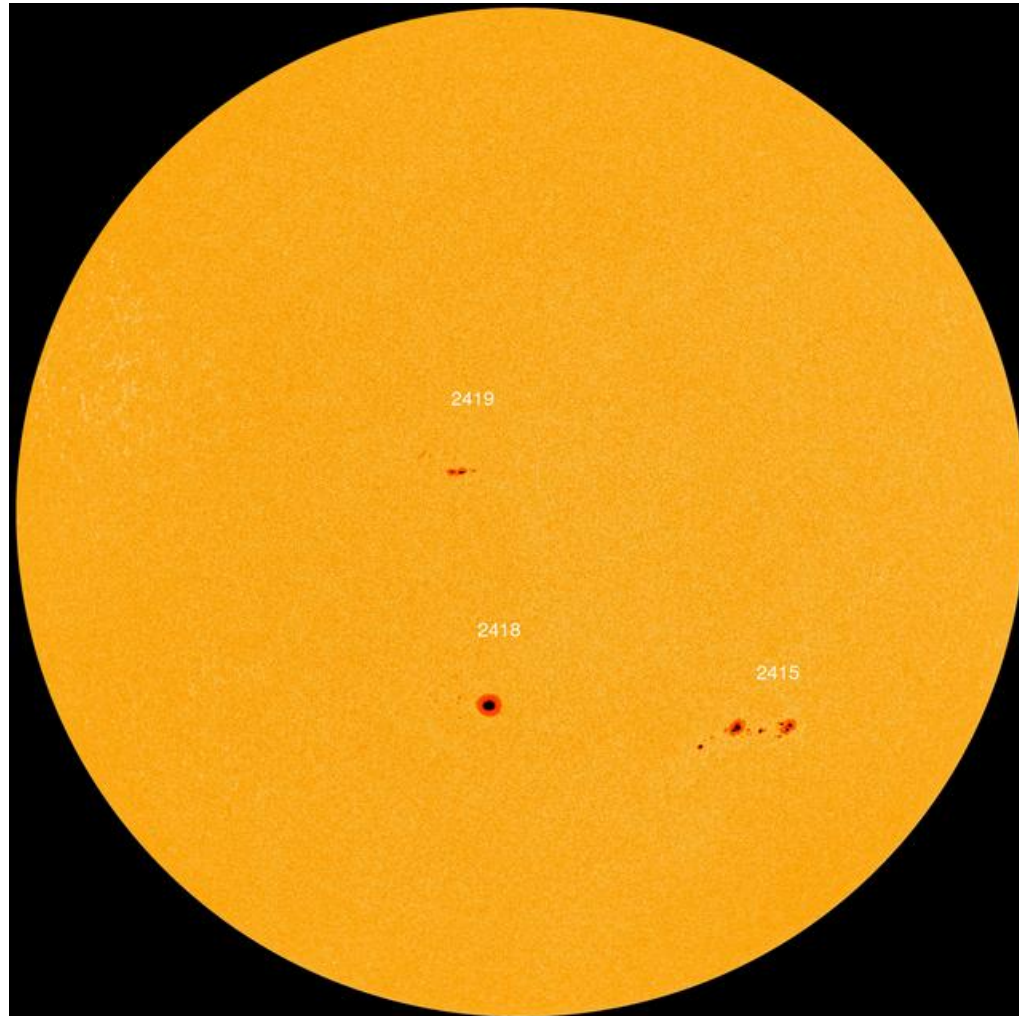


# The Solar Update



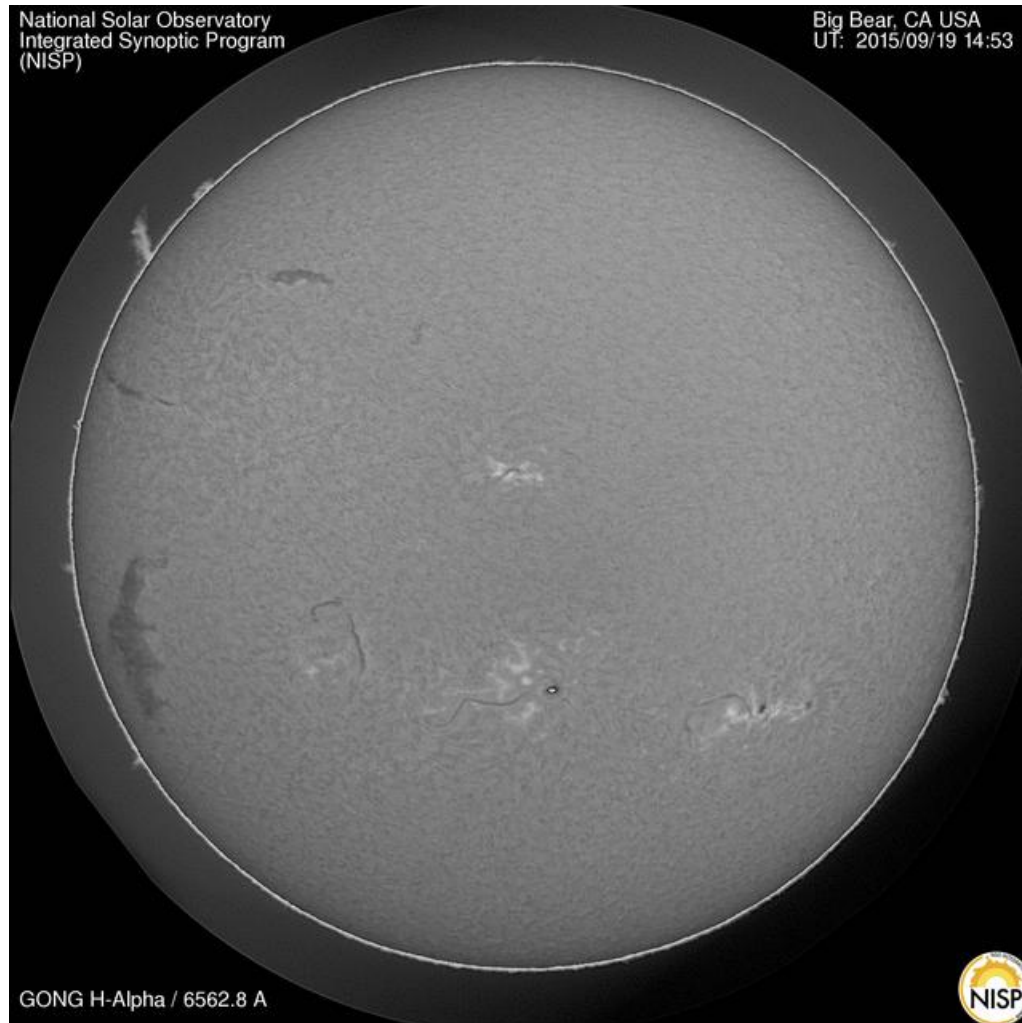


# The Sun: September 19, 2015





# The Sun-H $\alpha$ : September 19, 2015





# The Sun-H $\alpha$ : September 17, 2015



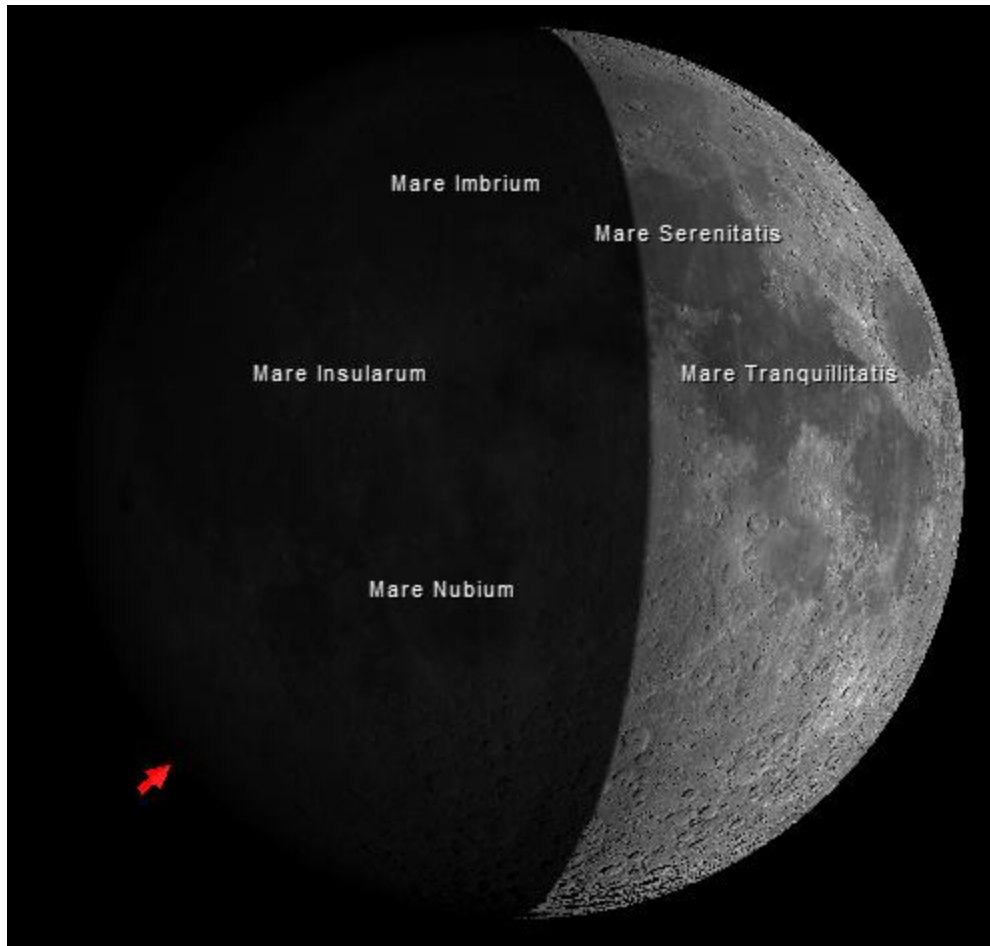


# The Lunar Update





# The Moon: September 19, 2015



**Lunation: 6.6 Days**

**Illumination: 36%**

**Distance:**

**242,795 mi**

**390,747 km**

**1.31 Light Second**

**Apparent Diameter: 30.6'**

**Location: Ophiuchus**



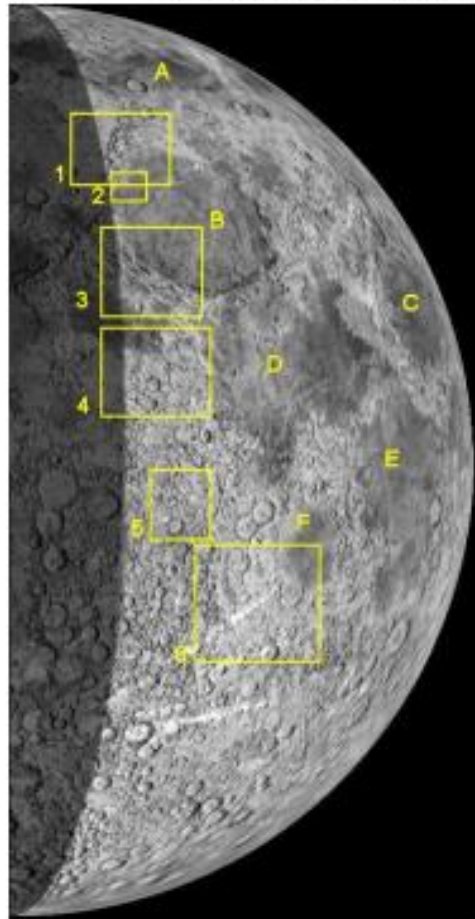
# The Moon: September 19, 2015





# The Moon: September 19, 2015

International Observe the Moon Night, Sept 19 2015



## Lunar Maria (Seas)

You can see a number of maria tonight. These are large, flat plains of solidified basaltic lava. They can be viewed in binoculars or even with the unaided eye.

- A. Mare Frigoris
- B. Mare Serenitatis
- C. Mare Crisium
- D. Mare Tranquillitatis
- E. Mare Fecunditatis
- F. Mare Nectaris

## Selected Telescopic Objects

Some of the more interesting lunar landforms that have favorable lighting for viewing tonight are identified here. Details for each are on the reverse side of this map.

- 1. Caucasus Mountains
- 2. Valentine Dome
- 3. Haemus Mountains
- 4. Hyginus and Ariadeus Rilles
- 5. Descartes Highlands (Apollo 16)
- 6. Altai Scarp

This map is for the northern hemisphere with north up. Photos on the reverse all have north up.

The above map depicts the Moon as it will appear at approximately 10:30 PM EDT and 7:30 PM PDT on International Observe the Moon Night, September 19, 2015. Many of the most detailed views will occur along the terminator (the line between the day and night side) of the Moon.



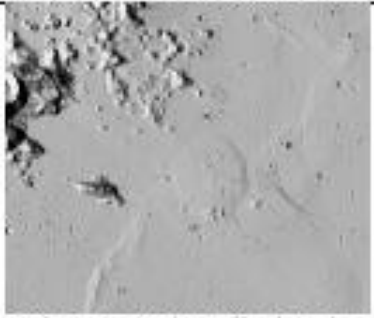


# The Moon: September 19, 2015

## InOMN 2015 – Selected Objects for Telescopic Viewing



1. Caucasus Mountains: Mountain range on the northwest edge of Mare Serenitatis. 520 km long and 6 km high. \*



2. Valentine Dome: A low-profile volcanic dome just east of south tip of Caucasus Mountains. Visible only when very near the terminator, like tonight! 39 km across and about 350 m tall. \*\*



3. Haemus Mountains: Mountain range at the southwestern edge of the Mare Serenitatis. 400 km long and 2.4 km high. \*



4. Hyginus and Ariadeus Rilles: Formed by magma rising up through and widening cracks in the lunar crust. Hyginus (angled) to the west and Ariadeus to the east. \*



5. Descartes Highlands: Apollo 16 landed north of the crater Descartes. \*



6. Altai Scarp: An arcing, 3.5-4 km high cliff (highlighted by white arrows in the image), 480 km long that is part of the outer ring of mountains around the impact basin that contains Mare Nectaris. \*

\*Lunar Reconnaissance Orbiter LROC Wide Angle Camera image \*\*Lunar Reconnaissance Orbiter Laser Altimeter map - <http://lro.gsfc.nasa.gov/>

All 6 Images on this page retrieved using NASA's Lunar Mapping and Modeling Portal - <http://lmp.nasa.gov>

International Observe the Moon Night - <http://observethemoonnight.org/>



# The Moon: September 19, 2015



1. Caucasus Mountains: Mountain range on the northwest edge of Mare Serenitatis. 520 km long and 6 km high. \*



# The Moon: September 19, 2015



2. Valentine Dome: A low-profile volcanic dome just east of south tip of Caucasus Mountains. Visible only when very near the terminator, like tonight! 39 km across and about 350 m tall. \*\*



# The Moon: September 19, 2015



3. Haemus Mountains: Mountain range at the southwestern edge of the Mare Serenitatis. 400 km long and 2.4 km high. \*



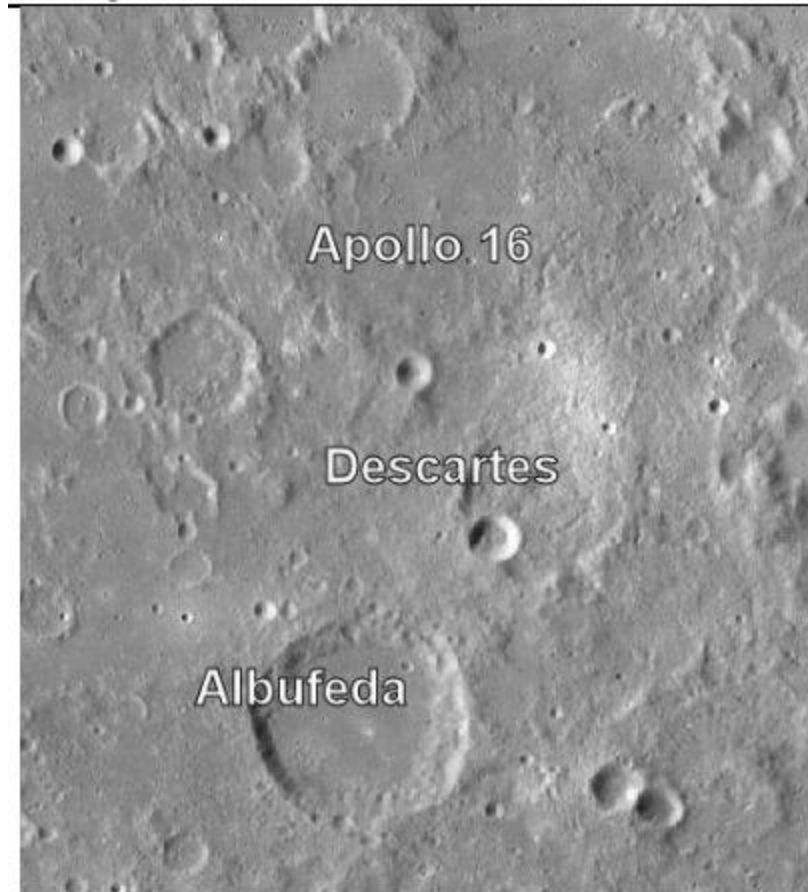
# The Moon: September 19, 2015



4. Hyginus and Ariadeus Rilles: Formed by magma rising up through and widening cracks in the lunar crust. Hyginus (angled) to the west and Ariadeus to the east. \*



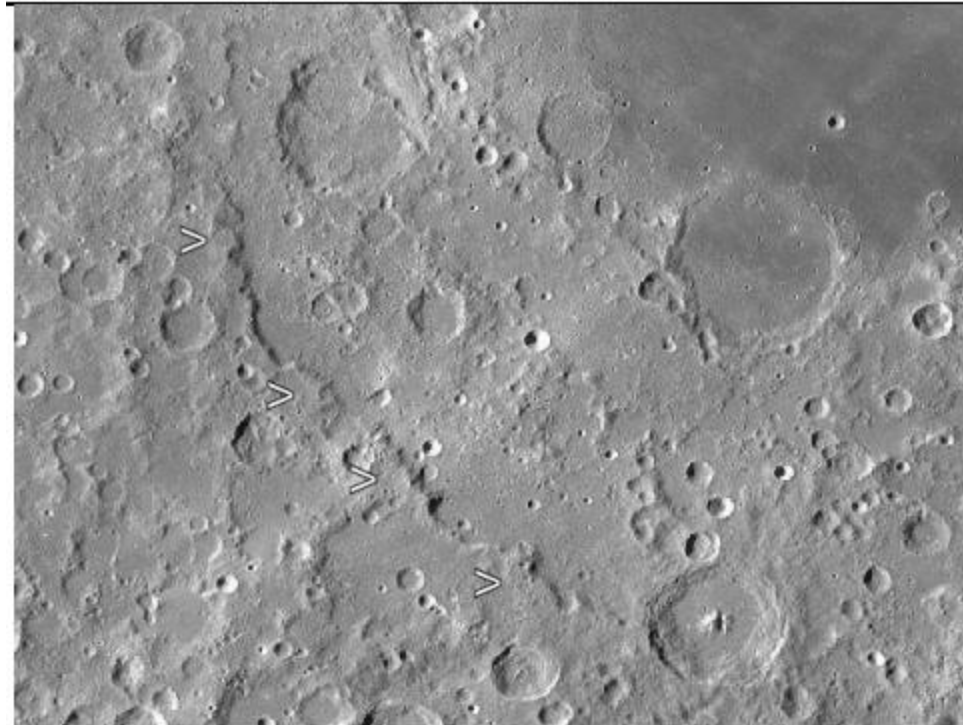
# The Moon: September 19, 2015



5. Descartes Highlands: Apollo 16 landed north of the crater Descartes. \*



# The Moon: September 19, 2015



6. Altai Scarp: An arcing, 3.5-4 km high cliff (highlighted by white arrows in the image), 480 km long that is part of the outer ring of mountains around the impact basin that contains Mare Nectaris. \*



# The Moon: September 27, 2015







# Lunar Events

- September 19<sup>th</sup>: International Observe the Moon Night
- September 21<sup>st</sup>: First Quarter
- September 26<sup>th</sup>: Moon at perigee (closest to Earth)
- September 27<sup>th</sup>: Full Moon, **TOTAL LUNAR ECLIPSE**
- October 2<sup>nd</sup>: Conjunction with Aldebaran (0.5 degree)
- October 8<sup>th</sup>: Conjunction with Venus (0.7 degrees)
- October 12<sup>th</sup>: New Moon



# Constellation Action

## Last Chance for 2015

Draco	Ophiuchus
Canes Venatici	Libra
Bootes	Scorpius
Serpens	

## High in the Sky (Chiropractor time for binocular users):

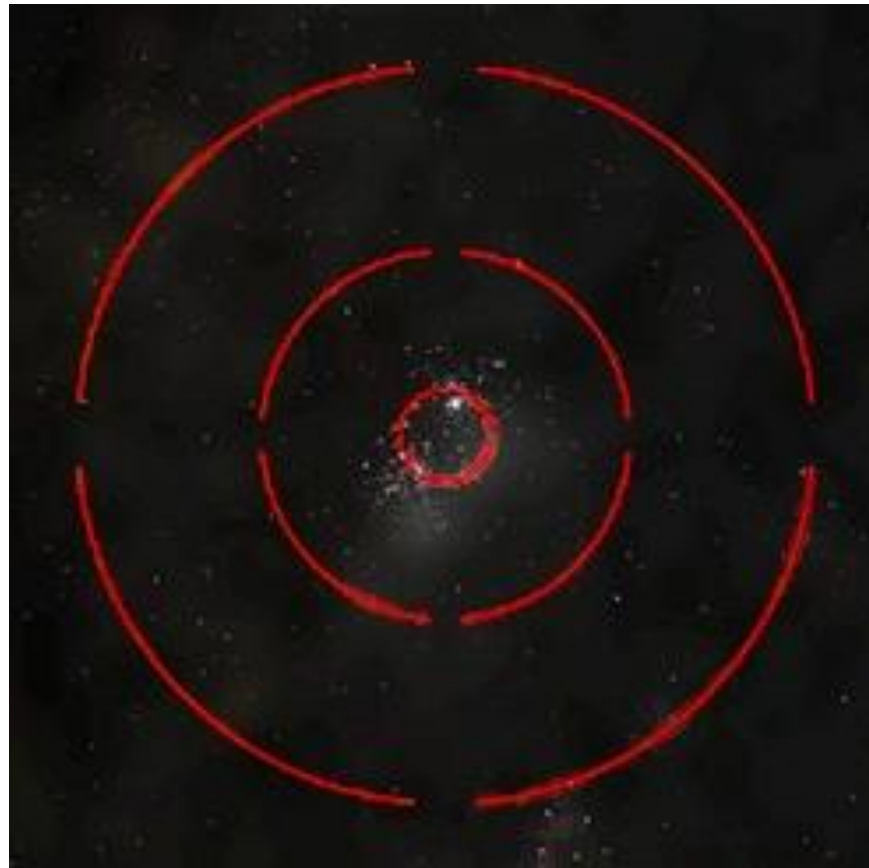
Cygnus	Delphinus
Lyra	Aquila
Sagitta	Scutum
Vulpecula	Sagittarius

## New to the game:

Pegasus	Triangulum
Aquarius	Aries
Pisces	Cassiopeia
Andromeda	




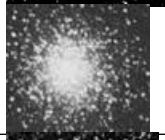
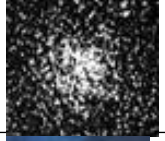



# September Target Lists





# September Target List: Relaxing







## Naked Eye and Binocular

Target	Type	Constellation	Notes	Image
M27	PN	Vulpecula	Dumbbell Nebula	
M15	GC	Pegasus	Globular Cluster near Enif	
M11	OC	Scutum	Wild Duck Cluster – Does it look like ducks to you? Me neither.	
Rho Ophiuchi	DS	Ophiuchus	Multiple star system in reflection nebula.	
M8	NB	Sagittarius	Lagoon Nebula – Try UHC or OIII filters to enhance the detail	
M31	GX	Andromeda	Andromeda Galaxy – Naked eye at 2,500,000 light years away!	








# September Target List: Intriguing

## Small to medium telescopes

Target	Type	Constellation	Notes	Image
NGC 7009	PN	Aquarius	Saturn Nebula	
M28	GC	Sagittarius	Globular Cluster near Kaus Borealis at top of teapot	
NGC 6611	OC	Serpens	Open cluster inside the Eagle Nebula near Pillars of Creation	
Delta Lyrae	DS	Lyra	Orange and Blue pair in Lyra – check Albireo for comparison	
NGC 6826	PN	Cygnus	Blinking Planetary – Can you see how it got the nickname?	
				



# September Target List: Taxing Light Buckets

Target	Type	Constellation	Notes	Image
NGC 7293	PN	Aquarius	Helix Nebula – low surface brightness. Use low power.	
NGC 6624	GC	Sagittarius	Near Kaus Media inside the teapot	
NGC 6910	OC	Cygnus	Small tight cluster near Sadr – rich star field makes it difficult	
Epsilon Pegasi	DS	Pegasus	Enif: +2.4 primary, +12.8 companion, 86" separation	
NGC 6992/6995	NB	Cygnus	Veil Nebula – Use low power and hope for very dark skies	
M33	GX	Triangulum	Pinwheel Galaxy – Very low surface brightness.	



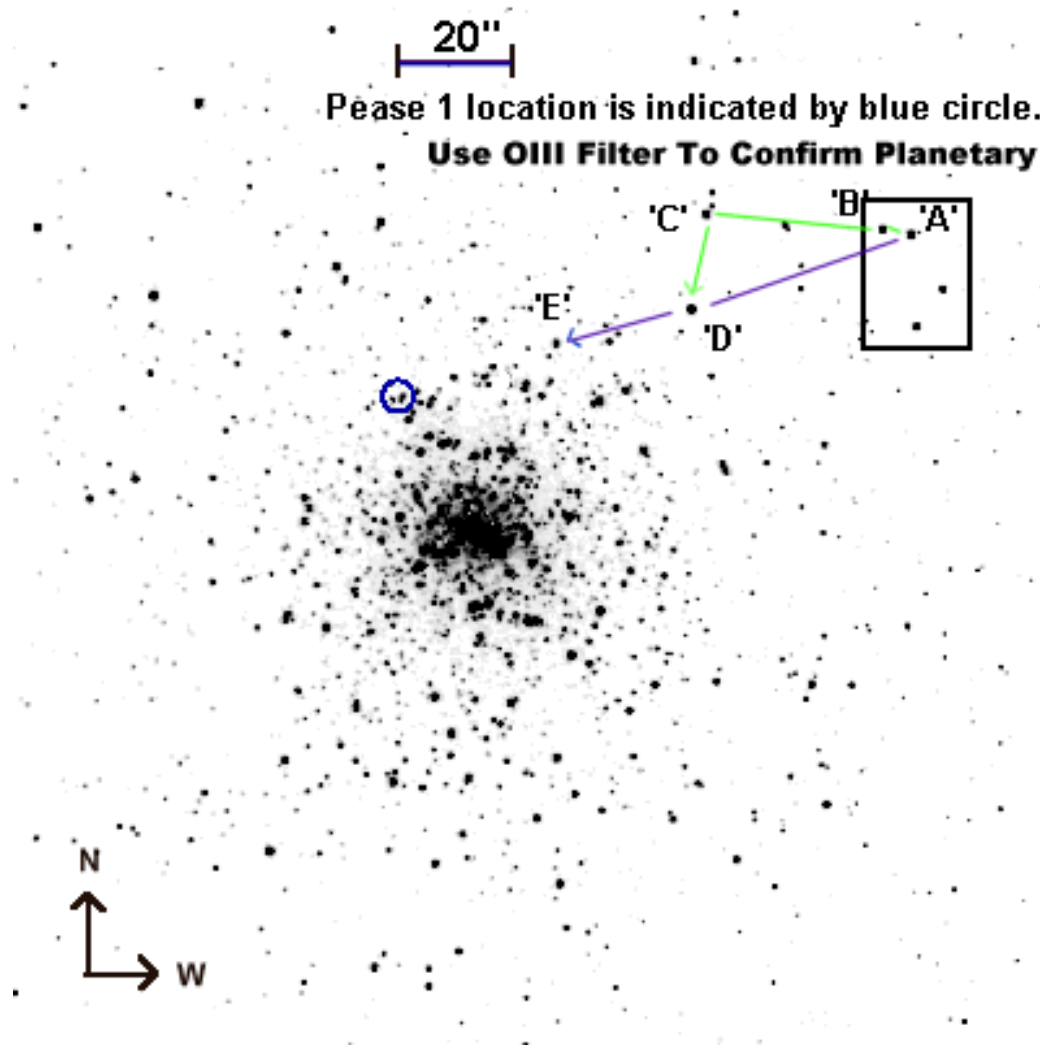
# September Challenge Object: Pease 1

- Planetary Nebula
- Located INSIDE Globular Cluster M15
- Size: 1"
- Visual Magnitude: +15
- Distance: 28 kly
- Requires OIII filter to identify
- Must have detailed star chart of M15 to locate





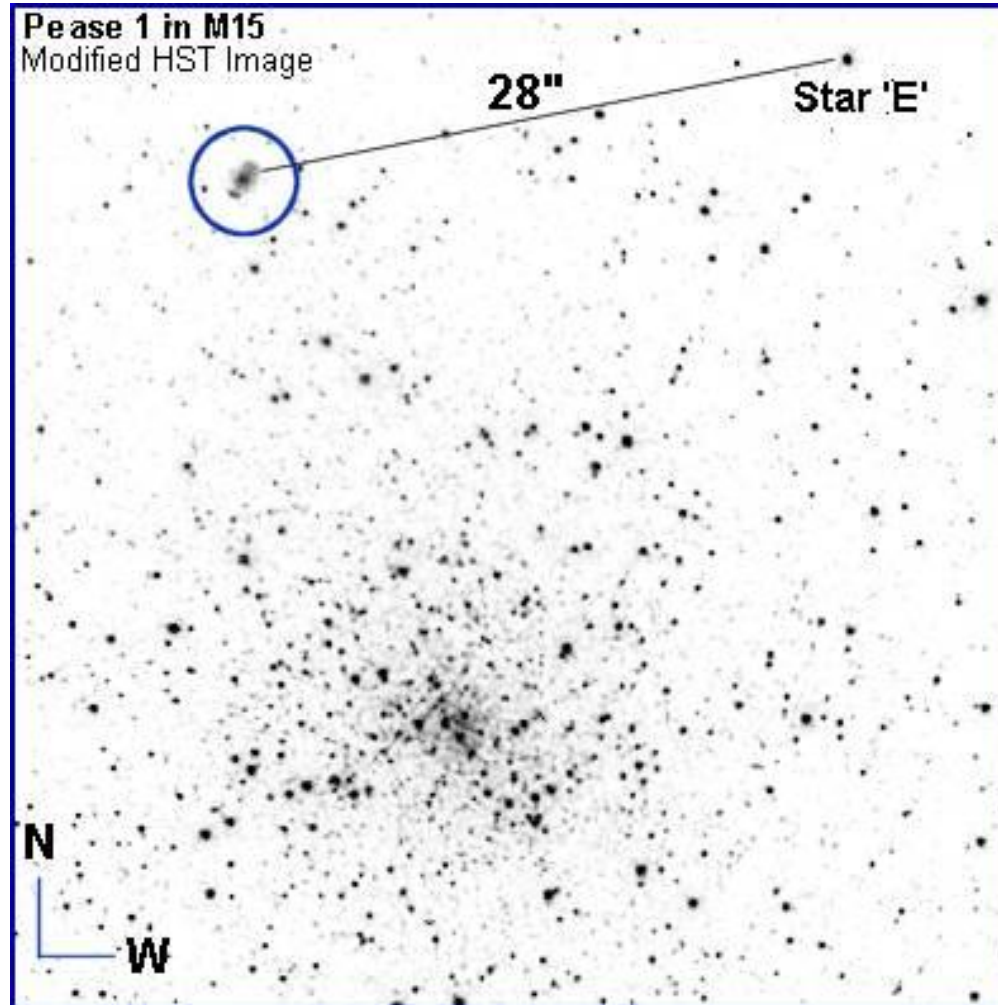
# September Challenge Object:





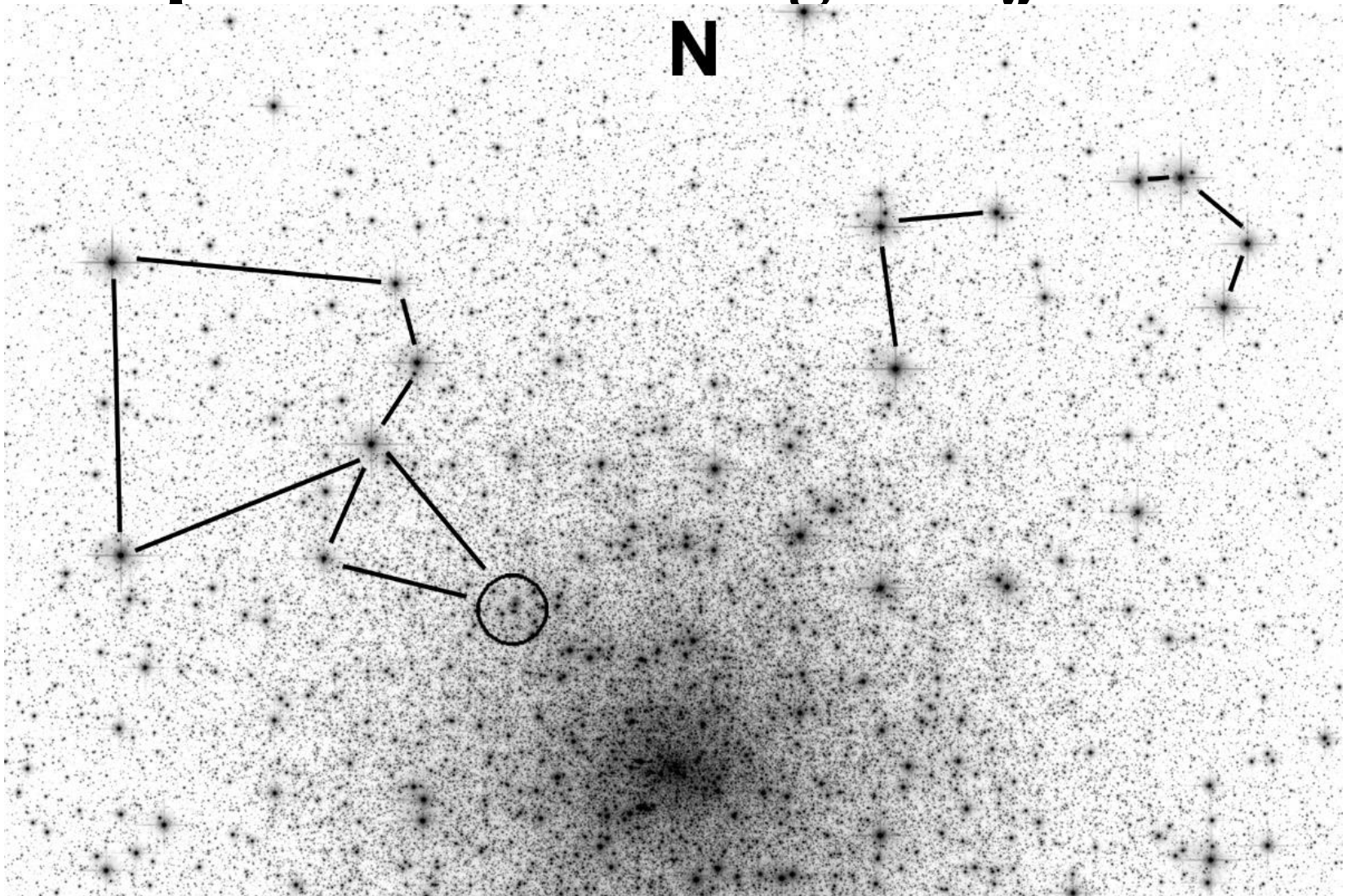


# September Challenge Object:





# September Challenge Object: N





# Celestial Events to Note:

- **September 21<sup>st</sup>: Venus shines at Magnitude -4.8**
- **September 23<sup>rd</sup>: Fall Equinox 4:40 AM EST**
- **September 27<sup>th</sup>: Full Moon, TOTAL LUNAR ECLIPSE**
- **October 10<sup>th</sup>: Charlie Elliott Astronomy meeting**
- **October 11<sup>th</sup>: Peach State Star Gaze**
- **October 12<sup>th</sup>: New Moon**

▪ **Special Note: Venus, Jupiter and Mars are heading for some fantastic conjunctions in October, but you have to come back on the 10<sup>th</sup> to hear about it.**



**Clear Skies!**