

ASTRONOMY RELATED APPS

# IOS (iPhone & iPad)



Brian Gibson

Many astronomy apps are  
available for the iPhone  
and iPad

Some help locate objects,  
check weather, align the  
telescope, alert to events  
and aurorae, identify  
craters and moons,  
find dark skies or  
even calculate values!





Friday, Nov. 11

[VIEW](#)

- Very low in the southwest, Saturn is falling ever farther away to the lower right of Venus at dusk. Far to the upper left of Venus, Mars is drawing closer toward it very, very gradually.
- By about 8 p.m. now, Orion is clearing the eastern horizon (depending on how far east or west you live in your time zone). High above Orion shines orange Aldebaran. Above Aldebaran is the little Pleiades cluster, the size of your fingertip at arm's length. Far left of the Pleiades shines bright Capella.

Saturday, Nov. 12

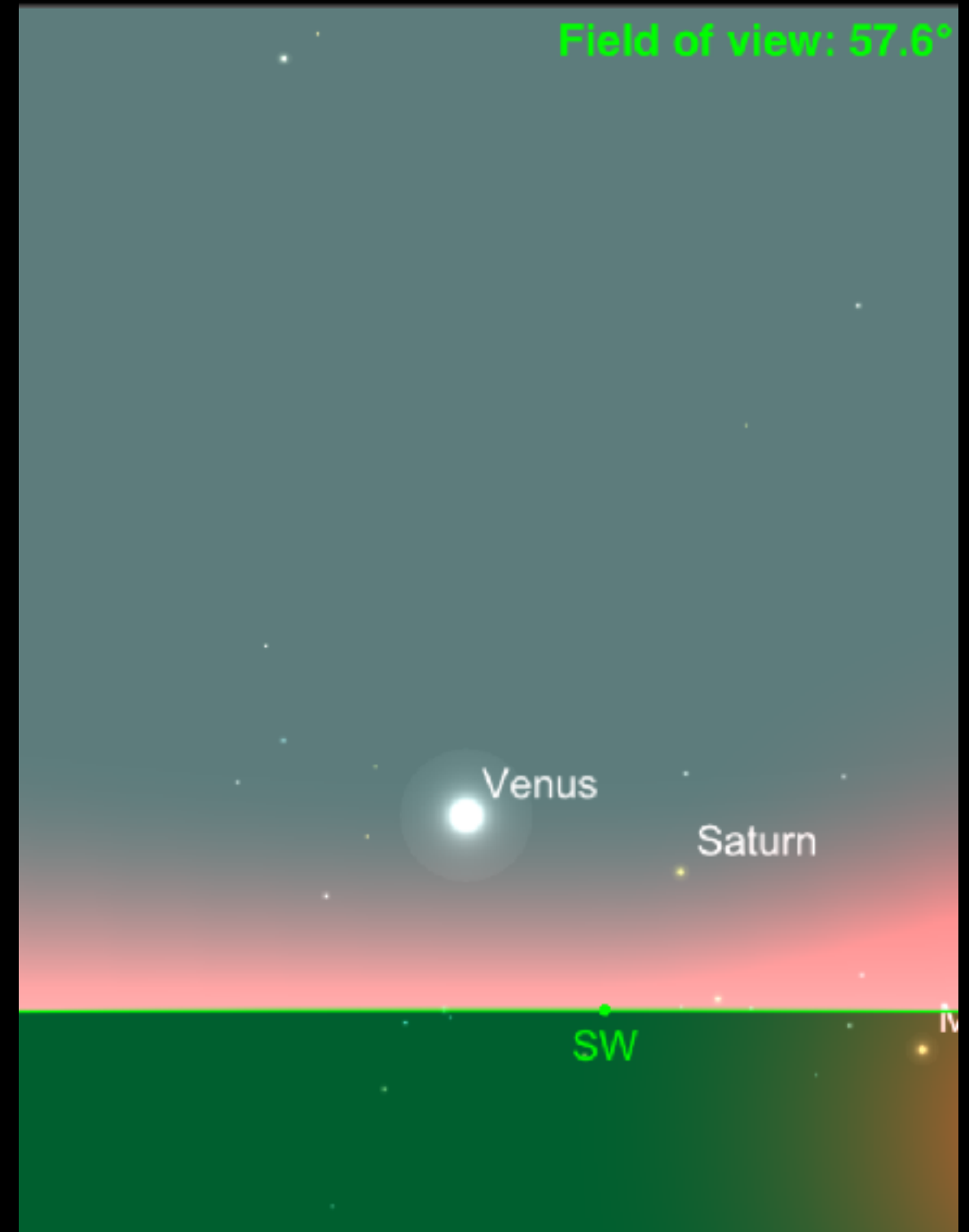
[VIEW](#)

- The waxing gibbous Moon shines in the southeast this evening. Upper left of it by about  $15^\circ$  are the two or three leading stars of Aries. About the same distance lower left of the Moon is Menkar, Alpha Ceti, the only brightish star (magnitude 2.5) in Cetus's

Current Location

Fri Nov 11, 2016 05:30:00 PM

Field of view:  $57.6^\circ$



Now



Year

Month

Day

Hour

Min

Sec



Home



Back



Forward



Night Vision



Refresh



November 2, 2016



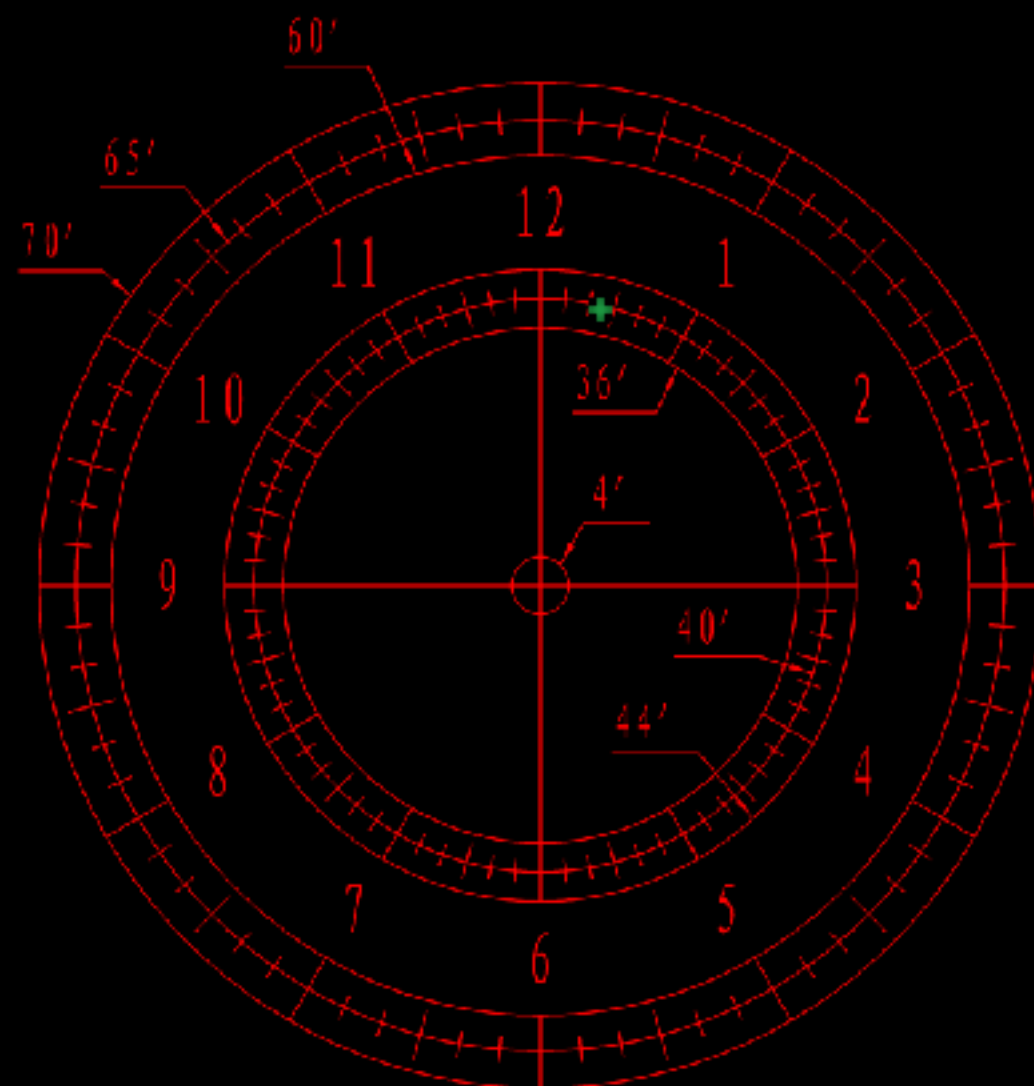
# APOD



© 2016, John Hayes

Local Time: 2016-11-07 11:27:42  
Longitude: 079°45'51" W  
Latitude: 43°27'01" N  
Elevation: 0151 m  
Temperature: 11.2 °C  
Barometric Pressure: 100956 Pa  
Position of Polaris: 00h 24.7m  
Radius: 39.9 arcmin

English/简体中文



M27: The Dumbbell Nebula



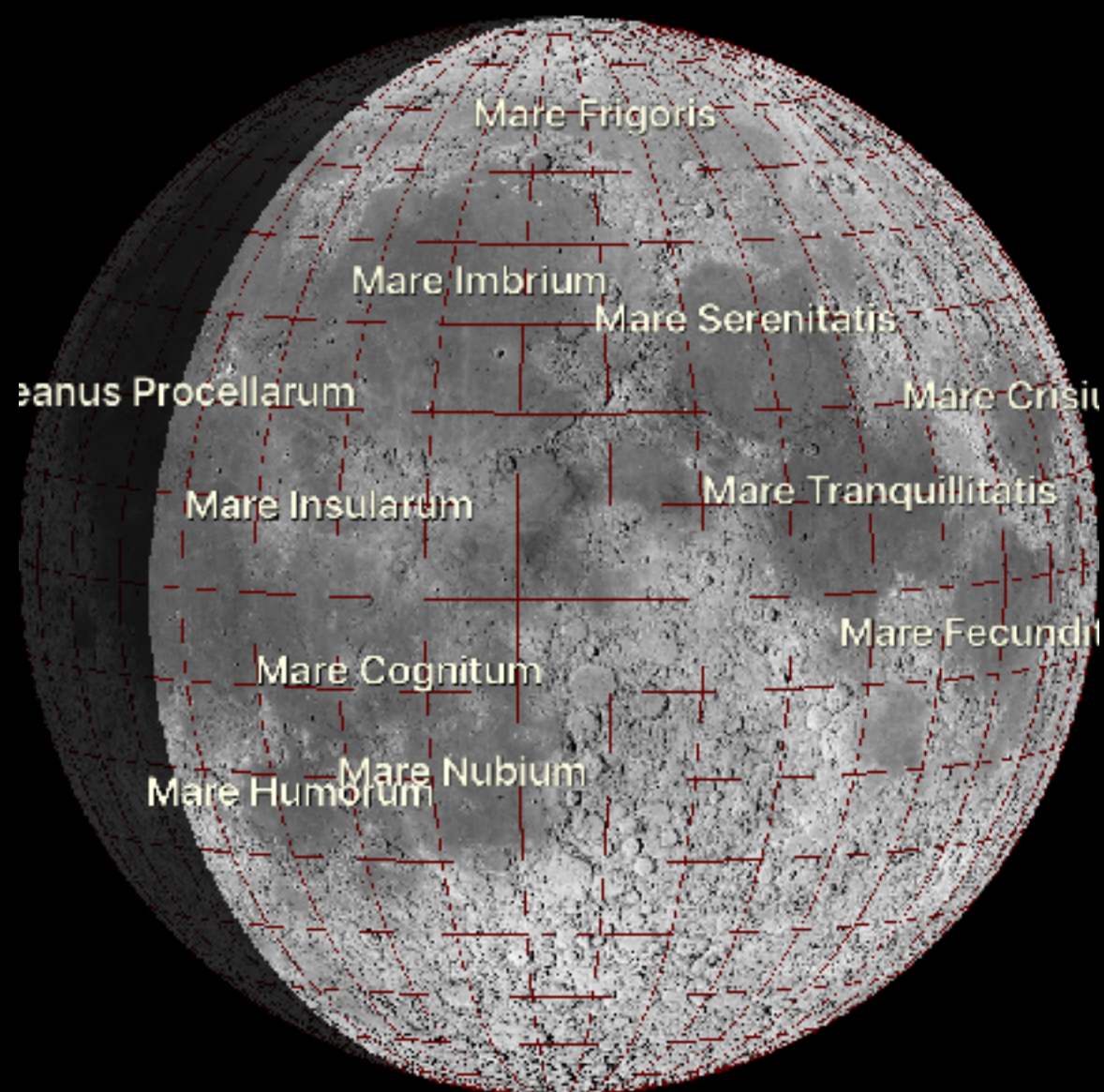




Nov 11, 2016, 11:27 AM



# Moon Atlas



16:27 UTC



Map



Phase



Libration



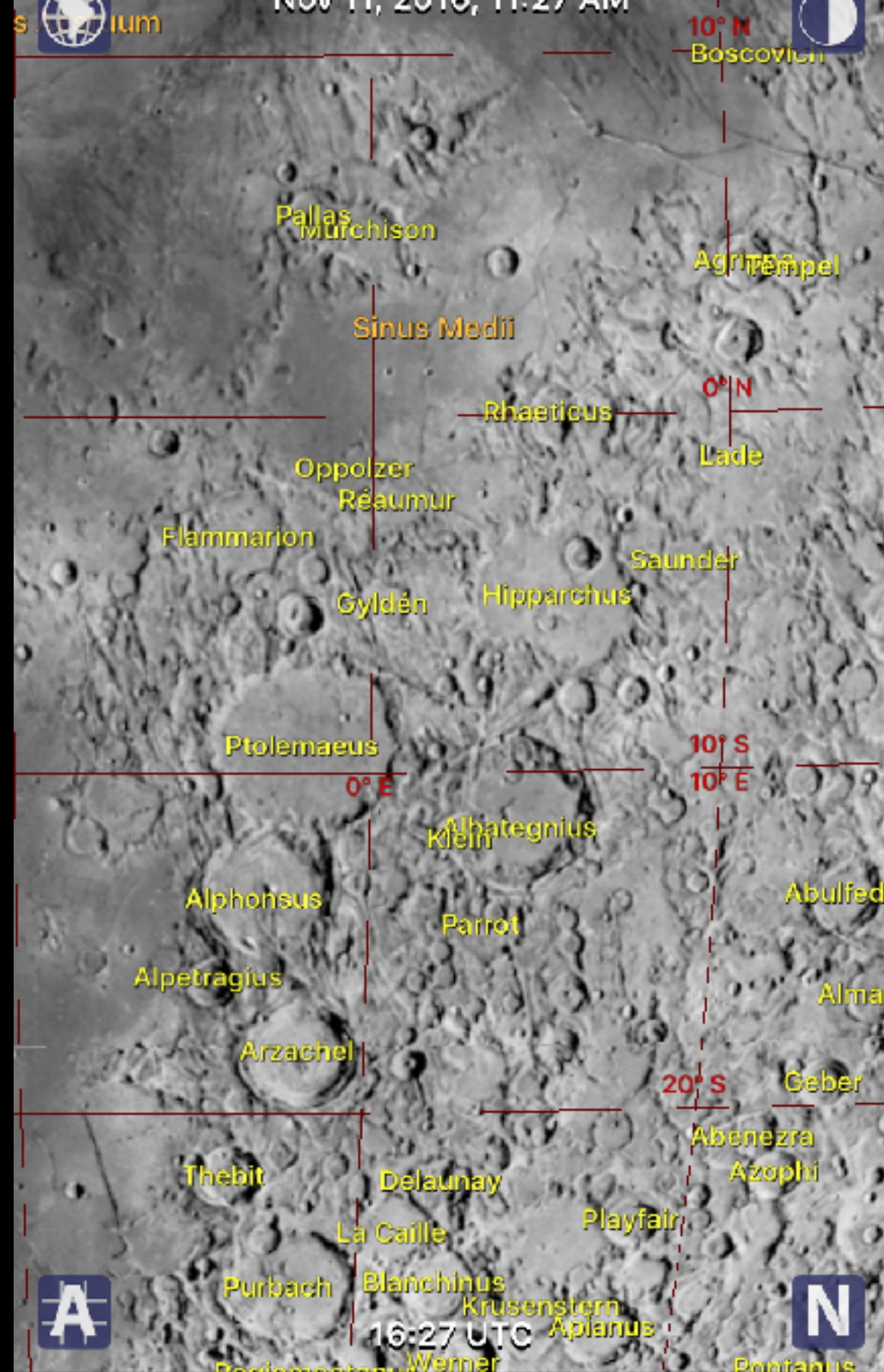
Search



Settings



Nov 11, 2016, 11:27 AM



16:27 UTC



Map



Phase



Libration



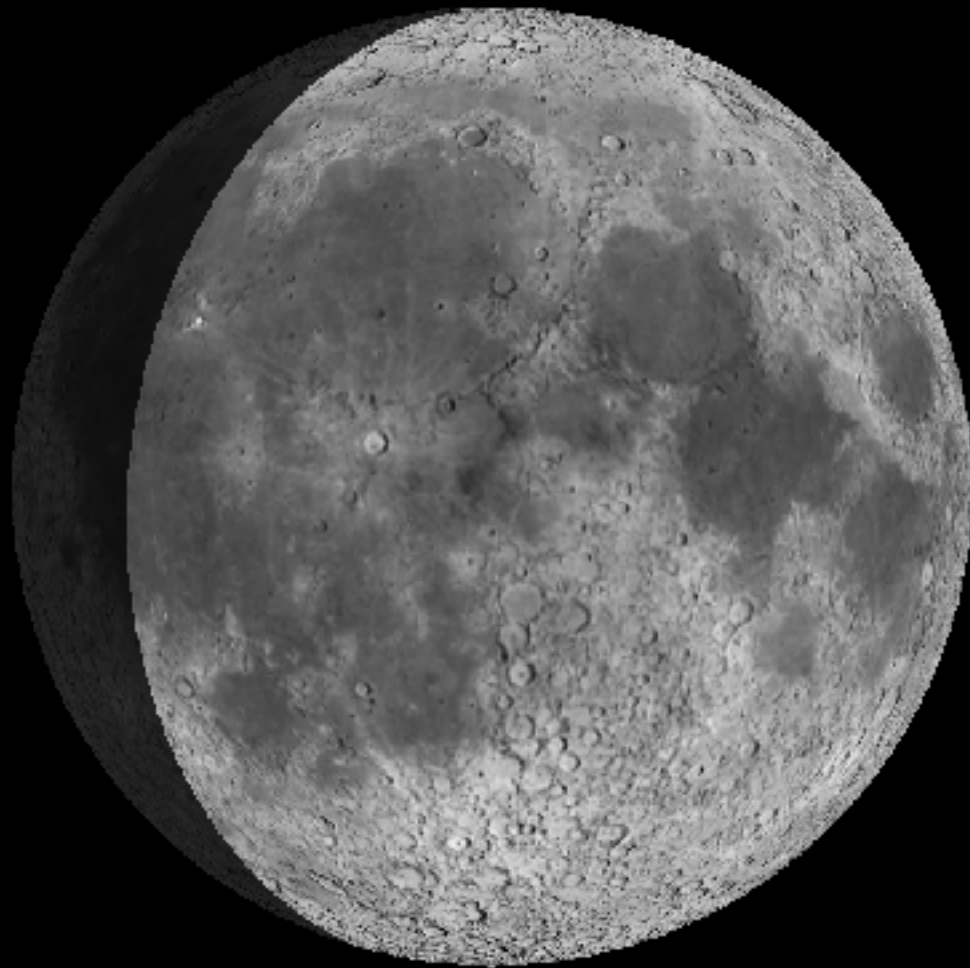
Search



Settings



# Aurora Fcst



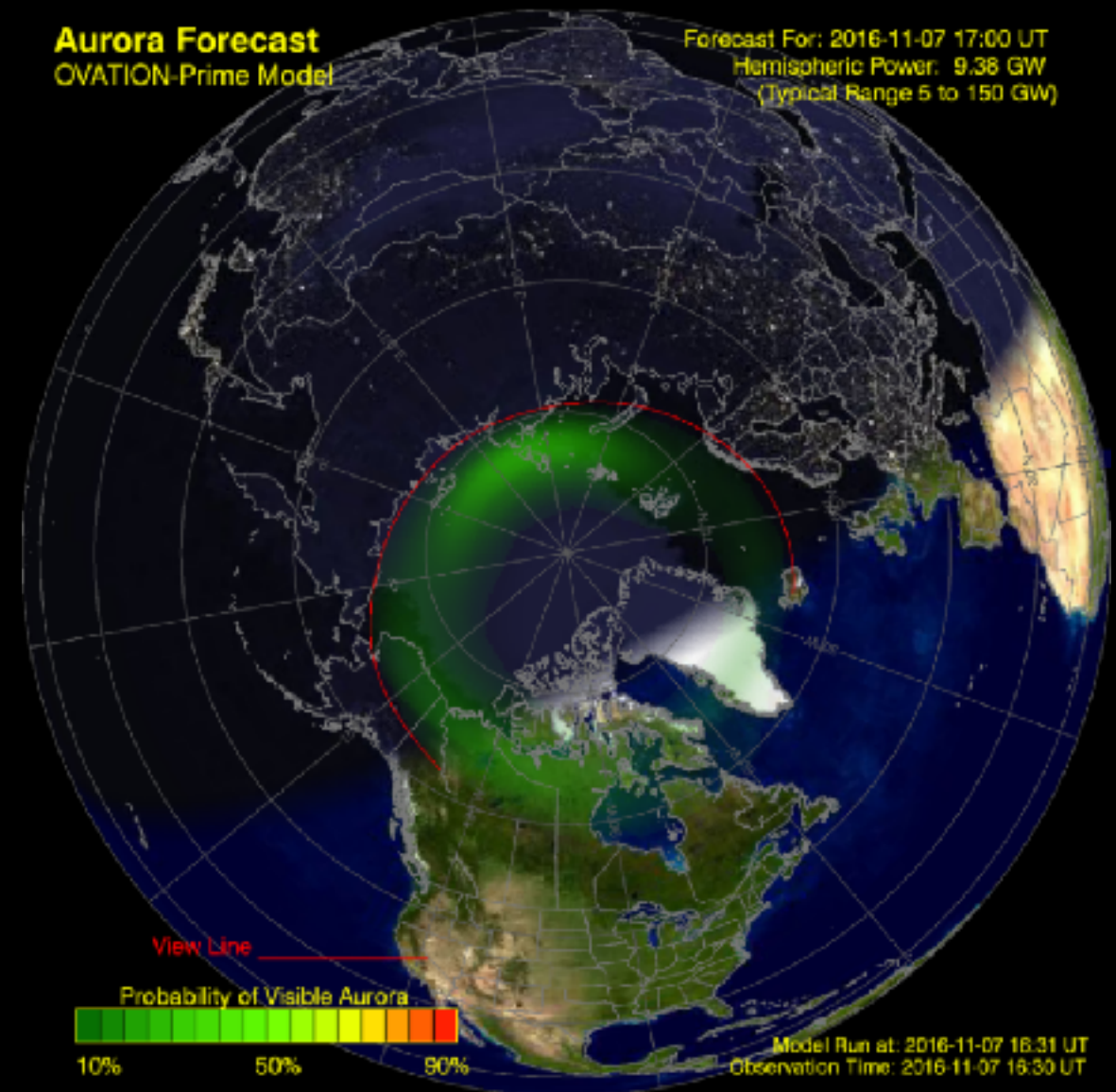
RA: 00 h 36.7 m  
Dec: +00° 29.9'  
Currently Below  
Horizon

Phase: 87.9% (Waxing)  
Colongitude: 54.6°  
Angular Size: 32.50'  
Set: 03:08 Rise: 15:34

Distance: 361,255.1 km (224,473.5 miles)

## Aurora Forecast OVATION-Prime Model

Forecast For: 2016-11-07 17:00 UT  
Hemispheric Power: 9.38 GW  
(Typical Range 5 to 150 GW)



Map



Phase



Libration



Search



Settings



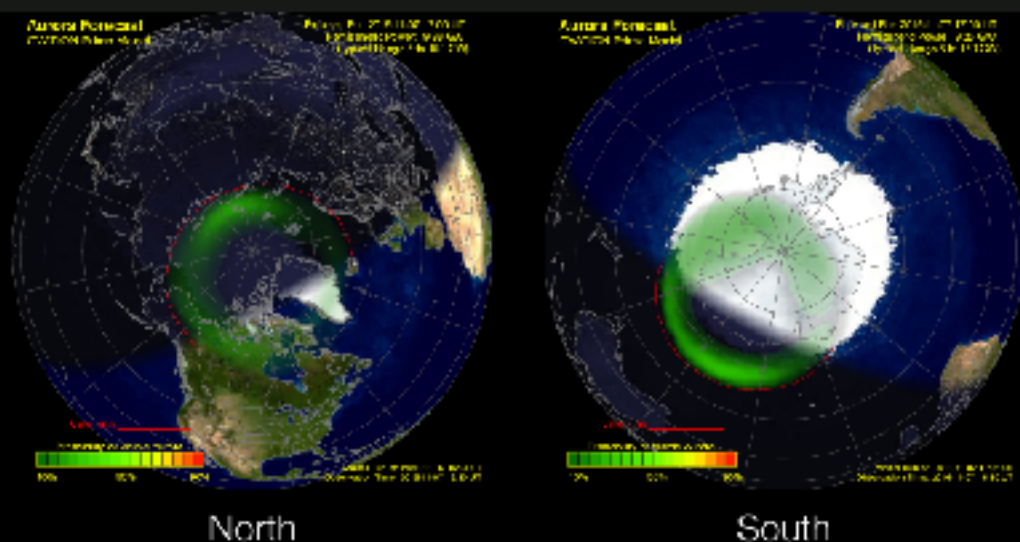


## Auroral activity

Nov 7, 2016, 11:34 AM LT



### SWPC ovation auroral forecast



### Geomagnetic activity probabilities

High Latitude	Mon, 07	Tue, 08	Wed, 09
Active	15	15	15
Minor storm	20	15	20
Major-severe storm	20	15	20

Middle Latitude	Mon, 07	Tue, 08	Wed, 09
Active	15	25	15
Minor storm	5	10	5
Major-severe storm	1	1	1

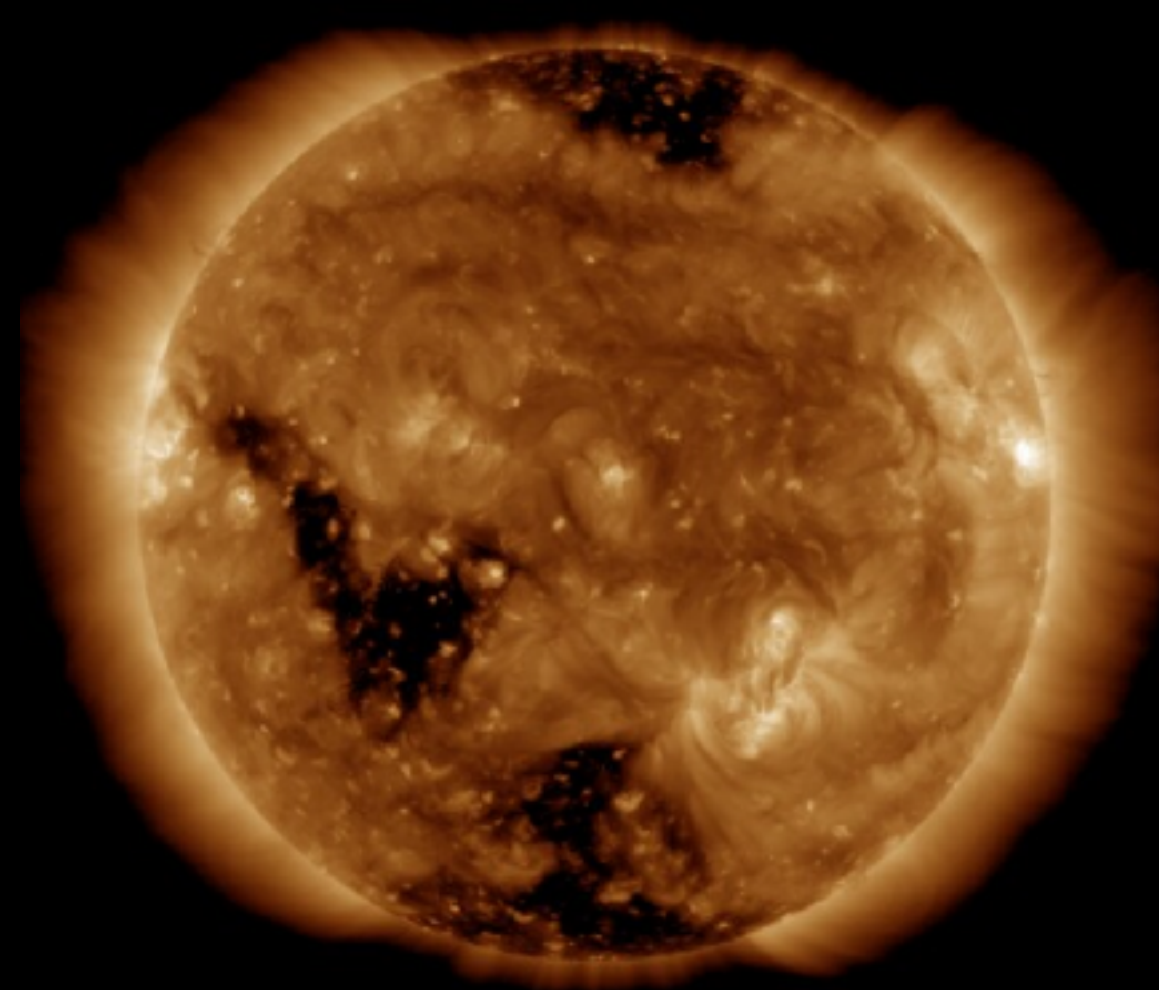
### Auroral predictions

Predicted High Latitude Kp Index

LT

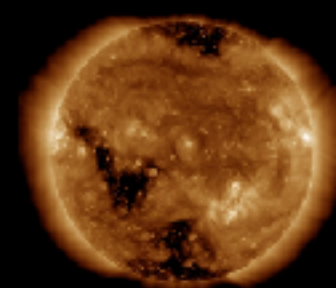


## Sun now

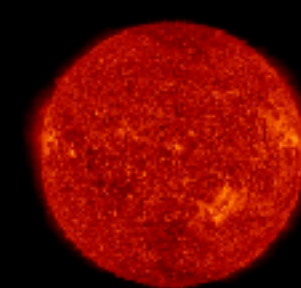


SDO/AIA 193 2016-11-07 16:26:30 UT

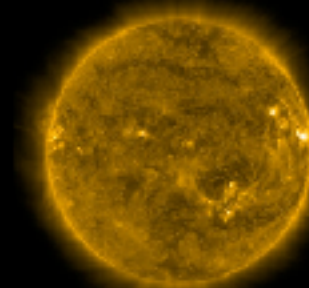
AIA 193



AIA 193



AIA 304



AIA 171



MoonPhase

Nov 11, 2016, 8:00 PM



Moon



Calendar



Settings



Location



Nov 11, 2016, 8:00 PM



Moon



Calendar



Settings



Location



●●●○○ ROGERS LTE 11:36 AM 93%

## November 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30 ○	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14 ●	15	16	17	18	19
20	21 ●	22	23	24	25	26
27	28	29 ○	30	1	2	3



Moon



Calendar



Settings



Location

Jupiter

Saturn

Uranus

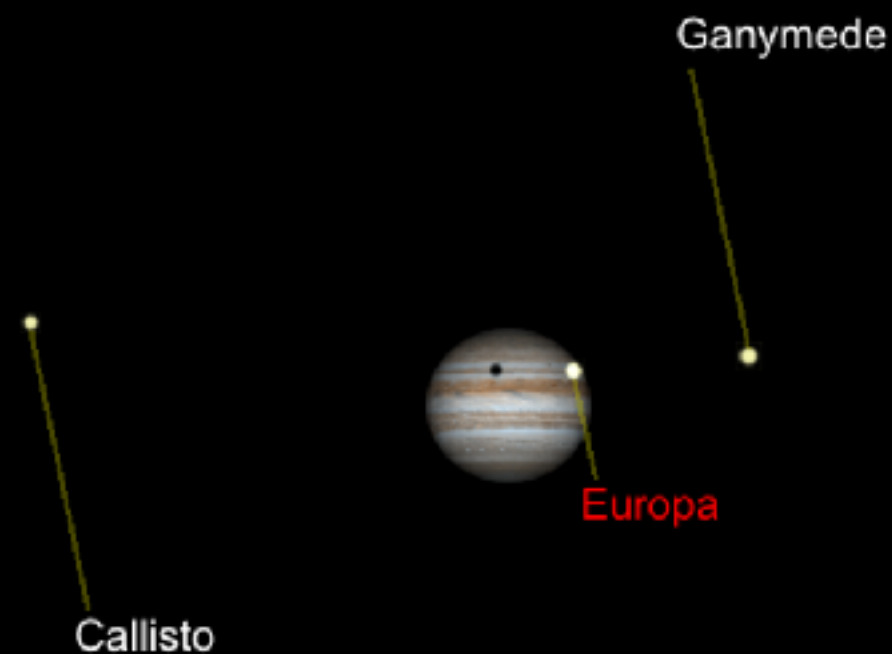
Neptune

FOV: 00° 08' 41"

View: Manual

Mirrored

## Gas Giants



Visible

Eclipsing

Eclipsed

Nov 8, 2016, 1:09 AM



Jupiter

Saturn

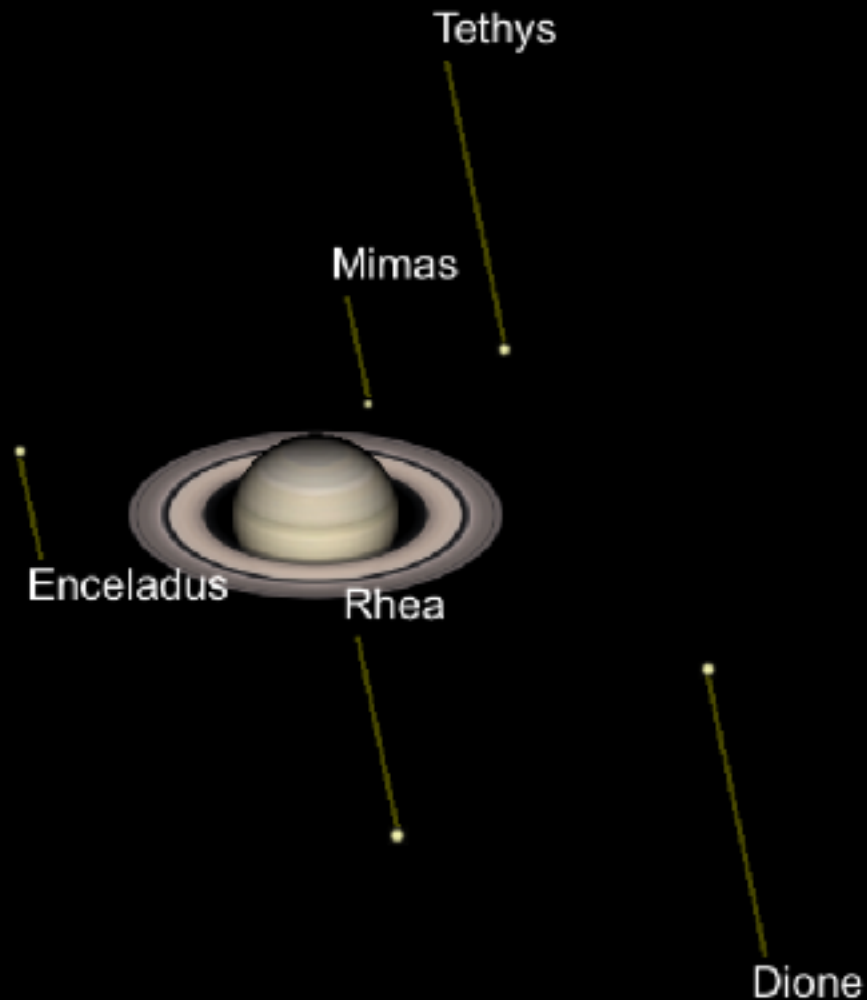
Uranus

Neptune

FOV: 00° 04' 11"

View: Manual

Mirrored



Visible

Eclipsing

Eclipsed

Nov 8, 2016, 6:46 AM



AstroAid



Instrument

Telescope: LX200 10"



Eyepiece/Imager

Eyepiece: Panoptic 35mm



Optical Aid

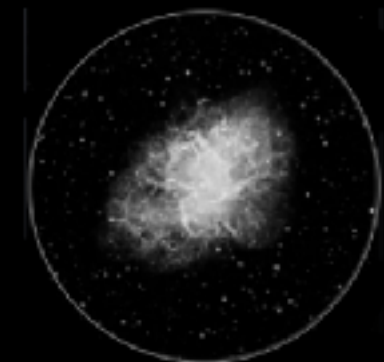
None



Parameters

Telescope	
Aperture	203 mm
Focal length	2000 mm
Focal ratio	f/10
Visual magnitude limit	14.2
Dawes' limit	0.58"
Lower magnification limit	27 X
Upper magnification limit	317 X

Field of View





AstroAid

## Parameters

### Optical Aid

Focal length increase n/a

Magnification n/a

### System

Magnification 71 X

Actual field of view 57.1'

Exit pupil 3.6 mm

Actual focal length 2500 mm

Actual focal ratio f/9.8

Depth of Focus (550nm) 260.0  $\mu\text{m}$

Instrument

Eyepiece/Imager

Optical Aid

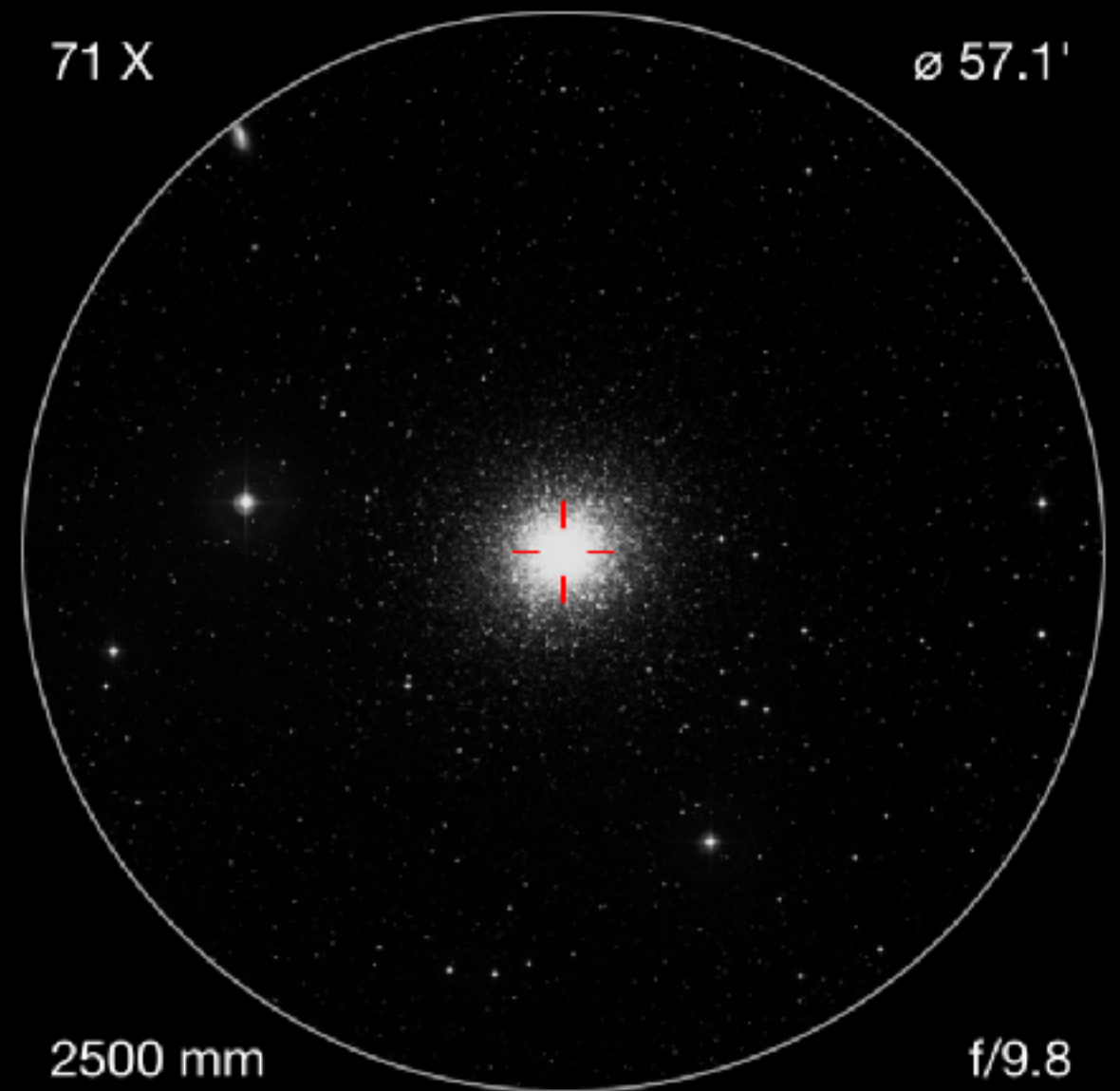
AstroAid

## Field of View

M 13: Hercules Globular Cluster, Great Hercules Cluster

71 X

Ø 57.1'



2500 mm

f/9.8

LX200 10" • Panoptic 35mm

Instrument

Eyepiece/Imager

Aid



# Spyglass

This is an augmented reality app that overlays the camera view with a compass and altimeter

I used it to determine whether I would be able to see Pluto from this location





# Star Walk





→|← 2016.11.11 09:39 PM →|



Uranus

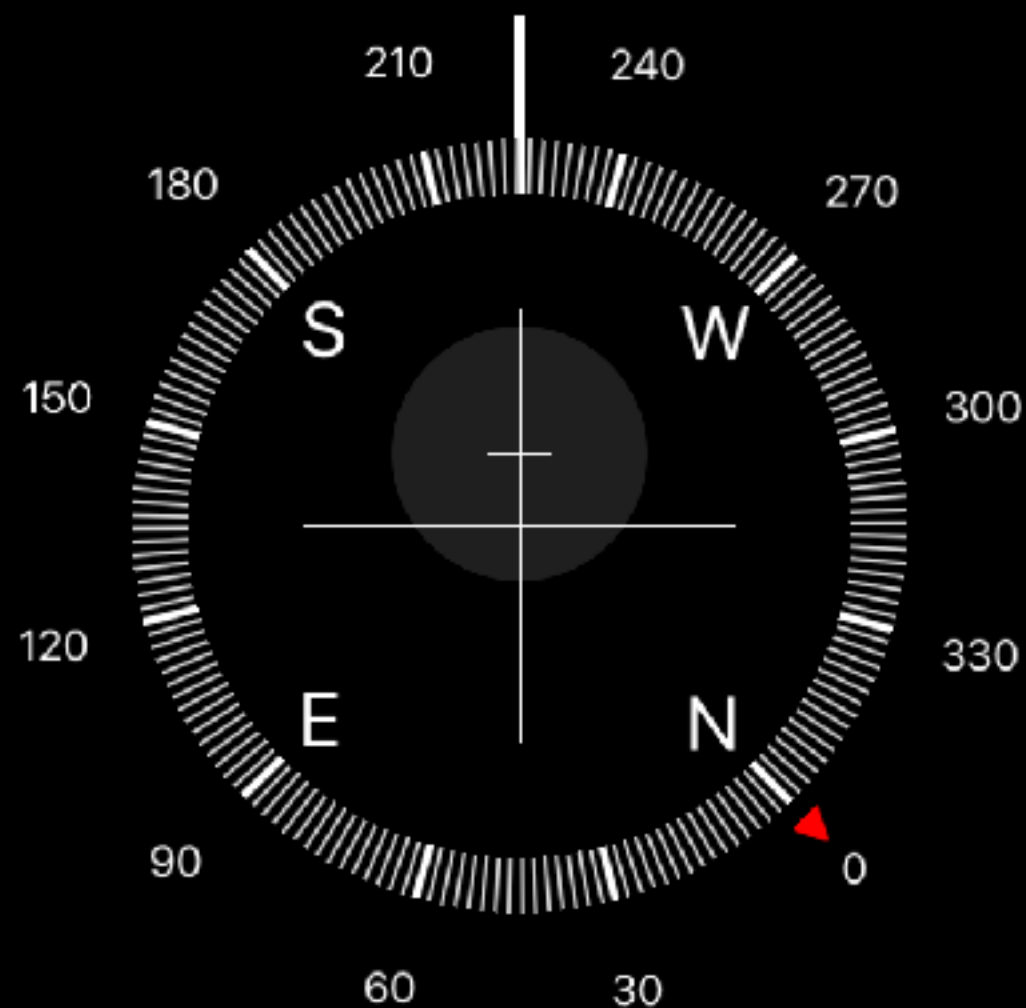
2015 RR245



Moon



# Compass



224° SW  
Oakville  
ON

43°27'1" N 79°45'52" W  
150 m Elevation

E 85.8° Alt +20.0° 57.5° x 82.3°

# SkySafari +



Navigation controls for the SkySafari+ app. The top bar includes navigation arrows and a 'Now' button. Below it is a time selection bar with options: 1, Year, Month, Day, Hour (selected), Min, and Sec. The bottom bar contains icons for Search, Info, Center, Settings, Time, Scope, and Orbit.



Current Location Fri Nov 11, 2016 08:59:18 PM

E 094° 41' 34.4" Alt +41° 04' 36.2" 1.5° x 2.4°



Navigation controls including a timeline from 1 to 24 hours, with 'Now' selected. The timeline is represented by a series of arrows pointing left and right, with the word 'Now' in the center. Below the timeline are tabs for '1', 'Year', 'Month', 'Day', 'Hour', 'Min', and 'Sec', with 'Hour' currently selected.

Bottom navigation bar with icons for Search, Info, Center, Settings, Time, Scope, and Orbit. Each icon is accompanied by a text label below it.

Settings Equipment Edit

100 mm Refractor  
Aperture = 100.0 mm, FL = 700.0 mm

8" Dobsonian  
Aperture = 200.0 mm, FL = 1200.0 mm

10" SCT  
Aperture = 254.0 mm, FL = 2540.0 mm

Add Telescope

EYEPIECES

10mm Plossl  
AFOV = 50°, FL = 10.0 mm

24mm Plossl  
AFOV = 50°, FL = 24.0 mm

Add Eyepiece

BINOCULARS & FINDERS

10x50 Binocular  
Aperture = 50.0 mm, Mag = 10.0x

7x42 Finder  
Aperture = 42.0 mm, Mag = 7.0x

Add Binocular or Finder

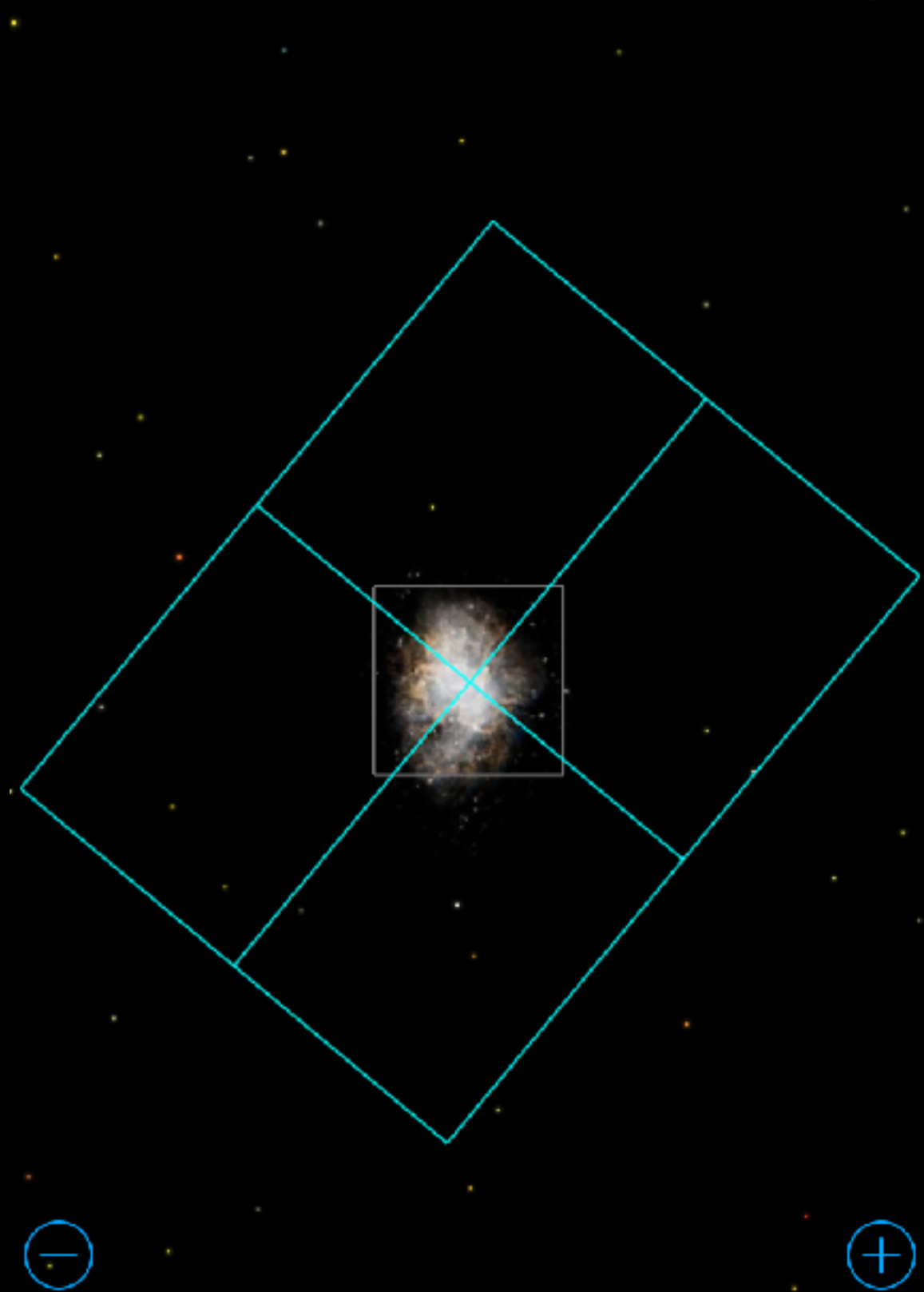
CAMERAS

CCD Camera  
30 x 20 mm

CCD Guide Chip

Current Location Fri Nov 11, 2016 08:59:18 PM

E 078° 34' 58.7" Alt +20° 27' 16.9" 29.2' x 46.5'



Crab nebula (M1) layout  
based on 10" f/10 SCT  
with my Olympus E-M1  
m43 Camera

Can do the same with  
eyepiece field of view



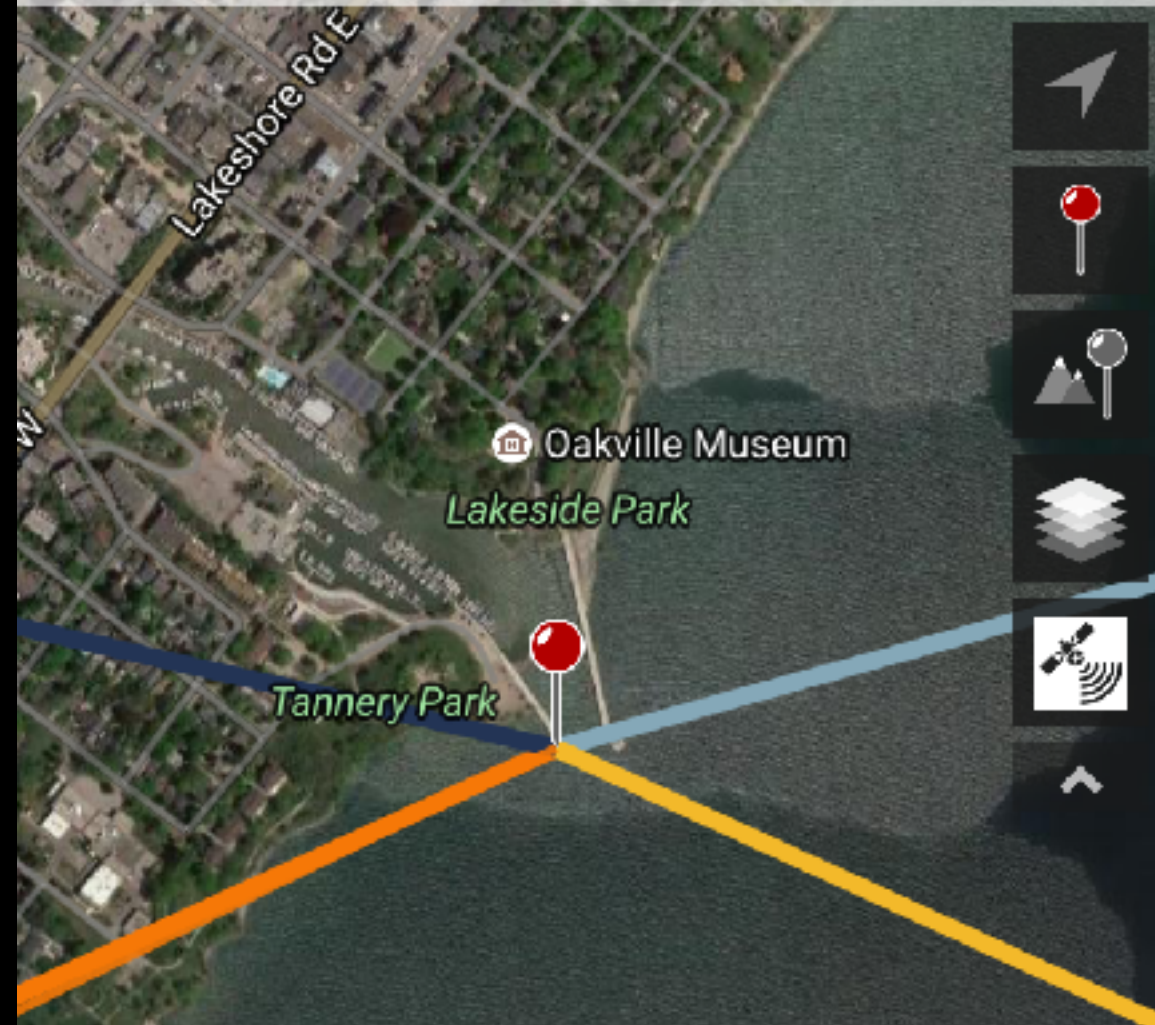
# TPE



THE  
PHOTOGRAPHER'S  
EPHEMERIS®

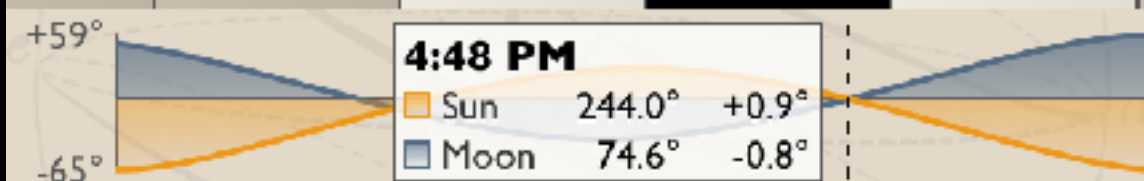
Sun 13 Nov 2016

4:48 PM -0500 +73.1 m | 43.4394°N 79.6661°W



Google

Cal start <b>5 AM</b> 03.7° mins	Civil start <b>6:40 AM</b> 109.4° 30 mins	Sunrise ↑ <b>7:10 AM</b> 114.5°	Moonrise ↗ <b>4:48 PM</b> 74.6° Waxing 99.3%	Sunset ↓ <b>4:55 PM</b> 245.3°
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Map



Locations



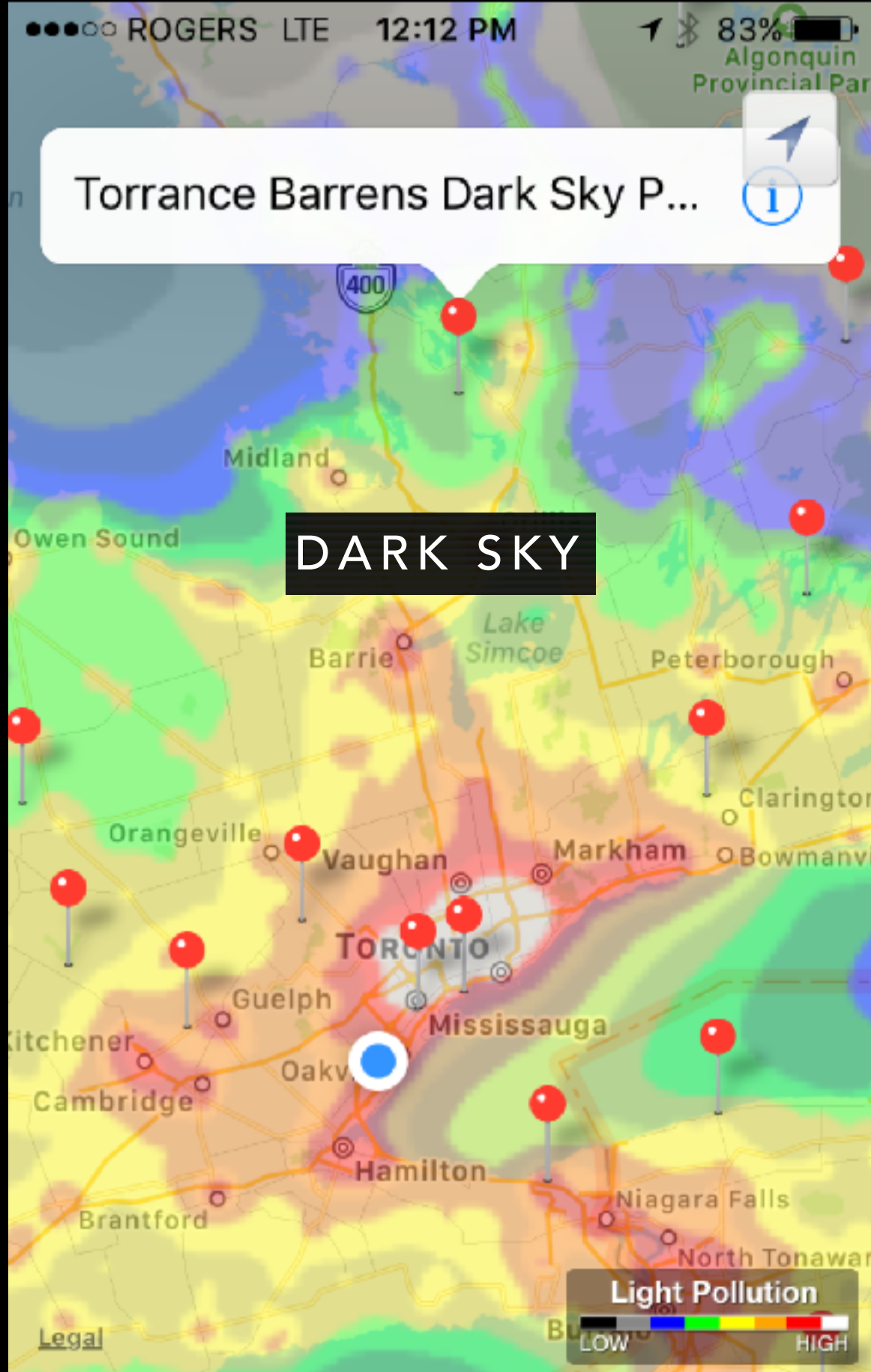
Visual search



Shadows



More



ROGERS LTE 12:12 PM 83%

## Dark Site Details

Done

Directions Add Review Edit Site

### GENERAL INFO

**Name** Torrance Barrens Dark Sky Preserve

**Notes** Free site because it's Crown Land. There are hiking trails around.

**Added On** November 7, 2015

**Clear Sky Chart** Tonight's Forecast (7PM-12AM)

Transparency: Above Average  
Seeing: Average

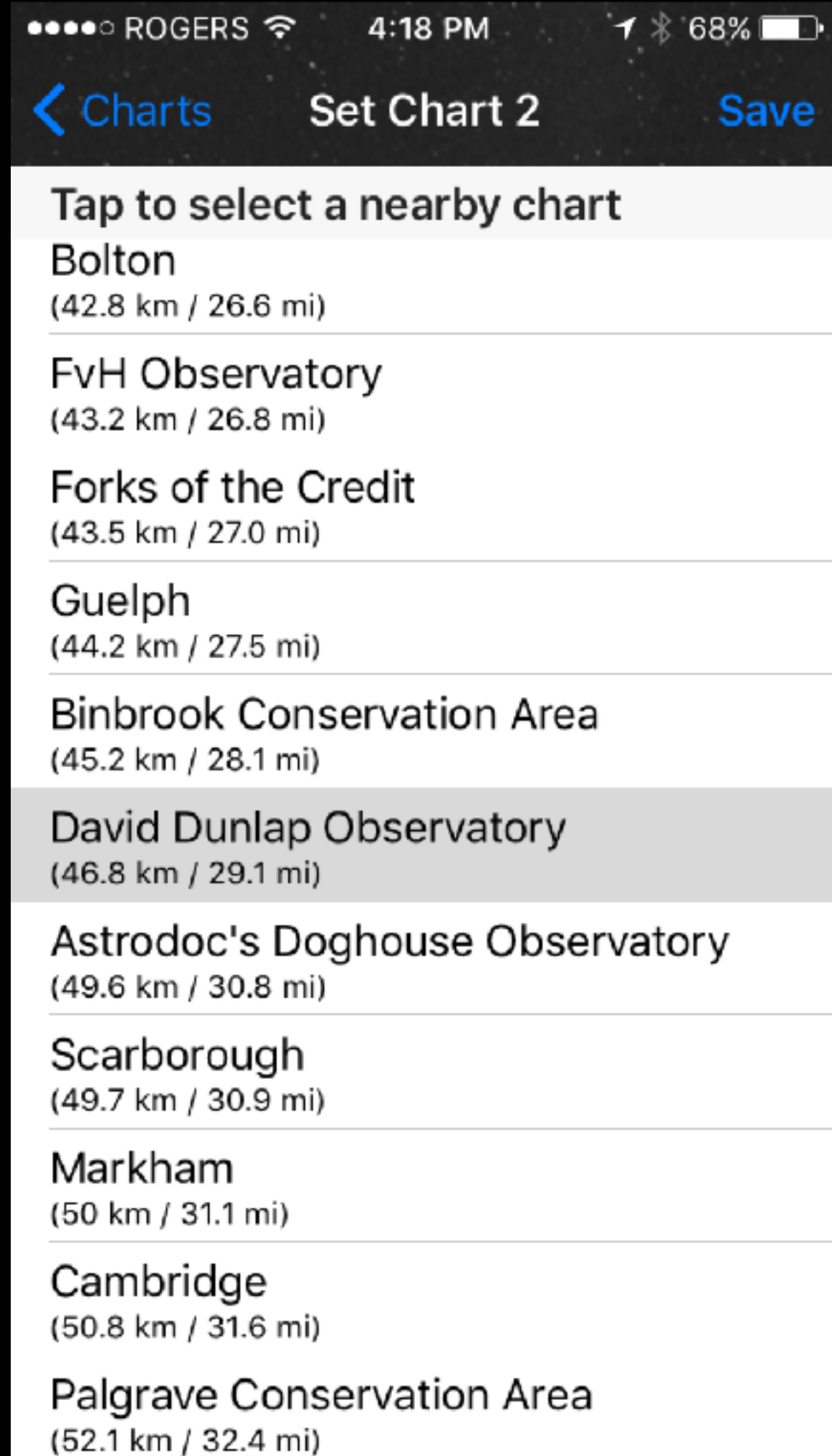
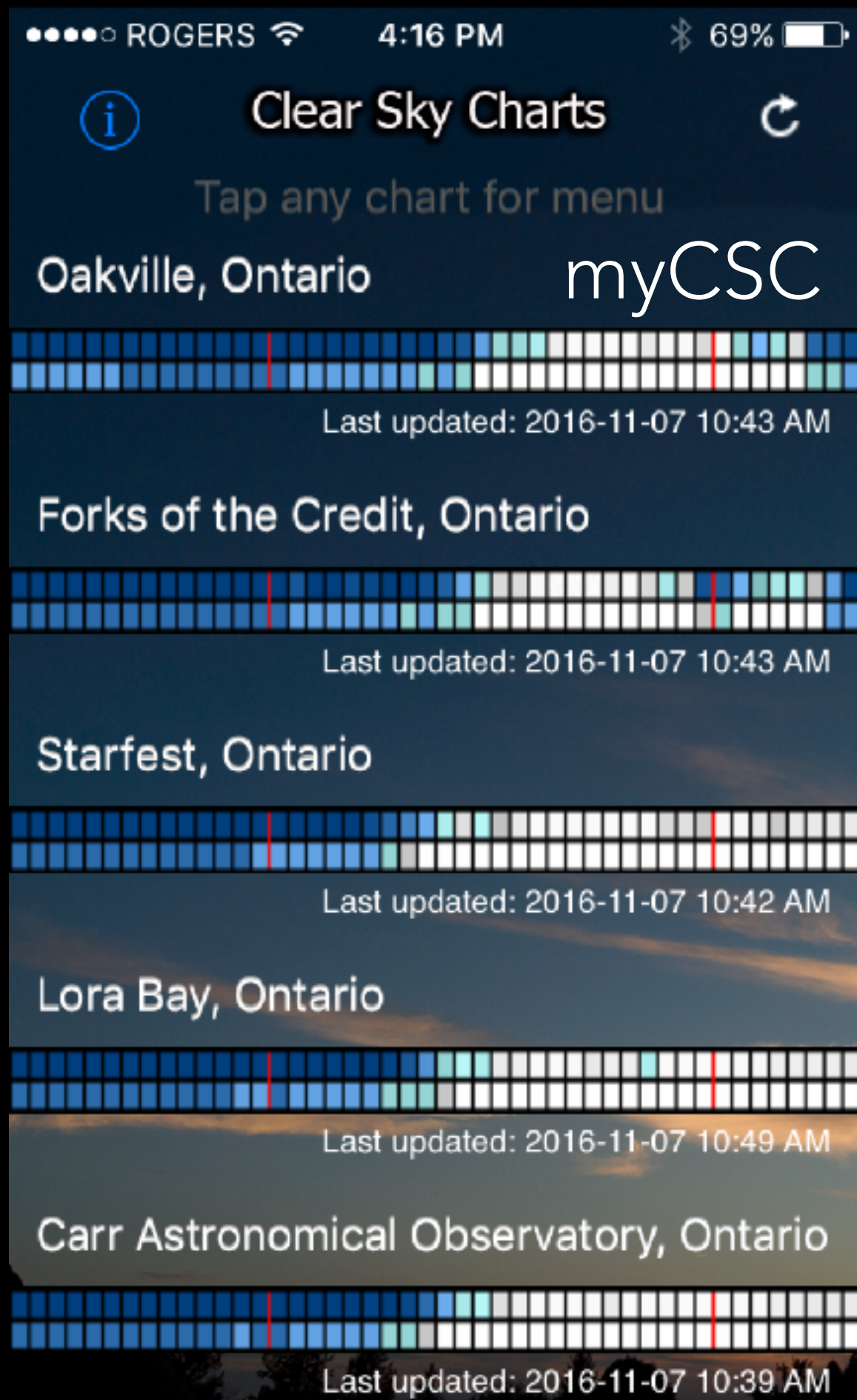
Torrance Barrens Dark-Sky Preserve

### DETAILED INFO

**Fee** Free

**Access** It's just on the side of the road





< CHARTS

# Forks of the Credit Clear Sky Chart

LEGEND >

2016-11-07

Monday

Tuesday

Wednesday

Local Time

11111111112222

11111111112222

(GMT -5.0)

012345678901230123456789012301234567

Cloud Cover:



Transparency:



Seeing:



Darkness:



Wind:



Humidity:



Temperature:



© 2016 A.Danko. forecast: A.Rahill data:  Environnement Canada Environnement Canada



< CHART

## Clear Sky Chart Legend

Cloud Cover (%)



100 90 80 70 60 50 40 30 20 10 0

Darkness (visible magnitude)



-4 -3 -2 -1 0 1 2 3 3.5 4 4.5 5 5.5 6

Humidity (%)



<25 30 35 45 50 55 60 65 70 75 80 85 90 >95

Temperature (°C)



< -25 -20 -15 -10 -5 0 +5 +10 +15 +20 +25 +30 >

Transparency



1/5 2/5 3/5 4/5 5/5

Seeing



1/5 2/5 3/5 4/5 5/5

Wind (km/hr)



>72 46-72 28-48 19-27 9-18 0-8



# Clear Sky Charts



Tap any chart for menu

Oakville, Ontario

Select an Option:

Detailed Chart

Open CSC Site

Map Location

Set Chart Location

Delete Chart

Share Chart

Cancel

anythingbinary.com



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Brian Gibson  
PHOTOGRAPHY

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