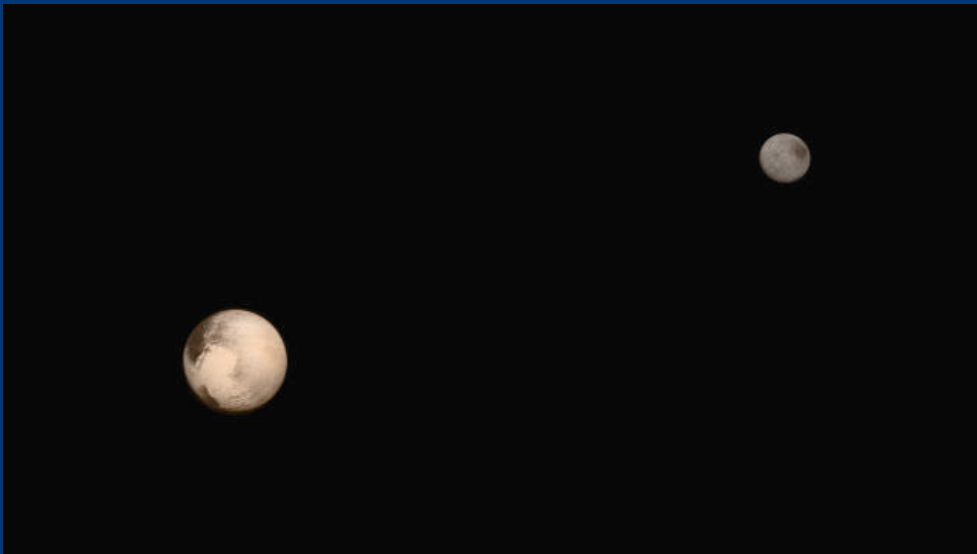


# appleSTEMs

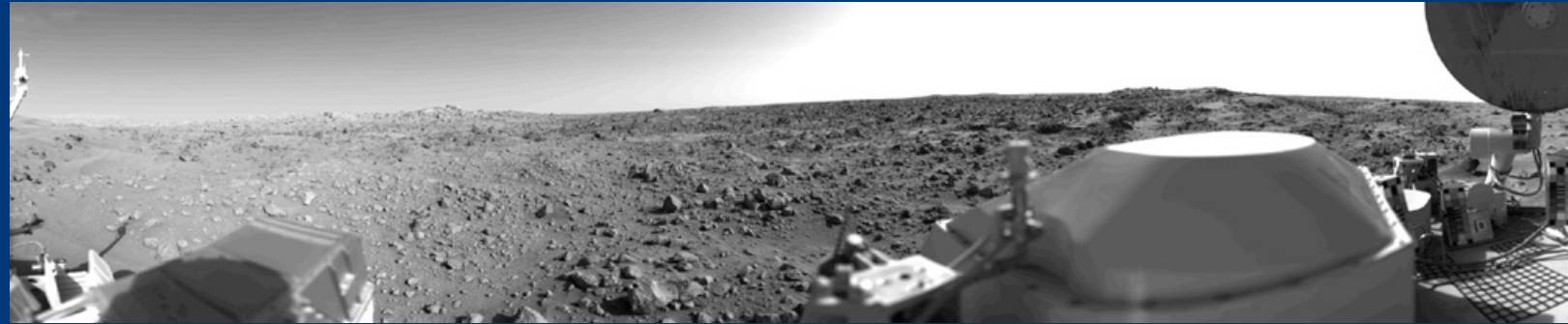
Science Technology Engineering Math  
Software for iOS and OSX

Warren W. James  
July 20, 2015

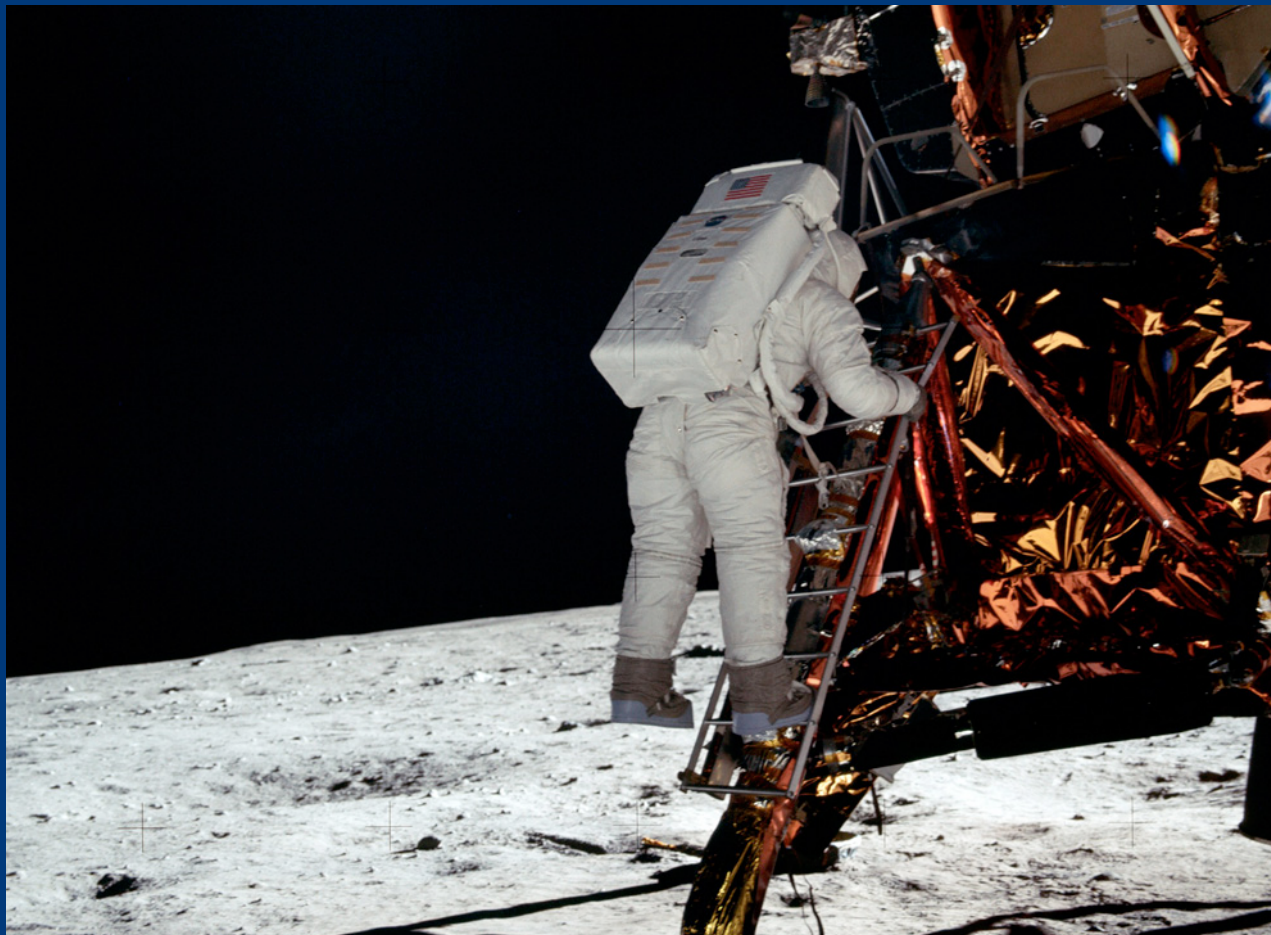
# Space History in July



New Horizons - July 14, 2015



Viking Lander 1 - July 20, 1976



Apollo 11 - July 20, 1969



Mariner IV - July 14, 1965

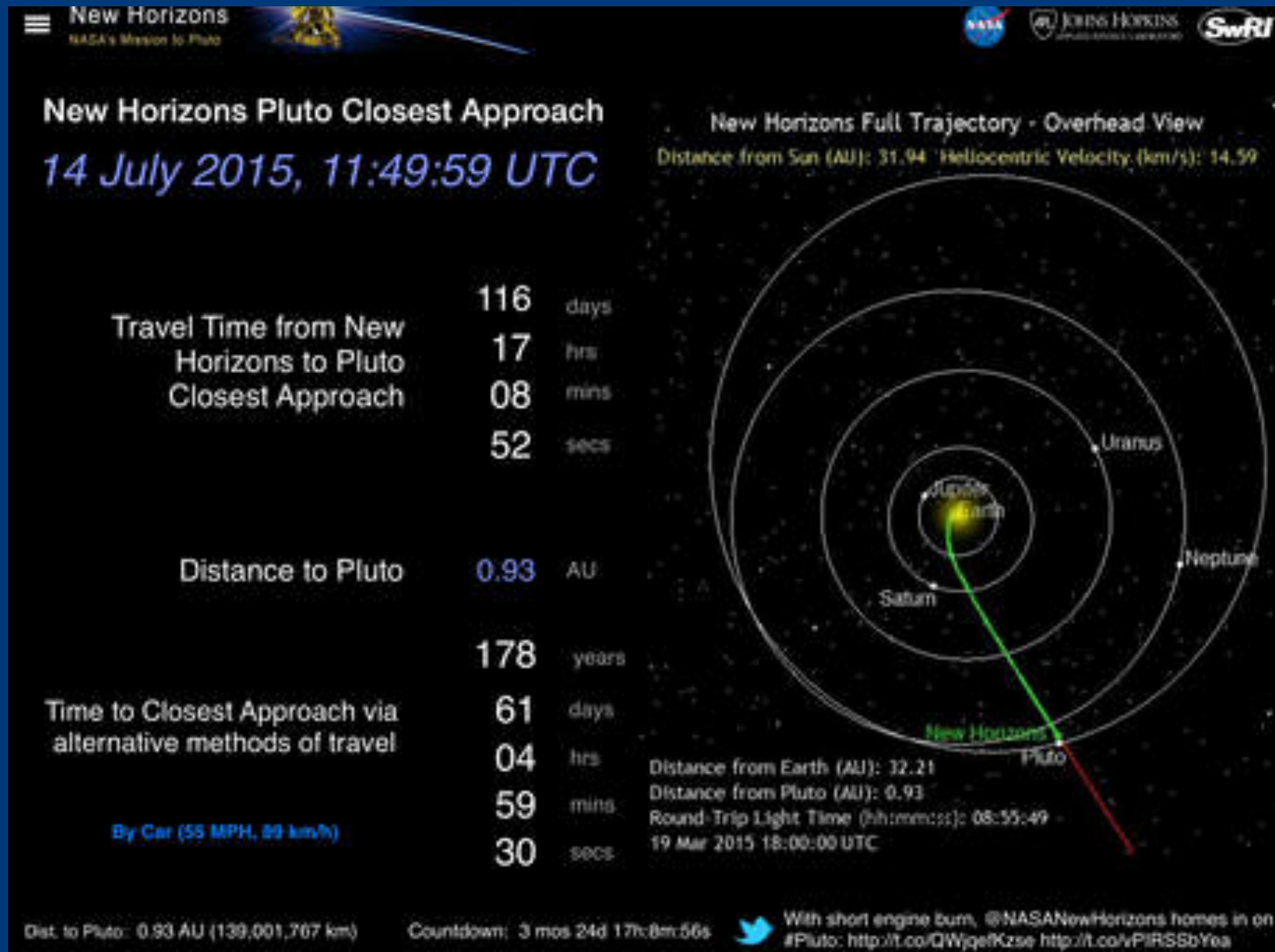
# New Horizons: A NASA Voyage to Pluto

- A portal to information about New Horizons
  - Produced by Johns Hopkins University Applied Physics lab
- Presents news about what is happening with the mission
- Catalogs the pictures from New Horizons as soon as they become available
- Background information about the spacecraft, its instruments and the team
- Mission events and pictures can be displayed on an Apple Watch
- iPhone/iPad/iPod Touch/Apple Watch
- Requires iOS 7.0 or later
- Free





# New Horizons - Trajectory



# New Horizons - Image Library

**New Horizons**  
NASA's Mission to Pluto

NASA | Johns Hopkins | SwRI

**A Long-Distance Look from LORRI**

**A Moon over Pluto**

**A Moon over Pluto (Close up)**

**LORRI Looks Back**

**Star Treatment**

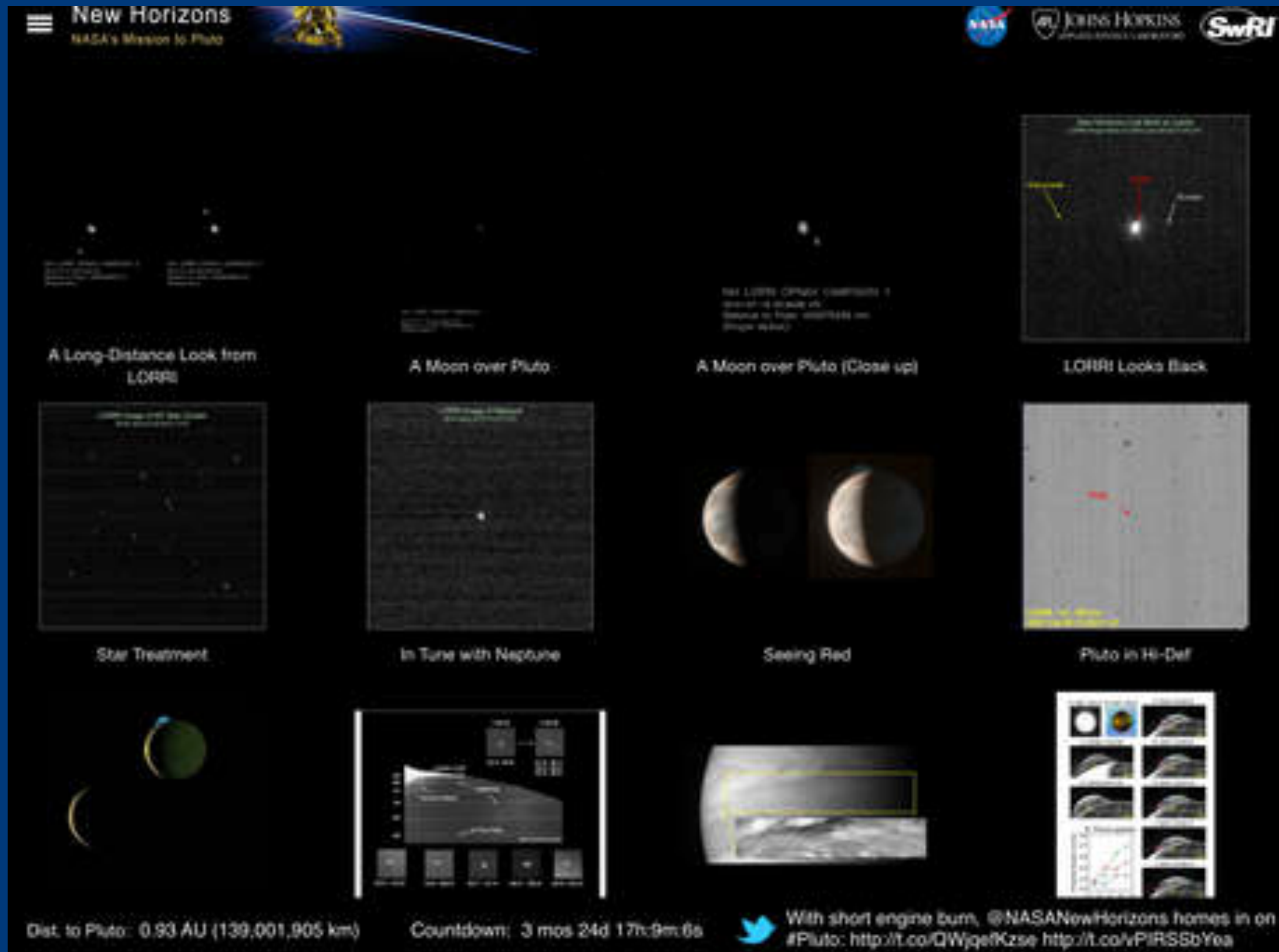
**In Tune with Neptune**

**Seeing Red**

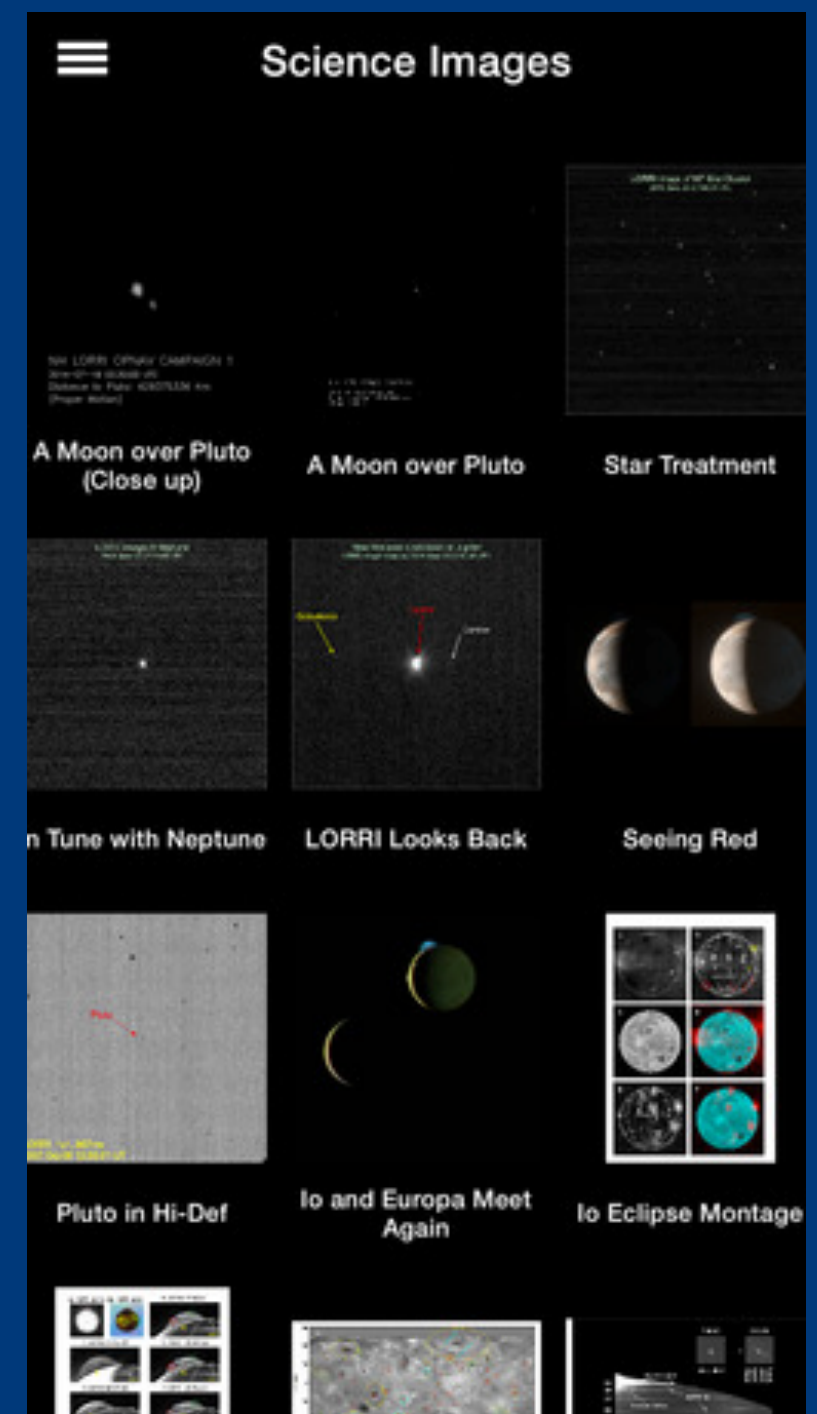
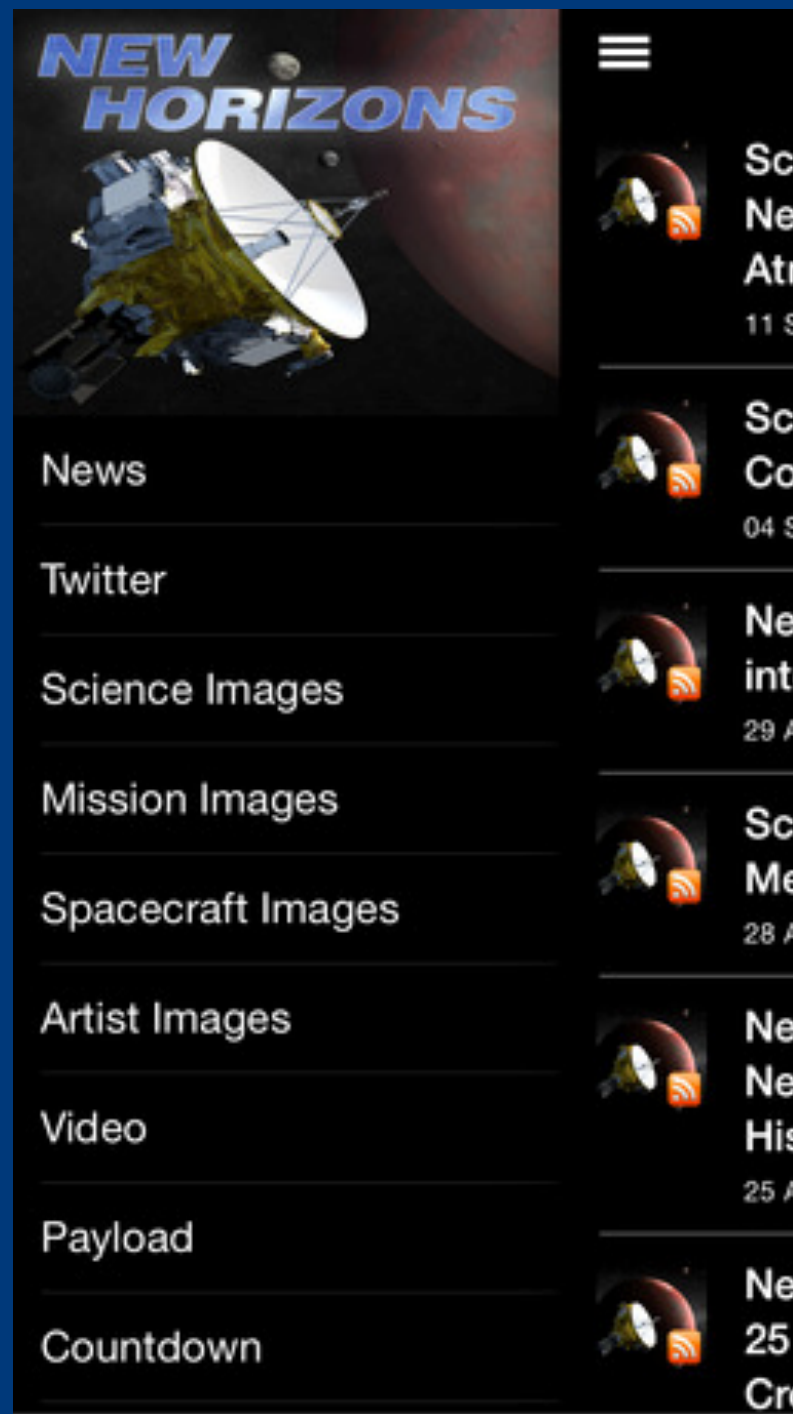
**Pluto in Hi-Def**

Dist. to Pluto: 0.93 AU (139,001,905 km)    Countdown: 3 mos 24d 17h:9m:6s

With short engine burn, @NASANewHorizons homes in on #Pluto: <http://t.co/QWjgeIKzse> <http://t.co/vPIRSSbYea>



# New Horizons - iPhone





# Pluto Safari

- Another portal to information about the New Horizons mission
  - Produced by Simulation Curriculum Corp, makers of Sky Safari 4
- Presents news about what is happening with the mission
- Catalogs the pictures from New Horizons as soon as they become available
- Background information about the spacecraft, its instruments and the team
- Superb visualization of orbits of New Horizon, Pluto and other planets
- iPhone/iPad/iPod Touch
- Requires iOS 7.0 or later
- Free



# Pluto Safari



The interface features a large, detailed image of the planet Pluto in the center-right. To its left is a bright, star-like object representing the Sun. Five circular navigation buttons are arranged around the central image: 'Timeline' at the top, 'Location' at the top-left, 'Guide' at the bottom-left, 'News' at the bottom, and 'Poll' at the bottom-right. In the bottom-left corner, there is a text block providing the closest approach countdown and distance to Pluto. In the bottom-right corner, there is a small logo for 'Powered by SkySafari 4' with an information icon.

Timeline

Location

Guide

News

Poll

Closest Approach Countdown  
116 DAYS 15 HH 26 MM 40 SS  
Distance to Pluto  
139,070,713 KM

Powered by  
SkySafari 4



# Pluto Safari

## Guide

[Back](#)

### THE DISCOVERY OF PLUTO

*On February 18, 1930, after nearly a year of searching, a young man discovered Pluto.*

[READ MORE](#)

### THE NEW HORIZONS MISSION – AN OVERVIEW

*New Horizons will explore the outer edges of our solar system.*

[READ MORE](#)

### MISSION TIMELINE

*Key mission milestones and dates.*

[READ MORE](#)

### THE SCIENCE PAYLOAD

*Seven scientific instruments will unravel Pluto's mysteries.*

[READ MORE](#)

### PLUTO ENCOUNTER DAY

*On July 14, 2015, the New Horizons spacecraft will experience its closest approach to both Charon and Pluto.*

[READ MORE](#)

### BEYOND PLUTO

*After Pluto, New Horizons will visit one or more objects in the Kuiper Belt*

[READ MORE](#)

# Pluto Safari

## Location

Back

### SOLAR SYSTEM VIEW

*A bird's-eye view of our solar system as New Horizons approaches Pluto.*

GO!

### NEW HORIZONS SPACECRAFT VIEW

*A close-up of the New Horizons spacecraft as it nears Pluto.*

GO!

### PLUTO SYSTEM VIEW

*Explore the Pluto system and its moons.*

GO!

### PLUTO FROM EARTH

*Find the position of Pluto in the sky from your home location.*

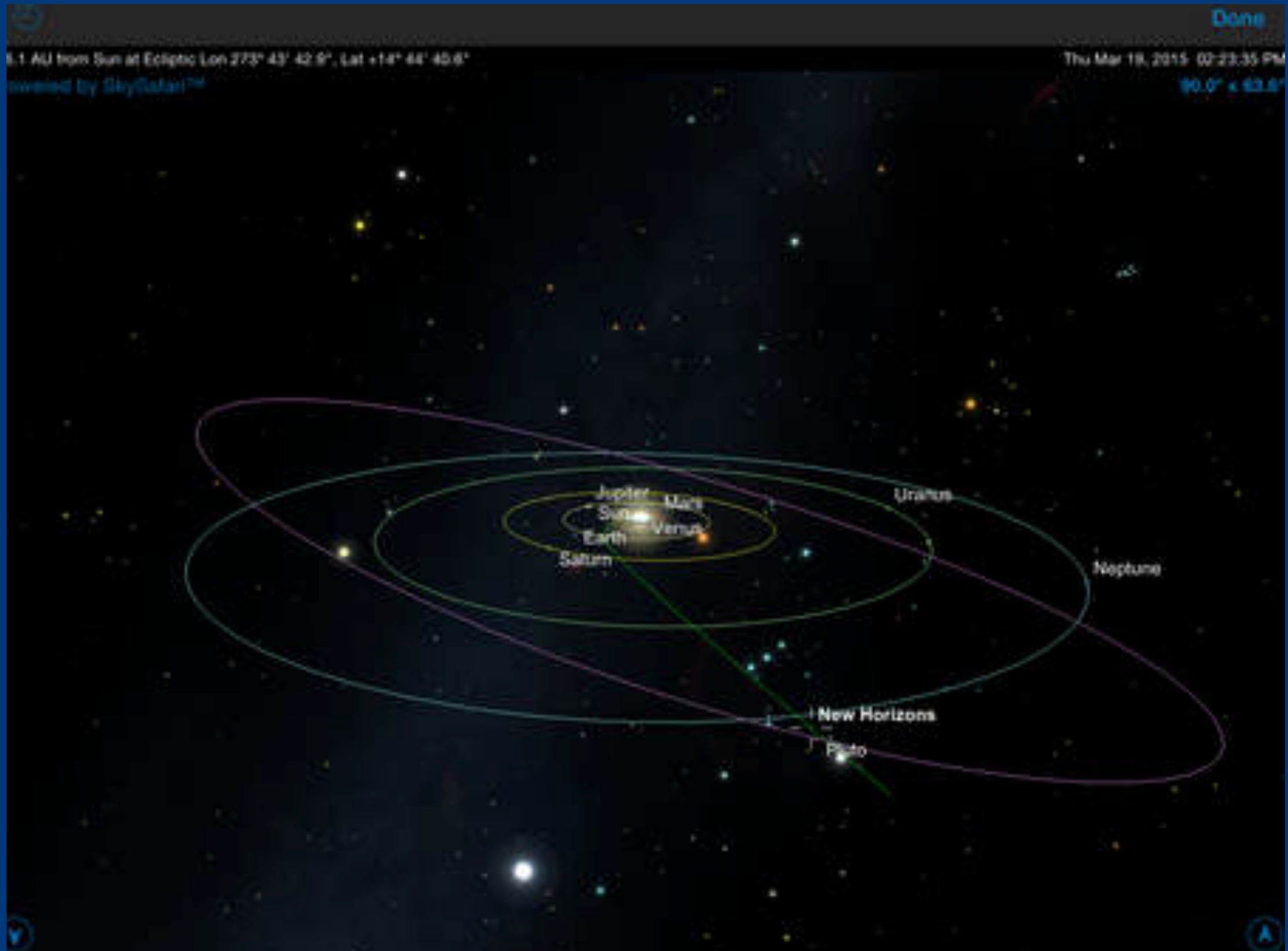
GO!

### KUIPER BELT OBJECTS VIEW

*After Pluto, the New Horizons spacecraft will explore the Kuiper Belt.*

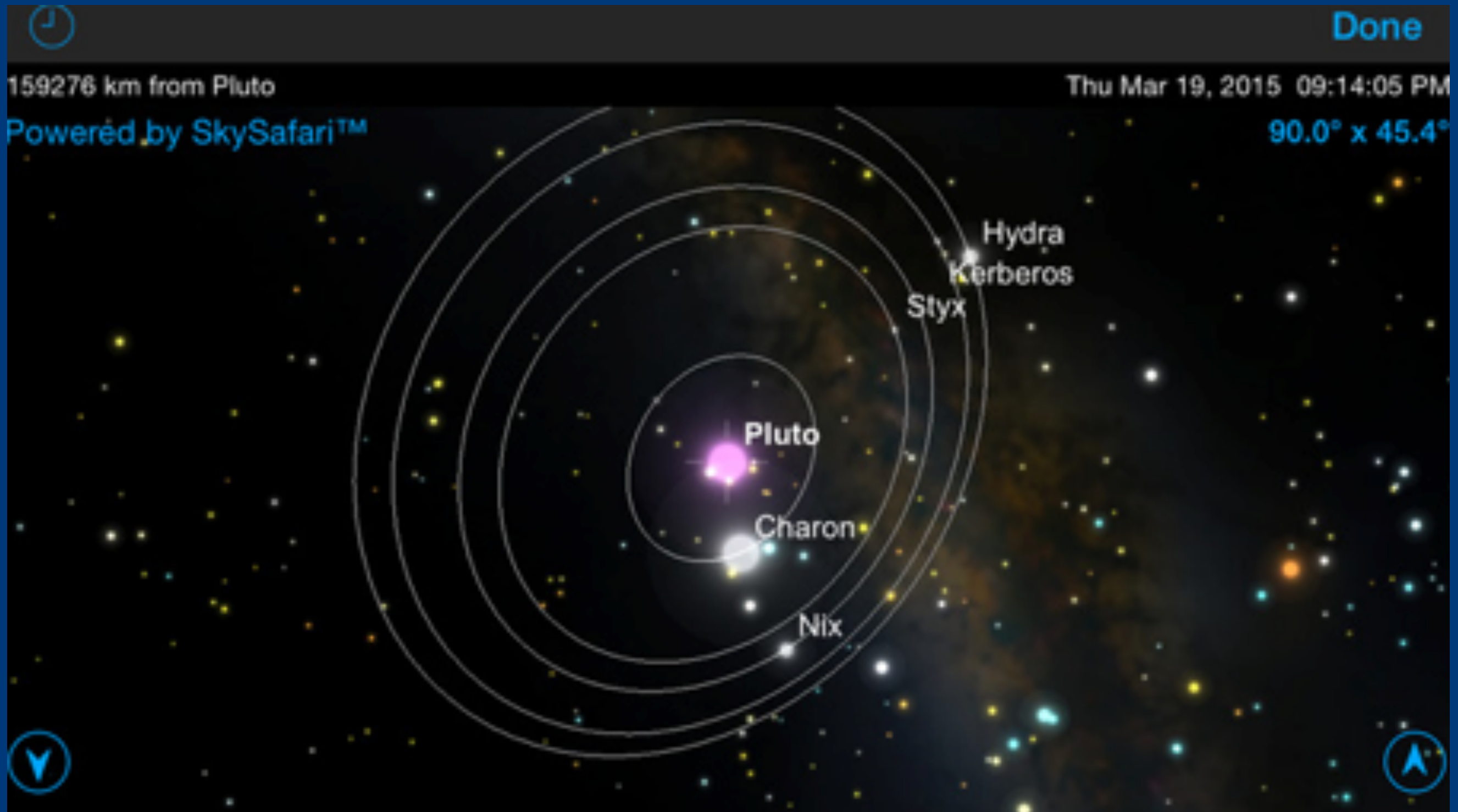
GO!

# Pluto Safari





# Pluto Safari

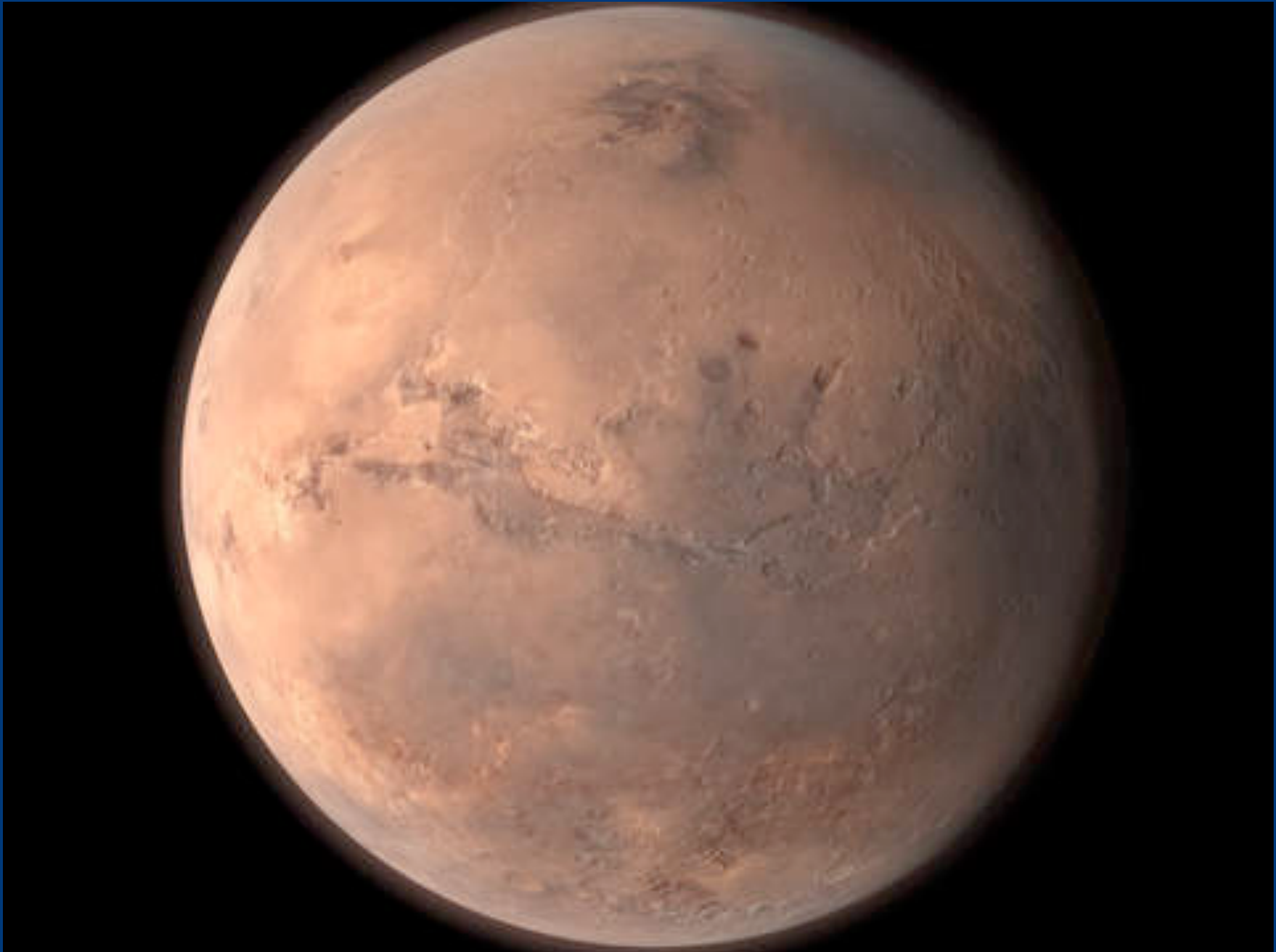


# Mars Globe - HD

- An interactive Martian globe linked to more information
  - Uses spacecraft images and laser altimeter data to show Mars from above
  - Can show Mars in 'natural' colors or with color coded altitudes
  - Globe can be rotated and turned for viewing from any angle
  - Additional information is available for named features
- 
- iPhone/iPad/iPod Touch
  - Requires iOS 7.0 or later
  - \$0.99 (The non-HD version is free)
  - From: Midnight Martian



# Mars Globe - HD

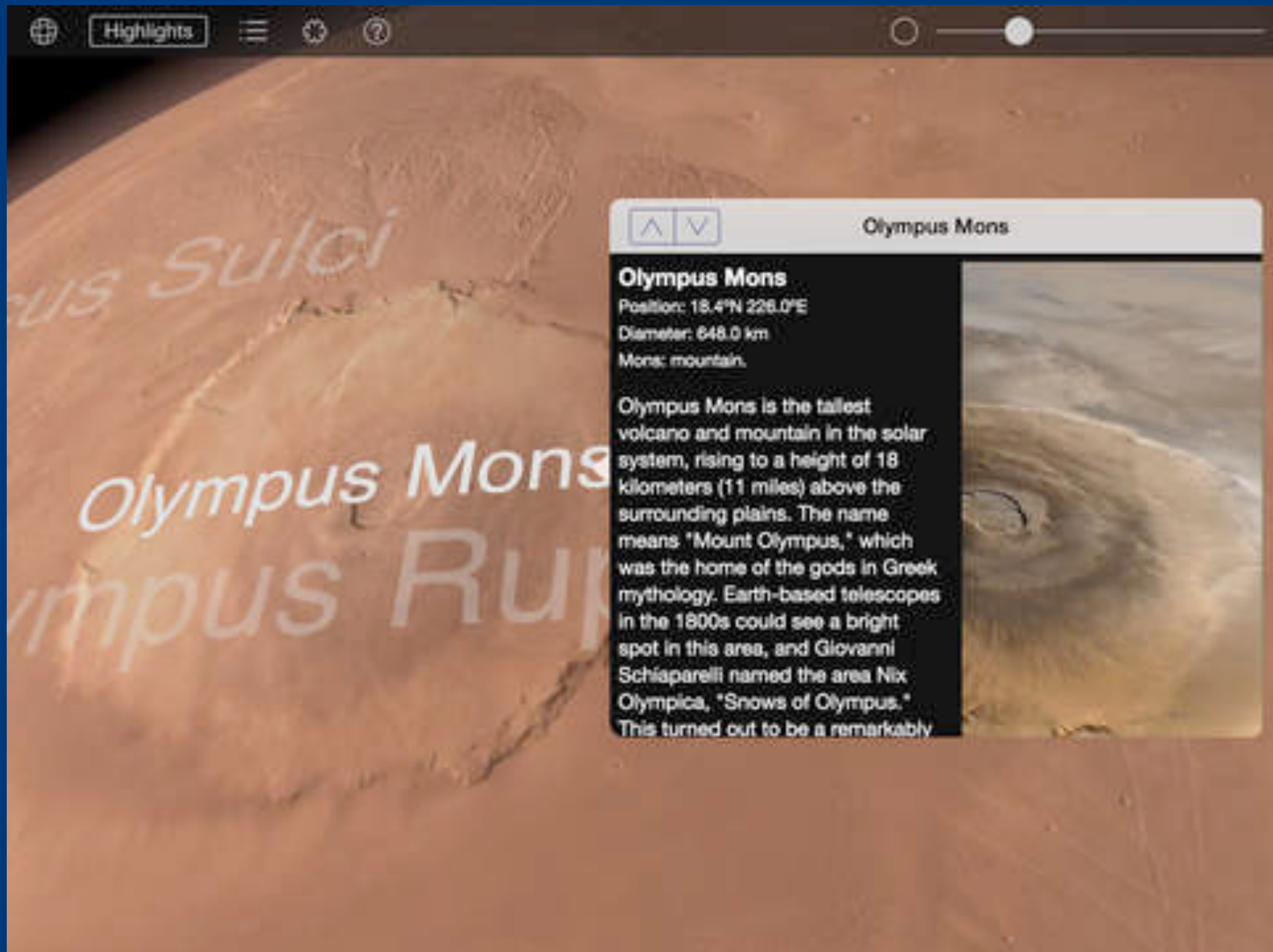




# Mars Globe - HD

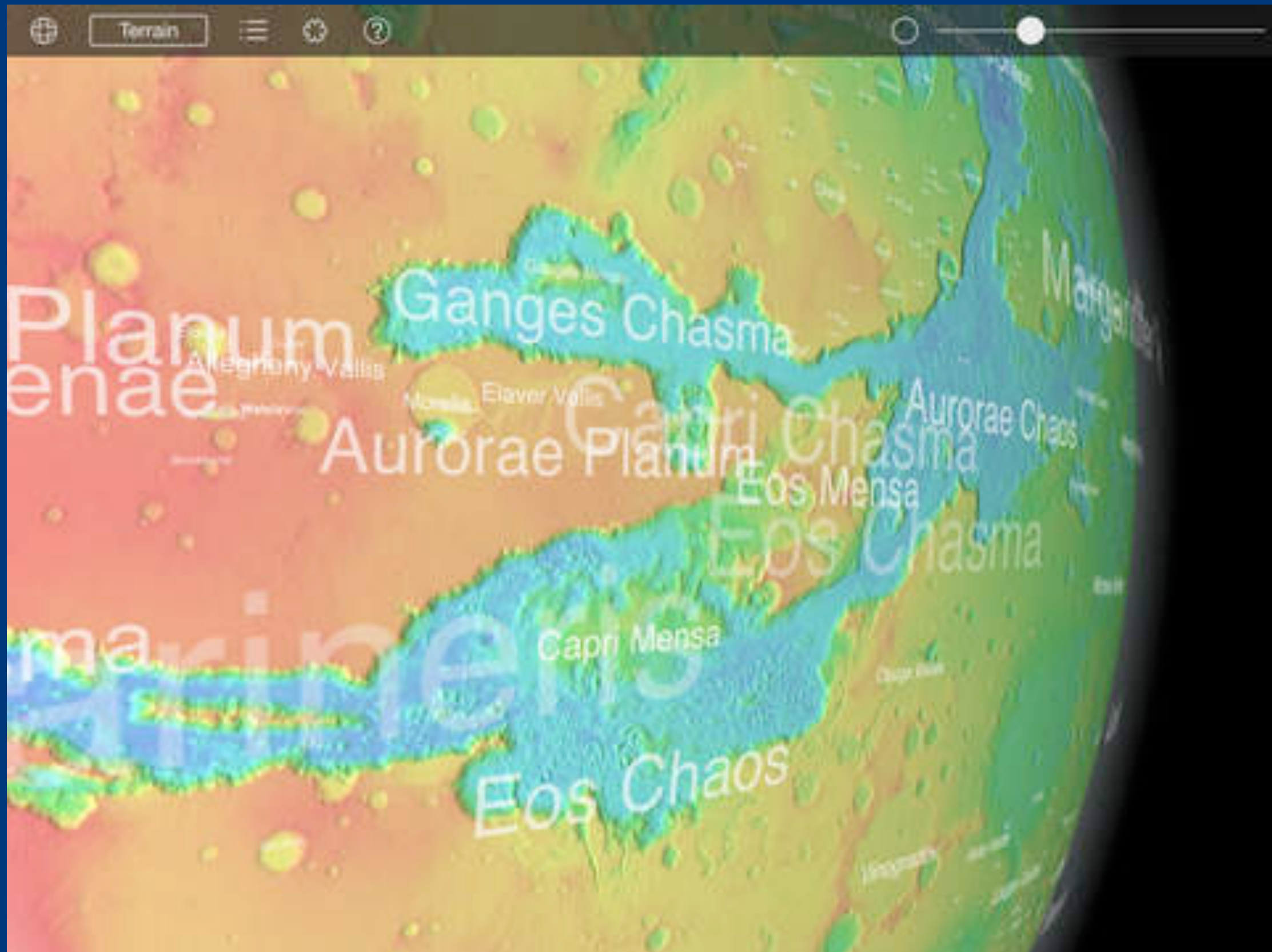


# Mars Globe - HD





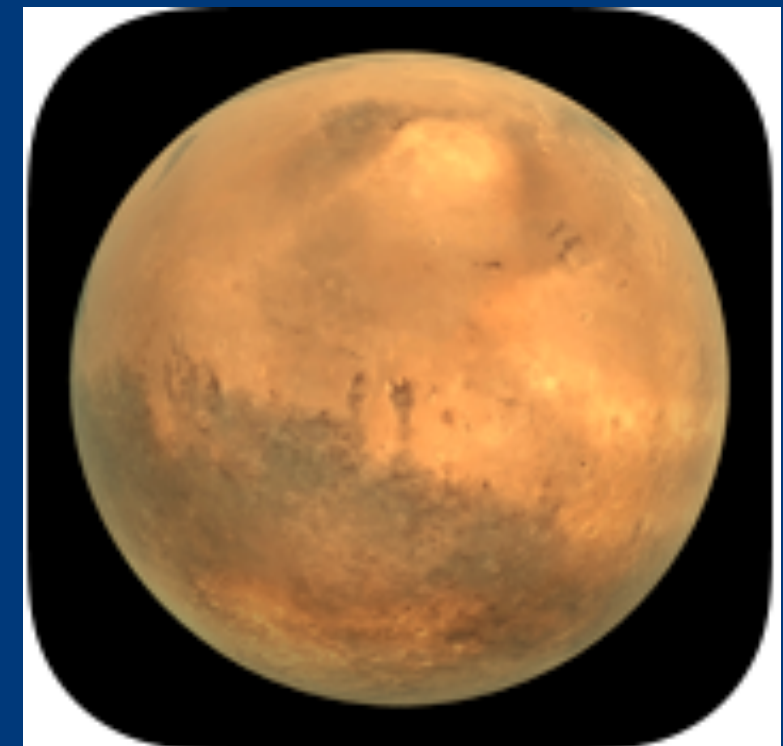
# Mars Globe - HD



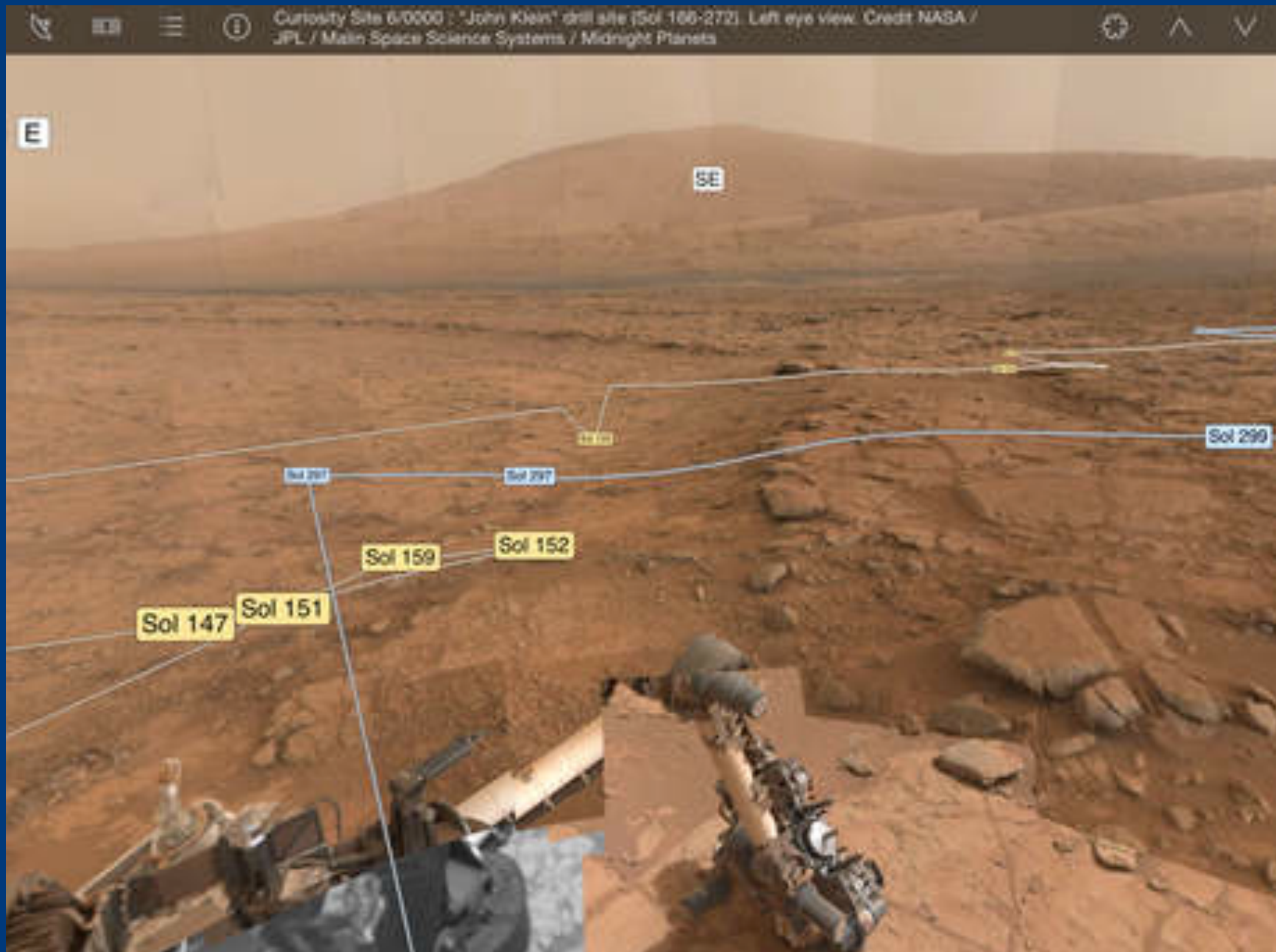


# Midnight Planets

- An interactive photo album that lets you view almost every image sent back by the Martian rovers Spirit, Opportunity and Curiosity
- View individual images and panoramas
- Options for viewing in 3D
- Warning - this app is a doorway to a huge amount of data. You can easily get lost and might never get back from Mars
- iPhone/iPad/iPod Touch
- Requires iOS 7.0 or later
- Free
- From: Midnight Martian

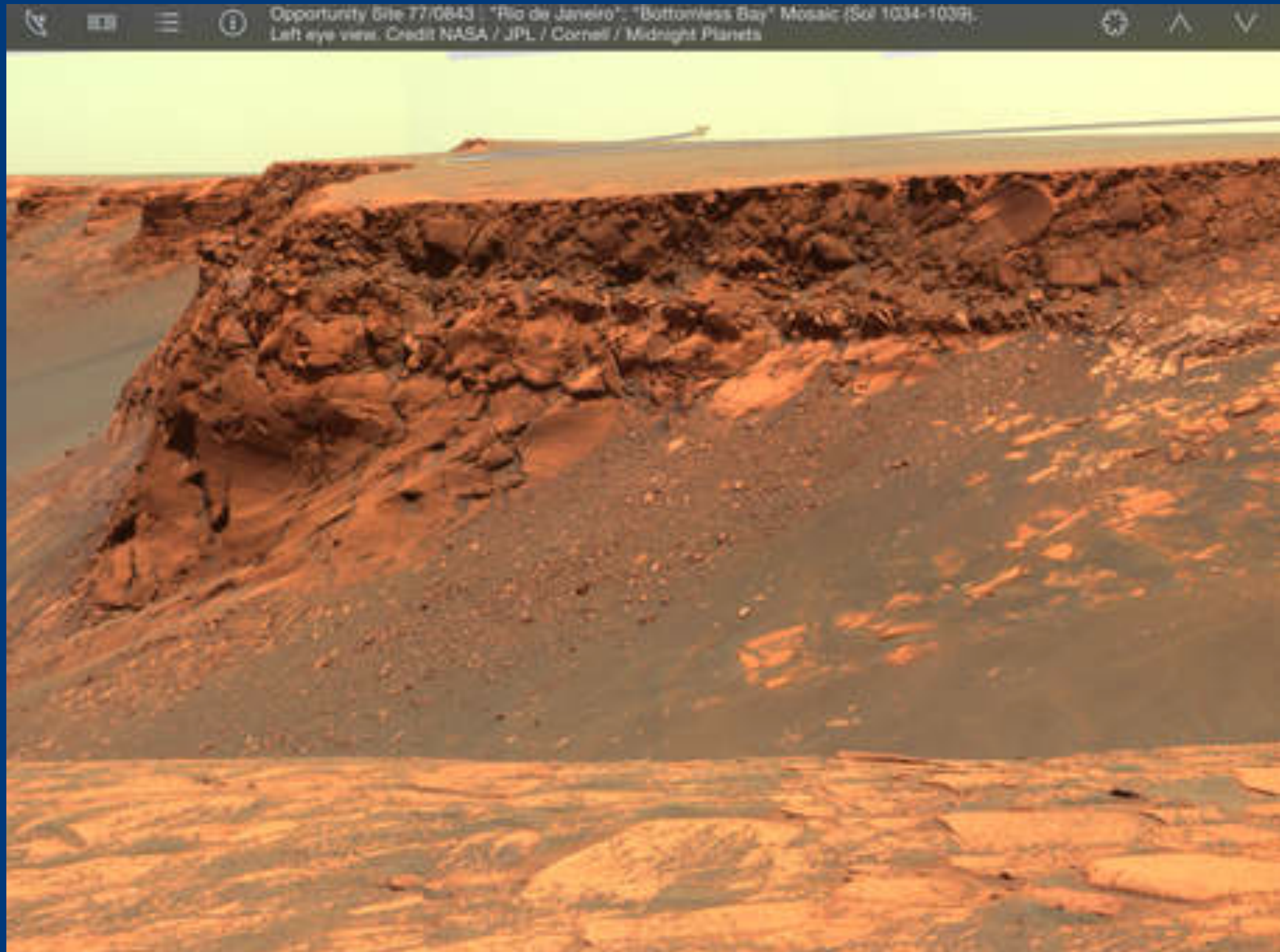


# Midnight Planets



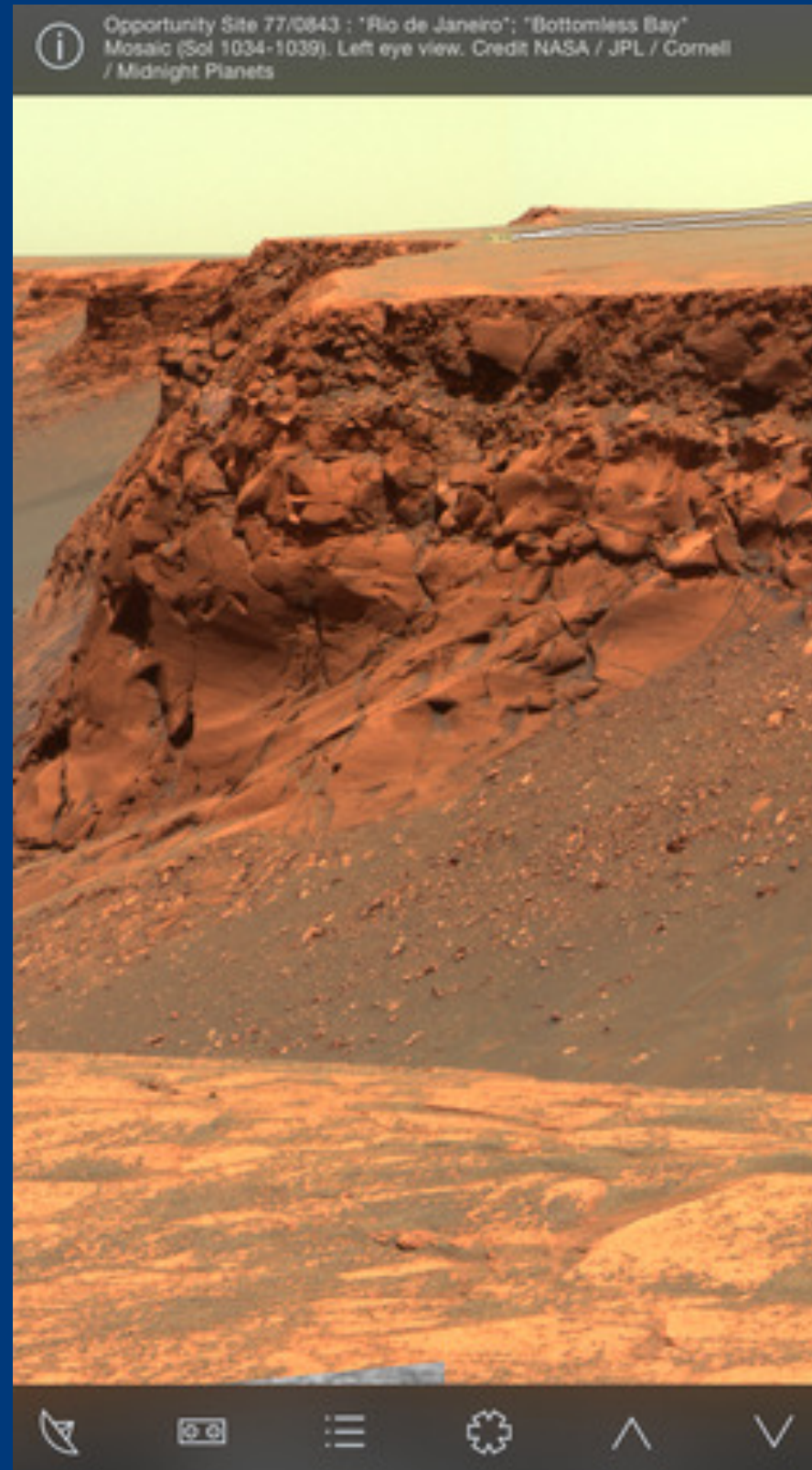


# Midnight Planets





# Midnight Planets

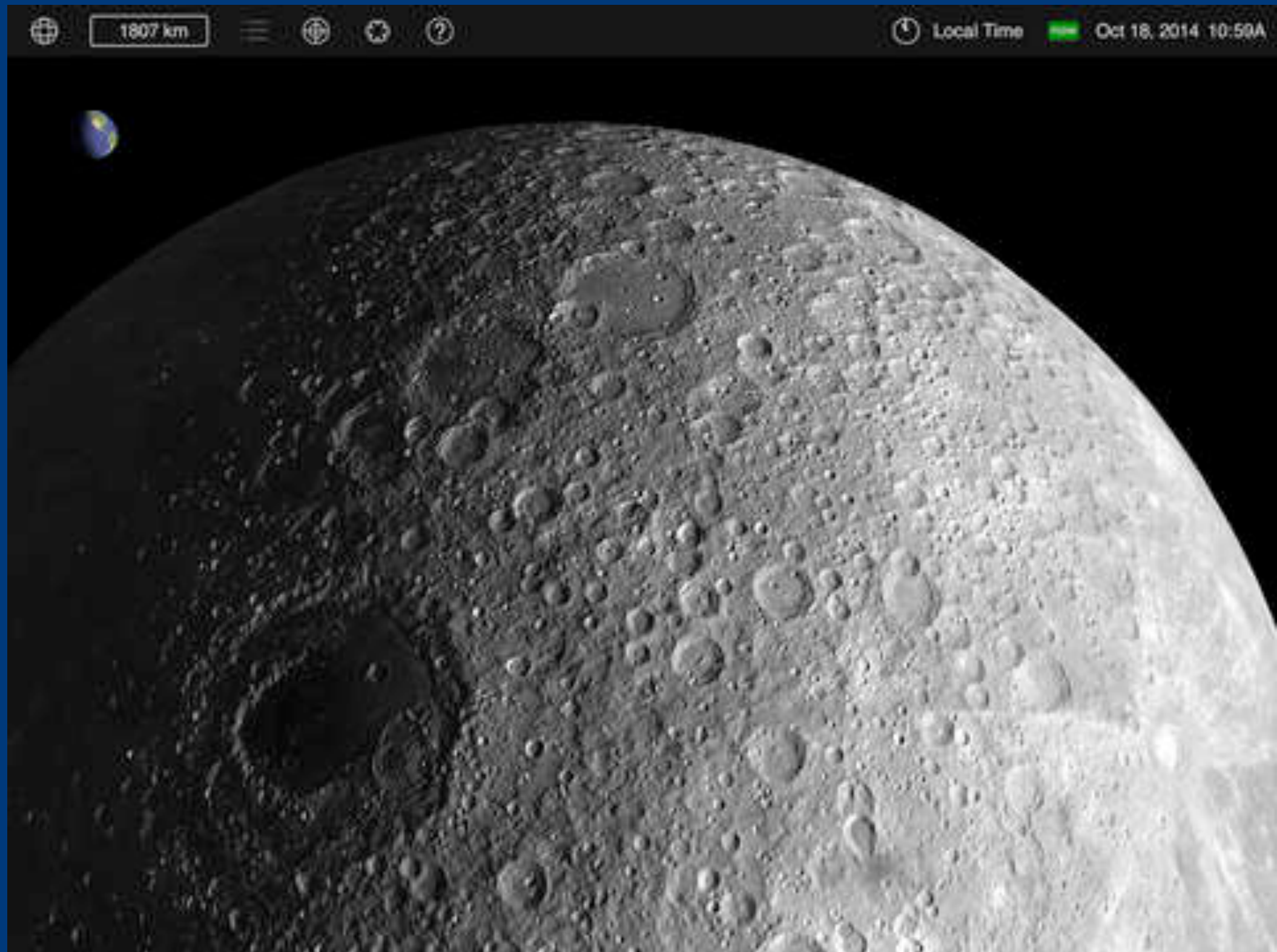


# Moon Globe - HD

- An interactive Lunar globe linked to more information
  - Uses spacecraft images and laser altimeter data to show the Moon from above
  - Can show the Moon as seen from anywhere on Earth
    - Images can be 'flipped' to recreate the view through a telescope
  - Globe can be rotated, turned and zoomed for viewing from any angle
  - Lunar lighting can be 'real time' or arbitrary
  - Can show Terrain names and locations of landed spacecraft
  - Additional information is available for named objects
- 
- iPhone/iPad/iPod Touch
  - Requires iOS 7.0 or later
  - \$0.99 (The non-HD version is free)
  - From: Midnight Martian



# Moon Globe - HD

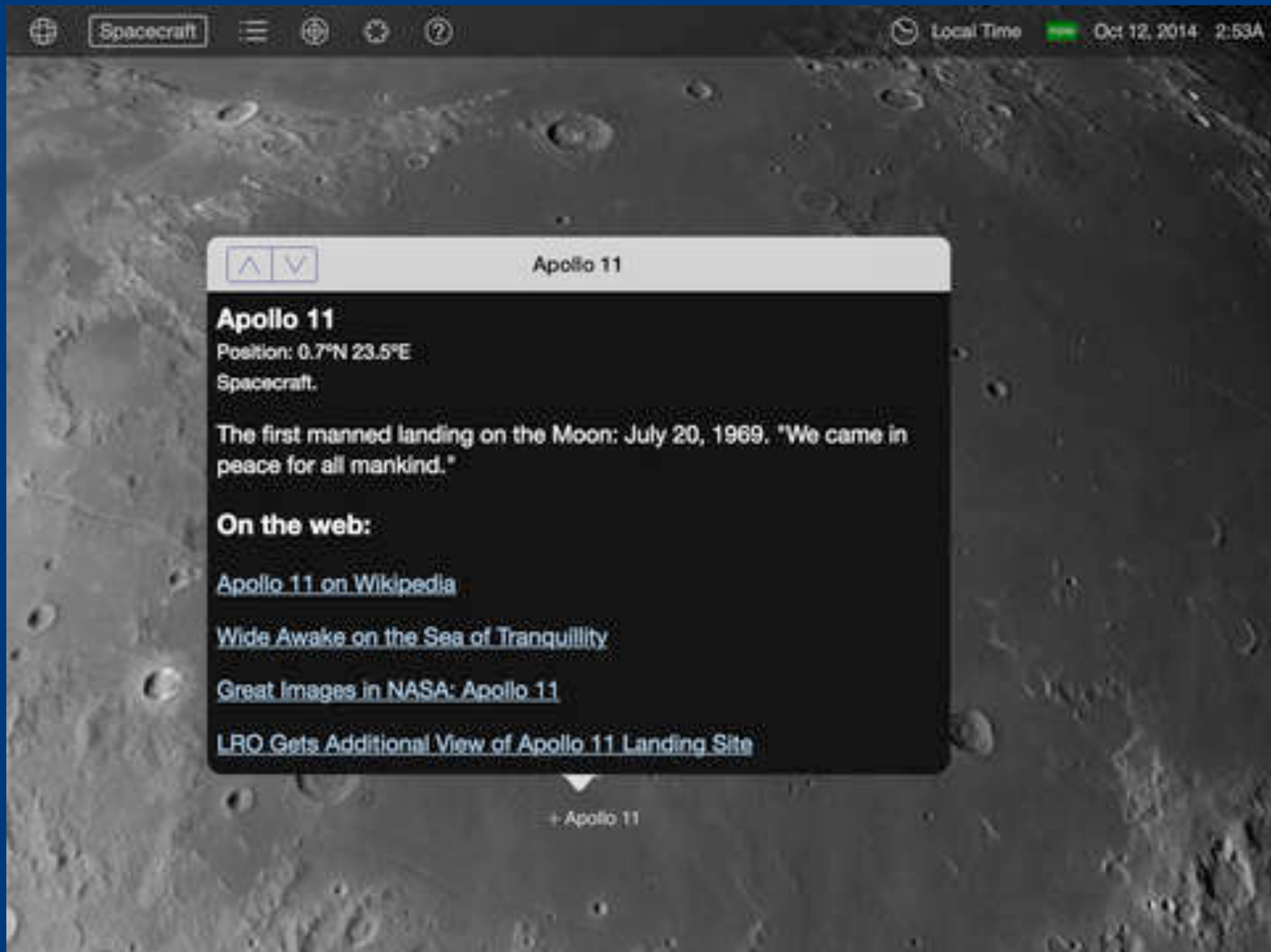




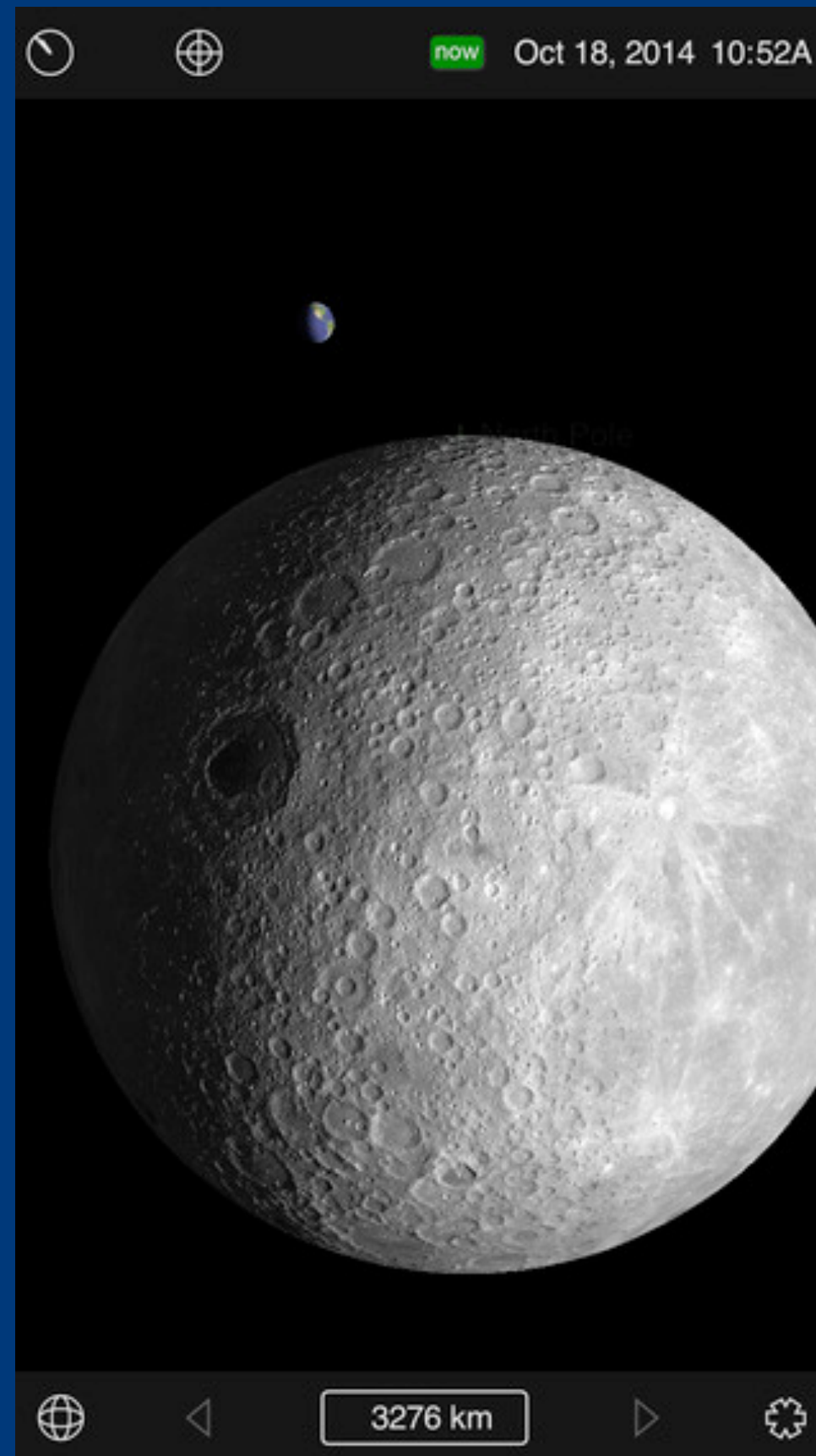
# Moon Globe - HD



# Moon Globe - HD



# Moon Globe - HD





# appleSTEMs

Science Technology Engineering Math  
Software for iOS and OSX

If you have a favorite STEM app then tell me about it via email  
[wwjames@earthlink.net](mailto:wwjames@earthlink.net)