



# Monthly Notices of the Everglades Astronomical Society



Naples, FL  
May 2009

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## Presidents Message

As I sit here watching the shuttle launch of the Hubble repair mission, it seems as if we have had Hubble for ever. The wonderful pictures produced by Hubble ten years ago left most of us stunned. With this repair mission we can expect even more wonderful science. Now most amateur astronomers can produce pictures with our digital camera and stacking software that can rival large observatories. This has been a boom to astronomy. Many of our club members take advantage of this technology.

Viewing at the FAK sure was put on hold by the fires in the Everglades. Hopefully we can get out on the 16th and 23rd of this month. As we get future into summer the afternoon storms will shut us down. Plan to come out with us.

Again if you have not sent in your dues, please do so. We need your support. Don't forget the meeting on the 28th.

Great Viewing

Charlie Paul  
Co-President

## Astronomical Trivia Question of the Month

How far away is the Voyager 1 space probe?

- a. 109.123 AU
- b. 99.204 AU
- c. 88.514 AU
- d. 77.824 AU

Answer on next page.

## Next Meeting

May 28, 2009  
Time 7:00 – 9 pm  
At the Norris Center

## Sky Events

May 17 – 3<sup>rd</sup> Quarter Moon  
 May 24 – New Moon  
 May 30 – 1<sup>st</sup> Quarter Moon  
 June 7 – Full Moon  
 June 15 – 3<sup>rd</sup> Quarter Moon  
 June 21 – Summer Solstice  
 June 22 – New Moon

## Dates for the “Fack”

Usually the best times to go out to the Fakahatchee Strand viewing site are moonless nights. Below is a list of upcoming Saturday nights that you will often find fellow club members out there enjoying the skies with you (weather permitting).

Date	Moonrise	Moonset
May 23rd		7:36PM
June 20		6:22PM



## The Swiss Army Knife of Weather Satellites

Spotting volcanic eruptions, monitoring the health of crops, pinpointing distress signals for search and rescue teams. It's not what you might expect from a weather satellite. But these are just a few of the abilities of NOAA's newest polar-orbiting weather satellite, launched by NASA on February 6 and turned over to NOAA for full-time operations on February 26. Formerly called NOAA-N Prime and now renamed NOAA-19, it is the last in its line of weather satellites that stretches back almost 50 years to the dawn of the Space Age. Over the decades, the abilities of these Television Infrared Observation

Satellites (TIROS) have gradually improved and expanded, starting from the grainy, black-and-white images of Earth's cloud cover taken by TIROS-1 and culminating in NOAA-19's amazing array of capabilities. "This TIROS series has become quite the Swiss army knife of weather satellites, and NOAA-19 is the most capable one yet," says Tom Wrublewski, NOAA-19 Satellite Acquisition Manager at NASA's Goddard Space Flight Center in Greenbelt, Maryland. The evolution of TIROS began in 1998 with NOAA-K. The satellites have carried microwave sensors that can measure temperature variations as small as 1 degree Celsius between Earth's surface and an altitude of 40 kilometers—even through clouds. Other missions have added the ability to track large icebergs for cargo ships, monitor sea surface temperatures to aid climate change research, measure the amount of ozone in Earth's protective ozone layer, and even detect hazardous particles from solar flares that can affect communications and endanger satellites, astronauts in orbit, and city power grids. NOAA-19 marks the end of the TIROS line, and for the next four years it will bridge the gap to a new series of satellites called the National Polar-orbiting Operational Environmental Satellite System. NPOESS will merge civilian and military weather satellites into a single system. Like NOAA-19, NPOESS satellites will orbit Earth from pole to pole, circling the planet roughly every 100 minutes and observing every location at least twice each day.

NPOESS will have yet more capabilities drawn from its military heritage. Dim-light sensors will improve observations of the Earth at night, and the satellites will better monitor winds over the ocean — important information for ships at sea and for weather and climate models. "A lot more capability is going to come out of NPOESS, improving upon the 161 various environmental data products we already produce today," Wrublewski says.

Not even a Swiss army knife can do that many things, he points out.

For more on the NPOESS, check out <http://www.npoess.noaa.gov>. Kids can find out about another NOAA satellite capability—tracking endangered migrating species—and play a fun memory game at [http://spaceplace.nasa.gov/en/kids/poes\\_tracking](http://spaceplace.nasa.gov/en/kids/poes_tracking).

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*The new NOAA-19 is the last and most capable in the long line of Television Infrared Observation Satellites (TIROS).*

### **Answer to Trivia Question**

The answer is a. 109.123 AU or about 10,143,000,000 miles or to use another measure 15.13 light hours. This means if you asked a question of Voyager 1 at noon on Saturday, you would not receive an answer until early Sunday evening. By some definitions the spacecraft is on the edge of interstellar space. Even though it's so far away the Sun is still pretty bright out there – about 40 times brighter than the Full Moon.