

North Star Newsletter

January 2012

Volume XII No. 1

NHAC General Meeting

December 16, 2011

NOVICE PROGRAM

“Special Phenomena”

by Dr. Aaron Clevenson

6:30 - 7:15 in the Cosmic Forum, upstairs in the CLA building

MAIN PRESENTATION

Beginning at 7:30 in the building CLA Teaching Theater, featuring:

- NHAC Board Elections
- NHAC news and announcements
- *“What’s Up Doc?”* by Aaron Clevenson

FEATURED SPEAKER

Aaron Clevenson

NHAC

“The Kepler Mission - The Search for Earth”



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The Deadline for submissions for the
February 2012 newsletter
is January 15, 2012.



2011 NHAC OFFICERS



2011 Elected Officers

PRESIDENT

Bruce Pollard

president@astronomyclub.org

WEBMASTER

Ed Knapton

webmaster@astronomyclub.org

VICE PRESIDENT

Aaron Clevenson

vicepresident@astronomyclub.org

ALCOR

Jim Barbasso

alcor@astronomyclub.org

SECRETARY

Susan Pollard

secretary@astronomyclub.org

OBSERVATION COMMITTEE CHAIRPERSON

****open****

observation@astronomyclub.org

TREASURER

Mary Moore

treasurer@astronomyclub.org

MEMBERSHIP COMMITTEE CHAIRPERSON

Bruce Pollard/Stuart Davenport

membership@astronomyclub.org

EDITOR

Jamie Martin

newsletter@astronomyclub.org

PROGRAM COMMITTEE CHAIRPERSON

George Marsden

program@astronomyclub.org

“It is the chiefest point of happiness that a man is willing to be what he is.”
Desiderius Erasmus (1466 - 1536)

NHAC is a proud member of:



From the Treasurer

Don't forget to renew your membership!

Current dues for regular members will expire at the end of December. You may pay 2012 dues beginning any time now. They be delinquent at the end of January and if you haven't renewed by the end of February, you will be dropped from the roster. Dues for next year remain the same, \$25.00 for an Individual and \$30.00 for a family.

Student memberships are \$5.00 and are valid for one year from the date joined.

If you have any questions about your current status, please see Mary Moore before or after any meeting or email her at Treasurer@astronomyclub.org.

The 2012 calendars are in and spectacular! They are \$10.00 each and you can purchase them at any meeting!

Remember to check out the North Houston Astronomy Club
Facebook and Twitter pages:



<http://www.facebook.com/NorthHoustonAstronomyClub>



http://www.twitter.com/NHAC_Info

NASA's Voyager Hits New Region at Solar System Edge

by Jia-Rui Cook/Priscilla Vega
Steve Cole

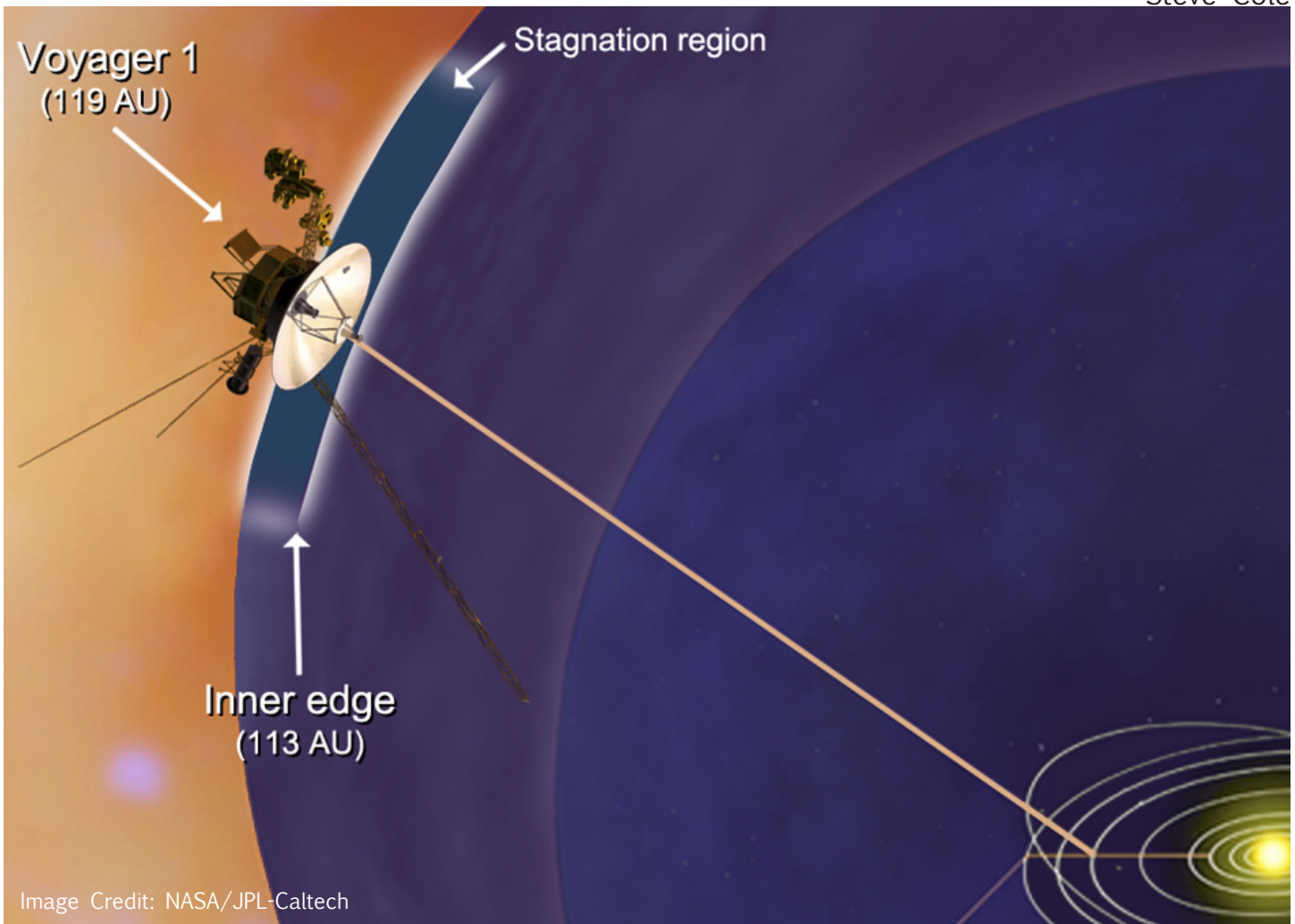


Image Credit: NASA/JPL-Caltech

NASA's Voyager 1 spacecraft has entered a new region between our solar system and interstellar space. Data obtained from Voyager over the last year reveal this new region to be a kind of cosmic purgatory. In it, the wind of charged particles streaming out from our sun has calmed, our solar system's magnetic field has piled up, and higher-energy particles from inside our solar system appear to be leaking out into interstellar space.

"Voyager tells us now that we're in a stagnation region in the outermost layer of the bubble around our solar system," said Ed Stone, Voyager project scientist at the California Institute of Technology in Pasadena. "Voyager is showing that what is outside is pushing back. We shouldn't have long to wait to find out what the space between stars is really like."

Although Voyager 1 is about 11 billion miles (18 billion kilometers) from the sun, it is not yet in interstellar space. In the latest data, the direction of the magnetic field lines has not changed, indicating Voyager is still within the heliosphere, the bubble of charged particles the sun blows around itself. The data do not reveal exactly when Voyager 1 will make it past the edge of the solar atmosphere into interstellar space, but suggest it will be in a few months to a few years.

The latest findings, described today at the American Geophysical Union's fall meeting in San Francisco, come from Voyager's Low Energy Charged Particle instrument, Cosmic Ray Subsystem and Magnetometer.

Scientists previously reported the outward speed of the solar wind had diminished to zero in April 2010, marking the start of the new region. Mission managers rolled the spacecraft several times this spring and summer to help scientists discern whether the solar wind was blowing strongly in another direction. It was not. Voyager 1 is plying the celestial seas in a region similar to Earth's doldrums, where there is very little wind.

During this past year, Voyager's magnetometer also detected a doubling in the intensity of the magnetic field in the stagnation region. Like cars piling up at a clogged freeway off-ramp, the increased intensity of the magnetic field shows that inward pressure from interstellar space is compacting it.

Voyager has been measuring energetic particles that originate from inside and outside our solar system. Until mid-2010, the intensity of particles originating from inside our solar system had been holding steady. But during the past year, the intensity of these energetic particles has been declining, as though they are leaking out into interstellar space. The particles are now half as abundant as they were during the previous five years.

At the same time, Voyager has detected a 100-fold increase in the intensity of high-energy electrons from elsewhere in the galaxy diffusing into our solar system from outside, which is another indication of the approaching boundary.

"We've been using the flow of energetic charged particles at Voyager 1 as a kind of wind sock to estimate the solar wind velocity," said Rob Decker, a Voyager Low-Energy Charged Particle Instrument co-investigator at the Johns Hopkins University Applied Physics Laboratory in Laurel, Md. "We've found that the wind speeds are low in this region and gust erratically. For the first time, the wind even blows back at us. We are evidently traveling in completely new territory. Scientists had suggested previously that there might be a stagnation layer, but we weren't sure it existed until now."

Launched in 1977, Voyager 1 and 2 are in good health. Voyager 2 is 9 billion miles (15 billion kilometers) away from the sun.

The Voyager spacecraft were built by NASA's Jet Propulsion Laboratory in Pasadena, Calif., which continues to operate both. JPL is a division of the California Institute of Technology. The Voyager missions are a part of the NASA Heliophysics System Observatory, sponsored by the Heliophysics Division of the Science Mission Directorate in Washington. For more information about the Voyager spacecraft, visit: <http://www.nasa.gov/voyager>.

Observation Sites

O'Brien Observing Site

Have you been to O'Brien site yet? This is a new location that is available to NHAC members. It has open fields with a treed horizon in all directions at 5 degrees and is located in Montgomery, Texas (heading west on Highway 105)

If you would like to use this site in the future, please read the use policy on the NHAC web page (click on the "Star Party!" link from the Home page), and please follow this process:

- Tim and Wanda O'Brien and their family are our hosts. They are on Netslyder, the email list server.
- To request use of the site, send an email out on Netslyder to: NHAC@mail.netslyder.net (you must already be a member of the Netslyder mailing list)
- Requests must be made more than 24 hours in advance.
- Wanda or Tim will reply on Netslyder to let you know it is ok.
- Other members are welcome to also attend that night. Once approved, another request is not necessary at that point.
- The site is open to members and their guests (only when the member is present).

If you have any questions, please contact Aaron Clevenson, directly, at aaron@clevenson.org



Observation Sites

White Eagle Lodge (WEL) Monthly Star Parties

Come on out for Socializing and Stargazing!

Mark these dates on your calendar for future NHAC Star Parties at The White Eagle Lodge (WEL):

December 17, 2011

**These dates are tentative and subject to change.*

Rules and Directions are available online at www.astronomyclub.org.



The Insperity Observatory at Humble ISD



The Insperity Observatory at Humble ISD, 2505 S. Houston Ave., Humble, TX 77396 281-641-STAR

2012 Public Nights at the Observatory*

- January 6, 2012 @ 5:30 p.m.
- February 3, 2012 @ 6:00 p.m.
- March 2, 2012 @ 6:15 p.m.
- April 6, 2012 @ 7:45 p.m.
- May 4, 2012 @ 8:00 p.m.
- June 1, 2012 @ 8:15 p.m.
- July 6, 2012 @ 8:30 p.m.
- August 3, 2012 @ 8:15 p.m.
- September 7, 2012 @ 7:30 p.m.
- October 5, 2012 @ 7:00 p.m.
- November 2, 2012 @ 5:30 p.m.
- December 7, 2012 @ 5:30 p.m.

**Dates and times are subject to change.*

Refreshment Committee Chairman Needed

Your hungry club members need YOU! Yes, YOU!!

Have you been thinking about getting more involved with the club, but weren't quite sure what to do? Well, this would be a great way to help out! We are looking for someone to be in charge of the meeting refreshments each month.

Your job would be to see that the refreshments are ordered, picked up and delivered to the meeting each month. They would need to be set up prior to the meeting and taken down after the meeting. You would also need to see that all of the necessary utensils were kept on hand.

As Chairman, you may choose to delegate this monthly, or handle it yourself with a few bodyguards. :)



Position: Available immediately

Salary: We will pay you on Tuesday for the hamburger today

Satisfaction: Priceless

Contact board@astronomyclub.org

**We need YOU!!
Step on up!!**

About NHAC

The North Houston Astronomy Club (NHAC), was formed for educational and scientific purposes, for people of all races, creeds, ethnic backgrounds and sex, for the primary purpose of developing and implementing programs designed to increase the awareness and knowledge of astronomy, especially for those living near the north side of Houston Texas.

NHAC is a non-profit organization dedicated to providing the opportunity for all individuals to pursue the science of astronomy, by observing in a dark-sky site, learning the latest technology, and sharing their knowledge and experience. Thus, our “Observe-Learn-Share” motto.

North Houston Astronomy Club is Sponsored by:



Membership Benefits

- Loaner telescopes
- Borrow from the NHAC “Library”
- Observe from Dark Sky Observing Sites
- Learn from experienced amateur astronomers
- Share your knowledge at club hosted picnics and star parties
- Discount magazine subscriptions (contact our Treasurer)
- Includes membership in the Astronomical League
- The quarterly Astronomical League magazine “Reflector”
- Eligibility for NHAC Executive Board

www.astronomyclub.org
www.nhac.info

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