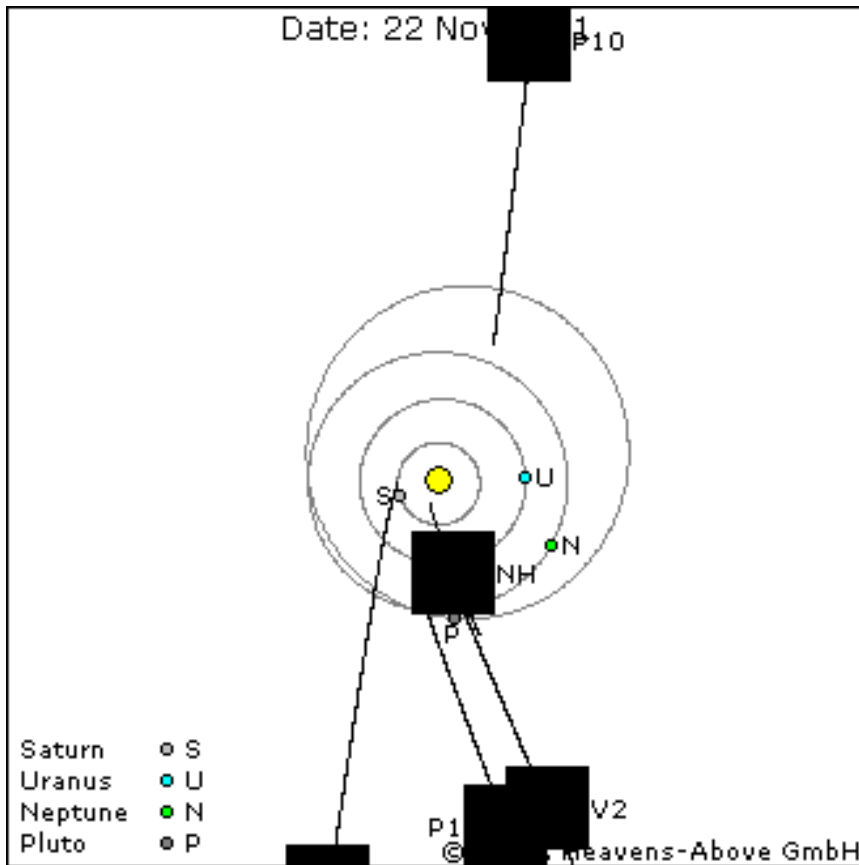


**SAS Honors Seminar 256:
Extraterrestrial Life**

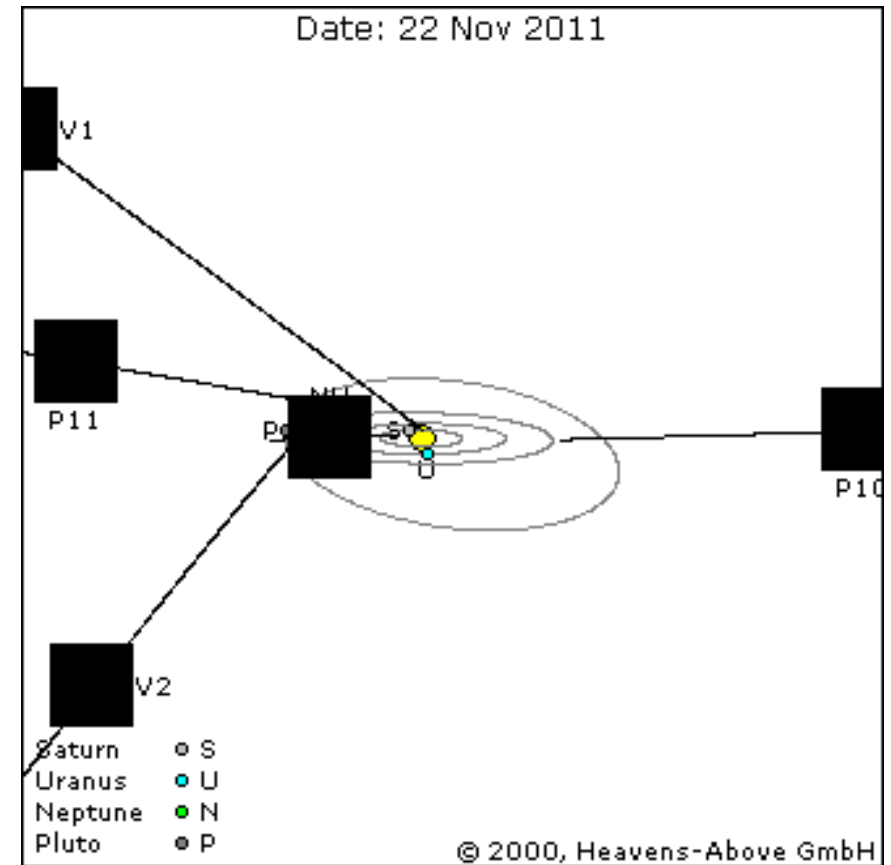
11/22/2011

Where are the *Pioneers* and *Voyagers* now?

[http://heavens-above.com/solar-escape.asp/?/](http://heavens-above.com/solar-escape.asp?/)



Pioneer 10 = 105 AU

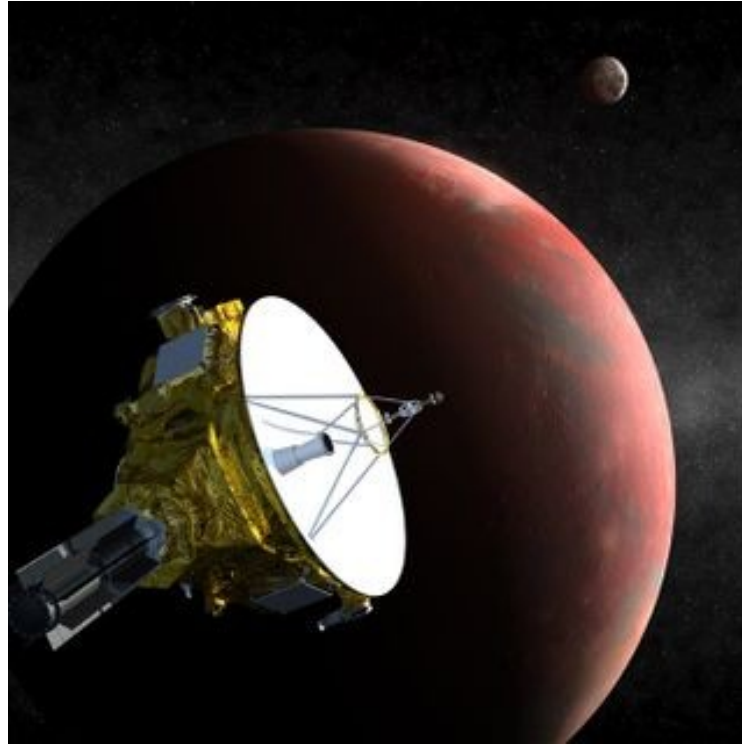


Pioneer 11 = 84 AU

Voyager 1 = 119 AU

Voyager 2 = 97 AU

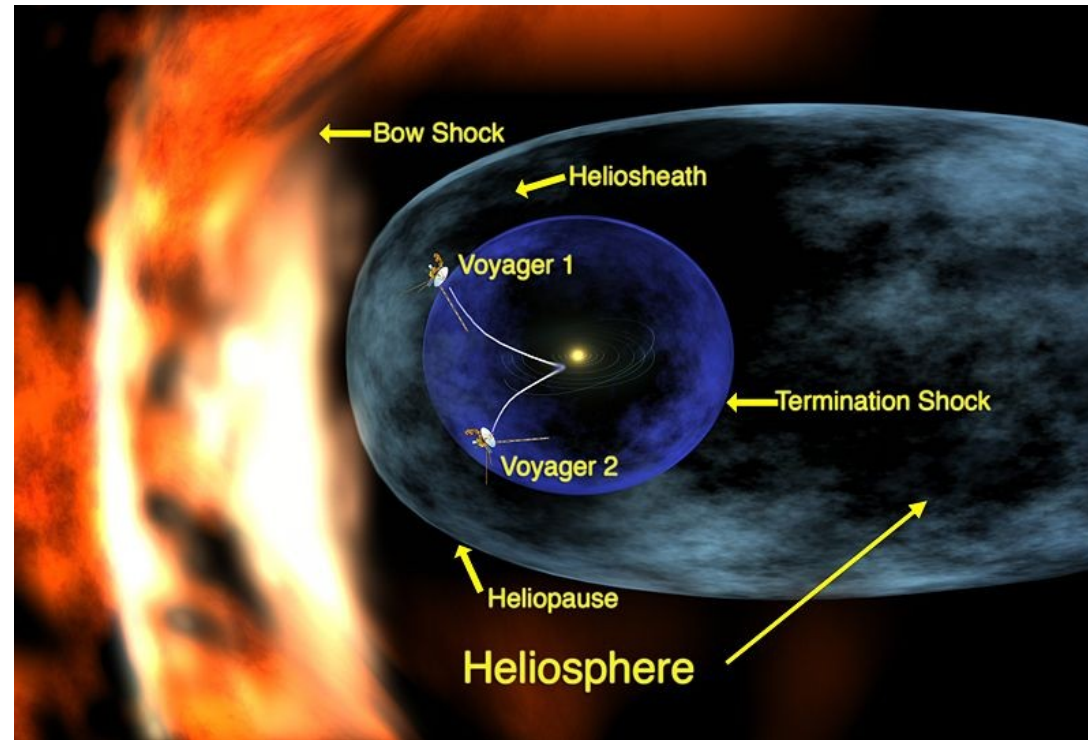
New Horizons mission is also outbound



Encounter with Pluto/Charon system will be 7/14/2015.

Included on board: a CD with 434,738 names (including one “Matt Carroll” and one “Ben Forrest”), an American flag, and a Florida state quarter, among other artifacts.

Leaving the solar system...



termination shock = where solar wind begins to slow down

Pioneer 10: March 3, 1972 – January 23, 2003

Pioneer 11: April 6, 1973 – November 1975

Voyager 2: August 20, 1977 – present (T.S. in 2007)

Voyager 1: September 5, 1977 – present (T.S. in 2003-2004)

Reading on ethics for Tuesday (11/29)

COSPAR (2002, 2005) *Planetary Protection Policy*:

“Preamble” and “Policy” only

NAS (2006) *Preventing the Forward Contamination of Mars*:

pp 1-10 (2-11 in PDF) only

**Race & Randolph (2002) – thoughts on discovery of
extraterrestrial (un)intelligence**

McKay (2009) & Bailey (2011) – deliberately terraforming Mars

Due next *Thursday* (12/1)

LAST response paper:

The late sociologist Marcello Truzzi deserves credit for the axiom (often attributed to Carl Sagan) that “Extraordinary claims require extraordinary proof.” Discuss whether and how this axiom applies to one or more subjects we have discussed in this class.



1935 – 2003

Student choice topics

Topics suggested so far...

- (a) multiverse theory†
- (b) black holes/wormholes†
- (c) sociological implications of first contact
- (d) YOUR CHOICE HERE

† not clearly within scope...

Term paper topics

Approved:

The Future of Space Exploration

Proposed:

Searching for Life on Mars

Sociological Implications of First Contact

Congressional Funding for Astrobiological Research

The History of SETI

**The Media's Portrayal of Extraterrestrial Life and
its Influence on Public Opinion**