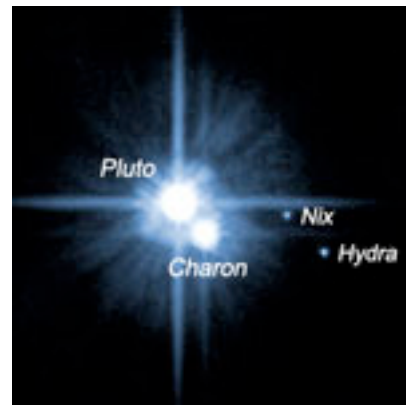


## Adler Statement About Pluto Reclassification

The Adler Planetarium noted with interest the 24 August 2006 actions of the 26th General Assembly of the International Astronomical Union (IAU). The IAU decisions place Pluto in a new class of 'dwarf planets', no longer one of the traditional planets of our Solar System that have been recognized by scientists and the public for more than 75 years.

Pluto was discovered by Illinoisan Clyde Tombaugh, just months before the opening of the Adler Planetarium. Visitors to the Adler have long enjoyed the Alphonso Ianelli sculpture in our lobby — a bronze relief depicting eight planets — that was commissioned before Tombaugh made his famous discovery on February 18, 1930. Because of the IAU decisions, our prized Ianelli sculpture is for the first time in its history an accurate depiction of the planets in our solar system! Pluto, Charon, Nix, and Hydra.

The IAU's historic vote is the latest event in a long debate among scientists intent on classifying the objects in our Solar System. Classification is often a useful tool in developing a deeper understanding of our natural world. While the particular name assigned to a certain class of objects may take on importance beyond its place in the classification scheme, the process of understanding the nature of that object, how it formed and is evolving relative to its environment is the goal of science research. The Adler invites and has invited visitors and school children to participate in this fascinating, on-going investigation.



The concept of a planet has changed throughout history. Before astronomers accepted that the Earth orbits the Sun, their list of planets (meaning wanderers) included Mercury, Venus, Mars, Jupiter, Saturn and also the Sun and the Moon. This earlier list of seven planets leaves its legacy in the names of the days of the week in many languages, even though the Sun and Moon have not been considered as planets for hundreds of years! When Uranus, Neptune, and Pluto were discovered, the list of planets and our knowledge of the universe expanded. Even though we've shortened the list (for now), our understanding of our cosmos continues to increase as we continue to explore it.

Regardless of its new status as a "dwarf planet," Pluto will continue to attract the attention of scientists and the public. New telescopes and exploration technologies will provide an ever-increasing amount of information about this far-off world and others like it. The first of NASA's "New Frontiers" missions — New Horizons — was launched earlier this year and is going to Pluto. We are certain it will reignite popular interest and debate when it reaches its destination in 2015 and then moves deeper into the Kuiper Belt to observe other dwarf planets.

As every parent knows, Pluto is a popular object among children. It is a small, distant and very mysterious world. While today's announcement demoting Pluto from its status as a planet may disappoint some young, future astronomers, it will surely challenge the next generation of explorers to consider new ideas about planetary science and the formation of our Solar System. The Adler Planetarium welcomes the opportunity this heightened attention to Pluto has created for inspiring and engaging young and old alike in the interesting progress of science!

Paul H. Knappenberger Jr., PhD  
President  
August 24, 2006

### **Adler Visitor Poll: Pluto**

In an informal poll completed this morning at the Adler Planetarium in Chicago, 64 percent of Adler visitors believe that Pluto should be counted as a planet. 54 percent of visitors to the Adler also "feel bad" for Pluto. Eight planets now make up our Solar System.

Today in Prague, the International Astronomical Union (IAU) voted to reclassify Pluto from a planet to a "dwarf planet." Because of its small size and atypical orbit, Pluto's classification had been contested for many years. The new definition of a planet, as voted on by the IAU, is "a celestial body that is in orbit around the Sun, has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a ... nearly round shape, and has cleared the neighborhood around its orbit."

Pluto was discovered on February 18, 1930, by Illinois native Clyde Tombaugh just three months before the Adler Planetarium opened on May 12 and became America's first planetarium. Unfortunately for Pluto, by the time Tombaugh made his discovery, commissioned artist Alphonso Ianelli had already completed work on the Adler's bronze dedication plaque, which celebrated the eight known planets at the time. Today, visitors can still view the one-of-a-kind artwork, which is located in the Adler's historic Rainbow Lobby.

To learn more about the eight planets & and newly designated dwarf planet Pluto – visit the Adler Planetarium's Solar System gallery.

### **IAU0603: DEFINITION OF A PLANET**

*IAU 2006 General Assembly: Result of the IAU Resolution votes  
24-August-2006, Prague: The first half of the Closing Ceremony of the 2006  
International Astronomical Union (IAU) General Assembly has just concluded. The  
results of the Resolution votes are outlined here.*

It is official: The 26th General Assembly for the International Astronomical Union was an astounding success! More than 2500 astronomers participated in six Symposia, 17 Joint Discussions, seven Special Sessions and four Special Sessions. New science results were vigorously discussed, new international collaborations were initiated, plans for future facilities put forward and much more.

In addition to all the exciting astronomy discussed at the General Assembly, six IAU Resolutions were also passed at the Closing Ceremony of the General Assembly:  
Resolution 1 for GA-XXVI : "Precession Theory and Definition of the Ecliptic"  
Resolution 2 for GA-XXVI: "Supplement to the IAU 2000 Resolutions on reference systems"  
Resolution 3 for GA-XXVI: "Re-definition of Barycentric Dynamical Time, TDB"  
Resolution 4 for GA-XXVI: "Endorsement of the Washington Charter for Communicating Astronomy with the Public"  
Resolution 5A: "Definition of 'planet' "  
Resolution 6A: "Definition of Pluto-class objects"

The IAU members gathered at the 2006 General Assembly agreed that a "planet" is defined as a celestial body that (a) is in orbit around the Sun, (b) has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, and (c) has cleared the neighbourhood around its orbit. This means that the Solar System consists of eight "planets" Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. A new distinct class of objects called "dwarf planets" was also decided. It was agreed that "planets" and "dwarf planets" are two distinct classes of objects. The first members of the "dwarf planet" category are Ceres, Pluto and 2003 UB313 (temporary name). More "dwarf planets" are expected to be announced by the IAU in the coming months and years. Currently a dozen candidate "dwarf planets" are listed on IAU's "dwarf planet" watchlist, which keeps changing as new objects are found and the physics of the existing candidates becomes better known. The "dwarf planet" Pluto is recognised as an important proto-type of a new class of trans-Neptunian objects. The IAU will set up a process to name these objects. Below are the planet definition Resolutions that were passed.

## RESOLUTIONS

Resolution 5A is the principal definition for the IAU usage of "planet" and related terms. Resolution 6A creates for IAU usage a new class of objects, for which Pluto is the prototype. The IAU will set up a process to name these objects.

### IAU Resolution: Definition of a "Planet" in the Solar System

Contemporary observations are changing our understanding of planetary systems, and it is important that our nomenclature for objects reflect our current understanding. This applies, in particular, to the designation "planets". The word "planet" originally described "wanderers" that were known only as moving lights in the sky. Recent discoveries lead us to create a new definition, which we can make using currently available scientific information.

## RESOLUTION 5A

The IAU therefore resolves that "planets" and other bodies in our Solar System be defined into three distinct categories in the following way:

(1) A "planet" is a celestial body that (a) is in orbit around the Sun, (b) has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, and (c) has cleared the neighbourhood around its orbit.

(2) A "dwarf planet" is a celestial body that (a) is in orbit around the Sun, (b) has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, (c) has not cleared the neighbourhood around its orbit, and (d) is not a satellite.

(3) All other objects except satellites orbiting the Sun shall be referred to collectively as "Small Solar-System Bodies".

#### RESOLUTION 6A (Pluto)

The IAU further resolves:

Pluto is a "dwarf planet" by the above definition and is recognized as the prototype of a new category of trans-Neptunian objects.<sup>1</sup>

The eight planets are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.

An IAU process will be established to assign borderline objects into either dwarf planet and other categories.

These currently include most of the Solar System asteroids, most Trans-Neptunian Objects (TNOs), comets, and other small bodies.