

NEW HORIZONS Mission to Pluto has Kansas connection

When the New Horizons spacecraft flies past Pluto in July 2015, it carries with it a bit of Kansas.

In memory of the first American to discover a planet in our solar system, Kansas Clyde Tombaugh, the spacecraft will carry a small aluminum canister containing some of Tombaugh's cremated remains, donated by his family. These remains will fly past Pluto with the New Horizons on July 14, 2015, then past the Kuiper Belt objects, ever outward. New Horizons will eventually leave the solar system and enter interstellar space. As such, Tombaugh's remains have become the first to be launched to the stars.

Before he discovered Pluto in 1930, Tombaugh, who was born in Illinois, moved with his family at age 16 to the rural community of Burdett, in Pawnee County in western Kansas. He graduated from Burdett High School in 1915. He did not have money for college so he studied math and science on his own. Interested in astronomy, he was self-taught and at age 20 built his own telescope from mirrors he ground himself and parts of farm equipment.

He sent drawings he made of Jupiter and Mars using his telescope to the Lowell Observatory in Arizona. They were impressed and offered him a job.

At age 24, while working at Lowell, he discovered Pluto. The tedious research consisted of photographing parts of the sky at intervals. Then, peering into a viewer, he spent thousands of hours examining millions of star images by looking for an object that "blinked" or moved between the frames. Each photo could contain more than 150,000 stars. On Feb. 18, 1930, he discovered Pluto. It made news worldwide. Its name was suggested by an English schoolgirl who thought a planet so far away and dark should be named after a god of the underworld from mythology, Pluto.

After Tombaugh became famous internationally, he returned to his home state to earn degrees at the University of Kansas and later, Northern Arizona University. In his many years as an astronomer and teacher at New Mexico State University, he discovered hundreds of variable stars and asteroids, two comets, many unknown star clusters and a nova. An asteroid, 1604 Tombaugh, is named for him.

In discovering Pluto, Tombaugh also discovered the first object in a zone eventually called the Kuiper Belt. Pluto is primarily rock and ice, one of many such bodies. Because so many objects of similar size to Pluto have been discovered in recent years, and not everyone of them can be considered a traditional planet, in 2006, the International Astronomical Union officially classified Pluto as a dwarf planet.

FOR EDUCATIONAL ACTIVITIES and more information about Pluto and New Horizons go to www.solarsystem.nasa.gov/edu/lessons.cfm Then click on Solar System Exploration, Education, Fast Lesson Finder. Lessons align to Next Generation Science Standards.

 <p><i>Credit: KansasMemory.org Kansas Historical Society</i></p> <p>Clyde TOMBAUGH Astronomy</p>	<p>Clyde TOMBAUGH 1906-1997</p> <ol style="list-style-type: none"> 1. 2. 3. <p>EXTRA COOL:</p>
	<p>Project of the Ad Astra Kansas Foundation www.adastra-ks.org</p>

Instructions: After reading about Tombaugh and Pluto, have students write down a few points they think are most important.

Cut out around the outside edges of the card. Fold the card in half and glue together to make a trading or study card.

Sources: Kansas Historical Society— www.kshs.org/kansapedia/clyde-tombaugh/12222

Wikipedia—<http://en.wikipedia.org/wiki/Pluto>

Johns Hopkins University Applied Physics Lab—www.jhuapl.edu/newscenter/pressreleases/2006/060203.asp

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