

# The Flint River Observer

## Newsletter of the Flint River Astronomy Club

December 2005

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Web page: [www.flintriverastronomy.org](http://www.flintriverastronomy.org)

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Please notify **Dawn Knight** if you have a change of address, telephone number and or new e-mail address.

**President's Message:** What a long and winding road this year has been. It's hard to believe that it's almost over. As we look forward to the holidays with our families, I hope to see all of you along with your families at the Christmas dinner at Hong Kong II. Look for some changes to come to FRAC in the New Year. And as always feel free to let us know any ideas you have to make FRAC a better club. Happy Holidays to all of you and your families and hope Santa is good to all of you.

**Club Calendar:** Cox Field Club Observing – December 2<sup>nd</sup> & 3<sup>rd</sup>; Annual Christmas Dinner, Hong Kong II, December 9<sup>th</sup> 7:00 p.m.; Cox Field Observing - December 23<sup>rd</sup> & 24<sup>th</sup>, December 30<sup>th</sup> & 31<sup>st</sup>

**Membership Renewals:** All renewals are due during the month of February.

Chiefland Fall Star Party - Steve, Dawn, Larry and your co-editor attended the 2005 Chiefland Star Party. I believe Steve & Dawn arrived Saturday, October 29. Larry & I arrived the following Thursday. There were folks all over the field with the two overflows busy with tents and trailers. Now a days you must be aware of the rules concerning where can you park/set up if you are either camping, using a trailer or an RV. In order to accommodate as many folks as possible certain areas close to the electrical hook ups were designated as RV/trailer parking only and the remaining of the field as your tent camping areas. The observing was your typical Chiefland skies (very dark & clear). The temperature held up and was not as cold as previous star parties. I was able to clearly observe M33 using my 9X50 finder scope, a first for me. Excellent star party!

## **Astronomy News:**

From [www.universetoday.com](http://www.universetoday.com)

### ***New Horizons Arrives at Cape Canaveral -***

NASA's New Horizons spacecraft has arrived at Florida's Cape Canaveral to be prepared for launch. If all goes well, New Horizons will lift off atop an Atlas V rocket on January 11, 2006, and begin the decade-long journey to Pluto. It's equipped with seven scientific instruments, and will study Pluto and its moon Charon during a relatively brief flyby. The mission may even be extended, giving the spacecraft an opportunity to study additional objects in the region.

NASA's New Horizons spacecraft arrived at the Kennedy Space Center (KSC), Fla., for final preparations and testing for the probe's decade-long journey. It will be the first spacecraft to visit Pluto and its moon, Charon.

New Horizons arrived Saturday at KSC's Shuttle Landing Facility aboard a U.S. Air Force C-17 cargo plane. The spacecraft is in a clean room at KSC. It is scheduled to launch on a Lockheed Martin Atlas V rocket in January 2006. New Horizons recently completed four months of space-environment tests at NASA's Goddard Space Flight Center, Greenbelt, Md., and the Johns Hopkins University Applied Physics Laboratory (APL), Laurel, Md., where it was designed and built.

Carrying seven scientific instruments the compact, nearly 1,000 pound probe will fly by Pluto and Charon as early as summer 2015. Its mission is to characterize the global geology and geomorphology of the bodies, map their surface compositions, record temperatures and examine Pluto's complex atmosphere. Flybys of ancient rocky objects farther out in the solar system may be undertaken during an extended mission.

In October, New Horizons will undergo a series of functional tests, readiness checks, and an "end-to-end" test with the tracking facilities of NASA's Deep Space Network. In November, hydrazine fuel for attitude control and course correction maneuvers will be loaded and the spacecraft will undergo a final spin-balance test.

At the Atlas Space Operations Center on Cape Canaveral Air Force Station, processing has begun on the Atlas V. Stacking of the vehicle will begin in early October and completed in late October or early November. In November, a launch countdown rehearsal will be performed. In December, the flight-ready spacecraft will be transported to Launch Complex 41 for hoisting atop the Atlas V.

Following final launch approval, liftoff is scheduled for Jan. 11, 2006, during a two-hour launch window that opens at 2:07 p.m. EST. Launch windows are also available daily from Jan. 12 through Feb. 14, 2006.

New Horizons is the first mission in NASA's New Frontiers program of medium-class planetary missions. APL will operate the spacecraft for NASA's Science Mission Directorate. Principal Investigator Alan Stern of the Southwest Research Institute (SwRI) leads the New Horizons science and mission team. SwRI directed

development of the mission's seven science instruments.

The National Research Council ranked the first reconnaissance of Pluto and the Kuiper Belt at the top of its priority list for planetary missions to be launched in this decade. A close-up look at these mysterious worlds will provide new information about the origin and evolution of our solar system.

For information on the mission, visit <http://pluto.jhuapl.edu>.

### ***ESA Picks an Asteroid to Move -***

Instead of waiting for asteroids to slam into the Earth, the European Space Agency is working on a mission that will reach out and try to shift a space rock's orbit. The mission is called Don Quixote, and it will consist of two spacecraft: an orbiter and an impactor; similar to NASA's Deep Impact. The Sancho orbiter will rendezvous with a target asteroid and carefully calculate its orbit before and after the Hidalgo impactor slams into it. The ESA has chosen two candidate asteroids as potential targets, and will make a final decision in 2007

Original Source: [ESA News Release](#)

### ***NASA takes giant step toward finding Earth-like planets -***

September 29, 2005

Are we alone in the universe? Are there planets like Earth around other "suns" that might harbor life? Thanks to a recent technology breakthrough on a key NASA planet-finding project, the dream of answering those questions is no longer light-years away.

On a crystal clear, star-filled night at Hawaii's Keck Observatory in Mauna Kea, NASA engineers successfully suppressed the blinding light of three stars, including the well-known Vega, by 100 times. This breakthrough will enable scientists to detect the dim dust disks around stars, where planets might be forming. Normally the disks are obscured by the glare of the starlight.



Engineers accomplished this challenging feat with the Keck Interferometer, which links the observatory's two 10-meter (33-feet) telescopes. By combining light from the telescopes, the Keck Interferometer has a resolving power equivalent to a football-field sized telescope. The "technological touchdown" of blocking starlight was achieved by adding an instrument called a "nuller."

This setup may eventually help scientists select targets for NASA's envisioned Terrestrial Planet Finder missions. The success of those potential future missions,

one observing in visible light and one in infrared, depends on being able to find Earth-like planets in the dust rings around stars.

"We have proven that the Keck Interferometer can block light from nearby stars, which will allow us to survey the amount of dust around them," said Dr. James Fanson, project manager for the Keck Interferometer at NASA's Jet Propulsion Laboratory. That survey will begin in late 2006 after the team refines the nuller's sensitivity level.

Combined information from all of NASA's planet-hunting missions will provide a complete picture of possible Earth-like planets: how big they are, whether they are warm enough for life, and if their atmospheres and surfaces show chemical signatures of current life.

"People have been talking about whether there are other earths out there for 2,500 years. Only now are we developing the technology to go find out," said Michael Devirian, manager of NASA's Navigator Program at JPL, which is investigating potential planet-exploring missions.

So far, scientists around the world have found 150 planets orbiting other stars. Most are giants, like Jupiter; none is as small as Earth. Scientists believe the best odds of finding life outside our solar system are on Earth-sized planets, particularly those with the right temperature, density and chemistry.

JPL manages the Keck Interferometer and the Terrestrial Planet Finder missions for NASA's Science Mission Directorate, Washington. JPL is a division of the California Institute of Technology in Pasadena. The W.M. Keck Observatory is funded by California Institute of Technology, the University of California and NASA, and is managed by the California Association for Research in Astronomy, Kamuela, Hawaii. Article from the Jet Propulsion Laboratory, PlanetQuest web site:

<http://planetquest.jpl.nasa.gov/news/giantStep.cfm>

	<b>Messiers</b>	<b>Double Stars</b>	<b>Caldwells</b>	<b>Herschel 400</b>
<b>Aries</b>	None	None	Gamma Arietis Lambda Arietis	NGC 772
<b>Cetus</b>	M77	C51 IC1613 C56 NGC 246 C62 NGC 247	Gamma Ceti	NGC 157 NGC 779 NGC 246 NGC 908 NGC 247 NGC 936 NGC 584 NGC 1022 NGC 596 NGC 1052 NGC 615 NGC 1055 NGC 720
<b>Eridanus</b>	None	None	32 Eridani 55 Eridani	NGC 1084 NGC 1407 NGC 1535
<b>Perseus</b>	M34 M76	C14 NGC 869 / 884 C24 NGC 1275	Eta Persei Struve 331	NGC 651 NGC 1342 NGC 869 NGC 1444 NGC 884 NGC 1513 NGC 1023 NGC 1538 NGC 1245 NGC 1545

# December

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
				<b>1</b> New Moon	<b>2</b> Cox Field Observing	<b>3</b> Cox Field Observing
<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b> First Qtr Moon	<b>9</b> Annual X-mas Dinner Hong Kong II 7:00 p	<b>10</b>
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b> Full Moon	<b>16</b>	<b>17</b>
<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b> Cox Field Observing Last Qtr Moon	<b>24</b> Cox Field Observing
<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b> New Moon, Cox Field Observing	<b>31</b> Cox Field Observing

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