



Cygnus Loop from the NOAO

**Longmont Astronomy Society Newsletter  
January 2013**

### Cover Picture:

As an end of the year finale, the National Optical Astronomy Observatory (NOAO) and WIYN partners offer this new wide-field image of the Cygnus Loop. Three degrees on a side, this image covers an area of the sky about 45 times that of the Full Moon. But it does so without sacrificing high resolution. The image is more than 600 million pixels in size, making it one of the [largest astronomical images ever made](#).

The Cygnus Loop is a large supernova remnant — the gaseous remains of a massive star that exploded long ago. It is located about 1,500 light-years from Earth in the direction of the constellation Cygnus the Swan. Astronomers estimate that the supernova explosion that produced the nebula occurred between 5,000 and 10,000 years ago. First noted in 1784 by William Herschel, it is so large that its many parts have been cataloged as separate objects, including NGC 6992, NGC 6995, and IC 1340 along the eastern (left) side of the image; NGC 6974 and NGC 6979 near the top-center; and the Veil Nebula (NGC 6960) and Pickering's Triangle along the western (right) edge. The bright star near the western edge of the image, known as 52 Cygnus, is not associated with the supernova.

### **From the President:**

See you at the banquet – Johnny Carino's on the Diagonal, 6 PM Sunday.

### **In the sky this month:**

Meteor Showers only minor ones until the Lyrids in April

### **Planets**

Mercury: too close to the Sun

Venus: you had your chances, now it's behind the Sun, too

Mars: very low in the west at sunset, hard to see

Jupiter: still the pride of the high southern sky at sunset

Saturn: rises at 1:30 A.M. Good viewing near sunrise

Current Extra-solar Planet count: 859 known

### **Interesting Stars/Galaxies**

<http://chandra.harvard.edu/photo/2012/pks0745/> So, they've gone surveying for black holes in Galactic Clusters and found that some of those babies are 40 billion solar masses. Common, in fact.... Research continues.

Those “comets of the century” are still getting closer.... Will this year be one to remember?

### **Club Calendar:**

**Fiske Planetarium:** closed for renovations until fall

### **Internet Resources:**

<http://www.skyandtelescope.com/news/What-to-See-with-Your-New-Telescope-136320003.html> What to look at with your new Christmas present in the night sky during January

<http://www.globeatnight.org/> Time for the annual Globe at Night observations. Access the website, take a look at the directions, then go out and look at Orion, Leo.... Match the magnitude that you can see from your location and report it in. Since you're going outside and looking anyway, this takes about 5 seconds of your time.

### **Upcoming Space Missions:**

**Date:** January

**Mission:** [Orbital Sciences Corporation Test Flight](#)

**Launch Vehicle:** Antares

**Launch Site:** [Wallops Flight Facility, Va.](#)

**Launch Pad:** 0A

**Description:** The Antares is scheduled for a test flight under NASA's Commercial Orbital Transportation Services agreement with the company.

**Date:** January 29

**Mission:** [Tracking and Data Relay Satellite-K \(TDRS-K\)](#)

**Launch Vehicle:** [Atlas V](#)

**Launch Site:** [Cape Canaveral Air Force Station, Fla.](#)

**Launch Pad:** Space Launch Complex 41

**Launch Window:** 8:52 - 9:32 p.m. EST

**Description:** The TDRS-K spacecraft is part of the next-generation series in the Tracking and Data Relay Satellite System, a constellation of space-based communication satellites providing tracking, telemetry, command and high-bandwidth data return services.

**Date:** February 11

**Mission:** [The Landsat Data Continuity Mission \(LDCM\)](#)

**Launch Vehicle:** [Atlas V-401](#)

**Launch Site:** [Vandenberg Air Force Base, Calif.](#)

**Launch Window:** 10:02 - 10:50 a.m. PST

**Description:** The Landsat Data Continuity Mission (LDCM) is the future of Landsat satellites. It will continue to obtain valuable data and imagery to be used in agriculture, education, business, science, and government.

**Date:** February 12

**Launch Vehicle:** ISS Progress 50

**Launch Site:** Baikonur Cosmodrome, Kazakhstan

**Description:** Progress 50 will carry supplies, hardware, fuel and water to the International Space Station.

### **Current Space Missions:**

[http://www.nasa.gov/mission\\_pages/cassini/whycassini/cassini20121212.html](http://www.nasa.gov/mission_pages/cassini/whycassini/cassini20121212.html) The Cassini mission cameras have spotted a dead ringer for the Nile River delta on Titan.

**Member Pictures:**

Couple from Gary:



Running Man Nebula



Comet 2012 K5 (multiple exposure)

And a couple from Lefty:



Copernicus



Alpine Valley Aristoteles Eudoxus mitns