

# Cache Valley Clear Skies

The Journal of the Cache Valley Astronomical Society



## CVAS Executive Committee

Pres – Tom Westre - (435) 787-6380  
[twestre45@aol.com](mailto:twestre45@aol.com)

Vice Pres- Dell Vance – (435) 938-8328  
[avteam.dell@gmail.com](mailto:avteam.dell@gmail.com)

Public Relations – Lyle Johnson  
[lyledj@aol.com](mailto:lyledj@aol.com)

Treasurer- Ned Miller - (435) 757-9035  
[nedmiller2008@gmail.com](mailto:nedmiller2008@gmail.com)

Secretary – Dale Hooper - (435) 563-0608  
[dchooper5@gmail.com](mailto:dchooper5@gmail.com)

Librarian – Open  
Loaner Scope Coordinator – Lyle Johnson  
Webmaster – Tom Westre

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[www.cvas-utah.org](http://www.cvas-utah.org)

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## No Meeting This Month

There will be no CVAS meeting in July. Instead we will be having several star and solar parties. We have a club star party scheduled for July 18<sup>th</sup> at Tom Westre's home, 2689 S 800 W, Nibley. We will start at about 9pm. Please RSVP Tom at [twestre45@aol.com](mailto:twestre45@aol.com) or call 435-787-6380.

On July 25<sup>th</sup> we have a public solar party at the Logan Library from 11am to 1pm. This will be followed by a public star party at Mt Logan Park, 1400 E 350 South, Logan at 8:30pm. Telescope assistance will also be available.

## The President's Corner By Tom Westre, CVAS President



I hope everyone had a great summer solstice (June 21). The longest day has gone and now we are on the downhill slide to winter as the days get shorter. This month many exciting events are happening with deep space probes. NASA's Dawn probe has sent back some awesome images of Ceres including some mysterious bright spots. Rosetta's Philae lander has awakened. New Horizon's has been traveling to Pluto for about 10 years and is now approaching Pluto on July 14. Stay tuned to some great science from these probes.

CVAS is planning some star and solar parties. We hope everyone will turn out for these activities. July 18 will be a private star session at my observatory at 2689 S 800 W in Nibley. We will begin about 9 pm. Please let me know if you plan to attend. My Phone is 435-787-6380, or email me at [twestre45@aol.com](mailto:twestre45@aol.com)

We will have a solar party at the Logan Public Library, July 25<sup>th</sup> from 11 am to 1 pm. A star party will be held July 25<sup>th</sup> at Mt Logan Park, Logan. 350 S 1400 E. This is a public star party and will begin about 9pm. If you wish to have help with your telescope we will be available about 8 pm to help anyone learn about their telescopes and get them set up and ready to observe.

USU hosts many retired folks from Arizona and California who come to Logan for several months during the summer where it's cooler. This is the Summer Citizens program. These visitors are able to take many classes. I was able to teach a class in astronomy to 15 of them for a week in June. It was very enjoyable and I hope that many will take up the hobby of astronomy.

I would like to thank Dale, Dell and Blaine for helping me with the star party. Also in June CVAS assisted with a star party for the girls' camp. We had over 450 girls attend two different star parties in one night.

One of the great benefits of being a member of CVAS is to provide educational outreach to the community. We can share our love of astronomy with folks of all ages. I would hope that more of us would take advantage of these opportunities. We can have a lot of influence on both young and old to get them interested in this hobby. I love to hear people respond when they see the rings of Saturn or the moons of Jupiter or the craters of the moon for the first time. This is truly a hobby to share.

Finally I hope you have been watching the planets Venus and Jupiter the past few weeks as they move in their orbits around the sun. They have put on quite a show in the evening after sunset. Here are two images taken about 9 days apart showing how Venus has moved relative to Jupiter.



**June 27 - Jupiter is to bottom right of Venus**



**July 6 - Venus has now moved to the left of Jupiter**

## **Another Image from “Down Under”**

- Submitted by Dale Hooper



**NGC 3372 - Eta Carinae Nebula**

I decided to make the attempt to combine several sets of FITS files obtained from slew. The above image is a JPEG image of the Eta Carinae nebula (NGC 3372) produced from combining forty-five minutes of LRGB data from the main SLOOH telescope in Chile. I haven't attempted to do much image processing with the data.

The August issue of *Sky & Telescope* has a discussion of additional options other than SLOOH for remote telescope rental if you are interested (see pages 70 through 73).

## Spotlight on Hercules

- Submitted by Dale Hooper

Hercules is high in the sky this month and it holds one of my absolute favorite objects, the globular cluster M13. It is also the home to another very nice globular cluster, M92 as well as the Turtle nebula NGC 6210 and several very nice double and multiple stars. All of the above listed objects rate at least four stars in *The Night Sky Observer's Guide* (Hercules is in Volume 2). I've also included several galaxies and planetary nebulae which rate three stars. As usual, the table is organized according to increasing Right Ascension values.

Object	R.A.	Dec.
NGC 6058 (Planetary m12.9)	16h04.4m	+40°41'
Struve 2010 (Triple star)	16h08.1m	+17°03'
IC 4593 (Planetary m10.7)	16h12.2m	+12°04'
NGC 6106 (Galaxy mag 12.2)	16h18.8m	+07°25'
20 Hercules (Triple star)	16h21.9m	+19°09'
NGC 6166 (Galaxy mag 11.8)	16h28.6m	+39°33'
NGC 6173 (Galaxy mag 12.1)	16h29.8m	+40°49'
NGC 6181 (Galaxy mag 11.9)	16h32.3m	+19°50'
M13 (Glob Cluster mag 5.7)	16h41.7m	+36°28'
NGC 6207 (Galaxy mag 11.6)	16h43.1m	+36°50'
NGC 6210 (Planetary m8.8)	16h44.5m	+23°49'
NGC 6229 (Glob Clstr m9.4)	16h47.0m	+47°32'
Struve 2110 (Double star)	16h55.0m	+25°44'
Alpha Hercules (Double star)	17h14.6m	+14°23'
M 92 (Glob Cluster mag 6.4)	17h14.6m	+14°23'
Struve 2161 (Triple star)	17h23.7m	+37°09'
Struve 2220 (Quad star)	17h46.5m	+27°43'
NGC 6482 (Galaxy mag 11.4)	17h51.8m	+23°04'
Struve 2280 (Double star)	18h07.8m	+26°06'
NGC 6574 (Galaxy mag 12.0)	18h11.9m	+14°59'

## July Skies

Here are few Messier objects, but I am also including a few targets from the larger NGC catalog and a few nice double stars. Finally a challenge object, the central star in M 57. If you see it drop me an email at [twestre45@aol.com](mailto:twestre45@aol.com). Keep Looking up!!!!

### Messier Objects

M3	Canes Venatici	Globular cluster.
M53	Canes Venatici	Globular Cluster
M5	Serpens Caput	Big bright globular cluster, near fifth magnitude 5 Serpens
M13	Hercules	Big bright Globular cluster, Spectacular
M92	Hercules	Globular Cluster, beautiful, well resolved, long stream star lanes
M9	Ophiuchus	Globular cluster, partially resolved in small or medium scope
M10	Ophiuchus	Globular cluster, rich, easily resolved
M12	Ophiuchus	Globular cluster, bright, well resolved edges
M8	Sagittarius	Lagoon Nebula, nice in binocs
M20	Sagittarius	Trifid Nebula
M17	Sagittarius	Omega/Swan Nebula
M57	Lyra	Ring Nebula
M56	Lyra	Globular Cluster

### NGC Objects

5907	Draco	Galaxy, need at least an 8"
6543	Draco	Cat's eye Nebula
6229	Hercules	Globular Cluster
6834	Vulpecula	Open Cluster
6310	Hercules	Planetary nebula, high surface brightness, bluish color
6293	Ophiuchus	Small, compact globular

### Double Stars

E2470	Lyra	19h 08.8	+34 46'	6.6, 8.6	13.4"	With E 2474
Epsilon Lyr	Lyra	18h 44.3	+30 40'	5.1, 5.4	2.6", 2.3"	Double Double
65 Delta	Hercules	17h 15.0'	+24 50'	3.1, 8.2	8.9"	
16/17 Dra	Draco	16h 36.2	+52 55'	5.4, 6.4, 5.5	3.4, 90"	
40/41 Dra	Draco	18h 00.2	+80 00'	5.7, 6.1	19.3	
95 Her	Hercules	18h 01.5	+21 36'	5.0, 5.1	6.3"	

### Challenge Object

M57	Central star	Mag 14.7	GOOD LUCK!!!!
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# One Million Miles to Go; Pluto is More Intriguing than Ever



Pluto as seen from New Horizons on July 11, 2015.

**Credits: NASA/JHUAPL/SWRI**

As NASA's unmanned New Horizons spacecraft speeds closer to a historic July 14 Pluto flyby, it's continuing to multi-task, producing images of an icy world that's growing more fascinating and complex every day.

On July 11, 2015, New Horizons captured this image, which suggests some new features that are of keen interest to the Geology, Geophysics and Imaging (GGI) team now assembled at the Johns Hopkins University Applied Physics Lab in Laurel, Maryland. For the first time on Pluto, this view reveals linear features that may be cliffs, as well as a circular feature that could be an impact crater. Just starting to rotate into view on the left side of the image is the bright heart-shaped feature that will be seen in more detail during New Horizons' closest approach.

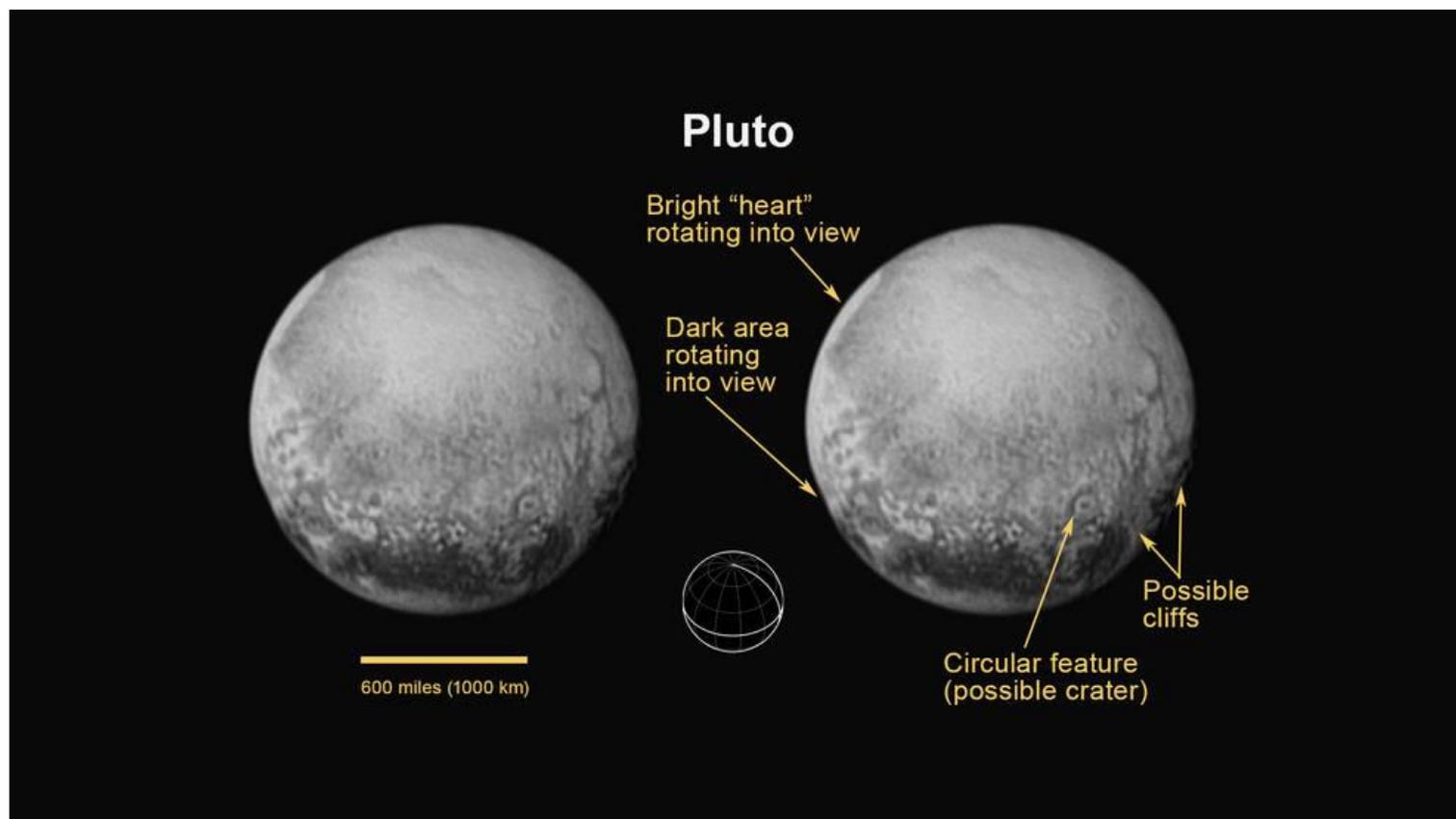
The New Horizons spacecraft is now approaching a milestone – only one million miles to Pluto – which will occur at 11:23 p.m. EDT tonight, Sunday, July 12. It's approaching Pluto after a more than nine-year, three-billion mile journey. At 7:49 AM EDT on Tuesday, July 14 the unmanned spacecraft will zip past Pluto at 30,800 miles per hour (49,600 kilometers per hour), with a suite of seven science instruments busily gathering data. The mission will complete the initial reconnaissance of the solar system with the first-ever look at the icy dwarf planet.

Follow the path of the spacecraft in coming days in real time with a visualization of the actual trajectory data, using NASA's online [Eyes on Pluto](http://eyes.jpl.nasa.gov/eyes-on-pluto.html) (<http://eyes.jpl.nasa.gov/eyes-on-pluto.html>)

Stay in touch with the New Horizons mission with #PlutoFlyby and on Facebook at: <https://www.facebook.com/new.horizons1>

Last Updated: July 12, 2015

Editor: Tricia Talbert



On July 11, 2015, New Horizons captured a world that is growing more fascinating by the day. For the first time on Pluto, this view reveals linear features that may be cliffs, as well as a circular feature that could be an impact crater. Rotating into view is the bright heart-shaped feature that will be seen in more detail during New Horizons' closest approach on July 14. The annotated version includes a diagram indicating Pluto's north pole, equator, and central meridian.

**Credits: NASA/JHUAPL/SWRI**

## CVAS Minutes – June 2015

There was no meeting in June.

### Upcoming Star Parties

- 16-18 Jul OAS Star Party at Monte Cristo Campground, CVAS members are invited to attend. Email [dchooper@gmail.com](mailto:dchooper@gmail.com) for additional details
- 18 Jul Club Star Party at Tom Westre's Home, 2689 S 800 W, Nibley, 9pm
- 25 Jul Public Solar Party, Logan Library, 11am to 1pm
- 25 Jul Public Star Party at Mt Logan Park, 1400 E 350 S, Logan, at 8:30pm – telescope help will also be provided
- 13-15 Aug OAS Star Party at Monte Cristo Campground, CVAS members are invited to attend.
- 14 Aug Club Star Party at Dell Vance's home in Newton
- 21 Aug Public Star Party, Mt Logan Park, 9pm
- 22 Aug Public Solar Party, Logan Library, 11am to 1pm

### Upcoming Events

- 1 Jul Conjunction of Venus and Jupiter, Full Moon
- 4 Jul Independence Day, Crab Nebula supernova first seen, 1054
- 08 Jul Uranus 0.8 degrees north of Moon, Last quarter Moon
- 14 Jul New Horizons Pluto Flyby
- 15 Jul New Moon
- 16 Jul Comet Shoemaker-Levy 9 smashes into Jupiter, 1994
- 20 Jul Apollo 11 lands on Moon, 1969
- 24 Jul First quarter Moon
- 29 Jul Delta Aquarid meteors, NASA founded, 1958
- 31 Jul Full Moon