



Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

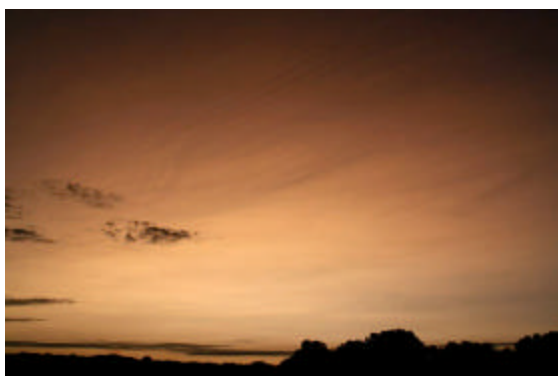
SEPTEMBER 2008

(VOLUME 16, NO. 9)

Visit our website at www.ccas.us

In This Issue

The Sky Over Chester County: Sept. 2008	2
September Observing Highlights	3
Welcome New Members!	3
Treasurer's Report & Membership Renewals	3
Founder's Award Presented	4
Hoopes Park Star Party	5
Black Forest Star Party	5
Fall DVD Lecture Series	5
New Observing Session Phone Number	5
Volcanic Sunsets	5
Through the Eyepiece	7
Jupiter and its Moons	8
NASA Space Place	9
NGC 6979 in Cygnus	10
Cartoon by Nicholas La Para	11
CCAS Information Directory.....	12-13
Map and Directions to the BVA	14-15



See page 5 for more information

Important September Dates

5th • CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date September 6th).

9th • CCAS Monthly Meeting, Room 113, Boucher Building, West Chester University. DVD Lecture Series starts at 7pm; followed by the meeting at 7:30pm.

26th • Deadline for newsletter submissions for the October 2008 edition of Observations.

CCAS Autumn Schedule

September

5th • CCAS Monthly Observing Session

9th • CCAS Monthly Meeting

October

3rd • CCAS Monthly Observing Session

14th • CCAS Monthly Meeting

November

11th • CCAS Monthly Meeting

28th • CCAS Monthly Observing Session

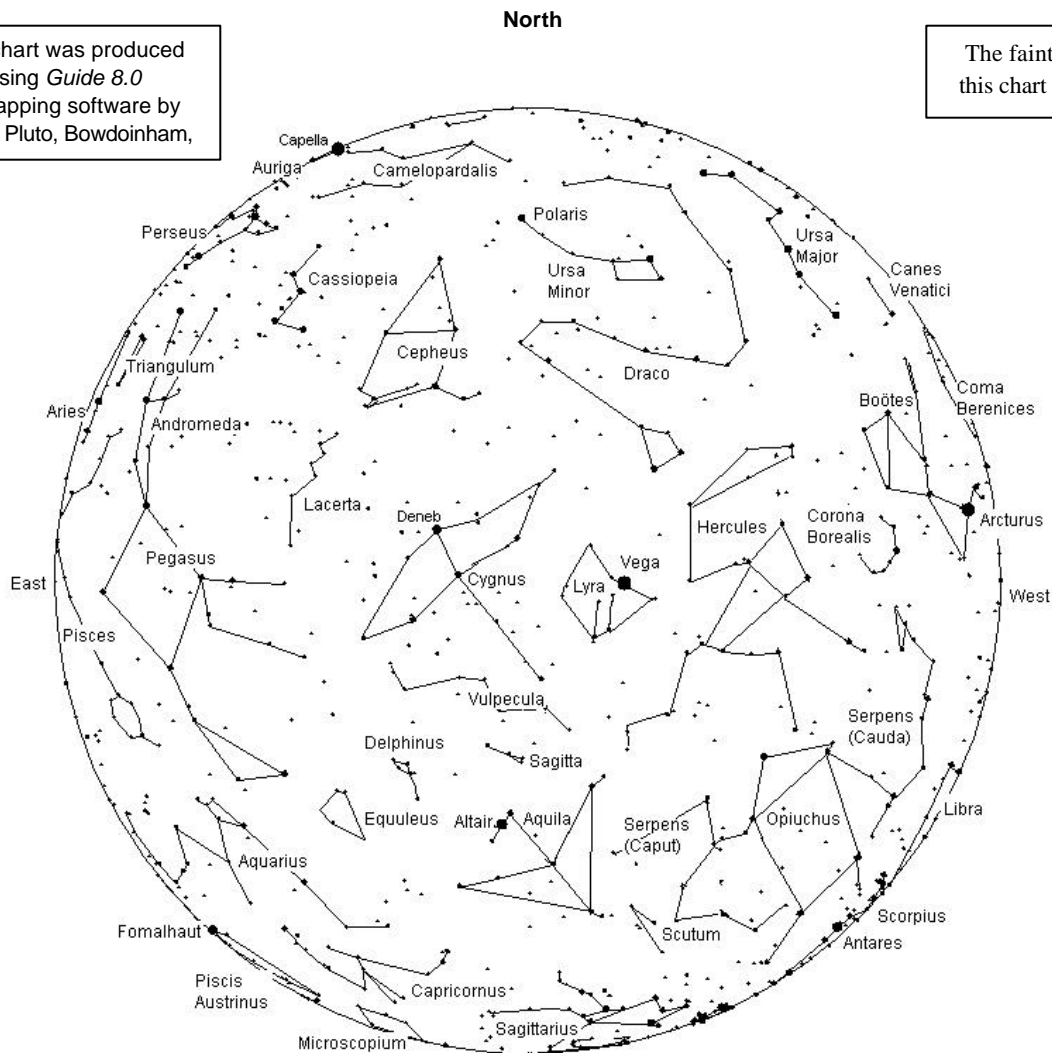
December

9th • CCAS Holiday Party

26th • CCAS Monthly Observing Session

This chart was produced
using *Guide 8.0*
skymapping software by
Project Pluto, Bowdoinham,

The faintest stars shown on
this chart are fifth magnitude.



The sky over Chester County

September 15, 2008 at 9:00 p.m. EDT

Note: the constellation stick figures used on the chart above were adapted from the book *The Stars: A New Way to See Them*, by H. A. Rey. This excellent guide to learning the constellations can be purchased at many area book stores, or from online booksellers.

<u>Date</u>	<u>Sunrise</u>	<u>Sunset</u>
9/1	6:29 a.m.	7:31 p.m. EDT
9/15	6:42 a.m.	7:09 p.m. EDT
9/30	6:56 a.m.	6:44 p.m. EDT

<u>Moon Phases</u>	
First Quarter	9/07
Full Moon	9/15
Last Quarter	9/22
New Moon	9/29

September Observing Highlights

by Don Knabb, CCAS Observing Chair

- September 1** Venus, Mercury and Mars are just above the thin crescent Moon shortly after sunset.
- September 5-15** Venus, Mercury and Mars are close in the evening sky.
- September 7** First quarter Moon, 10:04 a.m.
- September 7** Io and Ganymede cast shadows on Jupiter from 8:12 to 8:38 p.m.
- September 15** Full Moon, 5:13 a.m. This is the Harvest Moon.
- September 22** Last quarter Moon, 1:04 a.m.
- September 22** Autumn begins at 11:44 a.m.
- September 29** New Moon, 4:12 a.m.

The Planets: The highlight of planetary observing occurs on the 1st of September when the 2 day old crescent Moon, Venus, Mercury and Mars are close together in the evening twilight. You'll need binoculars to best enjoy this amazing sight.

Mercury: Mercury is at greatest elongation on September 11th and at magnitude +0.2 so this is a great opportunity to see Mercury if you haven't yet checked that box on your "life list".

Venus: For several weeks the "evening star" forms a trio with Mercury and Mars. You'll need to look for these planets not long after the Sun sets.

Mars: Mars is very dim as it falls further behind us in our race around the Sun. When we saw it at a recent star party it was low in the glow of the fading sunset.

Jupiter: One look at Jupiter will show you why it is called the king of the planets! Jupiter is very bright and is reasonably high in the sky just after it becomes dark. The constant dance of the 4 bright moons is great to watch as it changes from night to night and even over the course of a few hours. In late August at a star party we saw one of Jupiter's moons hug the side of the planet when we started observing, only to sneak away behind the planet an hour later.

On September 7 you can see the shadows of two of Jupiter's moons cast shadows on the planet. Io and Ganymede cast shadows from 8:12 to 8:38 p.m.

Saturn: The ringed planet is lost in the glow of the sun early in September. If you miss seeing this beauty, then get up before dawn in late September and you might catch it just as the sky is getting bright.

Uranus and Neptune: Both gas giants are in good viewing position. Uranus is at opposition on September 13th so it is at its best viewing position in the sky around

midnight. Neptune was at opposition last month, so it is also well placed for observation at this time. Use the finder charts at SkyandTelescope.com/UranusNeptune to aid your quest.

Pluto: Pluto is in northwestern Sagittarius during September. Finder charts are in the June issue of Sky and Telescope. Be sure you use a BIG telescope and have a dark sky.

The Moon: Don't miss the thin waxing crescent Moon during the first few days of September when it dances with three planets in the fading glow of the sunset. In the early hours of September 19 the Moon occults the Pleiades.

Constellations: Although I am sad to see the warm, bright summer evenings leave us, I am glad to see it getting dark early enough that early risers can get some observing done without interfering with their sleep schedule. Hercules and the Summer Triangle are skating across the sky as we enter autumn. If you stay out a bit the Great Square and the beautiful Andromeda galaxy are rising in the east.

Messier/deep sky: Take a good long look at M11, the Wild Duck Cluster that is just below the Summer Triangle. This is a beautiful open cluster that is just full of stars. Then look just about straight up with a telescope to find faint M57, the Ring Nebula in Lyra. Far off in the east is M31, the beautiful Andromeda Galaxy. This is the ultimate big fuzzy object. Then shift to the Double Cluster in Perseus to get another eyepiece full of stars.

Comets: There are no bright comets in the sky during September.

Meteor showers: The Delta Aurigid shower peaks in late September. This is only a minor shower of fast moving meteors. The meteors will radiate from bright Capella, but you'll need to stay out quite late to see these bits of space dust burn up in our atmosphere.

★ ★ ★ ★ ★

Welcome!

This month we welcome a new family to the Society: The Cooperman family: Jay, Sylvia and Sarah. We're glad you decided to join us under the stars! Clear Skies to you!

Treasurer's Report

by Bob Popovich

July 2008 Financial Summary

Beginning Balance	\$1,680
Deposits	\$175
Disbursements	<u>\$40</u>
Ending Balance	\$1,815

Membership Renewals Due

09/2008 Bogucki
De Lucia
Foley
Gustainis
Lurcott

11/2008 Athens
Buczynski
Doubleday
Hepler
Hughes
Murray
O'Hara

Membership Renewals

You can renew your CCAS membership by writing a check payable to "Chester County Astronomical Society" and sending it to our Treasurer:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

The current dues amounts are listed in the CCAS *Information Directory* on page 12 in this newsletter.

★ ★ ★ ★ ★

Founder's Award Presented

by Kathy Buczynski

In April 2006, I announced the creation of an award named after the founder of our Society. The award is called the *Edwin T. Lurcott Founder's Award* and is given to a member for exemplary service to Chester County Astronomical Society.

On August 20, 2008, at the meeting of the Executive Committee, Bob Popovich was presented with a certificate signed by Ed Lurcott and me.

This award is given in recognition of extraordinary

contribution by a member through educational efforts, participation in society business, outreach to the community or any promotion of the Society that goes over and above what would typically be expected from an individual member.



Bob has been a member for about 10 years. My first recollection of Bob at a Society event was at East Goshen Park where he participated in our first Night Out for the township. Since that time, Bob joined the Education Committee and participated in the first set of Introductory Classes we gave in 2001 and has enthusiastically given his Moon (Green Cheese) class at every Intro Class since then.

Bob's contribution doesn't stop there. In May 2001, he started his *Astronomus* article for the newsletter with "A journal for Young Astronomers" and continued that effort monthly until November 2007 with "NOvember". These very informative articles were about observing, ancient astronomical devices, and interesting personal trips he and his family have taken, for example.



In 2003, Bob volunteered to run for Treasurer; and if you've been around the club for a while, you'll know that there aren't many people raising their hands to run for an office, but Bob did. With those responsibilities also came the reorganization and distribution of the Member Directory (which can be emailed to you upon request) and monthly reports in the newsletter.

So, you think that's great? There's more! Bob has also given presentations at meetings and even organized a field trip to see a play in Philadelphia.

Bob has been very busy in all aspects of his life for the past year and has not been able to participate in as many meetings and has retired the *Astronomus* articles, but we still find him at Nights Out with schools and organizations to promote astronomy, share the view from his telescope and enlighten the people that approach him.

Thank you for your service to CCAS, Bob. We enjoy having you in the club and appreciate your contributions.

★ ★ ★ ★ ★

Hoopes Park Star Party: Oct. 4th, 2008

CCAS and the West Chester borough's Recreation Department are hosting a public star party in Hoopes Park. Our National Astronomy Day star party was such a hit, the Recreation Department asked us to hold another event. This won't be as big an event as the previous star party; but more of just a gathering of telescopes to share the wonders of the night sky. CCAS members are encouraged to participate, even if they don't own a telescope. For information and directions to Hoopes Park, visit the borough's website at <http://www.west-chester.com/>.

Black Forest Star Party: Sept. 5-7, 2008

This star party is held at Cherry Springs State Park in Potter County, Pennsylvania. Cherry Springs State Park is one of the darkest sites in the state of Pennsylvania and has been designated as Pennsylvania's first Dark Sky Park by the PA Department of Conservation and Natural Resources (DCNR). CCAS members who have attended past Star Parties at Cherry Springs have attested to the excellent observing conditions at the Park.

Registration for the Black Forest Star Party is now open. More information and on-line registration is at: <http://www.bfsp.org>

★ ★ ★ ★ ★

Fall DVD Lecture Series

In 2007 the Society purchased a set of DVDs from The Teaching Company entitled Understanding the Universe: An Introduction to Astronomy, Second Edition. This series of lectures (96 in all) is taught by Dr. Alex Filippenko, from the University of California at Berkeley.

Each month we show one of the thirty-minute lectures starting at 7:00 p.m. The regular meeting then starts at 7:30, when the video ends. For this coming season, we have selected a series of eight lectures on the search for other planetary systems. This is a hot topic in astronomy today, and the recorded lectures are an excellent way to provide an educational experience featuring this exciting topic.

The videos do not replace our regular program of live speakers and because they are shown at 7:00, the meeting still ends at approximately 9:00 p.m.

The 2008-2009 Season Lectures: The Search for Other Planetary Systems:

- Sept. 9th, 2008 - The Formation of Planetary Systems
- Oct. 14th, 2008 - The Quest for Other Planetary Systems
- Nov. 11th, 2008 - Extra-Solar Planets Galore!
- Jan. 13th, 2009 - Life Beyond Earth

- Feb. 10th, 2009 - The Search for Extraterrestrials
- March 10th, 2009 - Special Relativity and Interstellar Travel
- April 14th, 2009 - Stars: Distant Suns
- May 12th, 2009 - Brown Dwarfs and Free-Floating Planets

In the event of inclement weather and our monthly meeting is canceled, the lecture will be shown prior to the following month's scheduled meeting.

★ ★ ★ ★ ★

New Observing Session Phone Number

It's the day of our monthly scheduled observing session. You're worried that the weather will not cooperate, but you don't know how to find out if the session has been canceled. Now the answer is a phone call away!

The Society has set up a special phone number you can dial to find out if the session will be held or postponed. Call 610-436-0829 after 5pm ET to get the latest session information.

★ ★ ★ ★ ★

Volcanic Sunsets

from Skywatchers.com

Sky watchers across the USA and Europe are reporting unusually colorful sunsets and sunrises. The cause appears to be the August 7th eruption of the Kasatochi volcano in Alaska's Aleutian islands. The volcano hurled a massive cloud of ash and sulfur dioxide into the stratosphere; high winds have since carried the aerosols over parts of the USA and Europe. "Violet domes," long pink rays crossing the sky, campfire-red aureoles around Venus--these are just a few of the sights documented on Spaceweather.com in recent days. When the sun goes down tonight, look west. You may be in for a treat.

Ongoing coverage of the phenomenon may be found at: <http://spaceweather.com>

★ ★ ★ ★ ★



Through the Eyepiece: The Coat Hanger Cluster

by Don Knabb, CCAS Observing Chair

One of the most fun shapes in the sky to share with friends and family is the Coat Hanger Cluster, also known as Brocchi's Cluster or Collinder 399. This is a group of stars in the constellation Vulpecula that looks like a coat hanger, thus the name.

Pictures don't really provide the joy of discovery one feels when you find this group of stars, but below is one of the best photos I have seen of the Coat Hanger Cluster.



Picture credit: <http://www.geology.ewu.edu/jpb/lho/aster.htm> (Eastern Washington University)

Brocchi's Cluster was first described by the Persian astronomer Al Sufi in his Book of Fixed Stars in 964 and was independently rediscovered by Giovanni Hodierna in the seventeenth century. In the 1920s, D. F. Brocchi, an amateur astronomer and chart maker for the American Association of Variable Star Observers, created a map of this object for use in calibrating photometers.

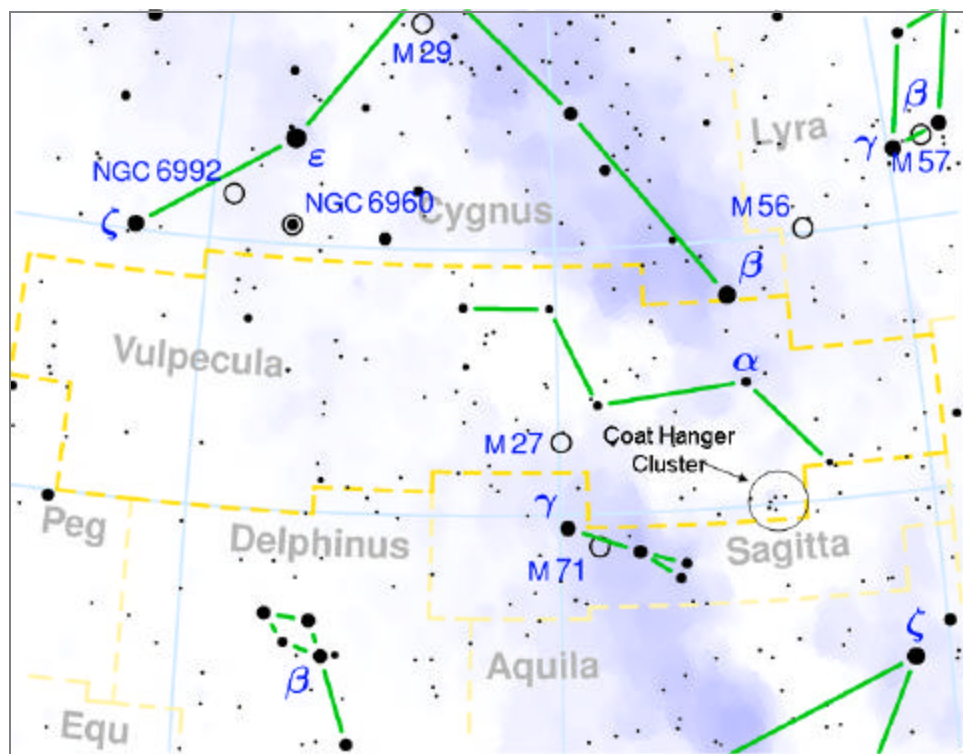
The asterism is made up of ten stars ranging from fifth to seventh magnitude which form the conspicuous coat hanger, a straight line of six stars with a "hook" of four stars on the south side. An additional thirty or so fainter stars are sometimes considered to be associated as well.

Although I have never seen this cluster without help from a set of binoculars, it is reported that under a very dark sky the Coat Hanger Cluster can be seen with the naked eye as an unresolved patch of light. Unless you have a telescope with a wide field of view, binoculars are the best equipment to use to view this object.

It is found by slowly sweeping across the Milky Way along an imaginary line from the bright star Altair toward the even brighter star Vega. About one third of the way toward Vega, the Coat Hanger should be spotted easily against a darker region of the Milky Way.

Several independent studies since 1998 have determined that this object is not a true cluster at all, but rather just a chance alignment of stars. These recent studies have generally based their findings on improved measurements of parallax and proper motion provided by the Hipparcos satellite.

Here is a star map of the area of the sky where you will find the Coat Hanger Cluster.



Sky map credit: http://en.wikipedia.org/wiki/Image:Vulpecula_constellation_map.png

I have been able to successfully coach several inexperienced observers to find the Coat Hanger Cluster with hand held binoculars. This is a great time of year to look for it with the Summer Triangle high in the sky. When seeing this object for the first time a "Wow!" is usually heard from the person at the binoculars. A more certain method to share this wonder of the sky is to mount your binoculars on a tripod for even children to see.

Information credits:

Dickinson, Terence 2006. Nightwatch: a practical guide to viewing the universe. Buffalo, NY. Firefly Books

http://en.wikipedia.org/wiki/Brocchi%27s_Cluster

<http://www.seds.org/messier/xtra/ngc/brocchi.html>

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Jupiter and its Moons

by Dave Hockenberry



Photo details: Jupiter 1 at F/10, Meade DSI II color camera, JPEG stack of 15 images. 0.015 sec each, no filters. Shows the Red Spot, 3 moons, and Io throwing a shadow on the surface.

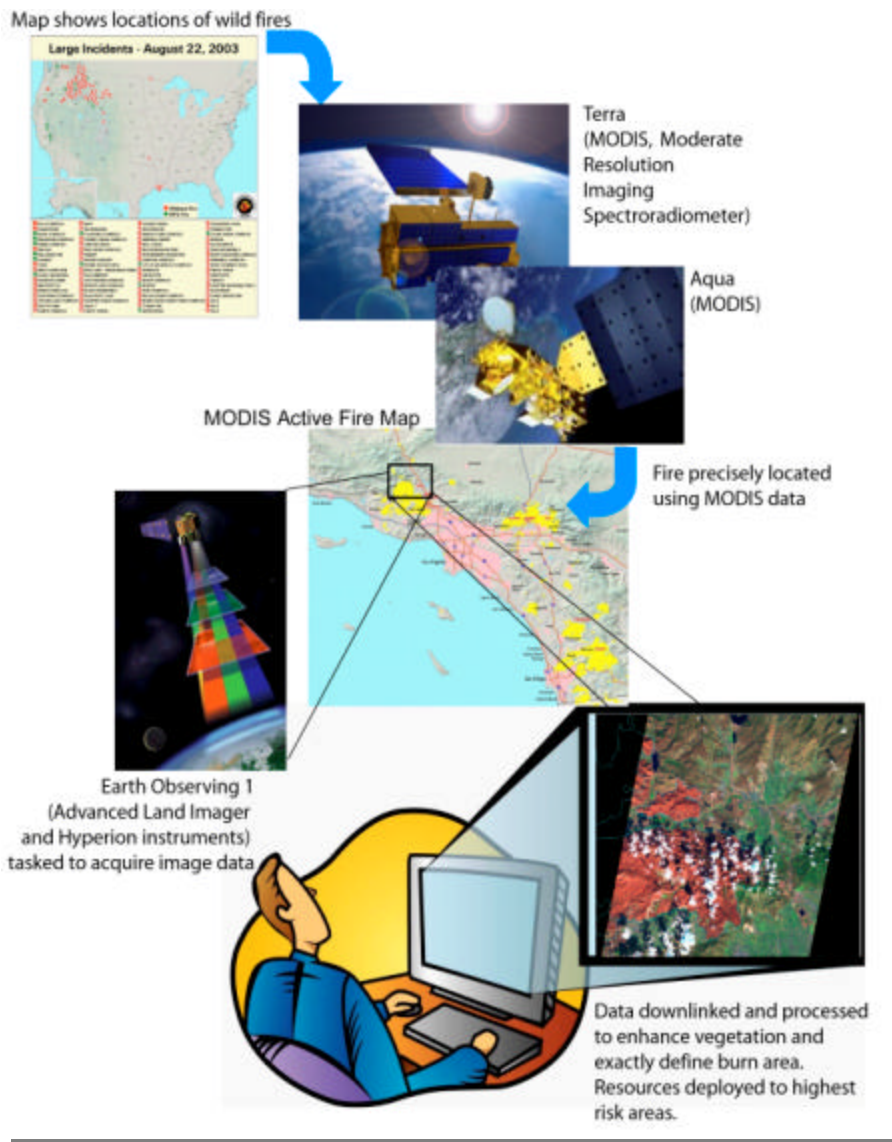
A Google for Satellites: Sensor Web 2.0

If you could see every satellite passing overhead each day, it would look like a chaotic meteor shower in slow motion.

Hundreds of satellites now swarm over the Earth in a spherical shell of high technology. Many of these satellites gaze at the planet's surface, gathering torrents of scientific data using a dizzying array of advanced sensors — an extraordinary record of our dynamic planet.

To help people tap into this resource, NASA researchers such as Daniel Mandl are developing a “Google for satellites,” a web portal that would make requesting data from Earth-observing satellites almost as easy as typing a search into Google.

“You just click on it and it takes care of all the details for you across many sensors,” Mandl explains.



A “Google for satellites” type of web portal will allow users to request real-time data from Earth observing satellites.

Currently, most satellites are each controlled separately from the others, each one dauntingly complex to use. But starting with NASA's Earth Observing-1 (EO-1) satellite, part of the agency's New Millennium Program, Mandl and his team are building a prototype that stitches these satellites together into a seamless, easy-to-use network called “Sensor Web 2.0.”

The vision is to simply enter a location anywhere on Earth into the website's search field along with the desired information types — wildfire maps, vegetation types, floodwater salinity, oil spill extent — and software written by the team goes to work.

“Not only will it find the best sensor, but with proper access rights, you could actually trigger a satellite to take an image in the area of interest,” Mandl says. Within hours, the software will send messages to satellites instructing them to gather the needed data, and then download and crunch that raw data to produce easy-to-read maps.

For example, during the recent crisis in Myanmar (Burma) caused by Cyclone Nargis, an experimental gathering of data was triggered through Sensor Web 2.0 using a variety of NASA satellites including EO-1. “One thing we might wish to map is the salinity of flood waters in order to help rescue workers plan their relief efforts,” Mandl says. If the floodwater in an area was salty, aid workers would need to bring in bottled

water, but if flood water was fresh, water purifiers would suffice. An early and correct decision could save lives.

Thus far, Mandl and his team have expanded Sensor Web 2.0 beyond EO-1 to include three other satellites and an unmanned aircraft. He hopes to double the number of satellites in the network every 18 months, eventually weaving the jumble of satellites circling overhead into a web of sensors with unprecedented power to observe and understand our ever-changing planet.

To learn more about the EO-1 sensor web initiatives, go to <http://eo1.gsfc.nasa.gov/new/extended/sensorWeb/sensorWeb.html>. Kids (and grown-ups) can get an idea of the resolution of EO-1's Hyperion Imager and how it can distinguish among species of trees—from space at http://spaceplace.nasa.gov/en/kids/eo1_1.shtml.

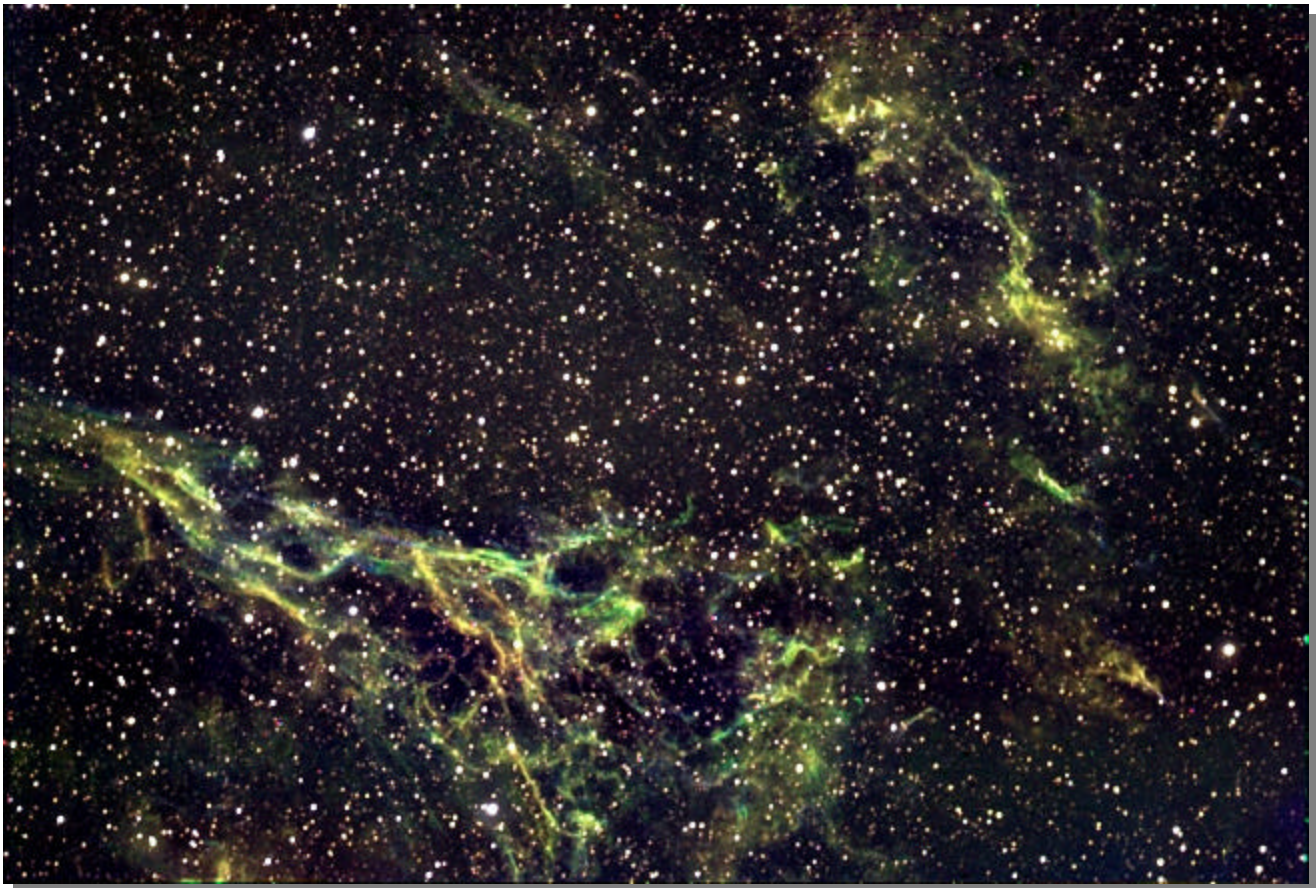
This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

NGC 6979 "Pickering's Triangle" in Cygnus

by Pete La France

Here's a spectacular shot from CCAS member Pete La France taken on August 8, 2008 in Avondale, PA.



Here's the technical information on the photo:

Orion 102mm Ed f7
St-10xe sbig filter wheel
Ha 1hr 15m
OIII 30m

SII 40m
Bias and Dark subtract
Processed with maxim/dl

AS A TEENAGER, GALILEO IS
ARRESTED FOR THROWING
STONES FROM THE
TOWER OF PISA

LA PAPA

Page 11

CCAS Information Directory

Join the Fight for Dark Skies!

You can help fight light pollution, conserve energy, and save the night sky for everyone to use and enjoy. Join the nonprofit International Dark-Sky Association (IDA) today. Individual memberships start at \$30.00 for one year. Send to:

International Dark-Sky Association
3225 North First Avenue
Tucson, AZ 85719

Telephone: 520-293-3198

Fax: 520-293-3192

E-mail: ida@darksky.org

For more information, including links to helpful information sheets, visit the IDA web site at:

www.darksky.org

Note that our CCAS Webmaster John Hepler has a link to the IDA home page set up on our Society's home page at www.ccas.us.

Dark-Sky Website for PA

The Pennsylvania Outdoor Lighting Council has lots of good information on safe, efficient outdoor security lights at their web site:

www.POLCouncil.org

★ ★ ★ ★ ★ ★ ★ ★

Good Outdoor Lighting Website

One of the biggest problems we face in trying to reduce light pollution from poorly designed light fixtures is easy access to good ones. When you convince someone, a neighbor or even yourself, to replace bad fixtures, where do you go for good lighting fixtures? Now there is a web site and business intended to address that very problem. At this site you can find information on all kinds of well-designed (that is, star-friendly) outdoor lighting fixtures. This company, Starry Night Lights, intends to make available all star-friendly fixtures they can find, and information on them, in one place. Check it out, and pass this information on to others. Help reclaim the stars! And save energy at the same time!

<http://www.starrynightlights.com/>



Local Astronomy Store: *Skies Unlimited*

There is an astronomy equipment store called **Skies Unlimited** in our area, in Pottstown to be specific, at:

Suburbia Shopping Center

52 Glocker Way

Pottstown, PA 19465

Telephone: 610-327-3500 or 888-947-2673

<http://www.skiesunlimited.net/>



★ ★ ★ ★ ★ ★ ★ ★

Another Good Outdoor Lighting Website



<http://www.greeneearthlighting.com>

★ ★ ★ ★ ★ ★ ★ ★

Find out about Lyme Disease!

Anyone who spends much time outdoors, whether you're stargazing, or gardening, or whatever, needs to know about Lyme Disease and how to prevent it. You can learn about it at:

www.LymePA.org

Take the time to learn about this health threat and how to protect yourself and your family. It is truly "time well spent"!

★ ★ ★ ★ ★ ★ ★ ★

New Astronomy Store Now Open in Manayunk

Spectrum Scientifics

www.spectrum-scientifics.com

CCAS Information Directory

CCAS Lending Telescopes

Contact Kathy Buczynski to make arrangements to borrow one of the Society's lending telescopes. CCAS members can borrow a lending telescope for a month at a time; longer if no one else wants to borrow it after you. Kathy's phone number is 610-436-0821.

CCAS Lending Library

Contact our Librarian, Linda Lurcott Fragale, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings, and on the CCAS website. Linda's phone number is 610-269-1737.

Contributing to *Observations*

Contributions of articles relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an e-mail message and send it to

newsletter@ccas.us

Or mail the contribution, typed or handwritten, to:

John Hepler
500 W. Rosedale Ave.
Apt. A-3 Trinity Bldg.
West Chester, PA 19382

Get CCAS Newsletters via E-mail

You can receive the monthly newsletter (**in full color!**) via e-mail. All you need is a PC or Mac with an Internet e-mail connection. To get more information about how this works, send an e-mail request to John Hepler, the newsletter editor, at:

newsletter@ccas.us

CCAS Website

John Hepler is the Society's Webmaster. You can check our Website at:

<http://www.ccas.us/>

John welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work; no copying copyrighted material! Give your contributions to John Hepler (484-266-0699) or e-mail to webmaster@ccas.us

CCAS Purpose

The Chester County Astronomical Society was formed in September 1993, with the cooperation of West Chester University, as a non-profit organization dedicated to the education and enjoyment of astronomy for the general public. The Society holds meetings (with speakers) and observing sessions once a month. Anyone who is interested in astronomy or would like to learn about astronomy is welcome to attend meetings and become a member of the Society. The Society also provides telescopes and expertise for "star nights" for school, scout, and other civic groups.

CCAS Executive Committee

For further information on membership or society activities you may call:

President:	Kathy Buczynski 610-436-0821
Vice Pres:	Jim Anderson 610-857-4751
ALCor and Treasurer:	Bob Popovich 610-363-8242
Secretary:	Don Knabb 610-436-5702
Librarian:	Linda Lurcott Fragale
Observing:	Don Knabb 610-436-5702
Education:	Kathy Buczynski 610-436-0821
Webmaster and Newsletter:	John Hepler 484-266-0699
Public Relations:	Deb Goldader 610-304-5303



CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER.....	\$ 25/year
SENIOR MEMBER.....	\$ 10/year
STUDENT MEMBER.....	\$ 5/year
JUNIOR MEMBER.....	\$ 5/year
FAMILY MEMBER.....	\$ 35/year

Membership Renewals

Check the Treasurer's Report in each issue of *Observations* to see if it is time to renew. If you need to renew, you can mail your check, made out to "Chester County Astronomical Society," to:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

Phone: 610-363-8242

e-mail: B2N2@verizon.net

Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$32.95**, much less than the newsstand price of \$66.00, and also cheaper than individual subscriptions (\$42.95)! Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

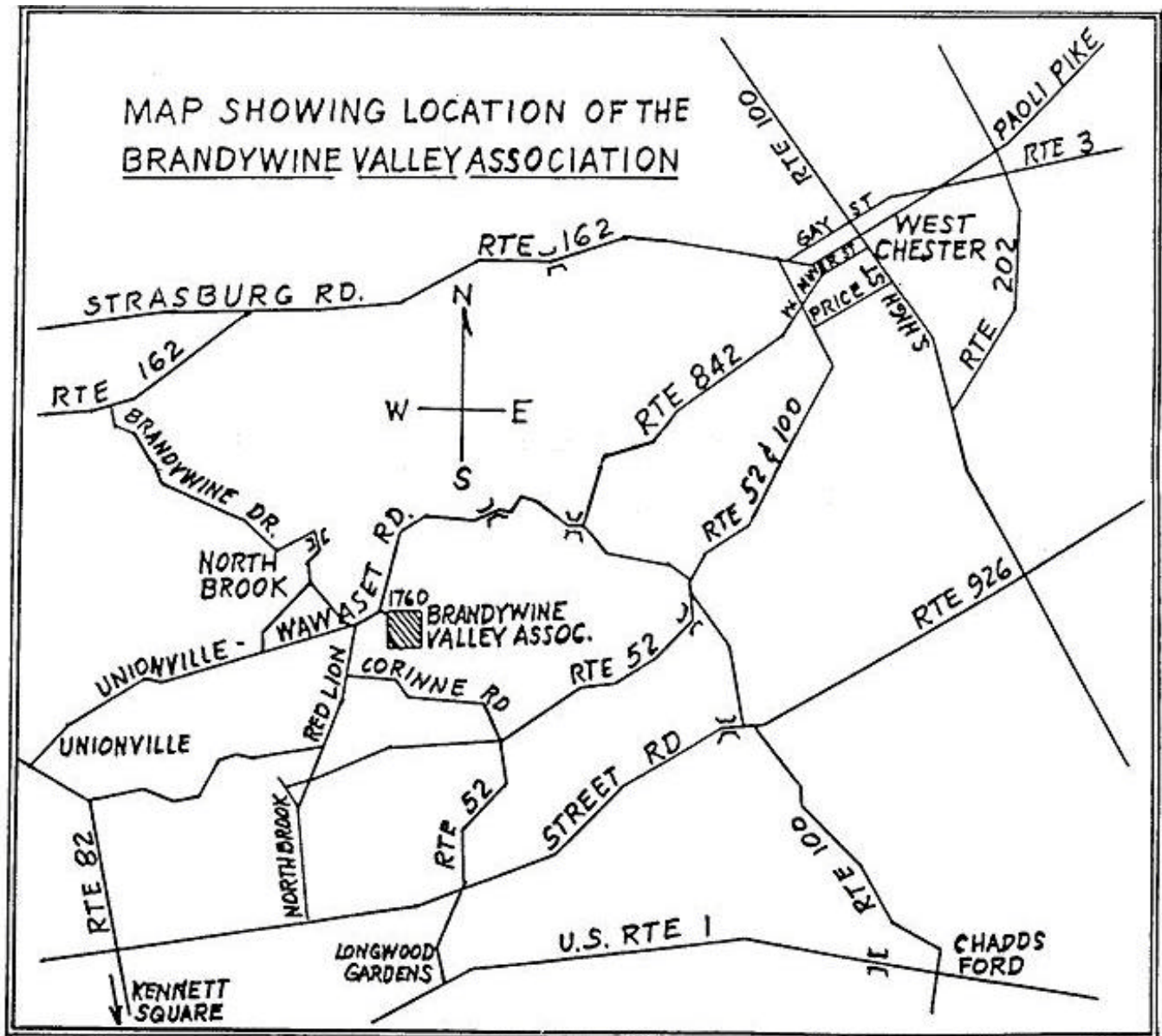
To **start** a **new** subscription, make **sure** you make out the check to the **Chester County Astronomical Society**, note that it's for *Sky & Telescope*, and mail it to Bob Popovich.

To **renew** your "club subscription" contact Sky Publishing directly. Their phone number and address are in the magazine and on their renewal reminders.

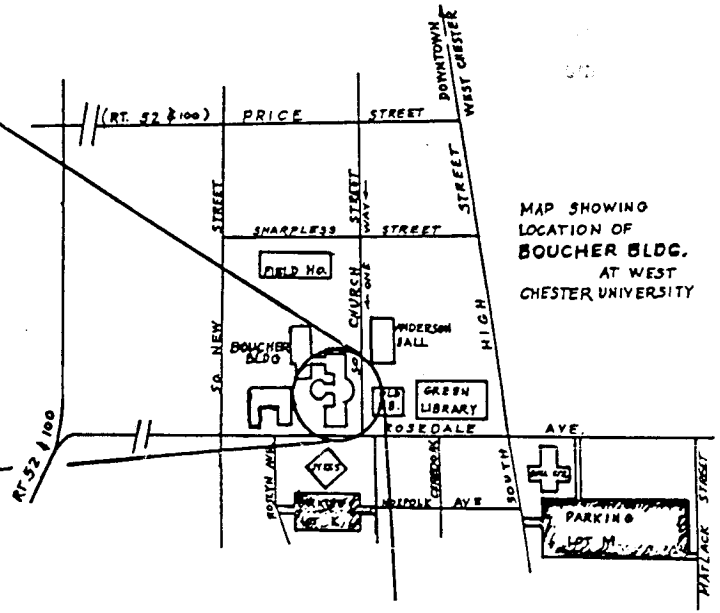
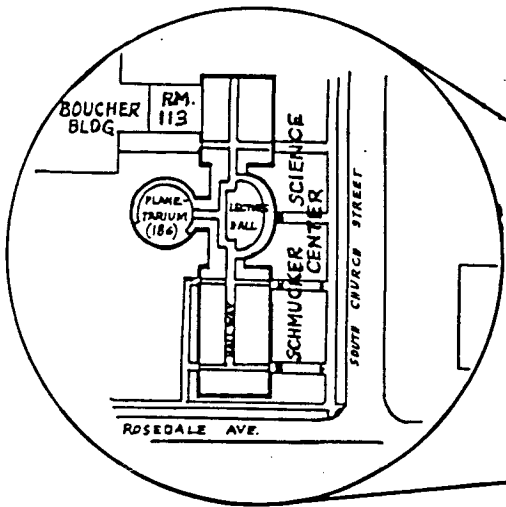
If you have **any** questions call Bob first (**610-363-8242**).

Astronomy Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$34.00** which is much less than the individual subscription price of \$42.95 (or \$60.00 for two years). If you want to participate in this special Society discount offer, **contact our Treasurer Bob Popovich**.



To get to the Myrick Conservation Center of the Brandywine Valley Association from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BVA property, turn off Route 842 into the parking lot by the office: look for the signs to the office along Route 842. From that parking lot, go up the farm lane to the left; it's about 800 feet or so to the top of the hill. If you arrive after dark, please turn off your headlights and just use parking lights as you come up the hill (so you don't ruin other observers' night vision).



MAP SHOWING
LOCATION OF
BOUCHER BLDG.
AT WEST
CHESTER UNIVERSITY