Observations

2006 Winner of the Astronomical League's
Mabel Sterns Best Newsletter Award

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

DECEMBER 2006
(VOLUME 14, NO. 12)
Visit our website at www.ccas.us

H a p p y

H o l i d a y s

Photo of Moon over decorated trees at Longwood Gardens by Don Knabb

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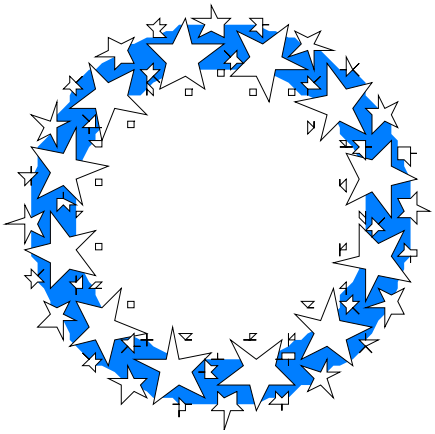
Observations
A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

DECEMBER 2006
(VOLUME 14, NO. 12)
Editor: James J. Anderson
stargazer1956@comcast.net

In This Issue



Happy Holidays and Clear Skies to All!

Important December 2006 Dates

3 The nearly-full Moon skims the Pleiades.

4 Full Moon—the Long Night Moon.

5 Hercules Observing Cluster meets.
Call Kathy Buczynski at 610-436-0821 for details.

7 Earliest sunset of the year in Chester County.

10 **Mercury, Mars and Jupiter** are in the closest grouping of three naked-eye planets during the period 1980-2050! All three planets will barely fit within a 1° circle on December 10th. When running the simulation of that event on *Starry Night* software the three planets are just clearing the eastern horizon at 6:45 a.m., with sunrise following at 7:15 a.m.
Don't miss this sight!

12 **CCAS Holiday Gathering**
Houlihan's Restaurant at Exton Mall
7:00 p.m. EST.

12 Last Quarter Moon.

13 Geminid Meteor Shower peaks.

19 Hercules Observing Cluster meets.
Call Kathy Buczynski at 610-436-0821 for details.

20 New Moon.

21 **Winter Solstice at 7:22 p.m. EST**
Winter starts in Chester County.

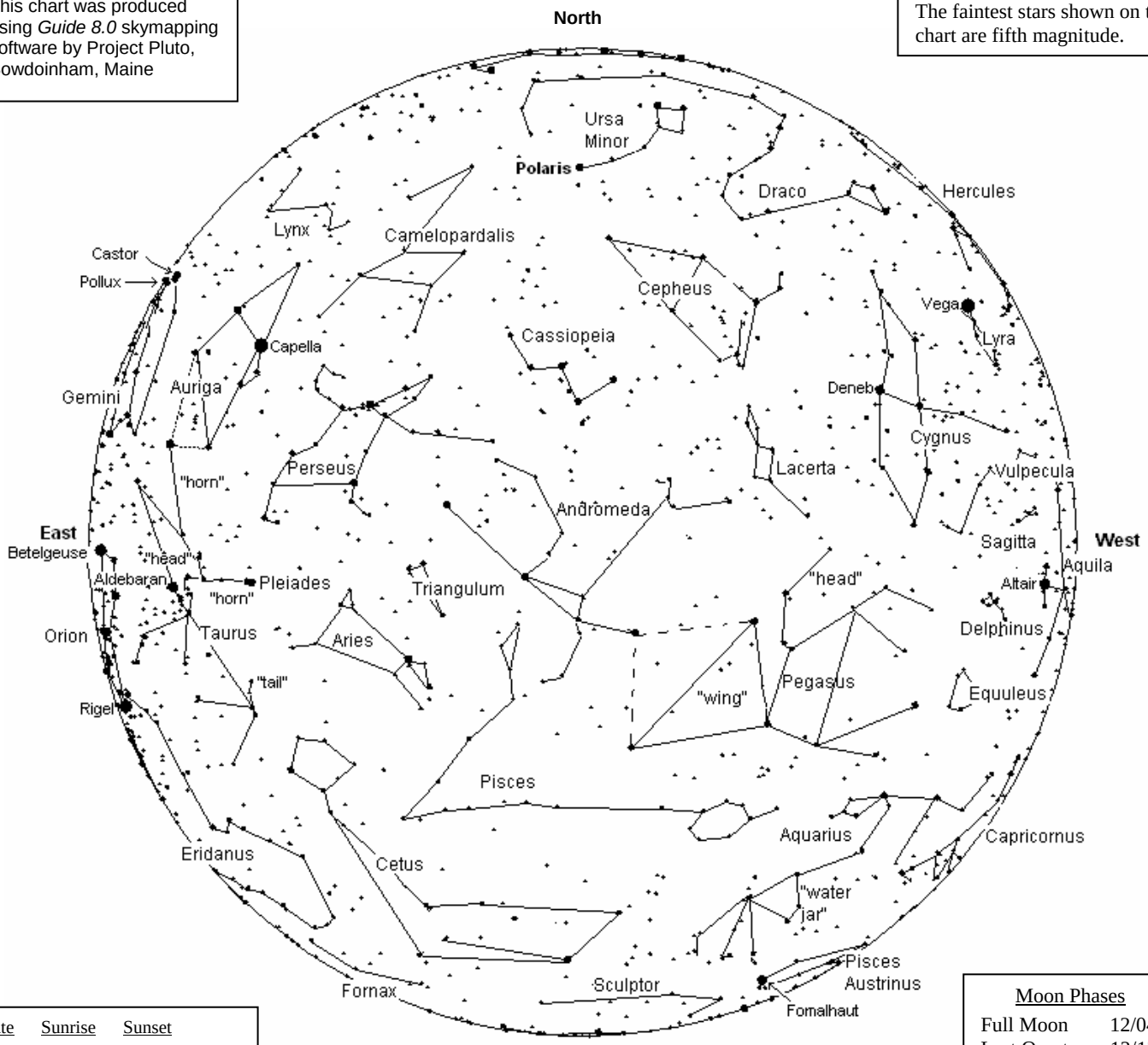
22/23 **CCAS Observing Session**
Location: Brandywine Valley Association
Time: sunset, or earlier (see page 5)

26 Hercules Observing Cluster meets.
Call Kathy Buczynski at 610-436-0821 for details.

27 First Quarter Moon.

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

The faintest stars shown on this chart are fifth magnitude.



Date	Sunrise	Sunset
12/1	7:06 a.m.	4:39 p.m. EST
12/15	7:18 a.m.	4:39 p.m. EST
12/30	7:25 a.m.	4:47 p.m. EST

The sky over Chester County
December 15, 2006 at 7:00 p.m. EST

Moon Phases	
Full Moon	12/04
Last Quarter	12/12
New Moon	12/20
First Quarter	12/27

The Planets, by Don Knabb

Mercury: Mercury is this month's headliner showing its best morning apparition of the year. But, look early in the month since Mercury becomes lost in the Sun's glare by mid-month.

Venus: Venus is coming around from behind the Sun and is once again becoming the "Evening Star". Look just after sunset near the end of the month for Venus to be low in the southwest.

Mars: Mars is falling behind us in our trek around the sun and is visible in the morning sky in the second half of December.

Jupiter: Similar to Mars, Jupiter is visible low in the morning sky as December progresses.

Saturn: Saturn is just clearing the horizon around 10:00 p.m. at mid month. With all the other bright planets so close to the sun in December, Saturn is the best planet for viewing with that new telescope you hope to get for Christmas!

Uranus & Neptune: Both gas giants can be seen early in the evening before they get too low in the southwest. The May issue of *Sky and Telescope* magazine has charts to help you find the blue and green planets. If you don't have that issue send me an e-mail (observing@ccas.us) and I can scan it and send you a copy.

Pluto: Pluto is in conjunction with the Sun on December 18th and thus is out of sight all month.

Meteor Shower: the Geminids peak on the evening of December 13. You could see 30-60 meteors per hour.

December 10: close grouping of Mercury, Mars, and Jupiter in the morning sky! See three planets in one telescope field!

December Observing Highlights

by Don Knabb, CCAS Observing Chair

Planets: BULLETIN! On Sunday, December 10th Mercury, Mars and Jupiter are in the closest grouping of three naked-eye planets during the period 1980-2050! All three planets will barely fit within a 1° circle on December 10th. With a wide-field eyepiece you could see all three planets in one telescopic field-of-view. When running the simulation of that event on *Starry Night* software I see the three planets just clearing the eastern horizon at 6:45 a.m. with sunrise following at 7:15 a.m.

Constellations: During December we say goodbye to the summer triangle, now setting in the west. The Great Square of Pegasus dominates the southern sky. By 8:00 the Pleiades are well up in the east followed by the "V" of Taurus the Bull. Orion is well above the horizon by 9:00 and Sirius, the brightest star in the sky, is nipping at his heels.

Deep sky: The wonderful Double Cluster in Perseus is nearly directly overhead around 9:00 and the three star clusters in Auriga: M36, M37 and M38, are well positioned for viewing. Zoom in on the Great Orion Nebula, M42, in the sword of Orion as he rises into the sky. And look for the Christmas Tree Cluster, NGC 2264 in Monoceros, as the evening gets later.

Meteor shower: The Geminid meteor shower peaks on the night of December 13. This is one of the most reliable annual meteor showers so if the night is clear do not miss this one. You could see a meteor every minute or two. The best time for viewing is 10:00 p.m. until 1:00 a.m. when the Moon begins to rise. And if it is cloudy on the 13th try observing the night before or the night after.

Dec. 3	The nearly full Moon skims the Pleiades.
Dec. 4	Full Moon, the Long Night Moon.
Dec. 7	Earliest sunset of the year.
Dec. 10	Mercury, Mars and Jupiter are in the closest grouping of three naked-eye planets during the period 1980-2050! Look in the east just before the Sun rises.
Dec. 12	Last quarter Moon.
Dec. 13	Geminid meteors peak.
Dec. 20	New Moon.
Dec. 21	Winter Solstice occurs at 7:22 p.m. EST.
Dec. 27	First quarter Moon.

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Through the Eyepiece: The Christmas Tree Cluster, NGC 2264

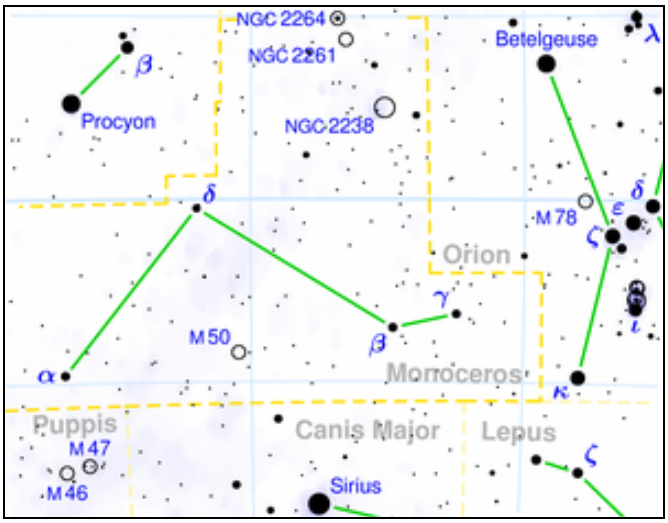
by Don Knabb, CCAS Observing Chair

While browsing in the *Starry Night* software program the Christmas Tree Cluster caught my eye as a holiday themed deep sky object. I admit I've not seen this object in the sky but it will now be high on my list to find during the next clear night.

You can see why this cluster is called the Christmas Tree Cluster from this image from Starry Night software. Turn this page upside down and you will see the Christmas tree shape. The bright star at the center is the trunk of the tree.

Image source: *Starry Night*

NGC 2264 is an open cluster in the constellation Monoceros. Here is a chart to help you find this object:



Map source:
http://en.wikipedia.org/wiki/Monoceros_constellation

NGC 2264 is a large and scattered open cluster of about 20 to 40 bright stars arranged in a pattern that resembles a Christmas tree, which measures half a degree long. Just as in the photo above the "tree" is seen upside-down in the sky. Use a low power eyepiece or binoculars to see the entire cluster in a single view.

The designation of NGC 2264 in the New General Catalogue refers to **both** the Christmas Tree Cluster and the Cone Nebula. William Herschel discovered the cluster in 1784, the nebula in 1785.

The Cone Nebula is part of the nebulosity surrounding the Christmas Tree Cluster. The diffuse Cone Nebula is so named because of its apparent shape. It lies in the southern part of

NGC 2264, the northern part being the Christmas Tree Cluster. The nebula belongs to a much larger complex, which is currently an active star forming region. The open cluster lies embedded in the nebula. The Hubble Space Telescope was used to take this picture of the Cone Nebula on April 2, 2002.

Information credits:

http://www.astrophoto.net/cone.html

http://www.seds.org/messier/xtra/ngc/n2264.html

http://en.wikipedia.org/wiki/Cone_Nebula

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CCAS Holiday Gathering

DATE:	**Tuesday December 12, 2006**
TIME:	**7:00 p.m. EST**
PLACE:	Houlihan's Restaurant
LOCATION:	Exton Square Mall Exton, PA

Please note that the Holiday Gathering, which replaces the December meeting, will start at 7:00.

The Executive Committee invites all members to join them for an evening of socializing over good food to celebrate the holidays. We will start gathering at 7:00, so you can order dinner if you wish. Houlihan's Restaurant is located on the south side of the Mall, at the Mall entrance between Boscov's and J.C. Penney. We hope to see you all there!

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CCAS Observing Session

December 22/23, 2006

CCAS Observing Sessions are held at the Brandywine Valley Association's Myrick Conservancy Center (see map on page 13) on Fridays starting at sunset; or earlier, if you can get there earlier. If it's too cloudy on Friday, then the Observing Session will be on the next day, Saturday. At the observing sessions, there will be help available to set up and use your telescopes. If you're having trouble using your telescope, or finding your way around the sky, come on out and get some assistance. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their telescope. CCAS Observing Sessions are free of charge and open to the public.

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CCAS Introductory Astronomy Class

The Education Committee of the CCAS is offering a class intended to introduce people to basic astronomy. This series of eight classes will be held on the first and third Tuesdays of each month, starting at 6:30 p.m. and ending at 8:30 p.m. These are the dates on which classes will be held:

February 6	Spaceship Earth
February 20	The Moon
March 6	The Other Kids on the Block
March 20	Planispheres/Star Charts
April 3	Stars by Design: Constellations
April 17	The Secret Life of Stars
May 1	Planetarium show (WCU planetarium)
May 15	Beyond Naked Eye

The classes will be held in Room 113 in the Boucher Building at West Chester University. This is the room where we hold our monthly meetings.

The cost for non-members is $20.00 per person, and $30.00 per family (with the same address). **For current CCAS members, the classes are free!** Space is limited to just 40 people, however, so call Kathy Buczynski to reserve your space **now** (610-436-0821). Also, please call Kathy if you'd like to help at the classes. We have all the instructors lined up, but we can always use help with registration and setup/takedown.

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Calendar Notes

December 5, 2006 (Tuesday)	Hercules Observing Cluster meets Call Kathy Buczynski for details
December 12, 2006 (Tuesday)	CCAS Holiday Gathering Location: Houlihan's at Exton Mall 7:00 p.m. EST
December 19, 2006 (Tuesday)	Hercules Observing Cluster meets Call Kathy Buczynski for details
December 22/23, 2006 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
December 26, 2006 (Tuesday)	Hercules Observing Cluster meets Call Kathy Buczynski for details

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Treasurer's Report by Bob Popovich

October 2006 Financial Summary

Beginning Balance	$1,423
Deposits	93
Disbursements	153
Ending Balance	$1,363

Membership Renewals Due

12/2006	Duncan
	Roseberry
01/2007	Furman
	Kovacs
	Whitman
02/2007	Farrelly
	Fellwock
	La Para
	Leiden
	Reimer

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 14 in this newsletter.

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Image of Moretus and Clavius

by Vic Long

I took this photo of the southern region of the moon shortly after midnight on November 10th. Moretus shows nice terraces and a central peak. A number of craters within Clavius are visible. I used a Celestron Neximage and a 100mm refractor with a 2X Barlow. Thirty frames were stacked using Registax.

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November Observing at the BVA

by Don Knabb, CCAS Observing Chair

On Friday November 24th we gathered at the Brandywine Valley Association for our monthly observing session. The weather was excellent with clear skies, calm winds and moderate temperatures in the low 40's and upper 30's.

We had record attendance for a BVA gathering in 2006 with 15 members and guests stopping by at various times during the 3 ½ hour observing session. Interestingly, the three telescopes that were set up were all of a different type so it was a great night to become familiar with equipment for the less experienced club members.

As for the sky itself the celestial sights were many! The Andromeda galaxy was as bright as I have ever seen and the Double Cluster brought out several "Wow!"s. Early in the night we saw the Summer Triangle and the Ring Nebula. The Pleiades were the most looked at object in the several sets of binoculars that were set up. As the night progressed we watched Orion climb over the horizon and I caught my first view of the Great Orion Nebula for the season.

An added surprise was the fireworks in the distance going off at Longwood Gardens as they opened their holiday celebration. At first we were hoping we'd witnessed a new supernova, but that did not turn out to be the case.

Our next scheduled observing session at BVA is on Friday December 22. I'll have the gates unlocked by 7:00 and we'll set up near the greenhouse. I hope to see you then!

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November CCAS Meeting Minutes

by Don Knabb

Finance report: All is well for the club financially, two checks were received this evening.

Observing: The October BVA observing session was held on Saturday October 20 after windy conditions were forecast for Friday night. Conditions were excellent and several members observed for a few hours. The WCASD star party that was scheduled for Wednesday November 15 or Thursday November 16 was cancelled due to cloudy conditions. This star party will be rescheduled for the spring.

Education: Kathy is working on the details for the Spring Classes. These will be held the 1st and 3rd Tuesday of each month. Meetings might be held at WCU.

National Astronomy Day: Ed Lurcott reports this is set for April 21st. The club agreed that we would like to have our table at Exton Mall again.

Mercury Transit: Although we were "clouded out" in Chester County, Nicholas La Para observed the event from Florida.

Website: John Hepler continues to try to get the "members" e-mail list resolved. The issue is only with Comcast subscribers, but John is having problems getting Comcast and our web host site to solve the problems. John is exploring other options. One possibility is a Yahoo users group.

December meeting: The December meeting will be held at Houlihan's Restaurant at the south side of the Exton Mall. The meeting begins at 7:00 pm on Tuesday December 12.

Constellation of the Month: Jim Anderson prepared a handout and presentation on Lacerta, but unfortunately he was unable to attend the meeting. Kathy presented the COM for Jim.

Webquests & Podcasts: John Hepler presented a demonstration and held a discussion from the CCAS website on Webquests and Podcasts. We should consider adding Podcasts to our website based on the monthly articles in our newsletter. We'll need to research what software is required to make this happen

Program: Nicholas La Para presented an interesting lecture titled "The Specialness of Water: Water and Life."

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Spring 2007 CCAS Meetings at WCU

January 9
February 13
March 13
April 10
May 8

2007 Observing Sessions at the BVA

by Don Knabb, CCAS Observing Chair

January 19/20
February 17/18
March 16/17
April 20/21
May 18/19
June 15/16
July 13/14
August 17/18
September 14/15
October 12/13
November 9/10
December 7/8

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Astronomus

"What To Do on a December Night"

By Bob Popovich

There is something different about a December night, isn't there? A *specialness* outside the rule of the routine. If we try to define it, it'll have the wispy nature of a nebula. Ignore it and it'll streak into your world like Halley's comet of 1908.

The energy of the daytime hours spills over into the evening. Much to do. Much more to savor. We're impelled forward from the instant our head rises off our pillow until the blessed moment when it touches down again. With an unsustainable pace, December—a time of chill air and fleeting daylight—is the month when our *joie de vivre* reaches its zenith. So what can you do on a December night? Well, how about starting with a list?

Don't you dare deny it. Amateur astronomers are list makers. BIG TIME list makers and list users. Our thought processes tend towards lists, tables and charts. It's our way of seeking order. They are our tools for conquering the night sky. The Astronomical League knows it—they keep cranking out lists of things to observe. But this is a good thing because these lists keep us going and our nature keeps us coming back for more. If nothing else, amateur astronomers do not subscribe to the "been there, done that" school of thought. Though we check items off of our observing lists, we come back to them with renewed joy time and time again. Everyone may have "seen" the night sky but few have taken the initiative to actually learn about the night sky (thank goodness for lists!).

Scampering ‘bout the evenings of December tending to the errands of the season, most folks will glance up at the starry sky only in passing for their minds are preoccupied with commerce. “It’s pretty,” they say; and move on. “It’s pretty confusing,” they think. Ha! They need a list! But amateur astronomers brilliantly multitask on December nights—we stare at the sky while walking from our car to the mall entrance and are interrupted only by the blast of a car horn or an inconveniently placed curb.

Having recovered from our stargazing in motion, what else can we do on a December night? We could stay at work late every evening, but that would be boring and dumb and we’re neither.

We could repeatedly leave work early during the month to tend to our gift list, but that could cost us our job and then how could we buy that Nagler eyepiece that we simply **must** have?

A night or two of observing would certainly be a wonderful activity for a crystal-clear December night. But, unless you’ve surrounded yourself with some of your fellow astro-enthusiasts, conducting such a solitary activity in December seems out of place.

Well, then. How about increasing your knowledge of astronomy? You could go to a bookstore like Barnes & Noble, order an eggnog latte (are they tasty, or what?) and then park yourself near the astronomy book section on the second floor. Then, while browsing the shelves, pull out your list of current astro-topics and pose questions to anyone who happens by: “Has NASA reestablished contact with the Mars Global Surveyor?” “What’s the latest on string theory? No, not the *cheese*, the *theory*.” Or perhaps “Have you ever seen Uranus in a telescope?” At this point, expect store security to usher you out unceremoniously. Some people have no interest in astronomy!

Where does all this leave us? What can be added to our list? How can we direct our December energy in a pursuit that addresses some of our December shopping, adds to our knowledge of astronomy and nourishes our need for fellowship? “An improbable combination!” you say. “Not only probable, but a near certainty!” is my reply.

Join your fellow CCAS members at the Houlihan’s of Exton Mall on Tuesday December 12 at 7:00 for an enjoyable evening of victuals, liquid refreshment and camaraderie. Come prepared with your favorite joke, a piece or two of trivia and a desire to enjoy a relaxing evening right in the midst of December’s prodigious energy output. Shop beforehand if you like but don’t forget your list!

It has been my honor to be a part of CCAS and to offer my modest contributions to our wonderful newsletter for yet another year. I hope to continue doing so for years to come. Your comments and encouragement are a gift. Thank you.

See you at the mall on the 12th!

Merry Christmas *Happy Hanukah* *Happy New Year*

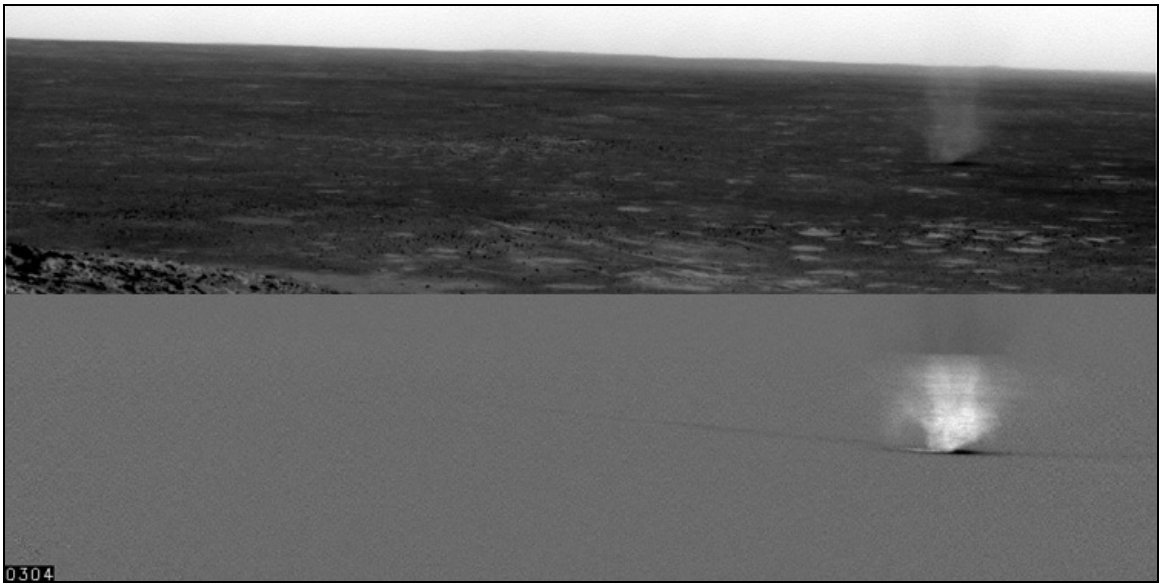
Next Time: 1957.

Martian Devils

By Dr. Tony Phillips

Admit it. Whenever you see a new picture of Mars beamed back by *Spirit* or *Opportunity*, you scan the rocks to check for things peeking out of the shadows. A pair of quivering green antennas, perhaps, or a little furry creature crouched on five legs…? Looking for Martians is such a guilty pleasure.

Well, you can imagine the thrill in 2004 when scientists were checking some of those pictures and they did see something leap out. It skittered across the rocky floor of Gusev Crater and quickly disappeared. But it wasn't a Martian: *Spirit* had photographed a dust devil!



The top half of this image is part of a series of images of a passing dust devil on Mars caught by *Spirit*. In the bottom half, the image has been filtered to remove everything that did not change from one image to the other. Notice the faint track left by the dust devil. Credit: NASA/JPL/Mark T. Lemmon, Univ. of Arizona Lunar and Planetary Laboratory.

Dust devils are tornadoes of dust. On a planet like Mars which is literally covered with dust, and where it never rains, dust devils are an important form of weather. Some Martian dust devils grow almost as tall as Mt. Everest, and researchers suspect they're crackling with static electricity—a form of "Martian lightning."

NASA is keen to learn more. How strong are the winds? Do dust devils carry a charge? When does "devil season" begin—and end? Astronauts are going to want to know the answers before they set foot on the red planet.

The problem is, these dusty twisters can be devilishly difficult to catch. Most images of Martian dust devils have been taken by accident, while the rovers were looking for other things. This catch-as-catch-can approach limits what researchers can learn.

No more! The two rovers have just gotten a boost of artificial intelligence to help them recognize and photograph dust devils. It comes in the form of new software, uploaded in July and activated in September 2006.

"This software is based on techniques developed and tested as part of the NASA New Millennium Program's Space Technology 6 project. Testing was done in Earth orbit onboard the EO-1 (Earth Observing-1) satellite," says Steve Chien, supervisor of JPL's Artificial Intelligence Group. Scientists using EO-1 data were especially interested in dynamic events such as volcanoes erupting or sea ice breaking apart. So Chien and colleagues programmed the satellite to notice change. It worked beautifully: "We measured a 100-fold increase in science results for transient events."

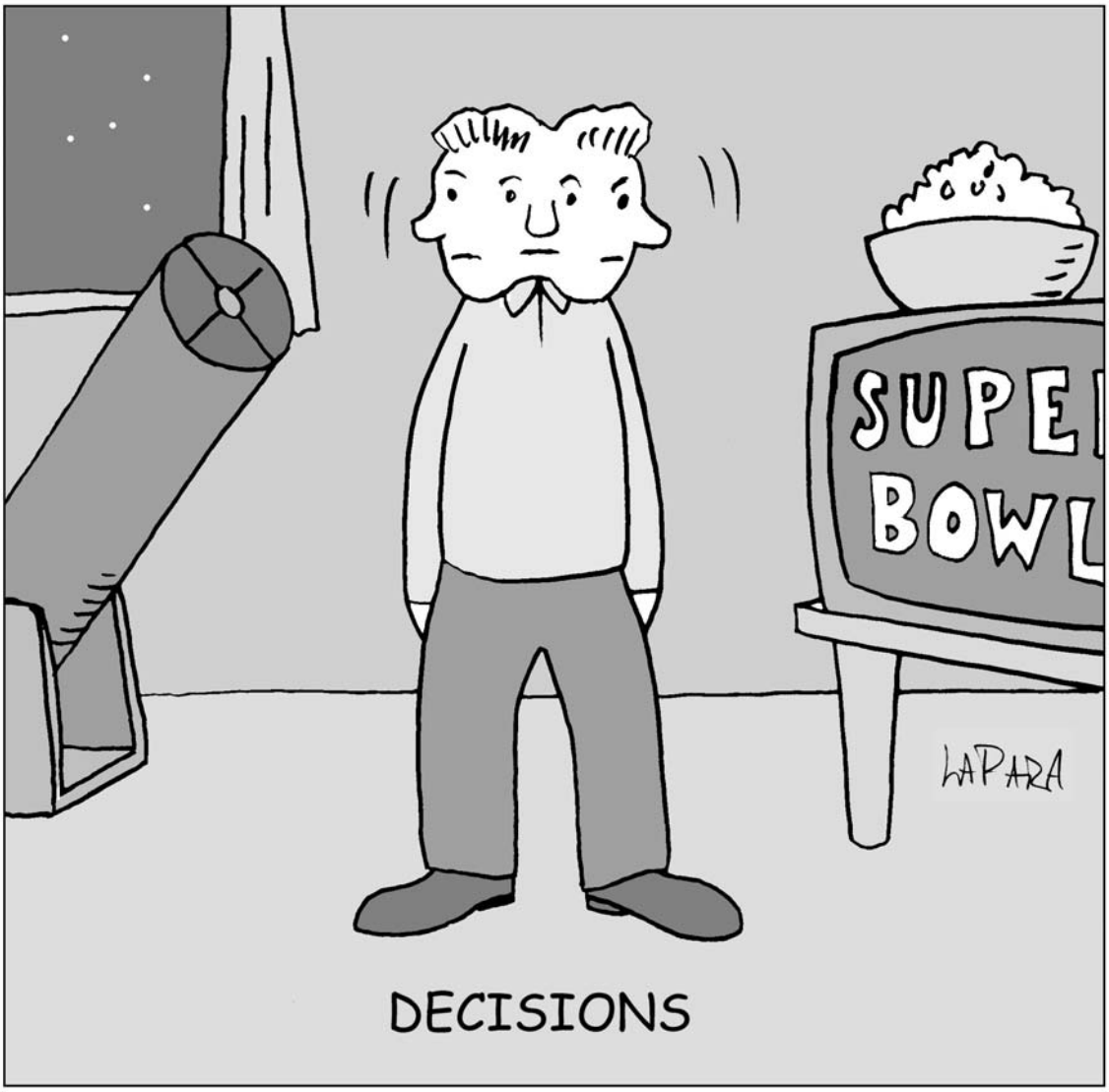
Now that the techniques have been tested in Earth orbit, they are ready to help Spirit and Opportunity catch dust devils—or anything else that moves—on Mars.

"If we saw Martians, that would be great," laughs Chien. Even scientists have their guilty pleasures.

Find out more about the Space Technology 6 "Autonomous Sciencecraft" technology experiment at: nmp.nasa.gov/st6/TECHNOLOGY/sciencecraft_tech.html, and the use of the technology on the Mars Rovers at nmp.nasa.gov/TECHNOLOGY/infusion.html.

Kids can visit spaceplace.nasa.gov/en/kids/nmp_action.shtml and do a New Millennium Program-like test at home to see if a familiar material would work well in space.

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



Cartoon by Nicholas La Para

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:

http://home.epix.net/~ghonis/index.htm

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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/

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CCAS Members Benefit from High Point Scientific

The owners of High Point Scientific, an astronomy equipment store in Montague, NJ, have extended a special free benefit to members of the CCAS. All members get a *High Point Advantage Card*, which entitles the member to special discounts on almost all purchases. It also includes access to exclusive deals only available to *High Point Advantage Card* holders. Other benefits of the program are detailed in the letter and booklet given to each CCAS member.

High Point Scientific
442 Route 206
Montague, NJ 07827
Phone: 1-800-266-9590

www.highpointscientific.com

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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!"

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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

stargazer1956@comcast.net

Or mail the contribution, typed or handwritten, to:

Jim Anderson
1249 West Kings Highway
Coatesville, PA 19320-1133

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 Jim Anderson, the newsletter editor, at:

stargazer1956@comcast.net

CCAS A.L. Award Coordinators

These are the members to contact when you have completed your observing log for the Messier, Binocular Messier, Lunar, or Double Star Awards:

Messier (both): Jim Anderson
(610-857-4751)

Lunar: Ed Lurcott
(610-436-0387)

Double Star: Jim Anderson
(610-857-4751)

Constellation Hunters: Jim Anderson
(610-857-4751)

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:	Vic Long 610-399-0149
Newsletter:	Jim Anderson 610-857-4751
Librarian:	Linda Lurcott Fragale
Observing:	Don Knabb 610-436-5702
Education:	Kathy Buczynski 610-436-0821
Webmaster:	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 your membership. If you are due to renew, you can mail in your renewal check made out to "Chester County Astronomical Society." Mail to:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

Sky & Telescope Magazine Group Rates

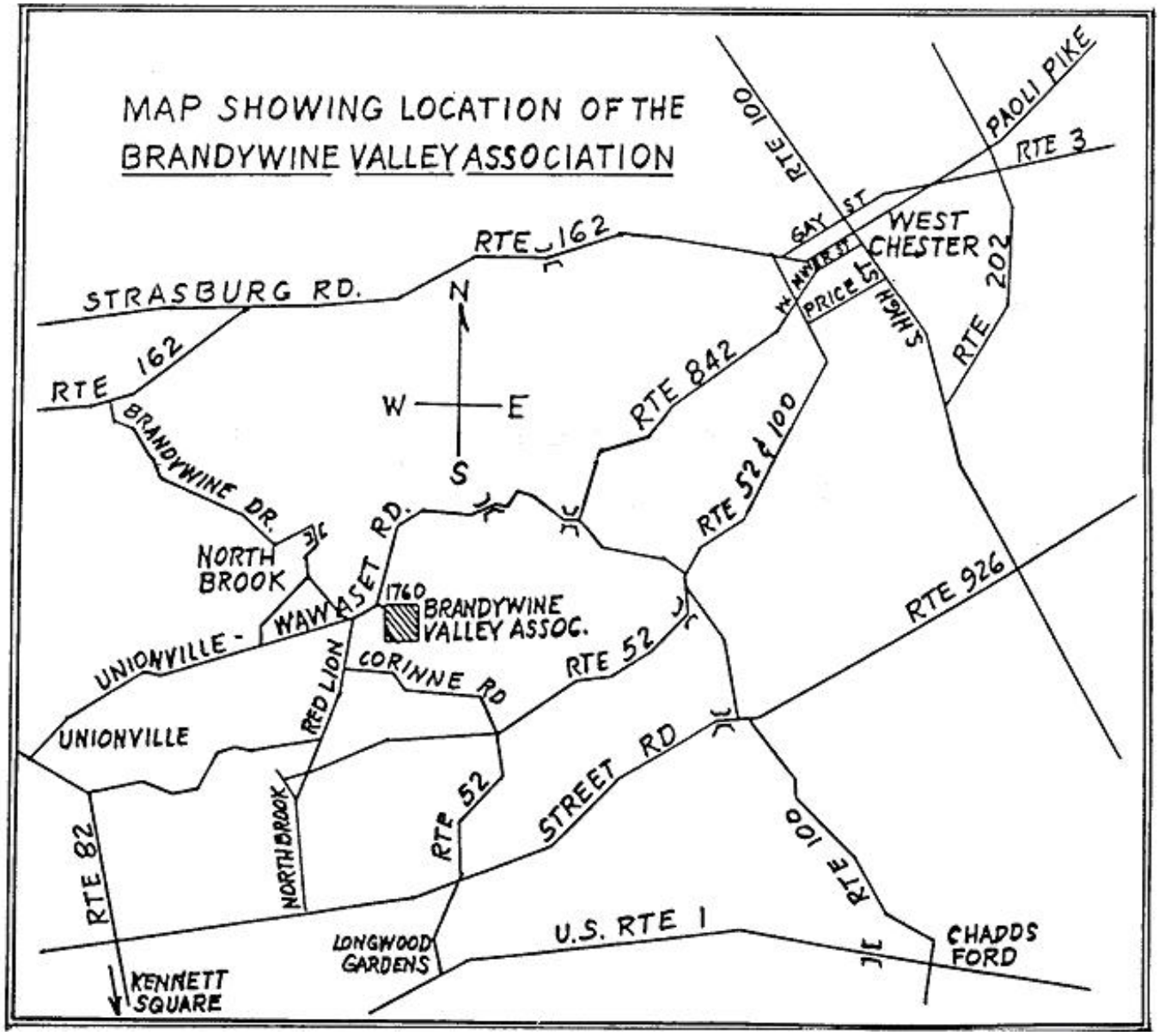
Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **$32.95** which is much less than the newsstand price of $66.00, and also cheaper than individual subscriptions ($42.95)! Make **sure** you make out the check to the **Chester County Astronomical Society** (do **not** make the check out to Sky Publishing, this messes things all up big time), note that it's for *Sky & Telescope*, and mail to Bob Popovich. Or you can bring it to the next Society meeting and give it to Bob there. **If you have any questions by all means call Bob first (610-363-8242).** Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

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**



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).