Issue 2012-01

# IO - January2011

Eugene Astronomical Society
Annual Club Dues $25
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EAS is a proud member of:

The Astronomical League
The World's Largest Federation of Amateur Astronomers


# Next Meeting: Wednesday, January 18th
# Telescope Workshop

Our January meeting will be our annual telescope workshop where we help each other figure out how to use all that fancy gadgetry Santa brought us for Christmas. This is a great opportunity to bring that scope you need help with or just want to show off. We'll advertise our services to the public, so if you don't need help on a scope, bring your expertise. You might be able to help someone else.

This is a great opportunity to spread the word about our club and what we do. Tell anyone you know who might be interested in astronomy that this is the meeting to come to if they have questions about gear or about astronomy in general. The structure of this meeting will be very informal, with lots of opportunity to visit with one another and share our various areas of expertise.

We also encourage people to bring any new gear or projects they would like to show the rest of the club. The meeting is at 7:00 on January 18th at EWEB's Community Room, 500 E. 4th in Eugene.

NOTE THAT THIS IS A WEDNESDAY.

# Next First Quarter Friday: January 27

We had two star parties in December, one on the 2nd and one on the 30th. The first one had clear sky for a change, and 2-3 dozen interested people. We were a bit short on telescopes, having only three for a while and a fourth later on, but we managed to show everyone a few things without any scuffling for position in line.

Our December 30th star party was a double-sucker-hole sucker punch. The day started with torrential rain, then cleared up enough around dusk to lure Jerry and Kathy Oltion to the reservoir with their telescope, only to arrive in a drizzle. They went home and the sky promptly cleared up, but they were too skeptical to try it again. Fortunately Tom Conlin and Nelson Farrier took their scopes and entertained "a couple of couples" for a couple of hours. Good for Tom and Nelson for upholding the honor of the EAS and hosting the star party after all!

First Quarter Fridays are laid-back opportunities to do some observing and promote astronomy at the same time. Mark your calendar and bring your scope to the College Hill Reservoir (24th and Lawrence in Eugene) and share the view with whoever shows up. Here's the schedule for 2012:

| | | |
|---|---|---|
| January 27 (23% lit) | February 24 (10%) | March 30 (54%) |
| April 27 (38%) | May 25 (24%) | June 29 (82%) |
| July 27 (70%) | August 24 (57%) | September 21 (43%) |
| October 19 (28%) | November 16 (15%) | December 21 (69%) |

# December Meeting Report

Our December meeting was our annual pot-luck get together and swap meet. This year we had a good spread of comestibles from finger-food to hearty chili. We also had a huge amount of glass on hand: mirror blanks and lens blanks and finished mirrors and lenses as well. The Heart of the Valley astronomers donated several blanks to our club, and we also had a big stock from a private donation by James Parker this summer.

Several members also brought telescopes, eyepieces, and various other gear to sell. Kathy Oltion made a pair of fingerless gloves that were auctioned off, with the proceeds going to the club. (Thank you, Tony and Louise, winners of the auction.)

The big event of the evening was the drawing for the right to buy one of the 4" Unitron refractors that James Parker donated to the club this summer. The board has been deliberating for months how best to put one of these scopes in members' hands, and they finally decided to sell one for an amount well below market value. They decided to have a random drawing for the right to buy one for only $100. Only half a dozen people put their names in the hat, so the odds were pretty good. They got even better, however, when John Walley, who won the first drawing, declined to buy the scope after all. A second ticket was drawn and Dave Cole happily accepted the scope and wrote the EAS a check for it on the spot.

Tom Conlin took home a brass Astroscan: a short folded-optics refractor/reflector with an eyepiece standing up out of the side near the midpoint, perfect for nestling in a lap while sweeping wide-field views of the sky.

Dave Cole found a solar scope amid a pile of unwanted parts. Louise Dandurand found the mother of all prisms in another box. There were treasures at every turn, and many club members went away happy with their unexpected finds.

The club took in nearly $500 at the meeting. The money will go into the general fund for promoting astronomy however we can in the years to come.

Our next meeting will be on Wednesday, January 18th, at 7:00 PM in the EWEB north building's Community Room. This is the first room in the semicircular building to the north of the fountain at EWEB's main campus on the east end of 4th Avenue.

Here's our meeting schedule for 2012. Note that we don't get regular Thursdays anymore, nor are we in the same room every time. EWEB has had trouble schedule its meeting space to meet all the demand, so we've had to take what we can get.

January 18 (Wednesday, Community Room)
February 15 (Wednesday, Community Room)
March 22 (Thursday, Community Room)
April 26 (Thursday, Training Room)
May 24 (Thursday, Community Room)
June 28 (Thursday, Training Room)
July 26 (Thursday, Training Room)
August 23 (Thursday, Community Room)
September 19 (Wednesday, Community Room)
October 17 (Wednesday, Community Room)
November 21 (Wednesday, Community)
December 20 (Thursday, Training Room)

## Thank You Castle Storage

For the last four years, Castle Storage has generously provided EAS a place to store its telescopes and equipment. EAS would like to thank Castle Storage for their generosity and support for our group. Please give them a call if you need a storage space, and tell your friends. They are great people and offer secure and quality storage units.

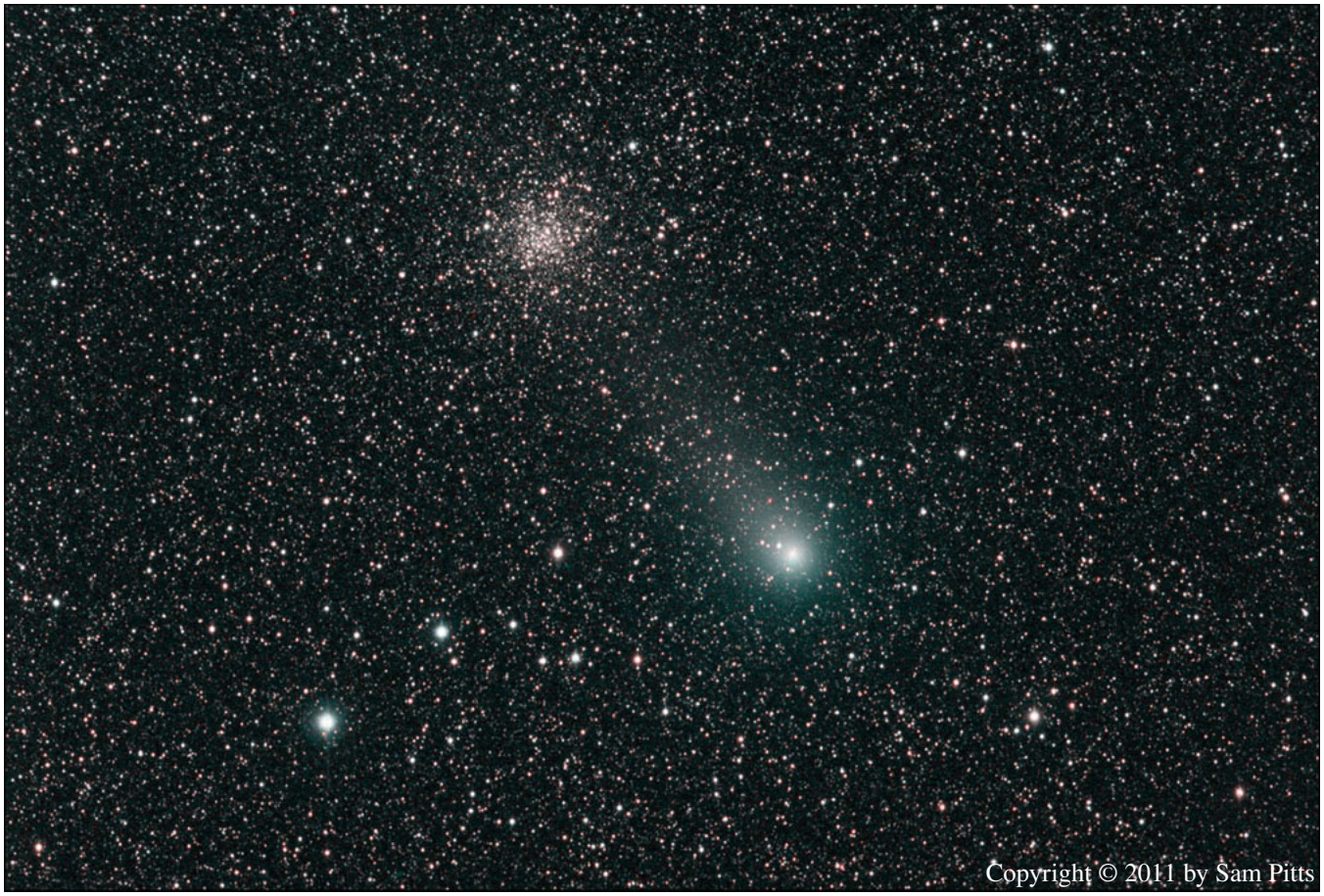
# EAS Members Do Astrophotography!

Our club is developing quite a few talented astrophotographers. This month, four different members have shared their images with the club via our email list. Here are a few of those images in more permanent form. They're in medium-high resolution, so you can expand the page size for a larger view.



Jeff Philips took these images of Jupiter and some of its moons on December 5th (left) and December 23rd (right) with a Celestron C6 and C8 respectively, using a Neximage webcam and stacking frames with Registax 5. Note the festoons around the Great Red spot in the first photo, the minor storms (only half the size of Earth!) in both photos, and how distinctive Ganymede's disk is in the second photo.

Sam Pitts took the following image of Comet C/2009 P1 Garradd drifting past M71 on August 26 out



on Greg Haider's property, Arcturus Acres, in Central Oregon. Several EAS members and guests were watching the same sight from Eagle's Ridge that night.

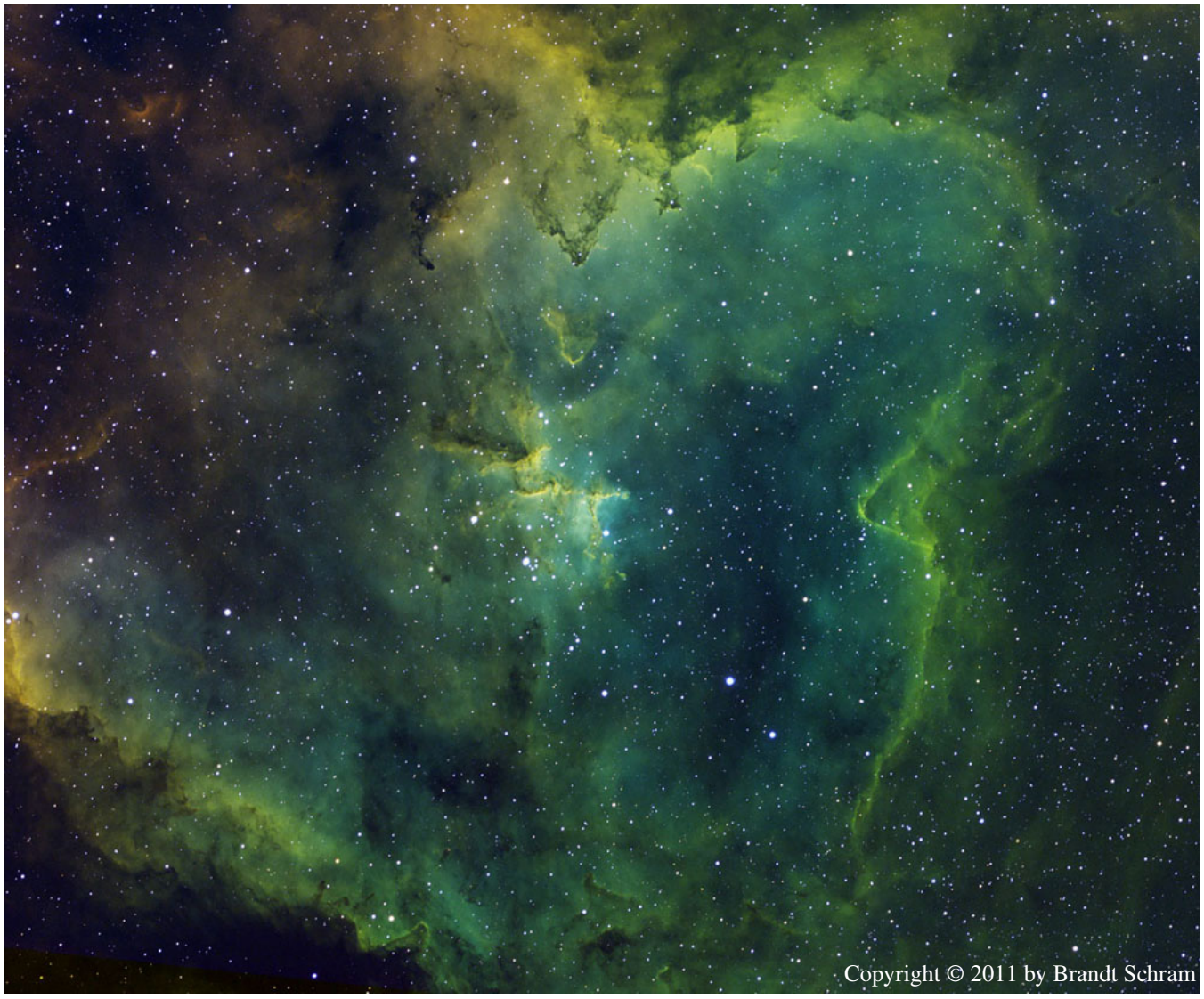
Sam also took the following image of NGC 7635, the Bubble Nebula, an emission nebula in Cassiopeia, plus Messier 52, an open cluster above and to the left. He took two-hours of data (60 minutes of H-alpha and 20 minutes each of RGB) on July 17, 2010, and just this winter got around to processing the image.



Jerry Oltion took this photo of the lunar eclipse on December 10th from Eagle's Ridge, using a Canon A70 point-and-shoot camera mounted afocally on an 8" Newtonian scope. The Moon was just barely inside Earth's shadow, so the bottom is very bright compared to the top in this 15-second exposure.

The 3-second image on the top of the next page was taken with the same camera through its own wide-angle lens as the eclipsed Moon was setting over a fog-covered Eugene and the Sun was just brightening the sky to the east.


Brandt Schram is just getting into astrophotography, but he's starting out with a bang. The image below of the Heart Nebula was taken on December 9th and 10th for a total of 12 hours (8x30min each Ha, NII and OIII) plus added RGB exposure for stars.



Here is a two-hour combined narrow band and LRGB image of the Rosette Nebula that Brandt took on December 16th. He says he would have gathered more red data but the Rosette went into the trees. The colors and sense of depth are stunning nonetheless. Check out the different colors of the stars in the central cluster and at the bottom right, too.


Here's a bonus image: a sketch by Cindy Kratch of Maui, Hawaii. This is what the December 10 eclipse looked like to her, as recorded with pastel & colored pencils on black art paper. Note how much farther away the bright star is from the Moon's south pole than it was in Jerry's photo from Eagle's Ridge on p.4. That's parallax! And Cindy's sketch captures the actual brightness (i.e. not very bright!) of the eclipsed moon much better than photos can.

Cindy isn't a member of the EAS, but she has built a trackball mount for her Portaball telescope, which must make her an honorary member, at least.

# Observing Highlights: NGC 206 and 604

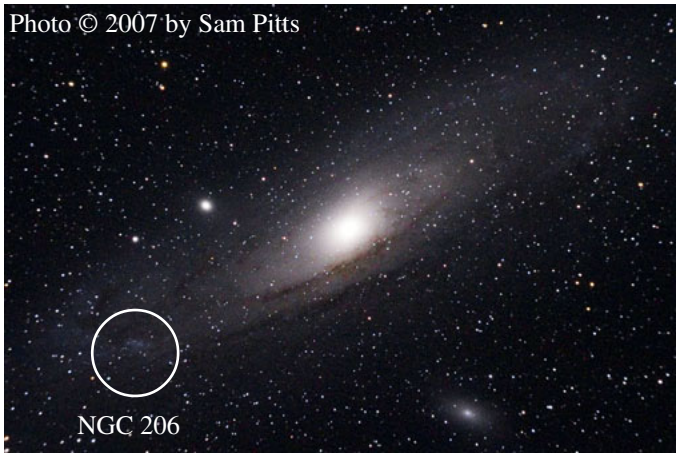
Winter is often considered open cluster season, for that's when many of our galaxy's spectacular groups of stars are most easily visible. What's less known is that winter also gives you a good chance to see clusters in other galaxies as well. At least two of them are well within reach of an 8-inch telescope under dark sky.

It should be no surprise that these candidates are in two of our closest neighbor galaxies: M31, the Great Andromeda Galaxy, and M33, the Pinwheel Galaxy in Triangulum. Both are well-placed for observing in January, and both contain immense star clouds that are bright enough to receive their own NGC designation.

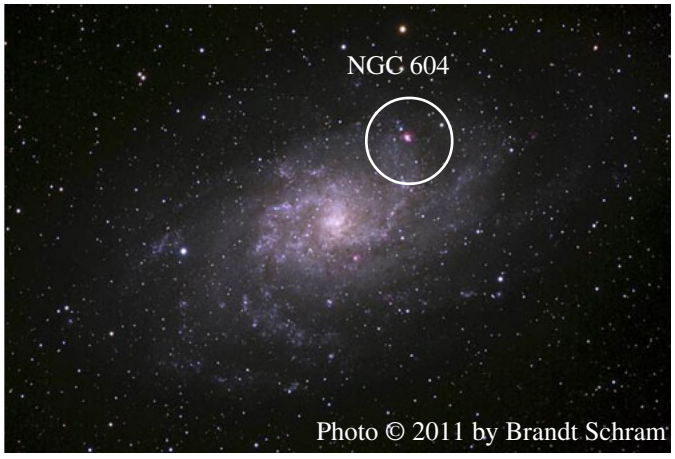
Start with the one in M31, the Great Andromeda Galaxy. Under a dark sky, it's pretty easy to find the two distinct dark lanes that cut through the galaxy's outer fringe on the side nearest to us. Follow the outer dark lane outward to the only fuzzy bright spot in the area, and there you are: NGC 206, one of the largest star forming regions known in our local group of galaxies. It's similar to M24, the largest known star cloud in our own galaxy, but larger (1200 x 2400 light-years, as opposed to M24's 500 or so). The center of NGC 206 is believed to be where two spiral arms are intersecting, thereby compressing the dense gas clouds that led to the large degree of star formation. It's about 20 million years old and lies 2.3 million light-years away.

NGC 604 is a similar region in M33, the Pinwheel or Triangulum Galaxy, but it's even richer with stars and glowing gas and therefore brighter. It doesn't have quite as easy a road map to find it, but its brightness makes up for that. Usually if you scan around the periphery of the galaxy to the northeast — or just beyond the periphery as seen by eye through a telescope — you'll find the only obvious candidate glowing fuzzily next to a relatively bright foreground star. Double-check your identification with the orientation of other foreground stars in the photo.

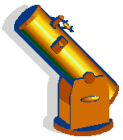
NGC 604 spans 1600 light years, making it about 40 times as large as the Orion Nebula. It's over 6300 times more luminous than the Orion Nebula, so if it were at the same distance it would outshine Venus. Probably a good thing it's 2.7 million light years away!




M31 (Andromeda Galaxy) with NGC 206




M33 (Pinwheel Galaxy) with NGC 604



# Observing in January

Full | Last Q | New | 1st Q

| January 8 | January 16 | January 22 | January 30 |
|---|---|---|---|
| Mercury Rise: 6:40 AM | Mercury Rise: 7:02 AM | Mercury Rise: 7:16 AM | Mercury Rise: 7:29 AM |
| Venus Set: 7:49 PM | Venus Set: 8:10 PM | Venus Set: 8:25 PM | Venus Set: 8:45 PM |
| Mars Rise: 10:07 PM | Mars Rise: 9:41 PM | Mars Rise: 9:18 PM | Mars Rise: 8:45 PM |
| Jupiter Set: 1:44 AM | Jupiter Set: 1:15 AM | Jupiter Set: 12:54 AM | Jupiter Set: 12:27 AM |
| Saturn Rise: 1:24 AM | Saturn Rise: 12:55 AM | Saturn Rise: 12:32 AM | Saturn Rise: 12:01 AM |
| Uranus Set: 11:07 PM | Uranus Set: 10:36 PM | Uranus Set: 10:14 PM | Uranus Set: 9:44 PM |
| Neptune Set: 8:20 PM | Neptune Set: 7:50 PM | Neptune Set: 7:28 PM | Neptune Set: 6:58 PM |
| Pluto Rise: 6:50 AM | Pluto Rise: 6:20 AM | Pluto Rise: 5:57 AM | Pluto Rise: 5:27 AM |

All times: Pacific Standard Time (Nov 6, 2011-March 10, 2012) = UT -8 hours or U.S. Pacific Daylight Time (March 13-November 5, 2011) = UT -7 hours.

| Date | Moonrise | Moonset | Sunrise | Sunset | Twilight Begin | Twilight End |
|---|---|---|---|---|---|---|
| 1/1/2012 | 11:43 | 00:39 | 07:47 | 16:45 | 06:03 | 18:29 |
| 1/2/2012 | 12:09 | 01:40 | 07:47 | 16:46 | 06:03 | 18:30 |
| 1/3/2012 | 12:40 | 02:40 | 07:47 | 16:46 | 06:03 | 18:31 |
| 1/4/2012 | 13:15 | 03:39 | 07:47 | 16:47 | 06:03 | 18:32 |
| 1/5/2012 | 13:56 | 04:38 | 07:47 | 16:48 | 06:03 | 18:32 |
| 1/6/2012 | 14:44 | 05:33 | 07:47 | 16:49 | 06:03 | 18:33 |
| 1/7/2012 | 15:40 | 06:24 | 07:47 | 16:50 | 06:03 | 18:34 |
| 1/8/2012 | 16:42 | 07:09 | 07:47 | 16:52 | 06:03 | 18:35 |
| 1/9/2012 | 17:48 | 07:49 | 07:47 | 16:53 | 06:03 | 18:36 |
| 1/10/2012 | 18:57 | 08:23 | 07:46 | 16:54 | 06:03 | 18:37 |
| 1/11/2012 | 20:07 | 08:54 | 07:46 | 16:55 | 06:03 | 18:38 |
| 1/12/2012 | 21:18 | 09:23 | 07:46 | 16:56 | 06:03 | 18:39 |
| 1/13/2012 | 22:29 | 09:50 | 07:45 | 16:57 | 06:02 | 18:40 |
| 1/14/2012 | 23:42 | 10:18 | 07:45 | 16:58 | 06:02 | 18:41 |
| 1/15/2012 | | 10:47 | 07:44 | 17:00 | 06:02 | 18:42 |
| 1/16/2012 | 00:55 | 11:21 | 07:44 | 17:01 | 06:01 | 18:43 |
| 1/17/2012 | 02:08 | 11:59 | 07:43 | 17:02 | 06:01 | 18:44 |
| 1/18/2012 | 03:19 | 12:45 | 07:43 | 17:03 | 06:01 | 18:45 |
| 1/19/2012 | 04:27 | 13:39 | 07:42 | 17:05 | 06:00 | 18:46 |
| 1/20/2012 | 05:26 | 14:41 | 07:41 | 17:06 | 06:00 | 18:47 |
| 1/21/2012 | 06:17 | 15:48 | 07:41 | 17:07 | 05:59 | 18:49 |
| 1/22/2012 | 07:00 | 16:58 | 07:40 | 17:09 | 05:59 | 18:50 |
| 1/23/2012 | 07:35 | 18:07 | 07:39 | 17:10 | 05:58 | 18:51 |
| 1/24/2012 | 08:06 | 19:14 | 07:38 | 17:11 | 05:57 | 18:52 |
| 1/25/2012 | 08:32 | 20:20 | 07:37 | 17:13 | 05:57 | 18:53 |
| 1/26/2012 | 08:57 | 21:23 | 07:36 | 17:14 | 05:56 | 18:54 |
| 1/27/2012 | 09:21 | 22:25 | 07:35 | 17:15 | 05:55 | 18:55 |
| 1/28/2012 | 09:45 | 23:26 | 07:34 | 17:17 | 05:55 | 18:57 |
| 1/29/2012 | 10:11 | | 07:33 | 17:18 | 05:54 | 18:58 |
| 1/30/2012 | 10:40 | 00:26 | 07:32 | 17:19 | 05:53 | 18:59 |
| 1/31/2012 | 11:12 | 01:26 | 07:31 | 17:21 | 05:52 | 19:00 |

**All times are for Eugene, Oregon, Latitude 44º 3' Longitude 123º 06' for listed date**

## Items of Interest This Month

1/3 Europa and Ganymede shadow transits
1/4 Quadrantid Meteor shower peaks early am.
1/5 Io shadow transit 8:08 - 10:20 pm.
1/12 Io shadow transit 10:04 - 12:16 pm.
1/13 Europa peeks out behind Jupiter, then goes into eclipse 7:28-7:42 pm.
1/20 Europa peeks out behind Jupiter, then goes into eclipse again 10:06 - 10:22
1/21 Io shadow transit 6:28 - 8:42 pm.
1/22 Europa shadow transit 4:56 - 7:24, Callisto crosses over pole7:00 - 10:00, plus Ganymede emergence (4:34) and eclipse(8:02).
1/25-26 Crescent Moon near Venus
**1/27 First Quarter Friday Star Party**
1/28 Io shadow transit 8:24 - 10:38 pm.
1/29 Europa shadow transit 7:32 - 10:00 pm.

## For Current Occultation Information

**Visit Derek C. Breit's web site**
**http://www.poyntsource.com/New/Regions/EAS.htm**

Go to Regional Events and click on the Eugene, Oregon section. This will take you to a current list of Lunar & asteroid events for the Eugene area. Breit continues to update and add to his site weekly if not daily. This is a site to place in your favorites list and visit often.