

IO - March 2013

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

The Astronomical League
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Issue 2013-03
Eugene Astronomical Society



Next Meeting: Thursday, March 28th

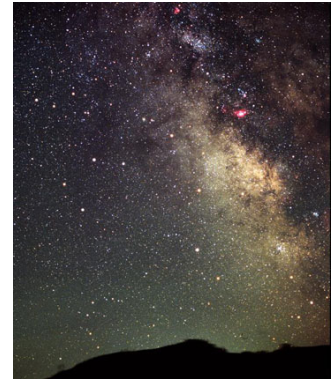
The Night Sky

by Sam Pitts

For our March meeting, Sam Pitts will give us a tour of the night sky, a relaxing journey in locating and capturing many of the common objects visible through binoculars and modest telescopes. He'll talk about finding, observing, and preserving the wonders of the night skies with pictures, for those cloudy and rainy months when we're not grinding mirrors or building telescopes. This program will be a pleasant reminder of Spring and the dark clear nights ahead.

Sam will go over where the objects he talks about are located and he'll show pictures and charts for finding them. This will be a great prelude to the coming observing season.

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 Thursday, March 28th at EWEB's Community meeting room, 500 E. 4th in Eugene.



Next First Quarter Friday: March 15th

February's First Quarter Friday, like every star party we've attempted since August, was clouded out. This is getting old! Fortunately, March usually brings clearer weather, so our chances of having a star party this month are much better. And if Friday is clouded out, we'll try again on Saturday the 16th.

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 thru 2013:

March 15 (19% lit)	April 19 (66% lit)	May 17 (50% lit)
June 14 (35% lit)	July 12 (21% lit)	August 16 (80% lit)
September 13 (67% lit)	October 11 (53% lit)	November 8 (38% lit)
December 6 (24% lit)		

Messier Marathon Season

It's Messier Marathon season! In March, it's possible to view all of the objects that Charles Messier catalogued in his search for comets in the 18th Century. It's an all-night proposition of finding and viewing 109 separate targets, from M77 in the far west just after sunset to M30 in the east just before sunrise. It can be done with just about any telescope, even binoculars. It's hard to bag all 109, but it's great fun to try. Give it a shot this year and see how many you can see! (See p.7 for a link to a great interactive guide.)

February Meeting Report: The Australian Eclipse

At our February meeting Ken Martin gave a wonderful talk and slide show about the trip he and Diane took to Australia last November to see the solar eclipse. They flew to Sydney, where they toured the town and the harbor, then drove inland to visit the Parkes Observatory, home to the famous radio dish antenna that served as the downlink for the Apollo video signals (and is still in use today). From there they went to the Siding Spring Observatory, located near the town of Coonabarabran. (You've gotta love those Australian names!) There are 12 telescopes at this observatory, including the 3.9-meter Anglo-Australian Telescope, one of the largest equatorially mounted telescopes in the world. Ken and Diane got to see this mountaintop site at the peak of its glory, just months before the disastrous bushfires that destroyed nearly all the vegetation for miles around. The observatory is just now up and running again.

From Siding Spring, they went north to the Cape York Peninsula, where they toured the Great



The Parkes radio telescope dish



A row of balloons ready for takeoff

Barrier Reef and Diane got to hold a baby kangaroo. (Earlier in the trip she'd held a wombat, so she was prepared.)

The eclipse was early in the morning of November 14th, so the sun was low on the horizon, providing the opportunity for just about the coolest eclipse viewing excursion imaginable, boarding an enormous hot air balloon to watch the eclipse from high above the ground. It was an emotional experience in more ways than one: one of the 20 passengers in the basket proposed marriage to his girlfriend during the flight. (She said "Yes.")

The eclipse was a spectacular cap to a great vacation, and we're very glad that Ken and Diane shared their experience with us. Remember: we get an eclipse right here in Oregon in 2017!

Our next meeting will be on Thursday, March 28th, at 7:00 PM at EWEB's community meeting 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 thru the end of 2013. We meet on the 4th Thursday of each month except November. EWEB has given us the same room (the Community room) every time this year.

March 28	April 25	May 23	June 27	July 25
August 22	September 26	October 24	November 21	December 26



The eclipse of November 2012

Plaque Honors Alfred Mikesell, Tony Dandurand

Alfred Mikesell was a long-time member of our club. Before that, he was a professional astronomer working for the US Naval Observatory. He's one of the two who chose the Flagstaff site when the USNO moved from the light-polluted east coast, and he was the first astronomer to go up in high-altitude balloon to study the atmospheric layers responsible for the twinkling of stars. His flight was harrowing, cold, and successful. (Photos from that flight can be seen at www.mikesell.info.)



The Hardin Dob owned by Alfred Mikesell with the new base built by Tony Dandurand, and the plaque commemorating them.

Alfred's data helped astronomers understand the nature of nighttime atmospheric turbulence and led directly to the adaptive optics used to counter that turbulence today. When he died in 2008, his wife donated one of his telescopes to the club, and we put it in our lending program for members to use. It's an 8" Hardin Deep Space Hunter, an excellent mid-sized dob.

After a couple of years of use the base got water damaged and needed rebuilding, so Tony Dandurand took on the project and built a beautiful rocker box and bearing box for it. The scope went back into service in early 2011 and has been checked out several times since.

Our club's board of directors decided it would be nice to commemorate this scope with an engraved plaque so its history wouldn't be forgotten in years to come. They had a plaque made, and recently installed it on the bearing box on the side facing the observer when the telescope is in use. The plaque reads: "Owned by Alfred Mikesell, who discovered why stars twinkle. Mount built by Tony Dandurand."

There's a lot of talent, knowledge, and history in our club. Here's a piece of our history that won't soon be forgotten.

John Wally Builds Scope for Arts & Academics School

This winter John Walley assembled a 6" f/4.8 telescope from optical components donated by the club. In early February he presented it to the Arts and Academics charter school in Springfield, along with a 25mm plossl eyepiece and 2x barlow. John reports: "They are very appreciative."

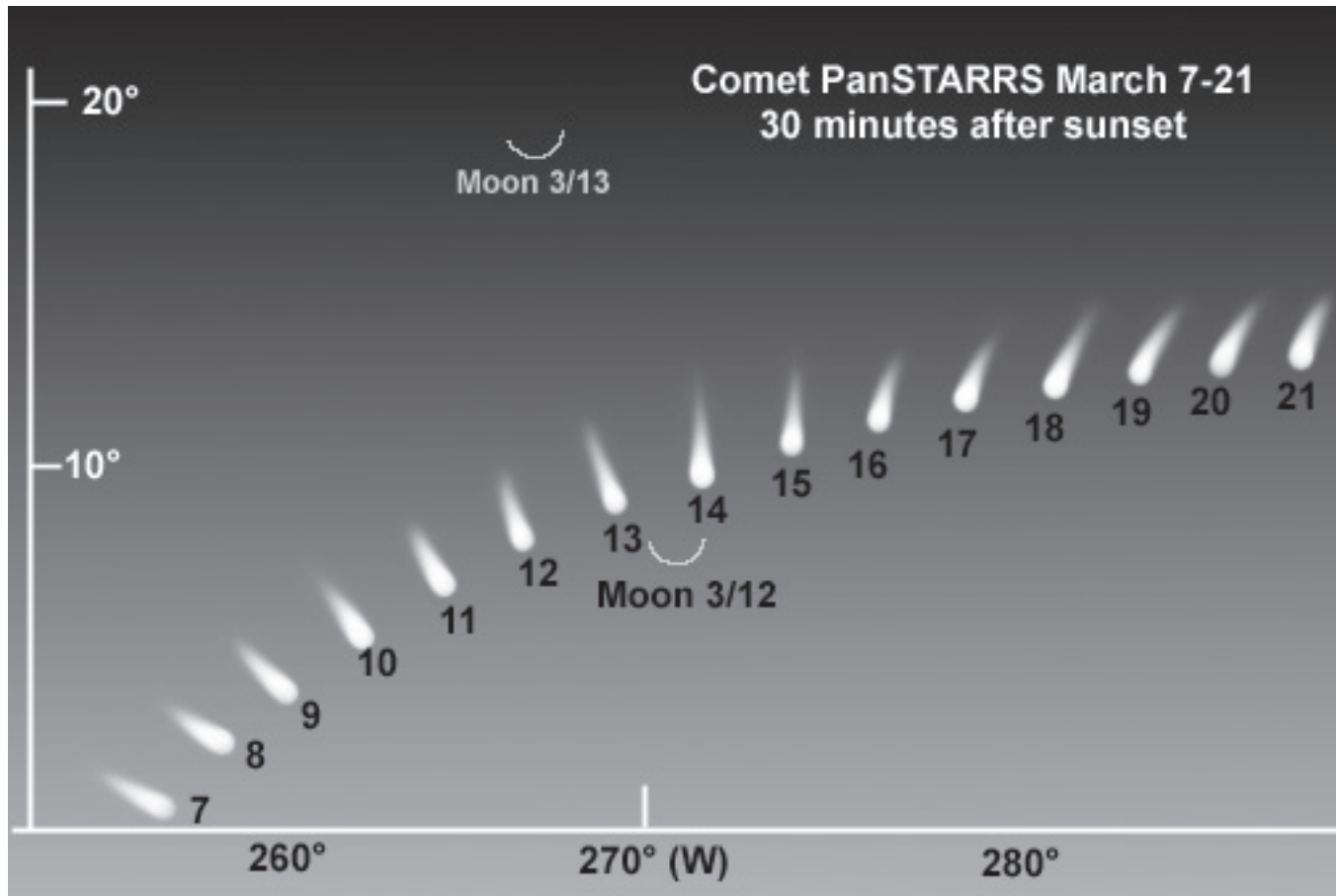


Comet PanSTARRS in March

The first of this year's hoped-to-be-major comets will put on its show this month. Comet PanSTARRS (C/2011 L4) will emerge from behind the Sun in early March and by the middle of the month it should be naked-eye visible in our western sky at dusk. March 12th could be an especially beautiful night with the comet paired with a one-day-old crescent moon.

For once we get a major comet going from south to north, so we get to see the most spectacular half of its orbit around the Sun, after it has reached perihelion (March 10th) and endured the greatest heating. With any luck, it should be outgassing like crazy by the time it becomes visible in the west, rising to 3rd or maybe even 2nd magnitude. It won't get high in our sky until it's well past its closest approach to Earth, and a full Moon will dim its spectacle in the last week of the month, but it should still put on quite a show.

The chart below shows its position as viewed each night from our latitude, 44° north. For dates beyond the 21st, the comet will pretty much be heading straight north. Don't miss this one! We won't see anything this spectacular again until...er...December. (Comet ISON).



Thank You Castle Storage

For the last five 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.



Fred Leff Contracts the Bug

Another member of our club has contracted the imaging bug. Fred Leff, a relative newcomer to our group, fell in with the camera crowd and has now become an astro-imager. In his own words:

“Sam, Greg, and I took a trip out to central Oregon over last weekend [Feb. 9-10], and I *finally* got ‘First Light’ on my TEC-140. After Sam helped me get a solid polar alignment, we turned the scope to Jupiter. Holy crap, what an incredible sight! The bands on Jupiter were clear as a bell, and little storms were also visible. Four moons could be seen, were nice and round, and their distinct colors could be seen. Next I turned to Orion and I tried out some piggyback imaging. Below is the best result. It’s not sharply focused, but for just messing around and getting familiar with my scope, this is a nice image.”



Copyright © 2013 by Fred Leff

Orion's belt and Sword photographed by Fred Leff.

Indeed it is. If you look closely, you can not only see the Orion Nebula, but the Running Man Nebula above that, and in the upper left quadrant Fred has also picked up the Flame Nebula and yes, even the Horsehead Nebula directly below Alnitak (the leftmost of the three belt stars).

An impressive debut! And judging by the image to the right, it looks like Fred has got the bug about as bad as a person can get it. We should expect to see many more beautiful astro-images from him in times to come.



Fred with his TEC-140

Earth Hour March 23, 8:30 – 9:30 p.m. and International Dark Sky Week April 5 – 11

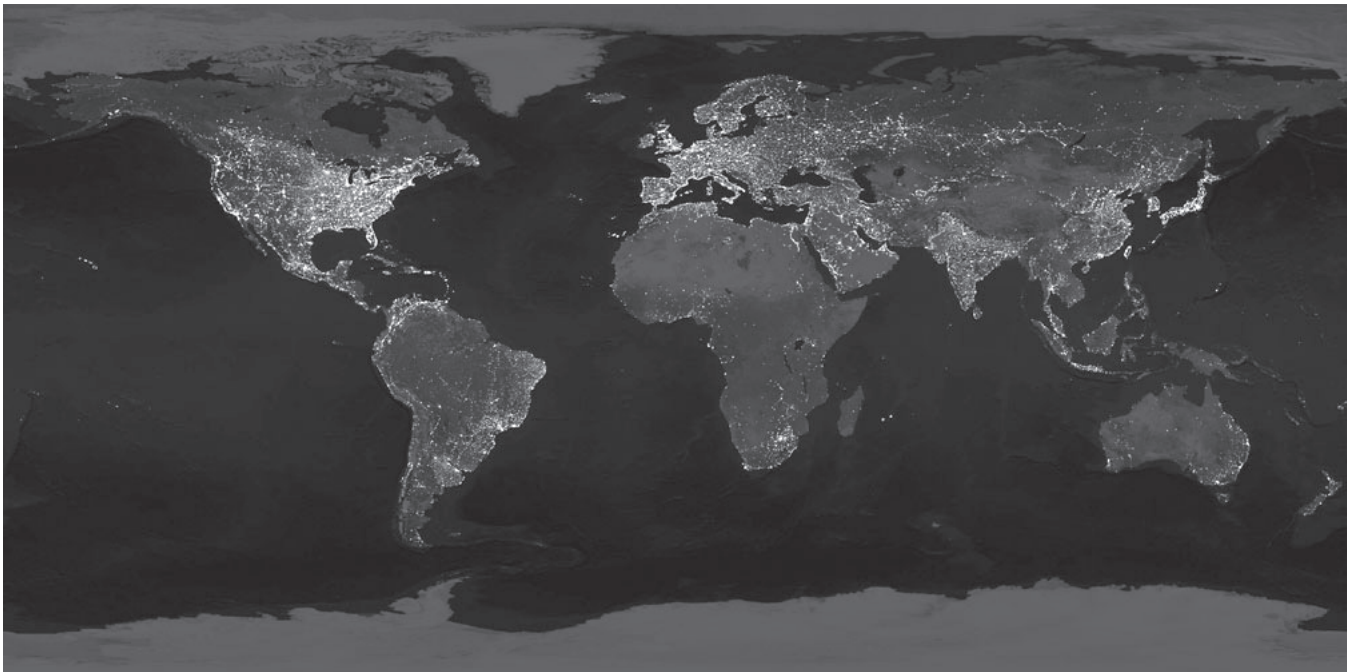
Light pollution increases at 4% per year, faster than population. The change to fluorescent lights may save energy, but as people put fluorescent bulbs outdoors, their intense glare only increases the pollution. As astronomers, we have a direct interest in reducing light pollution, but we're not the only ones who would benefit from darker skies. Light pollution affects everyone, even the animals we share the planet with. In March and early April we have two good opportunities to educate people — including ourselves — about the problem.

Earth Hour, March 23rd from 8:30 to 9:30 pm, is just an hour of going without unnecessary lights in an attempt to increase awareness of how much energy we waste, but anyone who actually participates is bound to think about it longer than just an hour. Try getting your entire neighborhood involved. It'll be a great opportunity to get them to turn off those nasty porch lights. Who knows; maybe some people will understand and keep them off.

International Dark Sky week runs from April 5th – 11th. It's a whole week of opportunity to actually get things done. Swap out your own nasty porch light for something better. Throw a neighborhood star party to show people what they're missing. Talk to the owners of a few car dealerships and other businesses about lowering the wattage a little and pointing their lights downward instead of up. This is the week of the new Moon, so it could get good and dark if people would just shut down their outdoor lights. See if you can make a noticeable difference. If we all tried it, we would certainly have an effect.

Also, consider making your effort a year-round thing. The International Dark Sky Association is active all year round. Your membership will help them (us) make headway with better lighting ordinances, better light designs, and better public awareness. Check them out at www.darksky.org.

You can help directly measure the amount of light pollution in our local sky by participating in the "Globe at Night" project, wherein you simply compare your view of Orion or Leo to a provided magnitude chart and report your results. Observing periods this month are March 3-12 and March 31 – April 9. Check it out at www.globeatnight.org. Whatever you do, do something to make a difference.



We can do better.

Explore Scientific vs. Nagler

by Jerry Oltion

For those of you wondering if the Explore Scientific 82-degree eyepieces are a good option at 1/3 the cost of Naglers, I did a side-by-side comparison one night and was pretty impressed. The short answer is “Yes, the Explore is good, but the extra money for the Nagler does give you a better eyepiece.”

I compared my Explore Scientific 4.7mm eyepiece against my Nagler 3-6mm zoom set at the same focal length. This wasn't a perfect comparison, since the zoom eyepiece has a different lens setup and a narrower field of view, but this is what I had on hand and I figured it might provide a couple data points, anyway.

I used both eyepieces on the trapezium in the Orion Nebula and on Sirius. The Explore showed me the extra stars in the trapezium clearly, as did the Nagler, but the Nagler was a little sharper. On Sirius the difference was much more evident. I could make out Sirius B in the Explore eyepiece about 10-20% of the time as it flickered in and out of the glare around the primary star, while in the Nagler that glare was much less pronounced and Sirius B was visible nearly continuously.

That suggested to me that brightness might be an issue, so went to the Moon and saw that the Explore eyepiece was much more affected by the Moon's brightness than the Nagler was. If I looked at one cusp of the Moon's crescent, putting most of the Moon's glow outside the eyepiece field, the opposite side of the field of view would bloom with flare from internal reflections. The Nagler did that a little bit, but not as much. I don't know if it's a sign of inadequate edge blackening or lens coating or what, but the effect was pretty evident.

On the other hand, the Explore eyepiece did very well on most other objects that didn't subject it to such extreme conditions. It splits most other doubles cleanly and gave me great views of clusters, galaxies, and planetary nebulae (including their central stars). Plus it has an 82-degree apparent field, as opposed to the Nagler zoom's 50 degree field. That extra expanse of stars really adds to the experience, and it makes keeping objects in the field much easier when your scope doesn't track.

So I'm glad I got the eyepiece, and I'll probably use it as my main eyepiece in that focal length, but I'm also glad to have the Nagler for tack-sharp views of bright objects. If the Explore was my only option, however, I think I'd be quite happy with it.



Explore Scientific 4.7mm and Nagler 3-6mm zoom eyepieces

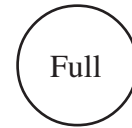
Interactive Messier List Poster

Bill Murray reports that there's an interactive poster of all the Messier objects available for free online. Says Bill: “Go to <http://www.greenhawkobservatory.com/#!/messier-download> There will be 3 PDF icons in the center. The first downloads the poster. The second downloads the interactive part of the poster. The 3rd is a copy of Messier's log.”

With Messier Marathon season upon us, here's your illustrated guide. Go for it!



Observing in March



March 4	March 11	March 19	March 27
Mercury Behind Sun	Mercury Rise: 6:50 AM	Mercury Rise: 6:24 AM	Mercury Rise: 6:10 AM
Venus Rise: 6:39 AM	Venus Rise: 7:31 AM	Venus Behind Sun	Venus Behind Sun
Mars Set: 6:53 PM	Mars Set: 7:54 PM	Mars Set: 7:55 PM	Mars Set: 7:55 PM
Jupiter Set: 1:21 AM	Jupiter Set: 1:57 AM	Jupiter Set: 1:31 AM	Jupiter Set: 1:05 AM
Saturn Rise: 10:46 PM	Saturn Rise: 11:17 PM	Saturn Rise: 10:44 PM	Saturn Rise: 10:10 PM
Uranus Set: 7:59 PM	Uranus Set: 8:34 PM	Uranus Set: 8:05 PM	Uranus Behind Sun
Neptune Rise: 6:24 AM	Neptune Rise: 6:57 AM	Neptune Rise: 6:26 AM	Neptune Rise: 5:55 AM
Pluto Rise: 3:28 AM	Pluto Rise: 4:01 AM	Pluto Rise: 3:30 AM	Pluto Rise: 2:59 AM

All times: Pacific Standard Time (Nov 4, 2012-March 9, 2013) = UT -8 hours or U.S. Pacific Daylight Time (March 10-November 2, 2013) = UT -7 hours.

Date	Moonrise	Moonset	Sunrise	Sunset	Twilight	
					Begin	End
3/1/2013	22:53	08:29	06:49	18:01	05:13	19:37
3/2/2013		09:07	06:47	18:03	05:11	19:39
3/3/2013	00:02	09:51	06:45	18:04	05:10	19:40
3/4/2013	01:08	10:43	06:44	18:05	05:08	19:41
3/5/2013	02:09	11:42	06:42	18:06	05:06	19:42
3/6/2013	03:03	12:47	06:40	18:08	05:04	19:44
3/7/2013	03:50	13:56	06:38	18:09	05:02	19:45
3/8/2013	04:31	15:07	06:37	18:10	05:01	19:46
3/9/2013	05:06	16:17	06:35	18:11	04:59	19:48
3/10/2013	06:38	18:27	07:33	19:13	05:57	20:49
3/11/2013	07:08	19:35	07:31	19:14	05:55	20:50
3/12/2013	07:36	20:41	07:29	19:15	05:53	20:52
3/13/2013	08:06	21:46	07:28	19:17	05:51	20:53
3/14/2013	08:36	22:49	07:26	19:18	05:50	20:54
3/15/2013	09:09	23:49	07:24	19:19	05:48	20:56
3/16/2013	09:46		07:22	19:20	05:46	20:57
3/17/2013	10:26	00:46	07:20	19:22	05:44	20:59
3/18/2013	11:11	01:39	07:19	19:23	05:42	21:00
3/19/2013	12:01	02:27	07:17	19:24	05:40	21:01
3/20/2013	12:55	03:11	07:15	19:25	05:38	21:03
3/21/2013	13:52	03:49	07:13	19:26	05:36	21:04
3/22/2013	14:53	04:24	07:11	19:28	05:34	21:05
3/23/2013	15:55	04:56	07:09	19:29	05:32	21:07
3/24/2013	17:00	05:26	07:08	19:30	05:30	21:08
3/25/2013	18:07	05:55	07:06	19:31	05:28	21:10
3/26/2013	19:16	06:24	07:04	19:33	05:26	21:11
3/27/2013	20:26	06:55	07:02	19:34	05:24	21:13
3/28/2013	21:38	07:28	07:00	19:35	05:22	21:14
3/29/2013	22:50	08:06	06:59	19:36	05:19	21:16
3/30/2013	23:59	08:49	06:57	19:37	05:17	21:17
3/31/2013		09:39	06:55	19:39	05:15	21:19

Items of Interest This Month

- 2nd & 3rd weeks: Comet PanSTARRS at its best
- 3/3 Io shadow transit just ahead of Great Red Spot, 8:22 – 10:35
- 3/8 Ganymede shadow transit 10:46 – 1:08
- 3/10 Daylight savings time starts
- 3/11 Io shadow transit 5:47 – 8:00
- 3/15 First Quarter Friday Star Party** Also Callisto crosses under pole 7:00 – 10:00
- 3/17 Moon between Jupiter and Aldebaran
- 3/18 Io shadow transit 7:43 – 9:56
- 3/20 Spring begins
- 3/23 Jupiter's moons make two colons surrounding planet 8:00 – 9:00
- 3/25 Io shadow transit 9:39 – 11:52
- 3/26 Europa shadow transit 7:42 – 10:10. Also Ganymede exits occultation 7:12 and goes into eclipse 9:41 (well away from planet) Also Io exits eclipse 9:04

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.

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