

# IO - July 2015

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 Thursday, July 16th Solar Viewing and What's Up in Summer by Jerry Olton

Summer is finally here and with it clearer skies. But what's up this time of year to look at? Jerry Olton will go through some of the more well known objects, and also talk about some good targets that you might not know about.

The sky is full of things to look at, both bright and dim. We'll start with the brightest, at magnitude -26.7: our Sun. By popular request, Jerry and Kathy will bring two solar scopes for viewing the Sun in white light and in the hydrogen-alpha wavelength before the meeting starts, and Jerry will go over the basic concepts of solar viewing for those of us who want to do it safely themselves.

Then we'll delve into the summer night sky. Come see what's up there, and bring your own suggestions for people to look at.

At our meetings 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, July 16th at the Science Factory planetarium. Come early to visit before the program starts.

## Next First Quarter Friday: July 24th

Our June 26th star party was clouded out. We tried again on Saturday, but the weather wasn't much better. Bruce Hindrichs reported it well on our email list: "The Eugene Nephological Society's first Cloud Party was a huge success. Club members and a couple of dozen people from the community were treated to an amazing display of cloud activity. The evening started with a mix of Cirrus and Cirrocumulus clouds. By 10:00 pm we were treated to a magnificent display of Cirrocumulus and Stratocumulus formations. The evening ended with a classic cover of Cirrostratus.

"Bruce A. Hindrichs

*"P.S. Nephology is the branch of Meteorology that studies clouds. ;-)"*

Here's hoping for better luck in July.

Our next star party is on July 24th. 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 the rest of 2015. Star parties start at dusk or 6:00, whichever is later.

July 24 (60% lit)

August 21 (43% lit)

September 18 (28% lit)

October 23 (84% lit)

November 20 (70% lit)

December 18 (55% lit)

## June 18th Meeting Report: Observing Tips and Tricks

At our June 18th meeting, Salem club president Dave Kasnick talked to us about the many tips and tricks he has developed over the years to make his observing experiences both enjoyable and productive. He discussed things like what equipment to take, what preparations to make ahead of time, and how to prioritize your observing session so you can see everything on your list.

The latter tip seemed especially insightful. Dave divides the sky into zones, with the low southern sky receiving the highest priority. That's because objects there will be visible for the least amount of time before they dip below the horizon. The western sky receives the next highest priority, because objects are already setting over there. The sky overhead is medium-high priority because that's where the seeing and transparency are best. And the eastern and northern skies are lowest priority because objects there are still rising or will never set.

Dave has come up with a regular search plan for objects that he knows he's near, but doesn't see in the eyepiece. Rather than just randomly scanning the area, he methodically scans left and right a field of view, then goes up a field and does it again, then goes down two fields and does it again, and so forth until he finds the object. That system assures him that his quarry doesn't slip through a gap in the search pattern.

Dave also keeps a list of all his eyepieces and what magnifications and exit pupils they give him with each of his telescopes; a handy reference in the middle of the night when you're too tired to divide 4.7 into 1250.

Another simple tip: Croakies for reading glasses so they're hanging from your neck rather than lost in the dark. Dave had many, many more good ideas that he shared with us. Thanks, Dave!

## Boy Scout Astronomy Merit Badge Activity July 8th

Wade Richardson has volunteered for a multi-troop stargazing and merit badge activity on Wednesday, July 8th. The location is in the Pleasant Hill area (directions provided later). Leaders are anticipating 15-20 boys who will need help passing off requirements. Wade could use some help given the numbers of boys participating. He would like to focus on the requirements we are best suited to help with and leave the other requirements for classroom instruction with a counselor or for the boys to complete on their own at a later time.

Proposed agenda: (May reverse the order of 2 and 3, depending on the quality of viewing at the time)

1. Wade to present to whole group
  - a. Provide pictures of astronomical phenomenon for brief discussion and Q&A
  - b. Describe how a telescope works
2. Club members to work with boys in smaller groups
  - c. Breaking into smaller groups, we will help the boys identify 10 constellations, 4 of which are in the zodiac (laser pointers will be helpful!)
  - d. In smaller groups, help the boys identify 8 stars, five of which are magnitude 1 or greater.
  - e. In smaller groups, help them name the 5 most visible planets. Saturn, Jupiter and Venus should be up.
3. Boys observe through club members telescopes at random — scope to scope. Club members will provide explanations and descriptions of what they are showing in their scopes. Boys will need to make notes of what they observe.

If you are able to help, please let Wade know. Contact him at: Wade.Richardson(at)McKesson.com or at 541-954-0008

# Dark-Sky Star Party at Dexter State Park July 11th

Our seventh annual Dark Sky Star Party, sponsored by the State Park Service with scopes and expertise provided by the Eugene Astronomical Society, will be held on Saturday, July 11th at Dexter State Park, about 15 miles southeast of Eugene on Highway 58. The site is right at the lower end of Dexter Reservoir, and just across the highway from the town of Dexter itself. It has wonderful wide-open views in all directions, and sky dark enough to reveal the Milky Way.

The next page is a flyer that you can — and should! — print out and photocopy and post at work and wherever else you can think of that's appropriate. Always ask permission before posting flyers, but do get out there and post them. The farther we spread the word, the more people will come to the party, and the more people who will understand the value of dark sky.

The party will start at dusk, which should be around 9:15. Get there early to set up and learn where everything is. We'll be setting up in the grass to the east of the first parking lot.

To get there, head up Hwy 58 from Goshen. Just as you approach the town of Dexter, you'll see signs for Dexter State Park on the left (north). Park in the first parking lot you come to and set up in the grass toward the reservoir from there.

We'll be giving away a telescope again this year, so interest should be high. We need volunteers to direct parking, run the information table, help put red filter material on flashlights, and so on. We'll coordinate things via the email list, and hopefully between us all we'll anticipate everything we need and have a smooth party.

The main thing is to have lots of club members there with telescopes! Bring yours, and help show people how beautiful the deep, dark sky can be. We have the park all night if we want it, so we can stay and observe on our own after the public has gone home.



## July 14th Flyby of Pluto

On the morning of July 14th, the New Horizons spacecraft will sweep past Pluto, taking pictures like a Yellowstone Park tourist driving past a bear. Unlike a Yellowstone tourist, New Horizon's can't stop in the middle of the road to take more pictures. It will be travelling nearly 31,000 miles/hour and has no brakes, so it'll get one pass and that's it. Most of its measurements and photos will be taken within two days of the encounter, then slowly beamed back to Earth over the next year. That's not a typo: there will be so much data collected that it will take a year to send it all home in uncompressed form. Remember those vacations when you plugged in your dial-up modem to email photos to your friends? It'll be like that.

When will we see our first photos of the surfaces of Pluto and Charon? The final approach photo will be transmitted at 3:15 UT on the morning of the 14th (8:15 on the evening of the 13th Pacific time), but for close-ups we'll have to wait until the evening of the 14th. It'll be a nail-biter, but well worth the wait.



# Dark Sky Star Party July 11, 2015 Dexter State Park

15 miles S.E. of Eugene on HWY 58

Come see the wonders of the  
night sky far from city lights

We bring the telescopes,  
You bring curiosity and enthusiasm!

Free telescope given to a lucky youngster  
(Ages 8-18, no purchase necessary, must be present to win).

**Starts at dusk (9:15) - Admission: FREE**

Dress warmly. Please cover flashlights with red filter material  
to preserve night vision. We will have filters on hand if you need one.

Sponsored by Oregon State Parks and the Eugene Astronomical Society  
For more information, visit [www.eugeneastro.org](http://www.eugeneastro.org)

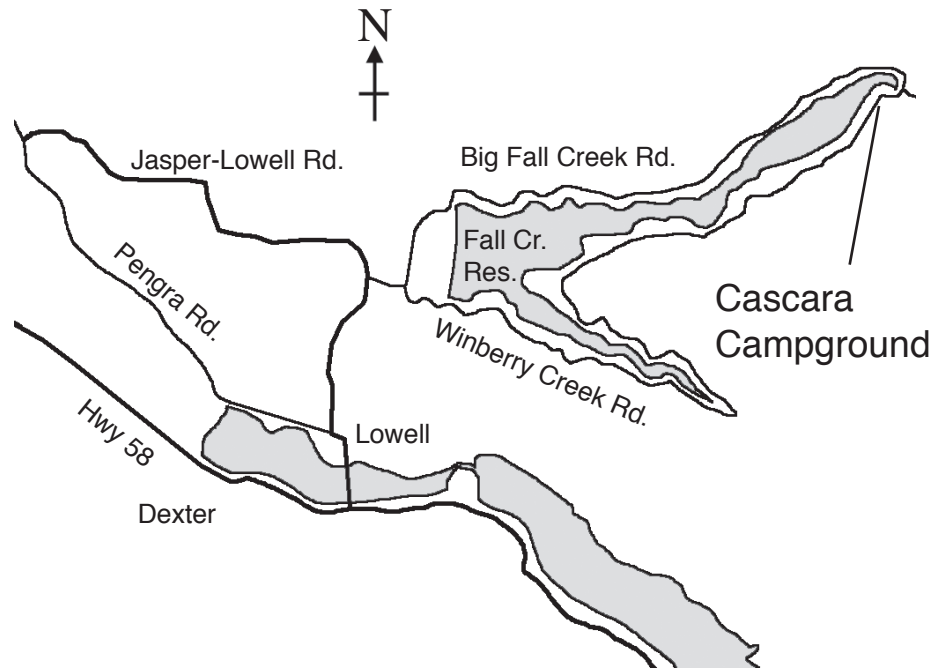


## Star Party at Cascara Campground July 18th

The State Park Service has asked us to put on a star party at Cascara Campground on Saturday, July 18th. This is in conjunction with their “Let’s Go Camping” promotional program, and they thought a night event would be a good addition for attending families.

Cascara Campground is on the far end of Fall Creek Reservoir. The sky is dark there, and this year’s low water level means we have a lot of wide open shoreline to set up scopes on. The Moon will be just a tiny crescent, so it won’t interfere at all. Bring your scope and have a great night out, plus share the view with a couple dozen campers.

To get there, take Big Fall Creek Road around the north side of Fall Creek Reservoir, cross over Fall Creek, and head back down the reservoir about 0.4 miles. The campground is on your right (the lake side of the road). Dusk will be about 9:00 – 9:15. Get there a little early to set up.



## Star Party at Peterson Barn July 23rd

The people at Peterson Barn were so impressed with the presentation that Bruce Hindrichs and Richard Boyd gave in January that they asked us to put on a star party this summer. We chose July 23rd because they have a community get-together earlier that evening, so there’ll be a captive audience who might stick around for astronomy that night. Sunset is at 8:45 and there’s a first-quarter moon in the sky, so we suggested we start right at sunset.

Our regular First Quarter Friday is the very next night, July 24th, but we believe we can field enough telescopes to cover both nights. Please help make that belief a reality!

Petersen Barn Community Center’s address is 870 Berntzen Road (on the corner of Royal and Berntzen).

## Astronomy at County Fair July 24-26

The Eugene Astronomical Society is providing an astronomy display and solar viewing at the Lane County Fair again this year. We need volunteers to keep an eye on the display area and answer questions, and also to run solar scopes and show people the view. The Moon might also be visible from our observing site, so a regular telescope might be useful, too.

Volunteers get free access to the fair. If you can help out, contact Rick Kang at [epoguy\(at\)gmail.com](mailto:epoguy(at)gmail.com).

# Oregon Star Party August 11-16

The Oregon Star Party will be held on August 11-16 this year. This is the premiere star party of the year for the entire northwest, held in the Ochoco Mountains an hour east of Prineville in central Oregon. If you haven't gone to this star party before, you should seriously consider going. Sharing a high, dark observing site with hundreds of like-minded amateur astronomers is a kick, and the view from there will knock your socks off.

This is a high prairie site, so it's a pretty serious camp-out. You'll need to bring water, food, a tent, and a couple gallons of sunscreen to get through the day(s). At night it can get pretty chilly, so you'll want a heavy coat. And your telescope, of course! There are some amenities, though, including meals on Wednesday thru Saturday nights, a coffee stand, and a shower truck.

Early Registration will end on July 11th. Online registration continues until July 22nd but you have to pay more. After July 22 you have to register on site and also pay the higher rate, so if you want to go, register before July 11th. Several EAS members are going. Join us!

## Many Great Nights in June



Copyright © 2015 by Bill Murray

Bill Murray took this shot of Cygnus on June 6th. The North America Nebula is just visible below-left of Deneb.



Copyright © 2015 by Bill Basham

June was a pretty good month for observing. Many of us got out with telescopes on several occasions, and some of us got photos of the experience. Here are just a few.



Copyright © 2015 by Alan Gillespie

Alan Gillespie got this great view of the crescent moon by day on June 13th.

Left: On June 22nd we were treated to one of the best Aurora Borealis displays in recent memory. From Eagle's Ridge we could see pillars of light rising up out of a general northern skyglow. Bill Basham took a time-lapse video of about an hour of the display, of which this is one of the more vivid frames. To see more of Bill's photos of the aurora, go here:

<http://www.meetup.com/Eugene-Astronomical-Society-Meetup/photos/25879338/#439016720>

For the time lapse of the aurora, go here:

<https://www.youtube.com/watch?v=LvJCrW4mnts>



Copyright © 2015 by Bill Basham

The Dumbbell Nebula on June 22



Copyright © 2015 by Bill Basham

Venus-Jupiter conjunction on June 30  
with sickle of Leo overhead



Copyright © 2015 by Bill Basham

Venus-Jupiter conjunction on June 30. Note Jupiter's moons.



Copyright © 2015 by Jeff Phillips

Venus-Jupiter conjunction setting on June 30.

## One Last Big Thank You to Castle Storage

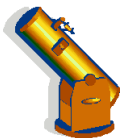
Since April of 2007, Castle Storage has generously provided EAS a place to store its telescopes and equipment. That's over eight years of donated space, saving us thousands of dollars in storage space rental fees. This may well qualify as the largest donation ever given to our astronomy club.

Alas, all good things must come to an end. Demand for storage units has increased to the point where Castle Storage is full, and they need the space for paying customers.

Our club president, Diane Martin, has found us another storage donation pending a review of our non-profit status, but an even better place would be in *your* garage! Check out a telescope from our lending library and get out with it under the summer night sky.

In the meantime, the EAS would like to extend one last GREAT BIG THANK YOU to Castle Storage for their generosity and support for our group. They've been really good to us for a very long time, and we have nothing but gratitude for their many years of support. 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.





# Observing in July



Full



Last Q



New



1st Q

July 1, 7:20 PM	July 8, 1:24 PM	July 15, 6:24 PM	July 23, 9:04 PM
Mercury Rise: 4:46 AM	Mercury Rise: 4:26 AM	Mercury Rise: 4:54 AM	Mercury lost in Sun
Venus Set: 11:13 PM	Venus Set: 10:50 PM	Venus Set: 10:23 PM	Venus Set: 9:47 PM
Mars Rise: 5:09 AM	Mars Rise: 5:03 AM	Mars Rise: 4:58 AM	Mars Rise: 4:52 AM
Jupiter Set: 11:14 PM	Jupiter Set: 10:50 PM	Jupiter Set: 10:26 PM	Jupiter Set 9:58 PM
Saturn Set: 3:16 AM	Saturn Set: 2:47 AM	Saturn Set: 2:19 AM	Saturn Set: 1:47 AM
Uranus Rise: 1:20 AM	Uranus Rise: 12:53 AM	Uranus Rise: 12:26 AM	Uranus Rise: 11:50 PM
Neptune Rise: 11:49 PM	Neptune Rise 11:22 PM	Neptune Rise: 10:54 PM	Neptune Rise: 10:22 PM
Pluto Set: 6:15 AM	Pluto Set: 5:46 AM	Pluto Set: 5:18 PM	Pluto Set: 4:46 PM

All times Pacific Daylight Time (March 8 – October 31, 2015 = UT -7 hours) or Pacific Standard Time (November 1, 2015 – March 12, 2016 = UT -8 hours)

Date	Moonrise	Moonset	Twilight Begin	Sunrise	Sunset	Twilight End
7/1/2015	20:32	05:27	03:09	05:33	20:59	23:22
7/2/2015	21:21	06:28	03:10	05:34	20:59	23:22
7/3/2015	22:06	07:34	03:11	05:34	20:59	23:21
7/4/2015	22:46	08:44	03:13	05:35	20:58	23:20
7/5/2015	23:22	09:56	03:14	05:36	20:58	23:19
7/6/2015	23:57	11:07	03:15	05:36	20:58	23:18
7/7/2015		12:19	03:16	05:37	20:57	23:17
7/8/2015	00:30	13:29	03:18	05:38	20:57	23:16
7/9/2015	01:04	14:39	03:19	05:38	20:57	23:15
7/10/2015	01:40	15:46	03:20	05:39	20:56	23:14
7/11/2015	02:20	16:52	03:22	05:40	20:55	23:13
7/12/2015	03:03	17:54	03:23	05:41	20:55	23:12
7/13/2015	03:50	18:50	03:25	05:42	20:54	23:10
7/14/2015	04:43	19:41	03:26	05:42	20:54	23:09
7/15/2015	05:38	20:26	03:28	05:43	20:53	23:07
7/16/2015	06:37	21:05	03:30	05:44	20:52	23:06
7/17/2015	07:36	21:39	03:31	05:45	20:52	23:04
7/18/2015	08:35	22:10	03:33	05:46	20:51	23:03
7/19/2015	09:34	22:39	03:35	05:47	20:50	23:01
7/20/2015	10:32	23:06	03:37	05:48	20:49	23:00
7/21/2015	11:29	23:34	03:38	05:49	20:48	22:58
7/22/2015	12:27		03:40	05:50	20:47	22:56
7/23/2015	13:25	00:01	03:42	05:51	20:46	22:55
7/24/2015	14:24	00:31	03:44	05:52	20:45	22:53
7/25/2015	15:23	01:04	03:46	05:53	20:44	22:51
7/26/2015	16:23	01:41	03:47	05:54	20:43	22:49
7/27/2015	17:22	02:24	03:49	05:55	20:42	22:47
7/28/2015	18:18	03:13	03:51	05:56	20:41	22:45
7/29/2015	19:10	04:11	03:53	05:57	20:40	22:43
7/30/2015	19:58	05:15	03:55	05:58	20:39	22:42
7/31/2015	20:41	06:24	03:57	05:59	20:38	22:40

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

## Items of Interest This Month

- Good month for viewing Saturn, Pluto, Ceres  
Last month to see Venus as “evening star” until June 2016
- 7/2 Ganymede eclipses Io 8:30 PM, Europa shadow transit 10:00 – Jupiter set
- 7/6 Earth at aphelion (farthest distance) 94,506,507 miles from Sun
- 7/8 Boy Scout Star Party in Pleasant Hill**
- 7/9 Venus at its brightest (-4.7 mag)
- 7/9 Ganymede shadow transit 6:00 – 9:30 (May be visible in daylight.)
- 7/11 Dark Sky Star Party at Dexter State Park**
- 7/12 Crescent Moon very close to Aldebaran mid-day. Good chance to see a star by day. Altitude at 11:00 AM = 62°, Az = 197°  
Altitude at noon = 57°, Az = 223°  
Moon passes to the north of Aldebaran
- 7/14 New Horizons flies past Pluto
- 7/18 Star Party at Cascara Campground**  
Moon near Venus and Jupiter
- 7/21 Moon at apogee (251,558 miles)
- 7/23 Star Party at Peterson Barn**
- 7/24 First Quarter Friday Star Party**
- 7/24 – 7/26 Astronomy at Lane County Fair**
- 7/31 Second full Moon of the month (3:43 AM), popularly known as a “Blue Moon”