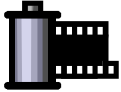


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Eugene Astronomical Society, Annual Club Dues \$25, President: Jean Grendler, School Star Party Coordinator , 683-9382, moegren@msn.com
Vice-President & Treasurer: Sue Moe , suemoe@worldnet.att.net, Telescope lending program: Rossco . Web Master Dave, Nexstar11.com ;
IO editor, Sam Pitts, sampitts@aol.com :Io (*EYE-oh*) is nearest to Jupiter and fastest orbiting of the four Galilean moons



NOVEMBER 3, 2003 MEETING EUGENE ASTRONOMICAL SOCIETY North Eugene High School Room #319 at 7:00 PM



This will be another great meeting with Dave Cole presenting a very educational program on **Image Processing - the Digital Darkroom**. Dave is an extremely knowledgeable in photography and his photographs have won numerous awards and recognition through the years. Dave is experienced in all forms of Photography, Astrophotography and Astro-Imaging, from film to current CCD technology. Dave has been published in Sky & Telescope with his extensive work in film hypering and the design and construction of hypering chambers. Please come out and learn what can be done on your own computer with "**The Digital Darkroom**". This is a must see program if you are considering any type of astronomical imaging in the future!

Everyone is also encouraged to share his or her astronomical activities with others. Bring your questions and see if some of the seasoned observers can answer them. The meetings are always fun and educational. Eugene Astronomical Society has members from all levels of this hobby, from just observing with unaided eyes to hard cores that stay up all night in freezing weather to glimpse that special object. I hope to see you there and share our passion for the night's skies.

See our Treasure Sue Moe

Subscribe to Sky & Telescope and/or
Astronomy Magazine
Take advantage of our club's **10%** discount
You also get a **10%** discount at the
S & T Store

NW Astronomy Email List Provides Forum for Discussion

The List keeps growing! Join the fun and discuss **Astronomical Topics** with others! Keep informed to local astronomical events and happenings. Use the list to ask questions about equipment or anything regarding Astronomy. The NW Astronomy list is open to anyone to join. Dave Cole, the EAS Webmaster, moderates this list. To join, visit the EAS web site or Dave's Web site: Nexstar11.com

Mirror Grinding Workshop

Mel Bartels and EAS are have put together a mirror grinding workshop. If you have ever wondered about grinding your own mirror and assembling your very own telescope to explore the heavens, Now is the Time to do just that. **This is a great opportunity, don't miss out!** Meeting on Week Nights at North Eugene High School. Come to our meeting or visit our web site or join the User list below and learn more.

ITS 2003

(Imaging The Sky 2003)
Friday and Saturday, November 7th and 8th,
at the Tokyo International University of America in
Salem, Oregon
(Next to the State Capitol and Willamette University)
See: Mel, Dave, Sam or Rick at the meeting.
<http://mywebpages.comcast.net/argojg/its/its2003.html>

Join the user List! Keep in-touch with Members and Events!
<http://lists.cmc.net/cgi-bin/mailman/listinfo/eugeneastro>

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Astronomical League Universe Sampler Certificate

Universe Sampler Chair:

Amelia Goldberg
5115 Stillbrooke Drive
Houston, TX 77035
(713) 721-5077
E-mail: goldberg@infohiwy.net



Introduction:

The *Universe Sampler* observing program is a unique observing program designed specifically for the beginning observer. It is designed to expose the beginner to a sample of the many different types of objects that the Universe has to offer for our observing enjoyment. It is designed to help the new observer learn his or her way around the sky and to teach some of the basics of astronomy. It offers an alternate naked-eye list of deep sky objects for those who are interested in astronomy but shy away because they do not have a telescope or binoculars.

The *Universe Sampler* will take you on an exciting journey through the heavens. You will meet many of the brightest stars, learn their names and the constellations in which they are found. You will visit our moon and some of the planets that share our solar system. You will greet at least one of the comets that leave the outer reaches of the solar system to visit the neighborhood of the sun. You will become acquainted with double stars, variable stars, star clusters, nebulae and galaxies. One you have completed the *Universe Sampler* observing program, you should be well acquainted with the night sky and be able to find your way among the stars with no problem. You should be in a position to know what type of objects interest you most and be ready to continue your observing with one or more of the Astronomical League's other observing programs, e.g., the Messier List, the Double Star Program, the Lunar Programs, etc.

The titles of the lessons are:

- Basic Sky Movement
- How to Find North in the Sk
- Star Charts and Constellation Patterns
- Angular Measures and Distance
- Stating the Location of Objects in the Sky
- Star-Hopping
- Eyepiece Field Orientation
- Recording Your Observations
- The Art of Seeing
- The Moon
- Variable Stars
- The Sun

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The Universe Sampler Club.

The Astronomical League offers special recognition in the form of a Universe Sampler Club Certificate for those that have completed either the "naked eye" or the "telescope" path. You may complete both programs and get two certificates. To obtain an award you must observe the following rules:

- You must be a member of the Astronomical League either through an affiliated club or as Member at Large.
- Use of setting circles, computer driven telescopes (except for tracking purposes only) or any electronic device used to locate objects is NOT allowed. The purpose of the *Universe Sampler* program is to help the beginner learn his or her way around the sky. Use of the devices mentioned above would defeat the purpose of the program. Instead, use the star-hop method to locate objects. Refer to the lesson on star-hopping.
- You must complete Object List I as naked-eye observations. You must complete either Object List II as telescopic/binocular observations or Object List III as naked-eye observations.
- You must keep a log of your observations stating the object number or name, date/time and location, seeing conditions, size of instrument and magnification (or naked-eye observation) and your description of the object.
- You may copy the log sheets in the back of the manual for your use.

Upon completion of the program, submit your log sheets to an officer or appointed person from your club for verification. A letter from that person should be sent to the address above requesting your certificate and pin. Members at Large should submit copies of log sheets to the address above since originals will not be returned

Did You Know

Astronomical League Book Service

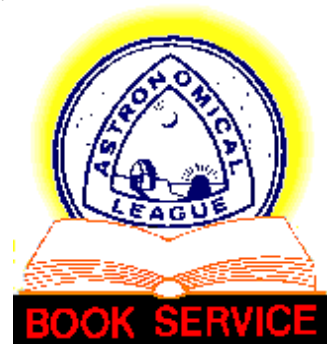
Members of the Astronomical League may order any book on astronomy at a ten per cent discount through the Book Service. Just send us the following:

- The book's title,
- The author of the book,
- The publisher of the book,
- The publisher's address (if known),
- The name of the Astronomical League Society you belong to, or indicate your direct membership status in the Astronomical League, and
- A check made out to the Astronomical League Book Service for the retail price of the book minus 10%. There is no shipping or handling charge for domestic orders.

Address your request to:

Marilyn Unruh
324 W. Gurley St.
Prescott, AZ 86301
(928) 778-2130

booknook@northlink.com



Hurricane Team Work

by Dr. Tony Phillips

On a gray breezy day last month thousands of people got in their cars and reluctantly left home. U.S. east coast highways were thick with traffic. Schools were closed. Businesses shut down. **Perfect!**

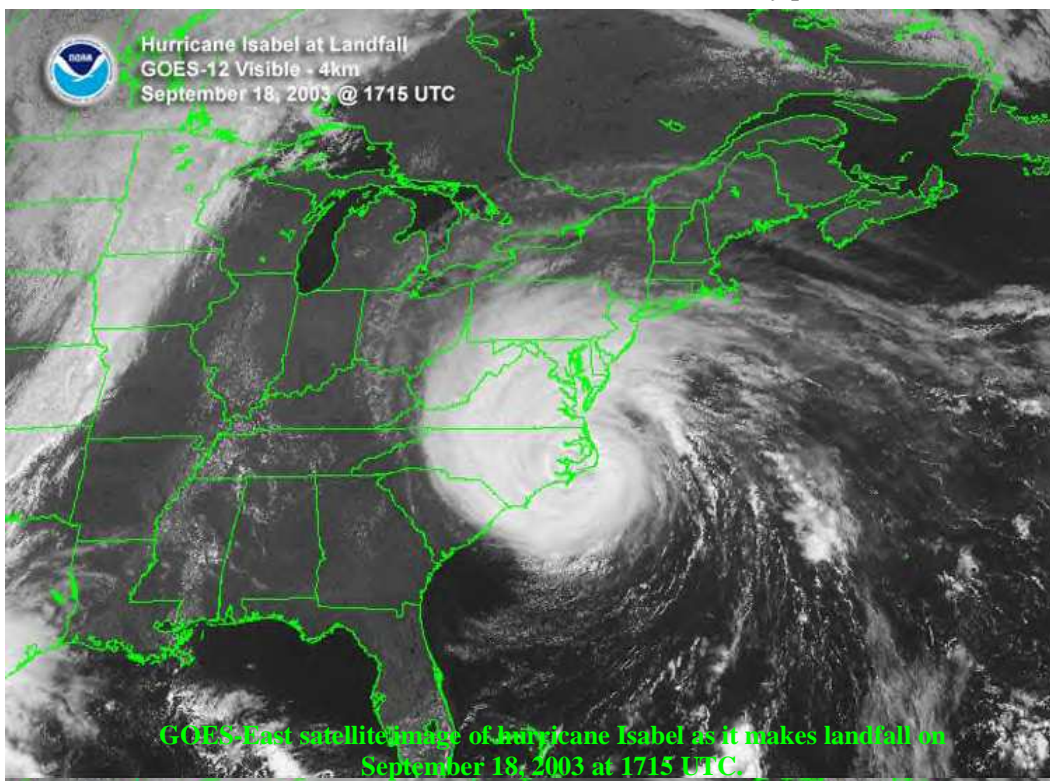
When powerful Hurricane Isabel arrived some 38 hours later nearly everyone in the storm's path had fled to safety.

Days later Vice Admiral Lautenbacher, in a briefing to President Bush, praised the National Atmospheric and Oceanic Administration (NOAA): "Without NOAA's excellent track forecasts, hurricane Isabel's toll on lives and property would have been even more devastating. This is NOAA's first year of providing 5-day forecasts-and the 5-day forecast for Isabel was as good as our 2-day forecasts have been over the last decade."

While two Gulfstream-IV crews flew night and day around the storm, a NOAA satellite named GOES-EAST monitored Isabel from above. (GOES is short for Geostationary Operational Environmental Satellite.)

From an orbit 22,300 miles above the Atlantic Ocean, GOES-EAST had a unique view. "It could see the entire hurricane at once," says Ron Gird of NOAA. "Scientists used infrared spectrometers onboard the satellite to estimate the height of the storm clouds, their temperature and water content. GOES can also measure the temperature of the ocean surface-the source of power for hurricanes."

Constant streams of data from GOES and the Gulfstream aircraft were fed to supercomputers at NOAA's Environmental Modeling Center in Maryland where sophisticated programs, developed over the years by meteorologists and programmers, calculated the storm's most likely path.



Many people in NOAA played a role. A team of pilots, for instance, flew Gulfstream-IV High Altitude Surveillance jets right up to the approaching hurricane, logging 25,000 miles in the days before landfall. Their jets deployed devices called dropsondes-little weather stations that fall toward the sea, measuring pressure, humidity, temperature and wind velocity as they plummet. The data were radioed back to the aircraft and transmitted to forecasters on shore.

Supercomputers. Satellites. Jet airplanes. Scientists. Programmers. Pilots. It took a big team using a lot of tools to predict where Isabel would go-accurately and with time to spare.

Says Vice Admiral Lautenbacher: "I hope everyone at NOAA shares the pride of being part of a team effort that so effectively warned the public of impending danger and enabled citizens to take action to protect themselves and their loved ones." Well done, indeed. www.oso.noaa.gov/goes/

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EAS CLUB CALENDAR

November 3 – EAS club meeting 7pm North Eugene High School Room 319 Image Processing - the Digital Darkroom presenter: Dave Cole

December 1 – EAS club meeting 7pm North Eugene High School Room 319 Introduction to CCD a brief program by Sam Pitts followed by Dessert Potluck and member swap & sale tables. Members- bring your astronomy related stuff to sell or trade!

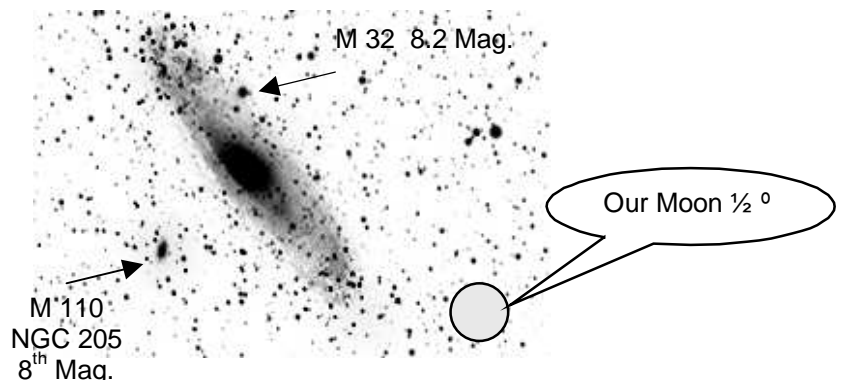
For further information contact: Jean Grendler, Eugene Astronomical Society President at: 683-9382 or moegren@msn.com



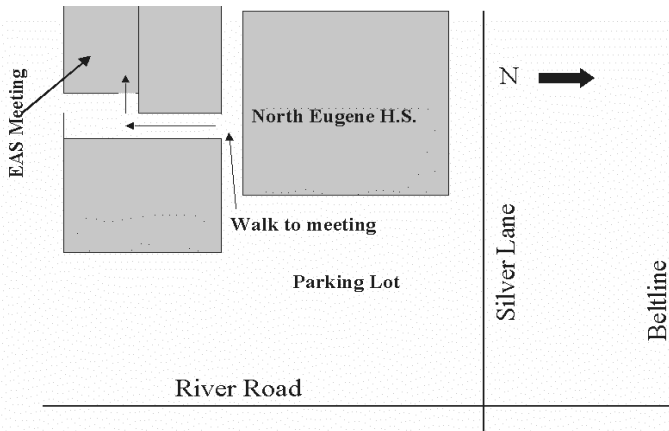
You might be an Amateur Astronomer If:

- You think that not getting enough sleep at night is a good thing.
- You ask your optometrist about the availability of H-Alpha Sunglasses.
- You center your vacation time around the New Moon.
- You don't buy a house until you've had a chance to see how dark the neighborhood gets at night.
- You build your dream home with a roll-off roof (or optionally, a rotating dome roof).
- All the night lights in your house are red.
- Somebody asks you where you live and you tell him the latitude and longitude of your house.
- Somebody asks where your town is and you pull out a map and show him how to "starhop" from town to town to find it.
- You've named your kids and pets after stars or constellations.
- A pair of binoculars and a small refractor are always in your trunk, just in case.
- Your neighborhood seems to always have more than its share of non-functioning streetlights and porchlights.
- You can hand-draw your own star charts down to the 7th magnitude -- from memory!
- When you take a new vehicle for a test drive, the first thing you do is run by home to see whether your telescope will fit in the trunk.
- During droughts, farmers in your area collect donations to allow you to buy more telescope equipment (to make it rain).
- You spend more money per year at your favorite optics store than you do at Wal-Mart.
- You plant and trim hedges (especially evergreens) and erect yard art to block nearby lights.
- Your friends and colleagues tell just you about the beautiful sky they saw the other night.
- You have a propensity for buying toys that glow in the dark.
- You rewire your house to 12VDC so that it's compatible.
- Your spouse complains about always having to turn the brightness up on the monitor in the morning.

M 31 Andromeda Galaxy NGC 224
Size: 175.0' x 62.0' (3° x 2°)
6 moons x 2 moons
Magnitude: 3.5
2.3 Million Light Years & closing
120,000 Light Years across



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EAS Meetings 1st Monday of the Month
7:00-9:00 PM

EAS School Star Parties

Thank you to all the members who came out to make the Adams/Hillside School Star Party a great success! It was a fun, relaxing evening with a great group of people.

Weather caused us to have to cancel one other group's star party already this season. Please watch for announcements about these events! EAS was invited to Awbrey Park School for two Solar Viewing sessions and a meteorite talk and display. One solar session was rescheduled due to weather, one got weathered out, but we had a great fill-in video and the meteorite talk/touch Mars and display reached 90 second graders!

At the time of this writing we have a

POSSIBLE school star party on Friday, Nov 7th. Watch for announcements in your email and at the EAS Membership meeting on Nov. 3rd!

November 8th Lunar Eclipse Event Eugene Astronomical Society presents a public viewing event on College Hill Reservoir on Saturday, November 8 from 5pm til 7pm.

Our moon will rise in eclipse and we will view Luna as she comes out from the Earth's shadow. Members are asked to bring scopes to show Mars and other celestial delights to our community guests. This event is weather permitting, of course. We had some clouds at the last eclipse event that threatened not to part for the moon show, but they did part in the end to provide a great view for all in attendance. Let's hope for the best this time! (Perhaps we can catch a glimpse of Venus, too?)

Thanks Jean

Warm Springs Event

Scheduled for November 15, the EAS Warm Springs event is shaping up nicely. EAS members that previously signed up have been contacted to confirm status for that trip. EAS will present a daytime program featuring Dave Cole scaling distances of objects in the universe on a football field and a solar presentation with viewing. "Hand-held" astronomy will also be featured with a meteorite display and talk. This is a cultural exchange event with tribal members participating. Evening dinner with members of both groups will feature a gift presentation and cultural exchange. Sue Moe will give an introduction to the night sky at the evening Star Party to be held high on a mesa under dark skies. Tribal elders will share Native American Sky Lore. Thank you to the EAS members who agreed to help with this event.

December EAS Meeting: Don't forget that December's meeting will feature a short program followed by a potluck dessert social and EAS' own version of a flea market with table where members can sell their own unused, no longer wanted or extra astronomically related stuff. Be prepared to bargain hunt! Let Sue or Jean know if you need a table!

EAS Mirror Grinder Telescope Makers Group

EAS mirror grinders group has held it's first organizational meeting. Mel Bartels gave an overview and answered many questions from the group. It was fun to see all the glass and hear about the projects members plan to complete! Some of the grinders accepted Larry Moore's invitation to join him at his home to view the John Dobson video in preparation for our work. Thank you Mel and Larry. Prospective grinders have a chance to make another organizational meeting on November 20 at 7pm. The meeting will be held in Sue Moe's classroom at North Eugene High School. Sue has arranged a partnership with NEHS allowing EAS Mirror Grinders to use a classroom for our meetings. The BOD of EAS is still looking for one more student to sponsor in the mirror grinder group. Interested students and their parents should contact Sue Moe. We will begin work on our mirrors after the holidays. The group will meet weekly for 2-hour sessions for 10 weeks total. Some work may need to be done at home. You should expect to complete your mirror in that time and begin planning you scope.

Two EAS Members Earn Certificates!

Congratulations to Jim Jackson and Sam Pitts for their work ferreting out Messier objects.

Almost every amateur astronomer begins to be aware of the Messier Catalog as soon as he or she opens their first book. The novice is sure to find some spectacular object pictured and designated by its "Messier Number" with the universal abbreviation "M". This list happens to include most, but not quite all, of the finest of these objects observable from mid-northern latitudes.

Charles Messier (1730-1817) was a French astronomer who developed an intense interest in comet hunting. While he had other achievements to his credit, this was his chief occupation during his long observing career. In this, he was so successful that he probably observed half of the comets known in his time. He discovered about twenty. It was to keep track of the star clusters and nebulae which might have otherwise confused him by their comet-like appearance, that he began to catalog and describe them. In commenting on his catalog in later years, he frankly stated that he had compiled it in order to aid other comet hunters. There is a slight touch of irony in the fact that Messier's chief claim to immortality grew out of his efforts to rid himself of a nuisance to what, he felt, was his important life's work. Messier's telescopes were all modest instruments, none of them exceeding the capacity of telescopes amateurs own today.

The Astronomical League offers special recognition in the form of a Messier Club Certificate for those that have observed most or all of the Messier objects. To qualify you must either be a Member-at-Large or be a member of an astronomical society which is affiliated with the League. This is a benefit of your membership in Eugene Astronomical Society!

To obtain an award you must observe 70 Messier objects and keep a record of your observations. Have your notebook or record examined by EAS President, Jean Grendler and she will forward a letter to the effect that you have made the necessary number of observations. A Certificate of Membership in the Messier Club will be forwarded to your Society for presentation at a meeting. EAS member Jim Jackson will be awarded this certificate at November's meeting. Congratulations, Jim!

When you have observed the balance of the Messier Objects, have your notebook or records examined again. You will receive an **Honorary** membership certificate signed by the current President of the League. EAS member Sam Pitts will receive this certificate and a handsome lapel pin. Congratulations Sam!

The Leonids Meteor shower is coming. Twice.

Bill Cooke of the Space Environments Group at the NASA Marshall Space Flight Center explains: "Normally there's just one Leonids meteor shower each year, but this year we're going to have two: one on Nov. 13th and another on Nov. 19th."

Both are caused by comet Tempel-Tuttle, which swings through the inner solar system every 33 years. With each visit the comet leaves behind a trail of dusty debris--the stuff of meteor showers. Lots of the comet's old dusty trails litter the mid-November part of Earth's orbit.

"This year we're going to brush past two of the trails--no direct hits," he says. Even so, "we might have a nice display."

The first shower is expected on Nov. 13th around 17:17 UT. For about three hours centered on that time Earth will be close to some dust shed by Tempel-Tuttle in the year 1499. The moon will be a problem, though. A good strategy for moonlit meteor observing: travel to high altitudes where the air is clear or stand in the shade of a tall building or hillside.

We can expect to see anywhere from less than three to three Leonids in 15 minutes under a dark clear sky! This year we won't be able to see any lunar impacts, even though the prediction for the moon is about 1,400 meteors per hour, but they will strike the far side of the moon, or in sunlit places.

The second and more impressive shower arrives almost a week later on Nov. 19th when Earth approaches a trail shed in 1533. "Sky watchers up and down the US east coast will have the best view," says Cooke. The Moon, a thin crescent on Nov. 19th, won't be bright enough to interfere with the display. (Nor will it be close to the cometary dust stream, so once again there will be no visible lunar explosions.)

On the 19th we can expect to see about 3 meteors per 15 minutes under a dark sky.

Not all researchers agree on the predictions.

Who's right? See for yourself. Be outside when the time comes, looking up. Edited by: Jean Grendler

Taurids (Taurus-Southern)	Peak: November 5
Taurids (Taurus-Northern)	Peak: November 13
Leonids (Leo) ?	Peak November 17
Geminids (Gemini)	Peak December 14
Ursids (URSA Minor)	Peak December 22

What's Out Tonight

