

IO - April 2008

Issue 2008-04
Eugene Astronomical Society

Eugene Astronomical Society
Annual Club Dues \$25
President: Sam Pitts - 688-7330
Secretary: Jerry Oltion - 343-4758
Additional Board members:
Jacob Strandlien, Tony Dandurand,
Tommy Lightning Bolt.

www.eugeneastro.org

EAS is a proud member of:

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



APRIL 24TH MEETING

The Herschel 400 by Jim Jackson

Imaging the Moon and Planets by Jeff Phillips

At our April meeting, Jim Jackson will share his experiences in pursuing the elusive Herschel 400 list of deep-sky objects, Jeff Phillips will talk about imaging the Moon and planets with inexpensive cameras and webcams, and Jacob Strandlein will give his monthly astro-news presentation.

We always encourage audience participation during our meetings. EAS meetings are traditionally times when we learn about astronomy and share others' experiences and knowledge of astronomy and the night sky. If you have something to share with the group, please do so.

Come and enjoy the wonders of the night sky with the Eugene Astronomical Society. After the meeting we can gather at The North Bank for dinner and conversation.

REMEMBER THAT WE NOW MEET AT EWEB

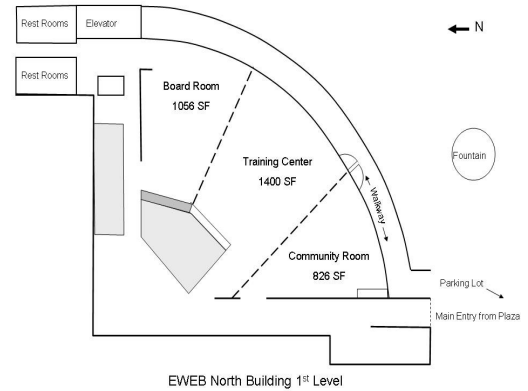
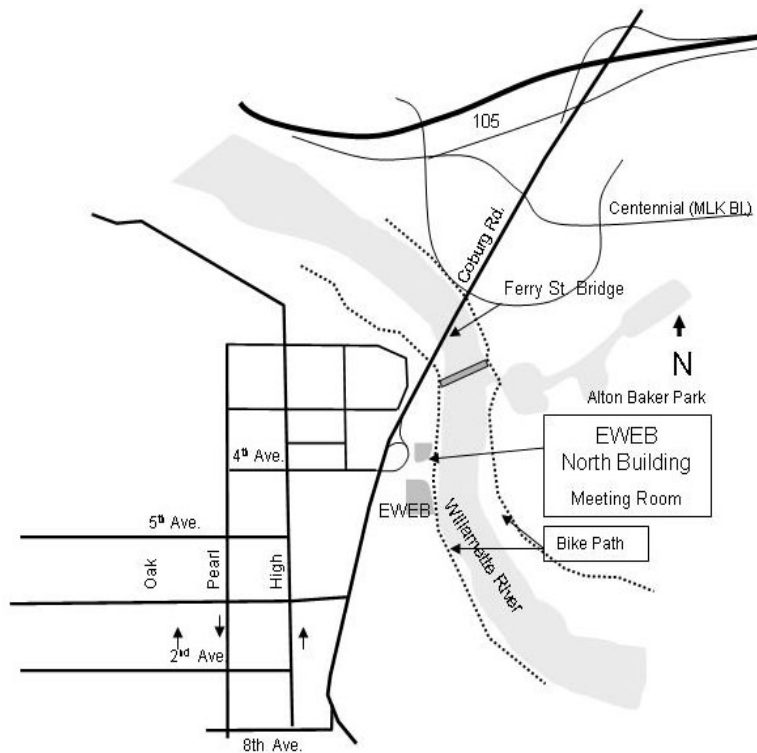
500 E. 4th Avenue in Eugene. (See map on next page)

OUR NEXT MEETING WILL BE ON THURSDAY, APRIL 24TH AT 7:00 IN THE NORTH BUILDING'S COMMUNITY ROOM. This is the first of the three wedge-shaped rooms in the semicircular building to the north of the fountain at EWEB's main campus on the east end of 4th Avenue. (Last month we were in the middle room.)

Meeting dates and times for the rest of the year:

April 24 (Thursday) in Community Room
May 29 (Thursday) in Community Room
June 26 (Thursday) in Community Room
July 24 (Thursday) in Community Room
August 28 (Thursday) in Community Room
September 30 (**Tuesday**) in Community Room
October 23 (Thursday) in Community Room
November 10 (**Monday**) in Community Room
December 18 (Thursday) in Community Room

Join the EAS mail list at <http://eugeneastro.org/mailman/listinfo/org.eugeneastro.general>



EWEB is located at 500 E. 4th Avenue. Our meetings will be in the first room in the semicircular building to the north of the fountain.

First Quarter Fridays

At the March meeting we decided to start a tradition of holding star parties once a month at the College Hill Reservoir. That way we'll have a regular get-together that we can plan ahead for, and the public will become accustomed to going up there to see the stars once a month to share the view with us. Plus it will help EWEB with security at the reservoir and show them that we do indeed use the reservoir for astronomy.

Since the time around the first quarter Moon is least likely to conflict with any dark-sky trips, we decided to hold our star parties on the Friday nearest the Moon's first quarter. Thus the name: "First Quarter Fridays."

These will be relatively informal events. Whoever can make it, with or without telescopes, is welcome to show up and help show the night sky to the public. We'll start at dusk or 7:00, whichever is later. Here are the dates and times (within a half hour) for the rest of the year:

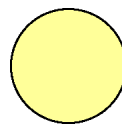
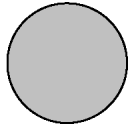
April 11th - 8:00	May 9th - 8:30	June 13th - 9:00	July 11th - 9:00
August 8th - 8:30	September 5th - 7:30	October 10th - 7:00	November 7th - 7:00
December 5th - 7:00			

Other Star Parties This Month

Thursday, April 10th, Coburg Elementary School. Contact Rick Kang for more information: rkang@efn.org



Observing in April



April 5	April 12	April 20	April 28
Mercury Rise 6:33AM	Mercury Rise 6:32 AM	Mercury Rise 6:33 AM	Mercury Rise 6:37 AM
Venus Rise 6:18 AM	Venus Rise 6:09 AM	Venus Rise 5:59 AM	Venus Rise 5:49 AM
Mars Set 3:04 AM	Mars Set 2:48 AM	Mars Set 2:30 AM	Mars Set 2:12 AM
Jupiter Rise 3:13 AM	Jupiter Rise 2:47 AM	Jupiter Rise 2:18 AM	Jupiter Rise 1:48 AM
Saturn Set 5:28 AM	Saturn Set 5:00 AM	Saturn Set 4:28 AM	Saturn Set 3:56 AM
Uranus Rise 5:55 AM	Uranus Rise 5:29 AM	Uranus Rise 4:58 AM	Uranus Rise 4:27 AM
Neptune Rise 4:52 AM	Neptune Rise 4:25 AM	Neptune Rise 3:54 AM	Neptune Rise 3:23 AM
Pluto Rise 1:27 AM	Pluto Rise 0:59 AM	Pluto Rise 0:27 AM	Pluto Rise 12:52 AM

All times: Pacific Standard Time (Nov 4, 2007-March 9, 2008) = UT-8 or U.S. Pacific Daylight Time (March 9-November 2, 2008) = UT - 7 hours.

Date	Moonrise	Moonset	Sunrise	Sunset	Twilight Begin	Twilight End
4/1/2008	04:46	14:42	06:53	19:40	05:13	21:21
4/2/2008	05:11	15:55	06:51	19:42	05:11	21:22
4/3/2008	05:33	17:09	06:49	19:43	05:09	21:24
4/4/2008	05:54	18:25	06:47	19:44	05:06	21:25
4/5/2008	06:15	19:44	06:45	19:45	05:04	21:27
4/6/2008	06:39	21:06	06:44	19:46	05:02	21:29
4/7/2008	07:08	22:30	06:42	19:48	05:00	21:30
4/8/2008	07:43	23:52	06:40	19:49	04:58	21:32
4/9/2008	08:28	—	06:38	19:50	04:56	21:33
4/10/2008	09:26	01:07	06:36	19:51	04:53	21:35
4/11/2008	10:33	02:09	06:35	19:52	04:51	21:37
4/12/2008	11:48	02:57	06:33	19:54	04:49	21:38
4/13/2008	13:03	03:34	06:31	19:55	04:47	21:40
4/14/2008	14:16	04:03	06:30	19:56	04:45	21:42
4/15/2008	15:27	04:25	06:28	19:57	04:43	21:43
4/16/2008	16:33	04:45	06:26	19:58	04:40	21:45
4/17/2008	17:40	05:04	06:24	20:00	04:38	21:47
4/18/2008	18:44	05:22	06:23	20:01	04:36	21:48
4/19/2008	19:50	05:41	06:21	20:02	04:34	21:50
4/20/2008	20:55	06:02	06:20	20:03	04:32	21:52
4/21/2008	22:01	06:26	06:18	20:04	04:30	21:54
4/22/2008	23:05	06:55	06:16	20:06	04:27	21:55
4/23/2008	—	07:32	06:15	20:07	04:25	21:57
4/24/2008	00:04	08:16	06:13	20:08	04:23	21:59
4/25/2008	00:56	09:10	06:12	20:09	04:21	22:01
4/26/2008	01:40	10:10	06:10	20:10	04:19	22:02
4/27/2008	02:16	11:16	06:09	20:11	04:17	22:04
4/28/2008	02:46	12:24	06:07	20:13	04:15	22:06
4/29/2008	03:12	13:34	06:06	20:14	04:13	22:08
4/30/2008	03:34	14:46	06:04	20:15	04:10	22:10

Other Items of Interest This Month

All month: Excellent time to view Saturn
 4/8 early evening: Moon near Pleiades
 4/10 Coburg Elementary School star party
 4/11 Moon just misses Mars
 4/15 Moon 3° south of Saturn
 End of month: Mars, Castor, & Pollux in line.
 End of month: Mercury visible just after sunset



For Current Occultation Information

Visit Derek C. Breit's web site

“BREIT IDEAS Observatory”

<http://www.poyntsource.com/New/Regions/EAS.htm>

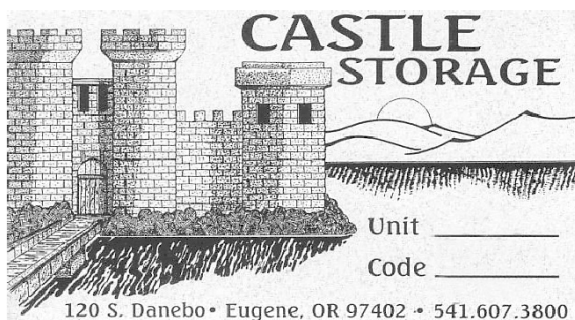
Go to Regional Events and click on the Eugene, Oregon section. This will take you to a current list of Lunar & asteroid events for the Eugene area. Breit continues to update and add to his site weekly if not daily. This is a site to place in your favorites list and visit often.

All times are for Eugene, Oregon Latitude 44° 3' 8" Longitude 123° 5' 8" for listed date

Astronomical Events – April 2008

- Apr 01 - Cassini, Distant Flyby of Pallene & Janus
- Apr 01 - Asteroid 1234 Noitisentreally impacts Moon
- Apr 02 - 45th Anniversary (1963), Luna 4 Launch (Soviet Moon Flyby Mission)
- Apr 04 - Asteroid 2004 VW14 Near-Earth Flyby (0.069 AU)
- Apr 04 - 40th Anniversary (1968), Apollo 6 Launch (Last Test Flight of Saturn V)
- Apr 05 - Asteroid 2008 EE85 Near-Earth Flyby (0.048 AU)
- Apr 05 - Kuiper Belt Object 136108 (2003 EL61) Closest Approach To Earth (50.229 AU)
- Apr 05 - 35th Anniversary (1973), Pioneer 11 Launch (Jupiter & Saturn Flyby Mission)
- Apr 06 - Asteroid 2001 QO142 Near-Earth Flyby (0.088 AU)
- Apr 07 - 40th Anniversary (1968), Luna 14 Launch (Soviet Moon Orbiter Mission)
- Apr 08 - Soyuz TMA-12 Soyuz FG Launch (International Space Station 16S)
- Apr 08 - Comet C/2006 Q1 (McNaught) Closest Approach To Earth (2.240 AU)
- Apr 08 - Asteroid 7 Iris At Opposition (9.4 Magnitude)
- Apr 08 - Asteroid 5 Astraea At Opposition (9.5 Magnitude)
- Apr 09 - Asteroid 1999 SO5 Near-Earth Flyby (0.094 AU)
- Apr 10 - Comet C/2007 B2 (Skiff) Closest Approach To Earth (2.287 AU)
- Apr 10 - Asteroid 2008 EP7 Near-Earth Flyby (0.072 AU)
- Apr 11 - Cassini, Distant Flyby of Mimas
- Apr 12 - Vinasat 1/ Star One C-2 Ariane 5 Launch
- Apr 12 - Asteroid 2005 OR2 Near-Earth Flyby (0.094 AU)
- Apr 15 - Asteroid 41 Daphne At Opposition (9.3 Magnitude)
- Apr 15 - Asteroid 2004 FG11 Near-Earth Flyby (0.087 AU)
- Apr 16 - Asteroid 2008 EH Near-Earth Flyby (0.033 AU)
- Apr 17 - Space Tracking and Surveillance System (STSS) ATRR Delta 2 Launch
- Apr 17 - Asteroid 2005 NB7 Near-Earth Flyby (0.042 AU)
- Apr 20 - Cassini, Distant Flyby of Mimas, Telesto & Epimetheus
- Apr 22 - Lyrids Meteor Shower Peak
- Apr 26 - Cassini, Distant Flyby of Titan
- Apr 26 - 10th Anniversary (1998), Cassini, Venus Flyby
- Apr 26 - 160th Anniversary (1848), Andrew Graham's Discovery of Asteroid 9 Metis
- Apr 28 - 80th Anniversary of Eugene Shoemaker's birth (1928)
- Apr 30 - Cassini, Distant Flyby of Telesto & Pallene
- Apr 30 - Comet C/2007 M3 (LINEAR) Closest Approach To Earth (3.094 AU)

AU=Astronomical Unit (92,955,800 miles)



Thank You Castle Storage

Board member Tommy Lightning Bolt was instrumental in getting a storage unit from the owners of Castle Storage for EAS 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 units.

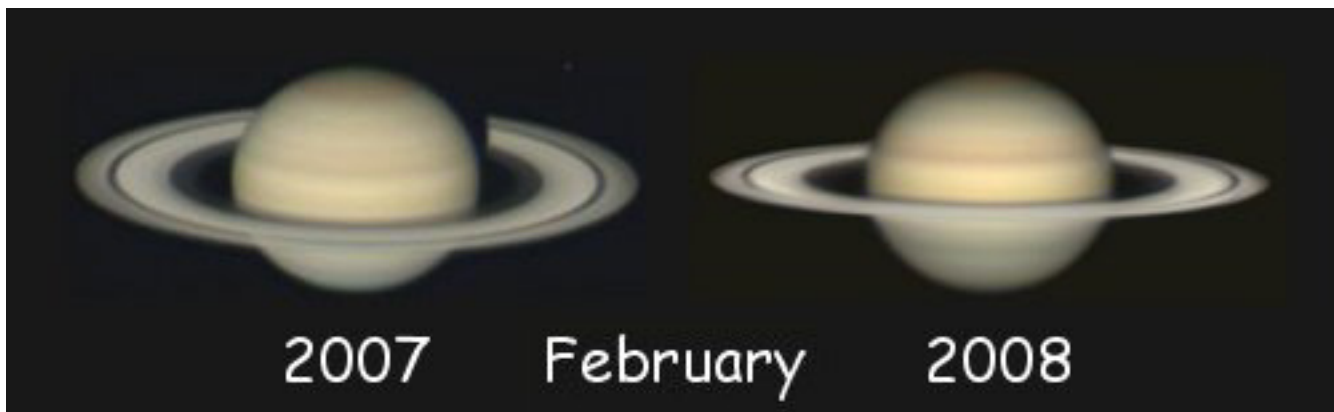
The Vanishing Rings of Saturn

From Science@NASA.gov

March 18, 2008: Saturn: jewel of the solar system, taker of breaths, ringed beauty. Even veteran astronomers can't help but gasp when they see her through a small telescope.

Red Alert: Saturn's rings are vanishing.

Around the world, amateur astronomers have noticed the change; Saturn's wide open rings are rapidly narrowing into a thin line. Efrain Morales Rivera sends these pictures taken through a backyard telescope in Aguadilla, Puerto Rico:



"The rings have narrowed considerably in the last year," he reports. "The Cassini division (a dark gap in the rings) is getting hard to see."

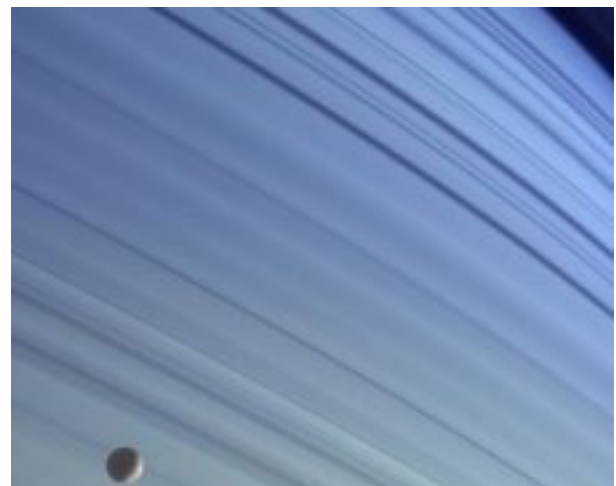
Four hundred years ago, the same phenomenon puzzled Galileo. Peering through a primitive spy glass, he discovered Saturn's rings in 1610 and immediately wrote to his Medici patrons: "I found another very strange wonder, which I should like to make known to their Highnesses...." He was dumbfounded, however, when the rings winked out little more than a year later.

What happened?

The same thing that's happening now: we're experiencing a "ring plane crossing." As Saturn goes around the sun, it periodically turns its rings edge-on to Earth—once every 14-to-15 years. Because the rings are so thin, they can actually disappear when viewed through a small telescope.

In the months ahead, Saturn's rings will become thinner and thinner until, on Sept. 4, 2009, they vanish. When this happened to Galileo in 1612, he briefly abandoned his study of the planet. Big mistake: ring plane crossings are good times to discover new Saturnian moons and faint outer rings.

It's also a good time to behold Saturn's curiously blue north pole. In 2005 the Cassini spacecraft flew over Saturn's northern hemisphere and found the skies there as azure as Earth itself. Saturn is a planet of golden clouds, but for some reason clouds at high northern latitudes have



Cassini's view of Saturn's blue north

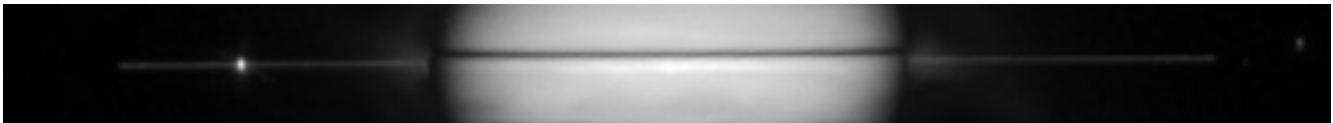
cleared, revealing a dome of surprising blue.

For years, only Cassini has enjoyed this view because from Earth, the blue top of Saturn was hidden behind the rings. No more: "Now that Saturn's rings are only open 8 degrees, we can finally view its northern hemisphere's beautiful teal blue colored belts and zones, which really did look blue through my 10-inch telescope," reports Dan Petersen of Racine, Wisconsin.

Galileo never understood the true nature of Saturn's rings. He didn't know that they were a disk-shaped swarm of orbiting moonlets ranging in size from microscopic dust to tumbling houses. (Scientists still aren't sure, but they may be debris from a shattered moon.) He didn't even know the rings were rings. Through his 17th-century telescope, they looked more like ears or planetary lobes of some kind.

Yet, somehow, his intuition guided him to make a correct prediction: "they'll be back," or Italian words to that effect. And he was right. Saturn's rings opened up again and scientists resumed their study. In 1659, Christaan Huygens correctly explained the periodic disappearances as ring plane crossings. In 1660, Jean Chapelain argued that Saturn's rings were not solid, but made instead of many small particles independently orbiting Saturn. His correct suggestion was not widely accepted for nearly two hundred years.

Almost 27 ring plane crossings later, we still marvel at Saturn. Even with rings diminished, she is still a breathtaking sight through the meanest of telescopes.



Above: Saturn's rings are wide but very thin. Astronomers using the Hubble Space Telescope captured this image of the rings edge-on in 1995. Star-like objects in the ring plane are icy satellites.



National Dark Sky Week: March 29 - April 4

National Dark-Sky Week (NDSW) is an event, usually occurring in April, during which people in the United States are encouraged to turn out their unnecessary outdoor lights in order to temporarily reduce light pollution. Light pollution is a hazy blanket of light in the atmosphere caused by improper lighting fixtures which direct light up into the sky instead of down toward the ground. Not only does light pollution waste energy, but it also creates great problems for stargazers. This "blanket of light" causes the beauty of the night sky to fade, and if the problem of light pollution is not addressed now, we are destined to lose the beauty of the cosmos that have been a part of human civilization since its beginning.

National Dark-Sky Week occurs on the week of the new moon in April since a full moon increases the light pollution. Therefore, NDSW for 2008 will be from March 29 to April 4.

How will National Dark-Sky Week reduce light pollution, given that it only lasts a week and not everyone in the country will participate? The main goal of NDSW is to raise awareness about the harmful effects of light pollution. It is not possible for all of the light pollution in this region of the world to disappear. However, it is possible to make a small difference in the quality of the night sky and inspire us all to preserve the beauty of the sky. Another main goal of this event is to promote the use of better lighting systems that direct light toward the ground where it should be and not up into the sky.

The key to the success of National Dark-Sky week is participation. The more people that turn out their lights, the less light pollution there will be. How can you help? First and foremost, turn out your outdoor lights during the week. Also, encourage friends and neighbors to participate as well. It is difficult to see the

benefits of turning out your porch lights when the neighbor's lights are blinding you. This is also very important because turning the lights off at one house will not make a difference. Many people must participate. Finally, go outside and enjoy the best show the universe has to offer from your own backyard. Also, now is a great time to look into purchasing dark-sky friendly lighting. Please visit Night Sky Friendly Outdoor Lighting from Starry Night Lights: <http://www.starrynightlights.com/>

Important note about safety: Do not turn off lights that are necessary for public safety such as busy parking lots or busy walk ways. Hopefully they will eventually be the proper kind of lighting, but whether they are or not they are important for avoiding accidents. When stargazing, carry a red-tinted flashlight so that you can see where you are going without losing your night vision. Also, it is best to go in groups when stargazing in a dark area.

Want to do something more? Check out these resources:

International Dark-Sky Association: <http://www.darksky.org/>

Sky & Telescope's "Saving Dark Skies" section: <http://skyandtelescope.com/resources/darksky/>



What's wrong with this picture?
Participate in National Dark Sky Week!

The View from the Far North

Adapted by Tommy Lightning Bolt

To Eskimos the stars weren't just put up there to give light or guide the wanderer. They are living beings, sent by some cosmic purpose, placed up there forever, always constant.

One of these creatures who left Mother Earth to live in the sky realm was the bear which they called Nanuk. One day Nanuk was attacked by fierce Eskimo dogs. Nanuk knew that the Eskimo dogs weren't to be messed with and he tried to evade them. He ran faster and faster but they were in hot pursuit. The chase went on for hours, but he couldn't outrun them. In their fury and mindlessness they came to the edge of the world, but none of them noticed. They fell over the edge of the world and turned into stars. To the Europeans they are the Pleiades, in the constellation of Taurus the bull, but the Eskimos see it as Nanuk with the dogs still chasing him.



Up in the sky's zenith the Eskimos see a giant caribou. We call it the Great Bear or Big Dipper. Over on the other side of the sky they see an oil lamp we call Cassiopeia. Far to the south below the lamp and caribou the Eskimos see three stars like stairs that are carved from snow. They call it the stairs from the earth to the sky. We call it the belt of Orion the Hunter.

Once in a while the Eskimos' deceased ancestors come out to dance. The stars are the lights around the dance floor, and Gulla glows across the sky, which we call the Northern Lights. The Norse called it Bifrost, the bridge from our



world up to Asgard, the realm of the gods.

To the Eskimos the most beautiful star of all is the sun. They see her as a young maiden of great beauty. In their short arctic summer she's there day and night, for that is the season of the midnight sun when her brother Anigan the moon chases her round the north pole so she can't get away over the horizon.

