

SPECTRUM

Northern Cross Science Foundation Newsletter

December 2013

Looking Up

December 5, Thursday

General Meeting

7:30 p.m. - Business Meeting

Board Elections (3)

Holiday Party to follow

"Elephant Gift Exchange"

(See Pg. 3 for details)

December 19, Thursday

Board Meeting

7:30 p.m.

Home of Jeff Setzer

January 4, Saturday

Candlelight Ski&Hike

6:00 p.m.– 9:00 p.m.

Harrington Beach

January 18 Saturday

Candlelight Ski&Hike

6:00 p.m.– 9:00 p.m.

Horicon

February 1, Saturday

Candlelight Ski&Hike

6:00 p.m.– 9:00 p.m.

Harrington Beach

February 8, Saturday

Candlelight Ski&Hike

6:00 p.m.– 9:00 p.m.

Pike Lake State Forest

Don't Lick the Telescope, and Other Tips for Cold Weather Observing

...By Mike Simonsen



Winter Astronomy in Minnesota

December marks the transition here in Michigan from cool fall weather to downright frigid winter temperatures. For most of January, February and March, there is snow on the ground and the daytime temperatures will hover around freezing. Nighttime temperatures will be well below freezing, and on those few precious clear winter nights it can be unbelievably cold.

Here are some cold weather survival tips I have learned, observing from Michigan in temperatures down to 20 below zero Fahrenheit.

1. Wear warm boots. When I meet people new to astronomy, they always want to know what the best telescope is and what accessories to buy. I always tell them, "The most important piece of equipment you will ever buy is warm boots". When it is clear, it is cold. If your feet are cold, you are miserable. If you are miserable, you are done. Standing on the cold, damp ground outside you'll soon know if your boots are up to the task. If they absorb moisture, or don't insulate you from the cold ground your toes will be crying Uncle long before your favorite Messier object clears the trees.

2. Always dress for temperatures 20 degrees colder than you predict it will be each night. For the most part, you are not moving around a lot when looking through a telescope, downloading images from your camera or monitoring your tracking. You don't generate any heat of your own just sitting there, and the night air has a way of sucking the warmth out of you faster than you think it will.

3. Wear a hat. Most of the heat in your body escapes through the top of your head like a chimney. Cover your head and retain body heat I've seen lots of funky looking hats at star parties. Don't worry about fashion. Go for comfort.

My deep-winter, arctic-air-repelling hat is a big leather and fur job with earflaps and a long extension in back that covers my neck. I look like one of the wicked witch of the North's soldiers in my long coat and that hat, but I'm warm.

4. Keep your hands warm. Mittens are better than gloves, but they are awkward to use when dealing with focuser knobs, charts, pens and pencils. But if you can keep your fingers together, tucked away from the cold, they fare much better than they do as individual digits exposed to the elements. I've never had much luck with those gloves with the flip-top mitten cover for your fingers.

If you insist on wearing gloves, like I do, keep your hands in your pockets and out of the wind, as much as you can. Those little chemical heat packs you can buy in sporting goods stores work pretty well for a while. I sometimes throw a couple in my coat packets to create a safe haven for my fingers for a few moments between variable star observations. If your fingers begin to hurt from the cold, go inside or get in your car and warm them up thoroughly. Frostbite can be very painful.

5. Get out of the wind. Most of the time it's not the air temperature that gets you, it's the wind-chill. Put a building or a hedge, or better yet, an observatory, between you and the wind and you will be able to endure the cold for twice as long. The added bonus, of not having the telescope shake in the breeze, will save you time in making critical observations. I remember very well the night that convinced me to build an observatory. It took twice as long as usual to set up wearing gloves, I dropped a small wrench in the snow and spent half an hour looking for it, the telescope was shaking so much it was hard to see anything in the eyepiece, my eyes kept tearing up from the wind and dropping tears onto the eyepiece lens, and the wind kept blowing right up my back as I faced south trying in vain to make variable star estimates. I spent three hours out in the snow and wind and got exactly one variable star estimate that night. That week I became the proud owner of a fiberglass, domed observatory.

6. Don't breathe on optics. Breathing on cold glass means instant frost. If you wear a scarf over your face, be sure not to let the warm air you exhale spill out over the top of the scarf and down onto the eyepiece. Set up your finder-

(Continued on Pg 3)

November Meeting Minutes

By Kevin Bert

The November Business meeting of the Northern Cross Science Foundation was held at Unitarian Church North. President Jeff Setzer opened the meeting at 8:45 pm and welcomed 23 members and guests. Former member Tom Anderson was in attendance and wanted to see some familiar faces from the past and how things were going with the club. Jeff then asked for standard reports.

Treasurer Gene DuPree reports that the balance in the checkbook was \$10,162.48 and \$1,109.07 in the Observatory account.

Secretary Kevin Bert noted that the membership roster was up to 70 with the addition of Chad Andrist from Milwaukee. The Astronomical League's observing programs was expanded to add Hydrogen Alpha viewing, Bright Nebula and Occultation observing units. Details can be found at the Astronomical League web site.

President Jeff Setzer noted that the close of October signaled an end to the years

scheduled public viewing schedule. Look to March of next year for the 2014 schedule.

Jeff informed the membership that there would be three vacancies in the board of directors and that nominations for their 3 year term would now be open. Gene Dupree, Rick Kazmierski and Jennifer Ryan's term will be up come January and their replacements would be voted in at the December meeting.

Aris Penikis nominated Thomas Schmidtkunz. Rick Poulin seconded. Tom says that he would have to think about it. Joyce Jentges nominated Gene Dupree and Georgine Poulin seconded. Gene accepted. Jack Heisler nominated himself and Don Miles seconded his request. With no other nominations, Jeff closed the session. It would be open again for more nominees before the election in December.

Under new business Gene DuPree announced that 2014 Calendars are now available from him after the meeting. They are \$8.00 each and being that there is a limited supply it is first come first serve.

Charlotte DuPree made the comment that

speakers on other science related topics would be welcome. The members were open for volunteers.

The topic of field trips was discussed and a few options were suggested, there was a definite interest and serious talks would continue at a later date.

Jeff finished with a brief overview of the December Holiday party. Everyone should bring a food item to share with others. The white elephant gift exchange will be brought back for this year for those that wish to participate. Look for details in the December Spectrum.

With no further new business Jeff closed the meeting at 9:25 pm.

Respectfully submitted by Secretary Kevin Bert



Things to See In the December 2013 Night Sky By Don Miles

Venus, Neptune & Uranus: Venus is the brightest point of light behind the setting Sun. It's at (mag -4.6), and will continue to slip towards the Sun as it works its way around the "front" side in early January. Neptune (mag 7.9) is also up at sunset, and sets about (11:30/9:30). It slowly moves East, then West compared to the background stars, but remains in the constellation Aquarius. Uranus too is up at sunset and follows Neptune by about 2.5 hours, so will transit about (8:30pm/6:30pm). It's in the constellation Pisces, and at (mag 5.8).

Jupiter & Mars: Magnificent Jupiter is at (mag -2.6), and rises about (8/5:45pm) in the constellation Gemini. It will slowly begin a westward movement all the way thru January, but even with that 2 month shift, will only move from the "body" of the left twin to the "body of the right twin. Unless the skies are terrible, it's hard not to be impressed with beautiful Jupiter, and it also being high in the sky gives you the best views possible. Mars (mag 1.2) rises about (1am/12:30am) in the constellation Virgo, and continues to quickly move eastward until late February when it reverses direction again, all the time staying within Virgo.

Mercury & Saturn: Mercury starts the month at (mag -0.7) rising just ahead of the Sun at about 5:15am, but will slip closer and closer to the Sun as the month progresses. Saturn also starts the month rising about the same time, but will rise

progressively earlier throughout December. By the end of the month, it will rise by about 3:45am. The rings are still highly tipped so we get a beautiful view of ring divisions. It's at (mag 0.6) now, and will continue to rise earlier and be higher in the sky all winter.

Moon:

December 2nd: New Moon

December 9th: First Quarter

December 17th: Full Moon

December 25th: Last Quarter

Special Events:

* Meteor Showers...There is only one worth mentioning that won't be obscured by the light of the Moon, and those are the Geminids. They peak the night of the 13th, and into the morning of the 14th. The debris trail is pretty wide, as the showers start around the 6th and last thru the 19th. The moon will set at about 3:30am, so your better bet would be to get up early instead of staying up late this year. They are predicted to peak at 60-120/hr., and are moderately slow (21.75 miles / second) and are known to produce bright fireballs.

* Comet ISON: is capturing its share of the news as its fate is unsure (at least as of this writing in mid-Nov.). By the time you read this, you will already know if it will be going down in the records as one of the best ever...or just one more comet that didn't live

up to expectations. Presently, it continues to brighten, and is much brighter than the 2011 Comet Lovejoy was when it was at a comparable distance when it made its pass around the Sun.

If Comet ISON survives...it can be seen late in the first week low in the western sky right after the Sun has set, and will have a very long North-facing tail. It will continue to lag behind the Sun and by mid-month, will have worked its way northward to pass between the constellations of Corona Borealis and Hercules. By Christmas, it will pass close to the star Sigma Hercules, and by New Years, it will be "above" the cup of the Little Dipper. On the 8th, ISON will pass about 2 degrees above Polaris. As mentioned before, check the internet for current info.



December General Meeting

The meeting will begin at 7:30 p.m. Nominations for the Board of Directors will be reopened, followed by an election to fill the open positions on the Board. After the meeting is over, we will have our Holiday Party. Drinks will be supplied. We ask that everyone bring a dish to pass. Some suggestions are appetizers, salads, vegetable dish, meatballs, casseroles, cheese/sausage and of course... desert. **You know....yummy stuff**



(Continued from Pg 1)

scope so you are not breathing on the eyepiece when looking through the finder. On very cold nights, I sometimes have a large patch of frost on the back of the mirror cell of my Schmidt-Cassegrain, caused from my breath freezing on the back of the telescope while looking through the finder-scope.

7. If you have dew heaters, use them right from the start of your session. They are much better at preventing frosted corrector plates, secondaries, eyepieces and finders than they are at removing frost. If you don't have dew heaters, get them. A heated box or holder for eyepieces can be a great benefit. If you only switch between a few, keep them in your pockets to stay warm. Another accessory I find handy is a small hair dryer. If you have electricity available, one of these can be great to warm the eyepiece up enough to prevent fogging. If the lens or corrector plate on your telescope frosts up, you can use it to carefully remove the dew or frost. You can also use it to warm your fingers. I've even stuck mine inside my coat to warm my frozen torso enough to go a little while longer. I'm sure this is a fire hazard, and you'll probably read in the paper one day, "Michigan astronomer mysteriously ignites into flames, burning down observatory."

8. If you take notes at the telescope like I do, keep your pen warm or the ink will freeze. I have one of those "astronaut pens". Even that froze at 20 below. I keep my pens tucked behind my ear to keep them warm. All my observing hats have a distinct black ink spot on the inside lining, just behind my left ear, from me continuously sliding my pen in and out under my cap and over my ear for warm storage.

9. Use a plastic flashlight. If you are like most of my friends who read charts and log observations using a red flashlight, you put the flashlight in your mouth to write. On very cold nights, a metal flashlight can stick to your lip and be hard to remove without losing a bit of flesh. Don't laugh; I've seen it happen! I sup-

White Elephant

Holiday Exchange!

The White Elephant gift-exchange has become a club tradition! The rules are simple, just bring an astronomy-themed wrapped gift! Examples would be an *item that's been around gathering dust*, an *old book*, perhaps an *astronomy-type gift that you received and would just love to re-gift*. *The goal is to have fun, laugh, it's "entertainment, not gain"*.

Join in the fun...you never know what's hidden under the wrappings!



pose rule 9A should be, "don't lick the telescope!" If I ever see anyone get his or her tongue stuck to a frozen telescope, you'll be the first to know!

10. Take breaks every hour or half hour, depending on the weather, and go warm up. Keep an extra pair of dry socks warming on the dash of your car, or go in and throw a pair in the dryer for a few minutes. It's amazing how a nice toasty pair of socks can change your attitude! I've received several pairs of electric socks for Christmas and birthdays over the years from well-meaning friends and family, but I've never been really impressed by them. Considering the number of batteries it takes to actually keep your feet warm, it's just not worth it. Refer to rule #1. Wear warm boots.

11. Be aware of battery life in cold temperatures. The batteries in your flashlight, telescope, camera, dew heaters, etc., will perform poorly in cold temperatures. They're smarter than me. They know when to quit. Keep warm extras handy.

12. Keep your own personal battery charged. Plenty of rest, a good meal, snacks and hot coffee go a long way towards warding off the inevitable freeze. The search for a thermos that would keep coffee hot in sub-zero temperatures was my 'Holy Grail' for a long time. After years of searching, I finally found one at a camping supply store. It cost a pretty penny, but it makes all the difference to me.

13. Know your limits. You have to be realistic about how much cold, discomfort or pain you are willing to endure in order to get those last few observations. Don't wait until it's too late and then decide to tear down and pack up. When you are really frozen, you fingers don't work right, you move slower, you feel more tired than you normally would, and you can get careless, dropping things in the dark or forgetting how to pack your gear just so. All this means it is going to take you longer (Continued on Pg 4)

RELATED INFO

Leaders for Public Viewing

January 4

Candlelight Ski & Hike

Charlotte and Gene DuPree

January 18

Horicon

Charlotte and Gene DuPree

February 1

Candlelight Ski & Hike

Charlotte and Gene DuPree

February 8

Candlelight Ski & Hike

Charlotte and Gene DuPree

Star Parties

NCRAL 2014

April 4 & 5th

2014 Dues

Your 2014 Dues invoice is included with this Newsletter. New members having joined the Club this past year will find their dues have been pro-rated, making them payable on the same schedule as the rest of our general membership (at the beginning of each calendar year). Members receiving electronic mailing can download the Dues Invoice from the Club website or print the attached pdf file. Additional copies of the Invoice will be available at the December Membership Meeting.

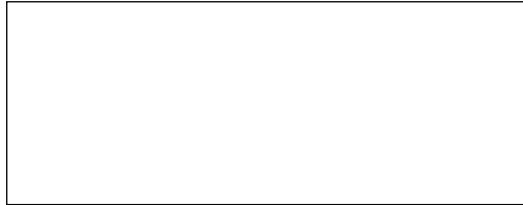
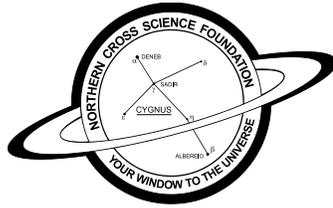
Instructions for submitting Dues are indicated on the Invoice.

Note: Astronomy Magazine can only be renewed through the Club to receive the discount rate. However, you can renew an existing Sky & Telescope Magazine subscription on your own and the Club discount will automatically be available.



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(Continued from Pg 3) than usual to tear down. That's when you will meet Mr. Frostbite. It is better to take my word for it than to learn a painful lesson from him. With a little planning and common sense you can take advantage of those long, clear, cold winter nights. Orion, Gemini and Taurus are calling. Just be careful out there.



NCRAL 2014 Update

Mickey Kazmierski NCRAL 2014 - Chair

Hello, for those of you that are new members to NCSF our club is hosting next year's "North-Central Region of the Astronomy League" Conference otherwise called NCRAL 2014. Our Theme is "Gazing at the Stars".

The Conference Registration Sheet is Online NOW! It is not too early to fill it out and send it in with your check or money order. Just think, it could be a Christmas Gift, we could send you a Holiday-Themed NCRAL 2014 Presentation Card to put in their Christmas Stocking or for the person that has everything, make it their Birthday Gift, a Birthday Themed Presentation Card will be available for their Birthday Card as well.

Our NCRAL Committee has been working diligently to make this a Conference to enjoy and remember, Charlotte, Dan, Gail, Jeff, Joyce, Kevin, Rick, and myself., Check out the great lineup of speakers, our Keynote Speaker of Star Gazers fame, distinguished Banquet Professor from Berkley; a fascinating speaker from Yerkes, an author of an astronomy book, just to name a few. We will be having a Friday tour of the Harley Davidson Museum via Coach from the Conference Center!

For those that do not use the internet, we will be bringing hard copies of the Registration Forms to the next Meeting and available through March.

We will keep you posted, as our event grows closer!

<http://www.ncsf.info/ncral2014.htm>

Check us out...We look Good!

SPECTRUM

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The NCSF supports the International Dark sky association.



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This Issue, along with back Issues of SPECTRUM, can be found on the NCSF Web Site.

<http://www.ncsf.info>

Monthly Meeting Information

7:00 p.m. Astronomy 101

7:30 Main Program

Unitarian Church North

13800 N. Port Wash. Rd.

Mequon, WI 53097