

The Objective View

Newsletter of the Northern Colorado Astronomical Society

January 2011

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add ncastro.org to complete email address

Next Meeting: January 6 7:30 pm

Sky Surveys and Web Portals

By Tom Fay

Club Business with Nominations at 7:15 pm

**Fort Collins Museum, 200 Mathews St
Fort Collins CO**

http://nightsky.jpl.nasa.gov/club-view-directions.cfm?Adress_ID=2810

NCAS Programs

Jan 6 Tom Fay Sky Surveys and Web Portals

Feb 3 Rodney Howe Star Cluster Research Update

NCAS Public Starwatch at Fossil Creek Reservoir

Jan 22 7 pm

Feb 11 7 pm

Mar 25 8 pm

http://www.co.larimer.co.us/naturalresources/fossil_creek.htm

City of Fort Collins Natural Area Program at Sunset

Bobcat Ridge: TBA

<http://www.fcgov.com/naturalareas/finder/bobcat>

Dark Site Observing Dates

January 28, 29: Keota, or other dark site, ask FRAC

Other Events

Chamberlin Observatory Open House, 7 to 10 pm

Jan 8 Feb 12 Mar 12 Apr 9 May 14

303 871 5172 <http://www.du.edu/~rstencil/Chamberlin/>

Cheyenne Astronomical Society 7 pm Jan 21 Cheyenne

Botanical Gardens <http://home.bresnan.net/~curranm/>

CSU Madison Macdonald Observatory Public Nights

On East Drive, north of Pitkin Street

Tuesdays after dusk if clear, when class is in session

Estes Park Memorial Observatory. 7 pm Jan

<http://www.angelsabove.org/>

Little Thompson Observatory, Berthoud 7 pm doors open at

Berthoud High School Jan 21 Nitescapes 3D Aurora and

Landscapes <http://www.starkids.org>

Longmont Astronomical Society 5:15 pm Jan 23 Members

Banquet at Armadillo Restaurant. Bill Possel on MAVEN

<http://www.longmontastro.org/>

December 2 Program: Escape from Plato's Cave: The Milky Way Galactic Coordinate System

By Bill Tschumy, Think Astronomy

Bill developed his programming skills when studying animal population dynamics in graduate school at the University of Washington at Seattle. He went to work in software development in Austin, Texas. He came to live in Colorado this year, and has been working a year on Sky Safari for the iPhone, iPad and iPod Touch. Years ago he noticed that amateur astronomers had no idea where in the galaxy things are. In 1996, he was happy to see the question addressed in Crossen and Tirion's Binocular Astronomy. He found the book brilliant. But, the info was limited to text descriptions, no diagrams. He found our situation like the allegory Plato's Cave. The cave dwellers view of reality is just a shadow. Bill then wrote the software program, "Where is M13." It uses an artist's rendering of the Milky Way. It is derived from a Spitzer Space Telescope survey of 30 million stars. It is a barred spiral 1500 l-y thick with a 10,000 l-y core. There are 200 billion stars, and it has over 400 billion solar masses. In 1958 the IAU defined a spherical coordinate system. The galactic plane aligns with the equator, and zero longitude is toward the core of the Milky Way. It is Earth-centric. Bill's program lets you select objects by class, and plots them on a face-on and edge-on view of the galaxy. He is now allowing use of his work for no charge. He did a demonstration showing the Sun's neighborhood, visible constellations, open clusters, planetary nebulae. The Cygnus Rift is a dust cloud 460 ly away. Each step brings insight to the structure of the Milky Way. Globular clusters are farther out, and indeed are

swarming around the core. A database of distances was tough to provide with confidence. M4 is clearly closest. M80 and Omega Centauri are farther. NGC2419 is truly an intergalactic wanderer, 275000 l-y away. Axel Mellinger's Milky Way panorama provides a great view. Messier open clusters tend to be close. NGC and IC's are farther. Palomar globulars tend to be faint and distant. Galaxies can be plotted, and their distribution shows the Zone of Avoidance, obscured by the Milky Way. Going forward, Bill would enjoy a 3-D application, but is busy with Sky Safari for the immediate future. This app was featured in the iPad commercial in recent months. The screen opens with a view of brighter stars, constellations, and any planets. The view can scroll and zoom with a fingertip gestures on the touchscreen. If the pad is compass equipped, the chart will slew appropriately. There is a choice of basic or upgraded databases, and zooming in on the upgraded database reveals the best astrophoto he could obtain. The advanced version supports wireless control of GoTo telescopes. An RS-232 adapter is also available. See:

www.southernstars.com

www.thinkastronomy.com

Dec 2 NCAS Business

President Bob Michael called the meeting to order. He announced the recent tripling of estimated stars in the galaxy. He recommended the recent 3-D IMAX movie about HST. A new Night Sky Network kit has arrived and looks like a good resource. Volunteers were recruited for events coming up on Dec 10, 21 at Fossil Creek Reservoir, and Dec 28 at Bobcat Ridge. Officer Nominations: Robert Grover, President. David Auter, Treasurer. Dave Chamness, Secretary. A nominee is needed for Vice President, with the role of scheduling programs.

Total Lunar Eclipse December 20-21 Reports

From Fossil Creek Reservoir NCAS Moonwatch, by Rob Grover:

Here's a quick & dirty slightly processed image from the eclipse last night / this morning. This image is 15 seconds, ISO 100. Raw format. Canon 450D, Celestron C8N f5 Newtonian, ASGT mount. Minimal processing in Nebulosity.

I took an image every 3 minutes from the beginning to the end of the eclipse – a total of 87 images. The early part of the eclipse was cloudy, but still quite visible. Just gave a very soft focus to the images. As the eclipse progressed toward totality, the clouds cleared and the sky remained quite nice until after the moon began emerging from the Earth's shadow. By the time the last of the shadow line cleared the moon, the clouds



again created a very soft image, with lunar details washed out.

A very worthwhile evening! We had an estimated 49 people show up and most stayed well into totality. Quite glad I decided to stay close to home. Hope it was totally clear for Dan's journey in search of better skies. It was great during totality here, but the clouds created a very indistinct shadow line as it progressed across the moon. I'll have many more images to share and hopefully a bit of a surprise – if I can get the images, processing & software to all play nice together. I'll need a few days to recover from this all-night sojourn before I delve into that project. [Robert Grover](#)

From Brian Kimball:



Good morning Moon gazers. The clouds opened up here in Longmont during totality making for some nice Kodak moments. This is what I came up with.

AT10RCF and Canon T2i.

From Thom Peck in Southern Arizona



From Sommers-Bausch Observatory:

On 12/21/2010 9:33 AM, Wayne Green wrote:

It was wild. High haze did not deter literally hundreds of people from packing off to Fiske and then up the hill towards SBO! Steve Hartung and I used his scope and a few cameras to project the event onto a large screen. This had mixed results:

- 1) we used no filters, and as many of you know the video cameras are pretty sensitive to IR,
- 2) people tended to watch the television -- rather than the eclipse happening right there, and
- 3) we finally moved to the lawn. When I shut down the projector it was like breaking a magic spell!

I think we feel like the pied piper. The campus police showed up and helped with crowd control. One of those times when you get happy seeing a cop! (Thanks to them!)

Estimates are hard for headcount but you can think on order of several hundred packed into SBO. There were at least that many when we reconvened on the lawn.

Lesson learned was that even with a possibly clouded event, people will turn out. This could have been more packed with people.

Net outcome: we talked seriously to about 1/2 of those people and answered questions and clarified a few things for them. I think the bad weather concentrated the crowd to those most interested -- and made for a great time for us. Man what a star party!

From Steve Hartung:

The "official" estimate for the wild night at SBO is now being called 1400 people! Fiske ended up doing 3 talks back to back instead of the planned one talk, all to capacity audiences. As Wayne mentioned, we did the drive-in movie seen on the lawn to a 150+ crowd on the lawn with several hundred more milling about on the sidewalks going up and down between Fiske and SBO. About a dozen police helped with crowd control and metered a line to the SBO telescopes that was out the door of the building. The last visitors didn't leave until 3. There was also at least two and possibly three TV channels on site, and Fabio at SBO made 9News and took spectra on the 24" trying to detect chlorophyll in the refracted light passing through the Earth's atmosphere (a proof of concept idea that might be able to be applied to exo-planets to detect life).

Cheers, Steve

From Tom Teters

Greetings gang,

Well here's my contribute to the Lunar Eclipse images. Some clouds were coming in at mid-totality, but I did get Orion and some Taurus in this shot. Taken just around 1:20am. Can anyone tell what's not kosher with this image?? I can't believe we had 50 folks at Fossil Creek Res. last night, WOW!!

From Dan Laszlo, Report from Punkin Center

So great to see folks on the plains were favored with some great views. My son Andrew and I took Rob Grover's tip to try by Karval CO. After a lot of anticipation, it was a low drama trip. About 3 h to get to Limon, one big U-turn around 15 mi south to avoid a stream of clouds. We parked along SR 71 and endured about 2 semitrucks an hour. The brightness of the moonlight was shocking as we set up. There were a couple scares re the clouds but nothing sustained. Like many of you, we are buried in a stack of files. Andrew got some nice wide field with piggyback camera, and I shot closeups. Wind was 0-5 mph, temp in high 20s F. Cold bored in eventually and we had to cycle warm batteries. Yipping coyotes and a curious herd of horses were it for the wildlife. Memory of the site is pretty intense at the time of this photo. The last sliver of bright moonlight was going, going, gone, and "Whoa, sky's FULL of stars!" Andrew uploaded a couple shots like Tom T's to the asterisk site (link is from APOD), and the Spaceweather gallery page 2. Image is a 3 seconds, tracked, 1400mm f/8 TMB 175. Canon XSi ISO 200. RAW to TIF, then denoise in PS CS2. We got back at 5 AM. Will have a few more when the mental cobwebs clear. Thanks to all for your inspiring shots, thanks to our volunteers for coming through. Dan Laszlo, NCAS Ft Collins.



Tom Teters from Fossil Creek Reservoir Star Party showing Auriga, Taurus and Orion. Dec 21 120 am



Canon Rebel XSi ISO200 3 sec f/8 1400mm Near Limon CO Dan Laszlo

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
05 Jan	-1.2	18:05:56	10	NNW	18:06:52	12	N	18:06:52	12	N
06 Jan	-1.1	18:31:29	10	NNW	18:32:10	14	NNW	18:32:10	14	NNW
07 Jan	-1.3	17:22:47	10	NNW	17:24:08	12	NNE	17:25:30	10	NE
07 Jan	-0.7	18:57:12	10	NW	18:57:33	13	NW	18:57:33	13	NW
08 Jan	-2.1	17:48:17	10	NNW	17:50:35	21	NNE	17:51:26	18	NE
09 Jan	-3.5	18:13:56	10	NW	18:16:48	50	NNE	18:17:05	48	ENE
10 Jan	-2.5	18:39:56	10	WNW	18:42:41	42	SW	18:42:58	41	SSW
11 Jan	-3.5	17:30:32	10	NW	17:33:26	56	NE	17:36:17	10	ESE
11 Jan	-0.3	19:07:03	10	WSW	19:08:23	12	SW	19:09:12	11	SSW
12 Jan	-2.1	17:56:31	10	WNW	17:59:15	37	SW	18:01:59	10	SSE
13 Jan	0.1	18:23:53	10	WSW	18:24:49	11	SW	18:25:44	10	SSW
22 Jan	-1.0	06:18:45	10	S	06:21:09	23	SE	06:23:33	10	E
23 Jan	-3.6	06:43:34	10	SW	06:46:24	83	SSW	06:49:25	10	NE
24 Jan	-1.4	05:34:57	14	S	05:36:49	25	SE	05:39:19	10	ENE
25 Jan	-3.8	06:00:29	24	SW	06:02:02	84	W	06:05:02	10	NE
26 Jan	-0.4	04:54:05	16	E	04:54:05	16	E	04:54:55	10	ENE
26 Jan	-2.5	06:25:39	15	W	06:27:36	29	NNW	06:30:12	10	NE
27 Jan	-1.8	05:18:58	28	NE	05:18:58	28	NE	05:20:31	10	NE
28 Jan	-2.1	05:43:38	25	N	05:43:38	25	N	05:45:35	10	NE
29 Jan	-1.5	06:08:08	14	NNW	06:08:36	15	NNW	06:10:22	10	NNE
30 Jan	-1.0	06:33:40	10	NNW	06:34:19	10	N	06:34:57	10	N
31 Jan	-0.8	05:25:15	11	NNE	05:25:15	11	NNE	05:25:31	10	NNE

ISS predictions from:

<http://www.heavens-above.com/main.aspx?lat=40.4997&lng=-105.05736&loc=Fort+Collins+CO+USA&alt=0&tz=MST>