

image by Jeff Johnson

Black Eye Nebula (M64)

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November Meeting (one week early due to holiday)

Our next meeting will be on *Friday, November 21, 2014*, at the DACC Main Campus, Room 141, Technical Studies Building, starting at 7:00 p.m.

John Kutney will present *The Visibility of Deep Sky Objects and Their Evaluation*, plus an Oki-Tex report by the "gang."

NOTE: Annual Holiday Party scheduled for December 6 (location to be determined)

New & Existing Member Package

Membership Chair, Judy Kile has sent member packages to all current members before the June meeting. These were sent via Yahoo!Groups email. If you did not receive your package, please let her know (jkile@elp.rr.com) and she will send you a regular email with the package.

Outreach

Outreach is a very important part of ASLC. We are always looking for more volunteers to help us educate the public. Even if you do not have a portable telescope to bring to the events, please consider attending our public outreach programs to help answer questions, share knowledge and point out constellations in the sky.

Events

ASLC hosts deep-sky viewing and imaging at our dark sky location in Upham. We also have public in-town observing sessions at both the International Delights Cafe (1245 El Paseo) and at Tombaugh Observatory (on the NMSU Campus). All sessions begin at dusk. At our Leasburg Dam State Park Observatory, we hold monthly star parties. Located just 20 miles north of Las Cruces, our 16" Meade telescope is used to observe under rather dark skies. Please see *Calendar of Events* for specific dates and times.

Annual Dues

Please note that annual dues are due in January. Contact our Treasurer, Patricia Conley (treasurer@aslc-nm.org) for further information. Dues can be paid at the next meeting or via mail, sent to Treasurer ASLC, PO Box 921, Las Cruces, NM 88004.

The Astronomical Society of Las Cruces (ASLC) is dedicated to expanding public awareness and understanding of the wonders of the universe. ASLC holds frequent observing sessions and star parties and provides opportunities to work on Society and public educational projects. Members receive the *High Desert Observer*, our monthly newsletter, plus membership to the Astronomical League, which includes their quarterly publication, *Reflector*.

Individual Dues are \$30.00 per year

Family Dues are \$36.00 per year

Student (full-time) Dues are \$24.00

Dues include electronic delivery of the *HDO*. Prorated dues are available for new members. Dues are payable to ASLC with an application form or note to: Treasurer ASLC, PO Box 921, Las Cruces, NM 88004

ASLC members are entitled to a \$5.00 (per year) Sky and Telescope magazine discount.

ASLC Board of Directors, 2014

Board@aslc-nm.org

President: Rich Richins; President@aslc-nm.org

Vice President: Steve Shaffer; VP@aslc-nm.org

Treasurer: Patricia Conley; Treasurer@aslc-nm.org

Secretary: John McCullough; Secretary@aslc-nm.org

Director-at-Large: Tracy Stuart; Director1@aslc-nm.org

Director-at-Large: Jerry Gaber; Director2@aslc-nm.org

Immediate Past President: csterlin@zianet.com

Director Emeritus: Walter Haas

Committee Chairs

ALCor: Patricia Conley; tconley00@hotmail.com

Apparel: Ron Kramer; ronjkramer@aol.com

Calendar: Chuck Sterling; csterlin@zianet.com

Education: Rich Richins; Education@aslc-nm.org

Grants: Sidney Webb; sidwebb@gmail.com

Librarian: *****OPEN*****

Loaner Telescope: Frank Fiore; fchilehead@gmail.com

Membership: Judy Kile; jkile@elp.rr.com

Night Sky Network: *****OPEN*****

Observatory:

Leasburg Dam: Rich Richins; President@aslc-nm.org

Jerry Gaber; jerrygaber@gmail.com

Tombaugh: Steve Shaffer, VP@aslc-nm.org

Outreach: Chuck Sterling; csterlin@zianet.com

Web-Site: Steve Barkes; steve.barkes@gmail.com

HDO Editor: Ron Kramer; ronjkramer@aol.com

Recent Outreach Events

by Jerry McMahan

Saturday, October 4; Moongaze

Chuck put the 10-inch on Saturn (early), Mars, Uranus, and the Ring Nebula. I had the ETX on the Moon for the entire evening. Frank Fiore and John McCullough joined us as well. It was a nice clear night. Cold temperatures are not yet a problem, but it is getting cool when the Sun goes down.

As usual, several people wanted to know when we would be out with the scopes again. We are getting a number of observers that watch for us to be there.

The next outing will put us ahead of last years total outreach hours.

Saturday, October 18; Leasburg State Park

We had a good turnout for both spectators and participating club members. As predicted, we passed last years total of approximately 550 outreach hours with approximately 572 hours 42 minutes and 54 seconds. Al right, approximately 570 hours. We have a chance of reaching 700 hours.....approximately.

Frank Fiore and Chuck Sterling had 10-inch SC scopes. Ed Montes brought his refractor. I had the 8-inch SC. Rich Richins imaged the comet the day before its closest approach to Mars. Ron Kramer and Judy Kile were present for the Music and Stars program and stayed for the observing session. Daniel Giron was teaching and recruiting a couple of potential members. Dave and Kathy Doctor operated the 16-inch in the observatory. I can picture them, in the future, whispering to someone, "Don't mention public education to him (me). It puts him in a screaming frenzy," as Chuck and Rich not in agreement.

We had a clear night for deep space observing, but the transparency was not very good. I could barely make out any nebulosity in the Triffid nebula. The Sagittarius region was getting lower, but still in reach for the 16-inch.

Wednesday, October 29; Oate High School

Telescopes included Sid Webb's 10-inch, goto Dob and Nils Allen's home made 15-inch Dob. Chuck Sterling, Tracy Stuart and Bert Verstraete brought 10-inch, 8-inch and 8-inch SC scopes. Ed Montes had a push-to refractor. Jerry McMahan had the 5-inch EXT.

We each spent approximately 2.5 hours at the school. It was a slow start, taking awhile before spectators started to show up. I got bored enough to go from scope to scope bothering the others. Finally, people started showing up and we were able to show them the Moon, Mars, and a number of deep sky objects. Chuck said that he was getting some very intelligent questions from people. The group tended to be older, at a high school, and showed an interest in what they were seeing. The slow start turned into a very good session.

Saturday, November 1; Moongaze

When I started to set up the ETX-125, the Moon could not be seen though the clouds. By the time I finished setting up, the Moon could be seen though thin clouds. The view was through clouds the rest of the evening. The craters Copernicus and Clavius could easily be seen near the terminator, however the only thing observable was the Moon.

Chuck Sterling and John McCullough joined me after spending a long day at the Renaissance Faire. Steve Shaffer was not able to make it. He was having trouble with the head lights on the car and decided not to drive, at night, pointing a flashlight out the window.

Since the Moon was the only thing to look at, it was decided that the one telescope was enough. We did not even have very many people stop by to look at the Moon. John and Chuck, having a long day already, decided to leave early. I planned to stay a little longer, until about 8:00 P.M., but that was when people started showing up. I did start putting things up at about 9:30.

Thursday, November 6; Valley View Elementary School

There were a couple of problems at this star party. First, it was a full Moon. Second, the full Moon could not be seen through thick clouds, nor could any thing else for awhile. It finally cleared enough to see the Moon, Vega and Albireo. We didn't have any other targets due to the clouds, and it was only the Moon for most to the time.

I had the ETX in the car, but did not set it up since we had more telescopes than things to see. Tracy Stuart had his 8-inch LX90, Daniel Giron brought a three-inch Newtonian (little kids really like telescopes that are their size), Chuck Sterling set up the 10-inch LX200. Ed Montes also brought a scope, but decided to teach rather than set up, due to the lack of things to see. We did not have long lines. The students and parents came out in small groups.

If I seem to be a bit choppy in the writing, it is because I may have brain damage from grading tests. "No, 25 over 25 is not 5. No, it isn't zero either."

* * *

Calendar of Events (Mountain Time - 24 hr. clock)

NOV 12	> midnight	Northern Taurids Meteor Shower
13	18:00	OUTREACH: Math & Science Night, Mayfield High School
14	08:16	Last Quarter Moon
14	19:00	OUTREACH: Open House, Tombaugh Observatory
15	18:30	OUTREACH: Leasburg Dam State Park Observatory
17	01:17	Leonids Meteor Shower
18	09:01	Moon - Spica Conjunction
21	19:00	ASLC Meeting; Room 141, DACC Main Campus, Technical Studies Bldg.
		NOTE: ASLC Meeting is one week earlier than normal due to Thanksgiving Holiday
22	05:32	New Moon
22	Dusk	OUTREACH: DSO Upham
27	Dusk	OUTREACH: MoonGaze, International Delights Café
29	03:06	First Quarter Moon
DEC 05	21:35	Moon - Aldeberan Conjunction
06	05:27	Full Moon
06	18:00	ASLC Holiday Party (location to be determined)
12	19:00	OUTREACH: Open House, Tombaugh Observatory
13	18:00	OUTREACH: Leasburg Dam State Park Observatory
14	04:39	Geminid Meteor Shower
14	05:51	Last Quarter Moon
19	13:55	Moon - Saturn Conjunction
21	16:03	Winter Solstice
21	18:36	New Moon
22	13:00	Ursids Meteor Shower
		NOTE: There is no regular meeting of the ASLC in December (see Holiday Party above)
28	11:31	First Quarter Moon

Be sure to visit our web site for the latest updates: www.aslc-nm.org

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October Meeting Minutes

by John McCullough

Show & Tell

There were no presentations prior to the Call to Order.

2014 Officer Elections

Chuck Sterling, Committee Chairman, collected twenty-two (22) confirmed ballots for 2014 Officer Elections. Tabulation results were:

President: Daniel Giron

Director-at-Large #1: Ron Kramer

Vice-President: Steve Barkes

Director-at-Large #2: Tracy Stuart

Secretary: John McCullough

Treasurer: Patricia (Trish) Conley

Rich Richins will serve on the Board of Directors as Immediate Past President.

ALCon 2015

Ron Kramer, Committee Chairman, reported that planning for next year's 08 - 11 July event at the Hotel Encanto is in good shape. There will be three or four major behind-the-scenes tours, a "Star-B-Que" at LDSP on 10 July with live entertainment (Daniel Park from Las Vegas). The next planning session will be in December.

Apparel

Ron Kramer, acting Chairman, is putting together an order for additional items. Members should contact him if they have special requests or size requirements. He will be ordering caps, hoodies, green sport shirts, T-shirts, etc., and will have them at the 21 November meeting. Side note: Rich needs a speaker for the November meeting; it may be a report from Okie-Tex 2014.

Holiday Party/December Meeting

Rich reported that he would like volunteers to plan, select a venue, and arrange a gift exchange for the December meeting. Ron Kramer, Daniel Giron, and Fred Pilcher volunteered to help. Rich asked Wes Baker if the EAA hangar at the Las Cruces airport would be available as a venue. Wes said to let him know a definite date and he will check. The meeting will probably be 06 December.

Old Business

2015 RASC Observer's Handbook - Bert Stevens will post an announcement regarding ordering Handbooks and calendars on the yahoo groups.

New Business

Telescope Making Workshop - Nils Allen will hold a workshop on 08 and 15 November in Rich Richins garage. Nils will demo the process and sign up participants at RenFaire.

Yahoo Groups - Contact Bert Stevens if you want/need access to the aslc-nm yahoo groups.

Ron Kramer moved to adjourn the business portion of tonight's meeting, Ed Montes seconded. The business meeting concluded at 8:11 pm.

Presentation

This month's presentation was introduced by ASLC member Sid Webb. Tonight's speaker was Jim Eckles. Jim retired after a 30-year career as a Public Information officer at White Sands Missile Range and is the author of a new book of Missile Range history entitled "Pocketful of Rockets". Jim described himself as a story teller rather than a historian or scientist but started his presentation with a brief history of the Missile Range. He then talked about the use of rockets in scientific research, particularly sounding rockets. Jim also talked about the use of high altitude balloons starting in the 1950's. He briefly touched on the use of cinetheodolites and ballistic cameras, some of which technology Clyde Tombaugh pioneered. Jim concluded his talk by discussing the GEODSS and LINEAR projects that he had found very interesting during his career.



Jim Eckles, Speaker at October ASLC meeting

The October meeting of the Astronomical Society of Las Cruces concluded at 9:00 pm.

-Respectfully submitted by John McCullough, ASLC Secretary.

* * *

Back at the Telescope

by Berton Stevens

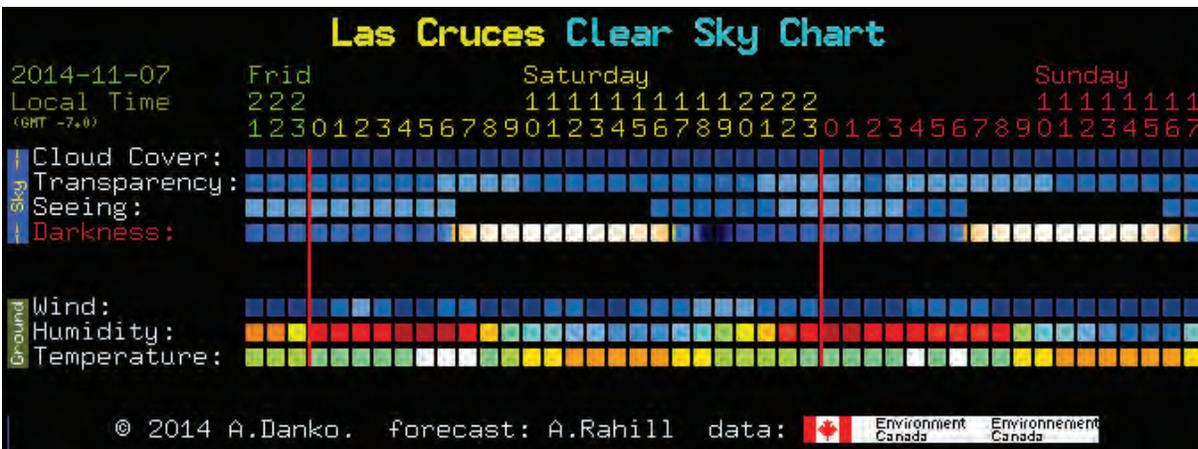
“Hey! What’s the weather for the weekend going to be? Will it be hot? Cold? Rain? Snow?” This was the weather introduction jingle on one of the radio stations when I was in Chicago. Back then, the weekend weather was a critical piece of information for my observing plans since I could observe only on the weekends. It was not possible to do serious observing in or near the city due to light pollution, air pollution and local heat sources creating a turbulent atmosphere. But there was no point traveling out a hundred miles to an observing site only to discover that the clouds had rolled in and all I could do is head home.

Back then, sources of weather information were very limited. You could check the newspaper, but those forecasts were almost twenty-four hours old. For more current information, you could also call the recorded weather forecast on the telephone, but that had very limited information about the sky conditions. The television weatherman (yes, man, as there were few, if any, women doing the weather at that time) also could provide current information. Unfortunately, television weather was not on until evening, way after the commit time for heading out for an observing session. In addition, they were not always accurate about clear skies. Some weather people still considered it a clear sky even if you had a cirrus overcast, but at least you could see the satellite loop to determine what the clouds are doing.

Then I came across an annual paperback book for aviators on airports in the United States. In addition to information about each airport, there was a phone number for aviation weather for the airport. If you called that number, they would give you the sky conditions and the sky condition forecast for the next twenty-four hours. Now I could really decide whether I should pack up the telescope and head out or stay home.

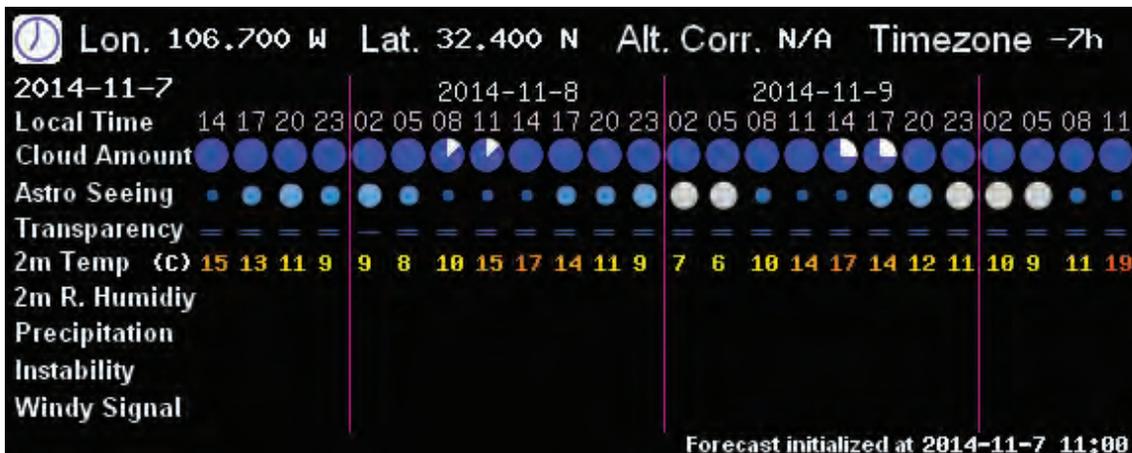
Since then, weather information has become more available. First, the Weather Channel came on cable television, where you could get up-to-the-minute information at anytime, day or night. Later, the Internet made a tremendous amount of information available, including detailed weather forecasts.

Today you can get observing weather from a number of different sources. When I am planning an observing session, the first place I look is Clear Sky Chart (formerly, Clear Sky Clock). This website takes the color code from the Environment Canada cloud cover maps to build a chart showing what the sky conditions will be for each hour during the next forty-eight hours. Environment Canada performs their model run at 10:30 a.m. and 10:30 p.m. MST and the Clear Sky Chart is updated a little later. For the Las Cruces area, you can get the Clear Sky Chart at <http://cleardarksky.com/c/LCruNMkey.html>. You can see the full Environment Canada Astronomy Cloud forecast at http://weather.gc.ca/astro/clds_vis_e.html. Looking at the maps allows you to determine what the trend is and if there are clouds in the area, even if they are not right over your site.



Clear Sky Chart, created by Atilla Danko, provides predictions on six weather parameters. The most important is the cloud cover. Dark blue means completely clear, while white means overcast. Similarly, transparency runs from dark blue (very transparent) to white (completely opaque). Seeing and wind are coded in a similar way. Humidity runs from very dry (deep blue) to red (one hundred percent humidity).

A site similar to Clear Sky Chart, but using the National Weather Service's GFS forecast model is 7Timer at <http://202.127.24.18/index.php?product=astro&lon=-106.72943115234375&lat=32.39155837235158&lang=en&tzshift=0>. This should give results similar to the NWS forecast, since it comes from the NWS model run.



7Timer (pronounced TeaTimer) uses pie slices to give a graphic value to the forecasts. A completely blue circle is completely clear. If the pie is half white, half blue, then the sky is fifty percent covered. A completely white pie is completely overcast. The details of the various codes are displayed in detail below the graphic on the website. This website uses the National Weather Service's GFS model to generate its predictions.

Since the Canadian model runs are almost seven hours old as it gets dark here, I turn to my old friend, aviation weather. Today it is accessible from the National Weather Service website. Called the Terminal Aerodrome Forecast or TAF, you can enter the four-letter ICAO station identifier for the airport nearest your observing site. Here are some local station identifiers:

- KLRU Las Cruces International Airport
- KELP El Paso International Airport
- KDMN Deming Airport
- KALM Alamogordo-White Sands Regional Airport
- KTCS Truth or Consequences Airport
- KHMN Holloman Air Force Base

The TAF NWS website is at <http://www.aviationweather.gov/adds/tafs/>. Enter each station identifier you want in the box on the right hand side followed by a space. If you are not familiar with TAF coding, click the Translated radio button and then click the "Get TAFs" button. You will get a display of the weather for the next twenty-four hours at the airport(s) you selected. The forecast includes the surface winds, so you can determine if it will be too windy to observe even if the sky is clear.

Aviation Digital Data Service (ADDS)

Output produced by TAFs form (0554 UTC 08 November 2014)
found at <http://www.aviationweather.gov/adds/tafs/>

Forecast for: KLRU (LAS CRUCES INTL , NM, US)
Text: KLRU 072359Z 0800/0824 24009KT P6SM SKC

Forecast period: 0000 to 0500 UTC 08 November 2014
Forecast type: FROM: standard forecast or significant change
Winds: from the WSW (240 degrees) at 10 MPH (9 knots; 4.7 m/s)
Visibility: 6 or more miles (10+ km)
Clouds: clear skies
Weather: no significant weather forecast for this period
Text: FM080500 33008KT P6SM SKC

Forecast period: 0500 to 1000 UTC 08 November 2014
Forecast type: FROM: standard forecast or significant change
Winds: from the NNW (330 degrees) at 9 MPH (8 knots; 4.2 m/s)
Visibility: 6 or more miles (10+ km)
Clouds: clear skies
Weather: no significant weather forecast for this period
Text: FM081000 03010G20KT P6SM SKC

Forecast period: 1000 to 1600 UTC 08 November 2014
Forecast type: FROM: standard forecast or significant change
Winds: from the NNE (30 degrees) at 12 MPH (10 knots; 5.2 m/s) gusting to 23 MPH (20 knots; 10.4 m/s)
Visibility: 6 or more miles (10+ km)
Clouds: clear skies
Weather: no significant weather forecast for this period
Text: FM081600 12012KT P6SM FEW040 FEW250

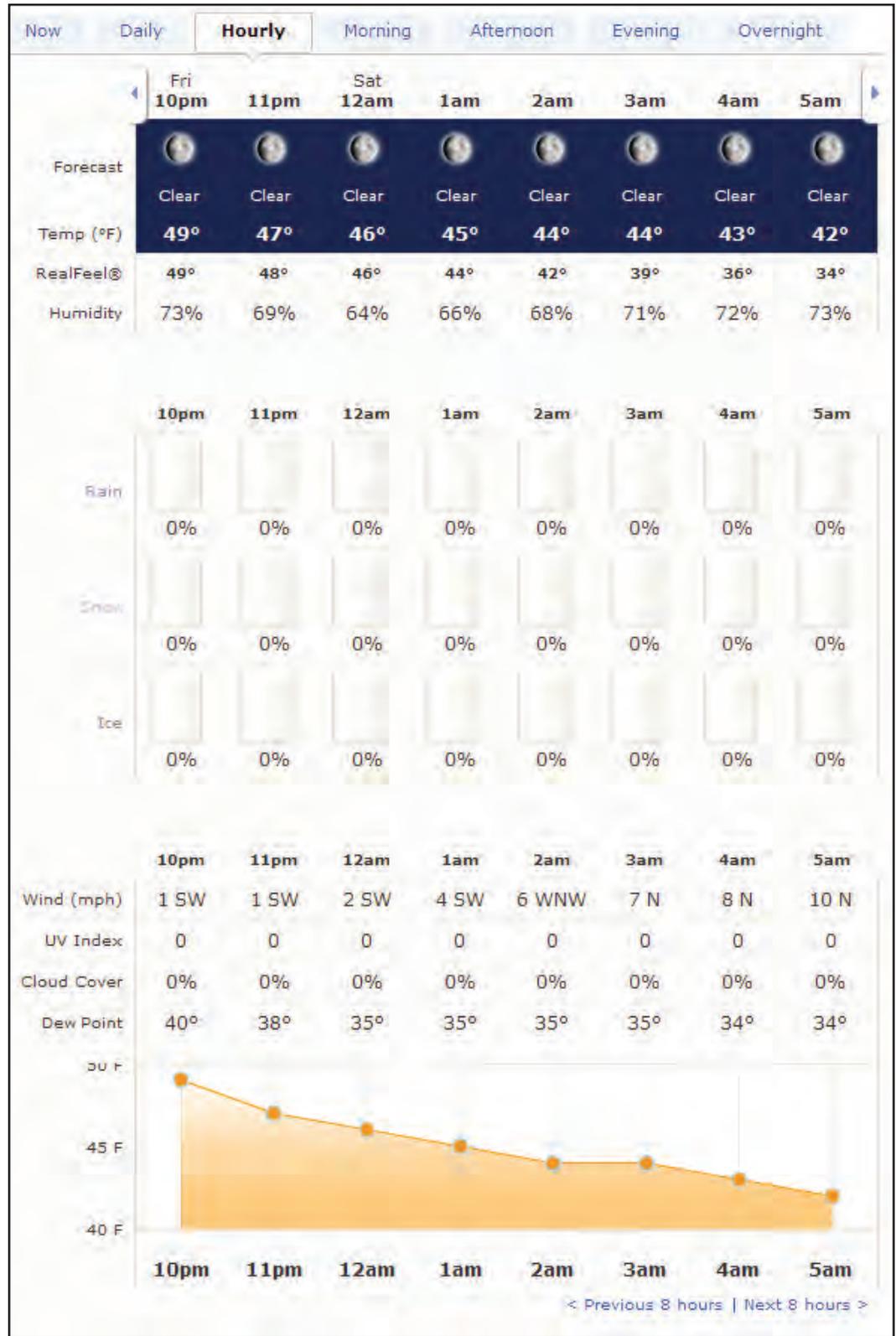
Forecast period: 1600 UTC 08 November 2014 to 0000 UTC 09 November 2014
Forecast type: FROM: standard forecast or significant change
Winds: from the ESE (120 degrees) at 14 MPH (12 knots; 6.2 m/s)
Visibility: 6 or more miles (10+ km)
Clouds: few clouds at 4000 feet AGL
few clouds at 25000 feet AGL
Weather: no significant weather forecast for this period

Terminal Aerodrome Forecasts (TAFs) provide weather information at a specific airport. These predictions include sky conditions and surface winds. These predictions originate from the standard model run, but are updated by the local NWS office. TAFs are updated every six hours, but can also be updated as needed.

As a check on the forecasts, I also pull up the colorized infrared satellite image of our area from the National Weather Service to see what the clouds are actually doing. This animation (http://www.aviationweather.gov/adds/satellite/displaySat.php?region=ABQ&isingle=mult_big&itype=ir) shows the actual clouds for the last ninety minutes. It is best at detecting the cold, high cirrus clouds, and poor at detecting low clouds and fog.

If the forecasts do not seem to match the sky conditions, then I have another site to check. Accuweather (http://www.accuweather.com/en/us/las-cruces-nm/88012/hourly-weather-forecast/37355_pc) has hourly forecasts that include a cloud cover forecast for each hour. These forecasts are generated by Accuweather, so they are different than the NWS forecast. A prediction of one hundred percent cloud cover means it will be completely overcast, while zero percent means perfectly clear. Usually, anything under fifteen percent cloud coverage is acceptable, but zero percent cloud cover is optimum.

As marvelous as the computer-generated models are at making forecasts, there are certain conditions that fool them into providing inaccurate forecasts. The best way to improve the forecast is to watch these sites on a regular basis and compare the prediction to what the actual cloud cover. The vast majority of the time the forecasts will agree with the actual clouds. But once in a while the model will get fooled, with clouds suddenly forming or dissipating. But at least we now have an arsenal of tools that can help make observing sessions more productive.



Accuweather creates forecasts independent of the National Weather Service (NWS). They provide specialized forecast products that they sell to subscribers. They also provide general forecasts supported by advertising. Here is the hourly forecast chart for Las Cruces. The Cloud Cover percentage is about two-thirds of the way down the chart. There are also wind predictions if you need that to determine if you can take you telescope out.

* * *

Photo of the Month



GENTLE IMPACT PRODUCES MINOR GEOMAGNETIC STORM

A CME sideswiped Earth's magnetic field on Nov. 10th. The impact was weak, yet nevertheless sparked a [G1-class](#) geomagnetic storm and auroras around the poles. Marketa S. Murray sends this picture from outside Fairbanks, Alaska

"We got some 'Alaska rain' in Fairbanks this morning," says Murray. "Beautiful!"

The CME that sparked the display traveled to Earth at about 600 km/s. As CMEs go, that is slow. Because the storm cloud was relatively plodding, it did not develop a shock wave at its leading edge--hence the weak impact and minor storm.

