

image by Jeff Johnson

Black Eye Nebula (M64)

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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, 2015

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January Meeting

Our next meeting will be on **Friday, January 23**, at the DACC Main Campus, Room 141, Technical Studies Building, starting at 7:00 p.m.

The presentation will be by Dr. Ifan Payne of the Magdalena Ridge Observatory and he will be talking about the Interferometer project at Magdalena. Planed resolution will be 100-200 times that of Hubble.

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.

From the Prez

The Joy of Sharing Knowledge

Many years ago I worked at a planetarium as a part-time educator without any prior experience, only a strong interest in space and a willingness to learn. In the four years I was there I learned much and realized how much I enjoyed engaging the public and sharing with them my interest in space. That enjoyment in reaching out to the public was reinforced by the public's appreciation and delight in learning something new.

This organization has a long history of sharing knowledge about the universe with the public and I have been privileged in participating at several outreach events. I salute Chuck Sterling, Jerry McMahan, Steve Shafer and all the others who have consistently engaged the public in outreach and salute all of those who have participated from time to time.



Now we are at the beginning of a new year and we have the opportunity to build upon the achievements of the past. Starting this month the ASLC will have a monthly Sunday column in the Las Cruces Sun-News. It will be written by past-President Bert Stevens and his first column is expected to be out in the January 25th edition. The column will target the general audience interested in astronomy, in which they will learn about upcoming celestial events and other topics in astronomy that will be of interest to the layperson. So when you see Bert extend your thanks to him for taking on this project. Many thanks Bert!

There are many ways to engage the public either directly or indirectly and I will present a summary of ideas, for all of you to provide comment, at the January meeting. Some would be easily achieved and some would be long-term projects.

For those of you who have not participated in outreach I encourage you to give it a try. The more you do it, the more fun you will have and the more fun the public will have in learning something new. Even if you think you don't know a lot about astronomy, pick an astronomical subject that interests you, study it well, know your target audience and share with them. If you are asked a question you don't know the answer to, don't be afraid to say you don't know but that you will find out the answer and find a way to let that person know. Any ideas on how to present information to the public are welcomed, so please bring them up.

Before I conclude, I want to thank past-President Rich Richins for his service and support, and all of the officers, board members and committee chairs who served in 2014. I also want to thank Ron Kramer, Chuck Sterling, Jerry Gaber, Rich Richins, Dave Doctor and everyone else who had been instrumental in the creation and operation of the observatory at Leasburg Dam State Park. Thanks to all of the past-Presidents and past-Vice-Presidents for their encouragement and advice. Thanks also to the 2015 officers and Board members: VP Steve Barkes, Secretary John McCullough and Treasurer Patricia Conley (both who continue to serve admirably since before I became a member), Director Ron Kramer, Director Tracy Stuart, and past-President Rich Richins. Thanks also to the 2015 Committee Chairs: Public Outreach - Chuck Sterling, Education - Rich Richins, Membership - Judy Kile, HDO and Apparel - Ron Kramer, Webmaster - Steve Barkes, Tombaugh Observatory - Steve Shaffer, Telescope Loaner Program - Frank Fiore and Club Historian - Joseph Mancilla. The Observatory Chair position will be vacated by Jerry Gaber at his request and a successor is to be nominated soon. Thanks Jerry for your invaluable service.

There is much to look forward to this year and I will enjoy working with all of you in doing the great things this Society is known for.

Let's explore!

Recent Outreach Events

by Jerry McMahan

Thursday, November 13; Mayfield High School

Niles Allen brought his 15-inch home made Dobsonian. Chuck Sterling had the 10-inch SC. Ed Montes contributed his refractor. Frank Fiore also participated. I brought the ETX-125 which was sticking in azimuth.

Plenty of Society member were present, but very few students came to observe. Besides the problem with the scope, I had problems seeing any thing to the East, due to bright street lights.

Saturday, November 15; Leasburg Dam State Park Observatory

Chuck Sterling operated the 16-inch in the observatory. Rich Richins was teaching how to find Messier objects. Bob Armstrong, Judy Kile, Ron Kramer, Sid Webb, Daniel Giron and Christina Lugo also participated. I had problems with the ETX-125 again. There were also problems with the 16-inch, at first, and Sid had some problems with his 10-inch. Things worked out anyway.

It started cloudy, again, but cleared up providing access to a large number of deep sky objects. Some observers saw Mars, but at this point it is a matter of being able to say that it was seen since the increasing distance make seeing details pretty difficult.

Saturday, November 29; Moongaze

Chuck Sterling brought his 100mm refractor and viewed the Pleiades and Albireo. I stayed on the Moon with the ETX-125. I had problems with it sticking in azimuth the last two times it was used, but seemed to work fine this time.

We were joined by Ed Montes and Christina Lugo. Christina recently joined the club and attended her first official outreach event. She was present at the last 2 or 3 events at Leasburg. She aided with pointing out Lunar features and locating constellations for people. She knows the constellations a lot better than me.

We did not have a large turnout. It was a clear night and did not seem very cold. Students were out for Thanksgiving break. Several of the people that did come by to observe stayed for a long time and were very enthusiastic about what they were seeing.

Ed brought a telescope but saw that we did not have a lot of business, nor many targets, so he aided in talking to the public. Christina found, on an app, that if the Albireo pair are gravitationally bound, they might have an orbital period of 75,000 years.

Tuesday, December 9; Hermosa Heights Elementary School

I brought the ETX-125 and set up early since I had been at the Community College tutoring a student for a final exam. Chuck brought his 100mm refractor, but left it in the car since, by then, it was completely cloudy with lightning in the distance from several directions. Christina Lugo joined us as well.

It was Math and Science night at the school, but they had very few teachers and parents show up due to the weather report. Since I did have the scope set up, I did demonstrate the operation of a GoTo scope for a few people. I took a page from Steve Shaffer's book and pointed the scope at a street light in distance. That was our only view. Thunder indicated that it was time to take the scope down. It started to rain lightly as soon as the equipment was loaded into the car.

Friday, December 12; Tombaugh Observatory Open House

Saturday, December 13; Leasburg Dam State Park Observatory

This was an afternoon Solar event as well as a telescope event after dark. The weather prediction was not good, but the bad weather held off until later in the evening. The wind did pick up after 8:00 PM, resulting in shaking the outside scopes.

We had a very good turnout from both spectators and club members. Ron Kramer and Daniel Giron put in a long day with the double stack solar scope and staying for the evening event as well. Other club members included Judy Kile, Bob Armstrong, Dave Doctor, Christina Lugo, Sid Webb, Chuck Sterling and Jerry McMahan. Another couple set up their refractor and may be future members.

Dave Doctor ran the observatory, assisted by Bob Armstrong and others. Sid Webb brought his 10-inch GoTo Dobsonian. Chuck Sterling targeted the Pleiades with the 100mm refractor. My ETX-125 has been living in the car for a few weeks, so I brought it along. Daniel had a small Newtonian.

As usual the targets were mostly deep sky, but Mars, Uranus and Neptune were also viewed. One spectator pointed out that the sky was not as dark as he expected. I think he was right. We usually have darker skies at the park. There may have been enough clouds reflecting Las Cruces light to interfere more than usual. Still, the Little Dipper was visible, so it was not that bad.

Saturday, December 27, Moongaze

This was the last event of the season. Chuck let me know that he would not be able to attend since relatives were visiting from out of town. Christine Lugo brought her 114mm Newtonian and Steve Shaffer brought the 4.5-inch Dobsonian. I had the ETX-125. Chuck did show up later in the evening to see if I had any help.

It was a clear, but cold night. When we packed up at about 9:30, it was 34 degrees. The Moon was the main target. We missed Jupiter appearing over the building, by about 30 minutes. As I said it was cold. Bright lights and small telescopes made fainter objects difficult. The Orion nebula was barely visible in the 5-inch. We had good crowds in spurts, but with school out for the holidays we had some long periods of not much activity. Fernando came to help Christine and both Chuck and Steve worked on her telescope to make it easier to use.

Outreach hours for the year

Trish reported 149 hours of participation at the Renaissance Faire. That pushed our total outreach hours to about 850 for the year. The total surpasses last year by nearly 300 hours despite having bad weather cut some events short.

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

JAN	16	04:32	Moon-Saturn Conjunction
	20	06:14	New Moon
	21	22:01	Moon-Venus Conjunction
	22	21:40	Moon-Mars Conjunction
	23	19:00	OUTREACH; Tombaugh Observatory
	23	19:00	ASLC Monthly Meeting, DACC Main Campus, Room 141 (Technical Services Bldg)
	24	Dusk	OUTREACH; MoonGaze, International Delights Café
	26	21:48	First Quarter Moon
	29	10:07	Moon-Aldeberan Conjunction
FEB	03	16:09	Full Moon
	06	09:55	Jupiter at Opposition
	11	20:50	Last Quarter Moon
	12	17:10	Moon-Saturn Conjunction
	14	Dusk	OUTREACH; Leasburg Dam State Park Observatory
	16	23:20	Moon-Mercury Conjunction
	18	16:47	New Moon
	20	17:50	Moon-Venus Conjunction
	20	18:28	Moon-Mars Conjunction
	21	22:18	Venus-Mars Conjunction
	25	10:14	First Quarter Moon

25	16:02	Moon-Aldeberan Conjunction
27	19:00	ASLC Monthly Meeting, DACC Main Campus, Room 141 (Technical Services Bldg)
27	20:00	OUTREACH; Tombaugh Observatory
28	Dusk	OUTREACH; MoonGaze, International Delights Café

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

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November Meeting Minutes

by John McCullough

Show & Tell

There were no presentations prior to the Call to Order.

Call to Order

Rich Richins, President, Astronomical Society of Las Cruces (ASLC, the Society), called the November business meeting to order at 7:31 pm, 21 November 2014, Room 141, Doña Ana Community College (DACC), Las Cruces, New Mexico. This month's meeting is being held one week early (third Friday versus fourth Friday) to not conflict with the Thanksgiving holiday weekend.

President's Comments

The President, Rich Richins, welcomed the group to tonight's meeting and noted that tonight is the final time he will have issues with access to the meeting room. Rich welcomed Fernando and Cristina Lugo to the meeting.

Officer's Reports

Secretary's Report

Rich Richins reported the minutes for the October meeting had been submitted by the Secretary, John McCullough, for publication in the November issue of the Society newsletter, the High Desert Observer (HDO). If there are no corrections or discussion, Rich asked that the minutes be accepted as published. Robert Williams moved that the minutes be accepted as published and Ed Montes seconded. Ron Kramer, editor of the HDO, noted the order of events as published had been rearranged from the order as submitted because several topics had been discussed after the formal adjournment of last month's business meeting. Rich noted Ron's comment and the motion passed by acclamation. There was not an additional Secretary's report.

Treasurer's Report

The Treasurer, Trish Conley, was not present at tonight's meeting. There was no Treasurer's report.

Committee Reports

Apparel

Ron Kramer, acting Chairman, reported that he has submitted an order for new apparel items and they should be available at the January 2015 meeting. This will include items of ladies' apparel.

ALCon 2015

Ron Kramer, Committee Chairman, reported that the Astronomical League's (AL) website had been "hacked". The information for ALCon 2015 was lost but the AL is working the issue. Ron reiterated that the convention will be July 2015 at the Hotel Encanto. He said to expect a number of surprises. He also noted that Society founding member Walter Haas will attend as a guest of honor, if at all possible.

In AL-related comments, Ron, editor of the AL's quarterly newsletter, the *Reflector*, advised members to look for an announcement in the December issue regarding receiving the newsletter either digitally or as a hard (paper) copy. The newsletter is a benefit of the Society being a member group of the AL and all current members of the Society are entitled to a copy. All AL members will need to decide which format they prefer. Ron says the digital version will be a 40 to 50Mb downloadable .PDF file and will save \$25K-\$35K in printing costs. ASLC

and The Albuquerque Astronomical Society (TAAS) will be the initial test groups. Ron asked for an indication of preference of the members present – 17 prefer a digital format, 4 prefer paper. An email will be sent to the membership to determine overall preference. Judy Kile, Membership Committee Chair, noted the preference is included on the new member form.

Holiday Party/December Meeting

Daniel Giron reported this year's dinner meeting will be from 6 pm to 9 pm, 06 December, at the Hotel Encanto. There will be a choice from three entrees (chicken, beef, or pork), salad, desserts, and beverages. He will check on a vegetarian entrée option. ASLC budgeted \$350 for the meeting, which means the cost to individuals will be in the \$20-\$25 range, depending on the number of attendees. The potential count at tonight's meeting was 27 members and guests planning to attend. A final head count must be submitted to the Encanto no later than 03 December (inform Ron Kramer of attendance plans and choice of entrée no later than 01 December), limit is 40. There will be a Bring One/Get One astronomy-related gift exchange with a \$25 limit. The question of inviting Leasburg Dam State Park staff again this year was raised. Rich has the decorations from last year.

Outreach

Chuck Sterling, Program Coordinator, reported on coming events. There will be a Moon Gaze at IDC on 29 November (second this month) and on 27 December. A star party will be held at Hermosa Heights Elementary on 09 December. There will be an all-day event at Leasburg Dam State Park (LDSP) on 13 December. This event will have solar scopes and planetary viewing during the day and the Observatory will be open after dark. There may also be a "Learn about Telescopes" demonstration as part of the day-time events. Chuck noted that he had discovered several power and data cords left wrapped around the 16" telescope's axis. He urged caution by the operators and also noted the operations log is not being maintained. Sid Webb says the Park staff wants to encourage Society use of the Observatory, but an access protocol still needs to be established.

ASLC Observatory at LDSP

Jerry Gaber, Committee Chairman, gave a brief report on the New Mexico State Parks Awards dinner that was held 13 November at the Inn at Elephant Butte and attended by Jerry, Rich Richins, Tracy Stuart, and Ron Kramer. The ASLC received a Partnership Award for its assistance in providing equipment and programming for the night sky observatory at Leasburg Dam State Park. Jerry presented the award plaque to 2015 President Daniel Giron. The plaque may be displayed in the Observatory pending approval by the Park.

2014 Renaissance ArtsFaire

Rich Richins gave a brief report on this year's event. He feels there was a good turnout for a generally "down" year, overall, and more traffic past the ASLC booth despite contending with trees, wind and other inclement weather. He and Trish Conley, ASLC coordinator for this event, have contacted the Doña Ana Arts Council (DAAC) in regard to the issues with this year's location. Rich thanked Joe Alvarez for fabricating the planets for the solar system demonstration.

Jerry Gaber moved to adjourn the business portion of tonight's meeting, Ron Kramer seconded. The business meeting concluded at 8:08 pm with one dissension.

Presentation

This month's presentation was a "twofer". Member John Kutney began with "Visibility of Deep Sky Objects". John noted that most amateur astronomers begin with the very brightest objects visible and then proceed to ever dimmer objects. With experience, an astronomer learns different observing techniques, such as averted viewing. John wondered how the size of observed objects and their contrast against the background relate to their visibility. He discovered that some work on this topic has been done, including development of predictive equations. John provided examples of some deep sky objects that he expected to be easy to visually observe but were non-visible even through an 18-inch reflector. He followed up with an explanation of this phenomenon and presented some tools to measure visibility that he has found useful.

John's presentation was followed by member Chuck Sterling on "Okie Tex Star Party 2014." Chuck presented a series of astro images taken at this year's star party held at Camp Billy Joe near Kenton, OK, in September. He also had a number of images of the area surrounding the star party venue. In addition to Chuck, Steve Barkes

attended the star party to work on spectroscopy and Jerry Gaber took advantage of John Kutney's absence to attend.

The November meeting of the Astronomical Society of Las Cruces concluded at 8:56 pm.

-Respectfully submitted by John McCullough, ASLC Secretary

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Back at the Telescope

by Berton Stevens

Back in 1965, when I was a teenager in Chicago, reports surfaced that there was going to be a bright comet, Comet Ikeya-Seki (C/1965 S1). I was already interested in astronomy and I wanted to see a great comet. Unfortunately, I did not know where to look. Without the web, or any other source of immediate information, I called the Central Bureau for Astronomical Telegrams to try and get coordinates for this comet. I was told politely, but firmly, that they did not provide coordinates for observers and I should contact my local planetarium.

My next move was to go down to the Adler Planetarium. They had the Right Ascension and Declination written down on a blackboard. I dutifully copied down the positions and headed home. I was not too sure what to do with them, but they had said that the comet was in the morning sky. I convinced my parents to let me travel to a large park a few miles from my house and try to observe the comet. I got up early one clear morning, headed west on the bus to California Park near the Chicago River. I climbed the hill there and looked out to east, until it got light. I never did see this bright comet, but it just made me thirstier for a view of a bright comet.

When I was in college, Czech astronomer Luboš Kohoutek discovered Comet Kohoutek (1973 E1) on March 7, 1973. It was predicted to pass close to the Sun in December and be the "Comet of the Century" when it reappeared in the evening sky in early January. To try and get a complete-as-possible photographic record, I would go out to the Palos Observatory southwest of Chicago. I got some pictures, but it was not a great comet pre-perihelion. It was difficult to be out at the observatory in the early morning and then stay awake in class.

The media was hyping this comet like crazy. The Palos Observatory group setup a special public observing event on a cold Saturday night in January. We issued press releases and public service announcements for the event. We were all ready to wow the public with the great comet. Unfortunately, Comet Kohoutek did not perform as billed and the media was telling everyone what a disappointment it was. Everyone lost interest in the comet. A few people showed up for the event, but not the numbers we had expected. Astronomers later determined that since this comet was making its first pass of the Sun from the Oort Cloud, a crust had formed on the surface of the comet suppressing the sublimation of dust and gas from the comet. Once again, I had not seen a great comet.

In 1975, another bright comet was predicted. This was to be another morning comet. Comet West (1975 V1) was discovered by Richard M. West at the European Southern Observatory on August 10, 1975. Perihelion was March 3, 1976. It would pull away from the Sun into the morning sky. I determined that I would see this comet.

As the comet passed perihelion, I loaded my equipment into the car and got ready to go photograph it. Unfortunately, the clouds had rolled in and there was not much hope of any clearing. After a few days of clouds, it started to look like the sky may start to clear. I called the local television weatherman, John Coleman, who was later to cofound the Weather Channel. He indicated that there was a cold high pressure ridge pushing in from the northwest and if I could get far enough northwest I might break into the clear and be able to catch the comet.

After I finished working at my second-shift job, I headed out with my equipment. I travelled northwest away from Chicago on the Northwest Tollway. Illinois Tollways were generally very well maintained and salted in bad weather, but the further I got from Chicago, the worse things became. There was light rain falling and it was freezing on the bridges. Swinging past Rockford, I headed north. The further I got, the icier the bridges became. Passing Madison, Wisconsin, things were not improving as the temperatures continue to drop. I was starting to

see cars that had slid off the road and into the ditch. I was determined to carry on. Each time I got to a bridge, I would center the car on the roadway and let it coast across the bridge.

I finally got as far as I could, but the sky never cleared. I finally turned around and headed back. When I got to Madison, I decide to turn toward the east, since Lake Michigan usually kept the lakefront warmer. I was still seeing cars and now trucks in the ditches. By the time I got to Milwaukee, it was getting light and I was out of the freezing drizzle and headed home through the light rain.

A few days later, the weather finally broke. There was still no news about Comet West from the media. They had been so disappointed in Comet Kohoutek that they were saying nothing about this new comet. I headed out again after work for a three hour drive to Apple River Canyon State Park, one of the darkest places in Illinois. I arrived there without incident and started setting up my 6-inch f/4.5 Newtonian which was adapted for prime focus photography. I also piggybacked another camera with a telephoto lens.



The six-inch f/4.5 Newtonian that provided a platform for these photos of Comet West. The telescope has electric slow motions on both axes. The telescope is powered from the car with a special outlet just inside the back of the car. The outlet is wired back to the fuse panel.



Comet West just after comet-rise at Apple River Canyon State Park (Illinois). This is my first image of the comet, taken with a 200-mm telephoto lens piggybacked on the six-inch f/4.5 Newtonian. This exposure was 5 minutes on Fujichrome R100 pushed to EI 200.



This image was taken on March 8, 1976 from Montrose Harbor in Chicago. It was taken through a 200 mm telephoto on Fujichrome R100 pushed to EI 200. It is a 10 minute exposure.

As I was doing my polar alignment, I looked out toward the east and saw what looked like a searchlight beam coming up from the eastern horizon. I thought some nasty things about loss of dark skies and increasing light pollution. Then the nucleus of the comet came over the horizon and I realized it was not a searchlight, but the tail of a spectacular comet. I photographed Comet West until morning twilight began and then I headed home. Knowing that Comet West is very bright, a few nights later I went to a north suburban lakefront park and took more pictures of the comet.

As Comet West passed perihelion, the heat from the Sun split the nucleus into four parts. This was one of the few comet breakups that had been observed up to that time. This exposed new surface area to the Sun's heat providing additional gas and dust to enhance the tail. The dust would come off the comet in spurts, and these spurts would be spread out from the nucleus into bands. The bands were aligned vertically in Comet West and were very distinctive in photos of this comet.

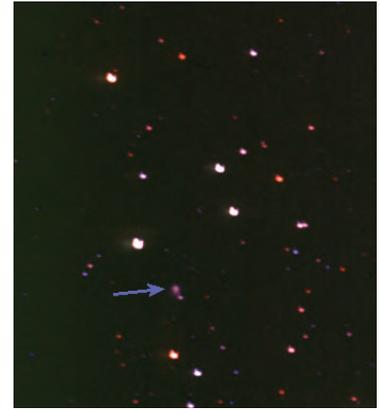
Within a month, Comet West had faded from a spectacular apparition in the morning sky to just a tiny fuzzy patch in the night sky. I have seen a number of comets since then. Each was interesting and beautiful in its own way. Some travelled fast with little tails, others with faint tails almost ninety degrees long. I have even seen one in full daylight (Comet McNaught, C/2006 P1). None of them has matched my view of Comet West coming over the eastern horizon from a dark site.



Shortly after perihelion, Comet West was in the eastern morning sky. This image was taken on March 6, 1976. It was a 5 minute exposure on Ektachrome ER 404 pushed to E.I. 200. The exposure was taken at 5:07 a.m. CST with a half-frame camera and 50 mm lens (effectively 100 mm on a full frame camera). The comet was estimated to be magnitude -0.5 and the nuclear magnitude +0.8. The dust tail was 20 degrees and the gas tail ten degrees.



Five days later, on March 11, 1976, this frame was taken on the same film. The comet had faded to magnitude +0.8 with a nuclear magnitude of +2.2. The dust tail was 15 degrees long. This image was taken over Lake Michigan from Glencoe Lake Front Park.



Two months after perihelion, Comet West (arrowed) is a small fuzzy ball in this image. This image was taken with the same six-inch Newtonian, but at prime focus. This 10 minute exposure on Fujichrome R100 was taken from Silver Springs State Park (Illinois) on May 2, 1976. Fujichrome R100 slide film was especially sensitive in the red, which was beneficial for red nebula exposures. It also would bring out star colors.

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Please consider offering a submission (article, image, blurb, etc.) to future issues of *High Desert Observer*. The aim is to have the best Society newsletter in the United States, and it can only be accomplished with contributions by our members. Thank you for your consideration.

Please note that the December issue of *High Desert Observer* was not published. The Editor apologizes for any inconvenience.

If you have any comments or contributions to this monthly newsletter, please let me know. Every question will be answered.

Ron Kramer, Editor
ronjkramer@aol.com

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Photo of the Month



© jeffjastro.com

NGC 7822 - A star-forming complex in Cepheus
FS-60C, EM200, QSI540wsg
4x20min Ha; 2x5min ea RGB (all bin1x1); 10xdarks/flats/fdarks/bias
http://jeffjastro.com/dso/NGC7822_31Aug14.htm
Taken by Jeffrey Johnson, an ASLC member, on August 31, 2014