The High Desert Observer

February 2022

This Month's Meeting
February 25, 2022

Meeting will be virtual via Zoom®
Friday at 7 p.m.

Speaker for the Month - Kelly Beatty

Darkness in Distress

Light pollution, simply put, is any unnecessary or excessive outdoor illumination. Sadly, it's become a pervasive and ugly consequence of modern 24/7 society. Light pollution robs us of the night sky's beauty, negatively affects the ecosystem, and creates an in-your-face waste of energy. But a new mindset and new technology are poised to slow — and perhaps reverse — this bane of modern life. Learn the biggest causes of light pollution — and how you can safely light up your home, business, and community without washing out the stars, wasting energy, disturbing your neighbors, or creating an unhealthy environment for humans and wildlife.

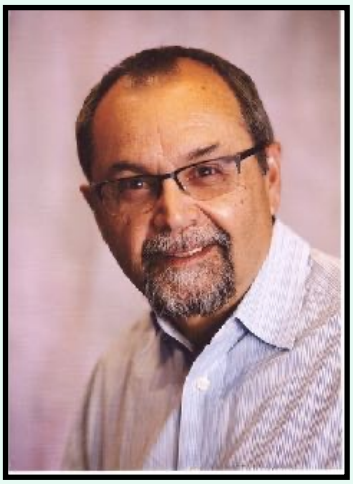
Kelly Beatty has been explaining the science and wonder of astronomy to the public since 1974. An award-winning writer and communicator, he is a Senior Editor for Cambridge-based Sky & Telescope magazine. Beatty enjoys sharing his passion for astronomy with a wide spectrum of audiences, from children to professional astronomers, and you'll occasionally hear his interviews and guest commentaries on National Public Radio and The Weather Channel. He served for a decade on the Board of Directors for the International Dark-Sky Association.

In This Issue

Masthead Image: M82 & M81 Galaxies in Ursa Major - courtesy of ASLC Member Jeff Johnson

From the Desk of Ed Montes
ASLC President

Messier Marathon



Here we are, almost 2 months into the new year already, so far in that it's hardly a new year anymore. What we are on is the brink of Messier Marathon season. There has been some talk of holding one in Leasburg Dam State Park at the Haas Observatory. We'll discuss this at the February meeting. The next new moon phases are on March 2 and April 1, the closest weekends to those dates are Mar 5 and Apr 2, neither of which conflict with planned outreach events. Of course there is flexibility in scheduling, and nothing prevents us from having multiple events, but it is fun to have a bunch of folks out there together. There are lots of resources out there for guiding the running of an MM, here's a link to one I found useful: https://spacetourismguide.com/messier-marathon/

Astro Trip to Rusty's

Another big event that involves club members is a trip to Rusty's RV Ranch in Rodeo, New Mexico. This has become a popular destination for amateur astronomers, especially many members of this club. An outing is being planned somewhat organically via the imagers group on groups.io, with folks coming at various times during the period from April 25 to May 2. Here's the link to Rusty's, the prices are reasonable and the skies are dark. https://rustysrvranch.com/

Impressive Donation

I would like to take this space to thank Alex Woronow for his extremely generous donation to the club. Alex has bestowed to us two wonderfully sturdy mounts, complete with tripods. The first is a Celestron CGEM DX, the second is an ASA DDM60 (this is a direct drive mount, belt driven, no gears). Both are in excellent condition; Alex knows how to take care of his equipment. Tim Kostelecky is putting them through their paces now. In all likelihood we will be putting these up for sale. So, if you are looking for a sturdy platform for astrophotography or just want a great mount for your equipment, either one of these would serve you well. We will post more information and prices via groups.io and in the next HDO.

Speaker this Month

Our speaker this month, February 2022, is Kelly Beatty. He is a Senior Editor for Sky and Telescope and, among other things, has been on the board of the International Dark-Sky Association. The title of his talk is "Darkness in Distress".

That's it for now. Clear skies!

Coming Events

Monthly, on an evening close to the first-quarter moon, ASLC hosts a public "MoonGaze" observing session currently at the Plaza de Las Cruces. We also hold occasional special evening sessions at Tombaugh Observatory on the NMSU campus.

Also monthly, the ASLC welcomes public viewing at the Leasburg Dam State Park Observatory located just 20 miles north of Las Cruces. Our 16-inch Meade LX200 telescope at this site is used to observe under rather dark skies.

Keep updated on the dates, times, and locations through this link with additional information available at our website www.aslc-nm.org as well as our Facebook page.

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, providing opportunities to work on Society and public educational projects. Members receive electronic delivery of The High Desert Observer, our monthly newsletter, plus membership in the Astronomical League including their quarterly publication, Reflector, available in either paper or digital format. ASLC members are also entitled to a discount on a subscription to Sky and Telescope magazine. Annual Individual Dues are $36; Family $42; Student (Full Time) $24. Dues are payable in January and partial year prorated for new members. Please contact our Treasurer, Patricia Conley, treasurer@aslc-nm.org for further information.

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Feature Article

Embracing the Equinox

This article is distributed by NASA Night Sky Network. The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

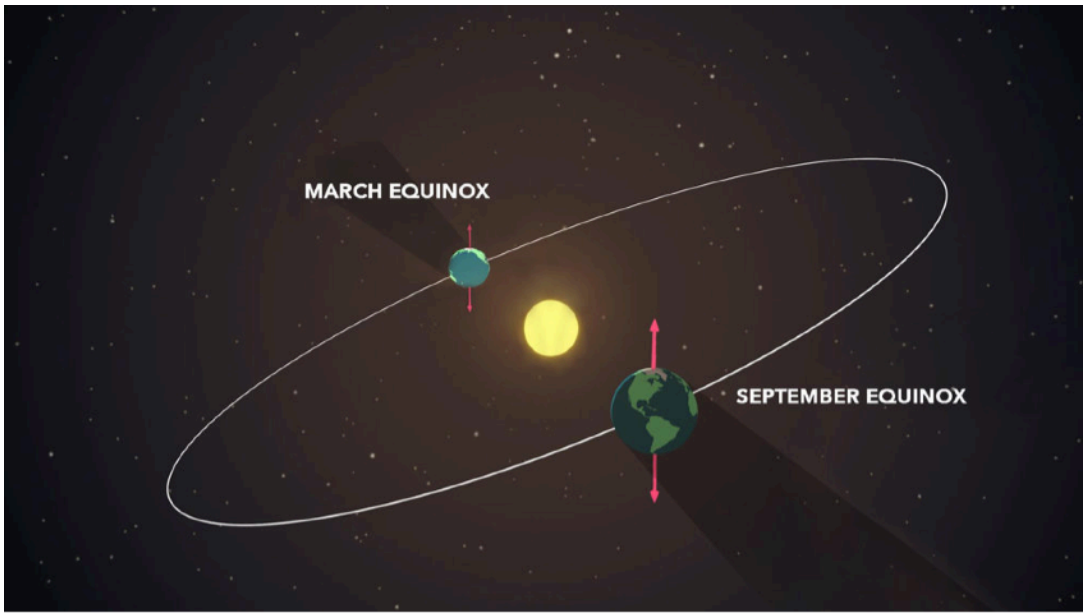
By David Prosper

Depending on your locale, equinoxes can be seen as harbingers of longer nights and gloomy weather, or promising beacons of nicer temperatures and more sunlight. Observing and predicting equinoxes is one of the earliest skills in humanity's astronomical toolkit. Many ancient observatories around the world observed equinoxes along with the more pronounced solstices. These days, you don't need your own observatory to know when an equinox occurs, since you'll see it marked on your calendar twice a year! The word "equinox" originates from Latin, and translates to equal (equi-) night (-nox). But what exactly is an equinox?

An equinox occurs twice every year, in March and September. In 2022, the equinoxes will occur on March 20, at exactly 15:33 UTC (or 11:33 am EDT), and again on September 23, at 01:04 UTC (or September 22 at 9:04 pm EDT). The equinox marks the exact moment when the center of the Sun crosses the plane of our planet's equator. The day of an equinox, observers at the equator will see the Sun directly overhead at noon. After the March equinox, observers anywhere on Earth will see the Sun's path in the sky continue its movement further north every day until the June solstice, after which it begins traveling south. The Sun crosses the equatorial plane again during the September equinox, and continues traveling south until the December solstice, when it heads back north once again. This movement is why some refer to the March equinox as the northward equinox, and the September equinox as the southward equinox.

Our Sun shines equally on both the Northern and Southern Hemispheres during equinoxes, which is why they are the only times of the year when the Earth's North and South Poles are simultaneously lit by sunlight. Notably, the length of day and night on the equinox aren't precisely equal; the date for that split

Image 1: Earth's Equinox Lighting



This (not to scale) image shows how our planet receives equal amounts of sunlight during equinoxes. Credit: NASA/GSFC/Genna Duberstein

depends on your latitude, and may occur a few days earlier or later than the equinox itself. The complicating factors? Our Sun and atmosphere! The Sun itself is a sphere and not a point light source, so its edge is refracted by our atmosphere as it rises and sets, which adds several minutes of light to every day. The Sun doesn't neatly wink on and off at sunrise and sunset like a light bulb, and so there isn't a perfect split of day and night on the equinox - but it's very close.

Equinoxes are associated with the changing seasons. In March, Northern Hemisphere observers welcome the longer, warmer days heralded by their vernal, or spring, equinox, but Southern Hemisphere observers note the shorter days – and longer, cooler nights - signaled by their autumnal, or fall, equinox. Come September, the reverse is true. Discover the reasons for the seasons, and much more, with NASA at nasa.gov

Image 2: Earth Viewed During Equinox and Solstice

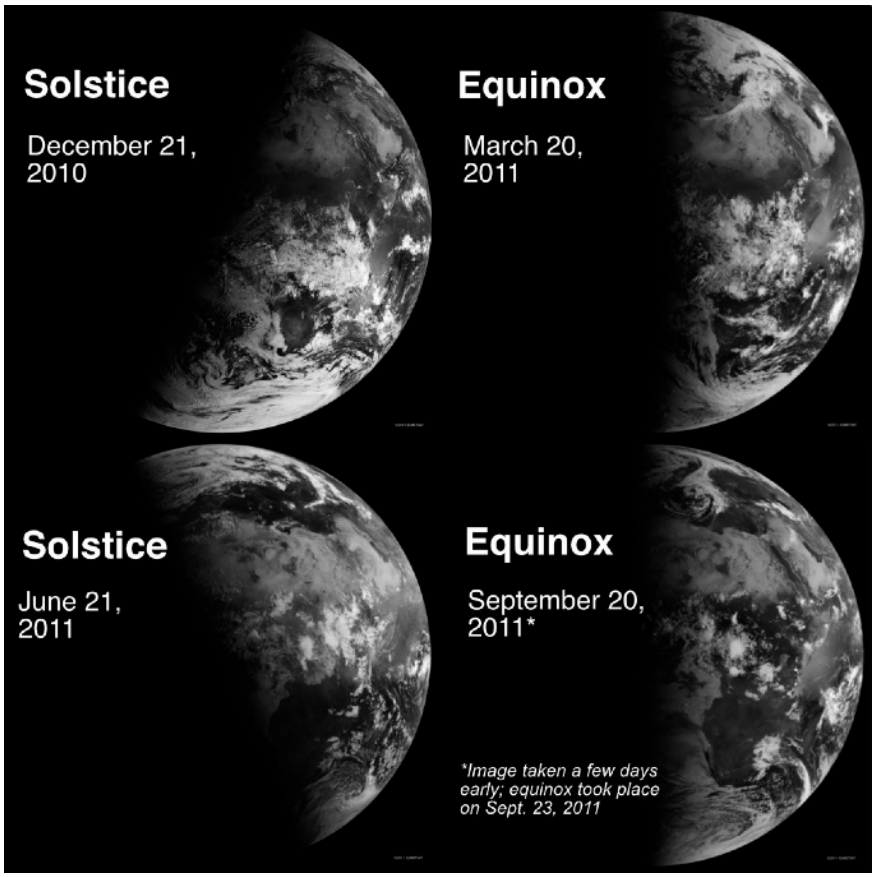


Image of Earth four times, taken by a satellite. Clockwise, top left, labeled SOLSTICE December 21, 2010 and shows Earth with a lopsided shadow with the majority of the Southern Hemisphere lit. Next is EQUINOX March 20, 2011 and shows the Earth evenly lit from pole to pole. Then is another EQUINOX September 20, 2011* and the Earth is again lit evenly from pole to pole, half shadow and half light. The asterisk is followed up with *Image taken a few days early, equinox took place on Sept 23, 2011. Finally the last Earth is labeled SOLSTICE June 21, 2011 and this time the Northern Hemisphere is lit and the lopsided shadow is mostly in the Southern Hemisphere.

Scenes of Earth from orbit from season to season, as viewed by EUMETSAT. Notice how the terminator - the line between day and night - touches both the North and South Poles in the equinox images. See how the shadow is lopsided for each solstice, too: sunlight pours over the Northern Hemisphere for the June solstice, while the sunlight dramatically favors the Southern Hemisphere for the December solstice.

Minutes of January 2022 Meeting

John McCullough - Secretary

Ed Montes, President, Astronomical Society of Las Cruces (ASLC, the Society), called the January 2022 meeting to order at 7:03 pm on 28 January 2022. He welcomed attendees to tonight's meeting via ZOOM. Twentyfour (24) attendees were signed in for the start of the meeting.

Ed welcomed the group to the first meeting of 2022 and announced that the minutes from the November 2021 meeting (thanks to John McCullough, Secretary) were published in the January issue of the Society newsletter, the High Desert Observer (HDO) (thanks to Tim Kostelecky, HDO Editor). Ed asked if there were any required additions, deletions, or corrections to the minutes as submitted. A motion to accept the November 2021 minutes as submitted was offered by Tracy Stuart, seconded by Rani Bush. There being no objections, the motion was passed by acclamation.

Ed introduced tonight's speaker, Mr. Kevin Schindler.

Presentation:

Tonight's Tombaugh Series speaker was Mr. Kevin Schindler of the Lowell Observatory, Flagstaff, Arizona. His topic was "From Planter to Planets: The Story of Clyde Tombaugh".

From humble beginnings as a farmer and self-taught astronomer, primarily in rural Kansas, to the discoverer of Pluto, Clyde Tombaugh was a classic example of a small-town boy making it big. In his presentation, Kevin told the story of Clyde Tombaugh, using both historical as well as recently collected video and images from the old Tombaugh farm in Burdette, Kansas.

Mr. Schindler is the Historian and Principal Public Information Officer at Lowell Observatory, where he has worked for 27 years. He shares Lowell's long history of research and exploration through writing and public presentations. Mr. Schindler contributes a bi-weekly astronomy column, "View from Mars Hill", to the Arizona Daily Sun newspaper and has written seven books, including "Pluto" and "Lowell Observatory". He also spearheads community science events, including the 2018-2019 Flagstaff Lunar Legacy celebration and Lowell Observatory's annual "I Heart Pluto Festival". Fun fact: Schindler has both a fossil crab and an asteroid named after him.

A question and answer session followed Kevin's presentation. He offered to return and tell the story of Robert Burnham.

Officer/Committee Reports:

The Observatory at Leasburg Dam State Park (LDSP):

Dr. David Doctor has had to resign as the Observatory committee chairman. Steve Barkes has volunteered to step in. Steve reported that he has cleaned up the warm room and other areas at the Observatory. The new laptops are in place and the software is working. He plans to have the Observatory open between 4:30 and 5:00 pm on 29 January (sunset at 5:33 pm) for the next event.

Ed Montes noted that he has been told by Park personnel that a plaque designating the Observatory as the Walter Haas Observatory will be allowed. Formal designation of the Observatory as such is pending approval at the State (Governor of New Mexico) level.

Treasurer:

Trish Conley, Treasurer, was not present to provide a report on the status of the Society's accounts.

Loaner Telescope:

Tim Kostelecky, program coordinator, reported that he has several telescopes operational and available for loan to members. Several were still "in work". Check the HDO for descriptions and details.

ASLCWest (Deming area) Activity Report:

Mike Nuss reported the resumption of outings at the area state parks. There were clouds at the City

of Rocks (CoR) State Park but good skies at Rockhound State Park event. There is overnight camping available at both parks and concrete pads near the observatory at CoR. Both parks deal with some light intrusion from Deming.

Apparel:

Rani Bush, program coordinator, plans to have items available at the next inperson meeting. She reported that she has been contacted regarding the Las Cruces Space Festival, 0710 April, with opportunities for ASLC participation.

Outreach:

Stephen Wood, program coordinator, reported cloudy conditions for the most recent Moon Gaze but a good turn-out at LDSP. There will be another event at LDSP on 29 January and a Moon Gaze on the Downtown Plaza on 12 February. There will be a star party at Tombaugh Elementary on 24 February. This event attracts 200+ attendees. Members should watch for more details including NMSU Astronomy Department participation.

Old Business:

No old business was offered for consideration.

New Business:

No new business was offered for consideration.

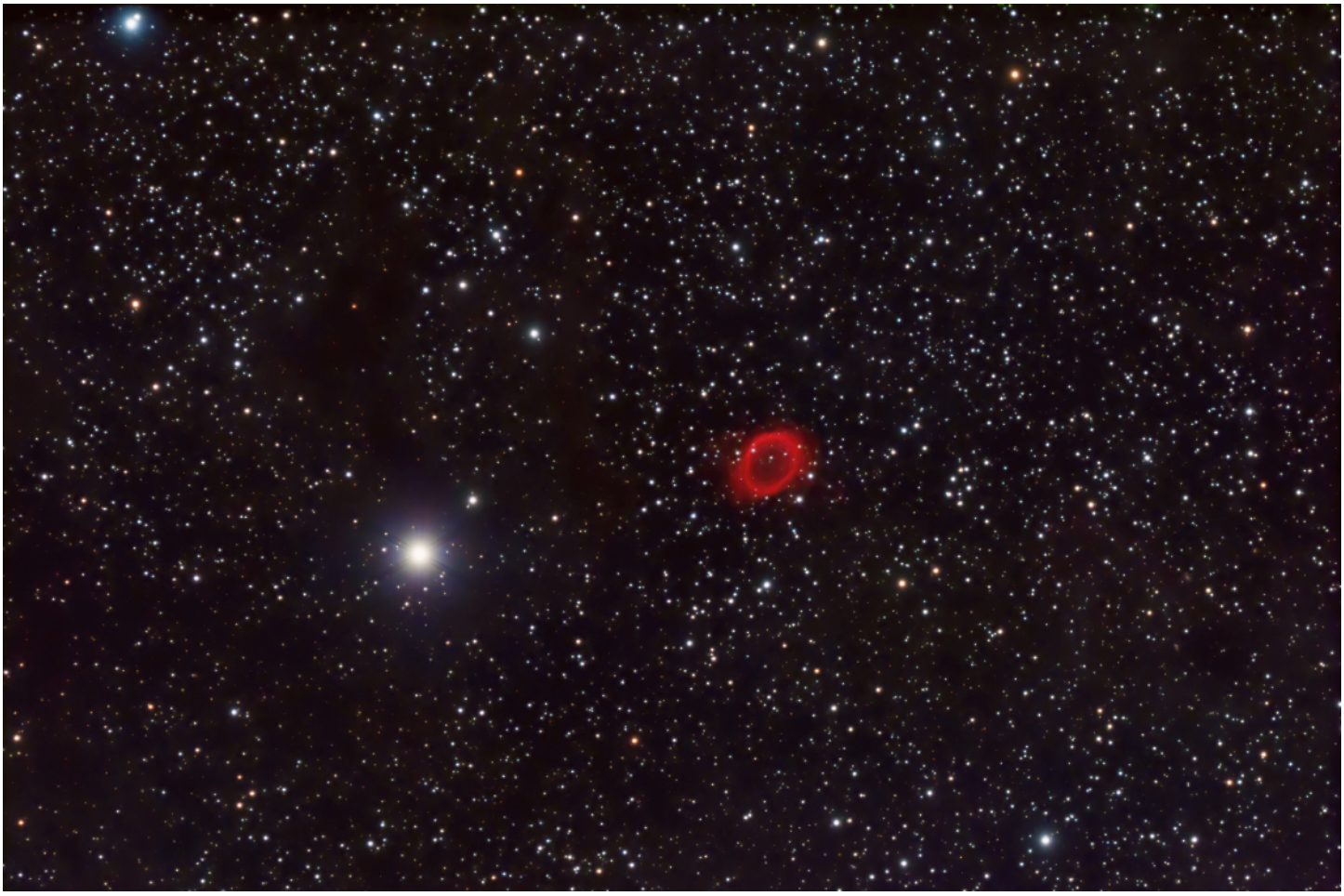
The February presentation will be on “Dark Skies” by Kelly Beatty.

The January 2022 meeting was adjourned at 8:34 pm.

-Respectfully submitted:
John McCullough

Member Images

Abell 13 in Orion - John Kutney



Abell 13 is a PN in Orion next to 66 Orionis a 5.6 mag G5 star. Very prevalent in Ha with no trace of OII or SII during my imaging cycle. LRGB plus Ha over three nights.

IC 405 - Flaming Star Nebula (Wide Field) in Auriga - Bob Kimball

This is a LRGB_H image taken from Las Cruces, New Mexico. The hydrogen was mix with the Red channel. Taken with a W.O. Redcat.