








2024 Calendar

Calendar Photos and Descriptions





Here is a brief description of the photographs featured in the 2024 calendar.

Month	Photo	Taken	Location	Details
Cover		2023-10-04	Ice Lake Island Lake and Ice Lake via Lakes Trail San Juan National Forest, CO	This is an 8.2-mile alpine hike that starts at 9,855' and reaches a high point of 12,375' with an accumulated elevation gain of 2,775'. The path of the hike is similar to a balloon shape and passes three lakes in the process with exceptional view throughout the hike. More photos of this hike can be viewed here .
01 – January		2023-05	Lagoon & Trifid Nebula region Messier 8 & Messier 20 Chandler, Arizona	This is a compilation of over 92 photos that were each 4 minutes in exposure time. These individual photos were then stacked on top of each other to effectively make a single image with about a 6-hour exposure. The two primary objects in this photo are the Trifid nebula (located in the upper left) and the Lagoon nebula (located in the middle bottom). Both objects are star forming regions that are about 4,000 to 6,000 light years from earth.
02 – February		2023-03-02	Cold Cactus Boyce Thompson Arboretum Arizona	While it did not snow in our area, just east of us in the Superstitions it did snow the day before. We decided to head out to the Boyce Thompson Arboretum for a quick hike and see if we could get some good photos. We captured this and were also surprised to see and photograph a bobcat that morning. Would have liked to include that photo in our calendar, but we had a bobcat in the 2023 calendar already.



2024 Calendar

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03 - March		2023-03-20	Wildflowers Granite Mountain Loop McDowell Sonoran Preserve, AZ	<p>The Sonoran Desert is one of the most bio-diverse deserts in the world. In the area we live generally receive about 8" of rainfall a year. During years when we receive a good amount of rain during the winter the desert can explode with color in the spring in a phenomenon known as Desert bloom. This usually only occurs once ever 3-8 years.</p> <p>This is a photograph was taken of a patch of wildflowers in the McDowell Sonoran Preserve and consist of Mexican Gold Poppy, Lupin and Fiddleneck.</p>
04 - April		2023-09	Triangulum Galaxy (Messier-33) Chandler, Arizona	<p>This image of the Triangulum Galaxy (aka M-33) is a combination of 153 images with 4-minute exposure each for a total of over 10 hours of exposure time over a period of 6 nights.</p> <p>M-33 is a spiral galaxy 2.73 million light years from Earth and is the smallest galaxy in the "Local Group" of galaxies consisting of our galaxy (the Milky Way Galaxy), the Andromeda Galaxy and the Triangulum Galaxy. M-33 is approximately 60% the size of the Milky Way Galaxy.</p>
05 - May		2023-04-14	Wildflowers Roosevelt Lake, AZ	<p>The Sonoran Desert is one of the most bio-diverse deserts in the world. In the area we live generally receive about 8" of rainfall a year. During years when we receive a good amount of rain during the winter the desert can explode with color in the spring in a phenomenon known as Desert bloom. This usually only occurs once every 3-8 years.</p> <p>This is a photo of the Theodore Roosevelt Lake area I took during the 2023 bloom after taking a hike on Four Peaks.</p>
06 - June		2023-05-11	Hummingbird Boyce Thompson Arboretum Arizona	<p>One May morning we decided to head out to the Arboretum for a quick walk about and were lucky enough to capture this hummingbird gathering nectar from this tree.</p> <p>While hummingbirds are small beautiful animals, they tend to be quite territorial and aggressive towards other hummingbirds.</p>

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07 - July		2023-06	Witch's Broom (NGC-6960) Chandler, Arizona	<p>This image of the Western Veil Nebula (aka the Witch's Broom) is a two-image mosaic with a total exposure time of 14 hours and 40 minutes and covers an of sky about the size of the moon.</p> <p>The Veil Nebula is part of a Supernova remnant known as the Cygnus Loop that covers an area in the sky approximately six times the size of the moon and is expanding gases from a long dead star that blew up long ago.</p>
08 - August		2023-01-02	Hawk Nest Southern Loop McDowell Sonoran Preserve Arizona	<p>Most of the rain we receive in Arizona tends to be starting in Monsoon season (July) and ending in March. Storms in the desert can be isolated brief and intense.</p> <p>This image was taken in January of 2023 while on a hike in the McDowell Sonoran Preserve.</p>
09 - September		2022-12-07	Mars/Moon Occultation Mars Egress 08:30pm Chandler, Arizona	<p>The planets of our solar system in the same general region of sky known as the celestial equator. This is also the area of sky where the zodiac constellations reside. The moon also spends a lot of time in this area of sky. On rare occasions the Moon will pass in front of one of the planets (known as an occultation).</p> <p>This image was taken when Mars was just emerging from behind the moon.</p>
10 – October		2023-01-30	Hackberry Spring Weavers Needle Vista Point to Hackberry Spring Superstition Wilderness Area Arizona	<p>One of our favorite hiking places is the Weavers Needle Vista Point since you can access it via a paved road, and it provides easy access to the Superstition Wilderness Area Where there are a number of trails to choose from.</p> <p>This photo is taken in the area of Hackberry Spring wash where we once spotted a bobcat.</p>

2024 Calendar

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11 - November		2022-12-30	Weavers Needle Little Four Peaks Superstition Wilderness Area Arizona	<p>Most days in the Arizona desert are clear and sunny. However, during the winter season, we do have more cloudy days. This photograph was taken on a short four-mile hike know as Little Four Peaks and has some fantastic views of the Superstition Mountains.</p> <p>This photo is looking towards Weavers Needle, probably the best-known land mark in the Superstitions.</p>
12 - December		2023-10-04	View from Highway 550 Durango, Arizona	<p>This photo was captured just off highway 550, the main highway heading out of Durango going to Silverton. It had just snowed a couple of days before in the mountains. We had just completed the Island Lake and Ice Lake via Lakes Trail and were on the way back to the hotel when we spotted this view. As you can see the fall colors are showing in this photo.</p>

2024 Calendar

Calendar Events

Please note calendar events are based on being located in Arizona, times may differ for your location, and in some instances the event may not occur due to your location. Selecting the link in the event column to get more details where you can update the event for your location. Additional Details for these events along with images and references so you can adjust for your location can be located on the [ArtCentrics This Years Astronomical Events](#) page: <https://tinyurl.com/YoderAstroEvents>.

More Astronomy and Hiking photos can be access on the [ArtCentrics Website](#) either at the Astro-Photography page (<https://tinyurl.com/YoderAsroPhotos>) or on the Hiking page (<https://tinyurl.com/YoderHikes>).

Date	Event	Images	Details
Wed, Jan 3 rd	Quadrantid Meteor Shower (120)		Quadrantid meteor shower with expected peak shower rate of 120 meteors/hour in the late hours of January 03 to the morning of January 04. Where in the sky the appearance of falling stars from this shower cannot be predicted if you trace its trail back it should trace back to the constellation Bootes .
Sat, Jan 6 th	Jupiter Double Transit	1 , 2	Ganymede and Europa Double shadow transit from 19:19 to 19:57. Jupiter is well placed for this event.
Mon, Jan 8 th	Mercury AM sighting	1	Since Mercury is so close to the sun it is generally difficult to spot in the sky. However, on this morning, it will appear 15° above the eastern horizon just before sunrise.
Thu, Jan 11 th	New Moon		Dark Skies!
Thu, Jan 25 th	Full Moon		Wolf Moon: Naming full moons is silly, but it makes the news a lot of times.
Sat, Jan 27 th	Mercury-Mars Appulse	1 , 2	At 7:17 AM Mercury and Mars will be within 15' of each other in the eastern horizon about 10° above the horizon.
Fri, Feb 9 th	New Moon		Dark Skies!
Thu, Feb 22 nd	Venus-Mars Appulse	1 , 2	At 6:50 AM Venus and Mars will be within 38' of each other in the eastern horizon about 11° above the horizon.
Sat, Feb 24 th	Full Moon		Snow Moon: Naming full moons is silly, but it makes the news a lot of times.
Sun, Mar 10 th	New Moon		Dark Skies!
Wed, Mar 13 th	Moon-Jupiter Appulse	1 , 2	At 8:00 PM Jupiter and the moon will be within 3°38' of each other at an altitude of 31°
Wed, Mar 20 th	Equinox		

2024 Calendar

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Thu, Mar 21 st	Venus-Saturn Appulse	1 , 2	At 6:30 AM Venus and Saturn will be within 33' of each other in the eastern horizon about 10° above the horizon.
Mon, Mar 25 th	Full Moon		Worm Moon: Naming full moons is silly, but it makes the news a lot of times.
Mon, Mar 25 th	Mercury PM sighting	1	Since Mercury is so close to the sun it is generally difficult to spot in the sky. However, this evening, it will appear 13° above the western horizon just after sunset.
Mon, Apr 8 th	New Moon		Dark Skies!
Mon, Apr 8 th	Solar Eclipse	1 , 2 , 3	Check out the map to see if this will be a total or partial eclipse for your location
Wed, Apr 10 th	Mars-Saturn Appulse	1 , 2	At 5:25 AM Mars and Saturn will be within 30' of each other in the eastern horizon about 10° above the horizon.
Tue, April 23 rd	Full Moon		Pink Moon: Naming full moons is silly, but it makes the news a lot of times.
Sun, May 5 th	Eta Aquarids (40)		Eta Aquarids meteor shower with expected peak shower rate of 40 meteors/hour in the late hours of May 5th to the morning of May 6 th . Where in the sky the appearance of falling stars from this shower cannot be predicted if you trace its trail back it should trace back to the constellation Aquarius .
Wed, May 8 th	New Moon		Dark Skies!
Mon, May 13 th	Mercury AM sighting	1	Since Mercury is so close to the sun it is generally difficult to spot in the sky. However, on this morning, it will appear 10° above the eastern horizon just before sunrise.
Thu, May 23 rd	Full Moon		Flower Moon: Naming full moons is silly, but it makes the news a lot of times.
Thu, Jun 6 th	New Moon		Dark Skies!
Sat, June 22 nd	Full Moon		Strawberry Moon: Naming full moons is silly, but it makes the news a lot of times.
Thu, June 27 th	Moon-Saturn Occultation	1 , 2	The Moon will pass in front of Saturn at about 9:00 AM (25° above horizon) and will emerge from behind the moon at about 9:58 AM (15° above horizon).
Fri, July 5 th	New Moon		Dark Skies!
Sun, July 7 th	Mercury PM sighting	1	Since Mercury is so close to the sun it is generally difficult to spot in the sky. However, this evening, it will appear 13° above the western horizon directly below the moon after sunset.
Mon, July 15 th	Mars-Uranus Appulse	1 , 2	Mars and Uranus will be within 32' of each other at 5:00 AM at an altitude of 41°.
Sun, July 21 st	Full Moon		Buck Moon: Naming full moons is silly, but it makes the news a lot of times.

2024 Calendar

Date	Event	Images	Details
Mon, July 29 th	Delta Aquarids (25)		Delta Aquarids meteor shower with expected peak shower rate of 25 meteors/hour in the late hours of July 28 th to the morning of July 29 th . Where in the sky the appearance of falling stars from this shower cannot be predicted if you trace its trail back it should trace back to the constellation Aquarius .
Sun, Aug 4 th	New Moon		Dark Skies!
Mon, Aug 5 th	Moon-Venus Appulse		The Moon and Venus within 1.5° of each other in the western horizon about 29° above the horizon at 6:00 PM.
Sun, Aug 11 th	Perseids (150)		Perseids meteor shower with expected peak shower rate of 150 meteors/hour in the late hours of August 11 th to the morning of August 12 th . Where in the sky the appearance of falling stars from this shower cannot be predicted if you trace its trail back it should trace back to the constellation Perseus .
Wed, Aug 14 th	Mars-Jupiter Appulse	1 , 2	At 5:00 AM Mars and Jupiter will be within 19' of each other in the eastern horizon about 50° above the horizon.
Mon, Aug 19 th	Full Moon		Sturgeon Moon: Naming full moons is silly, but it makes the news a lot of times.
Tue, Aug 20 th	Moon-Saturn Appulse	1 , 2	The Moon and Saturn within 2° of each other in the western horizon about 22° above the horizon at 10:00 PM.
Tue, Sep 3 rd	New Moon		Dark Skies!
Fri, Sep 6 th	Mercury AM sighting	1	Since Mercury is so close to the sun it is generally difficult to spot in the sky. However, on this morning, it will appear 14° above the eastern horizon just before sunrise.
Sun, Sep 8 th	Saturn at Opposition		Saturn lies opposite to the Sun in the sky and will be visible for most of the night.
			CRAZY Things Happening with the MOON this month!
Tue, Sep 17 th	Full Moon (Supermoon)		Harvest Moon: Naming full moons is silly, but it makes the news a lot of times. This month's full moon is also a Supermoon. The technical name for a Supermoon is Perigee-syzygy.
Tue, Sep 17 th	Moon/Saturn Occultation	1 , 2 , 3	The Moon will pass in front of Saturn at about 4:14 AM (14° above horizon) and Saturn will emerge from behind the moon at about 5:06 AM (4° above horizon).
Tue, Sep 17 th	Partial Lunar Eclipse	1 , 2	Earth's shadow will just graze the moon with a maximum coverage of 10%. Grazing will start at 7:14 PM with maximum at 7:47 PM and ending at 8:17 PM
Tue, Sep 17 th	Moon/Neptune Occultation	1 , 2 , 3	The Moon will pass in front of Neptune at about 11:52 PM (53° above horizon) and emerge from behind the moon at about 1:05 AM (54° above horizon).
Fri, Sep 20 th	Neptune at Opposition		Neptune lies opposite to the Sun in the sky and will be visible for most of the night.

2024 Calendar

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Sun, Sep 22 nd	Equinox		
Wed, Oct 2 nd	New Moon		Dark Skies!
Thu, Oct 17 th	Full Moon		Hunters Moon: Naming full moons is silly, but it makes the news a lot of times.
Fri, Nov 1 st	New Moon		Dark Skies!
Sun, Nov 10 th	Moon-Saturn Appulse	1 , 2	The Moon and Saturn within 38' of each other in the western horizon about 44° above the horizon at 7:00 PM.
Mon, Nov 11 th	Moon/Neptune Occultation	1 , 2 , 3	The Moon will pass in front of Neptune at about 6:20 PM (39° above horizon) and emerge from behind the moon at about 7:18 PM (48° above horizon).
Fri, Nov 15 th	Full Moon		Beaver Moon: Naming full moons is silly, but it makes the news a lot of times.
Sun, Nov 17 th	Uranus at Opposition		Uranus lies opposite to the Sun in the sky and will be visible for most of the night.
Wed, Nov 20 th	Mercury PM sighting	1	Since Mercury is so close to the sun it is generally difficult to spot in the sky. However, this evening, it will appear 9° above the western horizon just after sunset.
Sun, Dec 1 st	New Moon		Dark Skies!
Sat, Dec 7 th	Jupiter at Opposition		Jupiter lies opposite to the Sun in the sky and will be visible for most of the night.
Sun, Dec 15 th	Full Moon		Cold Moon: Naming full moons is silly, but it makes the news a lot of times.
Wed, Dec 18 th	Moon-Mars Appulse	1	The Moon and Mars within 47' of each other in the eastern horizon about 70° above the horizon at 2:00 AM.
Sat, Dec 21 st	Mercury AM sighting	1	Since Mercury is so close to the sun it is generally difficult to spot in the sky. However, on this morning, it will appear 16° above the eastern horizon just before sunrise.
Mon, Dec 23 rd	Jupiter Double Transit	1 , 2	Io and Ganymede Double shadow transit from 00:47 to 01:50. Jupiter is well placed for this event.
Mon, Dec 30 th	Jupiter Double Transit		Io and Ganymede Double shadow transit from 03:35 to 04:55. Jupiter will be low in the west for this event.
Mon, Dec 30 th	New Moon	1 , 2	Dark Skies!