

Tracking the Potential 2026 Super El Niño

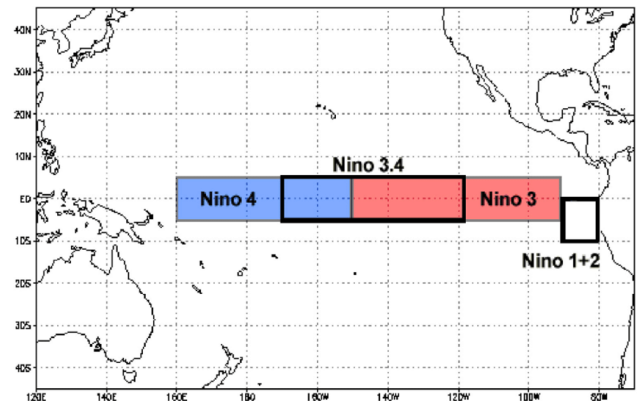
By Harvey Jong

The El Niño-Southern Oscillation (ENSO) is a global climate phenomenon that involves wind and sea surface temperature variations over the equatorial Pacific Ocean. A warming phase of sea surface temperatures is known as an “El Niño” (“Little Boy” in Spanish), while a cooling phase is labelled as a “La Niña” (“Little Girl” in Spanish).

Meaning of El Niño and Super El Niño

The meaning of the term El Niño has changed over time, and there is no single universal definition (Trenberth, 1997). The name originated from the 1600s when Peruvian fishermen noticed that every few years around Christmas the waters in the eastern Pacific turned unusually warm. This warming disrupted catches of fish, such as anchovies. The fishermen called the event “El Niño de Navidad” which was later shortened to El Niño.

One possible quantitative definition, however, involves the occurrence of a 3-month running average of sea surface temperature anomalies in the Pacific Ocean region, Niño 3.4, which exceeds 0.5°C (0.9°F) for six months or more.



El Niño Regions

Fig. 18 from (Fan et al., 2020) - CC_BY_SA-4.0 International

The El Niño Regions are four areas over the equatorial Pacific Ocean defined as follows:

- Niño 1+2 (0° - 10°S , 80° - 90°W)
- Niño 3 (5°N - 5°S , 90°W - 150°W)
- Niño 3.4 (5°N - 5°S , 120°W - 170°W)
- Niño 4 (5°N - 5°S , 160°E - 150°W)

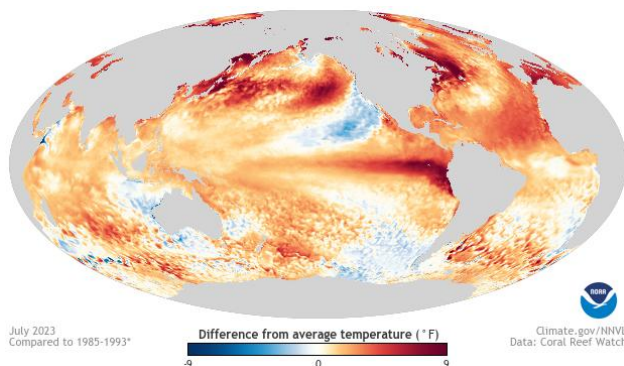
Based on this definition, there have been 27 El Niño events since 1950¹. If temperatures reach an average of at least 2°C (3.6°F) or above, the event is referred to as a super El Niño. (Note that the National Weather Service uses “very strong” instead of super to describe these events.) Five super El Niños have occurred:

- 1877-1878: strongest super El Niño on record; led to a global famine that killed 50 million people
- 1982-1983: caused droughts in Indonesia and Australia; unusually warm temperatures in North America and

¹ From El Niño and La Niña Years and Intensities Based on Oceanic Niño Index, Updated thru October-December 2024, <https://www.scribd.com/document/825298670>

Eurasia; heavy rainfall and flooding in South America

- 1997-1998: one of the most powerful super El Niño events; caused 16% of the world's reef systems to die; extreme rainfall in Kenya and Somalia which led to severe outbreak of Rift Valley fever; droughts in Indonesia; one of the worst tornado outbreaks in Florida
- 2014-2016: second strongest super El Niño on record; unusually warm waters between coast of South America and International Date Line; record number of tropical cyclones (16) in Pacific hurricane basin; droughts in Caribbean and Ethiopia
- 2023-2024: fifth most powerful super El Niño; heatwaves in South America and Asia; widespread flooding in Brazil, Afghanistan, Pakistan, and East Africa; drought in Central America, Colombia, Philippines, and southern Africa



July 2023 Global Sea Surface Temperature Anomalies During the 2023-2024 Super El Niño

NOAA map, - PD, via Wikimedia Commons

The shades of blue indicate locations where the sea surface temperature was cooler than the long-term average. Areas appearing in orange and red correspond to locations with sea surface temperatures that were warmer than the long-term average.

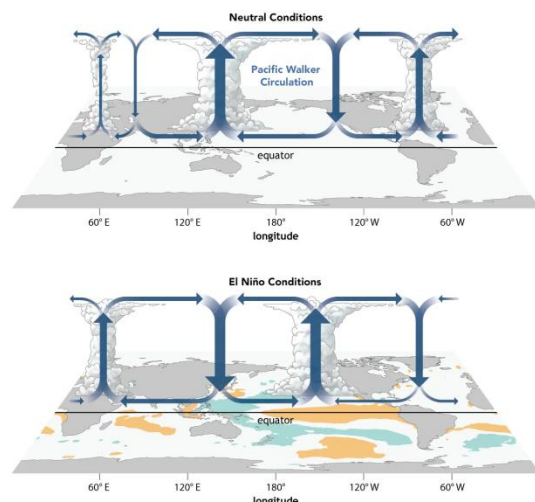
June 2026 marked the official beginning of another El Niño. The National Oceanic and Atmospheric Administration's (NOAA) Climate Prediction Center reported that

eastern and central Pacific waters are more than 0.5°C above average. The data also indicate that the mid-June ocean temperatures are at record levels since 1982. NOAA estimates a 63% chance that temperatures will continue to rise and reach at least 2°C above average.

Subsequently, the Climate Prediction Center has issued an El Niño Advisory where El Niño conditions are expected to continue and strengthen through the end of the year, with a 97% chance it will persist through early spring of 2027²

Monitoring El Niño Conditions

The warmer surface waters associated with an El Niño event is closely tied with the atmosphere and winds blowing over the Pacific. Under neutral conditions, air circulation involves easterly trade winds which blow from the Americas towards Asia. These winds can, however, weaken and turn around into westerlies to initiate an El Niño. Currently, the cause of such a dramatic shift remains unknown.



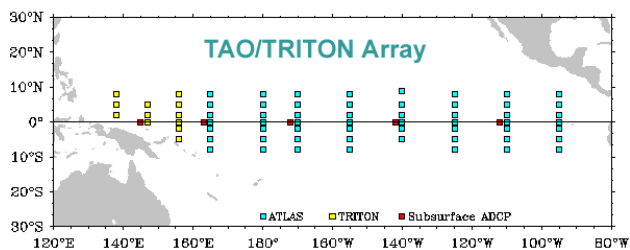
Atmospheric Circulation and Sea Surface Temperatures Associated with Neutral and El Niño Conditions

Fiona Martin/NOAA Climate illustration, - PD, via science.nasa.gov

² From Climate Prediction Center/NCEP/NWS, July 9, 2026, https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.shtml

The system of east-west atmospheric circulation is known as the Walker circulation or Walker cells. It is associated with a pressure gradient resulting from high pressure over the eastern Pacific and low pressure over Indonesia. Nominally, this produces easterly winds in the lower troposphere and westerly winds in the upper troposphere. Seasonal variability, however, can lead to a reversal during an El Niño event.

To monitor changes in water temperature, currents, and wind, NOAA deployed a network of buoys known as the Tropical Atmosphere Ocean (TAO) array (renamed TAO/TRITON in 2000 with the introduction of the Triangle Trans-Ocean Buoy Network (TRITON) in the western Pacific by the Japan Agency for Marine-Earth Science and Technology). The array of 70 moorings was built over a ten-year period from 1985-1994 to provide real-time data.



Map of the TAO/TRITON Buoy Array

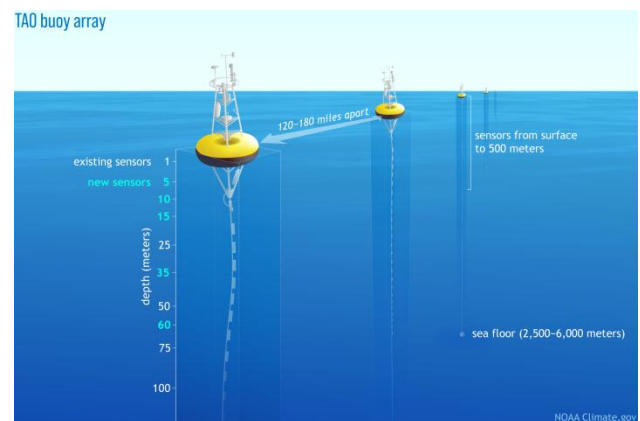
NOAA/Pacific Marine Environment Laboratory map, - PD, via pmel.noaa.gov

Recently, the current administration started dismantling ocean monitoring systems as part of the Project 2025 “Mandate for Leadership” to eliminate sources of “climate alarmism” and potentially save \$48 million per year in maintenance costs. This decision was, however, reversed allowing the buoys to remain operational for now.



Deploying a TAO Buoy

Paula Campbell, NOAA/NWS National Data Buoy Center photo, - PD, via Wikimedia Commons



TAO/TRITON Buoy Sensors

NOAA Climate.gov drawing, -PD, via climate.gov
The TAO/TRITON buoy array consists of a series of buoys anchored to the bottom of the Pacific in parallel lines spaced about 120-180 miles apart. The original buoys were instrumented with sensors at depths of 1, 25, 50, 75, and 100 meters (3.3, 82, 164, 246, 328 ft), but new versions now include sensors at additional depths to provide a

more detailed view of the heat content of the upper ocean.

Remote sensing satellites, such as the Sentinel 6 Michael Freilich spacecraft, provide additional data related to the development of El Niño conditions.

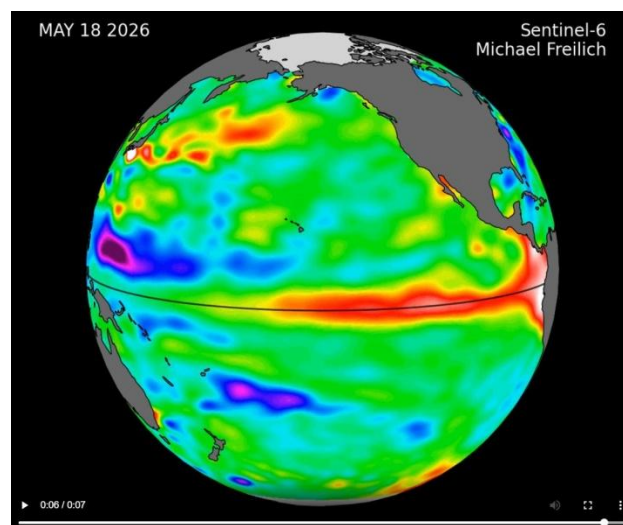


Sentinel-6 Michael Freilich Spacecraft

NASA illustration, - PD, via Wikimedia Commons
The Sentinel 6 program involves two identical spacecraft which were launched in 2020 and 2025. Using a radar altimeter, the satellite measures sea level changes from space. It is named in honor of the former director of NASA Earth Science Division, Michael Freilich.

Since water expands as it warms, sea levels rise and provide an indication the temperatures beneath the surface. Extremely long ocean waves, known as Kelvin waves, develop from the interaction of the warm water and surface winds.

The Sentinel 6 Michael Freilich satellite can measure sea levels to an accuracy of a few centimeters from an altitude of 1,336 km (830 mi). Recent data show a broad area of warm water stretching hundreds of miles across and travelling towards South America.



Screenshot of Sentinel-6 Video of a Kevin Wave Approaching South America

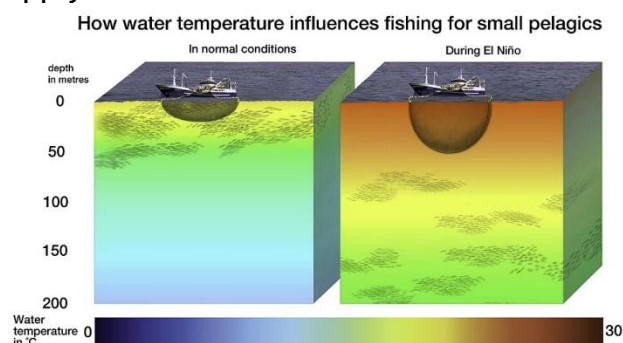
NASA/JPL video, - PD, via jpl.nasa.gov

This video sequence shows a Kevin wave moving eastward in the equatorial Pacific Ocean and arriving off the coast of South America on May 18, 2026. Click on the above image to view the video.

Potential Impact

While every El Niño is different, these events typically involve higher temperatures and big changes in rainfall in some parts of the globe. A super El Niño event may intensify the impact, leading to more severe storms, flooding, or drought.

Warmer ocean waters can weaken the upwelling of cold, nutrient-rich water which plays a key role in fish production. Fish populations may shift disrupting seafood supply chains.



Impact of Water Temperature on Fishing

C. Macias and M. Recabal/NOAA illustration, -PD, via Wikimedia Commons

This diagram shows as water temperature rises and nutrient levels decline small pelagic fish, such as herrings or sardines, may scatter and descend to depths that are inaccessible to traditional fishing.

In addition, warmer water temperatures may increase marine heat waves and damage coral reefs and kelp forests.



Moofushi's Bleached Coral Reef

Bruno de Giusti photo, - CC_BY_SA-2.5, via Wikimedia Commons

Alifu Dhaalu Atoll, Maldives

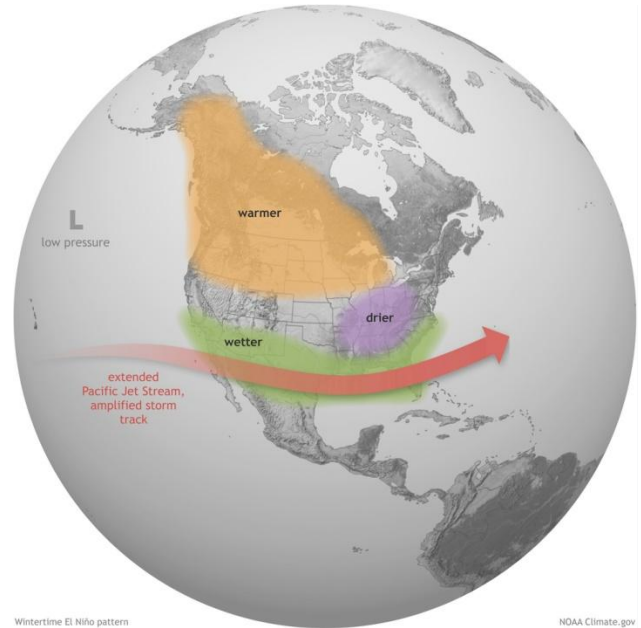
This coral reef was damaged by the warmer ocean temperatures of the 1998 El Niño. No live coral is visible over 8 years later.

Changes in atmospheric circulation can shift the jet stream which influences the path of storms. Some regions may experience unexpected flooding, while droughts may occur in others. These conditions may reduce water availability, strain agriculture, increase wildfire risks, or overwhelm infrastructure.



Urchins, which feed on kelp, experienced an exceptionally high population increase along the north coast of California.

Credit: Steve Lonhart/NOAA



Typical Wintertime Impact of El Niño on North America

NOAAclimate.gov illustration, -PD, via Wikimedia Commons

During an El Niño, the Pacific jet stream shifts across the southern tier of the United States. Southern and interior Alaska and the Pacific Northwest tend to be warmer than average, while the southern tier of U.S. states—from California to the Carolinas—tends to be wetter than average. The Ohio and Upper Mississippi River Valleys may be drier than usual.

Super El Niño's have become more frequent since the 1970s and involve significant global impacts. The potential 2026 event may, however, differ from previous occurrences since it will be happening in a hotter planet. The last 11 years have been the hottest on record³. While the added energy from a warmer temperature baseline might suggest intensification of the super El Niño, a recent study indicates a potentially opposite effect (Beniche et al., 2026). In this study, researchers analyzed 13 current climate models used in simulating El Niño events. Each model was run under different warming

³ According to World Meteorological Organization *State of the Global Climate 2025 Report*, March 23, 2026.

conditions. Their findings indicate that as global temperatures rise intense El Niño patterns appear to lose their distinctive impact. The investigators noted that elevated temperatures weaken and reorganize the teleconnections (links of weather patterns to those of distant areas) of an El Niño. When warming exceeds 2°C (3.6°F), extreme El Niño teleconnections shift eastward by 20% and weaken by 33%. Beyond 3.5°C (6.3°F), the impacts of an extreme El Niño approach those of a more moderate event. (Beniche et al., 2026).

Summary

Another El Niño is coming. News headlines have been proclaiming that the event may be one of the strongest in history and to prepare for extreme weather conditions. But every El Niño is different, and one analysis has suggested the possibility of a more ordinary event. So, it will be interesting to see which scenario will actually occur.

References

Beniche, M., J. Vialard, A.S. Taschetto, and M. Lengaigne (2026) Reduced Distinctiveness of Extreme El Niño Teleconnections in Warmer Climates. *Geophysical Research Letters* 53, e2025GL121189.

Fan, J., J. Meng, J. Ludescher, X. Chen, Y. Ashkenazy, J. Kurths, S. Havlin, and H.J. Schellneger (2020) Statistical physics approaches to the complex Earth system. *Physics Reports* 896(1).

Trenberth, K.E. (1997) The Definition of El Niño. *Bulletin of the American Meteorological Society*, December 01, 1997, 2771-2778.

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Lake Mead in October 2021, as seen from the Hoover Dam with the white band showing the high-water level.

By APK - Own work, CC BY-SA 4.0, via commons.wikimedia.org



Low Water at Lake Powell

Bernard Spragg photo, - CC0 1.0 UPD, via Wikimedia Commons

The “bathtub ring” of deposited minerals at Lake Powell provides a stark visual reminder of the severe drought conditions on the Colorado River. Will the potential super El Niño bring much-needed relief?

According to the University of Arizona’s Climate Assessment for the Southwest (CLIMAS), El Niño events can delay the onset of the monsoon in Arizona and New Mexico by weakening and repositioning the subtropical high that guides moisture into the Southwest. But typically, by late summer to early fall, tropical storms in the eastern Pacific Ocean begin to develop and strengthen with an amplified Pacific jet stream. The moisture associated with these storms can potentially deliver above average rainfall.



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Arizona Rocks 158

Text & photos by Ray Grant

Here is some more about Meteor Crater (see last month's article). The Canyon Diablo Meteorite that formed Meteor Crater is the only occurrence of diamonds in Arizona. The diamonds were first found in 1891 by dissolving 40 pounds of the meteorite. When I was a student, my advisor (Clifford Frondel) was dissolving pounds of the meteorite in dilute acid. After the iron-nickel was gone what was left were small grains of twenty different minerals including diamonds. It is believed because of the shock of the explosive impact, carbon minerals in the meteorite, mainly graphite, were changed to diamond.

When I looking for Meteor Crater information, I found a really good guide book by David King that I had not seen before. It was made for a meeting of the Meteoritical Society in 2017. It is on line and can be downloaded. I found it on the Arizona Geological Survey website. It has very detailed information about the geology of Meteor Crater, more than most people would ever want, but you can look up specific things that are of interest to you and the illustrations are great. It also has field guides to the trails at the crater and if you are interested in a future trip there it will give you information about what you would see.

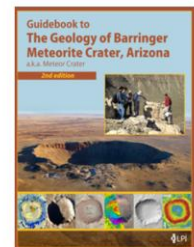


Exhibit in the Meteor Crater visitor's center

Guidebook to the Geology of Barringer Meteorite Crater, Arizona (a.k.a. Meteor Crater) 2nd edition

by David A. Kring
©2017, Lunar and Planetary Institute
LPI Contribution No. 2040

[Download complete volume \(164 MB\)](#)



Guide book to the geology of Meteor Crater

Penetration of Asteroid and Location of Peak Shock Pressures

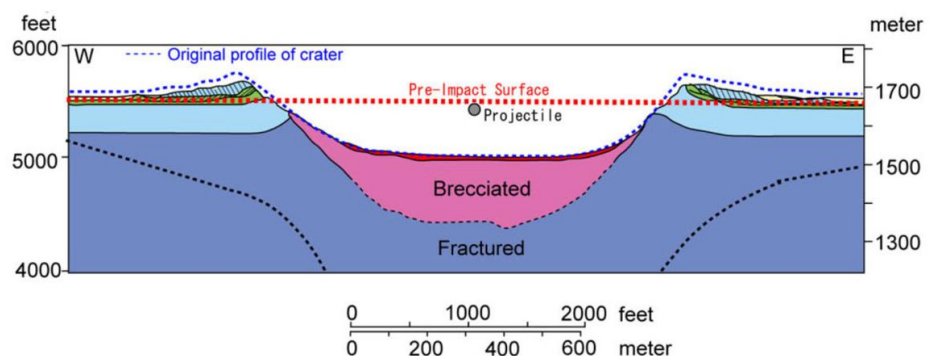


Illustration from the guide book



Pinal Geology & Mineral Museum

Pinal Museum and Society News

351 N. Arizona Blvd., Coolidge, AZ

Pinal Geology and Mineral Society next meeting

September 16, 2026

Meetings are the third Wednesday at 7pm, doors open at 6:00 so stop in early to have a look around and see what is new--we have added new displays and will have new loaned specimens on display!

www.pinalgeologymuseum.org

Ray Grant ray@pinalgeologymuseum.org

Pinal Geology and Mineral Museum Summer Hours
museum open Fridays & Saturdays from 10 - 4
admission is free.

Groups can arrange special visits, please call
520-723-3009.

We would like to thank Kelli Wakefield from Mesa Community College for this great donation. (Everything boxed except the Jeep crate.) Wonderful stuff to help us put together educational kits.





AZ Mining, Mineral & Natural Resources Education Museum Update July 2026

<https://ammnre.arizona.edu/>

Catie Carter Sandoval

cscarter@email.arizona.edu

703.577.6449

Help support the museum at:

<http://tinyurl.com/SupportMM-NREMuseum>

One of the most recognizable landmarks on our museum grounds at 1502 W. Washington St. is the Boras headframe, a towering wood and steel structure located on the west side of the outdoor yard that has resided there since the 1990s thanks to the efforts of Charlie Connell and the Monday Crew. The headframe was originally constructed in 1917 for the purpose of sinking an exploration shaft in the Warren Mining District of the Mule Mountains near Bisbee, AZ. It was not meant to be permanent; if the exploration program was successful then the headframe would be replaced with a permanent one and equipped with a production mine hoist. However, a new headframe was never built and the existing Boras Headframe supported operations at the Boras shaft intermittently from 1917 to 1975.

According to our records, the shaft reached a depth of 1034 feet, and drifts at the 400 and 600 levels intercepted high-grade orebodies in 1919. From 1917 to 1926, about 50,000 tons of copper ore were shipped to the Douglas smelter. Mining halted during the Great Depression but resumed from 1938 until 1944 when the ore was exhausted. Since drifts at the Boras shaft connected with the workings of the nearby Cole and Dallas mines, it then served as a ventilation

and escape shaft for workers at those mines in the 1950s. Since the headframe was originally constructed with wood, it was reinforced at that time with steel to preserve it as an escape shaft and remained useable until mining ended in 1975.

In 1992, Phelps Dodge Corporation (now Freeport-McMoRan) donated the Boras headframe to the Arizona Mining and Mineral Museum, which had moved to its new location on the Capitol Mall in 1991. The museum then began a fundraising campaign to move the headframe to its new home in Phoenix. This campaign consisted of historic preservation grants, support from industry partners and nonprofit organizations, and donations from the public.

Starting in 1994, volunteer lead and millman Charlie Connell began the three-year effort to move the giant wooden structure, along with its hoist house, piece-by-piece to the museum grounds. This was a labor-intensive and expensive process that included dismantling the headframe at its site in the Mule Mountains, packing up the components, transporting them over 200 miles to Phoenix with the help of APS and other partners, excavating and preparing the site on the museum grounds, and then carefully reassembling the structure at its new home. Once the assembly was complete, the headframe became a notable marker of the museum and popular attraction amid the historic mining equipment.

Today, the Boras Headframe still stands at its current location outside our museum. Enjoy some photos of the headframe below.



The Boras Headframe and hoist house at the original location in the Mule Mountains of Bisbee.



Front page news of Bisbee's Brewery Gulch Gazette on March 2, 1994, announcing the planned relocation of the headframe.

The headframe as it stands today in the museum's outdoor yard.



**Sun City Rockhound Mineral Museum
Sundial Recreation Center
14801 N. 103rd Ave.
Sun City, AZ 85351**

The museum offers private party tours for schools, clubs and individuals. We'd love to show off our museum to your club or private group. If you are interested, please contact the museum at scrockmuseum@gmail.com.

Please take a minute to check out our new website at scrockmuseum.com.

**"Old Glory" – A Stone Flag
Masterpiece**

**By Carol Bankert-George
Museum Director Emeritus**

A Mineral Museum, Rockhound Club and Sun City treasure created for America's bicentennial still helps visitors connect Arizona stonework with American history.

As we celebrate America's 250th anniversary, we want to highlight a special part of our club's history that stops visitors in their tracks; "Old Glory." This spectacular intarsia depicts the original 13-star flag with the number 76 and 13 additional stars surrounding the design.

Never heard of stone intarsia? Neither had I until I started volunteering at the museum. Intarsia is a lapidary technique where assorted colored stones are cut, shaped, and polished to fit together like a puzzle, creating a picture. Think of it as a mosaic made entirely from stone.

Created for the Bicentennial

"Old Glory" was created for America's bicentennial and presented to the Recreation Centers of Sun City—the corporation that oversees Sun City recreation centers—on July 4, 1976.



**Summer Hours
May-September
10am-1pm
Saturdays only
Winter Hours
October – April
10 am to 1 pm
Closed Thurs., & Sunday**

The Recreation Centers installed it at the Mineral Museum around 1990 for the museum's opening. Where it was displayed from 1976 to 1990 is a mystery lost to time, but it has found its perfect home back with the club.



This masterpiece was a collaboration of three club members: Hans Herrman, the designer; Frank Jeckel, the creator; and Art Prior, who assisted in

creating the one-of-a-kind Americana piece. Together, they invested more than 200 hours creating "Old Glory" in celebration of America's 200th anniversary.

"Old Glory" was made exclusively from Arizona stones:

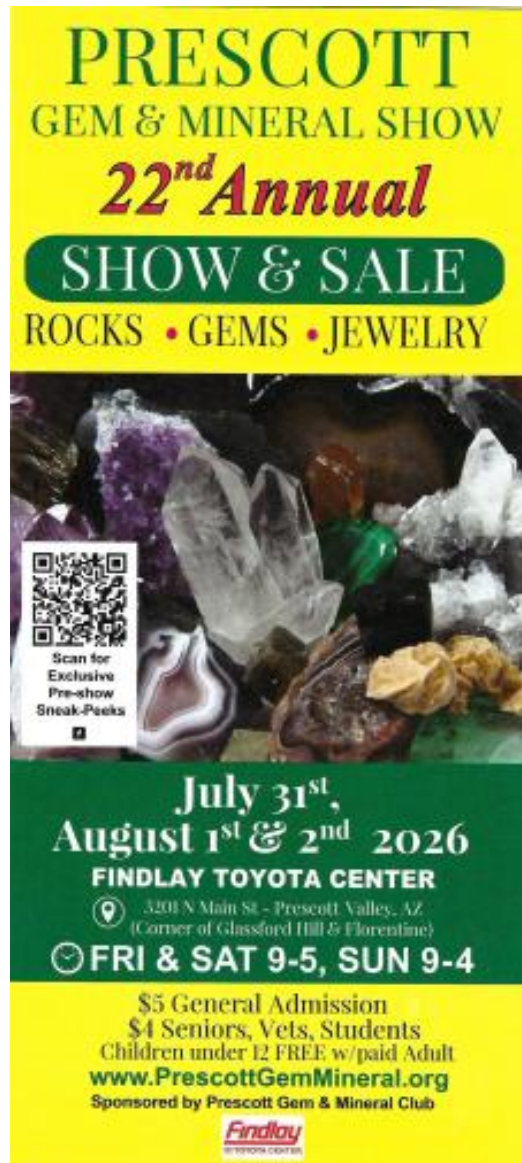
- Jasper from Cave Creek
- Marble from Wenden
- Dumortierite from Yuma
- Pastelite from Burro Creek
- Travertine, Arizona Onyx

Still Inspiring Visitors Today

The intarsia was the crown jewel of the Sun City Rockhound Club's 1976 bicentennial Rock and Gem Show, held at the Mountain View Recreation Center, and drew 5,000 visitors. It went on to earn ribbons at the Arizona Gem and Mineral Showcase in Phoenix and at the 1976 Arizona State Fair.

See it for yourself at the Sun City Mineral Museum—the perfect way to honor our country's 250th anniversary.

Arizona Rock and Gem Shows



Annual show

Payson Rimstones' Rock Club

September 18-20, 2026

Fri. 1-6, Sat. 9-5, Sun. 10-4

Adults \$3 (Fri) and \$5 (Sat/Sun)

Children under 13 Free

Mazatzal Hotel and Casino Events Center

Highway 87, Mile Marker 251,

Website:

<https://www.rimstonesrockclub.org/>

The 2026 Sedona Gem and Mineral show will be held on October 3rd & 4th - start planning ahead. (We are breaking tradition from our normal 3rd week show!)

Annual Show

Sedona Gem and Mineral Club

October 3-4, 2016

Sat. 10-5, Sun. 10-4

Adults \$5 Cash Only

Children 12 and under Free

Free Parking

Sedona Red Rock HS

995 Upper Red Rock Loop Rd

Wickenburg Gem and Mineral Show
Nov 28 & 29, 2026
Free Admission
gemclub.info
Jewelry
Fossils
Minerals
Over 40 Vendors **Best Rock Contest** **Raffle**
Door Prizes **Kid's Area** **Silent Auction**
Hassayampa Elementary School
251 South Tegner Street Wickenburg, AZ
9am - 5pm Saturday • 10am - 4pm Sunday

18th Annual
GILBERT FINE MINERAL
 GEM & FOSSIL SHOW



NATIVE GOLD
 J. Ross, Summit Mountain Mine,
 Grand Mountain, Nye County,
 Nevada, USA
 Paul Blum collection
 Jeff Scarr photo

AUGUST 8, 2026

HD SOUTH – Severson Center
 10 S. Gilbert Road, Gilbert, AZ 85296

✦ 9:00 AM – 5:00 PM ✦

**TWO FREE
 PRESENTATIONS**

10:30 AM & 1:00 PM

**FREE
 ADMISSION**

**FREE
 PARKING**

GPS:
 (33.3495390, -111.7911693)

Show Produced by De Natura / Les Presmyk | Poster by Chris Whitney-Smith

Arizona Rock and Gem Clubs



Apache Junction Rock & Gem Club

Meetings are on the 2nd Thursday
 Next Meeting: August 13, 2026, 6:30 pm
www.ajrockclub.com
 @ Club Lapidary Shop
 2151 W. Superstition Blvd., Apache Jct.



Daisy Mountain Rock & Mineral Club

Meetings are on the 1st Tuesday
 (unless a Holiday then 2nd Tuesday)
 Next Meeting: September 7, 2026, 6:30 p.m.
www.dmrnc.com
 @ Anthem Civic Building
 3701 W. Anthem Way, Anthem, AZ



Maricopa Lapidary Society, Inc

Meetings are on the 3rd Tuesday
 Next Meeting: August 18, 2026, 7:00 pm
www.maricopalapidarysociety.com
 @ North Mountain Visitor Center
 12950 N. 7th St., Phoenix, AZ



Mineralogical Society of Arizona

Meetings are usually on the 3rd Thursday
 (Except June & December)
 Next Meeting: September 17, 2026
 Meeting Location: Franciscan Renewal
 Center, Piper Hall
 5802 E. Lincoln Drive, Scottsdale,
 Go to our website for more info.
www.msaaz.org



Pinal Geology & Mineral Society

Meetings are on the 3rd Wednesday
 Next Meeting: September 16, 2026, 7:00 pm
www.pinalgeologymuseum.org
 351 N. Arizona Blvd., Coolidge



West Valley Rock & Mineral Club

Meetings are on the 2nd Tuesday
 Next Meeting: August 11, 2026, 6:30 pm
www.westvalleyrockandmineralclub.com
 Buckeye Community Veterans Service Center
 402 E. Narramore Avenue, Buckeye, AZ



Gila County Gem & Mineral Society

Meetings are on the 1st Thursday
 (unless a Holiday then the next Thursday)
 Next Meeting: August 6, 2026, 6:30 pm
www.gilagem.org
 Club Building
 413 Live Oak St, Miami, AZ



Wickenburg Gem & Mineral Society

Meetings are on the 2nd Friday
 (February & December on the 1st Friday)
 Next Meeting: September 11, 2026, 7:00 pm
www.wickenburggms.org
 @ Coffinger Park Banquet Room
 175 E. Swilling St., Wickenburg, AZ

ESM's Meeting Notice

ESM's next meeting will be at North Mountain Visitor Center, 12950 N. 7th St., Phoenix, on Tuesday, TBA 2026, at 6:30 p.m.

BECOME A MEMBER!
Join the Earth Science Museum's



IS IT TIME TO RENEW YOUR MEMBERSHIP?
Please renew today! 😊😊😊

----- cut here -----
**ESM Earth Science Investigation
Team Membership Form**
_____ New Member _____ Renewal

Membership levels:

_____ ESI Family \$20

_____ ESI Individual \$10

Membership benefits:

- ◆ Monthly e-newsletter *Earthquake*
- ◆ Official team membership card
- ◆ Knowledge that your contribution is making a difference in earth science education.

MANY THANKS TO OUR MAJOR DONORS!

AZ Leaverite Rock & Gem Society

Flagg Mineral Foundation

www.flaggmineralfoundation.org

Friends of the AZ Mining & Mineral Museum

Maricopa Lapidary Society

<http://maricopalapidarysociety.com/>

Mineralogical Society of AZ

www.msaaaz.org

Payson Rimstones Rock Club

<https://www.rimstonesrockclub.org/>

Sossaman Middle School

White Mountain Gem & Mineral Club

www.whitemountain-azrockclub.org

Sun City Rockhound Club & Mineral Museum

<https://suncityaz.org/recreation/clubs/rockhound-club-mineral-museums/>

Wickenburg Gem & Mineral Society

<http://www.wickenburggms.org>

www.facebook.com/pages/Wickenburg-Gem-and-Mineral-Society/111216602326438

West Valley Rock and Mineral Club

<http://www.westvalleyrockandmineralclub.com/>

Staples Foundation

www.staplesfoundation.org

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Stan & Susan Celestian	Janet Stoeppelmann
Russ Hart	Dennis & Georgia Zeutenhorst

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We're on the Web!

Visit us at:

www.earthsciencemuseum.org

Mission

Our Mission is to excite and inspire all generations about earth sciences through educational outreach.

Vision

We envision a community where students and the general public have curiosity about, passion for, and understanding of the underlying principles of earth sciences.

For more information about the ESM,
how to become a member or how to
arrange for a school visit or
Community function, go to:
www.earthsciencemuseum.org.

NOTICE:

ESM's next meeting will be at North Mountain
Visitor Center, 12950 N 7th St, Phoenix, on Tuesday,
TBA 2026, at 6:30 p.m.

THANK YOU FOR YOUR CONTINUING INTEREST & SUPPORT!!!

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