

Earth Science Week 2023:

Geoscience Innovating for Earth and People

October 8-14, 2023
Highlights Report

Geoscience Innovating for Earth and People

Drones for Earth Science

Unmanned aerial vehicles (UAVs), also known as drones, can be utilized in geoscience work and are part of unmanned aerial systems (UAS). Drones can take pictures or have equipment attached to collect other data or samples. They are usually flown on flight paths that are planned out for specific reasons. As you look at the images, think about why and how each drone is being used.



A drone equipped with a multispectral sensor flies over a Nebraska cornfield. It is capturing images to generate a vegetation index map. Credit: Laura Thompson, UNL.



USGS personnel prepare for a UAS take-off at night in Hawaii. Credit: Chris Holmquist-Johnson, USGS Fort Collins Science Center



A magnetic survey is conducted in Colorado using a UAS-enabled magnetometer to locate buried orphaned wells and buried pipelines. Credit: Nathan Campbell, EDCON-PRJ, Jack Davis, Juniper Unmanned



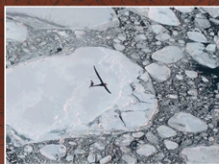
Interested in piloting a drone? Learn more about the requirements and

desirable skills to become a drone pilot at Firsthand (<https://bit.ly/ESW-dronepilot>) and the Federal Aviation Administration (FAA, <https://bit.ly/40MHUo9>). Also look into drone piloting programs, such as Alcorn State University's drone certification classes, which help bring drone technology to rural areas and to small farmers and ranchers. Typically, drone pilots have degrees in aviation, engineering, or unmanned aircraft systems operations.

Above, an Alcorn State University student pilots a drone during a drone certification course. Credit: Alcorn State School of Agriculture and Applied Sciences



Engineers observe an autonomous UAV surveying an underground mine. Credit: Richard Bishop, SME



A fixed-wing drone named Vindilo flies over sea ice in the Arctic to survey snow depths under NASA ICESat-2 ground tracks. Credit: Toby Woods, 70 North LLC

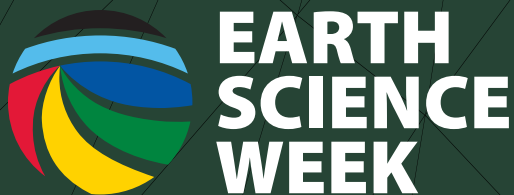
At right, a drone survey is conducted near Castleton Tower, Utah, to create a 3-dimensional outcrop model and investigate stratigraphic questions. Credit: Nicholas Perez for AGI's 2017 Life as a Geoscientist contest

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**EARTH
SCIENCE
WEEK**





Earth Science Week 2023 Photography Contest finalist entry by Jerry Nissley.

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See Our News Coverage

Because of the large and increasing number of news clippings citing Earth Science Week activities and resources, the print edition of the Highlights report no longer includes clippings. To view the hundreds of press releases and news items promoting awareness of Earth Science Week each year, please visit online at: www.earthsciweek.org/highlights.

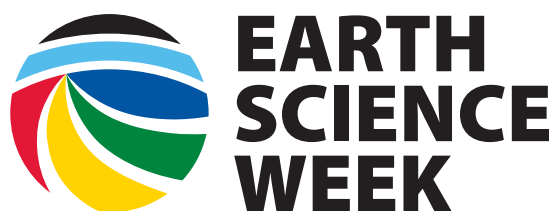
Thank you for helping us in our efforts to conserve resources and protect the environment.

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Front cover: 2023 ESW poster design by American Geosciences Institute/ Brenna Tobler. Background graphic: ©Shutterstock.com/ClickHere.



Highlights Report: Earth Science Week 2023



Earth Science Week 2023 Photography Contest winning entry by Shamim Al-Noor. (Cropped portion of original artwork shown above.)

Introduction

Held October 8–14, 2023, the 26th annual **Earth Science Week** celebrated the theme of “**Geoscience Innovating for Earth and People.**” The 2023 event emphasized the many ways that innovations in the geosciences are helping communities create healthier and increasingly sustainable lives, while accelerating environmental problem-solving around the world. Earth Science Week 2023 learning resources and activities engaged young people and others in exploring the many ways that Earth science innovations benefit people and the planet. Individuals of all backgrounds, ages, and abilities were invited to enhance their understanding of established and emerging technologies and techniques used by geoscientists — including how they play a growing role in society through developing stable infrastructure; fostering sustainable water, mineral and energy resources; analyzing and applying data about the Earth; and keeping people safe from natural hazards.

AGI organizes Earth Science Week as a service to member societies, with generous help from partners that provide funding, donate materials, organize events, and publicize the event. Sponsors in 2023 included:

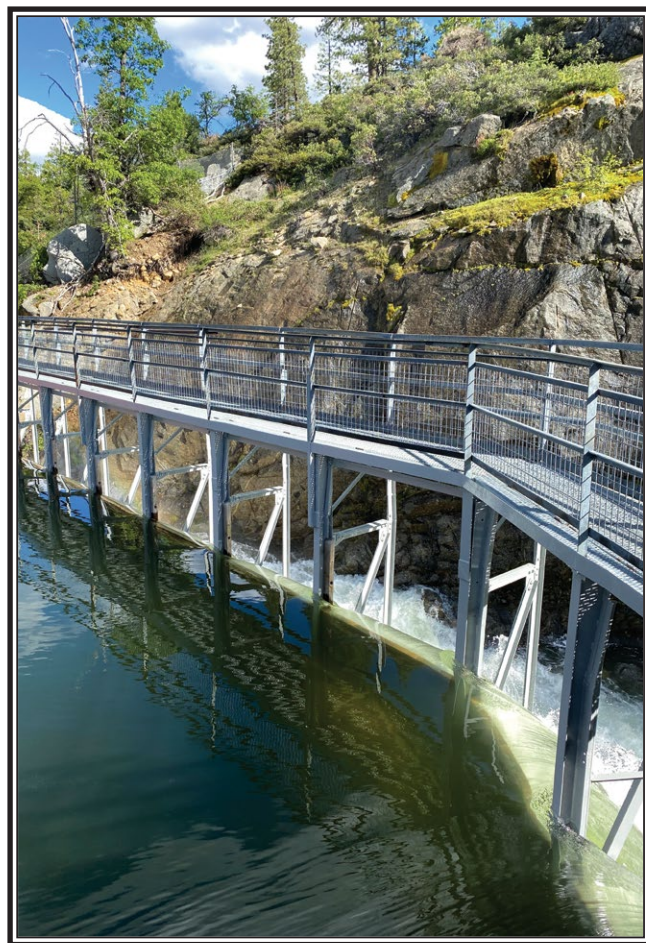
- U.S. Geological Survey (USGS);
- American Association of Petroleum Geologists (AAPG) Foundation;
- National Aeronautics and Space Administration (NASA);
- National Park Service;
- ExxonMobil;
- Geological Society of America (GSA);
- American Geophysical Union (AGU);
- Society for Mining, Metallurgy and Exploration (SME);
- Society of Exploration Geophysicists;
- Climate Literacy and Energy Awareness Network (CLEAN);
- American Meteorological Society;
- American Geosciences Institute;
- Natural Resources Conservation Service; and
- AmericaView

The success of Earth Science Week depends on the collaboration and support of many partners. AGI thanks our ESW partners who have contributed materials to the Earth Science Week toolkit, contributed to the production of an ESW poster or calendar, participated in an ESW webinar, or were otherwise actively involved in ESW. Visit the AGI Toolkit website to see the list of the materials.

AGI is always looking for new partners and organizations to be involved in Earth Science Week. This year, there were 9 new organizations, indicated below by the inclusion of an asterisk.

Earth Science Week Program Partners

- Alcorn State University*
- American Association of Petroleum Geologists
- American Association of Petroleum Geologists Foundation
- American Geophysical Union
- American Geosciences Institute
- American Institute of Professional Geologists
- American Meteorological Society
- Association for Women Geoscientists
- Association of American State Geologists
- Bureau of Land Management
- CLEAN (Climate Literacy and Energy Awareness Network)
- Earth Science Information Partners
- EarthScope Consortium
- ExxonMobil
- Florida Geographic Information Office*
- Gemological Institute of America
- Geological Society of America
- Mineralogical Society of America
- Minerals Education Coalition
- Montana State Library*
- National Aeronautics and Space Administration
- National Association of Geoscience Teachers
- National Cave and Karst Research Institute
- National Earth Science Teachers Association
- National Oceanographic and Atmospheric Administration



Earth Science Week 2022 Photography Contest finalist entry by Mandy Roche. (Cropped portion of original artwork shown above.)

- Natural Resources Conservation Service
- National Speleological Society
- New Mexico Bureau of Geology and Mineral Resources*
- Nourish the Future*
- Nutrients for Life Foundation
- Society for Mining, Metallurgy, and Exploration
- Society of Exploration Geophysicists
- Soil Science Society of America
- University of Nebraska-Lincoln*
- University of Utah*
- U.S. Forest Service
- U.S. Geological Survey
- Utah Geological Survey*
- Washington State Department of Natural Resources*

Key Partnerships

While all ESW sponsors and partners supported Earth Science week in vital ways, we want to recognize a few partners and individuals whose contributions were essential to the production of specific ESW resources in 2023.

The **U.S. Geological Survey (USGS)** has been a longtime partner and sponsor of Earth Science Week. In 2023, they also played a key role in helping produce high-quality educational materials for the ESW Toolkit. Both the ESW poster about drones and the Geologic Map Day poster about lidar featured images from USGS, courtesy of the Earth Mapping Resources Initiative (Earth MRI), the 3D Elevation Program (3DEP), the Coastal National Elevation Database, and the Western Ecological Research Center. Specifically, we would like to thank Dr. Anjana Shah (Earth MRI) and Dr. Jason Stoker (3DEP) for their contributions:

Dr. Shah contributed an image of radiometric data paired with lidar to highlight the importance of lidar in identifying critical mineral deposits. Dr. Shah shared more about the image and the importance of critical minerals in an ESW webinar, “The Future of Earth’s Critical Materials.”

Dr. Stoker contributed many 3DEP images and resources about how lidar works and its importance in geoscience that were featured on the “Applications of Lidar” GMD poster and related online resources.

As in previous years, the USGS created a hands-on activity for the ESW calendar, which was featured in November. The activity, “Design and Build a Water Filtration System,” asked students to investigate and discuss innovations related to clean water. Also as in previous years, USGS contributed an item to the toolkit — a handout of the newly revised water cycle diagram. Members of the USGS VizLab who created the diagram also worked with AGI to produce an unlabeled diagram and accompanying lesson plan to make the diagram into an interactive resource for students. USGS and AGI will be sharing the ESW lesson plan and diagrams together at the 2024 National Science Teachers Association (NSTA) conference. During the 2023 NSTA conference, staff at the USGS booth handed out over one hundred ESW toolkits and promoted ESW to attendees at their booth.

The **Society of Exploration Geophysicists (SEG)** remained a valuable ESW partner this year, as in

previous years. SEG sponsored the kickoff of the ESW webinar series, “Partnerships Provide Safe Drinking Water to Rural Communities,” which featured Dr. Joseph Orojah Osumeje and Daniel Eshimiakhe. The speakers discussed a Geoscientist *without* Borders® (GWB) project in Nigeria, where scientists and community members worked together to locate safe drinking water. SEG also contributed two activity pages to the ESW toolkit asking students to explore geoscience related careers and contributed to the production of an activity for this year’s ESW calendar, featured in June. The activity, “Mitigating the Effects of Landslides,” was inspired by work being done by GWB in south India, and guided students in creating and analyzing a physical landslide model to test engineering strategies that can lessen the effects of landslides. SEG also promoted ESW to subscribers of SEG’s journal, *The Leading Edge*, with an article authored by AGI, “Earth Science Week explores innovations in the geosciences.” The article was published in August and emphasized the importance of geoscience innovations, particularly in the context of sustainability, and more about this year’s ESW theme and celebration.

The **Society for Mining, Metallurgy, and Exploration (SME)** was an active partner in this year’s ESW poster and webinar series. A member of SME, Dr. Richard Bishop, contributed an image to the ESW poster that featured a drone flying in a mine. He also talked about the use of drones in mining and mining-related careers in an ESW webinar, “Drones for Earth Science.” Similar to previous years, SME’s education program, the Minerals Education Coalition, again developed an activity to the ESW Calendar, featured in February. The activity, “Safe as a Mine,” asked students to consider hazards related to mining and types of innovations that make the work safe.

Matt Zimmerer, a geologist at the New Mexico Bureau of Geology and Mineral Resources and member of AIPG?, worked with AGI on an educational video about drones based on his article, “Drones for the geosciences: a new eye in the sky.” For this video, Matt advised AGI in creating a script that could help a middle school audience understand the importance

of drones in data collection in the Earth sciences. He also contributed images and video clips to engage young people with the use of drones. Additionally, Matt shared more about his work with drones during an ESW webinar, *"Drones for Earth Science."*

Daniel Coe, a graphics editor at the Washington State Department of Natural Resources, provided guidance, maps, and images for both sides of the Geologic Map Day poster, which featured the use of lidar in a variety of geoscience applications. Dan was especially essential in the creation of the front of the poster, *"Enhancing Geologic Maps with Lidar,"* which featured maps and images of an area in Washington.

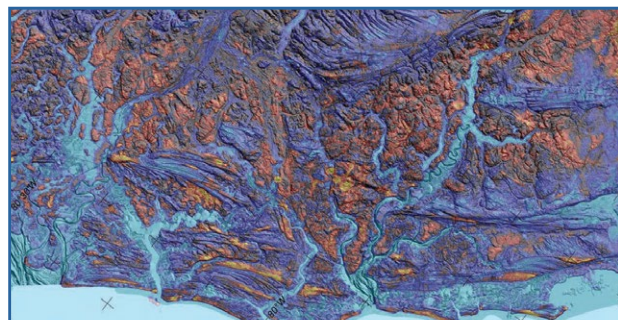
Earth Science Week **participation remained strong** through 2023. People in all 50 states and the District of Columbia and 23 additional countries participated in events and activities. The Earth Science Week website received more than 441,000 page views in 2023. In addition, more than 300 people across the country and around the globe participated in the program's visual arts, video, essay, and photography contests.

Earth Science Week 2023 included online events as well as in-person events in which educators taught Earth science activities in their classrooms and public outreach events in settings like parks, museums, and science centers. A detailed list of events can be found in the second half of this report; this list includes only events reported directly to and discovered by AGI, so please notify Earth Science Week staff if your event or participation is not listed.

Events also are highlighted on the Earth Science Week website (www.earthsciweek.org/support/highlights), which features press releases and other items by members of the geoscience community, as well as news media promoting Earth Science Week. Television and radio news programs covered Earth Science Week on local stations in several states. Each year, Earth Science Week media in web, print, and broadcast coverage, along with direct outreach by AGI, reach thousands of people through hundreds of organizations across the country and around the world.

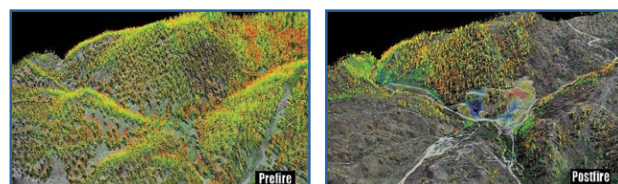
This report is designed to give an overview of the activities organized by AGI and other groups for Earth Science Week. We hope this information on

2023 events and publicity inspires you to develop your own activities for this upcoming Earth Science Week. Please visit www.earthsciweek.org for event planning, materials, resources, and support. Contact Earth Science Week staff at info@earthsciweek.org for assistance in planning for Earth Science Week.



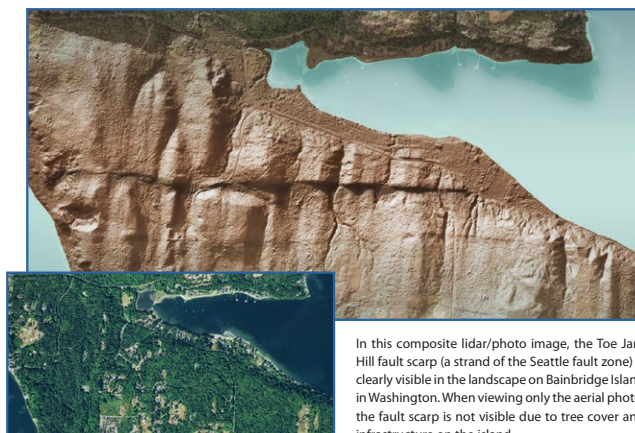
Airborne magnetic and radiometric data were collected over Charleston, South Carolina in a joint effort to locate sands containing critical mineral resources and to image deep faults that might rupture in an earthquake. This image displays equivalent thorium concentrations draped over lidar elevation data. Pairing lidar and radiometric data with elevation data helps identify the geomorphologic context of mineral deposits.

These data were collected by the USGS through the Earth Mapping Resources Initiative (Earth MRI), Earthquake Hazards Program, and National Cooperative Geologic Mapping Program.
Credit: Anjana Shah, U.S. Geological Survey



After the Hayman Fire in Colorado, lidar data was collected in order to make comparisons to pre-fire data. Lidar points that were recorded on trees are color coded by their heights above ground (green=low, red=high). Changes in the bare earth that are statistically different than the prefire lidar are also displayed (blue=loss in elevation, red=gain in elevation). Areas not colored blue-red had not significantly changed after the fire.

Credit: Jason Stoker, U.S. Geological Survey



In this composite lidar/photo image, the Toe Jam Hill fault scarp (a strand of the Seattle fault zone) is clearly visible in the landscape on Bainbridge Island in Washington. When viewing only the aerial photo, the fault scarp is not visible due to tree cover and infrastructure on the island.

Credit: Daniel Coe, Washington State Department of Natural Resources

Models of Earth Science Week Participation



Earth Science Week 2023 Photography Contest finalist entry by Annette Henderson. (Cropped portion of original artwork shown above.)

Earth Science Week provides a catalyst for events that build collaboration in communities, promote formal and informal educational opportunities, and foster outreach by geoscience-based organizations. Here, we highlight three examples of organizations or individuals that have built long-standing programs that celebrate Earth Science Week and the ways in which they promote participation.

Ohio Statehouse, Ohio Department of Natural Resources, and Ohio State University Orton Geological Museum U.S., Columbus, Ohio

Each year from 2021 on, The Ohio State University's Orton Geological Museum has celebrated Earth Science Week with the launch of a new Digital Exhibit, "Stones with Stories." The exhibit features images and descriptions of rocks and fossils in conjunction with National Fossil Day. At the end of Earth Science Week, the actual specimens used to create the Digital Exhibit go on display in a physical exhibit in the museum's gallery, where they remain for a year. Both the Digital Exhibit and physical exhibit are widely publicized on social media.

Over time, the digital exhibits for this series have been incredibly popular. Over 20,000 clicks were recorded on the museum's website during October. Visitors to the museum gallery, where the physical exhibits are hosted,

typically number 3,500 or more in October. Over the course of a year, about 40,000 people view the "Stones with Stories" physical exhibit from Earth Science Week, and the Orton Geological Museum records around 250,000 clicks on the museum's website.

On National Fossil Day, over thirty visitors explored fossils in the building stones of the Ohio Statehouse during a tour led by paleontologist Mark Peter of the Ohio Geological Survey. In addition, hands-on fossil examples from the Orton Geological Museum were on display and were explained by curator Dale Gnidovec. Each guest received a copy of the Ohio Statehouse Fossils guidebook, written by Mark Peter.



Image credit: Ohio Statehouse

The Geological Society of London (GSL) London, England

The Geological Society of London, United Kingdom — To celebrate its 13th year of involvement in Earth Science Week, The Geological Society of London (Society) hosted, sponsored, and promoted over 25 in-person events throughout the United Kingdom (UK), aiming to engage members of the public of different ages and backgrounds and to spark a passion for geoscience.

With the aim of encouraging people to see the importance of geoscience in their everyday lives, the Society launched their Geoscience Everyday Competition in early June, asking people to submit visual entries regarding the theme “How does earth science influence society?”. By broadening the competition beyond just photo entries, the Society encouraged people to use whatever they had in hand — be it a pen, a paint brush, or an old camera— to create earth science themed art. The Society also produced four brand new Outreach Masterclasses in collaboration with expert science communicators. These classes shared examples of how entrees may approach science communication through sculpture, cartoons, creative writing, and film. The 2023 competition winner, Dr. Anya Lawrence, submitted a thoughtful range of ceramics representing the role of clay and porcelain in UK industrial and societal development. Winning entries to the competition were then exhibited during Earth Science Week at the Society’s grand Burlington House headquarters in London.

To attract new and more diverse audiences to participate and make the most of their prime central London lecture theatre, the Society hosted a number of unique film screenings during Earth Science Week 2023. The first of these saw 80 members of the public come together for a special anniversary screening of the iconic *Jurassic Park*

The Ohio Geological Survey also promoted ways to get involved in Earth Science Week via social media, including Facebook and Instagram. The staff led eight unique programs, including two fossil-collecting excursions, four geology hikes, in addition to a hike that was accessible to people with a diverse range of mobility. These hikes occurred throughout the state, during which the hike leaders distributed several hundred free publications to help educate the public about Ohio geology and paleontology. Additionally, Earth Science Week Toolkits were distributed free to Ohio teachers.

(1993). Alongside a reception and networking session, attendees were encouraged to interact with a collection of real Jurassic fossil specimens displayed alongside props from the more recent film *Jurassic World* (2015). As well as this adult-focused event, the Society sought to inspire its youngest audiences by hosting a free family fun day where 60 children and their families enjoyed a screening of *Wall-E* (2008) accompanied by interactive activities themed around space and sustainability. These included making and racing rockets, programming robots to collect precious rock samples, designing their own planet, and making hands-on observations of real meteorite samples. All children attending received a goody-bag containing at-home activities and games to continue to support their learning and exploration of these themes. These activities were supported by the UK Space Agency and The Royal Astronomical Society, among others.



Image credit: Katie Jones, The Geological Society of London

Utah Geological Survey, U.S., Salt Lake City, Utah

The Utah Geological Survey (UGS) celebrated its 10th anniversary of involvement in Earth Science Week with both in-person and online opportunities. UGS's in-person educational events were held at the Utah Core Research Center and were geared toward school groups, especially fourth graders. Approximately 560 students engaged in hands-on activities including a stream trailer where students could experiment with a model river, a paleontology prep lab where students could examine dinosaur and ice age fossils, and earthquake demonstrations where students could "create" earthquakes and learn about safety. 40 volunteers help guide students through the activities and helped to explain and demonstrate geologic processes in fun and memorable ways.



Image credit: Patrick Engberson, UGS

UGS also hosted a website to provide a "self-guided experience into Earth science topics" for teachers, parents, students, and the public to engage with Rocks & Minerals, Dinosaurs & Fossils, Stream Erosion, and Earthquakes & Hazards. Each topic was introduced by a short video, then allowed users to view images, read about related subtopics, and explore interactive maps of Utah to see how each topic related to local events and geologic features. These activities relate to the many teacher resources created by UGS, including Teaching Kits that can be borrowed by Utah-based teachers year-round to enhance instruction with well-developed teaching manuals, visual aids, and interactive activities.

UGS also contributed an image for use on the Earth Science Week 2023 Poster on the use of drones in earth science, which was part of the 2023 Toolkit. The image showed a drone's flight path. Inclusion of this image helped to get students to visualize how drones are used to study large areas and to consider how drones could be used to study areas near the students' communities. The success of Earth Science Week depends on partnerships with organizations that can help in the production of high-quality educational resources.

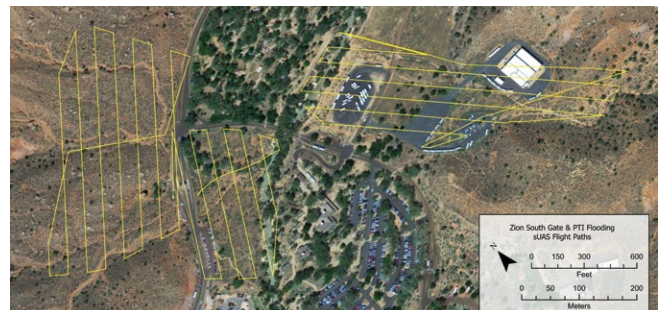


Image credit: Utah Geological Survey

We encourage you to participate in Earth Science Week by attending, planning, and/or hosting events; entering the Earth Science Week Contests; and participating in our annual Earth Science Week webinar series. For more information on each of these topics, visit the following sites:

- Plan an Earth Science Week event: www.earthsciweek.org/get-involved/events/
- 2023 Earth Science Week Contests: www.earthsciweek.org/contests/2023/
- Past Earth Science Week Webinar Series: www.earthsciweek.org/webinars/

Summary of Activities

Earth Science Week Toolkits



Image credit: AGI

AGI assembled and distributed **9,000 Earth Science Week Toolkits**, the majority of which were distributed to educators and geoscientists before the end of 2023. Fourteen AGI member societies requested complimentary Earth Science Week Toolkits for distribution, and

35 state geological surveys requested complimentary kits for distribution.

As in past years, thousands of kits also were **distributed to and through program partners** including USGS and NASA. Toolkits also were shared with Fairfax County (Virginia) Public Schools, Minnesota Earth Science Teachers Association, Ohio Earth Science Teachers Association, Earth Science Week Survey participants, and the AGI/ExxonMobil Geoscience and STEM Teaching and Learning Academy participants. The 2023 toolkit featured AGI's traditional Earth Science Week poster, education and outreach flyers, and 12-month calendar showcasing geoscience classroom investigations and important dates of earth science events.

Continuing a practice of recent years, the 2023–2024 12-month calendar's classroom investigations featured notations explaining to educators how each activity aligns with expectations outlined in the **Next Generation Science Standards and the United Nations' Sustainable Development Goals (SDGs)**. Additionally, program partners' contributions, many of which also included activities aligned with the standards, made the Earth Science Week 2023 Toolkit one of the richest ever.

ESW Online

According to Google Analytics, the **Earth Science Week website** was accessed by users in **216 nations, territories, and regions** worldwide in 2023. The program website (www.earthsciweek.org) delivers essential resources for educators throughout the year. As in past years, the Earth Science Week website was updated regularly to reflect the new theme, contests, proclamations, events, initiatives, and classroom activities for 2023. The entire site received 441,585 page views. Within the site, all searches made in 2023 related to specific pages totaled 162,282 for Classroom Activities pages; 28,080 for Contests pages; 8,892 for Big Ideas Activities pages; and 1,717 for Focus Days pages.

In collaboration with partners, AGI hosted the **"Geoscience Innovating for Earth and People" Webinar Series**, available during Earth Science Week 2023 and afterward via recordings. Aimed at the general public and education community, webinars remain available online. Presenters covered an array of thought-provoking, timely topics:

- *Partnerships Provide Safe Drinking Water to Rural Communities*, with Dr. Joseph Orojah Osumaje and Daniel Eshimiakhe. Sponsored by Geoscientists *without Borders*®, speakers in this webinar shared how scientists and students have worked together and used a variety of techniques to locate safe drinking water for rural communities.
- *Drones for Earth Science*, Lindsay Mossa, American Geosciences Institute; Matt Zimmerer, New Mexico Bureau of Geology and Mineral Resources; Dr. Gregory Foltz, National Oceanic and Atmospheric Administration; Dr. Richard Bishop, Virginia Tech Mining & Minerals Engineering | SME; Dr. Norbert Zajzon, University of Miskolc; Hannah H. Ziegler, Vanderbilt University. Speakers discussed many ways that drones are being used in the geosciences, including recent drone innovations and classroom applications.
- *Photogrammetry: Introduction and Applications in Geoscience and Geoscience Education*, Ryan Hollister,

Modesto Junior College and California State University, Stanislaus; Dr. Jeffrey Moore, University of Utah; Erin Lyons, U.S. Geological Survey. The webinar introduced photogrammetry, a method for creating 3D models, and its many applications in geoscience education and research during this webinar.

- *The Future of Earth's Critical Materials*, Anjana K Shah, U.S. Geological Survey; Cynthia Howell, Critical Materials Institute. Speakers in this webinar examined what critical minerals are as well as an innovative method for locating them. There was also an introduction to critical materials, including ways in which students, educators, and the public can engage with them.

- *The Invisible Mine: envisioning the future of mining in Europe*, Vitor Correia, Secretary General, International Raw Materials Observatory. This presentation explored emerging robotic technologies set to revolutionize the future of mining and showcased how the uptake of robotic technologies can minimize social and environmental impacts through improvements in safety, efficiency, resource utilization and the radical reduction of surface footprints.

The **Earth Science Week Online Toolkit**, formally introduced in 2021, includes downloadable, highly visual, resources available from past program celebrations. Resources addressing the Earth Science Week 2023

theme of “Geoscience Innovating for Earth and People” were added, such as the ESW poster and Geologic Map Day poster. Users can search by type of resource, theme, year, language, disciplinary core ideas, cross-cutting concepts, science and engineering practices, and more. The Online Toolkit is a useful option for partners wanting to lower their paper use and users limited by shipping and printing costs.

In addition, to facilitate partnerships between educators and others in the Earth science community, AGI again offered the **Earth Science Organizations (ESO)** database. ESO is an extensive online database of state and national organizations that may be sponsoring activities and events during Earth Science Week. The ESO is a useful means of identifying potential geoscience partners near you, accessing relevant information, and networking with colleagues. To recommend an organization (or have one updated or removed), contact Earth Science Week staff at info@earthsciweek.org.

Program participants were encouraged to visit the continually updated Earth Science Week **Classroom Activities** page for more than 250 free learning activities, most contributed by leading geoscience agencies and groups. To find an activity corresponding to a lesson, teachers can search by Earth science topic, grade level, and science education standard.

Contests

AGI held contests in connection with Earth Science Week that were designed to encourage K–12 students, teachers, and the general public to become involved in the celebration by exploring artistic and academic applications of Earth science. Earth Science Week continued expanded eligibility for its photo contest to allow international members of **AGI Member Societies** and **AGI International Affiliates** to participate and again invited international submissions to the video contest.

Hundreds of submissions to the contests were received. Each first-place winner received \$300 and an AGI publication. Entries submitted by winners and finalists were posted online.

Aydin Soner of Columbia, South Carolina, won first place in the visual arts contest. Finalists were Tracer Montoya of Polvadera, New Mexico; Kamari Pereira of Jacksonville, Florida; Hosanna Ponnudurai of Troy, Michigan; Vladislav Ventura of Bronx, New York. Students in grades K–5 made two-dimensional artworks

illustrating how Earth science innovations improve how people interact with planet Earth.



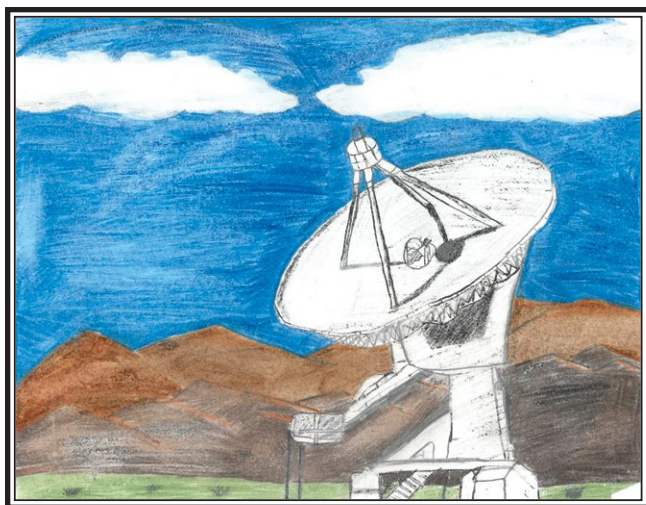
Earth Science Week 2023 Visual Arts Contest winning entry by Aydin Soner

Submission by Donovan Fish, for the 2023 ESW Essay Contest

Geoscience, a field blending earth sciences and technology, has witnessed remarkable innovations in recent years, revolutionizing problem-solving across various domains. One such breakthrough is remote sensing technology, enabling the study of Earth's surface from afar. Satellites equipped with advanced sensors provide critical data on climate change, deforestation, and natural disasters. This information aids in proactive disaster management, resource planning, and environmental conservation.

Read the rest of this essay on the [ESW website](#).

MD. Shamim Al-Noor of Gazipur, Bangladesh, won first place in the photo contest. Finalists were Giorgia Gallegos of Half Moon Bay, California; Annette Henderson of Redwood City, California; Jerry Nissley of Alexandria, Virginia; Mandy Roche of San Mateo, California. Submissions illustrated the ways geoscience innovation is improving life in your community.



Earth Science Week 2023 Visual Arts Contest finalist entry by Tracer Montoya

Donovan Fish of Guyton, Georgia, won first place in the essay contest. Finalists were Ronald Bridges of Brandywine, Maryland; Mackenzie Campbell of Virginia Beach, Virginia; Nirja Patel of Virginia Beach, Virginia; Alex Xu of Clyde Hill, Washington. Students in grades 6–9 wrote

essays of up to 300 words addressing how new technologies and practices — affecting the geosphere, hydrosphere, atmosphere, and biosphere — solve problems and create healthier, more sustainable communities.

Toby Leng of Manhasset, New York, won first place in the video contest. Finalists were Aditya Herekar of Edison, New Jersey; Manshu (Gina) Ji of Belmont, California; Allison Meng of Ambler, Pennsylvania; Kayla Messick of Moss Beach, California. Individuals and teams created brief, original videos showing how people of various backgrounds around the planet are pushing the barriers of geoscience for Earth and people.



Earth Science Week 2023 Photography Contest finalist entry by Giorgia Gallegos

Earth Science Week Contests

AGI offers four contests during Earth Science Week (ESW). All contest submissions are due on the Friday of ESW.

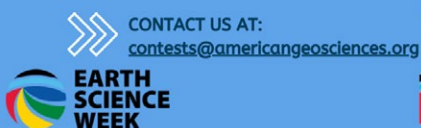
Visit each contest's webpage for more information on eligibility and themes:

Photography: all ages, worldwide

Video: all ages, individuals or teams, worldwide

Visual Arts: grades K–5, U.S. only

Essay: grades 6–9, U.S. only



Focus Days



Each day of Earth Science Week recognizes one or more Focus Days to help with specific initiatives related to Earth science education, many of which were developed in conjunction with AGI's partners:

- October 8, 2023: The 16th annual **International EarthCache Day**, Geological Society of America
- October 9, 2023: The 4th annual **Minerals Day**, Mineralogical Society of America
- October 10, 2023: The 16th annual **No Child Left Inside Day**, U.S. Geological Survey and the 8th annual **Earth Observation Day**, AmericaView
- October 11, 2023: The 14th annual **National Fossil Day**, National Park Service
- October 12, 2023: The 9th annual **Geoscience for Everyone Day**
- October 13, 2023: The 12th annual **Geologic Map Day**, U.S. Geological Survey, Association of American State Geologists, National Park Service, Geological Society of America, and the National Aeronautics and Space Administration
- October 21*, 2023: The 13th annual **International Archaeology Day**, Archaeological Institute of America (*customarily the Saturday of ESW)

For more information on each of the Earth Science Week Focus Days, please visit:

www.earthsciweek.org/get-involved/focus-days/

Earth Science Week Newsletter and Publicity

The monthly **Earth Science Week Update** newsletter reached more than 3,300 teacher, student, geoscientist, and other subscribers in the past year. The electronic newsletter kept event planners and participants up to date on Earth Science Week at the national level, encouraged participation in local areas, and provided news on geoscience topics of interest to participants. Besides highlighting worthwhile resources, these monthly e-mail updates reinforce that geoscience education is a priority throughout the year.

Starting in 2024, the Earth Science Week Update will be released six times per year, including: January, April, and August through November. Special Alerts may be released in between updates, as new resources from

Earth Science Week partners become available. To subscribe to this Newsletters and other updates from AGI, please visit: www.earthsciweek.org/support/newsletter.

In addition to our Update, AGI enlisted the support of a wide range of media in promoting awareness of Earth Science Week. AGI distributed **press releases** to thousands of newspapers, magazines, media websites, and other organizations and individuals. This resulted in an exceptional reach and helped to lay a foundation for more coverage in years to come.

Additional publications graciously included articles penned by AGI to promote educational opportunities offered by Earth Science Week, including *The Leading Edge*

published by the Society of Exploration Geophysicists and *Eos* published by The American Geophysical Union. Copies of the **2023 Earth Science Week poster**, featuring geoscience learning activities in addition to promotional content, were distributed as inserts in publications carrying articles about the event written

by AGI, including: *AAPG Explorer* published by the American Association of Petroleum Geologists; *GSA Today* published by The Geological Society of America; and *The Earth Scientist* published by the National Earth Science Teachers Association.

State Proclamations

A gubernatorial proclamation from your state sends a message emphasizing the importance of celebrating Earth Science Week. To date, seven states have demonstrated outstanding science-literacy leadership by issuing “perpetual proclamations” of Earth Science Week, ensuring recognition every year: Alaska, Delaware, Illinois, Nevada, North Dakota, Oklahoma, and South Dakota.

Governors issued single-year proclamations in six additional states — Alabama, Indiana, Nevada, Ohio, Pennsylvania, and Virginia — bringing the total number of

states with proclamations of recognizing Earth Science Week 2023 to 13.

Each year, AGI works with each state geological survey to encourage proclamations to be made on the state and national level. If your state has not yet officially recognized the second full week of October as Earth Science Week, we encourage you to work with your state geological survey to encourage your governor to proclaim Earth Science Week an event in your state. Visit www.earthsciweek.org/support/stateproclamation to learn more.

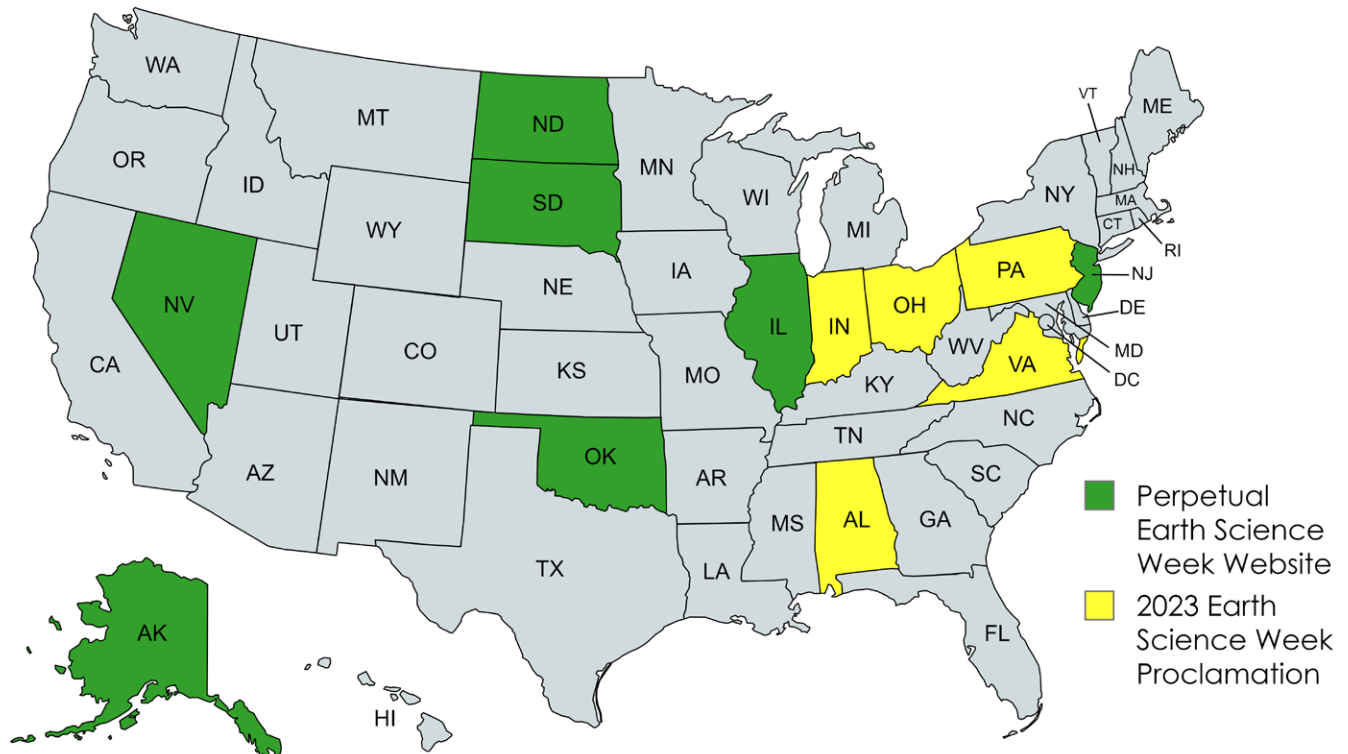


Image credit: Created with mapchart.net

Earth Science Week 2023 Events and Activities by State and Territory

While AGI is unable to track all Earth Science Week activities in the United States, major activities across the country included the following.

Alabama

- **State Proclamation:** The governor of Alabama issued a proclamation for Earth Science Week 2023
- **In-Person Events hosted by:** Alabama Museum of Natural History, Alabama Paleontology Society, Birmingham Paleontological Society, McWane Science Center, Troy University Archaeology Club
- **Promoters of Earth Science Week:** Geological Survey of Alabama, National Informal STEM Education Network

Alaska

- **State Proclamation:** Alaska has a perpetual proclamation of Earth Science Week
- **In-Person Events hosted by:** Bureau of Land Management's Campbell Creek Science Center, Alaska Consortium of Zooarchaeologists
- **Promoters of Earth Science Week:** Alaska's Department of Natural Resources, Geological and Geophysical Surveys Education Outreach Department, the University of Alaska Fairbanks Geophysical Institute

Arizona

- **In-Person Events hosted by:** Arizona Sonora Desert Museum, Grand Canyon National Park, Painted Desert Visitor Center, S'edav Va'aki (formerly known as Pueblo Grande)
- **Promoters of Earth Science Week:** Arizona Geological Survey, Arizona Department of Transportation

Arkansas

- **In-Person Events hosted by:** Arkansas Archaeological Society, Hot Springs National Park, Ouachita National Forest, Plum Bayou Mounds Archaeological State Park, Thompson Library
- **Promoters of Earth Science Week:** Arkansas Geological Survey, Hot Springs National Park

California

- **In-Person Events hosted by:** Bowers Museum, California State Parks, California Academy of Sciences, Corte Madera Library, King Gillette Ranch Visitor Center, Ralph B. Clark Regional Park, San Diego County Archaeological Society, Western National Parks Association, Western Science Center
- **Promoters of Earth Science Week:** Bargas Environmental Consulting, California Geological Survey, Golden Gate National Recreation Area, Muir Woods National Monument, Science Buddies, UCLA Stavros Niarchos Foundation Center for the Study of Hellenic Culture
- **Participation in Earth Science Week Contests:** Giorgia Gallegos of Half Moon Bay, CA, Annette Henderson of Redwood City, CA, and Mandy Roche of San Mateo, CA were finalists in the 2023 Earth Science Week Photography Contest. Gina Ji of Belmont, CA and Kayla Messick of Moss Beach, CA were finalists in the 2023 Earth Science Week Video Contest.

Colorado

- **In-Person Events hosted by:** Buffalo Bill Museum and Grave, Colorado National Monument, Community Connections LLC, Colorado Preservation Inc, Denver Museum of Nature & Science, Douglas County Historic and Natural Resources, Garden of the Gods Visitor & Nature Center, Metcalf Archaeology, Museums of Western Colorado, Red Rocks Park & Amphitheater, The GLOBE Program, Western Interior Paleontological Society
- **Promoters of Earth Science Week:** American Institute of Professional Geologists, CIRES Education & Outreach, Critical Materials Innovation Hub at the Colorado School of Mines, Colorado Council of Professional Archaeologists, Explore Nature, GLOBE, Kinard Core Knowledge Middle School, National Earth Science Teachers Association, Rocky Mountain National Park, Sanborn Geospatial, Space Science Institute (STARnet), The Geological Society of America, National Center for Atmospheric Research, University Corporation for Atmospheric Research Center for Science Education, University of Colorado Boulder (We are Water)

Connecticut

- **In-Person Events hosted by:** Human Relations Area Files at Yale University, Institute for American Indian Studies' Research Department, Mystic Aquarium, University of Connecticut Stamford Anthropology Society
- **Promoters of Earth Science Week:** Connecticut Geological Survey

Delaware

- **State Proclamation:** The state of Delaware issued a perpetual proclamation of Earth Science Week.
- **Promoters of Earth Science Week:** Delaware Geological Survey, University of Delaware

District of Columbia

- **In-Person Events hosted by:** Archaeology in the Community, Smithsonian Institution's National Museum of Natural History
- **Promoters of Earth Science Week:** American Chemical Society, American Oil & Gas Historical Society, Challenger Center, EarthScope Consortium, National Park Service Youth & Young Adult Programs, Smithsonian Magazine, The Washington Post, U.S. Army Corps of Engineers, Science Spark's USA Science and Engineering Festival

Florida

- **In-Person Events hosted by:** Beaches Museum, City of Augustine Archaeology Program, Gainesville Society of the Archaeological Institute of America, Florida Geological Survey, Jacksonville Chapter of the Archaeological Institute of America, Manatee Mineral Springs Park, The Bishop Museum of Science and Nature, University of South Florida Tampa Campus
- **Promoters of Earth Science Week:** Florida Fossil Hunters, Florida Geological Survey, Macaroni Kid Kissimmee-St. Cloud
- **Participation in Earth Science Week Contests:** Kamari Pereira of Jacksonville, FL was a finalist in the 2023 Earth Science Week Visual Arts Contest.

Georgia

- **In-Person Events hosted by:** Atlanta Society (AIA), Emory University, Fort Frederica National Monument, Georgia Southern University Laboratory of Archaeology, Gwinnett County Public Library at Mountain Park, Kennesaw State University, Michael C. Carlos Museum, College of Science and Mathematics, the Department of Chemistry and Geosciences at Valdosta State University
- **Promoters of Earth Science Week:** Cobb County School District, Fort Pulaski National Monument, Geo-Hydro Engineers Inc., Kennesaw State University Norman J. Radow College of Humanities and Social Sciences, Tellus Science Museum
- **Participation in Earth Science Week Contests:** Donovan Fish of Guyton, GA was the winner of the 2023 Earth Science Week Essay Contest.

Hawai'i

- **Promoters of Earth Science Week:** Earth Science Week Toolkits were distributed to teachers.

Idaho

- **In-Person Events hosted by:** Hagerman Fossil Beds National Monument, Idaho Museum of Natural History, Pocatello campus of Idaho State University
- **Promoters of Earth Science Week:** Idaho Geological Survey

Illinois

- **State Proclamation:** Illinois issued a perpetual proclamation of Earth Science Week.
- **In-Person Events hosted by:** Burpee Museum of Natural History, Field Museum, Southern Illinois University

- **Promoters of Earth Science Week:** Earth Science Club of Northern Illinois, Nagpra Office at the University of Illinois, Sagawau Environmental Learning Center

Indiana

- **State Proclamation:** Governor Eric Holcomb approved a state proclamation recognizing Earth Science Week 2023.
- **In-Person Events hosted by:** Falls of the Ohio Foundation and State Park, Monroe Lake, Paynetown State Recreation Area, Speaks for Trees and More
- **Promoters of Earth Science Week:** Indiana Geological and Water Survey

Iowa

- **Proclamation:** Mayor Rob M. Green of Cedar Falls approved a proclamation recognizing Earth Science Week 2023.
- **In-Person Events hosted by:** Black Hawk Gem and Mineral Club, BMC Aggregates LC, Boies Bend County Park, Buchanan County Conservation Board, Fontana Park, Iowa State University GIS Support and Research Facility, IowaView, Science Center of Iowa, University of Iowa's Department of Earth & Environmental Sciences, University of Northern Iowa
- **Promoters of Earth Science Week:** Ames Laboratory, Cedar Valley Arboretum & Botanic Gardens, Iowa Active Learning Community Partnership, Science Center of Iowa

Kansas

- **In-Person Events hosted by:** Fort Hays State University's Department of Geosciences and GeoClub, State Library of Kansas, Sternberg Museum, The University of Kansas Biodiversity Institute & Natural History Museum
- **Promoters of Earth Science Week:** Kansas Geological Survey

Kentucky

- **In-Person Events hosted by:** Kentucky Geological Survey, Kentucky Society (AIA), Mammoth Cave National Park, University of Kentucky's Mining and Mineral Resources Building, University of Louisville Center for Archaeology and Cultural Heritage
- **Promoters of Earth Science Week:** Kentucky Geological Survey, Kentucky Paleontological Society, Kentucky River Watershed Watch, Kentucky Water Research Institute, Mammoth Cave Biosphere Region, Norwood Student Chapter of the Society for Mining, Metallurgy, & Exploration (SME) at University of Kentucky (UK) College of Engineering, UK College of Nursing, UK Department of Mining Engineering, UK Earth and Environmental Sciences

Louisiana

- **In-Person Events hosted by:** Acadiana Chapter of the Louisiana Archaeological Society, Ascension Parish Library, Audubon State Historic Site, Baton Rouge Geological Society, Carnegie Memorial Branch of Calcasieu Parish Public Library, Fighting Hand Brewing Company, Forts Randolph and Buhlow State Historic Site, Lafayette Public Library, Lake D'Arbonne State Park, Livingston Parish Library, Louisiana Division of Archaeology, Louisiana State Parks, Oak St Brewery, Poverty Point World Heritage Site, Sterlington Memorial Branch Library, Terrebonne Parish Library, The Lafayette Farmers and Artisans Market, University of Louisiana at Lafayette, University of Louisiana at Monroe Museum of Natural History, West Baton Rouge Museum, Shreve Memorial Library
- **Promoters of Earth Science Week:** Christopher R. Goodwin & Associates Environmental Services, Louisiana Department of Natural Resources, Louisiana Geological Survey, Louisiana Office of Cultural

Development Division of Archaeology, Louisiana State University and Alpha Lambda Alpha

Maine

- **In-Person Events hosted by:** Maine Discovery Museum
- **Promoters of Earth Science Week:** Gray Public Library, Maine Geological Survey

Maryland

- **In-Person Events hosted by:** Gaithersburg Community Museum, Maryland National Capital Park and Planning Commission, Monocacy National Battlefield, Natural History Society of Maryland
- **Promoters of Earth Science Week:** Maryland Geological Survey, Prince George's County Department of Parks and Recreation, The University of Maryland's Dinosaur Fund, U.S. Census Bureau
- **Ronald Bridges of Brandywine, MD was a finalist in the 2023 Earth Science Week Essay Contest.**

Massachusetts

- **In-Person Events hosted by:** Boston Museum of Science, Davis Museum at Wellesley College, Edey Foundation, Harvard Museum of Natural History, Harvard Museums of Science & Culture, Martha's Vineyard Cultural Council, Oak Bluffs Public Library, Peabody Museum of Archaeology and Ethnology, Union Chapel, University of Massachusetts, Western Massachusetts Society of the AIA
- **Promoters of Earth Science Week:** Archaeological Institute of America, CollegeXpress, Harvard Museum of Science and Culture, Northern Berkshire Mineral Club, Palley Endowment Fund for Davis Museum Outreach Programs

Michigan

- **In-Person Events hosted by:** East Lansing Public Library, Marquette Regional History Center, Michigan Mineralogical Society, Michigan State University Museum, Packard Proving Grounds, Roamin Rock Club, Rochester Hills Museum at Van Hoosen Farm, University of Michigan's Kelsey Museum of Archaeology
- **Promoters of Earth Science Week:** Flint Rock and Gem Club, Michigan Basin Geological Survey, Michigan Department of Environment, Great Lakes, and Energy (EGLE), Michigan Earth Science Teachers Association, Michigan Geological Survey, Traverse Area District Library
- **Participation in Earth Science Week Contests:** Hosanna Ponnudurai of Troy, MI was a finalist in the 2023 Earth Science Week Visual Arts Contest.

Minnesota

- **In-Person Events hosted by:** Minnesota Discovery Center
- **Promoters of Earth Science Week:** Equatorial Minnesota, Minnesota Geological Survey, National Association of Geoscience Teachers, Range Engineering Council, Science Museum of Minnesota, Wild Dirt

Mississippi

- **In-Person Events hosted by:** Mississippi Department of Archives and History, Mississippi National River and Recreation Area, Mississippi State University Department of Geosciences
- **Promoters of Earth Science Week:** Mississippi Department of Environmental Quality, Mississippi Geological Society, Mississippi State University Museums and Galleries

Missouri

- **In-Person Events hosted by:** Ed Clark Museum of Missouri Geology, Mastodon State Historic Site, Missouri Institute of Natural Science, Missouri State Museum, Ozark Natural and Cultural Resource Center, Sainte Genevieve Museum Learning Center, St. Louis Society (AIA), University of Missouri, Washington University in St. Louis,
- **Promoters of Earth Science Week:** Bollinger County Museum of Natural History, Kansas City and Twin Rivers chapters of the Missouri Archaeological Society, Missouri Department of Natural Resources

Montana

- **In-Person Events hosted by:** Frontier Gateway Museum, Makoshika State Park, Montana State University, University of Montana's spectrUM Discovery Area
- **Promoters of Earth Science Week:** Glacier National Park, Montana Geological Survey, Visit Glendive

Nebraska

- **In-Person Events hosted by:** Agate Fossil Beds National Monument, Lincoln City Libraries, University of Nebraska State Museum
- **Earth Science Week Toolkits distributed by:** Promoters of Earth Science Week: Midwest National Parks, Nebraska Geological Survey, University of Nebraska School of Natural Resources and the Maps & More Store

Nevada

- **State Proclamation:** Nevada issued a perpetual proclamation of Earth Science Week.
- **In-Person Events hosted by:** Nevada Bureau of Mines and Geology, Tule Springs Fossil Bed National Monument, Las Vegas Natural History Museum

- **Promoters of Earth Science Week:** Nevada Bureau of Mines and Geology, NPS Mojave Desert Network Inventory & Monitoring, University of Nevada at Reno

New Hampshire

- **Promoters of Earth Science Week:** New Hampshire Department of Environmental Services, New Hampshire Archaeological Society, New Hampshire Geological Survey

New Jersey

- **In-Person Events hosted by:** New Jersey State Museum, Princeton Society (AIA), Visual Resources of the Department of Art and Archaeology, Princeton Public Library
- **Promoters of Earth Science Week:** Beckers School Supplies, New Jersey Geological and Water Survey, Paterson Great Falls National Historical Park, The Newark Museum of Art
- **Participation in Earth Science Week Contests:** Aditya Herekar of Edison, NJ was a finalist in the 2023 Earth Science Week Video Contest.

New Mexico

- **State Proclamation:** The governor of New Mexico issued a proclamation for Earth Science Week 2023.
- **In-Person Events hosted by:** Eastern New Mexico University Department of Anthropology and Applied Archaeology, Friends of Archaeology, Maxwell Museum of Anthropology at The University of New Mexico, Museum of Indian Arts and Culture, New Mexico Office of Archaeological Studies
- **Promoters of Earth Science Week:** New Mexico Bureau of Geology and Mineral Resources, Public Lands Interpretive Association
- **Participation in Earth Science Week Contests:** Tracer Montoya of Polvadera, NM was a finalist in the 2023 Earth Science Week Visual Arts Contest.

New York

- **In-Person Events hosted by:** Corning Museum of Glass, Fort Ticonderoga, Herbert F. Johnson Museum, McGraw Hall at Cornell University, Museum of the Earth at the Paleontological Research Institution, New York State Museum, Penn Dixie Fossil Park & Nature Reserve, Rochester Museum & Science Center, St. James AME Zion Church, The National Arts Club
- **Promoters of Earth Science Week:** Berghahn Books, Cornell University, Global Journal of Practical Ecotourism (Planeta.com), The Catskill Geologist, The Cave House Museum of Mining and Geology, New York State Department of Environmental Conservation
- **Participation in Earth Science Week Contests:** Toby Leng of Manhasset, NY was the winner of the 2023 Earth Science Week Video Contest with his video "Ferrofluid: Revolutionizing the Battle Against Plastic Pollution." Vladislav Ventura of Bronx, NY was a finalist in the 2023 Earth Science Week Visual Arts Contest.

North Carolina

- **In-Person Events hosted by:** Aurora Fossil Museum, Coats Public Library, Imagination Station Science & History Museum, Living History Village at Catawba Meadows Park, Appalachian State University
- **Promoters of Earth Science Week:** Forsyth Gem and Mineral Club, North Carolina Aquarium at Fort Fisher, North Carolina Department of Natural & Cultural Resources, North Carolina Fossil Club, North Carolina Geological Survey

North Dakota

- **State Proclamation:** North Dakota has a perpetual proclamation of Earth Science Week.

Ohio

- **State Proclamation:** The governor of Ohio issued a proclamation for Earth Science Week 2023.
- **In-Person Events hosted by:** Allen County Museum, Blackhand Gorge State Nature Preserve, Blendon Woods Metro Park, Cesar Creek State Park, Fossil Park, Marblehead Lighthouse State Park, Ohio State University at Lima, Orton Geological Museum, Shale Hollow Park, The Ohio State University School of Earth Sciences, Whipples Ledges, the Ohio Statehouse
- **Promoters of Earth Science Week:** Association of Environmental & Engineering Geologists, Farm and Dairy News, Ohio Department of Natural Resources Division of the Geological Survey, Ohio Earth Science Teachers Association, Salt Fork State Park, UES: An Eclipse Company, Wright State University College of Science and Mathematics

Oklahoma

- **State Proclamation:** Oklahoma has issued a perpetual proclamation of Earth Science Week.
- **In-Person Events hosted by:** Sam Noble Oklahoma Museum of Natural History
- **Promoters of Earth Science Week:** Oklahoma Geological Survey

Oregon

- **In-Person Events hosted by:** Cannon Beach History Center & Museum, John Day Fossil Beds National Monument, Museum of Natural and Cultural History, Eugene, Cascades & Coast Visitor Center
- **Promoters of Earth Science Week:** Maritime Archaeological Society, Oregon Coast Magazine, Oregon Geological Survey, University of Oregon, Western Oregon University Earth Science Alumni Society

Pennsylvania

- **State Proclamation:** Governor Josh Shapiro of Pennsylvania issued a proclamation for Earth Science Week 2023.
- **In-Person Events hosted by:** Community Education Center in Philadelphia, Indiana University of Pennsylvania's Anthropology Department, Newlin Grist Mill Park, Penn Museum, Phillips Park, University of Pittsburgh
- **Promoters of Earth Science Week:** ABC27 News- Harrisburg, Allegheny Chapter #1 of the Society for Pennsylvania Archaeology, Nittany Mineralogical Society Inc. at State College, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Geological Survey, Pennsylvania Parks & Forests Foundation, Philadelphia Archaeological Forum, Pittsburgh Society of the Archaeological Institute of America, University of Pittsburgh University Department of Anthropology
- **Participation in Earth Science Week Contests:** Allison Meng of Ambler, PA was a finalist in the 2023 Earth Science Week Video Contest.

Rhode Island

- **In-Person Events hosted by:** Brown University, Museum of Natural History and Planetarium, Narragansett (AIA), Society Westerly Library & Wilcox Park
- **Promoters of Earth Science Week:** Macaroni KID of Southern Rhode Island

South Carolina

- **In-Person Events hosted by:** Charles Towne Landing, Florence County Museum, South Carolina Institute of Archaeology and Anthropology, University of South Carolina Department of Anthropology
- **Promoters of Earth Science Week:** South Carolina Geological Survey, South Carolina State Parks

- **Participation in Earth Science Week Contests:** Aydin M Soner of Columbia, SC was the winner of the 2023 Earth Science Week Visual Arts Contest.

South Dakota

- **State Proclamation:** South Dakota has a perpetual proclamation recognizing Earth Science Week.
- **In-Person Events hosted by:** Museum at Black Hills Institute of Geological Research, Museum of Geology at South Dakota Mines, World Fossil Finder Museum
- **Promoters of Earth Science Week:** Badlands National Park, the City of Hot Springs, South Dakota Afterschool Network, South Dakota Geological Survey, South Dakota Public Broadcasting, W.H. Over Museum, Wind Cave National Park

Tennessee

- **In-Person Events hosted by:** C.H. Nash Museum at Chucalissa, Discovery Park Of America, McClung Museum of Natural History and Culture, Middle Tennessee State University's Department of Geosciences, Nashville Parthenon, Nashville Society (AIA), University of Tennessee at Martin Coon Creek Science Center
- **Promoters of Earth Science Week:** Maury County Source, Tennessee Geological Survey

Texas

- **In-Person Events hosted by:** Central Texas Society (AIA), Consumer Energy Alliance and Education Foundation, Dallas Paleontological Society, Denton County Historical Commission, Jurassic Quest®, Houston Geological Society, Houston Museum of Natural Science, Ladonia Fossil Park, Mineral Wells Fossil Park, Mission San Jose, Southwest Texas Archaeological Society, Stephen F. Austin State University, Texas Science & Natural History

Museum, University of Texas at Austin's Department of Classics, University of Texas at El Paso, University of Texas at San Antonio, Waco Mammoth National Monument, Witte Museum

- **Promoters of Earth Science Week:** Arlington Archosaur Site, Boy Scouts of America Sam Houston Area Council, Geophysical Society of Houston, Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists, Houston Gem and Mineral Society, Rice University's AAPG Student Chapter, San Jacinto College, Society of Independent Professional Earth Scientists, TeachMe GIS (Inner Corridor Technologies), Texas A&M Department of Geology & Geophysics, Texas Archeological Society Members and Friends, Texas Geological Survey, Texas Girls Collaborative Project, Texas Water Development Board, The Wonders of Paleontology, University of Houston Geological Society, University of Houston Wavelets/Wildcatters, University of Texas at Austin's Jackson School of Geosciences

Utah

- **In-Person Events hosted by:** Glen Canyon National Recreation Area, Grand Staircase-Escalante National Monument, Prehistoric Museum at Utah State University Eastern, Utah Core Research Center, Zion National Park
- **Promoters of Earth Science Week:** ABC4, Dinosaur National Monument, Utah Geological Survey, National Parks Traveler

Vermont

- **Promoters of Earth Science Week:** Million Girls Moonshot, State of Vermont Agency of Natural Resources, Vermont Afterschool

Virginia

- **State Proclamation:** The governor of Virginia issued a proclamation for Earth Science Week 2023.
- **In-Person Events hosted by:** Alexandria Archaeology Museum, College of William & Mary, Frontier Culture Museum, Richmond Society (AIA), Torpedo Factory Art Center, University of Richmond's Department of Classical Studies, Virginia Geology and Mineral Resources Program, Virginia Living Museum
- **Promoters of Earth Science Week:** Archaeological Society of Virginia, Captain John Smith Chesapeake National Historic Trail, Dovetail Cultural Resource Group, Germanna Archaeology, National Science Teaching Association, Nitty Gritty Science, Principia Tutors & Consultants, The Need Project, Virginia Association of Science Teachers, Virginia Commonwealth University's Rice Rivers Center, Virginia Energy, Prince William County School District, George Mason University's Department of Atmospheric, Oceanic & Earth Sciences
- **Participation in Earth Science Week Contests:** Mackenzie Campbell and Nirja Patel of Virginia Beach, VA were finalists in the 2023 Earth Science Week Essay Contest. Jerry Nissley of Alexandria, VA was a finalist in the 2023 Earth Science Week Photography Contest.

Washington

- **In-Person Events hosted by:** Burke Museum of Natural History and Culture, Northwest Museum of Arts and Culture, Puget Sound Chapter (AIA), Spokane Society (AIA)

- **Promoters of Earth Science Week:** Association for Washington Archaeology, King County Historic Preservation Program, Nisqually Indian Tribe Historic Preservation Program, Perteet, The Evergreen State College, University of Washington Anthropology and Classics Departments, Washington Geological Survey, Willamette Cultural Resources Associates
- **Participation in Earth Science Week Contests:** Alex Xu of Clyde Hill, WA was a finalist in the 2023 Earth Science Week Essay Contest.

West Virginia

- **In-Person Events hosted by:** Grave Creek Mound Archaeological Complex, The Hobbies Shop
- **Promoters of Earth Science Week:** Clay Center for Arts and Sciences, New River Gorge National Park & Preserve, Popular Archaeology, West Virginia Association of Geospatial Professionals, West Virginia Geologic and Economic Survey

Wisconsin

- **In-Person Events hosted by:** Milwaukee Society (AIA), University of Wisconsin at Milwaukee's Greene Geological Museum
- **Promoters of Earth Science Week:** G.E. Bleskacek Family Memorial Library-Bloomer, Wisconsin Geological and Natural History Survey, Wisconsin's Digital Library

Wyoming

- **In-Person Events hosted by:** Wyoming State Library, Sweetwater County Travel and Tourism, Rock Springs Historical Museum, the Sweetwater County Museum, and the Community Fine Arts Center.
- **Promoters of Earth Science Week:** Big Horn Radio Network, The Cheyenne Post, Tate Geological Museum, University of Wyoming Geological Museum, Wyoming State Geological Survey

International Participation in Earth Science Week 2023

Australia

- **In-Person Events hosted by:** Australian Earth Science Education, Australian Parliament House, Capital GeoBash, DART Learning of the New South Wales Department of Education, Geoscience Australia, Mulligans Flat Woodland Sanctuary, Oz Mega Committee, Virtual Excursions Australia, Wildbark at Mulligans Flat Nature Reserve
- **Promoters of Earth Science Week:** Australian Geoscience Council, CoRE Learning Foundation, Fuzzy Logic, Geological Survey of South Australia, Teacher Earth Science Education Programme (TESEP), Woodside Energy

Bangladesh

- **Participation in Earth Science Week Contests:** Md. Shamim Al-Noor of Gazipur was the winner of the 2023 Earth Science Week Photography Contest with an image showing “Golden Fiber Processing,” an eco-friendly process of growing and utilizing Jute plants.

Belgium

- **Promoters of Earth Science Week:** Earth Science Toolkits were ordered by individuals and organizations

Belize

- **In-Person Events hosted by:** Institute of Archaeology (NICH) Belize, Lamanai Archaeological Reserve, Stann Creek Regional Archaeology Project

- **Promoters of Earth Science Week:** Banquitas House of Culture (NICH), Belize Department of the Environment, Belize Forest Department, Belize National Biodiversity Office, Belize Tourism Board, Friends for Conservation and Development, Galen University’s Anthropology Club, Institute for Social & Cultural Research ISCR NICH, Lamanai Outpost Lodge, Protected Areas Conservation Trust, Taiwan in Belize, U Chan Muul Yaax K’aax

Brazil

- **Promoters of Earth Science Week:** Earth Science Toolkits were ordered by individuals and organizations.

Canada

- **In-Person Events hosted by:** Brock University, iagara Peninsula Society of the Archaeological Institute of America at Brock University, Saskatchewan Archaeological Society
- **Promoters of Earth Science Week:** Canadian Federation of Earth Sciences, The Ontario Archaeological Society, Vancouver Island University, Earth Science Toolkits were ordered by individuals and organizations

China

- **Promoters of Earth Science Week:** The ISF Academy in Hong Kong

Czechia

- **In-Person Events hosted by:** Museum of History in Mohelnice, Regional Museum in Mikulov, Univerzita Karlova (Charles University)

- **Promoters of Earth Science Week:** The Museum of History in Mohelnice celebrated International Archaeology Day by inviting families to explore archaeological finds and make prehistoric crafts.

Egypt

- **In-Person Events hosted by:** Polish Embassy in Cairo
- **Promoters of Earth Science Week:** Polish Centre of Mediterranean Archaeology

Germany

- **Promoters of Earth Science Week:** International Union of Geodesy and Geophysics

Greece

- **In-Person Events hosted by:** American School of Classical Studies at Athens
- **Promoters of Earth Science Week:** ESW Toolkits were ordered by individuals and organizations.

India

- **In-Person Events hosted by:** Nirgranth Centre of Archaeology Maharashtra Vriksha Samvardhini in Pune, the Applied Geology programme at the School of Earth, Ocean and Atmospheric Sciences (SEOAS) of the University of Goa in Panaji; the Department of Geology at St. Xavier’s College in Mumbai; the Department of Geology at the Government Institute of Science in Ch. Sambhajinagar, Birbal Sahni Institute of Palaeosciences, and the Palaeontological Society of India collaborated to present a week-long virtual celebration during Earth Science Week, exploring various Earth science topics through the lens of philately.

Ireland

- **Promoters of Earth Science Week:** Open University Geological Society, Earth Science Toolkits were ordered by individuals and organizations

Jamaica

- **In-Person Events hosted by:** Petroleum Geoscience Unit of The Department of Chemical Engineering at the University of the West Indies
- **Promoters of Earth Science Week:** Earth Science Toolkits were ordered by individuals and organizations

Japan

- **In-Person Events hosted by:** Earth Science Week Japan Organizing Committee, Japan Geoscience Union (JpGU)
- **Promoters of Earth Science Week:** NPO Earth Science Olympiad Japan Committee, Shizuoka Science Museum Ru-Ku-Ru, Earth Science Toolkits were ordered by individuals and organizations.

Kenya

- **In-Person Events hosted by:** Webbs Institute
- **Promoters of Earth Science Week:** For International Archaeology Day, Webbs Institute allowed visitors to watch work being done at a live archaeological dig, including the use of geophysical technologies like ground-penetrating radar and magnetometry.

Malaysia

- **In-Person Events hosted by:** Hinbus Depot, COEX, 草稿 Draf, Ruang Kongs, and Kraak Creations partnered to host a day of hands-on activities, talks, and documentary screenings to celebrate International Archaeology Day.

Morocco

- **In-Person Events hosted by:** Chouaib Doukkali University in collaboration with the National Institute of Archaeology and Heritage

New Zealand

- **Promoters of Earth Science Week:** GNS Science

Nigeria

- **Promoters of Earth Science Week:** Ahmadu Bello University, Earth Science Toolkits were ordered by individuals and organizations.

Pakistan

- **In-Person Events hosted by:** Save Cultural Heritage Group
- **Promoters of Earth Science Week:** Save Cultural Heritage Group celebrated International Archaeology Day with virtual talks comparing ancient and modern ideologies, the effects of climate change on culture, and communication in archaeology.

Poland

- **In-Person Events hosted by:** Muzeum Górnośląskie w Bytomiu (Upper Silesian Museum in Bytom), Polish Geological Institute
- **Promoters of Earth Science Week:** Mineralogical Society of Poland, University of Warsaw

Trinidad and Tobago

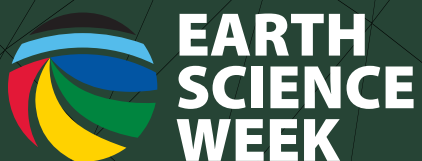
- **Promoters of Earth Science Week:** Geological Society of Trinidad

United Kingdom

- **In-Person Events hosted by:** Batts Combe Quarry, Blackmoor Reserve, Burlington House, Cheese & Grain, Headington Municipal Cemetery, Holywell Cemetery, London Geo-diversity Partnership, London Natural History Society, Market Hall Museum, The Mendip Society, North Uist Development Company, Old Lochmaddy School, Oxford University Museum of Natural History, Riverside Gardens, Sidmouth Museum, Somerset Earth Science Centre, St. Mary & St. John Churchyard, St. Sepulchre's Cemetery, Tedbury Scout Campsite, Templar's Square Shopping Centre, The Geological Society, Warwickshire Geological Conservation Group, Wells & Mendip Museum, Wesley Memorial Methodist Church
- **Promoters of Earth Science Week:** GeoScientist Online, Origami Organelles, Petiole Pro, Taylor & Francis, The Royal Astronomical Society, UK Space Agency, University College London Earth Sciences, Earth Science Toolkits were ordered by individuals and organizations.



Earth Science Week 2023 Visual Arts Contest entry by Vladislav Ventura.



**EARTH
SCIENCE
WEEK**

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