

Earth Science Week 2010 “Exploring Energy”

Highlights and News Clippings

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Highlights and News Clippings from Earth Science Week 2010

Introduction

Held Oct. 10-16, 2010, the 13th annual **Earth Science Week** celebrated the timely theme **“Exploring Energy.”** Earth Science Week 2010, like past celebrations, promoted public and professional awareness of Earth science in education and society.

Each year, AGI organizes Earth Science Week as a service to member societies, with generous help from partner organizations that provide funding, donate materials, organize events, and publicize the celebration. Major funding partners in 2010 included the United States Geological Survey (USGS), the American Association of Petroleum Geologists (AAPG) Foundation, the National Park Service, the National Aeronautics and Space Administration (NASA), the U.S. Department of Energy, ExxonMobil, and ESRI.

“Energy is a topic that always generates electricity in education,” said Ann E. Benbow, Ph.D., AGI’s Director of Education and Outreach, announcing the theme of the celebration. “Students and teachers are used to hearing about energy crises in the news media. We all understand the vital role that energy plays in our lives.” Earth Science Week 2010 provided educators, students, and interested citizens with the information, resources, and activities necessary for scientifically sound education about energy.

Earth Science Week **participation remained strong.** People in all 50 states and in more than five countries participated in events and activities. Over 60,000 people visited the Earth Science Week website in 2010. In addition, hundreds of people nationwide actively participated in the program’s visual arts, essay, and photography contests.

Earth Science Week events ranged from educators teaching Earth science activities in their classrooms to open houses held at major USGS field stations. A detailed list of events can be found in Part 1. This list represents only events reported directly to AGI, so please notify Earth Science Week staff if your participation is not listed.

Additional events are highlighted in Part 2, a compilation of news releases and other items by members of the geoscience community. Each year, more and more people are introduced to Earth Science Week by reading or hearing a news story in the media. This year, Internet, print, and broadcast media coverage of Earth Science Week soared to reach a documented **46 million people.** Part 2 contains examples of print and electronic media promoting Earth Science Week activities, resources, and materials. In addition, television news programs covered Earth Science Week on local stations in three states.

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 2010 events and publicity inspires you to develop your own activities next year. 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.

Part 1

Earth Science Week 2010 Summary of Activities

Overview

More than 46 million people gained a new awareness of the geosciences through the 13th annual Earth Science Week. That's how many people worldwide learned about Earth science through program promotions, education efforts, news media, and Internet coverage. The event celebrated the theme "Exploring Energy" by promoting scientific understanding of the sources, uses, and effects of energy.

Earth Science Week events ranged from individual teachers and classes conducting playground science projects to activities at locations such as USGS field stations, NASA facilities, and national parks. Schools nationwide held activities for No Child Left Inside Day on October 12, encouraging students to explore geoscience topics firsthand outdoors. The first annual National Fossil Day, October 13, invited young people to learn about paleontology at national parks and other locations across the country. Also, Women in the Geosciences Day, October 14, provided an opportunity for professional geoscientists to share the excitement of their careers with young women.

Internationally, students and others in Australia, Austria, Canada, Montserrat, and Trinidad and Tobago participated in events, explorations, and activities during Earth Science Week. Hundreds of essayists, artists, and shutterbugs once again entered the annual Earth Science Week contests.

New Partnerships and Efforts

Earth Science Week's success depends on the collaboration of key partners. In 2010, AGI forged partnerships with several organizations that helped the effort reach new audiences:

Presented by the Society of Petroleum Engineers, **Energy4Me** offers education resources on energy sources. The program provided a poster for the Earth Science Week 2010 Toolkit for the first time, outlining pros and cons of renewable and nonrenewable energy sources, offering educational activities, and detailing program opportunities for science teachers and students.

A major new funder and partner, **ExxonMobil** generously supported the week's activities and educational materials. This longtime supporter of science and mathematics education supplied a brochure for the kit, summarizing information on energy use of the past, present, and future.

The **National Earth Science Teachers Association** (NESTA), a longtime Earth Science Week partner, took on a new role in helping AGI promote excellence in geoscience education in 2010. At the National Science Teachers Association Annual Conference in Philadelphia, the NESTA Reception included a ceremony during which a teacher was given the Edward C. Roy, Jr. Award for Excellence in K-8 Earth Science Teaching. Plans have been made to repeat the event annually.

Earth Science Week promoted the **National Ground Water Association's** launch of its first annual Protect Your Groundwater Day on September 14, 2010, promoting water conservation and contamination. The AGI member society offers Ground Water Adventures, a website providing educational activities for young people. Earth Science Week also promoted the association's Ground Water Awareness Week, which is scheduled for March 2011.

A longtime Earth Science Week partner, the **National Park Service** this year added a major new component to its involvement in Earth Science Week. National Fossil Day, established as a celebration to take place annually on the Wednesday of Earth Science Week, reached millions of people. The "Fossils of the National Park" poster that appeared in the Earth Science Week Toolkit successfully continued the series of park posters produced collaboratively by the National Park Service and AGI.

The National Energy Education Development (NEED) Project for the first time provided a learning activity for the Earth Science Activity Calendar included in the 2010 kit. This nonprofit group works with energy companies, agencies, and organizations to create balanced energy programs for schools, including teacher professional development and science curriculum materials.

Partners in Resource Education (PRE), a new program partner, provides programs and activities designed to get young people excited about the geoscience of conservation. This consortium of seven federal agencies educates thousands of young people, introduces them to natural resource careers, and cultivates the next generation of land and water stewards. In 2010, PRE collaborated to promote awareness of Earth Science Week, and vice versa.

Schlumberger Excellence in Educational Development (SEED) is a nonprofit education program that empowers Schlumberger employee volunteers and educators to share their passion for learning and science with students aged 10 to 18. AGI partnered with the program to launch a joint initiative, the SEED Earth Science Week Online Toolkit, to provide Earth science education resources in both Spanish and English. In addition, Earth Science Week promoted SEED's School Network Program, which invites underserved schools to apply for grants. Students and educators in SEED network schools can access hands-on workshops and online activities and projects. The Online Science Center provides educational resources and opportunities to learners and educators worldwide. Learning materials include ready-to-go SEED experiments, activities, and articles from the Online Science Center.

In addition to providing materials for the Earth Science Week Toolkit for the first time in 2010, the **U.S. Department of Energy (DOE)** offered the Energy Efficiency and Renewable Energy website, which provides over 350 K-12 lesson plans online. DOE programs for K-12 teachers and college professors include support of the Albert Einstein Distinguished Educator Fellowship, administered by the Triangle Coalition. Earth Science Week also promoted awareness of the expansion of DOE's Energy-Related Laboratory Equipment program, which now makes surplus equipment available for free to middle and high schools.

Earth Science Week Toolkits

Across the country, AGI distributed some **16,000 Earth Science Week Toolkits** to teachers and geoscientists in 2010. The number of AGI member societies requesting complimentary Earth Science Week Toolkits for distribution rose to 25 in 2010 from 22 the previous year. In addition, the number of state geological surveys requesting complimentary kits for distribution increased to 29 from 28 in 2009. As in past years, thousands of kits also were distributed through program partners including USGS, NASA, the National Park Service, and AAPG Student Chapters. Hundreds of kits were shipped free to geoscience department chairs at colleges and universities nationwide. Toolkits were shipped to program participants in all 50 states and several countries.

The 2010 toolkit featured AGI's traditional Earth Science Week poster, bookmarks, and school-year calendar showcasing geoscience classroom investigations and important dates of Earth science events. A "Fossils of the National Parks" poster, included in the toolkit, was produced by AGI for the National Park Service to continue this unique poster series underscoring geoscience in the parks. Additional items created by AGI for the kit were flyers promoting the Earth Science Week contests, AGI Earth science education products and services, AGI publications, *Earth* magazine, and the Edward C. Roy, Jr. Award for Excellence in K-8 Earth Science Teaching.

Also included were geoscience posters, flyers, electronic disks, bookmarks, and activities provided by AGI, USGS, NASA, NOAA, AAPG, the National Park Service, the U.S. Department of Energy, the U.S. Fish & Wildlife Service, the National Academies, the National Energy Education Development (NEED) Project, the Soil Science Society of America, the Society of Petroleum Engineers (Energy4Me), GLOBE, Environmental Systems Research Institute (ESRI), the Geological Society of America, the Association for Women Geoscientists, Rite in the Rain, the Association of American State Geologists, and the National Earth Science Teachers Association.

Web Resources

To provide Earth science teaching and learning resources in both Spanish and English, the **SEED Earth Science Week Online Toolkit** was launched shortly before the October event. The website, a partnership of Schlumberger Excellence in Educational Development (SEED) and AGI, was created to provide educational materials, activities, and other resources for Spanish-speaking students and teachers, as well as English speakers, in U.S. and SEED network schools around the world. The resources featured on the site were developed by SEED, AGI, and other geoscience organizations. Visitors can view dozens of lessons, posters, fact sheets and other materials in both Spanish and English. Materials provide users with introductory information on Earth science, as well as in-depth items on earth, water, air, and life science. The site received 2,975 hits in 2010 in just the few months following its launch for Earth Science Week.

As in past years, the **Earth Science Week website** (www.earthsciweek.org) was updated regularly to reflect the new theme, contests, proclamations, events, initiatives, and classroom activities for 2010. The home page received 62,232 hits in 2010. Within the site, the classroom activities page received 14,267 hits, the contests page received 14,202 hits, the

teacher resources page received 12,123 hits, the events page received 5,502 hits, and the planning page received 5,015 hits.

Other sites also featured prominently. For example, AGI launched the Earth Science Organizations (ESO) database last year to facilitate partnerships between educators and others in the geoscience community. Educators were invited to use this online tool (www.earthsciweek.org/gpn) to identify potential partners nearby, access relevant information, network with colleagues, and invite them to collaborate during the October celebration. The ESO map pinpoints local contacts for AGI member societies, state geological surveys, facilities of agencies such as USGS and NASA, universities offering geology programs, parks, museums, and other Earth science groups. ESO provides the perfect starting point for planning field trips or classroom presentations led by local scientists, professors, employers, nonprofit representatives, environmental educators, and government leaders in the geosciences. The site received 3,949 hits in 2010.

In addition to ESO, Earth Science Week has maintained the many online resources and tools on which users have come to rely. Participants hosting events for the public during Earth Science Week, for example, were invited to post details on “Events in Your Area” (www.earthsciweek.org/eventsnearlyou/index.html), a webpage providing information on events taking place in each state. Another significant online resource is AGI’s “The Pulse of Earth Science” website (www.agiweb.org/education/statusreports). For each state, the website provides the most recent available data on teacher certification requirements and numbers teaching related subjects, relevant courses that middle and high school students must take, K-12 enrollment levels in Earth science and related subjects, coverage of Earth science within state science standards, state assessment of students in Earth science, textbooks adopted and relevance to Earth science, and contact information for state education agencies. The website also offers guidance and links to additional resources for advocates who wish to take action.

Newsletter

The monthly **Earth Science Week Update** newsletter reached more than 6,500 teacher, student, and geoscientist subscribers in the past year, an increase of over 10 percent from the previous year. The online program resource rated most highly by Earth Science Week participants, this electronic newsletter kept planners and participants up-to-date on Earth Science Week planning at the national level, encouraged participation in local areas, and provided news on geoscience topics of interest to participants.

In 2010, the Earth Science Week Update also regularly provided news and information on educational programs and resources of AGI member societies, along with those of Earth Science Week partners. Newly profiled organizations and efforts included the American Association of Petroleum Geologists, the National Park Service’s National Fossil Day, the U.S. Department of Energy’s Energy-Related Laboratory Equipment (ERLE) program, the U.S. Department of Homeland Security’s Federal Emergency Management Agency, NASA’s Mission:Science site, the Geological Society of America’s International EarthCache Day, the National Ground Water Association, the Seismological Society of America, the Association of Environmental and Engineering Geologists, the American Institute of Professional Geologists, the Society of Petroleum Engineers, the Paleontological Research Institution, the

Society of Exploration Geophysicists, SEED (Schlumberger Excellence in Educational Development), the National Resource Conservation Service, the National Energy Foundation's Igniting Creative Energy (ICE) Challenge, Partners in Resource Education, National Lab Day, and the USA Science & Engineering Festival.

In addition to highlighting worthwhile resources, these monthly e-mail updates reinforce the belief that geoscience education is a priority throughout the year, not only during one week each October.

National Contests

AGI held three national contests in connection with Earth Science Week for the ninth consecutive year. The contests 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. More than 600 people nationwide submitted photos, art, and essays to the contests this year. Each first-place winner received \$300 and a "Faces of Earth" DVD set. Entries submitted by winners and finalists were posted online.

Darwin Lau of Virginia Beach, Virginia, won first place in the visual arts contest with a colorful drawing of energy sources, uses, and users in the community. Finalists were Sebastian Barrios, Shanti Vega, Allison Crane, and Vennela Sri Kantamaneni. Students in grades K-5 made two-dimensional artworks illustrating the theme "**Energy on Earth.**" Kayli Hall of Paradise, Texas, won first place in the essay contest with her writing about where energy comes from, how it affects the environment, and ways people can be effective stewards of resources. Finalists were Ramya Radhakrishnan, Francesca Peavie, Benjamin Hughes, and Michael Thew. Students in grades 6-9 wrote essays of up to 300 words addressing this year's theme, "**How Energy Powers the Planet.**" Adam Yurigan of Vero Beach, Florida, won first place in the photo contest, open to all ages, with his image of car drivers and bicyclists traversing a landscape of power plants and lamp posts. Finalists were Kennedy Mirocha, Juri Fukuda, Christina Forbes, and Aaron Noriega. Submissions illustrated the theme "**We Depend on Energy.**"

Earth Science Teacher Award

For the third consecutive year, AGI and the AGI Foundation offered the **Edward C. Roy, Jr. Award for Excellence in K-8 Earth Science Teaching.** Jason Pittman, lead science resource teacher at Hollin Meadows Science and Math Focus School in Alexandria, Virginia, was named the 2010 recipient. Pittman, who started his career as an Internet design entrepreneur, went on to earn a master's degree in education and engage elementary students with inquiry-based, hands-on learning in the Earth sciences.

Pittman received a \$2,500 prize and an additional grant of \$1,000 to enable him to attend the National Science Teachers Association 2010 National Conference to accept the award during a reception hosted by the National Earth Science Teachers Association. Finalists for the award were Greer Lynn Harvell of Clifford C. Meigs Middle School in Fort Walton Beach, Florida, and John Schaefer of Ingomar Middle School in Pittsburgh, Pennsylvania. The award recognizes one classroom teacher from kindergarten to eighth grade for leadership and innovation in Earth science education. This award is named in honor of Dr. Edward C. Roy, Jr., a past president of AGI and strong supporter of Earth science education.

Events

Earth Science Week 2010 officially kicked off on Sunday, October 10, with AGI's **"Get Energized: An Earth Science Fair"** at Baltimore's Maryland Science Center. In addition to the science center's many longstanding science offerings, special displays and hands-on activities highlighted the science of energy. Presenters such as NASA, the National Park Service, ExxonMobil, The NEED (National Energy Education Development) Project, and AGI provided interactive demonstrations and handouts to hundreds of interested visitors.

At the same time, Earth Science Week activities got underway with **International EarthCache Day** on October 10. "EarthCaching" is a variation of a recreational activity known as geocaching, in which a geocache organizer posts latitude and longitude coordinates on the Internet to advertise a cache that geocachers locate using GPS devices. The activity has attracted over a million participants worldwide. When people visit an EarthCache, they learn something special about Earth science, the geology of the location, or how the Earth's resources and environment are managed there. EarthCaching has been developed by the Geological Society of America, a major program partner.

One of the major highlights of recent years' Earth Science Week celebrations has been **"No Child Left Inside" Day**, an event that in its inaugural year engaged some 500 students in outdoor learning activities and received coverage by news media from NBC to NPR. In 2010, students and educators nationwide were invited to take part on the Tuesday of Earth Science Week, October 12. AGI's online NCLI Day Guide provided everything needed to plan a local NCLI Day event. The free guide provided 10 outdoor activities that educators could organize. Also included were recommendations for creating partnerships, planning logistics, reaching out to the local media, and following up in the classroom. The site received 4,106 hits in 2010, as teachers and children across the country seized the opportunity to discover Earth science in their own neighborhoods.

Earth Science Week introduced a new event on Wednesday, October 13, 2010. In partnership with the National Park Service (NPS), AGI helped kick off the first annual **National Fossil Day**, including activities and resources designed to celebrate the scientific and educational value of fossils, paleontology, and the importance of preserving fossils for future generations. NPS launched a new website full of educational resources and information designed specifically for students and teachers. On the site's NPS Fossil Park Highlights page, visitors could find lesson plans developed to reflect select state standards, fossil trading cards, videos about pygmy mammoths, special brochures, a virtual museum exhibit on dinosaurs, and more. In addition, NPS held a National Fossil Day Art Contest, inviting entries that address the theme "Paleontology: Preserving the Past for Our Future." To commemorate the day, NPS, AGI, and Smithsonian's Museum of Natural History collaborated to conduct a major National Fossil Day Celebration on the National Mall in Washington, D.C. Hundreds of participants learned how to become a Junior Paleontologist, studied the history of life preserved in over 230 units of the park service, heard "Fossil Talks" given by paleontologists, and excavated fossils from blocks of sediment. And people took part in similar programs nationwide, such as the nearly 800 people who participated in Earth Science Week activities at Grand Canyon National Park.

The Association for Women Geoscientists (AWG), an AGI Member Society, collaborated with AGI to organize the second annual **Women in the Geosciences Day** on Thursday, October 14, during Earth Science Week 2010. The special day offered adult geoscience professionals a chance to share the excitement and advantages of their careers with women of all ages, especially those early in their education. Educators invited female geoscientists to speak in the classroom. Women geoscientists took their daughters to work, visited local schools, and volunteered at science centers. And AWG worksheets were included in Earth Science Week Toolkit to promote the event.

Overlapping Earth Science Week, **National Wildlife Refuge Week** also was held October 10-16, 2010. The event celebrated the richness of the 550 units that make up America's National Wildlife Refuge System. The week focused on lands and waters where wildlife and habitats are under federal protection. Earth Science Week participants were urged to learn about the natural and cultural resources that are part of the conservation mission of the U.S. Fish and Wildlife Service. Refuge fact sheets were featured as part of the Earth Science Week 2010 Toolkit to promote awareness.

As part of Earth Science Week 2010, AGI emerged as an official partner of the inaugural **USA Science and Engineering Festival**, held throughout October in Washington, D.C. The festival, which was the country's first national science festival, represented a collaboration of over 500 leading science and engineering organizations, culminating in a two-day expo on the National Mall on October 23-24. Tens of thousands of people took the opportunity to explore science and engineering through hundreds of fun, hands-on activities. At AGI's booth, visitors explored seismology and other principles of geoscience. The event featured more than 1,500 exhibits spanning energy, aerospace, climatology, and other scientific disciplines. Satellite events were held across the country by universities, student science clubs, national laboratories, and other groups.

Additional Resources

AGI has emerged as a leading producer of **educational video products** for the geoscience community, many of which were promoted among teachers and students prior to and during Earth Science Week 2010. AGI's "Earth and You" DVD, which features short video chapters that cover important concepts about Earth's geosphere for grades 3-5, won a Gold 2010 Questar Award as well as a Bronze Telly Award.

In addition, AGI won a Silver Telly Award for "Visions of Earth," a 4-DVD set featuring video and animations designed to help high school students understand the connections among the Earth systems. A Bronze Telly also was awarded for the promotional video for "Visions of Earth." And a Silver Telly Award went to AGI's "Why Earth Science," a brief overview of the importance of Earth science, available for free viewing online on YouTube and TeacherTube. For an exciting introduction to the geosciences, teachers and students can access this six-minute clip, featuring cinematography and computer-animation highlights from AGI's "Faces of Earth" mini-series, which aired on The Science Channel.

Official Proclamations

Governors issued proclamations recognizing Earth Science Week 2010 in **21 states** (up from 18 in 2009): Alabama, Alaska, Arkansas, California, Delaware, Florida, Illinois, Louisiana,

Missouri, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Virginia, and Washington. Seven of these states have issued “perpetual proclamations,” ensuring recognition of Earth Science Week every year.

Publicity and Media Coverage

AGI enlisted the support of a wide range of media in promoting awareness of Earth Science Week, resulting in unprecedented reach for promotional activities in 2010 and helping to lay a foundation for more coverage in years to come.

Internet: Earth Science Week was highlighted on hundreds of Internet pages besides the official event site. Program partners USGS, AAPG, GSA, NSTA, NESTA, NAGT, NASA, the National Park Service, ESRI, ASTC, SVP, AWG, SSSA, AEG, Windows to the Universe, Geology.com, Ask.com, and About.com featured information promoting that organization’s events and publicizing the celebration.

Earth Science Week was mentioned on over 200 websites this year and made a major appearance in the “geoblogosphere” including such blogs as Dinochick, DC Geology Events, Earthly Musings, Encyclopedia Britannica, Energy4Me, Geoblogosphere News, Geology Blues, Geotripper, Magma Cum Laude, Science Buzz, Space Station Info, Superoceras, Through the Sandglass, Uncovered Earth, Vatul, and Virtual Schooling. In addition, numerous Twitter accounts promoted the event. And the Earth Science Week Facebook “fan” and “group” pages each served over 500 members.

Television and Radio: Earth Science Week was covered by television stations across the country, including NBC Los Angeles; CBS 47 TV of Central San Joaquin Valley, California; and KBZK 7 of Bozeman, Montana. In addition, the event was covered by radio stations such as WWJ 950 News Radio in Detroit, Michigan; AM 610 KCSR in Chadron, Nebraska; and WGNS FM 100.5 in Murfreesboro, Tennessee.

Print Media: AGI distributed press releases to hundreds of newspapers, magazines, and other print media outlets. Many local and national publications ran items on Earth Science Week (for examples, see Section 2). AGI staff also wrote articles for the National Science Teachers Association’s *NSTA Reports* magazine and the National Earth Science Teacher Association’s *The Earth Scientist* magazine. The articles highlighted Earth Science Week activities and theme.

Earth Science Week news and events were covered by major news organizations such as *Wired* and *The Boston Globe*, which published articles highlighting Earth Science Week activities. Coverage of Earth Science Week programs and activities was provided by local news organizations such as the *Daily Herald* of Chicago, Illinois; the *Reno Gazette-Journal* of Reno, Nevada; *Anchorage Daily News* of Anchorage, Alaska; *The Salt Lake Tribune* of Salt Lake City, Utah; the *Chronicle Times* of Cherokee, Iowa; the *Fairfax Times* of Fairfax, Virginia; the *Chattanooga* of Chattanooga, Tennessee; the *Duluth News Tribune* of Duluth, Minnesota; the *Standard-Examiner* of Ogden, Utah; the *Killeen Daily Herald* of Killeen, Texas; the *Bozeman Daily Chronicle* of Bozeman, Montana; *The Herald-Mail* of Hagerstown, Maryland; and the *Casper Journal* of Casper, Wyoming.

Some 50,000 copies of the Earth Science Week 2010 poster, featuring a geoscience learning activity in addition to promotional content, were distributed as inserts in publications carrying articles about the event, such as *The Earth Scientist*, *GSA Today*, *AAPG Explorer*, the Society of Exploration Geoscientists' *The Leading Edge*, and AGI's own *Earth* magazine.

Professional Evaluation of Earth Science Week 2010: Key Outcomes

Following the event, AGI secured an independent contractor, PS International, to complete a formal evaluation of Earth Science Week 2010, as it has in past years. Some 6,500 program participants were invited to participate in a survey in the closing months of 2009, with a valid response rate of 4.5 percent.

Results were overwhelmingly positive. Comparing participation last year and plans for next year, 88 percent of survey respondents said they anticipate either increasing or maintaining level participation. "Earth Science Week for me is every week," commented one respondent. Though some said participation depended on the relevance of the annual theme to the curriculum, just 12 percent said they plan to decrease participation.

A large majority of participants (85 percent) said Earth Science Week offers opportunities for teaching and promoting Earth science that they wouldn't have otherwise. "Although we initiate and participate in many public Earth science awareness activities throughout the year, having a nationally recognized week set aside for it provides a forum and setting for a more focused effort," said one.

Similarly, 86 percent said program resources and activities are "very" or "somewhat" important to educating students and others about Earth science. "Online AGI materials and printed materials are very useful," a respondent remarked.

Most respondents find Earth Science Week and related resources highly useful, with 74 percent rating the program's overall usefulness as "excellent" or "good." When respondents were asked to rate nearly 17 key items from the Earth Science Week 2010 Toolkit and the Earth Science Week Website, all were rated "very useful" or "useful" by between 95 percent and 68 percent of participants.

Participants said they were very active during Earth Science Week. Seventy-five percent said they conducted a "major" activity. Moreover, many reported specific activities that were highly active. For example, 85 percent reported activities categorized as "most active" (e.g., field trips and teacher workshops), "active" (e.g., external speakers and open house discussions), or "somewhat active" (e.g., lesson plans and kit distribution).

Asked how Earth Science Week might be improved, 37 percent of respondents advocated additional materials and activities. Another 19 percent recommended increasing communication among stakeholders and participants. Additional suggestions included scheduling the event at a different time and building partnerships. AGI uses evaluation findings to improve the program.

Earth Science Week Sponsors

United States Geological Survey
American Association of Petroleum Geologists Foundation
National Aeronautics and Space Administration
U.S. Department of Energy
National Park Service
ExxonMobil
ESRI: Environmental Systems Research Institute

Earth Science Week Contributors

American Association of Petroleum Geologists Foundation
American Geological Institute
Association for Women Geoscientists
Association of American State Geologists
Association of Science-Technology Centers
Consortium for Ocean Leadership
Earth Science Literacy Initiative
ESRI: Environmental Systems Research Institute
ExxonMobil
Fish & Wildlife Service
Geological Society of America
National Academies of Science
National Aeronautics and Space Administration
National Earth Science Teachers Association
National Energy Education Development Project
National Oceanographic and Atmospheric Administration
National Earth Science Teachers Association
National Park Service
National Science Teachers Association
National Weather Service
Rite in the Rain
SEED: Schlumberger Excellence in Educational Development
Society of Exploration Geophysicists
Society of Petroleum Engineers
Soil Science Society of America
U.S. Department of Agriculture
U.S. Department of Energy
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Geological Survey

Earth Science Week 2010 Events and Activities by State and Territory

Alabama

- The governor of Alabama declared October 10-16, 2010, to be Earth Science Week.
- The MacWane Science Center celebrated Earth Science Week 2010 by offering hands-on activities and programs promoting Earth's energy resources and their importance and impacts on society.
- The Geological Survey of Alabama distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Alaska

- The governor of Alaska issued a perpetual proclamation of Earth Science Week.
- The Alaska Geological Society hosted an Earth Science Week event at the Z.J. Loussac Public Library in Anchorage on October 14. Students celebrated by participating in hands-on activities and received giveaways and door prizes.
- The Alaska Division of Geological and Geophysical Surveys distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Arizona

- Visitors to Grand Canyon National Park celebrated Earth Science Week 2010 by joining the National Park Service on special activities, programs, and the grand opening of the Trail of Time.

Arkansas

- The Arkansas Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

California

- The governor of California declared October 10-16, 2010, to be Earth Science Week.
- The California Institute of Environmental Design & Management (CIEDM) partnered with the GreenNet Group and held a workshop on October 10 to commemorate Earth Science Week 2010. The workshop was designed to engage young people in learning about Earth's energy resources and recent worldwide geological hazards.
- The Chabot Space and Science Center in Oakland celebrated Earth Science Week by sponsoring outdoor activities focused on the geosciences and energy. Some activities included earthquake shake table challenges, panning for gold, and the Lego™ Solar Car Challenge.
- The Fossil Discovery Center of Madera County had its ribbon-cutting ceremony on October 13 to commemorate National Fossil Day.
- To celebrate Earth Science Week 2010, the Williamson Gallery at Art College of Design in Pasadena opened a new exhibition, called "ENERGY," on October 8. The exhibit shows works by contemporary artists with the products of scientists and ecologists.

Colorado

- The Friends of Dinosaur Ridge celebrated Earth Science Week on October 16, 2010. An open-house format included guides stationed along the Dinosaur Ridge Trail. Other outdoor science activities such as Trek Through Time, fossil sieving, and dinosaur track painting were also available in celebration of National Fossil Day.
- To celebrate Earth Science Week 2010, the U.S. Geological Survey of Denver led a public field trip. The trip consisted of a hike to see an old copper mine located at the base of Lookout Mountain and a discussion of local geology, rocks, minerals, and natural history.

Connecticut

- The Bruce Museum hosted Family Fossil Fun Night. The event featured an exploratory hunt for fossils and hands-on fossil casting. The museum exhibited its collection of minerals and fossils through October 17, 2010.
- To celebrate National Fossil Day and Earth Science Week, the Yale Peabody Museum in New Haven featured a puppet show of prehistoric creatures and displayed vertebrate fossils collected from federal lands in the American West by research teams from the Museum's Division of Vertebrate Paleontology.
- The Connecticut Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Delaware

- The governor of Delaware issued a perpetual proclamation of Earth Science Week.
- The Delaware Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

District of Columbia

- AGI hosted an exhibit at the USA Science & Engineering Festival on October 23 and 24 for Earth Science Week 2010. Festival visitors participated in earthquake shake-table challenges and learned about energy.

Florida

- The governor of Florida declared October 10-16, 2010, to be Earth Science Week.
- To celebrate Earth Science Week 2010, the Florida Geological Survey held its annual Open House on October 13. Partnering with Florida State University, representatives offered tours of the Antarctic Marine Geology Research Facility. The annual Scout Night was also held to continue with tradition to assist local Webelos Scouts in obtaining their geology badge. The final Earth Science Week event held on October 15 consisted of a tour of the Leon Sinks Geological Area in the Apalachicola National Forest southwest of Tallahassee.
- The North Florida Chapter of the American Meteorological Society of Tallahassee hosted their Earth Science Week Exploring Energy Exhibit on October 15. The exhibit consisted of booths to show information for major sources of energy like solar, wind, hydro, geothermal, biomass, nuclear, and fossil fuels.
- Adam Yurigan of Vero Beach won the Earth Science Week Photography Contest.

Georgia

- Residents of Georgia entered the 2010 Earth Science Week Contests.

Hawaii

- The University of Hawaii at Manoa's Geology and Geophysics Department promoted Earth Science Week on its website (<http://www.soest.hawaii.edu/GG/earsci.html>).

Idaho

- The Idaho Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Illinois

- The governor of Illinois issued a perpetual proclamation of Earth Science Week.
- The Illinois State Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Indiana

- The Indiana Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Iowa

- The University of Northern Iowa, Basic Material Corporation, and the Iowa Geological Survey co-hosted "Sunday at the Quarry" on October 3 for Earth Science Week. The event included collecting minerals, rocks, and fossils; energy and paleontology activities for children; and discussions of the quarry's geologic history.
- The Sanford Museum in Cherokee displayed rare fossil collections to celebrate National Fossil Day for Earth Science Week.

Kansas

- The Kansas Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Kentucky

- The Kentucky Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Louisiana

- The governor of Louisiana declared October 10-16, 2010, to be Earth Science Week.
- The Louisiana Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Maine

- The Maine Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Maryland

- Earth Science Week 2010 began with a series of earth science events with “Get Energized” at Baltimore’s Maryland Science Center from noon to 2 p.m. on October 11. The event allowed hundreds of Maryland Science Center visitors to learn about energy in a science fair setting. Presenters such as NASA, the National Park Service, The NEED Project, ExxonMobil, and AGI provided hands-on, interactive demonstrations and handouts.

Massachusetts

- The Harvard Museum of Natural History kicked off Earth Science Week 2010 on October 10 with featured programs and exhibitions for the public. Museum visitors had the opportunity to do hands-on activities with real specimens and talk to a paleontologist to celebrate National Fossil Day. A special Teacher Professional Development program also enabled educators to learn about rocks and minerals.

Michigan

- Residents of Michigan entered the 2010 Earth Science Week contests.

Minnesota

- The Duluth Depot Great Hall hosted an event to celebrate National Fossil Day. The event included demonstrations of preparing fossils, molding and casting dinosaur-related crafts, and “digging for dinosaurs.”
- The Minnesota Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Mississippi

- Mississippi State University recognized the first National Fossil Day by hosting a Fossil Extravaganza on October 13. The event included tours of the Dunn-Seiler Museum featuring an exhibit of Mississippi dinosaur bones and art and writing contests for children.

Missouri

- The Missouri governor declared October 10-16, 2010, to be Earth Science Week.
- The Missouri Department of Natural Resources partnered with Land Survey’s Ed Clark Museum to celebrate Earth Science Week. The event included museum tours and activities emphasizing rocks, minerals, and protecting the environment.
- The Missouri Division of Geology and Land Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Montana

- The Museum of the Rockies of Bozeman celebrated National Fossil Day on October 13 by offering classes to young children. Programs included studying the existence of dinosaurs in Montana and investigating fossils and their formation.

Nebraska

- The Agate Fossil Beds National Monument celebrated Earth Science Week on October 10, 2010. The visitor center hosted a special guest speaker and displayed a life-size fossil diorama.

Nevada

- The governor of Nevada issued a perpetual proclamation of Earth Science Week.
- To celebrate Earth Science Week 2010, the Nevada Bureau of Mines and Geology arranged a field trip accompanied by geologists to help answer questions and identify rocks. The trip also included geocaching and EarthCaching with GPS devices.
- The UC Davis Tahoe Research Center in Incline Village celebrated Earth Science Week 2010 by hosting an Earth Science Week Afterschool Open House on October 13. The event included interactive games, group presentations, Earth science videos, and 3-D visualization lab activities.
- The Nevada Bureau of Mines and Geology distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

New Hampshire

- The New Hampshire Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.
- The New Hampshire governor declared October 10-16 to be Earth Science Week.

New Jersey

- The New Jersey governor declared October 10-16, 2010, to be Earth Science Week.
- The New Jersey Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

New Mexico

- The governor of New Mexico declared October 10-16 to be Earth Science Week.
- Mesalands Community College's Dinosaur Museum offered free admission to visitors under the age of 12 to celebrate the first National Fossil Day.
- To celebrate Earth Science Week, the New Mexico Museum of Natural History and Science sponsored a lecture and various interactive activities. Participants had the opportunity to view the sun through an observatory telescope, identify fossils with the help of experts, and learn about natural resource management.
- The New Mexico Bureau of Geology and Mineral Resources distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

New York

- The New York State Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

North Carolina

- The North Carolina governor declared October 10-16 to be Earth Science Week.

- The North Carolina Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

North Dakota

- North Dakota's governor issued a perpetual proclamation of Earth Science Week.

Ohio

- Kent State University's Department of Geology celebrated Earth Science Week on October 9, 2010. An open house was held to allow the community to see gem and fossil displays, try out laboratory activities, and talk to geologists about research and geological issues. Children were able to participate by going on a scavenger hunt and making their own "fossil."
- The Ohio Statehouse of Columbus celebrated Earth Science Week 2010 by hosting the Statehouse Fossils Tour. Experts from Ohio State University conducted discussions on the "Building Stones of Capitol Square."
- The Ohio Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.
- The governor of Ohio declared October 10-16, 2010, to be Earth Science Week.

Oklahoma

- The governor of Oklahoma issued a perpetual proclamation of Earth Science Week.
- The University of Tulsa celebrated National Fossil Day and Earth Science Week by hosting a campus event and lecture. Students completed fossil activities, studied fossil and meteorite specimens, talked to geoscientists, and listened to a lecture on meteorite impact.

Oregon

- To celebrate Earth Science Week, the Thomas Condon Paleontology Center hosted a free program on October 7. The program focused on the prehistoric animals that once roamed Eastern Oregon. A National Fossil Day Open House was also hosted on October 13. Special activities were available for visitors, including painting fossil casts, making fossil molds, and special tours lead by the staff.
- The Oregon Department of Geology and Mineral Industries distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Pennsylvania

- The Pennsylvania Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Puerto Rico

- To celebrate Earth Science Week 2010, the University of Puerto Rico at Mayagüez partnered with the Puerto Rico Seismic Network to organize an Open House on campus. The NOAA NWS Caribbean Tsunami Warning Program (CTWP) also participated by distributing educational materials. This event was attended by over 1,000 high school students, teachers, and parents.

Rhode Island

- Residents from Rhode Island entered the 2010 Earth Science Week contests.

South Carolina

- The South Carolina Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

South Dakota

- South Dakota's governor issued a perpetual proclamation of Earth Science Week.
- The Kirby Science Discovery Center in Sioux Falls celebrated Earth Science Week 2010 by sponsoring activities during their "No School" specials on Monday and Tuesday as well as select showings in the Wells Fargo CineDome Theater.
- During Earth Science Week 2010, the Mammoth Site in Hot Springs hosted its First Annual National Fossil Day to celebrate. Activities included creating a plaster cast of a mammoth tooth, "Prehistoric Antique Road Show," and a lecture.

Tennessee

- Tennessee's governor declared October 10-16, 2010, to be Earth Science Week.
- Middle Tennessee State University's Department of Geography and Geology celebrated Earth Science Week by featuring different speakers throughout the week. Talks ranged from BP's oil spill, urban growth, and the Cumberland River Basin.
- The Tennessee Division of Geology distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Texas

- The Chihuahuan Desert Research Institute hosted its 5th annual Earth Rocks on October 14 for Earth Science Week. The event offered hands-on activities designed to bring awareness to wind, solar, hydro, chemical, heat, and geothermal energy.
- The Houston Geological Society (HGS) kicked off Earth Science Week 2010 with the annual Family Energy Festival. Partnering with the Houston Museum of Natural Science, the festival offered interactive demonstrations by area geoscience organizations. HGS also offered a field trip to the Ocean Star Offshore Drilling Rig and Museum on October 16. Visitors boarded the retired jackup drilling rig to learn about the offshore energy industry.
- The University of Texas at El Paso hosted an Open House Celebration for Earth Science Week 2010. The event included a barbecue, special guest lecturers, picture and essay contests, a rock and mineral auction, a dino-dig, and science demonstrations.
- To celebrate Earth Science Week and National Fossil Day, the University of Texas in Arlington hosted the Archosaur Site Opening and Dig for the public on October 16.
- The Texas Bureau of Economic Geology distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.
- Kayli Hall of Paradise won first place in the Earth Science Week Essay Contest.

Utah

- To celebrate Earth Science Week 2010, the Utah Geological Survey hosted hands-on activities for school groups. Groups panned for gold, excavated fossils, and observed stream erosion and deposition.

Vermont

- The Vermont Geological Survey distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

Virginia

- The Virginia governor declared October 10-16, 2010, to be Earth Science Week.
- The Virginia Polytechnic Institute and State University celebrated Earth Science Week 2010 by hosting a lecture on volcanoes at the Virginia Tech Museum of Geosciences on October 14.
- The Division of Geology and Mineral Resources distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.
- Darwin Lau of Virginia Beach won the Earth Science Week Visual Arts Contest.

Washington

- The governor of Washington declared October 10-16 to be Earth Science Week.
- The Washington Division of Geology and Earth Resources distributed 50 Earth Science Week 2010 Toolkits to educators throughout the state.

West Virginia

- Earth Science Week materials were awarded to Karen Borders, the recipient of the 2010 State Outstanding Earth Science Teacher (OEST) Award.
- The Monongahela Master Naturalists Blog promoted National Fossil Day at New River Gorge.

Wisconsin

- Residents of Wisconsin entered the 2010 Earth Science Week contests.

Wyoming

- The Tate Geological Museum hosted an open house on October 13 for National Fossil Day. The event allowed visitors to take tours, make and take a fossil cast, enter art contests, attend lectures on fossils, and watch an interpretive dance performance. The event also featured a prehistoric antique road show that permitted patrons to bring rocks and fossils to the museum to be identified by an expert.

International Events

Australia

- Geoscience Australia held its annual Geologi short film competition and “Top GeoShots” Photography Contest. Entries highlighted the role Earth science plays in our interactions with an “ever-changing Earth.” Geoscience Australia also hosted a range of activities to celebrate Earth Science Week in its annual Open Day. The event offered a diverse program of activities, science displays, tours, and talks showcasing Geoscience Australia’s latest endeavors in the fields of petroleum, mineral, marine, mapping, groundwater and natural hazard research.

Austria

- Residents of Austria celebrated International EarthCache Day in Salzburg.

Canada

- The Sistema Solar blog promoted Earth Science Week 2010 on its website (<http://sistemasolar.ca/today-in-globe-business/>).

Montserrat

- The Montserrat Volcano Observatory (MVO) initiated Earth Science Week with an official launch at the Montserrat Public Library. The event included an exhibit filled with Earth science literature, a public lecture, and an open day at the MVO.

Pakistan

- The Geosciences Blog promoted Earth Science Week 2010 on its website (<http://www.geosciences.pk/2010/09/10/earth-science-week-october-10-16-2010/>).

Trinidad and Tobago

- The University of the West Indies Seismic Research Centre (SRC) commemorated Earth Science Week 2010 with an Educational Earth Science Poster Display on Earthquake Energy in the National Library of Trinidad and Tobago. The SRC also delivered an educational workshop to students on the “Science of Earthquakes” and fundamental earthquake safety information. This incorporated a lecture delivered by an SRC scientist with safety information and procedures including an earthquake scenario drill and interactive activities including online earthquake scenario games and a hands-on activity on building earthquake-resistant structures.