



Geoscience Supports the United Nations Sustainable Development Goals

This map shows the locations of a sample of initiatives that illustrate how the geosciences support specific Sustainable Development Goals (SDGs). Information about initiatives in these locations is provided through ArcGIS StoryMaps (see poster back).



Map: USGS/J. Cody, using an Esri dataset with data from Airbus, USGS, NGA, NASA, NOAA, CGIAR, GEBCO, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community.

<https://sdgs.un.org/goals>

SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Ningde, China — One of the largest lithium-ion battery manufacturing plants uses raw materials sourced from northern China, the Democratic Republic of the Congo, Chile, and Australia to produce rechargeable batteries. Recycling of lithium-ion batteries reduces the need for new raw materials.

SDG 13: CLIMATE ACTION

Hokkaido, Japan — Natural and artificial wetlands used as rice farms could help combat climate change by increasing biodiversity and providing material for biofuel. Urbanization and modernization of farming techniques may impact the future of rice farms.

SDG 14: LIFE BELOW WATER

Illes Medes, Spain — The Marine Ecosystem Restoration in Changing European Seas (MERCES) Project works to restore marine ecosystems and populations that have been negatively impacted by human activity. Illes Medes houses 9 of the 128 MERCES project sites across 12 European countries.

SDG 15: LIFE ON LAND

Kinshasa, Democratic Republic of the Congo — Environmental “hot spots” within tropical forests affected by deforestation are identified using quantitative and spatial data. Actions are being taken to reduce the destruction. Mitigation efforts are also taking place in Brazil and Indonesia.

After reviewing these initiatives, think about additional ways the geosciences can support these SDGs and others shown below.

SDG 2: ZERO HUNGER

Chicago, Illinois, USA — Innovative urban farming techniques expand agriculture and increase access to food while reducing human impacts on the environment. Urban farming projects are also occurring in New York City, New York, and Detroit, Michigan.

SDG 6: CLEAN WATER AND SANITATION

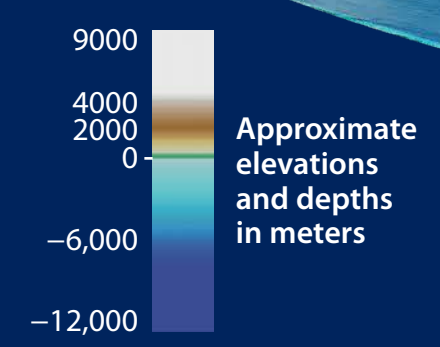
Santa Monica, California, USA — Urban Waters Learning Network (UWLN) engages communities in the restoration of waterways and improving urban water quality. Other UWLN restoration projects take place in Denver, Colorado, and Matawan, New Jersey.

SDG 7: AFFORDABLE AND CLEAN ENERGY

Cerro Pabellon, Chile — Multiple data sources have been used to locate areas that could harness and benefit from the use of geothermal energy as a renewable energy source. There is also data from Paraguay, Argentina, and Bolivia that supports the use of geothermal energy.

SDG 11: SUSTAINABLE CITIES AND COMMUNITIES

Sydney, Australia — Urban greening has occurred over the past three decades which has resulted in benefits to both the environment and human health. There are still improvements to be made and targets to reach in the future.



You're Invited

"Earth Science for a Sustainable World," the theme of Earth Science Week 2022 (October 9-15), emphasizes the essential role of Earth science in helping people make decisions that maintain and strengthen the planet's ability to support thriving life.



The United Nations adopted 17 Sustainable Development Goals (SDGs) in 2015 as a global call to action to solve humanity's biggest challenges. Some of these SDGs are supported by the geosciences and are highlighted on this year's Earth Science Week poster. More information about the SDGs can be found at <https://sdgs.un.org/goals>.

Resources and activities have been collected and developed to engage students with the SDGs, specifically looking at how work in the geosciences supports the SDGs. Each of us can contribute to improving sustainability in our communities and helping achieve the Sustainable Development Goals.

You are invited to join in the celebration of Earth Science Week 2022. Learning about and raising awareness of the SDGs can enable explorations of how individuals and communities can work to improve sustainability.

About the Map

The map on the poster front is an elevation map, where the colors represent different depths and heights according to the key.

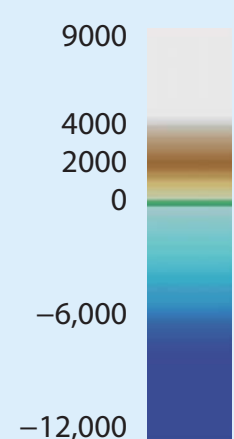
AGI appreciates the work from Jeannine Cody and others who put together this map and the topographic and bathymetric datasets to create it.

Front map by USGS/J. Cody using an Esri dataset with data from Airbus, USGS, NGA, NASA, NOAA, CGIAR, GEBCO, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community.

Other Resources

For more information about the SDGs, classroom activities related to the SDGs, and other teacher resources described above, visit www.earthsciweek.org/content/sustainable-world.

Please scan this QR code for an interactive online version of this poster.



The map on the poster front shows elevations (heights and depths) corresponding to these approximate key colors (measurements in meters).

Earth Science Week Future Dates
October 8–14, 2023
October 13–19, 2024
October 12–18, 2025

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Your Vital Role

- **Schools and classrooms** can hold events, complete activities, and invite guest geoscientists to give presentations. Students can do projects, compete in Earth Science Week contests, watch webcasts, and go on field trips to museums or local parks.
- **Colleges and universities** can encourage Earth science departments, professors, and students to host an open house or conduct an event that educates the public about the geosciences.
- **Geoscience companies and other organizations** can reach out to communities by obtaining Earth Science Week Toolkits for local classrooms, hosting an open house, or sending a geoscientist to visit a local school.
- **Museums and science centers** can shine a spotlight on geoscience-related exhibits or create a program especially for Earth Science Week.
- **Families and citizen groups** can participate by planning an event or activity for their communities, youth groups, or schools.

Learning Activities

SDG Initiatives in ArcGIS StoryMaps

The poster front introduces several SDGs and related projects that are supported by geoscience. Those projects are described using ArcGIS StoryMaps. To access the StoryMaps introduced on the poster front and other StoryMaps that highlight work related to the SDGs, visit an online version of the poster at https://padlet.com/AGI_Education/SDGStoryMaps.

Some of the locations featured in the StoryMaps are identified on the map on the poster front. Add additional locations to the map as they are introduced in each of the StoryMaps. A smaller, printable version of the map is located at www.earthsciweek.org/content/sustainable-world, along with other resources.

SDGs and Earth's Systems

The geosciences help people understand the dynamic Earth systems that affect them, as well as how people affect those systems. As you review a StoryMap, identify when Earth systems are described, and consider their role in how people are working to support the SDGs. Use the Earth System Diagram at

<https://bit.ly/3yppg0DB> to show how the different Earth systems and their interactions in the initiative are related. Think beyond the StoryMap—in a different color, write down other ways the Earth systems are related to that initiative.

SDGs in Your Community — Create a Display

Consider the work your community is doing related to the SDGs. What are some initiatives in your community or region that support one or more of the SDGs? How can geoscience knowledge help that work? How might people be affected by these initiatives? How can you get involved?

Create a display by printing out the icons of the SDGs that relate to your community's initiatives (found at <https://bit.ly/3yp1X0D>) and posting articles, images, and/or ideas you write about your community's connections to the SDGs.

SDGs in Your Community — Focus on a Site

Observe or think about a location in your community. How could it be improved in terms of

Find Out More

See the Earth Science Week 2022 Toolkit (www.earthsciweek.org/materials) and website (www.earthsciweek.org/) for instructional resources, newsletters, local events, and classroom activities. Have a great Earth Science Week!

Get Connected

Where to start? Simply go online and explore some of the electronic resources available through the Earth Science Week website:

• Classroom Activities

(www.earthsciweek.org/classroom-activities) Search a collection of more than 120 activities that offer a wide diversity of ways to explore Earth science.

• Focus Days

(www.earthsciweek.org/focus-days) Special topics such as Minerals Day (Monday) and Geologic Map Day (Friday) are highlighted and more information, learning activities, and resources are provided.

• Contests

(www.earthsciweek.org/contests/) Guidelines are given on the program's annual video, photo, art, and essay contests. Prizes are awarded to students and others nationwide.



Earth Science Week 2021 Visual Arts Contest entry by Justin Xu.

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