AASG

Association of American State Geologists

THE ENVIRONMENT

Science in Service to the Environment

The Association of American State Geologists (AASG) represents the State Geologists of the 50 United States and Puerto Rico. Founded in 1908, AASG seeks to advance the science and practical application of geology and related earth sciences in the United States and its territories, commonwealths, and possessions.

Policy Statement

AASG advocates that sound science be considered when formulating national environmental policy and legislation. State Geological Surveys can work to help their State policymakers make better decisions concerning these issues. AASG monitors environmental trends and priorities and coordinates with regional environmental protection agencies and other environmental organizations to emphasize proper consideration of geologic information in siting, designing, monitoring, and remediating environmental sites.

Goals

AASG works to

- Increase public awareness and understanding of environmental issues and their relationship to geology
- Communicate societal impacts associated with environmental geology
- Evaluate risks associated with human activities related to geology
- Advise on appropriate science in environmental policy development and decision making

Benefits

State Geological Surveys

- Provide the “best available science” to decision makers
- Improve coordination with other agencies
- Research current environmental issues
- Educate the public on how geology affects environmental issues
- Help protect the public from geologic hazards
- Call attention to the need to manage resources for sustainability

Coastal Erosion. Netarts Bay, Tillamook County, Oregon. Netarts Bay formed as a long sand spit that enclosed a broad indentation in the coastal mountains. Wave erosion on the spit (near the top of the image) may soon cut an entrance to the bay. The town of Netarts is at the bottom of the image. This enhanced 3D image is a composite of lidar-derived shaded relief and orthorectified aerial photography.

ENVIRONMENTAL GEOLOGY
is the application of geological research to the problems of land use, resource development, and the impact of human activities on the physical environment. It includes

Land Use
- Site Evaluation
- Growth Management
- Infrastructure Siting
- Reclamation of Disturbed Sites
- Mine Collapse
- Abandoned Mines

Pollution
- Water Quality
- Waste Disposal
- Remediation & Restoration

Climate Change
- Carbon Sequestration
- Sea-Level Rise
- Coastal Erosion
- Adaptive Management

Geologic Hazards
- Landslides
- Floods
- Bad Soils
  - Swelling Soils, Liquefaction
- Erosion
- Earthquakes
- Tsunamis
- Volcanoes
- Ground Subsidence
  - Karst, Sinkholes,
  - Fluid Withdrawal by Humans
- Radon Gas

Resources – Sustainability
- Water
- Soil
- Energy
  - Fossil Fuels, Nuclear, Renewable
- Minerals
  - Aggregate, Sand & Gravel, Rock, Metals,
  - Industrial Minerals
  - Critical Minerals

Integrated Science-Based Decisions

AASG endorses a strong commitment to including geoscience data in all land-use decisions. Sound environmental policy includes careful consideration of the Earth's natural processes and materials. Land use, pollution, climate change, and resource sustainability are national environmental issues needing cooperation and coordination among local, State, and Federal partners.

Areas of Concentration

Water Quality

A key issue facing our nation is protecting and preserving water quality and quantity. We must understand our water resource in order to protect it and properly estimate future water supply needs. Substantial information is already available within the files of State Geological Surveys for producing regional aquifer maps. AASG is pursuing partners to develop a series of map products defining the various aquifers across the country. These maps will enable sound environmental decisions on the use and protection of our nation's water resources.

Site Evaluation

Using geological data to evaluate building and infrastructure sites is essential to protecting our valuable water resources, as well as human health and safety. Landfills, lagoons, septic tanks, and other conventional waste-disposal options require specific siting criteria in order to keep waste isolated from critical water supplies. Landslide and flood potential, earthquake risks, subsidence, surficial materials, and bedrock type are some of the factors that should be considered before construction begins.

Climate Change

Climate change will create many challenges for future sustainability of lands, resources, and ecosystems. Predicted changes include a rise in sea level, warmer and drier summers, reduced water availability in some areas, and more precipitation in others. State Geological Surveys are helping evaluate geologic carbon sequestration to reduce greenhouse gas emissions, as well as cost-effective renewable energy, such as geothermal, to reduce reliance on fossil fuels.

Climate Change. As climate warms, wildfires may become more common, resulting in an increase in landslides and soil erosion.

Geologic Hazards. This landslide was triggered by a period of intense rain.

Geologic Hazards

State Geological Surveys identify and assess geologic hazards using modern geotechnical and geophysical methods. Hazard maps are critical for transportation, land-use, and emergency management planning, as well as disaster response and building-code implementation. As our population grows, there is increasing pressure to develop in hazardous areas. Delineation of these areas has never been more important.

Remediation & Restoration

Once a piece of property has been contaminated by hazardous substances, appropriate site remediation must involve careful consideration of site-specific geology. Many sites across our nation have been cleaned up or redeveloped safely because the risk evaluation included a sound geologic model.

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