

Geoscience in Your State: Massachusetts

WHAT IS GEOSCIENCE?

Geoscience is the study of the earth and the complex physical, chemical, and biological processes that interact to form and transform the earth's surface and subsurface. It is a science, history, and technology that helps us understand our environment and develop sustainable solutions for the future.



By the numbers MASSACHUSETTS

- 9,887 geoscience employees (excludes self-employed)¹
- 380 million gallons/day total groundwater withdrawal¹³
- 58 million acres of undeveloped/preserved land in MA¹
- 400 billion cubic feet of natural gas in MA¹
- 100 million tons of waste generated in MA¹
- 100 million tons of waste generated in MA¹

BIG DATA IN MASSACHUSETTS

- 20 million acres of undeveloped/preserved land in MA¹
- 400 billion cubic feet of natural gas in MA¹
- 100 million tons of waste generated in MA¹
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INDUSTRY IN MASSACHUSETTS

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WATER IN MASSACHUSETTS

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 5. U.S. Geological Survey, National Water Resources Institute, 2010
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- # By the numbers: Massachusetts
- 9,887 geoscience employees (excludes self-employed)¹
 - 380 million gallons/day: total groundwater withdrawal¹³

- \$296 million: value of nonfuel mineral production in 2017⁴
- 47 total disaster declarations, including 11 severe storm, 8 snow, and 7 flood disasters (1953-2017)⁶
- \$92 million: NSF GEO grants awarded in 2017...

Read more in this Geoscience in Your State Factsheet...

Agencies Working on Geoscience Issues in Massachusetts

Massachusetts Bureau of Geographic Information

<https://www.mass.gov/orgs/massgis-bureau-of-geographic-information>

Through the Bureau of Geographic Information (MassGIS), the Commonwealth has created a comprehensive, statewide database of spatial information for mapping and analysis supporting emergency response, environmental planning and management, transportation planning, economic development, and transparency in state government operations.

Massachusetts Department of Conservation & Recreation

<https://www.mass.gov/orgs/department-of-conservation-recreation>

The health and happiness of people across Massachusetts depend on the accessibility and quality of our natural resources, recreational facilities, and great historic landscapes. DCR continues to improve the vital connection between people and the environment. DCR's focus is on improving outdoor recreational opportunities and natural resource conservation, restoring and improving our facilities, expanding public involvement in carrying out DCR's mission, and establishing first-rate management systems and practices.

Massachusetts Department of Environmental Protection

<https://www.mass.gov/orgs/massachusetts-department-of-environmental-protection>

MassDEP serves the Commonwealth by protecting natural resource areas that involve water, land and air. MassDEP enforces environmental laws, provides technical assistance to cities and towns, issues permits and licenses for activities near sensitive resources, inspects contaminated site cleanups, and partners with other federal and state agencies, municipal officials and environmental stakeholders.

Massachusetts Emergency Management Agency

<https://www.mass.gov/orgs/massachusetts-emergency-management-agency>

MEMA coordinates with federal, state and local government agencies, non-profits and businesses to prepare, respond and recover from emergencies and disasters.

Massachusetts Executive Office of Energy and Environmental Affairs

<https://www.mass.gov/orgs/executive-office-of-energy-and-environmental-affairs>

EEA seeks to protect, preserve, and enhance the Commonwealth's environmental resources while ensuring a clean energy future for the state's residents. The Executive Office of Energy and Environmental Affairs serves commonwealth residents interested in outdoor recreational opportunities, energy consumers and power companies, residents and businesses interacting with environmental protection laws and regulations, clean energy companies and residents interested in clean energy, farmers, and residents who work with animals.

Massachusetts Geological Survey

<http://mgs.geo.umass.edu/>

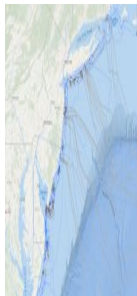
The Massachusetts Geological Survey's mission is to perform research on the land, mineral, and water resources of the state; coordinate/facilitate research and communication among various agencies, researchers and stakeholders; collect, compile, analyze, correlate and preserve all data pertaining to the geological environment; disseminate to the public all information leading to a better understanding of the geology, hydrology, and natural environment through the preparation of maps, databases, reports and other publications.

Massachusetts Office of Coastal Zone Management

<https://www.mass.gov/orgs/massachusetts-office-of-coastal-zone-management>

CZM is the lead policy, planning, and technical assistance agency on coastal and ocean issues within the Executive Office of Energy and Environmental Affairs (EEA) and implements the state's coastal program under the federal Coastal Zone Management Act. Through local and regional coordination and collaboration, CZM balances management of vital economic and natural resources of the Massachusetts coast and ocean waters. CZM provides technical assistance and support—primarily to local officials, marine businesses, environmental groups, and coastal homeowners—as well as information to people who visit and volunteer for the coast.

Maps & Visualizations



Interactive map of offshore sand and gravel resources of the United States
Bureau of Ocean Energy Management

The Bureau of Ocean Energy Management's Marine Minerals Information System (MMIS) provides an interactive map with information on offshore sand and gravel resources for 18 states on the Atlantic and Gulf coasts of the United States. The system includes: Sand and gravel resources Marine...

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Case Studies & Factsheets



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Webinars & Forums



Offshore Energy

This webinar is based on a Congressional briefing organized by the Advances in Earth Science coalition (16 May 2016). The webinar brings together experts from academia and government to explain the scientific and engineering tools that enable production in challenging environments far from land...

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