Geoscience in New York

WHAT IS GEOSCIENCE?
Geoscience is the study of the Earth and the complex geologic, marine, atmospheric, and hydrologic processes that sustain life and the economy. Understanding the Earth’s surface and subsurface, its resources, history, and hazards allows us to develop solutions to critical economic, environmental, health, and safety challenges.

By the numbers: NEW YORK
- 18,291 geoscience employees (excludes self-employed)¹
- 890 million gallons/day: total groundwater withdrawal³
- $1.28 billion: value of nonfuel mineral production in 2017⁴
- 93 total disaster declarations, including 27 severe storm, 23 flood, and 19 snow disasters (1953-2017)⁶
- $55.8 million: NSF GEO grants awarded in 2017¹⁴

ENERGY AND MINERALS IN NEW YORK
- $1.28 billion: value of nonfuel mineral production in 2017⁴
- Salt, stone (crushed), sand and gravel (construction): top three nonfuel minerals in order of value produced in 2017⁴
- 29.1 million megawatt hours: hydroelectricity produced in 2017⁵
- 3.94 million megawatt hours: wind produced in 2017⁵
- 214,000 megawatt hours: solar produced in 2017⁵

NATURAL HAZARDS IN NEW YORK
- 93 total disaster declarations, including 27 severe storm, 23 flood, and 19 snow disasters (1953-2017)⁶
- $1.25 billion: individual assistance grants (2005-2017)⁶
- $2.54 billion: mitigation grants (2005-2017)⁶
- 56 weather and/or climate events, each with costs exceeding $1 billion (inflation adjusted) (1980-2017)⁷

WORKFORCE IN NEW YORK
- 18,291 geoscience employees (excludes self-employed) in 2017¹
- $79,358: average median geoscience employee salary¹
- 47 academic geoscience departments²

WATER USE IN NEW YORK
- 890 million gallons/day: total groundwater withdrawal³
- 9.91 billion gallons/day: total surface water withdrawal³
- 2.42 billion gallons/day: public supply water withdrawal³
- 54 million gallons/day: water withdrawal for irrigation³
- 312 million gallons/day: industrial fresh water withdrawal³
- 87% of the population is served by public water supplies³

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⁴ U.S. Geological Survey, Mineral Commodity Summaries 2018
⁵ U.S. Energy Information Administration
⁶ FEMA Data Visualization: Summary of Disaster Declarations and Grants (accessed May 2, 2018)

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https://www.americangeosciences.org/policy/factsheet/states | govt@americangeosciences.org
AGI’s Geoscience Policy and Critical Issues programs support well-informed public policy and decision making by providing information and facilitating dialogue between the geoscience community and decision makers at all levels.

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Geoscience, New York, and Federal Agencies

U.S. GEOLOGICAL SURVEY (USGS)
- $1.15 billion: total USGS budget in FY 2018 (5.8% increase from FY 2017)⁸
- The National Cooperative Geologic Mapping Program funds geologic mapping projects with federal (FEDMAP), state (STATEMAP), and university (EDMAP) partners
- $2.11 million: New York STATEMAP funding (1993-2016)⁹
- 7 New York universities, including Brooklyn College and University of Rochester, have participated in EDMAP⁹
- USGS streamgages collect real-time or recent streamflow, groundwater, and water-quality data in New York

NATIONAL SCIENCE FOUNDATION (NSF)
- $7.8 billion: total NSF budget in FY 2018 (4% increase from FY 2017)¹³
- $1.4 billion: total NSF Geosciences Directorate (GEO) awards in FY 2017 (7.2% increase from FY 2016)¹⁴
- 158 NSF GEO awards in New York totaling $55.8 million in 2017¹⁴
- $39.6 million: NSF GEO grants awarded to Columbia University in 2017¹⁴

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
- $20.7 billion: total NASA budget in FY 2018 (5.5% increase from FY 2017)¹⁰
- $1.9 billion: total NASA Earth Science budget in FY 2018 (0% change from FY 2017)¹⁰
- Gravity Recovery and Climate Experiment (GRACE) satellites measure groundwater changes in New York
- Soil Moisture Active Passive (SMAP) satellite measures soil moisture in New York

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
- $8.1 billion: total EPA budget in FY 2018 (0% change from FY 2017)¹⁵
- 86 active Superfund sites in New York in 2018¹⁶
- $39.6 million: Drinking Water State Revolving Fund (DWSRF) grants in New York in 2017¹⁷
- $400,000: Brownfield cleanup grants awarded to New York in 2018¹⁸

FEDERAL FACILITIES IN NEW YORK
- DOE Brookhaven National Laboratory, Upton
- NASA Goddard Institute for Space Studies, New York
- NOAA Center for Atmospheric Sciences, Albany
- USGS New York Water Science Center, Troy
- NSF BioXFEL, Buffalo

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
- $5.9 billion: total NOAA budget in FY 2018 (4.1% increase from FY 2017)¹¹
- Next-generation geostationary (GOES) and polar orbiting (JPSS) satellites provide weather forecasting for New York
- Deep Space Climate Observatory (DISCOVR) satellite monitors radiation and air quality over New York
- 9 National Weather Service Automated Surface Observing Systems (ASOS) stations in New York¹²
- 208 National Weather Service Cooperative Observer Program (COOP) sites in New York¹²

YOUR STATE SOURCE FOR GEOSCIENCE INFORMATION
New York State Geological Survey
222 Madison Avenue
Albany, NY 12230
http://www.nysm.nysed.gov/research-collections/geology
518-474-1432

¹³ U.S. House of Representatives, FY 2018 Omnibus Spending Bill (Division B) – Commerce, Justice, Science, and Related Agencies Appropriations Act, 2018
¹⁴ National Science Foundation, Budget Information System
¹⁵ U.S. House of Representatives, FY 2018 Omnibus Spending Bill (Division G) – Department of the Interior, Environment, and Related Agencies Appropriations Act, 2018
¹⁶ U.S. Environmental Protection Agency, Superfund Sites
¹⁷ U.S. Environmental Protection Agency, Drinking Water State Revolving Fund National Information Management System Reports
¹⁸ U.S. Environmental Protection Agency, Brownfields Grant Fact Sheet Search