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.

WORKFORCE IN ILLINOIS

• 9,546 geoscience employees (non-federal/self-employed) in 2017
• $80,768: average median geoscience employee salary
• 17 academic geoscience departments

WATER USE IN ILLINOIS

• 891 million gallons/day: total groundwater withdrawal
• 9.6 billion gallons/day: total surface water withdrawal
• 1.48 billion gallons/day: public supply water withdrawal
• 234 million gallons/day: water withdrawal for irrigation
• 431 million gallons/day: self-supplied industrial fresh water withdrawal
• 91% of the population is served by public water supplies

By the numbers: ILLINOIS

• 9,546 geoscience employees (non-federal/self-employed)
• 891 million gallons/day: total groundwater withdrawal
• $1.38 billion: value of nonfuel mineral production in 2017
• 60 total disaster declarations, including 25 severe storm, 15 flood, and 10 tornado disasters (1953-2017)
• $16.8 million: NSF GEO grants awarded in 2017

ENERGY AND MINERALS IN ILLINOIS

• $1.38 billion: value of nonfuel mineral production in 2017
• Sand and gravel, crushed stone, portland cement: top three nonfuel minerals in order of value produced in 2017
• 43.4 million short tons: coal produced in 2016
• 8.31 million barrels: crude oil produced in 2017
• 11.3 million megawatt hours: wind produced in 2017
• 55,000 megawatt hours: solar produced in 2017

NATURAL HAZARDS IN ILLINOIS

• 60 total disaster declarations, including 25 severe storm, 15 flood, and 10 tornado disasters (1953-2017)
• $651 million: individual assistance grants (2005-2017)
• $249 million: mitigation grants (2005-2017)
• $1.35 billion: preparedness grants (2005-2017)
• 72 weather and/or climate events, each with costs exceeding $1 billion (inflation adjusted) (1980-2017)
Geoscience, Illinois, and Federal Agencies

U.S. GEOLOGICAL SURVEY (USGS)
- $1.15 billion: total USGS budget in FY 2018 (5.8% increase from FY 2017)
- The National Cooperative Geologic Mapping Program funds geologic mapping projects with federal (FEDMAP), state (STATEMAP), and university (EDMAP) partners
- $4.05 million: Illinois STATEMAP funding (1993-2016)
- 6 Illinois universities, including Illinois State University and Northwestern University, have participated in EDMAP
- USGS streamgages collect real-time or recent streamflow, groundwater, and water-quality data throughout Illinois

NATIONAL SCIENCE FOUNDATION (NSF)
- $7.8 billion: total NSF budget in FY 2018 (4% increase from FY 2017)
- $1.4 billion: total NSF Geosciences Directorate (GEO) awards in FY 2017 (7.2% increase from FY 2016)
- 62 NSF GEO awards in Illinois totaling $16.8 million in 2017
- $8 million: NSF GEO grants awarded to University of Illinois at Urbana-Champaign in 2017

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
- $8.1 billion: total EPA budget in FY 2018 (0% change from FY 2017)
- 45 active superfund sites in Illinois in 2018
- $34.30 million: Drinking Water State Revolving Fund (DWSRF) grants in Illinois in 2017
- $200,000: Brownfield cleanup grants awarded to Illinois in 2018

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

FEDERAL FACILITIES IN ILLINOIS
- USGS Illinois Water Science Center, Urbana
- DOE Argonne National Lab, Argonne
- DOE Fermi National Accelerator Lab, Batavia
- NOAA OAR Real-Time Meteorological Observation Network, Chicago

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
- $5.9 billion: total NOAA budget in FY 2018 (4.1% increase from FY 2017)
- Next-generation geostationary (GOES) and polar orbiting (JPSS) satellites provide weather forecasting over Illinois
- Deep Space Climate Observatory (DISCOVR) satellite monitors radiation and air quality over Illinois
- 17 National Weather Service Automated Surface Observing Systems (ASOS) stations in Illinois
- 263 National Weather Service Cooperative Observer Program (COOP) sites in Illinois

YOUR STATE SOURCE FOR GEO SCIENCE INFORMATION
Illinois State Geological Survey
615 E. Peabody Drive
Champaign, IL 61820
http://isgs.illinois.edu/
217-333-5105

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8 U.S. Department of the Interior, FY 2019 Budget in Brief
9 U.S. Geological Survey, National Cooperative Geologic Mapping Program
10 National Aeronautics and Space Administration, FY 2019 Budget Estimates
11 National Oceanic and Atmospheric Administration, FY 2019 Bluebook
12 NOAA In Your State and Territory

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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