Geoscience in Nebraska

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: NEBRASKA
• 2,245 geoscience employees (excludes self-employed)1
• 5.82 billion gallons/day: total groundwater withdrawal3
• $192 million: value of nonfuel mineral production in 20174
• 60 total disaster declarations, including 27 severe storm, 18 flood, and 5 fire disaster disasters (1953-2017)⁶
• $1.05 million: NSF GEO grants awarded in 2017¹⁴

ENERGY AND MINERALS IN NEBRASKA
• $192 million: value of nonfuel mineral production in 2017⁴
• Portland cement, crushed stone, sand and gravel (construction): top three nonfuel minerals in order of value produced in 2017⁴
• 2.25 million barrels: crude oil produced in 2017⁵
• 1.59 million megawatt hours: hydroelectricity produced in 2017³
• 5.24 million megawatt hours: wind produced in 2017⁵

NATURAL HAZARDS IN NEBRASKA
• 60 total disaster declarations, including 27 severe storm, 18 flood, and 5 fire disasters (1953-2017)⁶
• $6 million: individual assistance grants (2005-2017)⁶
• $92 million: mitigation grants (2005-2017)⁶
• $144 million: preparedness grants (2005-2017)⁶
• $371 million: public assistance grants (2005-2017)⁶
• 36 weather and/or climate events, each with costs exceeding $1 billion (inflation adjusted) (1980-2017)⁷

WORKFORCE IN NEBRASKA
• 2,245 geoscience employees (excludes self-employed) in 2017¹
• $66,045: average median geoscience employee salary¹
• 6 academic geoscience departments²

WATER USE IN NEBRASKA
• 5.82 billion gallons/day: total groundwater withdrawal³
• 3.68 billion gallons/day: total surface water withdrawal³
• 275 million gallons/day: public supply water withdrawal³
• 6.09 billion gallons/day: water withdrawal for irrigation³
• 44 million gallons/day: industrial fresh water withdrawal³
• 91% of the population is served by public water supplies³

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
U.S. GEOLOGICAL SURVEY (USGS)
- $1.15 billion: total USGS budget in FY 2018 (5.8% increase from FY 2017)³⁸
- The National Cooperative Geologic Mapping Program funds geologic mapping projects with federal (FEDMAP), state (STATEMAP), and university (EDMAP) partners
- $1.94 million: Nebraska STATEMAP funding (1993-2016)⁹
- University of Nebraska at Lincoln has participated in EDMAP⁹
- USGS streamgages collect real-time or recent streamflow, groundwater, and water-quality data in Nebraska

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
- 4 NSF GEO awards in Nebraska totaling $1.05 million in 2017¹⁴
- $936,000: NSF GEO grants awarded to University of Nebraska at Lincoln in 2017¹⁴

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
- $8.1 billion: total EPA budget in FY 2018 (0% change from FY 2017)¹⁵
- 17 active Superfund sites in Nebraska in 2018¹⁶
- $8.31 million: value of Drinking Water State Revolving Fund (DWSRF) grants in Nebraska in 2017¹⁷

FEDERAL FACILITIES IN NEBRASKA
- USGS Nebraska Water Science Center, Lincoln
- USGS North Platte Field Office, North Platte

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 Nebraska
- Soil Moisture Active Passive (SMAP) satellite measures soil moisture in all of Nebraska

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
- $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 Nebraska
- Deep Space Climate Observatory (DISCOVR) satellite monitors radiation and air quality over Nebraska
- 17 National Weather Service Automated Surface Observing Systems (ASOS) stations in Nebraska¹²
- 272 National Weather Service Cooperative Observer Program (COOP) sites in Nebraska¹²

YOUR STATE SOURCE FOR GEOSCIENCE INFORMATION
Conservation and Survey Division
(in the School of Natural Resources)
University of Nebraska-Lincoln
3310 Holdrege Street
Lincoln, NE 68583-0961
http://snr.unl.edu/csd/
402-472-3471

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

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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