Geoscience in Oregon

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: OREGON

• 4,914 geoscience employees (excludes self-employed)¹
• 1.48 billion gallons/day: total groundwater withdrawal³
• $474 million: value of nonfuel mineral production in 2017⁴
• 73 total disaster declarations, including 40 fire, 14 flood, and 13 severe storm disasters (1953-2017)⁶
• $143 million: NSF GEO grants awarded in 2017¹⁴

ENERGY AND MINERALS IN OREGON

• $474 million: value of nonfuel mineral production in 2017⁴
• Stone (crushed), sand and gravel (construction), cement (portland): top three nonfuel minerals in order of value produced in 2017⁴
• 6.51 million megawatt hours: wind produced in 2017⁵
• 36.6 million megawatt hours: hydroelectricity produced in 2017⁵
• 193,000 megawatt hours: geothermal produced in 2017⁵

NATURAL HAZARDS IN OREGON

• 73 total disaster declarations, including 40 fire, 14 flood, and 13 severe storm disasters (1953-2017)⁶
• $6 million: individual assistance grants (2005-2017)⁶
• $105 million: mitigation grants (2005-2017)⁶
• $248 million: preparedness grants (2005-2017)⁶
• $132 million: public assistance grants (2005-2017)⁶
• 27 weather and/or climate events, each with costs exceeding $1 billion (inflation adjusted) (1980-2017)⁷

WORKFORCE IN OREGON

• 4,914 geoscience employees (excludes self-employed) in 2017¹
• $78,367: average median geoscience employee salary¹
• 7 academic geoscience departments²

WATER USE IN OREGON

• 1.48 billion gallons/day: total groundwater withdrawal³
• 5.10 billion gallons/day: total surface water withdrawal³
• 567 million gallons/day: public supply water withdrawal³
• 5.16 billion gallons/day: water withdrawal for irrigation³
• 105 million gallons/day: industrial fresh water withdrawal³
• 84% 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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Geoscience, Oregon, 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
- $3.96 million: Oregon STATEMAP funding (1993-2016)\(^9\)
- Oregon State University, Portland State University, and the University of Oregon have participated in EDMAP\(^9\)
- USGS streamgages collect real-time or recent streamflow, groundwater, and water-quality data throughout Oregon

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 Oregon
- Soil Moisture Active Passive (SMAP) satellite measures soil moisture in Oregon

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 over Oregon
- Deep Space Climate Observatory (DISCOVR) satellite monitors radiation and air quality over Oregon
- 22 National Weather Service Automated Surface Observing Systems (ASOS) stations in Oregon\(^12\)
- 272 National Weather Service Cooperative Observer Program (COOP) sites in Oregon\(^12\)

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)\(^14\)
- 78 NSF GEO awards in Oregon totaling $143 million in 2017\(^14\)
- $138 million: NSF GEO grants awarded to Oregon State University in 2017\(^14\)

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
- $8.1 billion: total EPA budget in FY 2018 (0% change from FY 2017)\(^15\)
- 13 active Superfund sites in Oregon in 2018\(^16\)
- $11.7 million: Drinking Water State Revolving Fund (DWSRF) grants in Oregon in 2017\(^17\)
- $400,000: Brownfield cleanup grants awarded to Oregon in 2018\(^18\)

FEDERAL FACILITIES IN OREGON
- USGS Oregon Water Science Center, Portland
- NSF Center for Coastal Margin Observation & Prediction (CMOP), Portland
- USGS Forest and Rangeland Ecosystem Science Center, Corvalis
- DOE National Energy Technology Laboratory, Albany

YOUR STATE SOURCE FOR GEOSCIENCE INFORMATION
Oregon Department of Geology and Mineral Industries
800 NE Oregon Street, Suite 965
Portland, OR 97232-2162
http://www.oregongeology.org/sub/default.htm
971-673-1555

\(^8\) 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
\(^13\) 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

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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