

Geoscience and Louisiana



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What is Geoscience?

Geoscientists study the Earth's systems—the complex geologic, marine, atmospheric, and hydrologic processes that sustain life and the economy. Geoscience expertise enables us to develop solutions to critical economic, environmental, health, and safety challenges.

By the numbers: Louisiana

\$560 million: value of nonfuel mineral production in 2016⁷

7,390: **geoscience employees** (non-federal/self-employed)¹

45,270: jobs in extractive industry in 2015²

41 severe storm, hurricane/tropical storm, and tornado disaster declarations since 1953⁸

\$45.6 million: NSF grants awarded in **Louisiana** in 2016¹⁸

\$2.3 million: NSF GEO grants awarded in **Louisiana** in 2016¹⁸

Your State Source for Geoscience Information

Louisiana Geological Survey

3079 Energy, Coastal and Environment Building

Baton Rouge, LA 70803

<http://www.lsu.edu/lgs/>

225-578-5320

Workforce in Louisiana

- 7,390: **geoscience employees** (non-federal/selfemployed) in 2015¹
- \$78,500: average median geoscience employee salary¹
- 45,270: **jobs** in extractive industries in 2015²
- 14: academic geoscience departments³

Water in Louisiana

- 1.6 billion gallons/day: total groundwater withdrawal⁴
- 7 billion gallons/day: total surface water withdrawal⁴
- 746 million gallons/day: public water supply withdrawal⁴
- 928 million gallons/day: irrigation water withdrawal⁴
- 87% of the population is served by public water supplies⁴
- 38 parishes in 2015, and 19 parishes in 2016, designated as primary natural disaster areas caused by drought⁵
- 36 USGS stream gages in **Louisiana**⁶

Energy and Minerals Production in Louisiana

- \$560 million: value of nonfuel mineral production in 2016⁷
- 62.9 million barrels: crude oil produced in 2015²
- 1.9 trillion cubic feet: natural gas produced in 2015, #5 in the nation²
- 2.6 million short tons: coal produced in 2014²
- 1 million megawatt hours: hydroelectricity produced in 2015²

Natural Hazards in Louisiana

FEMA statistics for Louisiana

- 14 severe storm disaster declarations since 1953⁸
- 23 hurricane/tropical storm disaster declarations since 1953⁸
- 26 flooding disaster declarations since 1953⁸
- 4 tornado disaster declarations since 1953⁸
- \$7 billion: individual assistance grants since 2005⁸
- \$3 billion: mitigation grants since 2005⁸
- \$430 million: preparedness grants since 2005⁸
- \$15.5 billion: public assistance grants since 2005⁸
- 51 weather and/or climate events, each with costs exceeding \$1 billion (inflation adjusted) 1980-2016⁹

U.S. Geological Survey (USGS) Geologic Mapping

- \$1.06 billion: total USGS budget; 1.6% up from FY 2015¹⁰
- The USGS National Cooperative Geologic Mapping Program (NCGMP) funds geologic mapping projects by states (STATEMAP) and universities (EDMAP)
- \$2 million: **Louisiana** STATEMAP funding (1993-2016)¹¹
- Over 40 geologic maps in **Louisiana** created with STATEMAP support (1993-2010)¹¹
- Over half of **Louisiana** mapped through STATEMAP (1993-2010)¹¹
- 4 **Louisiana** universities participated in EDMAP¹¹

National Aeronautics and Space Administration (NASA)

- \$5.6 billion: total NASA Science budget; 6.6% up from FY 2015¹²
- \$1.9 billion: total NASA Earth Science budget; 7.7% up from FY 2015¹³
- GRACE satellites measure groundwater changes in all of **Louisiana**¹⁴
- SMAP satellite measures soil moisture in all of **Louisiana**¹⁴

National Oceanic and Atmospheric Administration (NOAA)

- \$5.8 billion: total NOAA budget; 5.9% up from FY 2015¹⁵
- GOES satellites provide state-of-the-art weather forecasting over **Louisiana**¹⁶
- DISCOVER satellite monitors radiation and air quality over **Louisiana**¹⁶
- 21 National Weather Service observing stations in **Louisiana**¹⁷
- 166 National Weather Service cooperative observer sites in **Louisiana**¹⁷

National Science Foundation (NSF)

- \$7.46 billion: total NSF budget; 1.6% up from FY 2015¹⁸
- \$1.28 billion: total NSF Geosciences Directorate (GEO) budget; 1.6% up from FY 2015¹⁸
- 166 NSF grants in **Louisiana** totaling \$45.6 million in 2016¹⁸

- 15 NSF GEO grants in **Louisiana** totaling \$2.3 million in 2016¹⁸
- \$1.2 million: NSF GEO grants to **Louisiana State University & Agricultural and Mechanical College** in 2016¹⁸
- \$510,000: NSF GEO grants to **Louisiana Universities Marine Consortium** in 2016¹⁸

U.S. Environmental Protection Agency (EPA)

- \$8.14 billion: total EPA budget; 0% up from FY 2015¹⁹
- 16 active/proposed superfund sites²⁰
- \$281 million: cumulative federal grants for Drinking Water State Revolving Fund (DWSRF) in **Louisiana** (1997-2016)²¹
- \$11.4 million: annual value of federal DWSRF grants in **Louisiana** in 2016²¹

References

- ¹Data Derived from Bureau of Labor Statistics: [Occupational Employment Statistics \(2015\)](#)
- ²U.S. DOI [U.S. Extractive Industries Transparency Initiative](#)
- ³American Geosciences Institute [Directory of Geoscience Departments \(2016\)](#)
- ⁴USGS [Estimated Use of Water in the United States in 2010](#)
- ⁵USDA Farm Service Agency: [Disaster Designation Information, 2015 \(2015 Crop Year & 2016 Crop Year\)](#)
- ⁶USGS WaterWatch [Total Streamgage Stations \(March 10, 2017\)](#)
- ⁷USGS [Mineral Commodity Summaries 2017](#)
- ⁸FEMA [Summary of Disaster Declarations and Grants \(2016\)](#)
- ⁹NOAA [Billion-Dollar Weather and Climate Disasters: Mapping](#)
- ¹⁰DOI [Budget and Performance](#)
- ¹¹USGS [National Cooperative Geologic Mapping Program](#)
- ¹²NASA [Budget Documents, Strategic Plans and Performance Reports](#)
- ¹³American Institute of Physics [FY2016 Appropriations](#)
- ¹⁴Gravity Recovery and Climate Experiment ([GRACE](#)); Soil Moisture Active Passive ([SMAP](#)); Plankton, Aerosol, Cloud, ocean Ecosystem ([PACE](#)); Global Precipitation Measurement ([GPM](#));
- ¹⁵NOAA [Total Budget](#)
- ¹⁶Geostationary Operational Environmental Satellite ([GOES](#)) & Deep Space Climate Observatory ([DISCOVER](#))
- ¹⁷[NOAA in Your State](#)
- ¹⁸NSF [Budget Internet Information System](#)
- ¹⁹EPA [Budget and Spending](#)
- ²⁰EPA [Search for Superfund Sites Where You Live \(August 2017\)](#)
- ²¹EPA [Drinking Water State Revolving Fund National Information Management System Reports](#)

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