Geoscience in Louisiana

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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.

Satellite image: NASA/USGS Landsat Program. State outline (not to scale): Matt Bettison.

By the numbers: LOUISIANA

- 6,570 geoscience employees (non-federal/self-employed)[1]
- 1.74 billion gallons/day: total groundwater withdrawal[3]
- $477 million: value of nonfuel mineral production in 2017[4]
- 75 total disaster declarations, including 26 flood, 23 hurricane, and 14 severe storm disasters (1953-2017)[6]
- $4.1 million: NSF GEO grants awarded in 2017[14]

WORKFORCE IN LOUISIANA

- 6,570 geoscience employees (non-federal/self-employed) in 2017[1]
- $88,739: average median geoscience employee salary[1]
- 12 academic geoscience departments[2]

ENERGY AND MINERALS IN LOUISIANA

- $477 million: value of nonfuel mineral production in 2017[4]
- Salt, sand and gravel, and stone (crushed): top three nonfuel minerals in order of value produced in 2017[4]
- 2.8 million short tons: coal produced in 2016[5]
- 2.12 trillion cubic feet: natural gas produced in 2017[5]
- 50 million barrels: crude oil produced in 2017[5]
- 1.23 million megawatt hours: hydroelectricity produced in 2017[5]

WATER USE IN LOUISIANA

- 1.74 billion gallons/day: total groundwater withdrawal[3]
- 7 billion gallons/day: total surface water withdrawal[3]
- 709 million gallons/day: public supply water withdrawal[3]
- 1.05 billion gallons/day: water withdrawal for irrigation[3]
- 2.14 billion gallons/day: self-supplied industrial fresh water withdrawal[3]
- 89% of the population is served by public water supplies[3]

NATURAL HAZARDS IN LOUISIANA

- 75 total disaster declarations, including 26 flood, 23 hurricane, and 14 severe storm disasters (1953-2017)[6]
- $6.99 billion: individual assistance grants (2005-2017)[6]
- $2.95 billion: mitigation grants (2005-2017)[6]
- $431 million: preparedness grants (2005-2017)[6]
- $15.5 billion: public assistance grants (2005-2017)[6]
- 59 weather and/or climate events, each with costs exceeding $1 billion (inflation adjusted) (1980-2017)[7]

1 U.S. Bureau of Labor Statistics, Occupational Employment Statistics, May 2017
2 American Geosciences Institute, Directory of Geoscience Departments, 53rd Edition (2018)
3 U.S. Geological Survey, Estimated Use of Water in the United States in 2015
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)
7 NOAA National Centers for Environmental Information, U.S. Billion-Dollar Weather and Climate Disasters from 1980 to 2018 (accessed April 6, 2018)

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Your State Source for Geoscience Information

Louisiana Geological Survey
3079 Energy, Coastal and Environment Building
Louisiana State University
Baton Rouge, LA 70803
http://www.lsu.edu/lgs/
225-578-5320

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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
- $1.99 million: Louisiana STATEMAP funding (1993-2016)[9]
- 4 Louisiana universities, including Louisiana State University and Centenary College of Louisiana, have participated in EDMAP[9]
- USGS streamgages collect real-time or recent streamflow, groundwater, and water-quality data throughout Louisiana

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

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 Louisiana
- Deep Space Climate Observatory (DISCOVR) satellite monitors radiation and air quality over Louisiana
- 21 National Weather Service Automated Surface Observing Systems (ASOS) stations in Louisiana[12]
- 166 National Weather Service Cooperative Observer Program (COOP) sites in Louisiana[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]
- 19 NSF GEO awards in Louisiana totaling $4.1 million million in 2017[14]
- $2.3 million: NSF GEO grants awarded to Louisiana 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 Louisiana in 2018[16]
- $11.3 million: Drinking Water State Revolving Fund (DWSRF) grants in Louisiana in 2017[17]

Federal Facilities in Louisiana

- USGS Wetland and Aquatic Research Center, Lafayette
- USGS Lower Mississipp-Gulf Water Science Center, Baton Rouge
- Louisiana Spatial Reference Center, Baton Rouge
- DOE Strategic Petroleum Reserve, New Orleans

References

1. U.S. Bureau of Labor Statistics, Occupational Employment Statistics, May 2017
2. American Geosciences Institute, Directory of Geoscience Departments, 53rd Edition (2018)
3. U.S. Geological Survey, Estimated Use of Water in the United States in 2015
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)
7. NOAA National Centers for Environmental Information, U.S. Billion-Dollar Weather and Climate Disasters from 1980 to 2018 (accessed April 6, 2018)
8. U.S. Department of the Interior, FY 2019 Budet 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

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