



# Why is Geology Important?

[www.geology.ar.gov](http://www.geology.ar.gov); 501-296-1877

Geological Resources are an integral part of our every day life. Everything we use comes from our natural resources. If a resource is not grown, it has to be mined.

Some areas of daily life that are greatly influenced by Geology are:

## NATURAL RESOURCES

Industrial Minerals, Aggregates, and Metals contributed \$75.3 billion to the U.S. economy and approximately \$690 million to Arkansas' economy in 2013

Much of the material used for Construction and Infrastructure is obtained through mining processes

For more information on Natural Resources: [www.geology.ar.gov/minerals/minerals\\_home.htm](http://www.geology.ar.gov/minerals/minerals_home.htm)

## WATER

Arkansans, on average use 160 gallons of water per day. This plus industrial, commercial and agricultural consumption totals approximately 11.5 billion gallons of water per day for the entire state

Only about 4% of our state's annual rainfall makes it into the Groundwater system, with only about 5 billion gallons per day of groundwater being replenished

Understanding the geology of Groundwater Aquifers is crucial to maintaining water quality and identifying potential sources of contamination

Delineating watersheds and surface geology helps to understand threats to surface water sources

For more information on Water: [www.geology.ar.gov/water/water\\_home.htm](http://www.geology.ar.gov/water/water_home.htm)

## ENERGY

Energy Production and Geology are strongly linked, from Fossil Fuels to Renewables like Hydroelectric

As of 2015, nearly 83% of the energy created in the U. S. came from fossil fuels like Natural Gas and Petroleum

In 2016, Arkansas Oil production was about 15,000 barrels per day and Natural Gas production was about 2,250,000 mcf per day

Energy producing companies frequently use Geological Maps when planning new exploration since geologic information is used to predict where new fossil fuel resources might be discovered

For more information on Energy : [www.geology.ar.gov/energy/energy\\_home.htm](http://www.geology.ar.gov/energy/energy_home.htm)

## NATURAL HAZARDS

Arkansas averages over 40 earthquakes per year and since the New Madrid Earthquakes of 1811-1812 at least 20 damaging quakes have occurred, ranging in magnitude from 4.0-6.0

Sinkholes commonly form in areas where carbonate rock such as Limestone and Dolostone are present and a large portion of north Arkansas is covered by these two types of rock

Landslides often occur in conjunction with road building and land development

In 2016 and 2017, landslides caused 8 and 16 million dollars, respectively, in damage to our roads in Arkansas

State and Federal agencies rely heavily on geologic information to evaluate potential natural hazards and minimize risk to life and property

For more information on Natural Hazards: [www.geology.ar.gov/geohazards/geohaz\\_home.htm](http://www.geology.ar.gov/geohazards/geohaz_home.htm)