Big Ideas

Resources


Resources

Books


Maps

AAPG, 1979, Great Lakes Geological Highway Map (Illinois, Indiana, Michigan, Ohio, and Wisconsin). AAPG: Tulsa, OK.
AAPG, 1984, Northern Great Plains Geological Highway Map (North Dakota, South Dakota, Iowa, Nebraska, and Minnesota). AAPG: Tulsa, OK.

Websites

Paleogeography, Blakey, R. (The older, but free, version of the site.) https://www2.nau.edu/rcb7/RCB.html.
Resources

Rock and Mineral Field Guides


Books


Websites

*Atlas of Igneous and Metamorphic Rocks, Minerals and Textures*, Univ. North Carolina Geology Department (Older but still useful resource.)

[http://leggeo.unc.edu/Petunia/IgMetAtlas/mainmenu.html](http://leggeo.unc.edu/Petunia/IgMetAtlas/mainmenu.html).
Resources

**General Books on the Fossil Record and Evolution**


**Fossils of Specific Areas**


Guides to Collecting and Identifying Fossils

Resources

Books

Websites
Color Landform Atlas of the US (Low resolution shaded relief maps of each state.)

http://wqnhs.uwex.edu/wisconsin-geology/major-landscape-features/.

http://wqnhs.uwex.edu/water-environment/karst-sinkholes/.
Resources

Books


State-based Resources


Economic Minerals Prominent in the Midwest


Resources

Books


State-focused Resources


Landscapes of Wisconsin, 2001, Map #142, Wisconsin Geological and Natural History Survey Publications.
Resources

Books


Websites

Resources

Books


Websites

The Twelve Soil Orders Soil Taxonomy, University of Idaho College of Agricultural and Life Sciences, http://www.cals.uidaho.edu/soilorders/.
Resources

Books


Available online at http://www.globalchange.gov/nca3-downloads-materials.


Websites

Climate Impacts in the Midwest, EPA, 2013.

Climate Literacy & Energy Awareness Network (CLEAN). (A rich collection of resources for educators.)


Global Climate Change: Vital Signs of the Planet, NASA. (Climate data particularly from satellite-based remote sensing)
http://climate.nasa.gov.

Global Warming and Hurricanes, Geophysical Fluid Dynamics Laboratory, 2013.

Intergovernmental Panel on Climate Change, Fifth Assessment Report (AR5).

National Climate Assessment. (Reports summarizing impacts of climate change)

National Hurricane Data Center, NOAA. (News on current hurricane forecasts.)


Regional Climate Trends and Scenarios for the US National Climate Assessment, NOAA.
http://www.nesdis.noaa.gov/technical_reports/142_Climate_Scenarios.html.

Weather Base. (Weather and climate data by country, state, and city.)

Weatherunderground maps. (Variety of types of weather maps, including surface, temperature, moisture, wind, cloud cover, precipitation.)

Resources

Books


Websites: Storms
(See also resources on climate change in Chapter 9: Climate)


Websites: Earthquakes


IRIS Seismic monitor, IRIS. http://www.iris.edu/seismon/.


Websites: Radon


Earth Hazards

Websites: Sinkholes

Sinkholes in Missouri, Missouri Department of Natural Resources.  

Websites: Teaching Resources

Impact of Natural Disasters on the Earth by J. Radke, Hamline University Graduate School of Education MnSTEP Teaching Activity Collection.  
Investigating Speed and Acceleration Using Tornado Tubes, Hamline University Graduate School of Education MnSTEP Teaching Activity Collection.  
Karst Formation, City of Austin Youth Education resources.  
Natural Hazards and Risks: Hurricanes by Gilbert, L., Galster, J., and Ramage, J., SERC module on hurricane hazards.  
Radon activities from the Alabama Radon Program, Alabama and Auburn Universities Extension.  
Teaching Quantitative Concepts in Floods and Flooding, SERC Resources for Undergraduate Students and Faculty.  

Websites: State Resources on Earth Hazards

Illinois Natural Hazard Mitigation Plan 2013.  
Indiana State Environmental Health, Indiana State Department of Health.  
Current Disasters in Iowa, Iowa Department of Natural Resources.  
Ohio Department of Public Safety.  
http://ohiosharp.ema.state.oh.us/OhioSHARPP/Hazards.aspx#overview.
Minnesota Climate Hazards, Minnesota Department of Natural Resources.  
Minnesota Natural Disasters and Severe Weather, Minnesota Department of Health.  
http://www.health.state.mn.us/divs/eh/emergency/natural/.
Wisconsin Emergency Management.  
**Resources**

### Field Geology Teaching Practices


Available at [http://specialpapers.gsapubs.org/content/461.toc](http://specialpapers.gsapubs.org/content/461.toc).


### Guides to Fieldwork

(Mostly focused on post secondary education, but useful as references)

Coe, Angela; Argles, Thomas; Rothery, David and Spicer, Robert, 2010, *Geological Field Techniques*. Wiley Blackwell: Chichester. (This is a current standard.)


Appendix

Resources

Following are some of the most commonly used and cited publications on science education standards and benchmarks.


Common Core State Standards Initiative. (While not focused on science education directly, standards on math and non-fiction reading impact are importantly related.) [http://www.corestandards.org](http://www.corestandards.org).


NGSS@NSTA website, National Science Teacher Association, [http://ngss.nsta.org/](http://ngss.nsta.org/).


General Resources

On the Earth System Science of North America

Books

Maps (printed)

Maps (online)

Geologic time resources online
Correlated History of the Earth Chart, v 8, 2013 (Laminated).
The Paleontology Portal, paleoportal.org.

Dictionaries
New York.

Earth system science organizations
American Geological Institute (AGI is an umbrella organization representing over 40 other geological organizations), http://agiweb.org.
General Earth Science Education Resources

Websites


Resources for Earth science and geography instruction, by Mike Francek, Mike, Central Michigan University, http://webs.cmich.edu/resgi/.

SERC (The Science Education Resource Center) K-12 resources, http://serc.carleton.edu/k12/index.html. (Hundreds of classroom activities organized by grade level and topic as well as guidance on effective teaching.)

SERC Earth Exploration Toolbook, http://serc.carleton.edu/eet/index.html. (Collection of online Earth system science activities introducing scientific data sets and analysis tools.)

Science education organizations

National Association of Geoscience Teachers, http://nagt.org. (Focuses on undergraduate geoscience education, but includes active secondary school educators.)


Resources by State

Geologic maps of individual US states. (Digital geologic maps of US states with consistent lithology, age, GIS database structure, and format.)

Illinois

Indiana
Indiana Department of Natural Resources, http://www.in.gov/dnr/.

Iowa

Michigan

Minnesota
Natural History: Minnesota’s Geology, Minnesota Department of Natural Resources. http://www.dnr.state.mn.us/sinas/naturalhistory.html.
Minnesota Department of Natural Resources, http://www.dnr.state.mn.us/index.html.

Ohio

Wisconsin