

Geology/Geography

9th Grade, fall 2012

Sept. 4 – 21, Dave Hibbard-Rode

How in the World Did This Come To Be?

The shapes, contours, colors, hardness, elevations, plants, weather patterns, and waters of our world are all a complex and morphing dance of geologic processes that have been in play for over four billion years. In this class we will be answering the question—Why, of all the possible ways the world could look, is the Driftless Region the way that it is? We will be thinking on the time scale of mountains, which means that we will not answer this question as a discussion of decades, centuries, or millennium—but of billions of years!

Plate tectonics? Subduction? Groundwater flow? Mid-Atlantic Rift? Glaciation? What are all those and what do they have to do with Wisconsin? We are going to learn about basic geologic processes that shape the way our world looks, feels, tastes, and provides for us. We are going to learn how to read topographic maps and translate them to real world topography and then make our own maps. We are going to adventure out into the grand world before us and discover many striking and fantastic displays of the earth's history, right in our backyards. We are going to explore what geologic resources are available in the Driftless region, how we use them, the environmental effects of our use/abuse and ways that we could be more responsible with them.

Class Work

1). Class participation. 20% of total

The powers of focus, observation, and transference (I see this here, what does that mean about this over here...) are paramount to grasping complex systems (such as the earth, human societies, a farm, the teenage brain...). In this class it is expected that you are engaged and focused and show this through taking notes on observations and thoughts during class and on field trips.

2). Test taking. 30 % of total

The ability to demonstrate knowledge and understanding in a thoughtful way is remarkably important for any path in life, from selling a business idea to talking through conflict with a life partner. There will be spontaneous quizzes and opportunities to demonstrate knowledge on concepts and skills covered in class as a barometer of understanding.

3). Communication. 20% of total

We will expand our ability to communicate knowledge in various forms through visual communication (maps) and verbal communication (describing precisely what we see in the real world and articulating how that connects to larger geologic processes that are at work.

4). A project worthy of the world. 30% of total

As a final demonstration, small groups will create a dynamic geologic map of the Driftless Region as it pertains to a particular issue or resource and how it is used in our society.

To be covered in this class:

Formation of the earth

Geologic time

Plate tectonics

Mountains, volcanoes, and earthquakes – Oh My!

Sea level change

Basics of erosion and deposition – the morphing surface of the earth

Water cycle

Glaciation

Geologic components of the Driftless Region

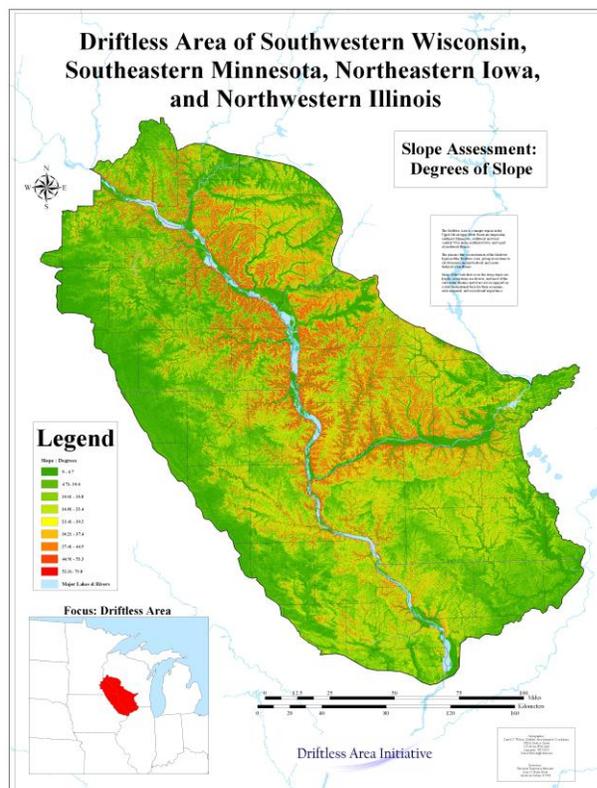
Topographic map reading

Map making

Clear communication and observation

What are geologic resources in the Driftless Region

Karst geography and sinkholes



And much more...