The focus of my Environmental Research in Geology

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Career Path

- I was interested in science by about 6th grade.
- **High School Science:**
  Physical Science, Biology, Chemistry, Physics
- By graduation, I thought I was going to medical school...
In my junior year, I took a plant ecology course and realized how much I loved spending time outside.

I switched to *Environmental Science* and developed an understanding and appreciation for the Earth.
I spent a year working in environmental consulting.

Then went on to graduate school at UD.

Completed a Master’s degree and realized I wanted to make a full-time career of conducting research and teaching so remained for a Ph.D.

Now my research integrates ALL aspects of science!
High resolution land-based LIDAR

- Can collect millions of data points in minutes
- Provides topography of a land surface
- Gives you exact position of each of the million points
- Can be used to show changes in surface through time
Why Study Rivers?

- Water is our most important resource.
- By 2025, two-thirds of the world's population will likely have water shortages.
- The U.S. uses twice as much water as other industrialized nations.
- 1.5 billion people worldwide do not have access to clean water.
- Pollution of freshwater (drinking water) is a problem for ½ the world's population: 5 to 10 million deaths per year.
- 40% of America's rivers are too polluted for fishing, swimming, or aquatic life.
Pollution and Contamination

- My research now focuses on contaminants in rivers.
- Decades ago, industrial companies were allowed to dump toxic materials directly in the water.
- Today, many of these pollutants still persist.
- Hg is the foremost pollutant in lakes and estuaries in the United States.
- Mercury enters the food chain and bioaccumulates.
- High concentrations of Hg can cause neurological disorders, deformities, and in rare cases, death.
- Heavy metals like Hg adhere to sediment.
- My research project focuses on investigating river processes (erosion, deposition) to determine transport of sediment and Hg in a contaminated river.
Avoid eating fish from the waters listed chart.
Eat smaller fish of a species.
Eat smaller portions of fish and fewer meals of fish.
Pregnant women and children avoid eating any species of fish suspected to be a problem.
Prepare the fish in a manner that reduces contaminants.
Thank you! Any questions??