Emily Persinger, Saint Louis University, Saint Louis, MO, for her proposal: *Using remote sensing to predict nutrient pollution events associated with the suspended load for the Mississippi and Missouri Rivers*

Emily Persinger is a M.S. student at Saint Louis University studying environmental geosciences. Emily is currently researching suspended sediment-bound nutrient chemistry of the Mississippi and Missouri Rivers under the tutelage of advisor Dr. Elizabeth Hasenmueller.

Emily received her B.S. in Geology in 2020 from the University of Nebraska at Omaha where she studied clastic dikes in Slim Buttes, South Dakota working under her undergraduate advisor Dr. Harmon Maher. Emily’s love for geologic research continued throughout her undergraduate career and led to her decision to pursue a M.S. degree in Geosciences with a concentration in Environmental Geosciences from Saint Louis University.

Currently Emily’s research aims to analyze suspended sediment-bound nutrient chemistry of the Mississippi and Missouri Rivers and correlate it to remote sensing satellite data. Emily’s research involves collecting weekly water samples from the Mississippi and Missouri Rivers and analyzing them in-situ for basic water quality parameters. Emily also analyzes the water samples in the lab for, nitrogen, phosphorus, and ammonia using a discrete analyzer, anion chemistry using an ion chromatograph, and major cation chemistry using an inductively coupled plasma optical emission spectrometer. In addition, Emily analyzes suspended sediment characteristics of the water samples by measuring particle size distribution using laser diffraction analysis, as well as sediment mineralogy using powder x-ray diffraction. To establish a relationship between suspended sediment-bound nutrient chemistry and remote sensing, Emily plans to correlate suspended material in the water samples with suspended sediment concentration predictions from Landsat-8 satellite data to forecast suspended load-associated nutrient fluxes from the Mississippi and Missouri Rivers to the Gulf of Mexico.