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## **Potential Earthquake Damage Extent in States Bordering The New Madrid Fault Zone**

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The issue this project addresses is the New Madrid Fault zone and the possibilities of damage within the surrounding area of the zone. In 1812, there was a series of earthquakes that shocked the Midwest, caused the Mississippi River to flow backwards, and rang bells in Boston. These series of earthquakes damaged up to and over 600,000 square kilometers, uplifting huge amounts of that land, as well as causing landslides and massive waves on the Mississippi. The three main earthquakes produced huge amounts of damage spanning to St. Louis. While remaining dormant for now, faults can give at any moment and cause earthquakes like the ones from the past. Within this Geographic Information Systems (GIS) project, analysis of data from the earthquakes in 1812, as well as current population and structural data of towns was used to create maps that show the susceptibility of liquefaction within the surrounding states of the fault zone. There is no clear solution, as these events are random, it is a significant piece of information to know when building new homes, buildings, schools, etc.