



Isoseismal Maps

K-8

Wendy Shindle

Objectives:

- To demonstrate the difference between magnitude and intensity.
- To highlight that most areas of the United States have earthquakes.

Materials:

- Crayons or colored pencils
- Isoseismal map hand outs
- Modified Mercalli Intensity Scale

Background:

The magnitude of an earthquake is the same no matter where you are. The shaking intensity, however, changes from place to place. An isoseismal map shows contours of shaking intensity.

Procedure:

1. Talk to students about magnitude and intensity.
2. Give each student an isoseismal map and a copy of the Modified Mercalli Scale.
3. Have them choose colors to represent each intensity and color in the intensities on their map
4. Divide the students into groups and have them write first hand accounts of what a person in each intensity level would have seen, heard and experienced.

Questions:

1. Why are there different intensities?
2. What factors could change or influence intensity?
3. Why was there an earthquake in South Carolina? Can earthquake happen in other parts of the country besides California?
4. What can be done to make our homes and schools safer?

Extension:

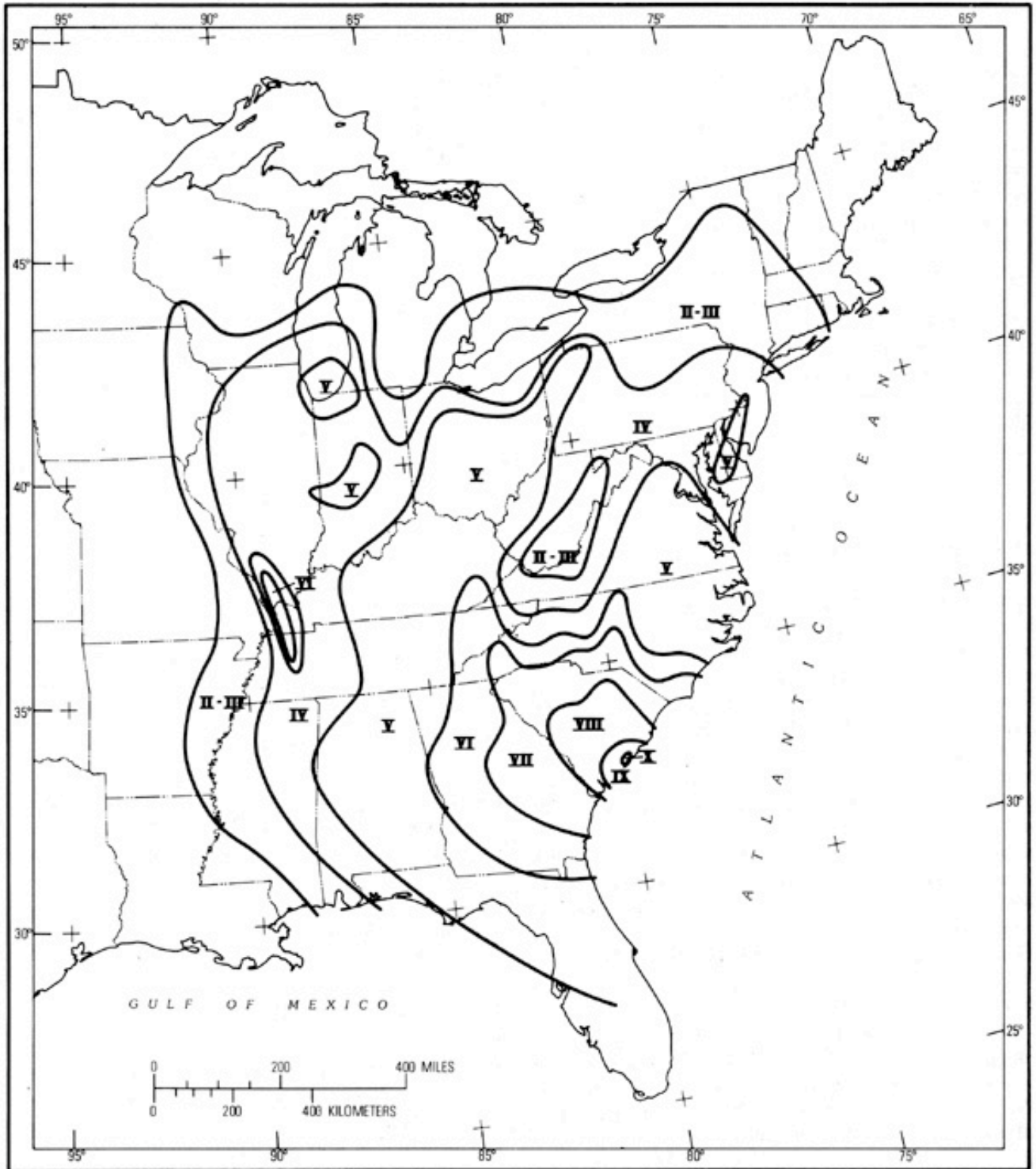
1. Research earthquake risk in your area. What earthquakes have happened there in the past?
2. What areas of the country have the highest earthquake risk? Are there any surprising places that have had large earthquakes?

Definitions:

Magnitude-a number that characterizes the relative size of an earthquake. It is a measure of the amount of energy released. For each earthquake there is only one magnitude

Intensity-a number describing the severity of an earthquake in terms of its effects on the earth's surface and on humans and their structures. For each earthquake there are many intensities.

Isoseismal-An isoseismal (line) is a contour or line on a map bounding points of equal intensity for a particular earthquake.



Isoseismal Map of Sept. 1, 1886 South Carolina Earthquake Magnitude 7.3