





PATTERNS & TRENDS



Geographers must be able to **interpret & analyze** data on maps and graphs in order to understand an issue.



Why do I need to know about patterns and trends? I'm a geographer, not a math teacher!

"Actionable Data":
Data that has been analyzed can be used to make decisions and take action.

"We are noticing a trend in _____, what does this mean?
How can we change it?"

DEFINITIONS

- **PATTERN** → a repeated event/issue that has similarities
- **TREND** → change or development in a certain direction

How to conduct a patterns and trends study



Step 1: Observe the available data and determine if it represents a **pattern** or a **trend**.

Step 2: Using appropriate **vocabulary**, describe the pattern or trend using words that describe what you see.

Step 3: Hypothesize or suggest a **reason** for the observed pattern or trend.

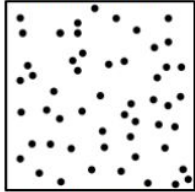


- Patterns help us find characteristics that *repeat* themselves
- Trends show us how characteristics *change over time*
- Helps us understand the Earth, its people & how they interact with each other

MORE ABOUT PATTERNS

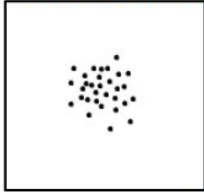
TYPES OF PATTERNS

DISPERSED



Evenly spread out

CONCENTRATED



Focused in one spot only

CLUSTERED



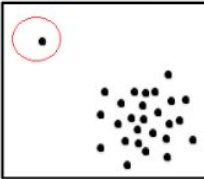
Multiple groupings

LINEAR



Follows a line

OUTLIER



Out of place compared to others

ABSENT



Missing or not present

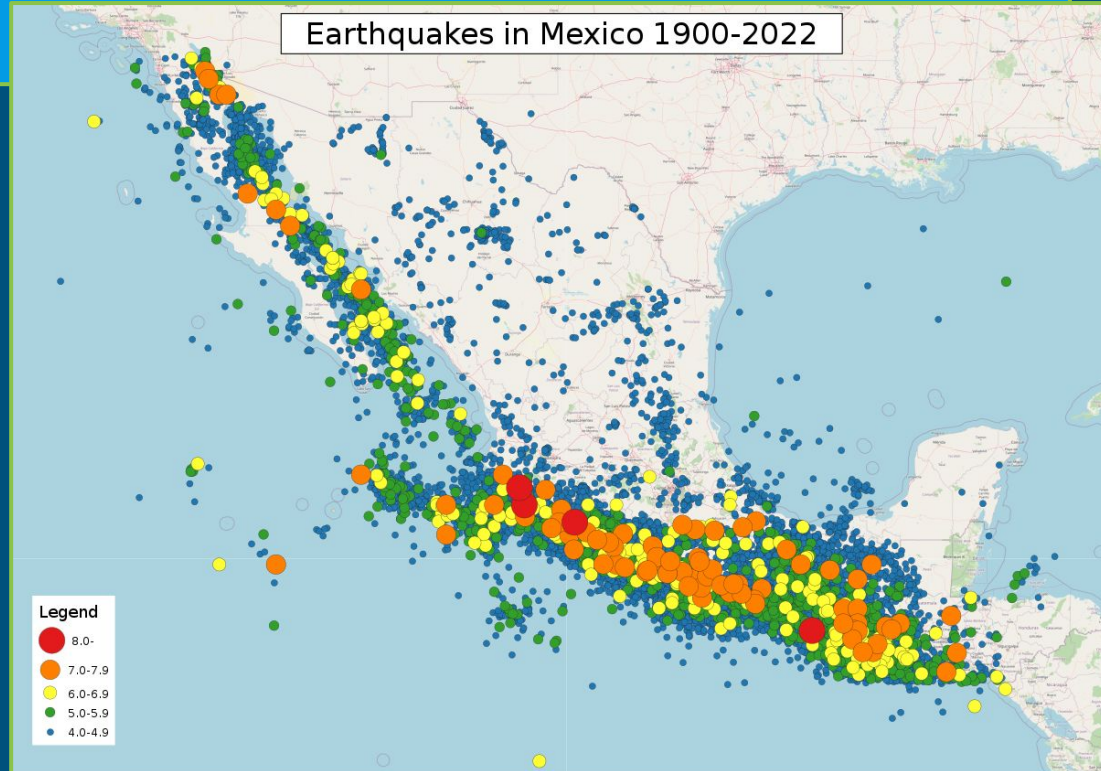
Geographic Terms you can use to describe certain patterns on maps.

- Look for characteristics that repeat themselves
 - Look at the title, the legend, dates & overall image of the map
 - What are the general conclusions you can make? What patterns do you see?

Read the title, legend, date, general overview of the map.

What are some visible patterns?

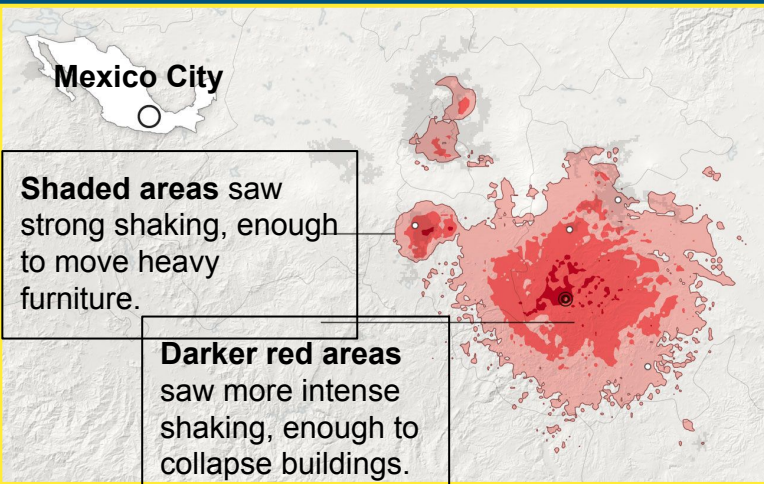
Why might this be?



Read the title, legend, date, general overview of the map.

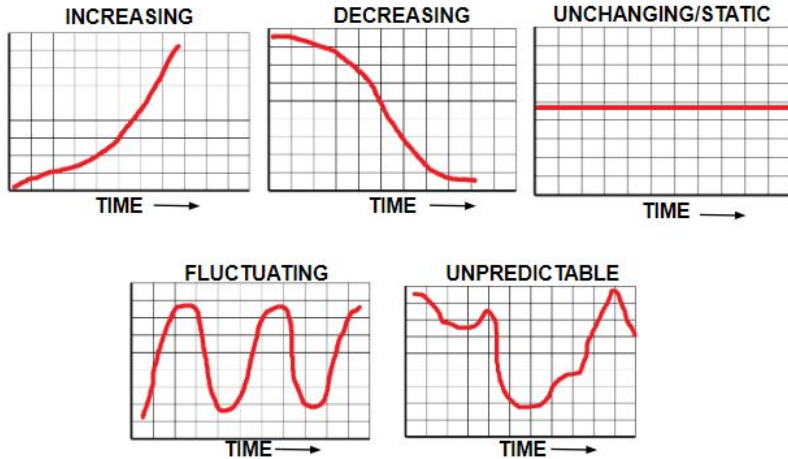
What are some visible patterns?

Why might this be?



MORE ABOUT TRENDS

TYPES OF TRENDS



Geographic Terms you can use to describe certain trends on graphs.

- **Look for the general direction of characteristics**
 - Use words such as increase, decrease, no change, fluctuating
 - Look at the title, the legend, dates & overall image of the map
 - What type of change do you see?

Read the title of the graph,
legend, date etc.

What observable trends are
there?

Why might this be?

This histogram shows the distribution of structural systems for collapsed buildings in the September 19th earthquake. (Figure from: Galvis et al., 2017)

