

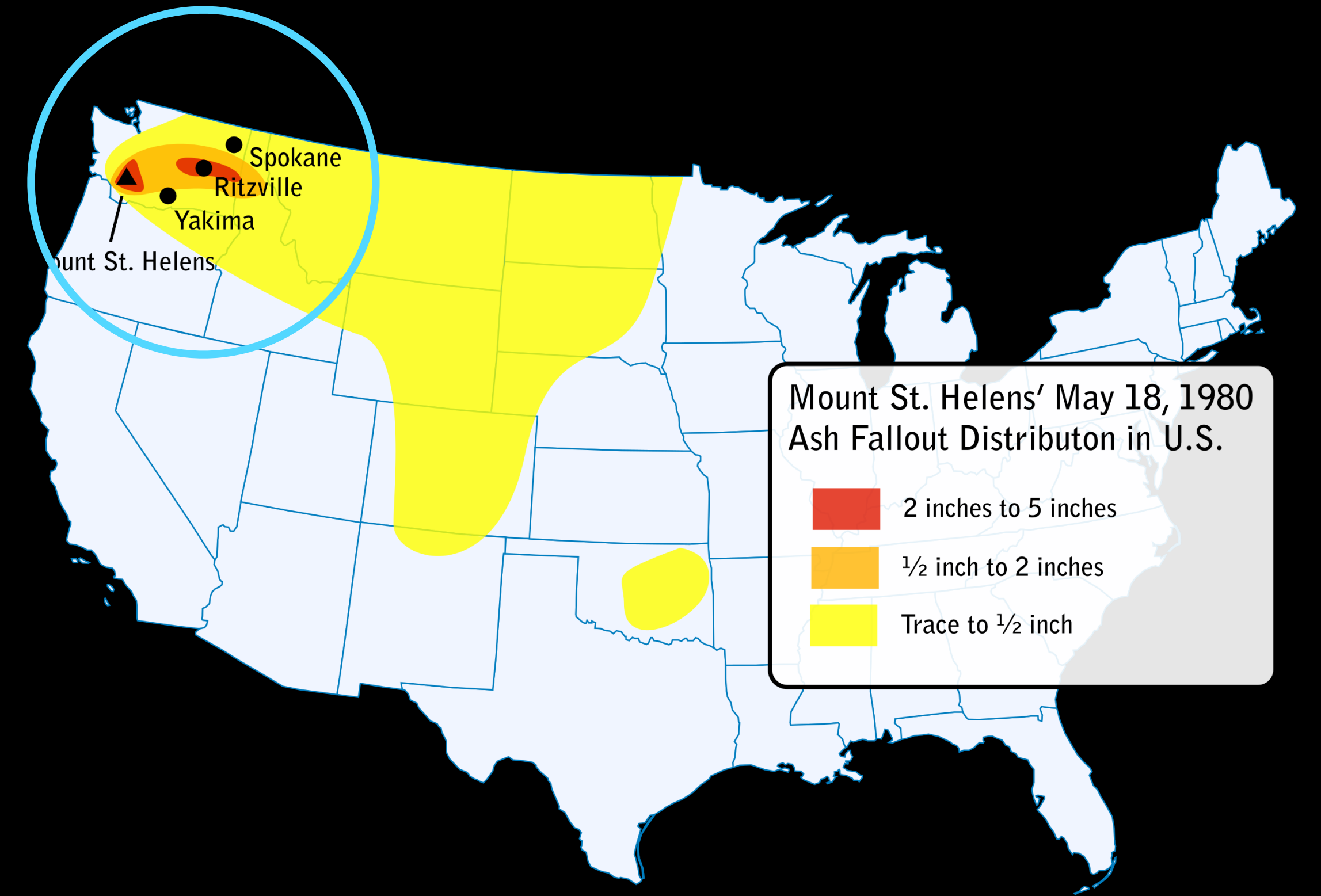
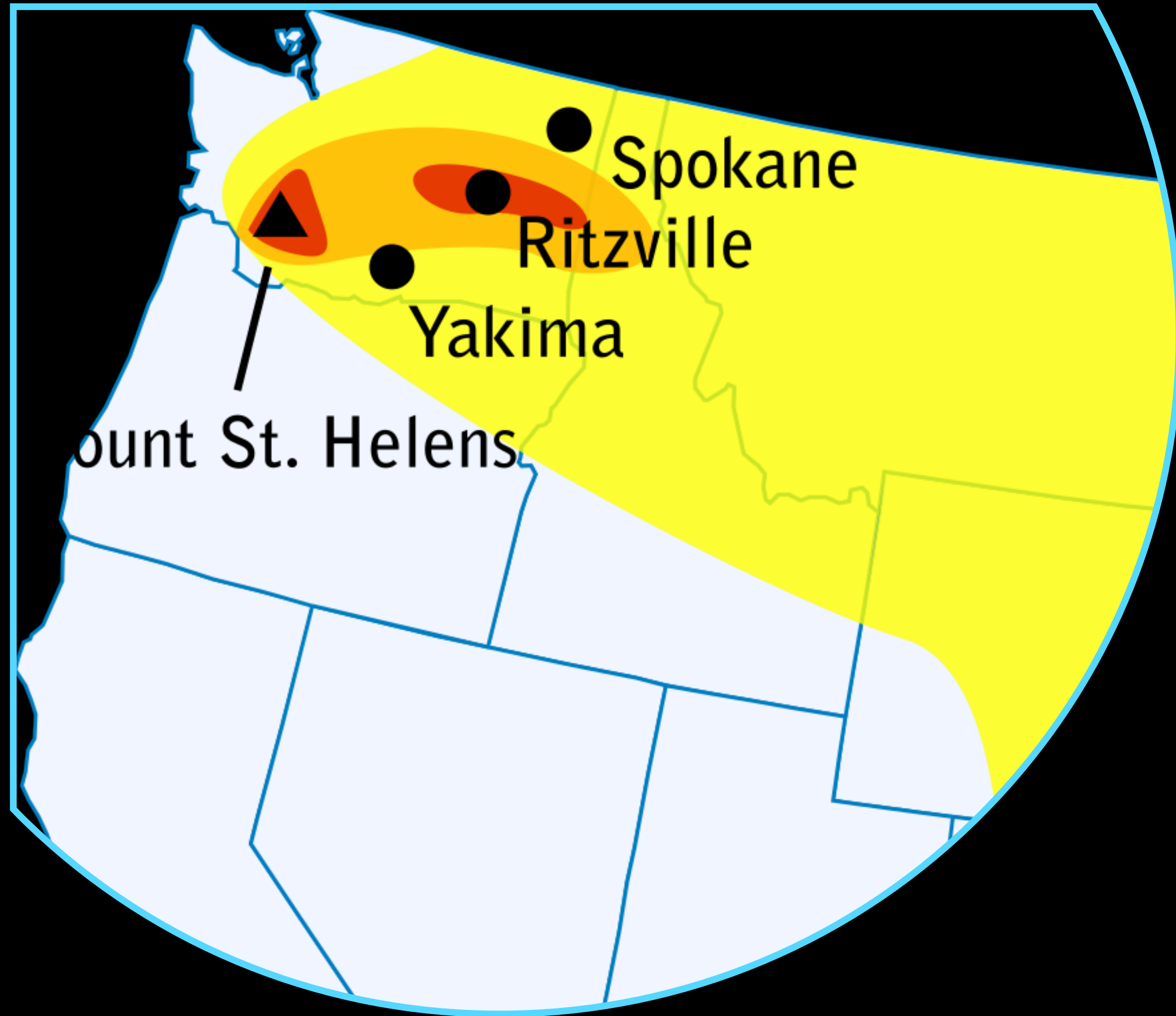
Field Maps and Isolines

What are the different types of field maps?



Phenomenon: Mount St. Helens





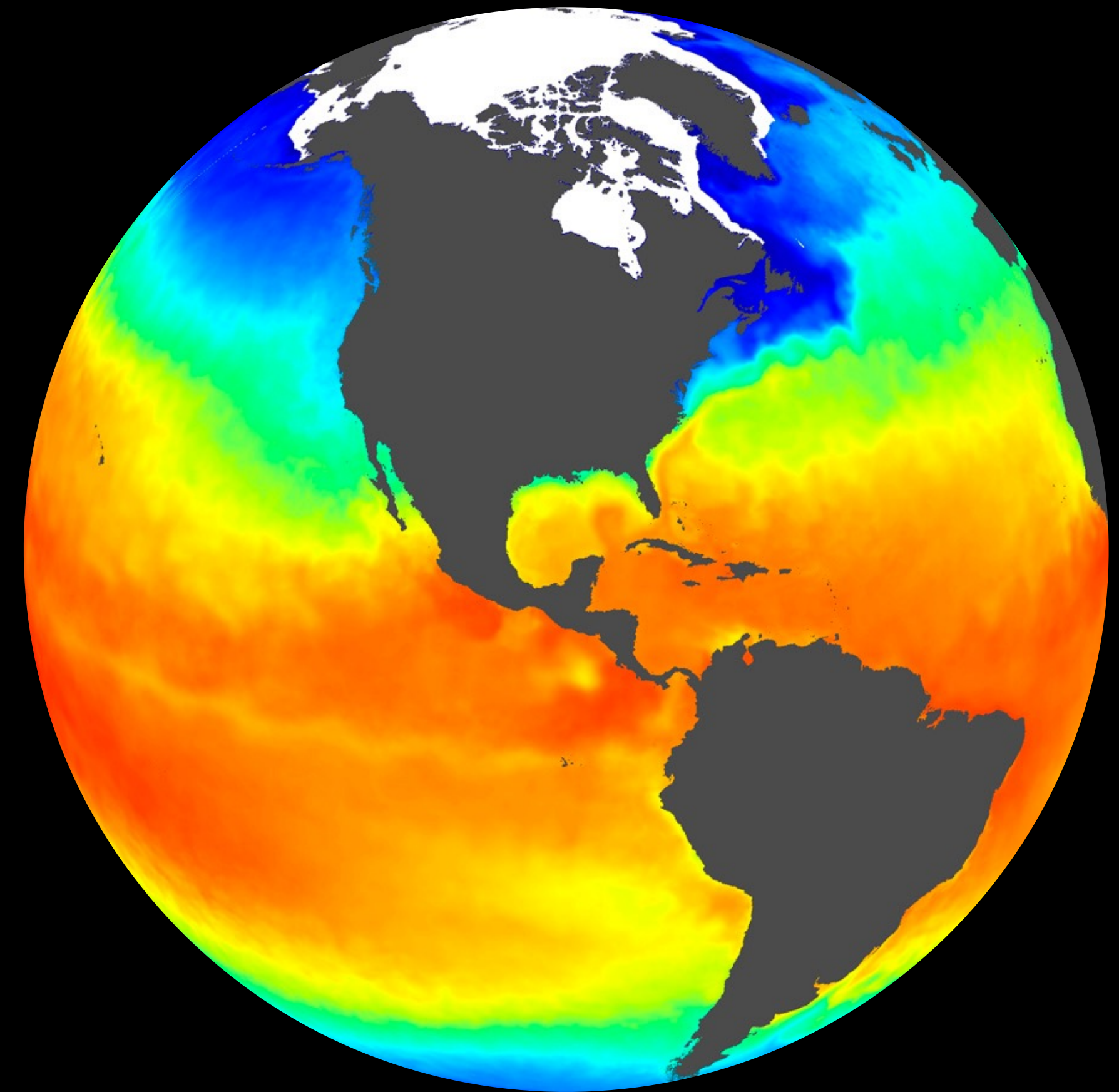
Mount St. Helens' May 18, 1980
Ash Fallout Distributon in U.S.

- 2 inches to 5 inches
- 1/2 inch to 2 inches
- Trace to 1/2 inch

Phenomenon: Mount St. Helens

Field Maps and Isolines

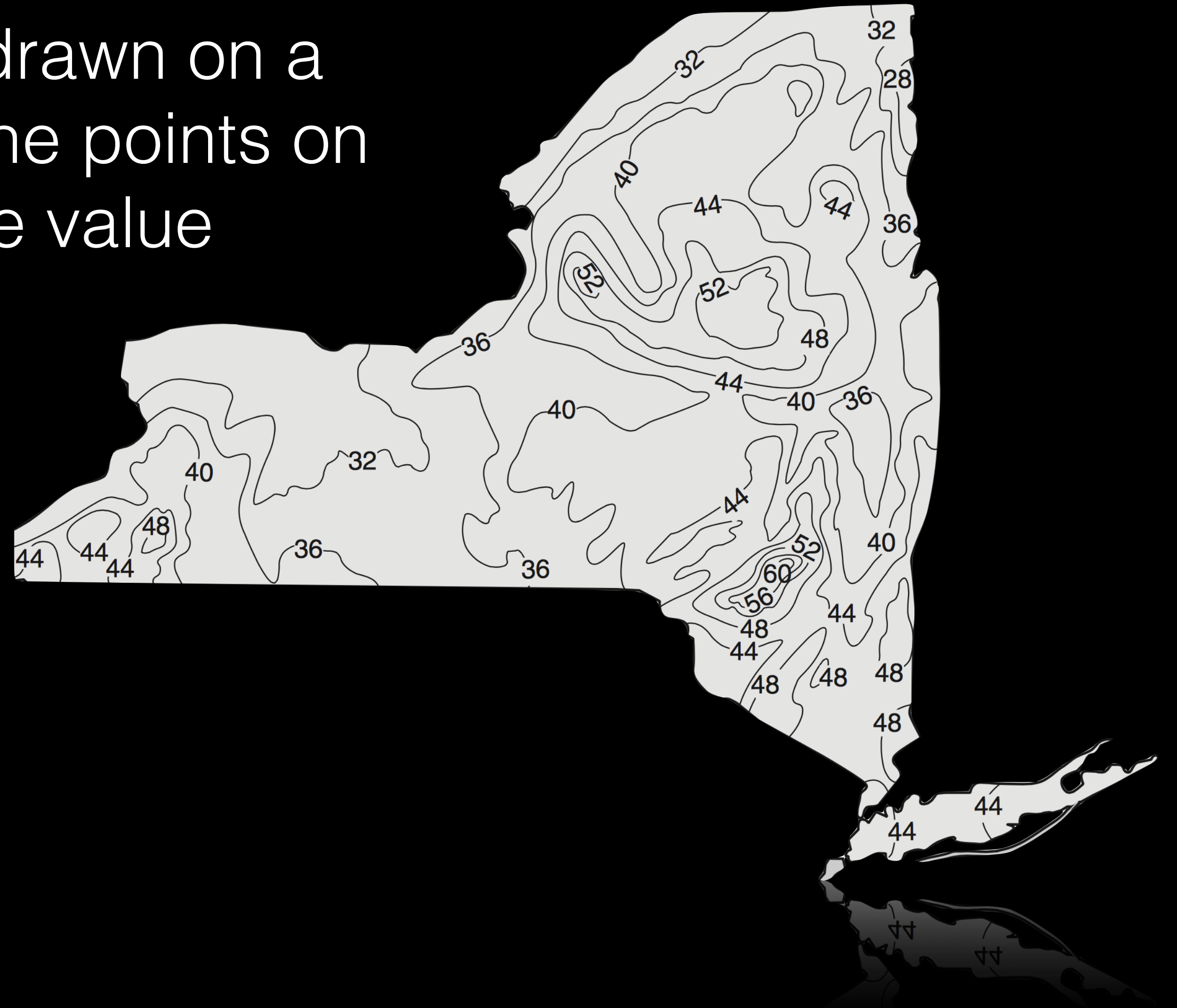
- Field - a region with a measurable quantity at every location
 - Example: ocean temperature



Cold Hot

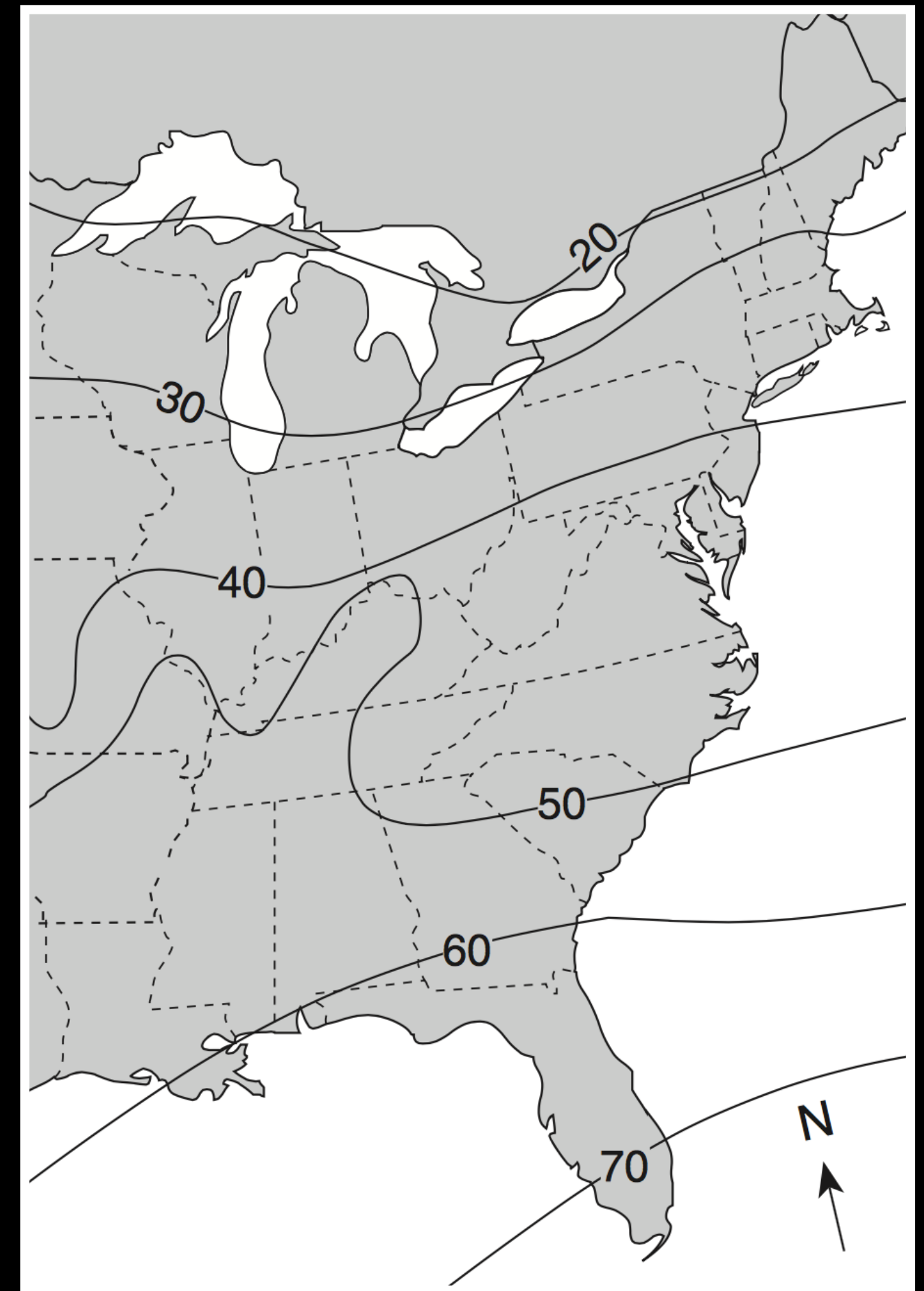
Field Maps and Isolines

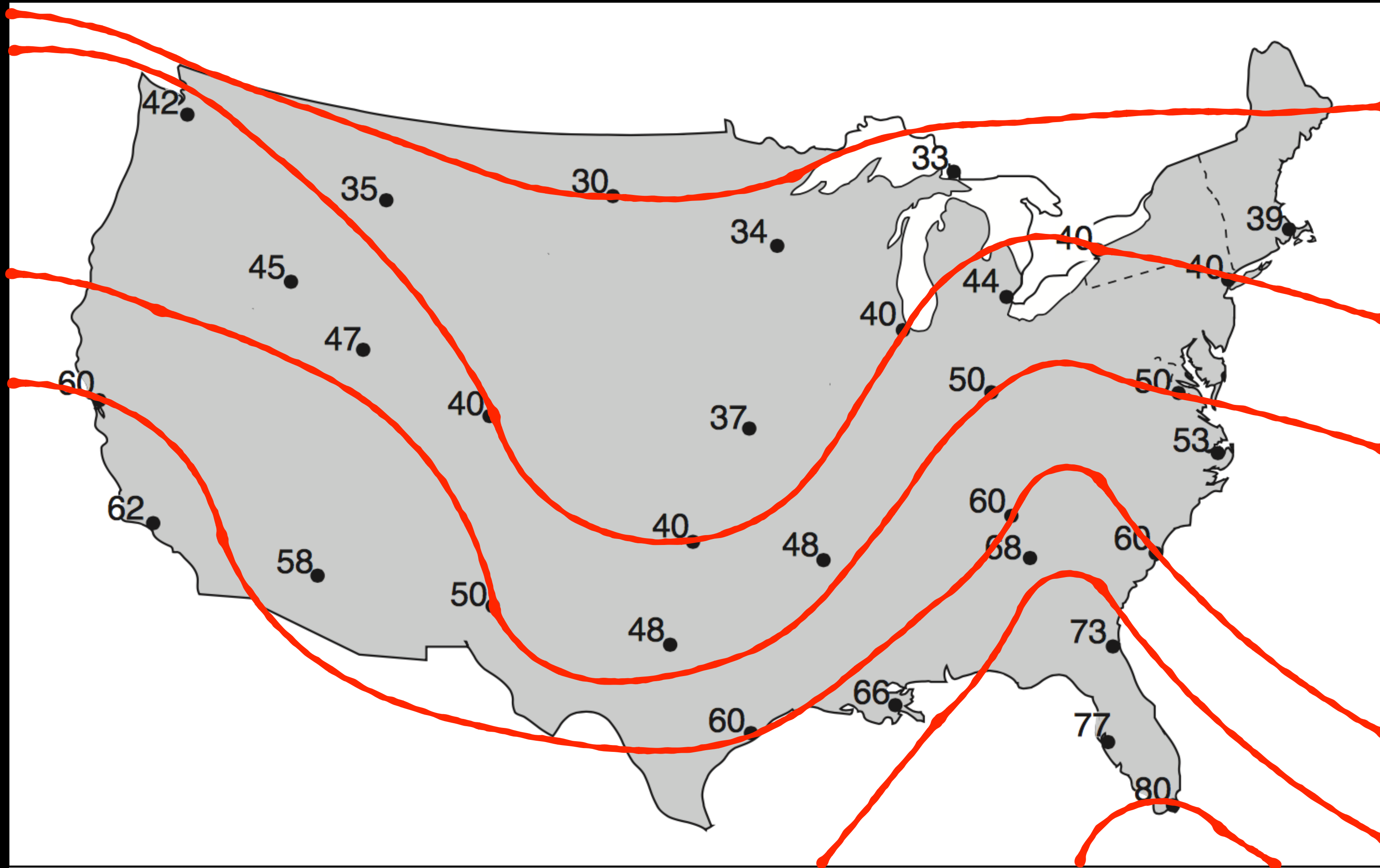
- Isolines - are lines that are drawn on a field map to connect all of the points on that map that have the same value
 - Example: precipitation amounts in inches



Field Maps and Isolines

- Points represent values of data found at a specific location
- To construct a field map connect the points of equal data
 - Do not connect every value... just whole numbers
 - Isolines form complete circles or end at the edge of the map

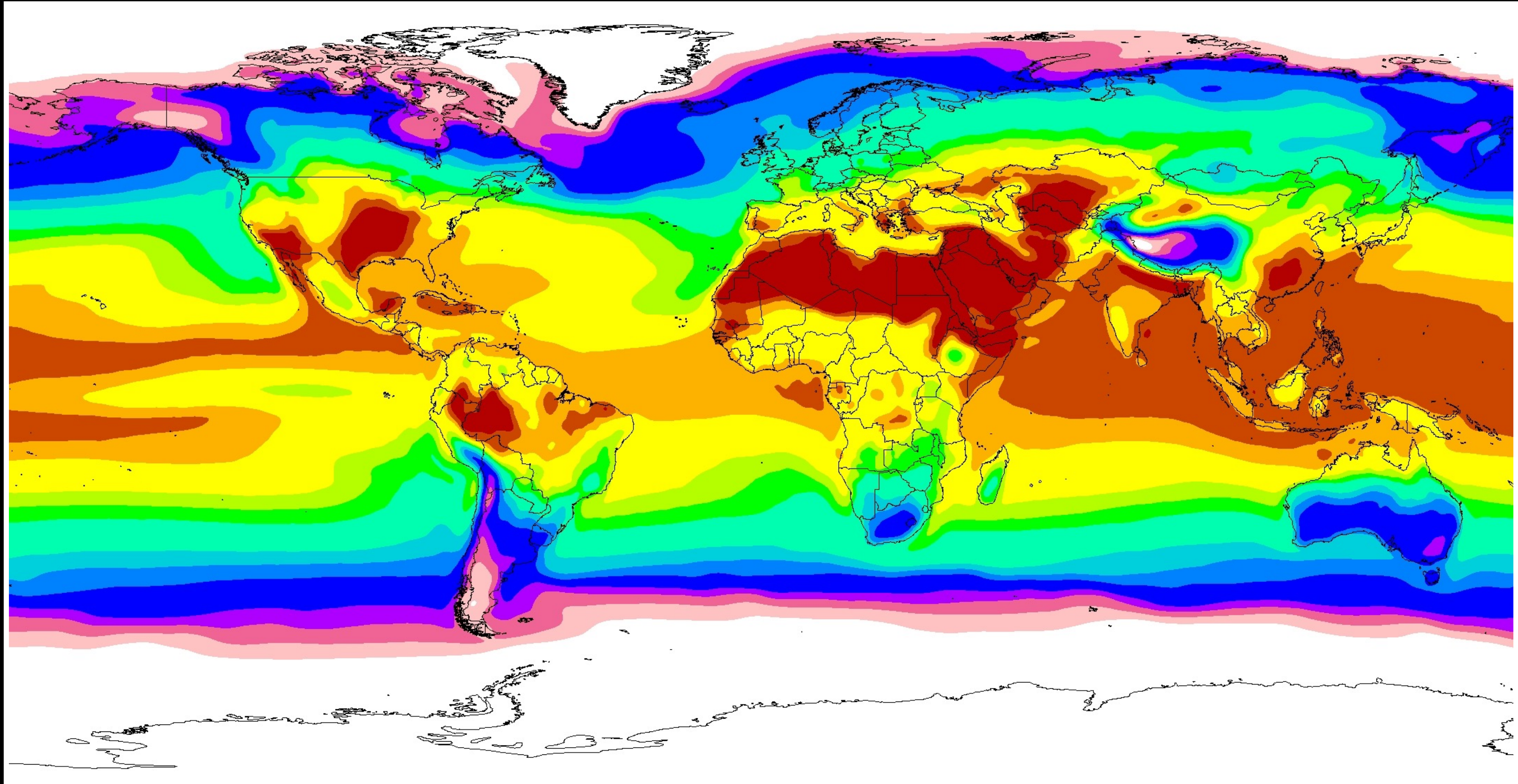




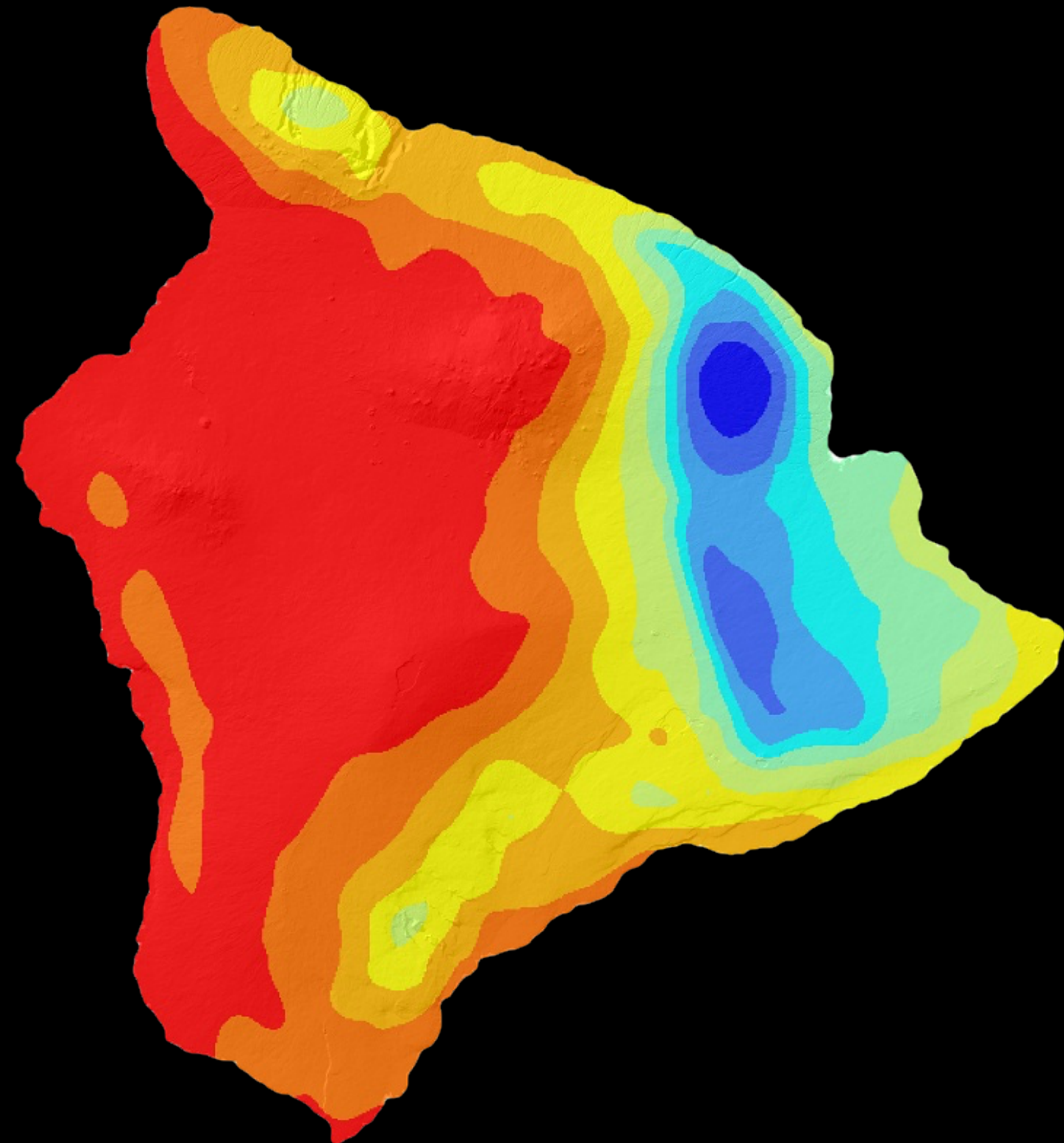
Temperature Values in the United States

Field Maps and Isolines

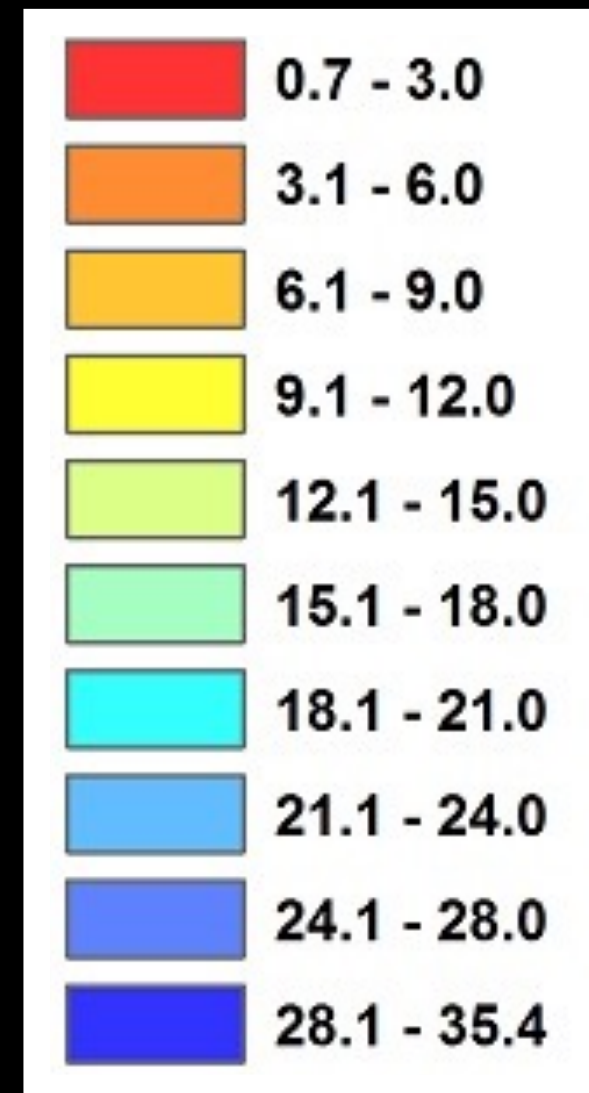
- Different Types of Isolines:
 - Isotherm - lines that connect equal points of temperature
 - Isohyet - lines that connect equal points of rainfall
 - Isobar - lines that connect equal points of air pressure
 - Contour Line - lines that connect equal points of elevation



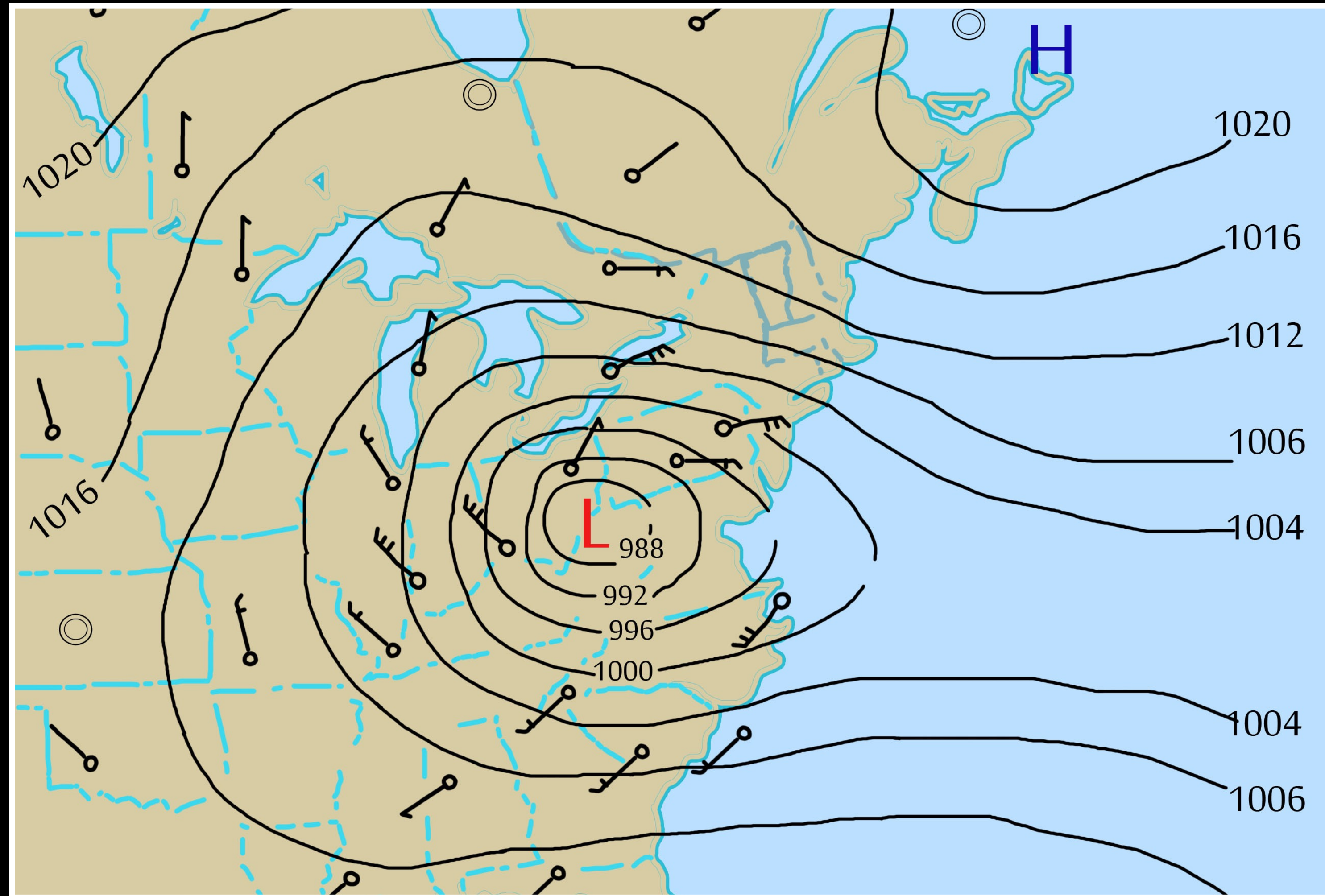
Isotherm Map



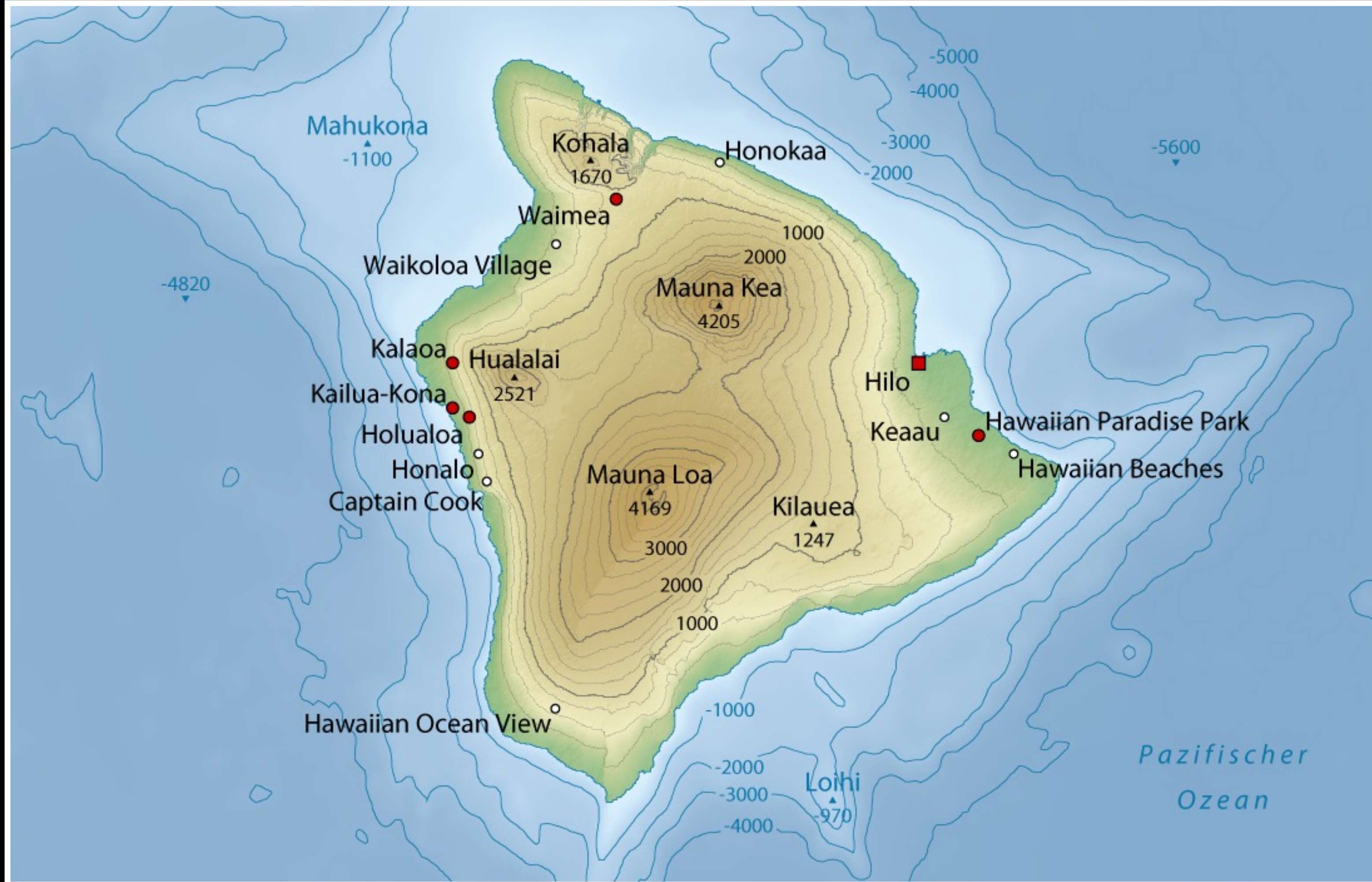
Inches of
Precipitation



Isohyet Map



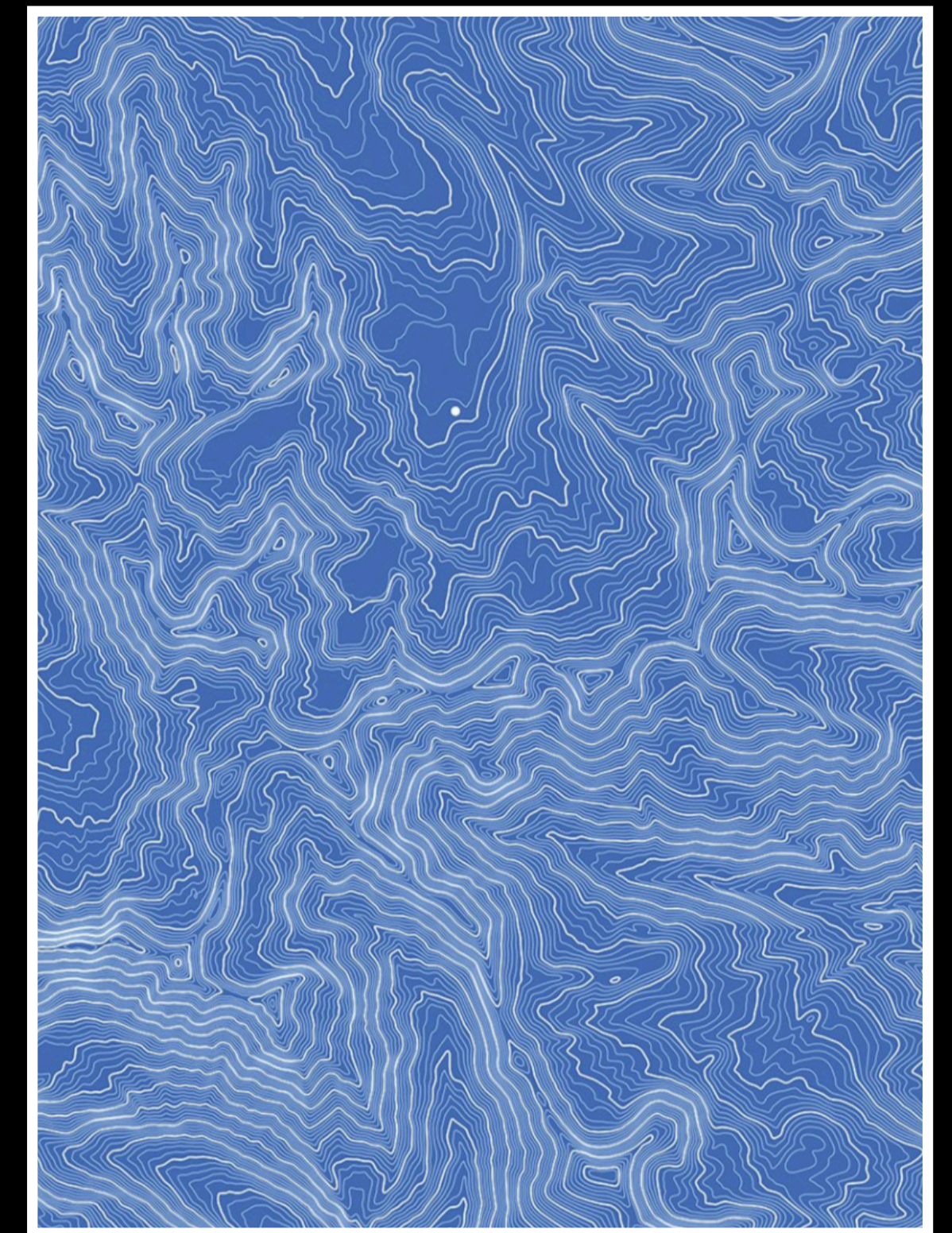
Isobar Map



Contour Map

Field Maps and Isolines

- Rules of Isolines:
 - Connect equal points of data
 - Close around hills and depressions or extend to the edge of the map border
 - Isolines never cross one another
 - Close together represent higher gradient
 - Far apart represent lesser gradient



Stowe, VT

Field Maps and Isolines

- Gradient (slope) - rate of change from one place to another

$$\text{Gradient} = \frac{\text{change in field value}}{\text{distance}}$$



Snowfall in Buffalo



Snowfall in Buffalo

LAKE EFFECT SNOW FORECAST

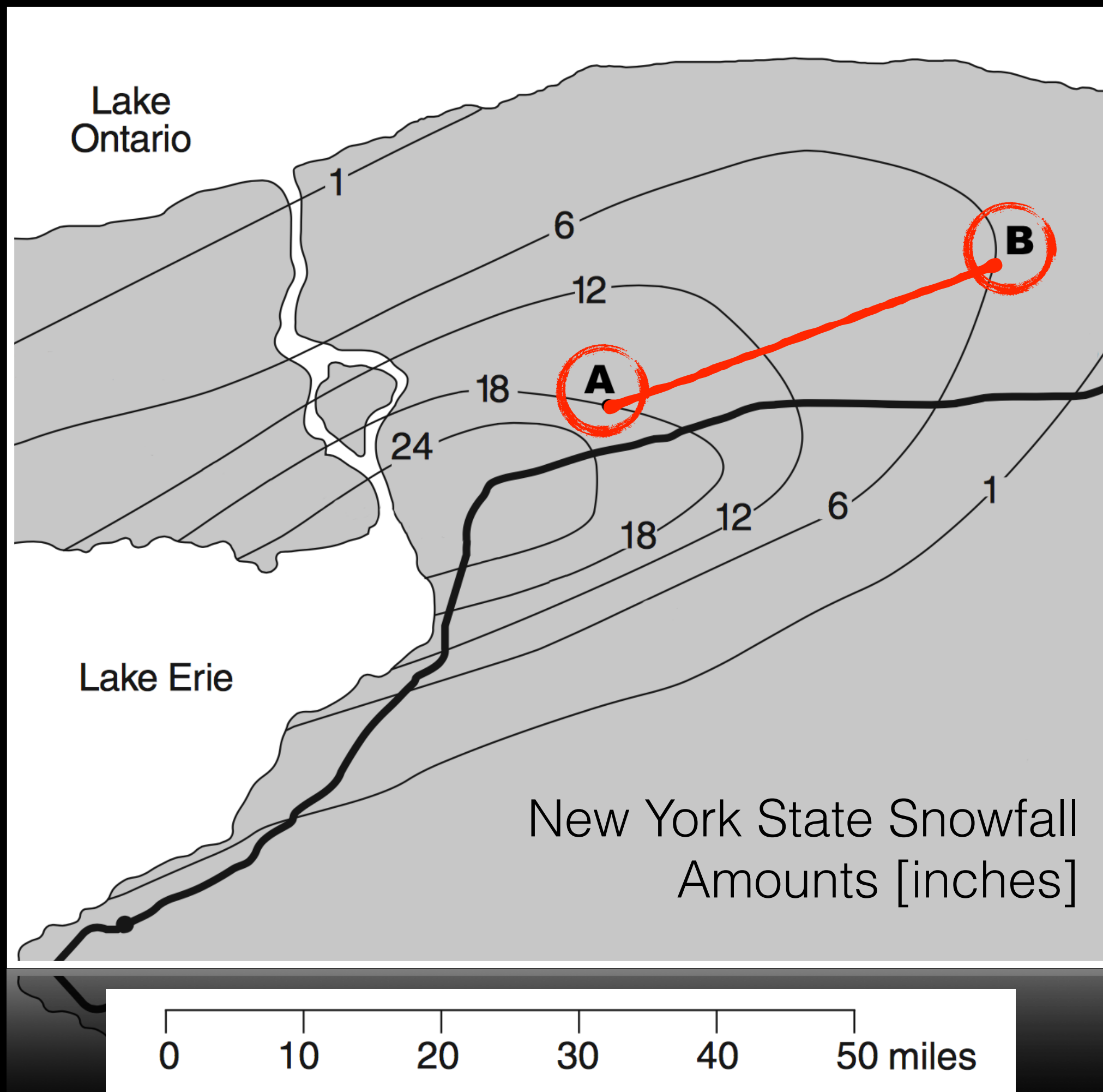
NEWS 10 abc
STORM TRACKER

Through Wednesday



Snowfall in Buffalo

Field Maps and Isolines



$$\text{Gradient} = \frac{\text{change in field value}}{\text{change in distance}}$$

$$\text{Gradient} = \frac{18 \text{ inches} - 6 \text{ inches}}{30 \text{ miles}}$$

$$\text{Gradient} = \frac{12 \text{ inches}}{30 \text{ miles}}$$

$$\text{Gradient} = 0.4 \text{ inches/mile}$$

earthtoleigh.com