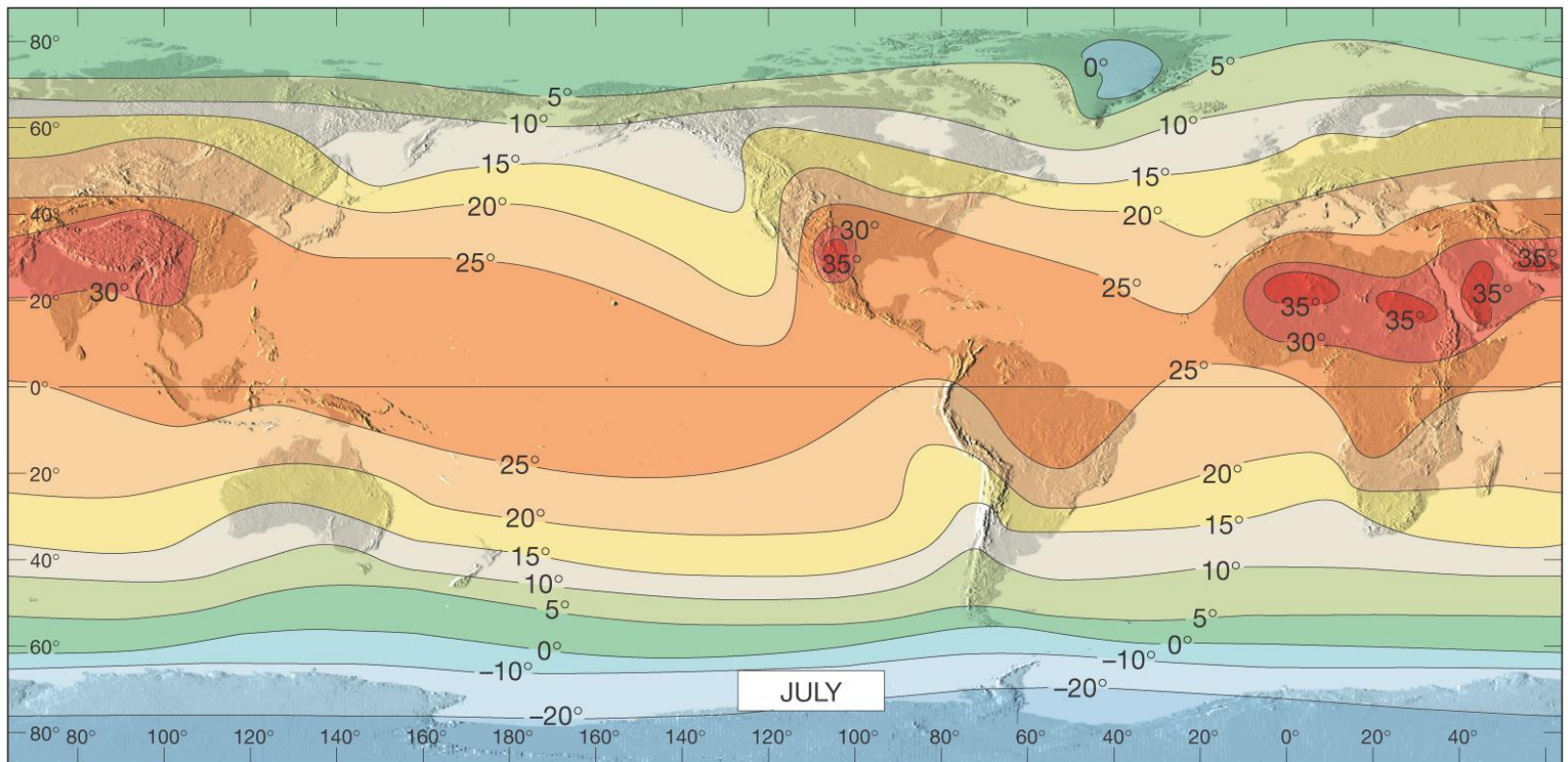


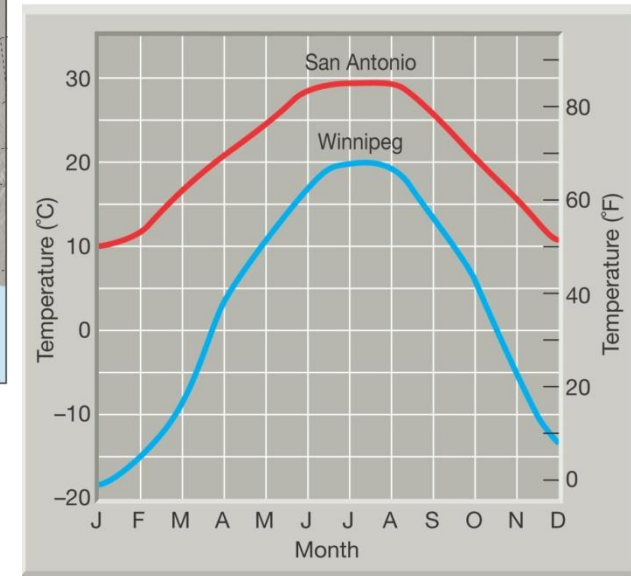
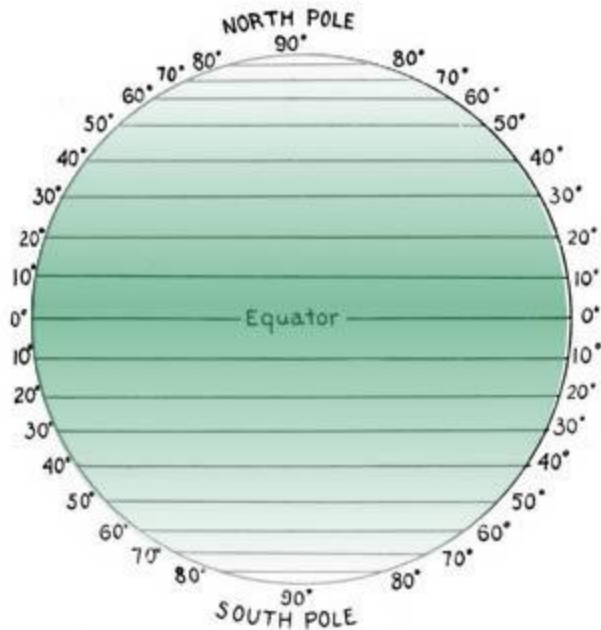
# 17.3 Graphing Temperature Activity

◆ *Be able to identify the different types of controls on temperature.*



# 17.3 Graphing Temperature Activity

1) *Latitude – moving north or south is the greatest temperature control.*



# 17.3 Temperature Controls

## Why Temperatures Vary

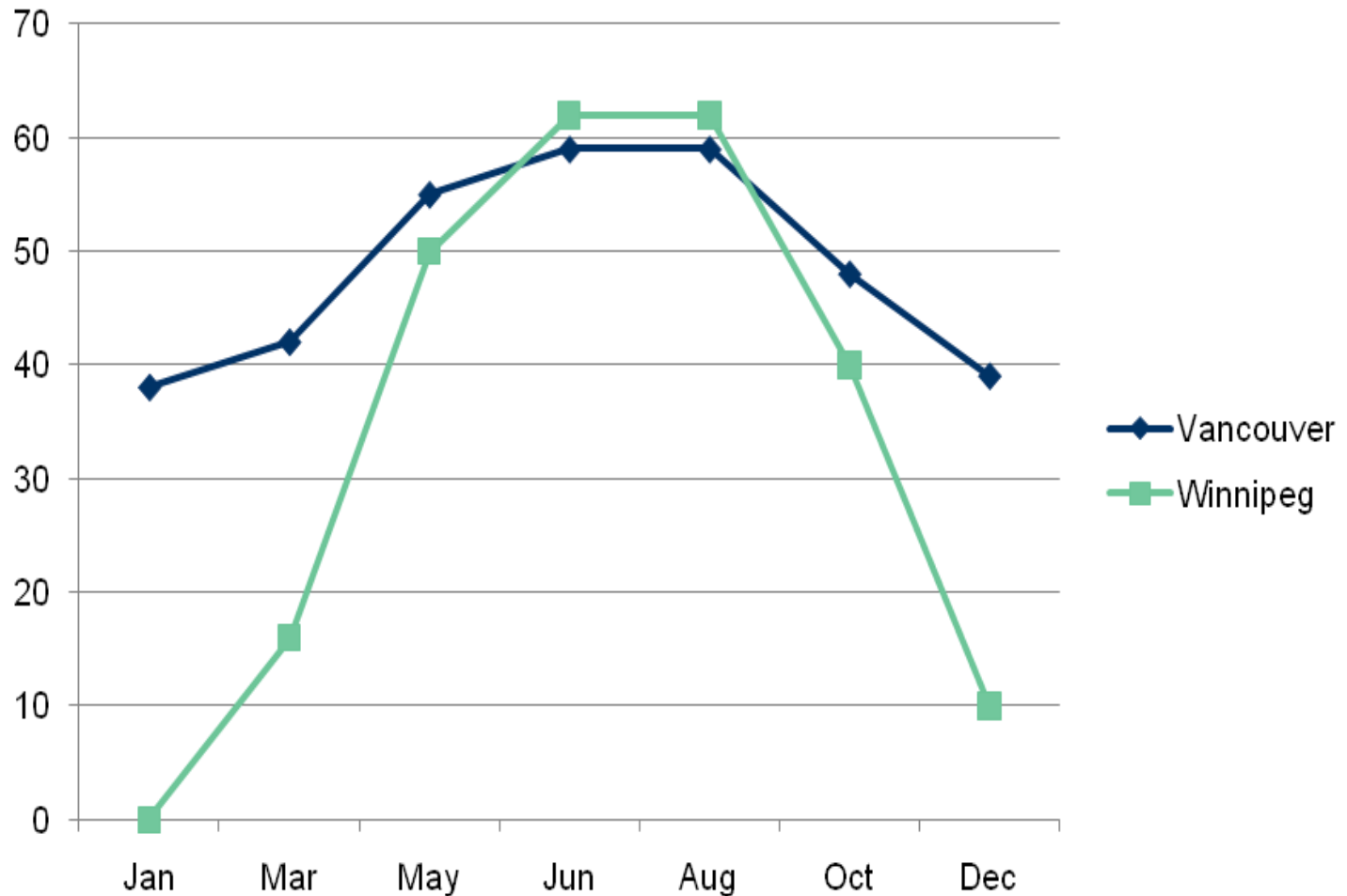
- ◆ Factors other than (1) latitude that exert a strong influence on temperature include:
  - 2) Heating of land and water
  - 3) Altitude
  - 4) Cloud cover

# 17.3 Graphing Temperature Activity

- ◆ Heating of land vs. water – *same latitude*
  - ◆ **Vancouver = marine**
  - ◆ **Winnipeg = continental**



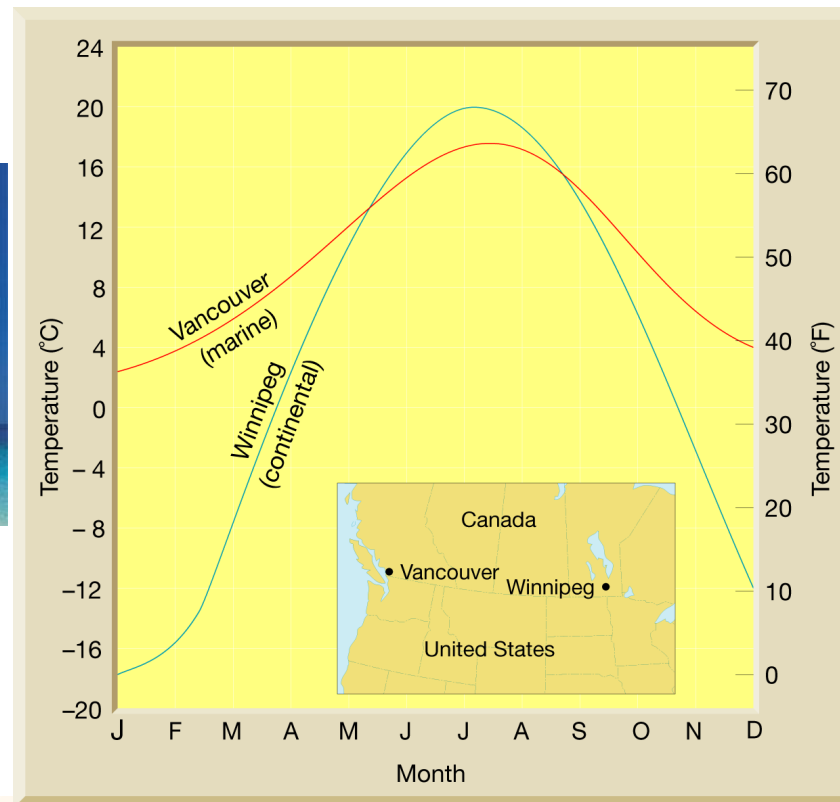
# Mean Monthly Temperatures for Vancouver and Winnipeg



# 17.3 Temperature Controls

## 2) Land vs. Water

- Land heats and cools more rapidly than water.

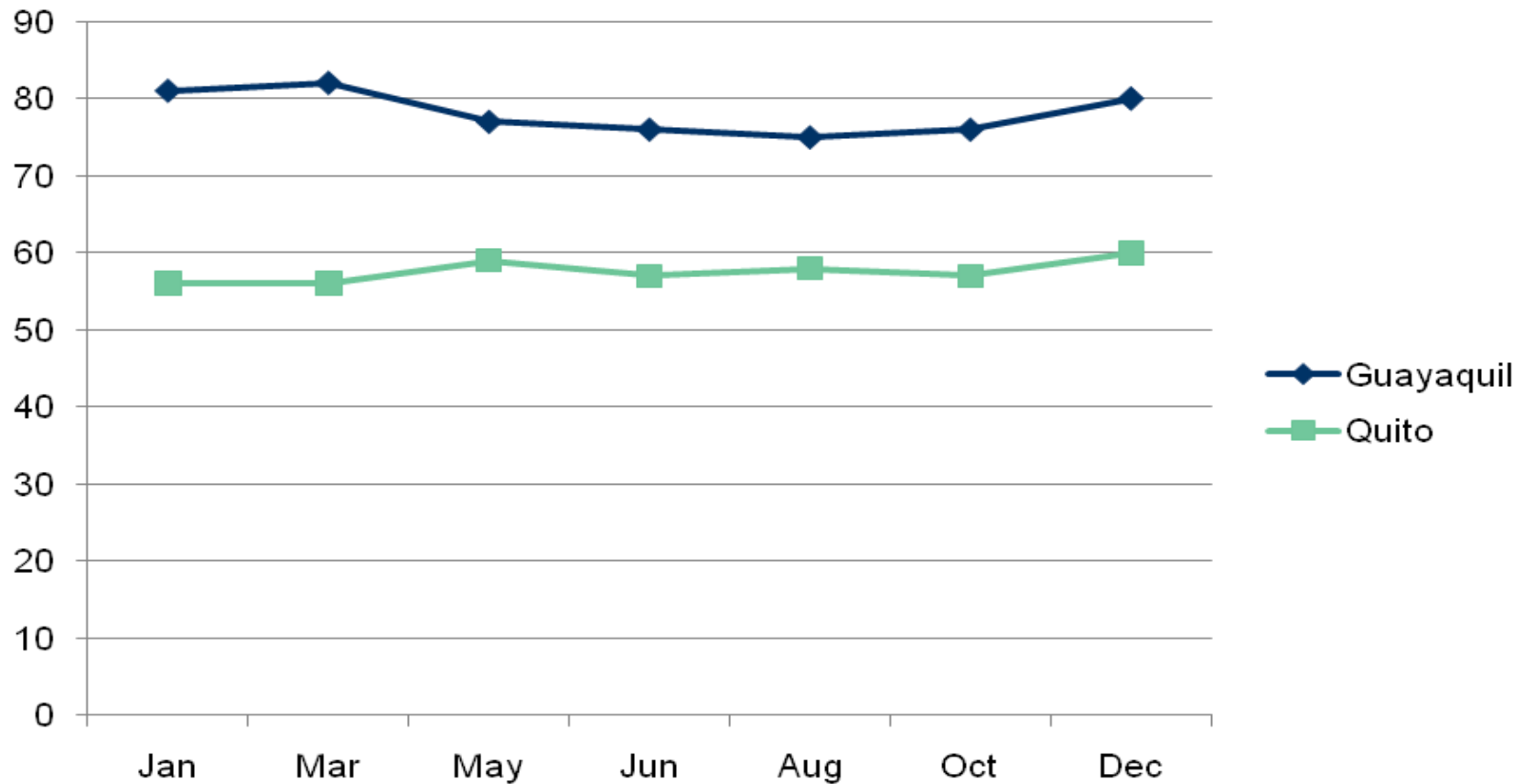


# 17.3 Graphing Temperature Activity

- ◆ **Altitude** (*same latitude*)
  - ◆ **Guayaquil – 12 meters above sea-level**
  - ◆ **Quito – 2800 meters above sea-level**



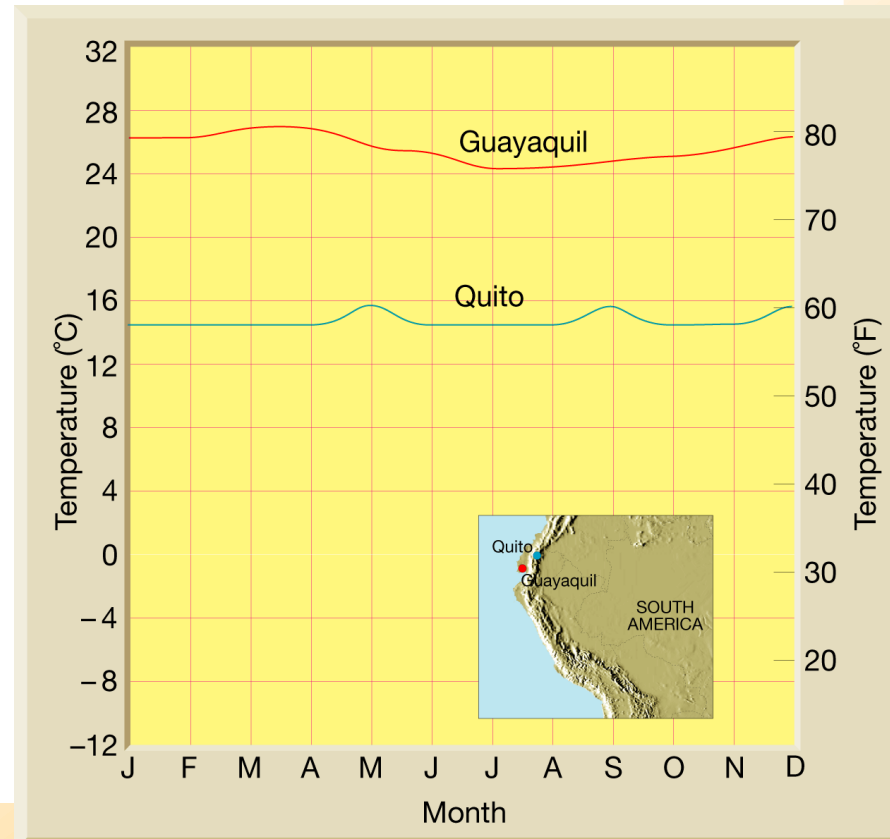
# Mean Monthly Temperatures for Guayaquil and Quito



# 17.3 Temperature Controls

## 3) Altitude

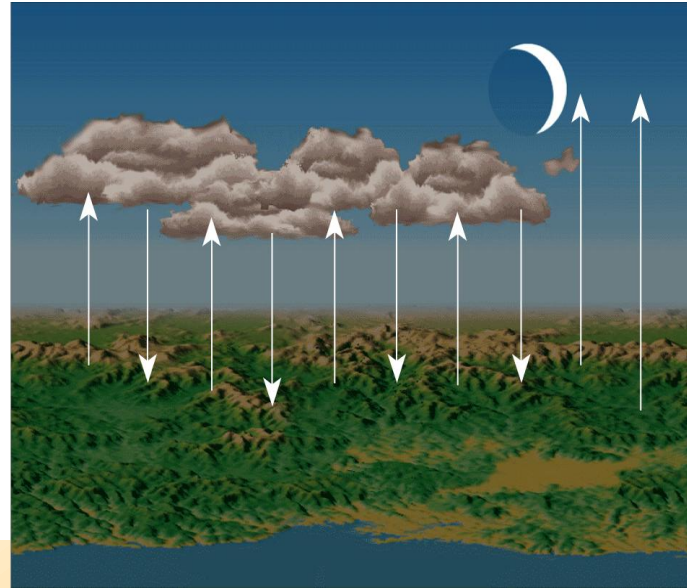
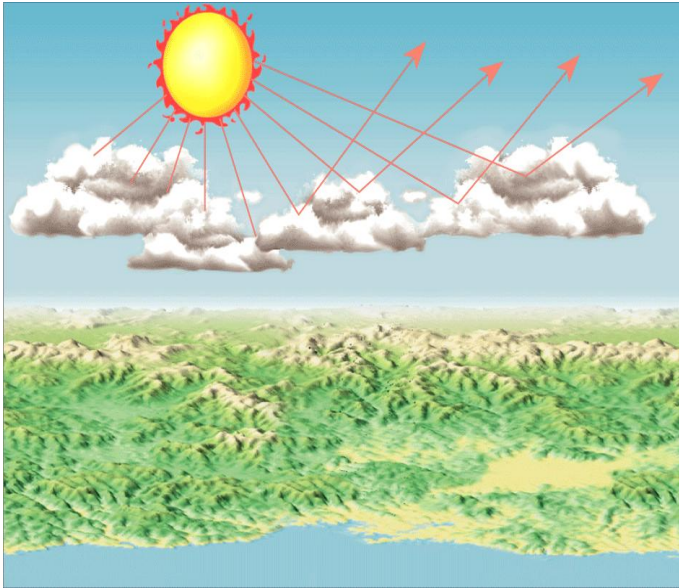
- Temperatures are colder higher in the troposphere.



# 17.3 Temperature Controls

## 4) Cloud Cover

- Many clouds reflect back to space a significant portion of the sunlight that strikes them.
- Clouds keep the daytime temperature cooler and nighttime temperature warmer.



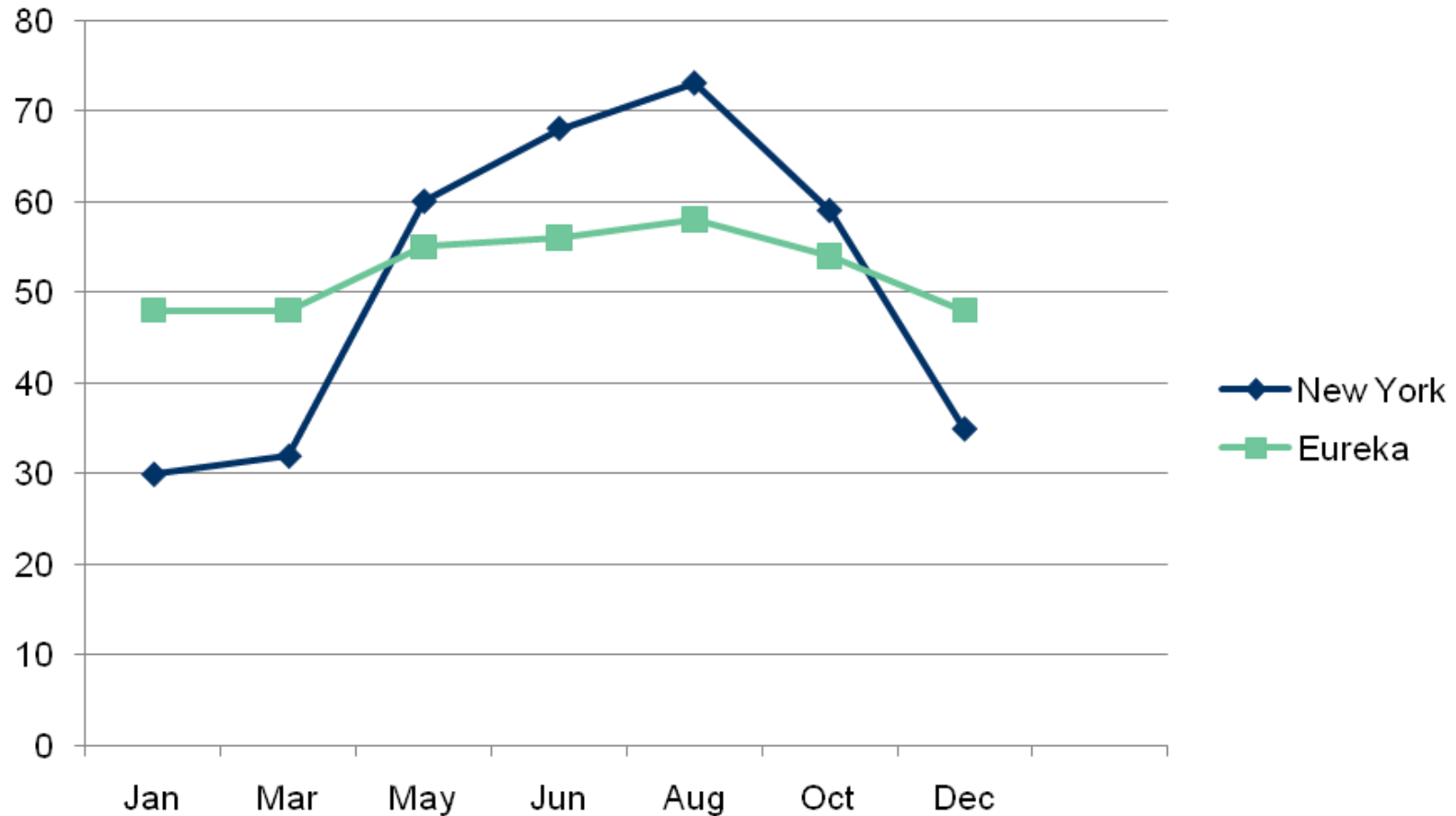
# 17.3 Graphing Temperature Activity

- ◆ **Windward vs. Leeward** (*same latitude*)
  - ◆ **Eureka - Windward**
  - ◆ **New York City - Leeward**



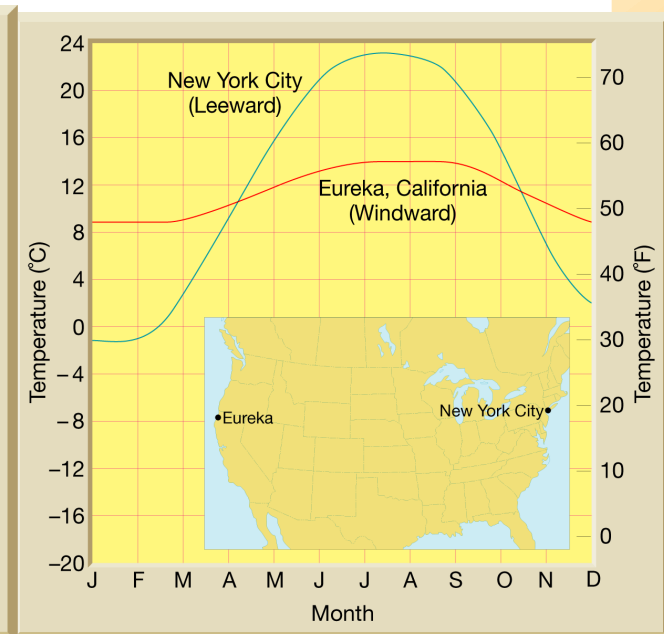
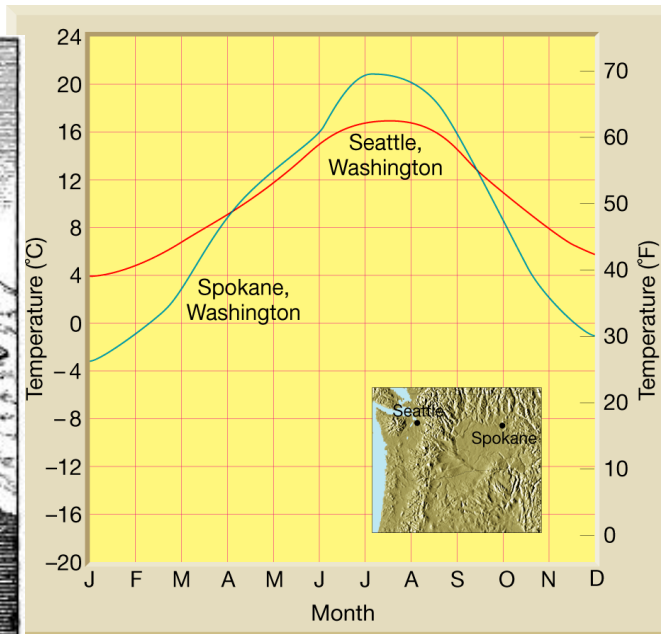
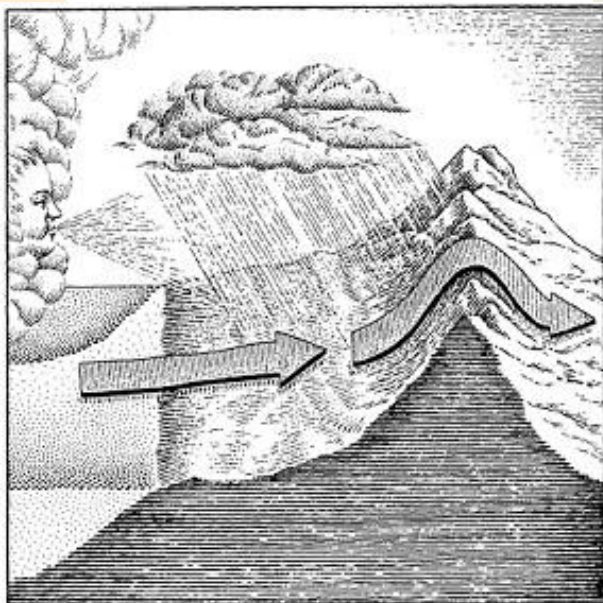
# Geographic Position

Eureka (*Windward*) and New York City (*Leeward*)



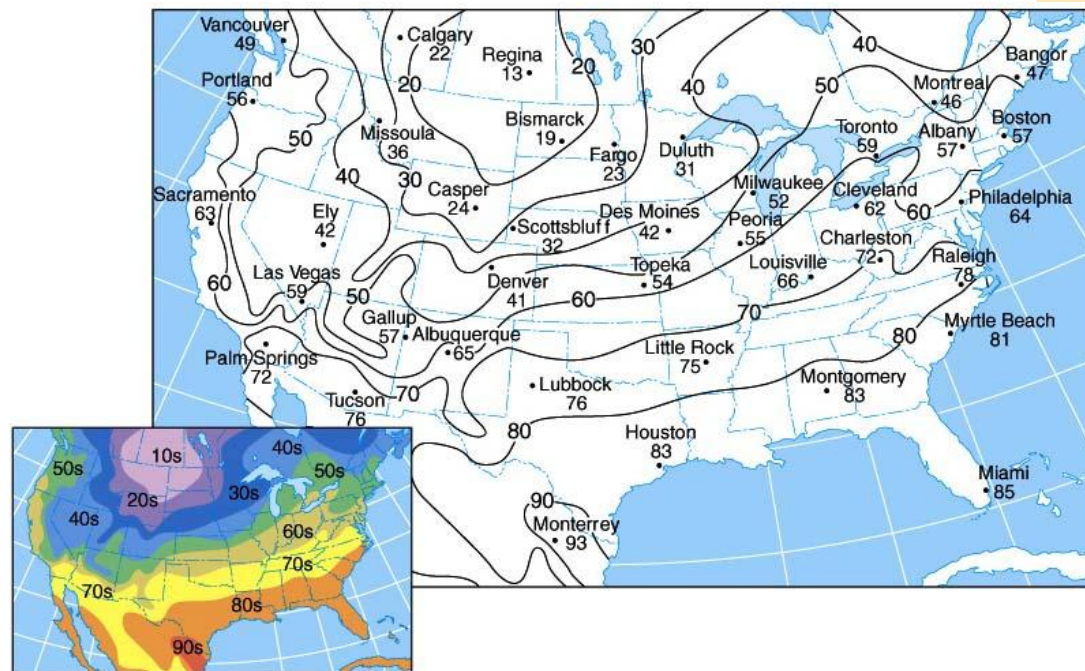
# 17.3 Temperature Controls

- Geographic Position
  - The geographic setting can greatly influence temperatures experienced at a specific location.



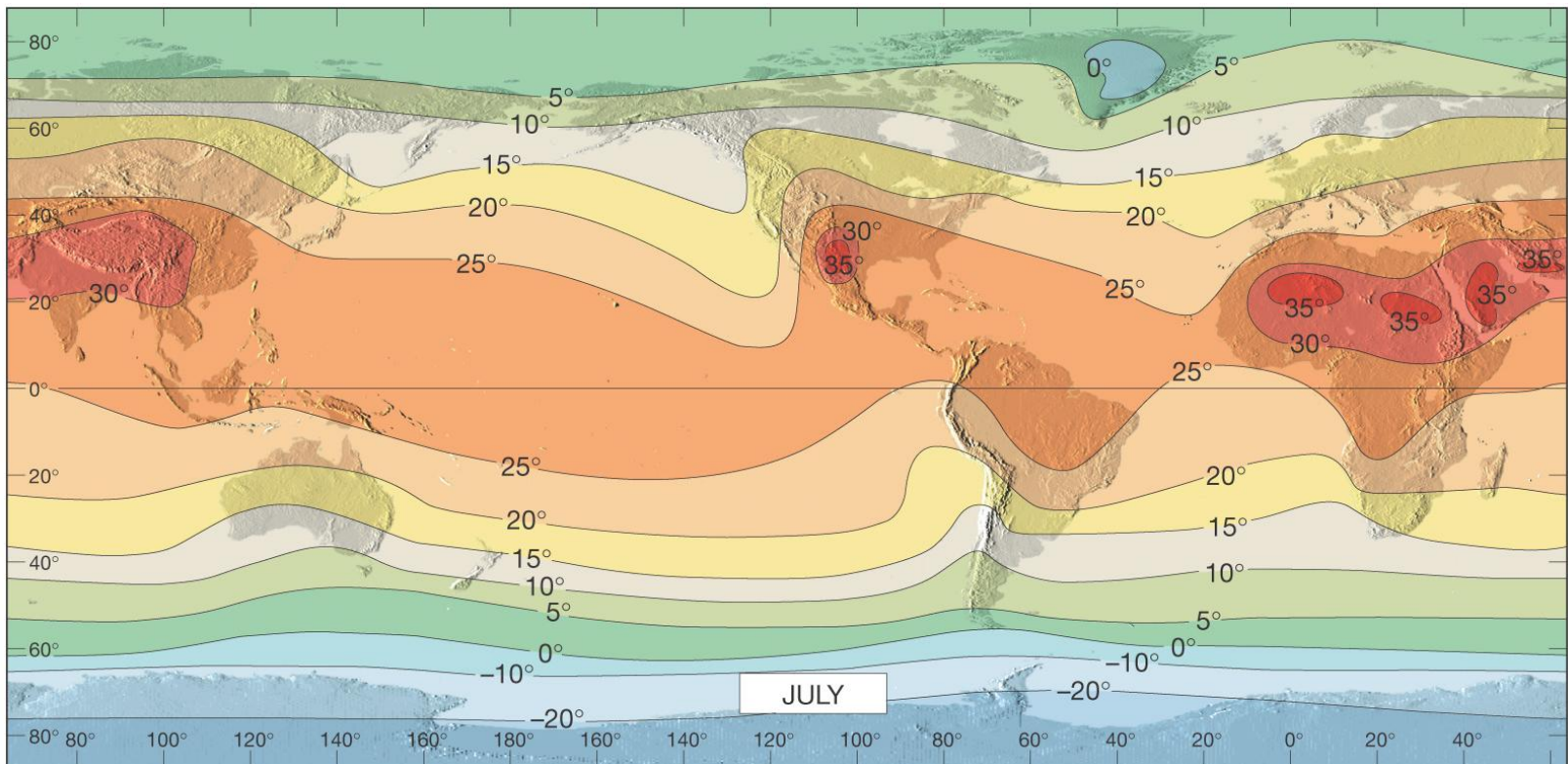
# 17.3 Isotherms

- ◆ **Isotherms** are lines on a weather map that connect points where the temperature is the same.



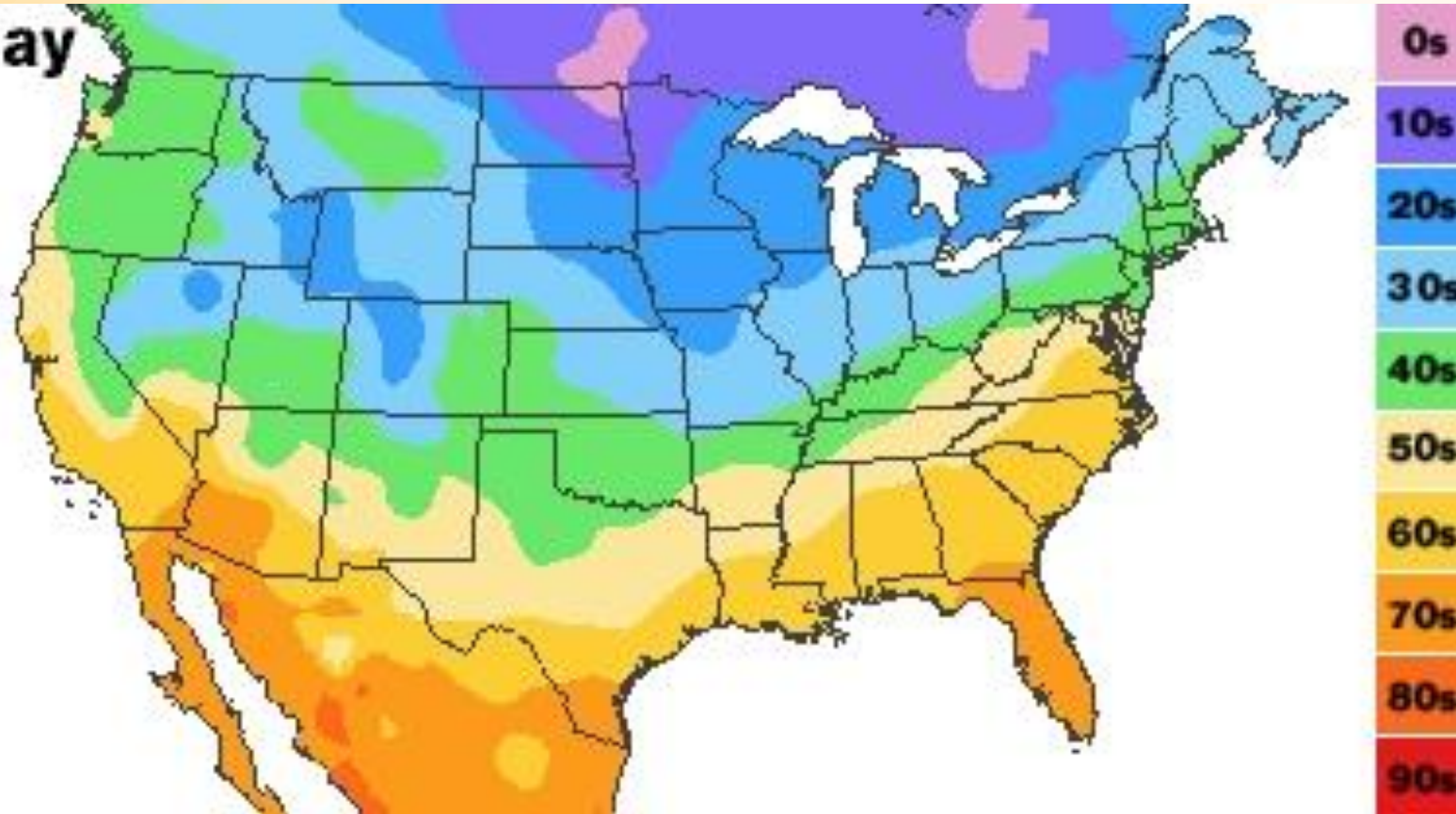
# 17.3 Isotherms

- Isotherms generally trend east and west and show a decrease in temperatures from the tropics toward the poles.



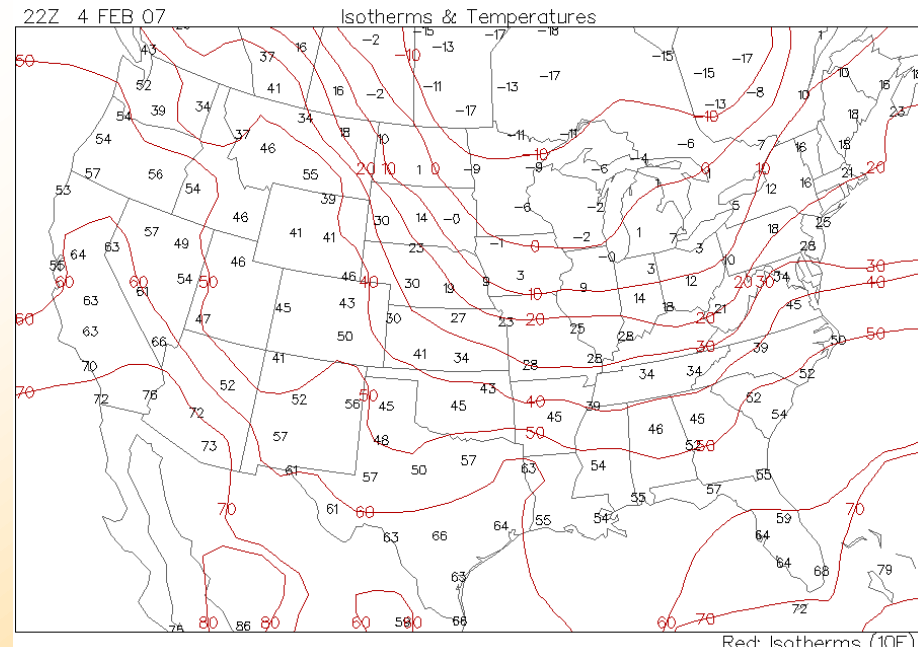
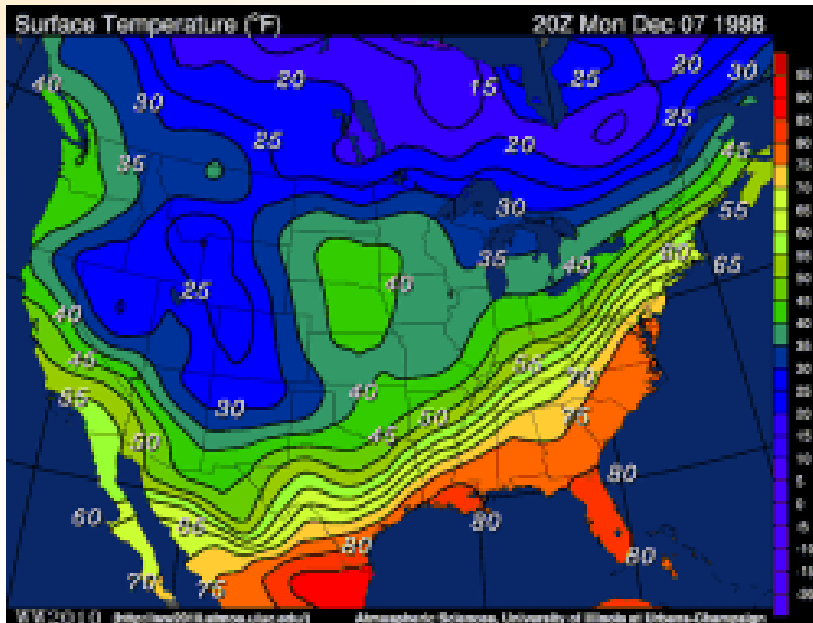
# Drawing Isotherms

**Wednesday  
Forecast  
Highs**



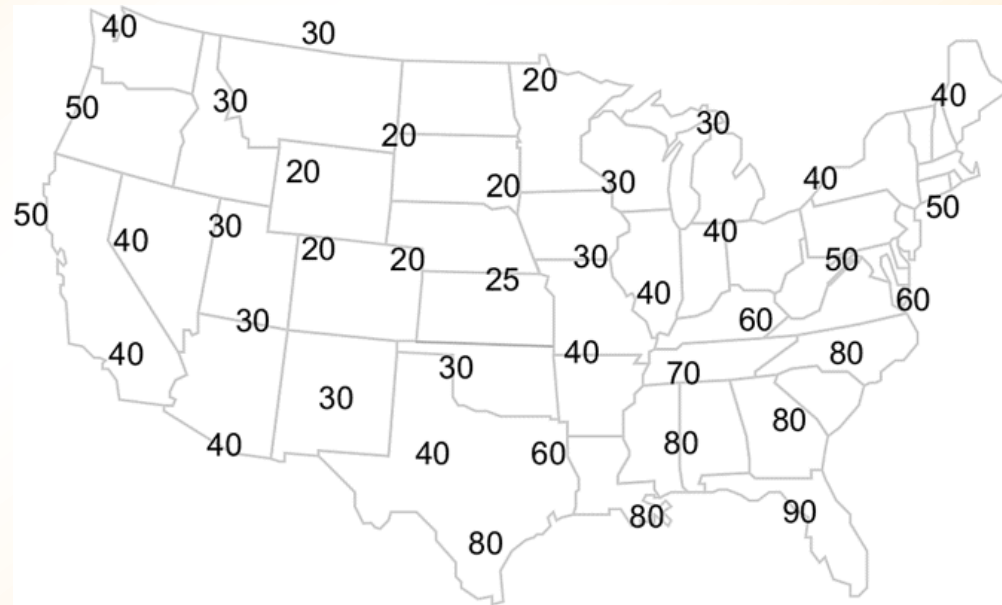
# Rules of Isotherms

1. Draw your isotherm in a neat and smooth line instead of a jagged line. (trace lightly in pencil. then go over when done.)
2. An isotherm should begin and end at an edge of the map, or, alternatively, loop around and close on itself
3. An isotherm should never branch or fork
4. Isotherms can not touch or cross other lines.
5. Isotherms should be drawn at equal intervals. (10, 20, 30)
6. Each Isotherm line should be labeled



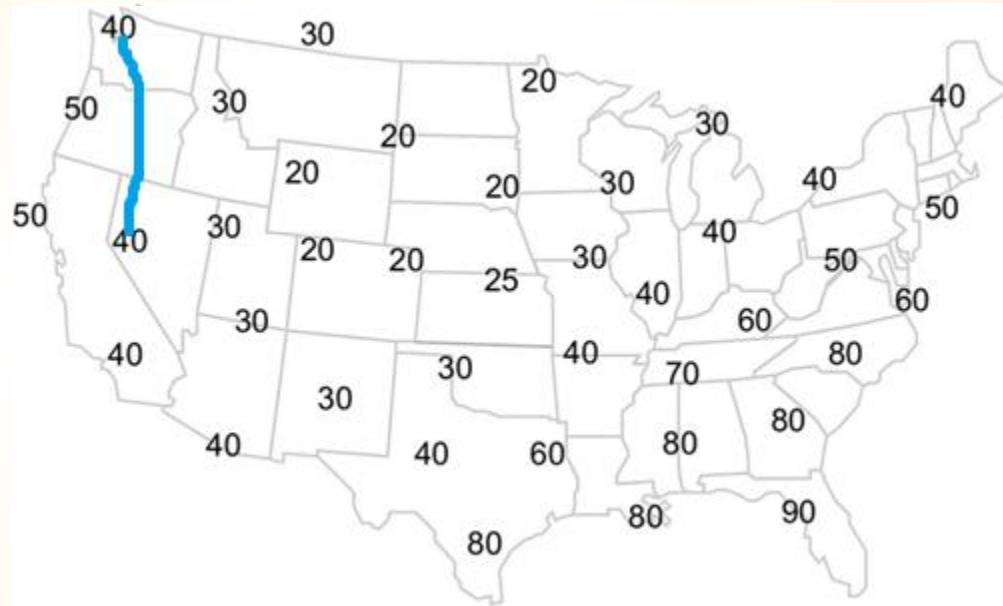
# Drawing Isotherms

- Begin drawing from the 40°F temperature in Seattle, Washington (top left value).
- Connect to the nearest 40°F value located in Reno, Nevada.

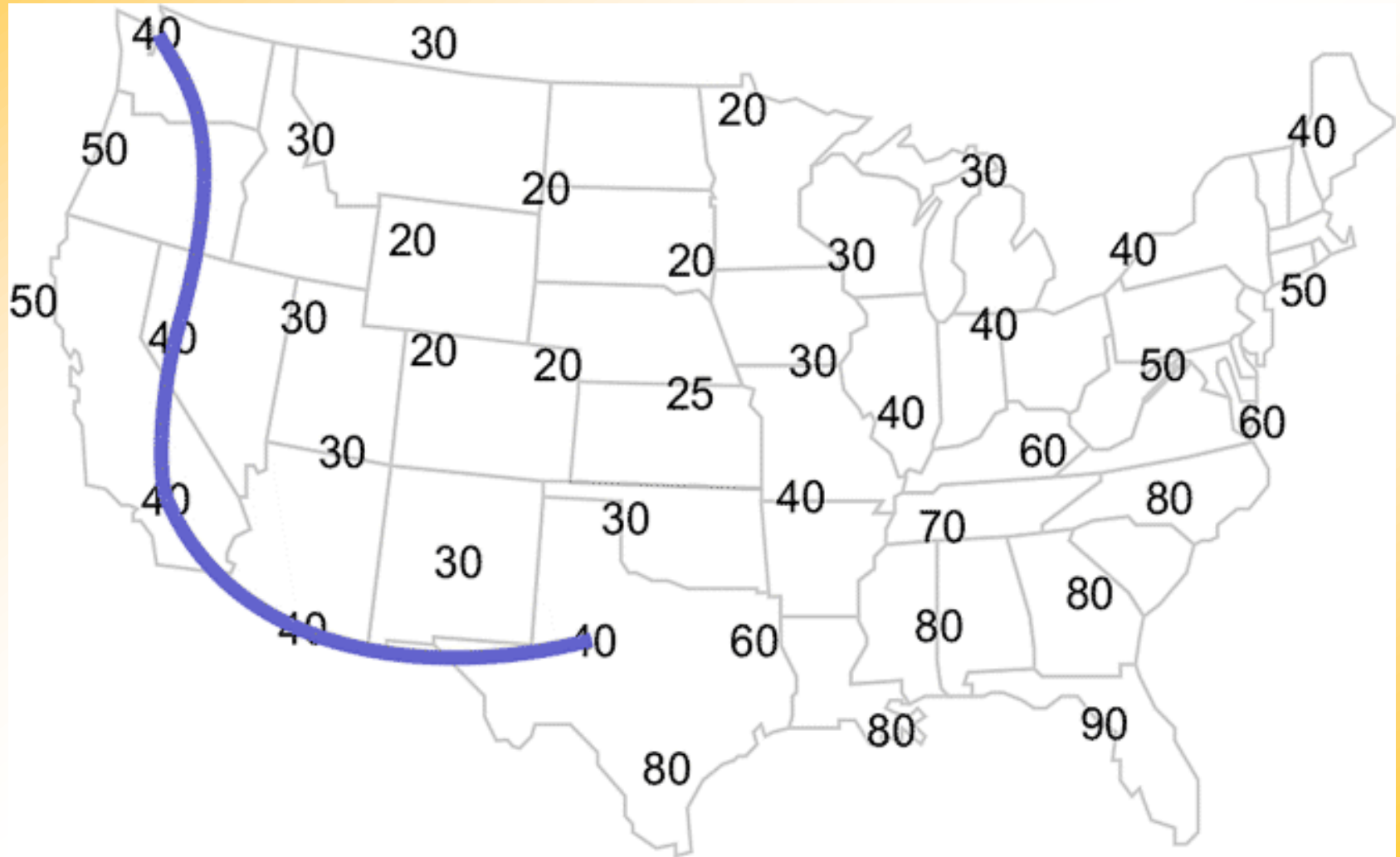


# Drawing Isotherms

- Begin drawing from the 40°F temperature in Seattle, Washington (top left value).
- Connect to the nearest 40°F value located in Reno, Nevada.



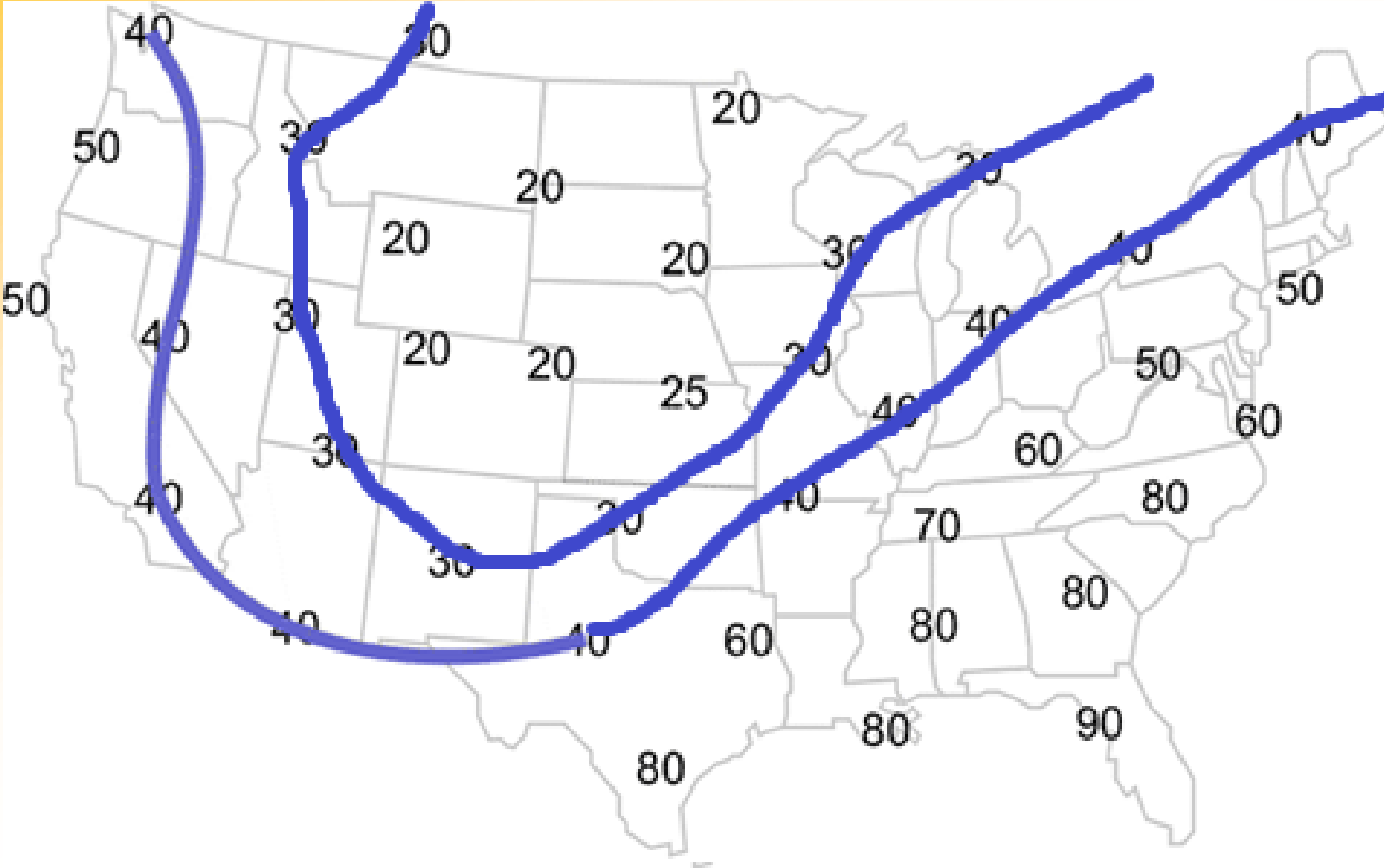
# Drawing 40°F Isotherm



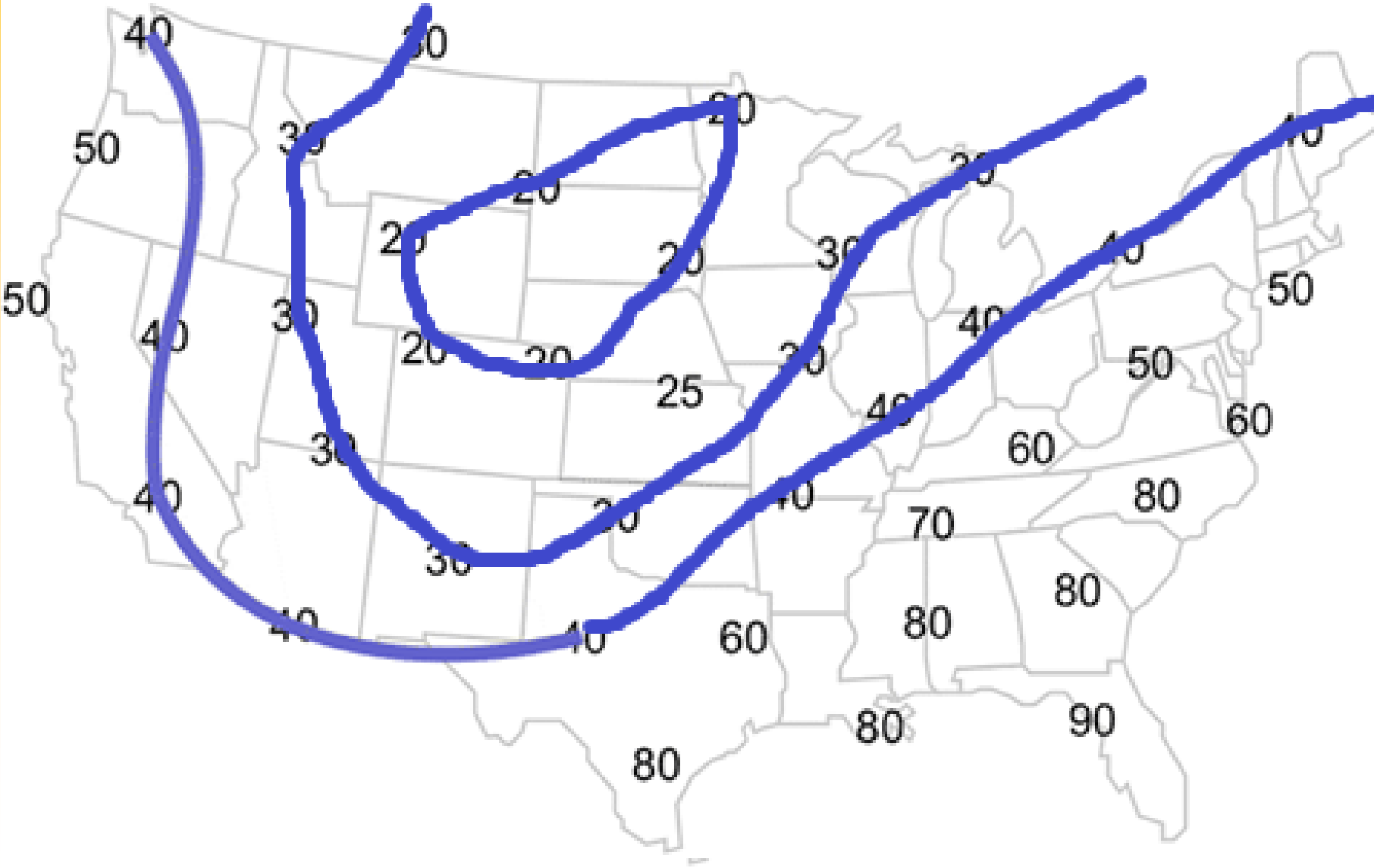
# Draw 30°F Isotherm



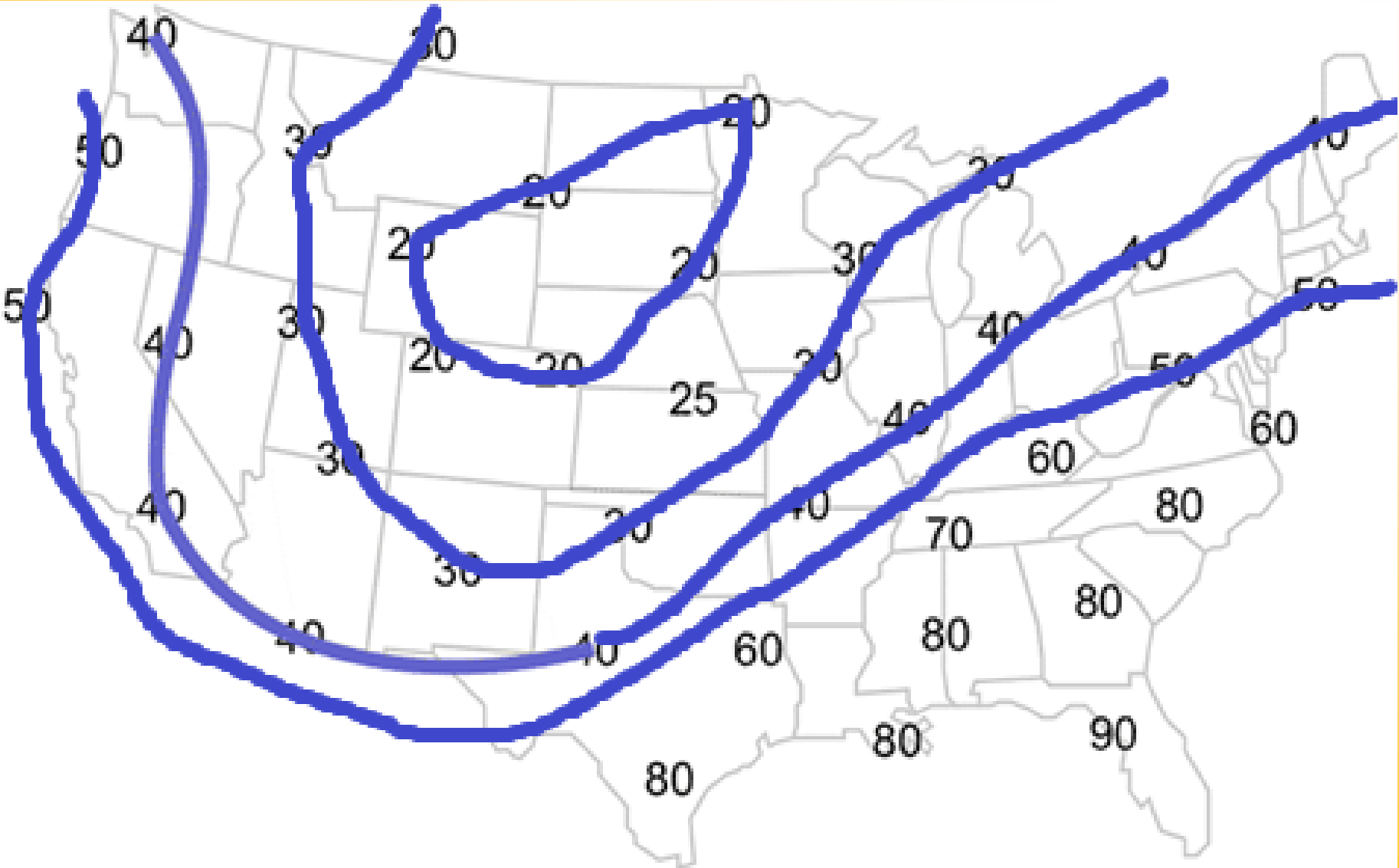
# Draw 20°F Isotherm



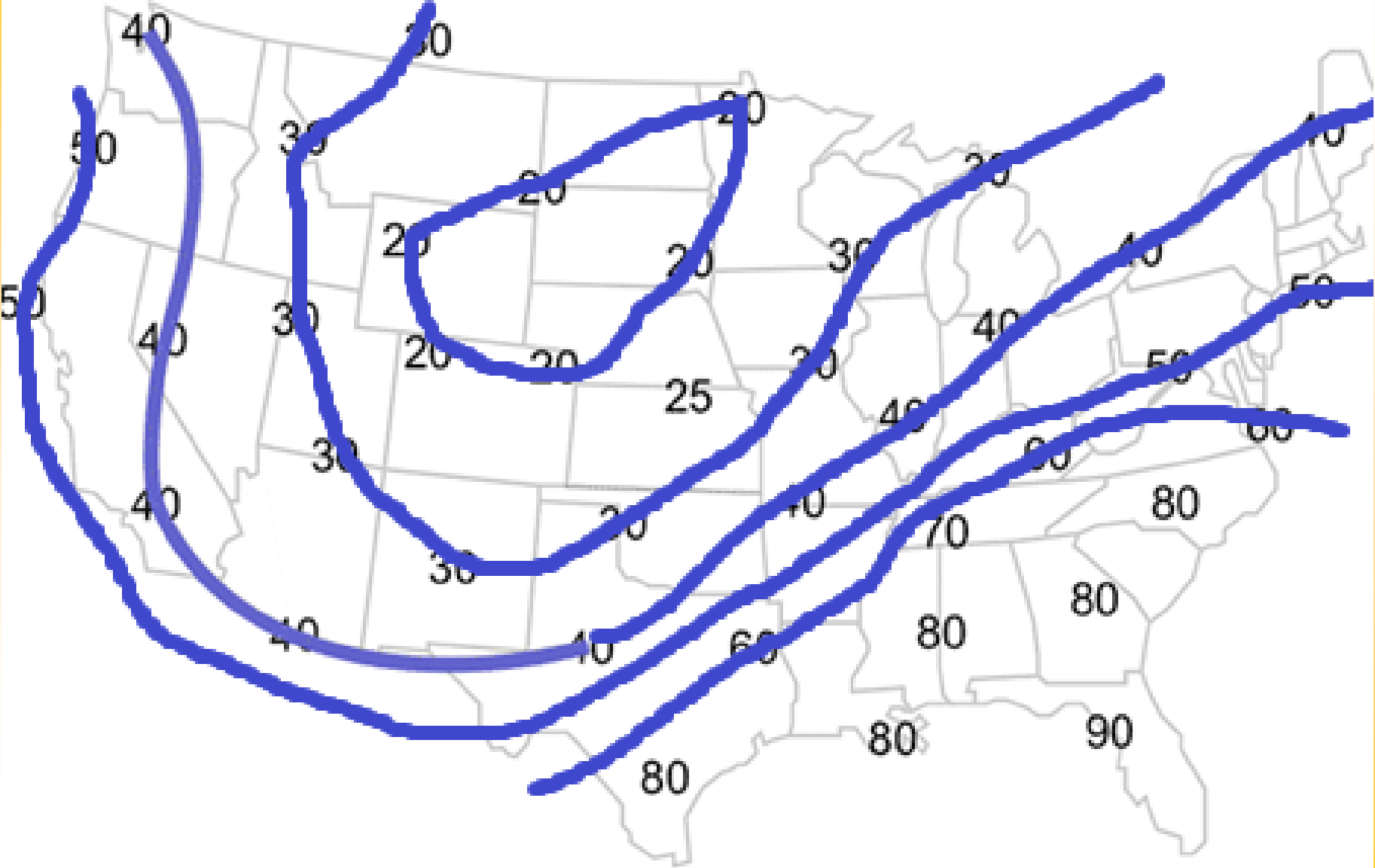
# Draw 50°F Isotherm



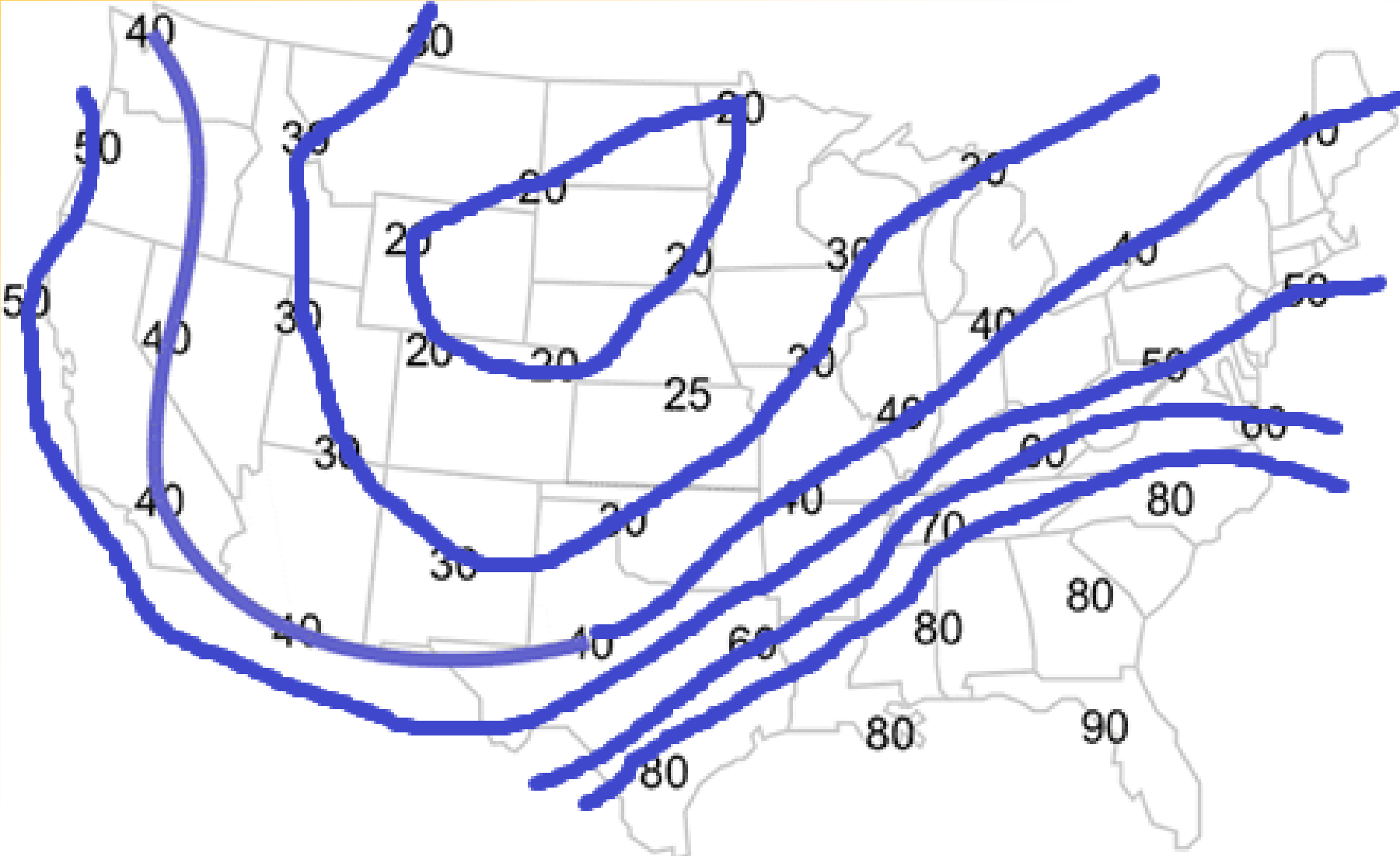
# Draw 60°F Isotherm



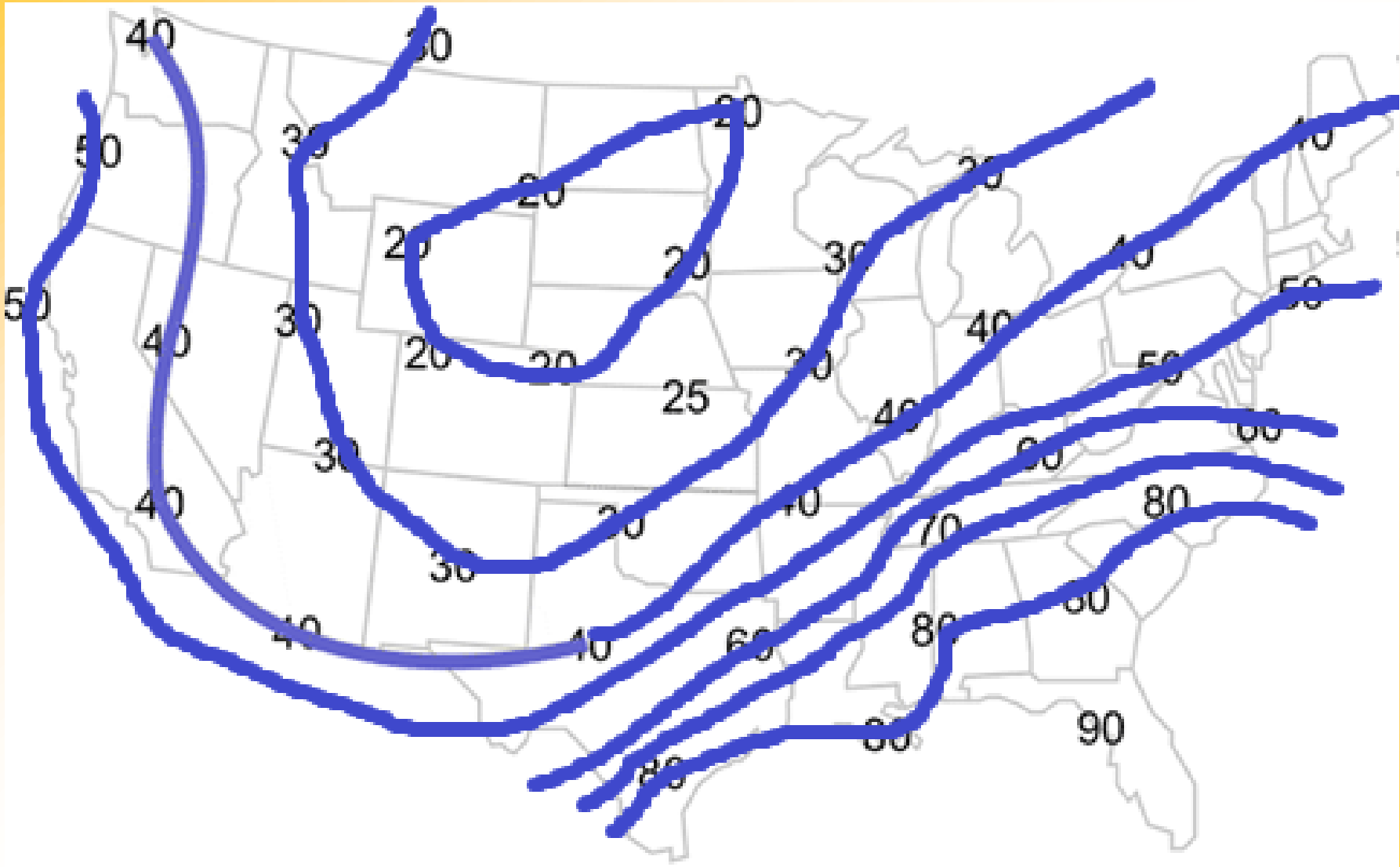
# Draw 70°F Isotherm



# Draw 80°F Isotherm



# Draw 90°F Isotherm



# Label Isotherms and Color

