

# Latitude and Longitude

*How do you find a location on the Earth?*

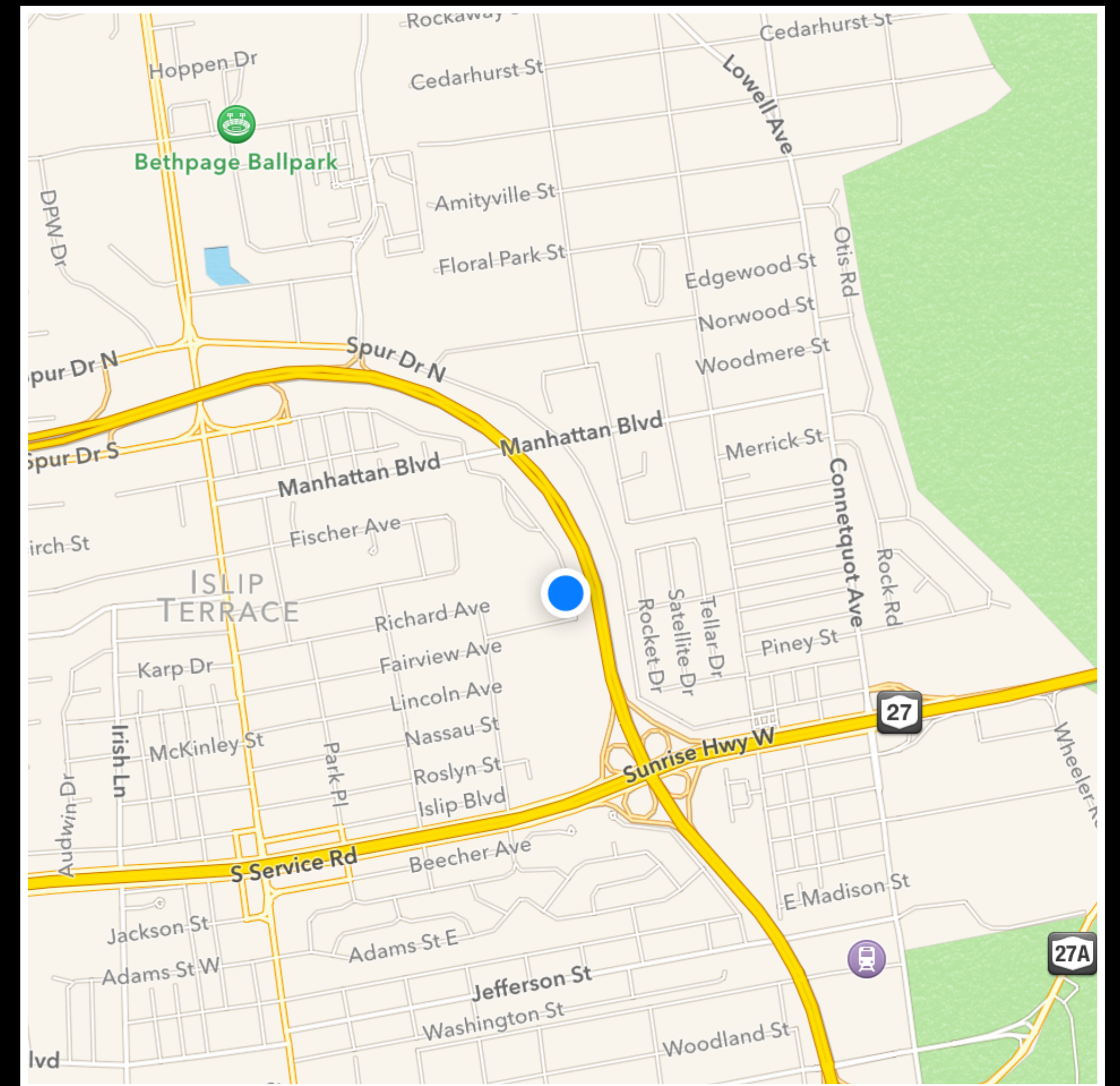


Phenomenon: Latitude and Longitude



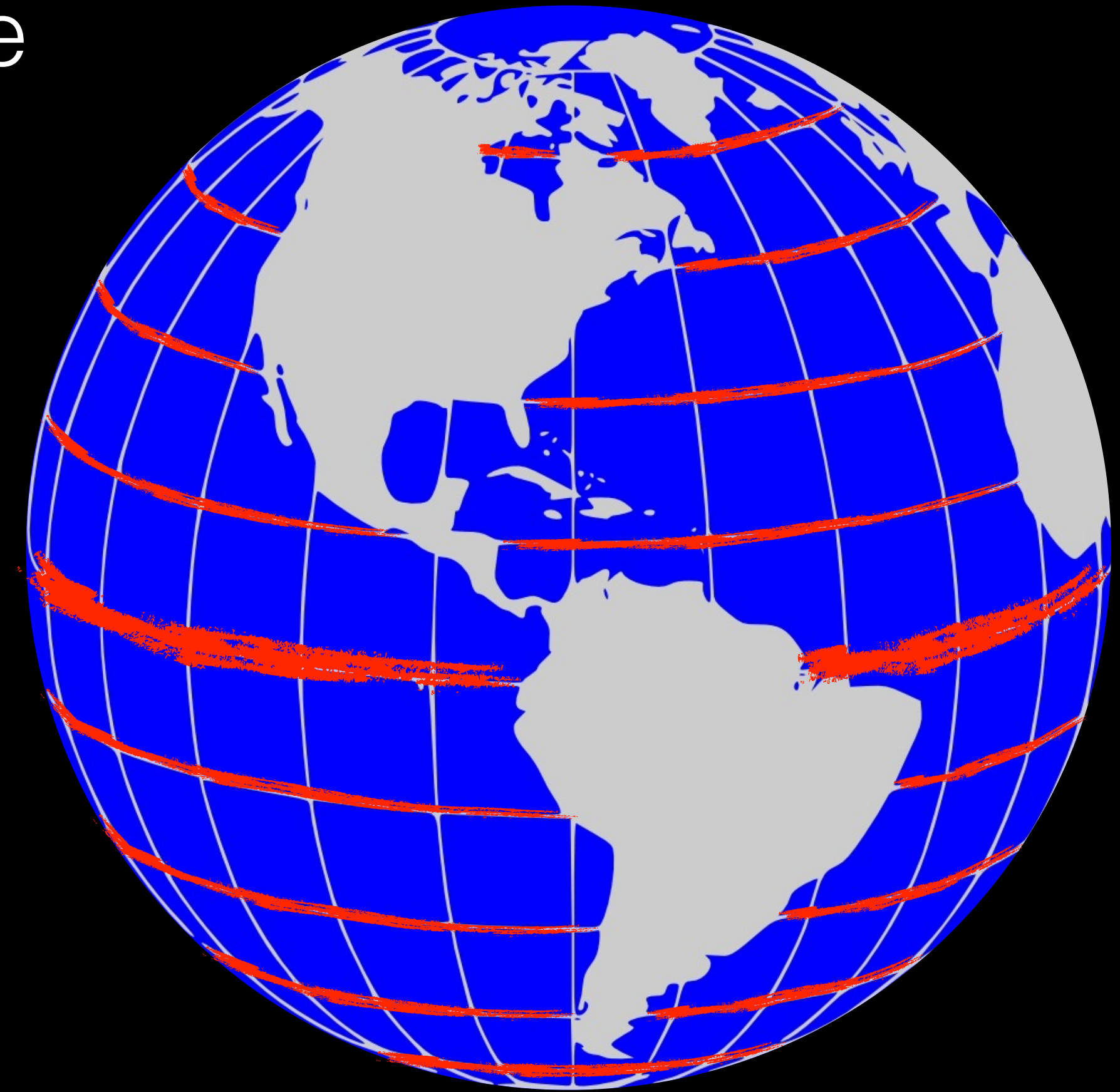
# Latitude and Longitude

- Map - representation of an area used to show physical features and exact locations



# Latitude and Longitude

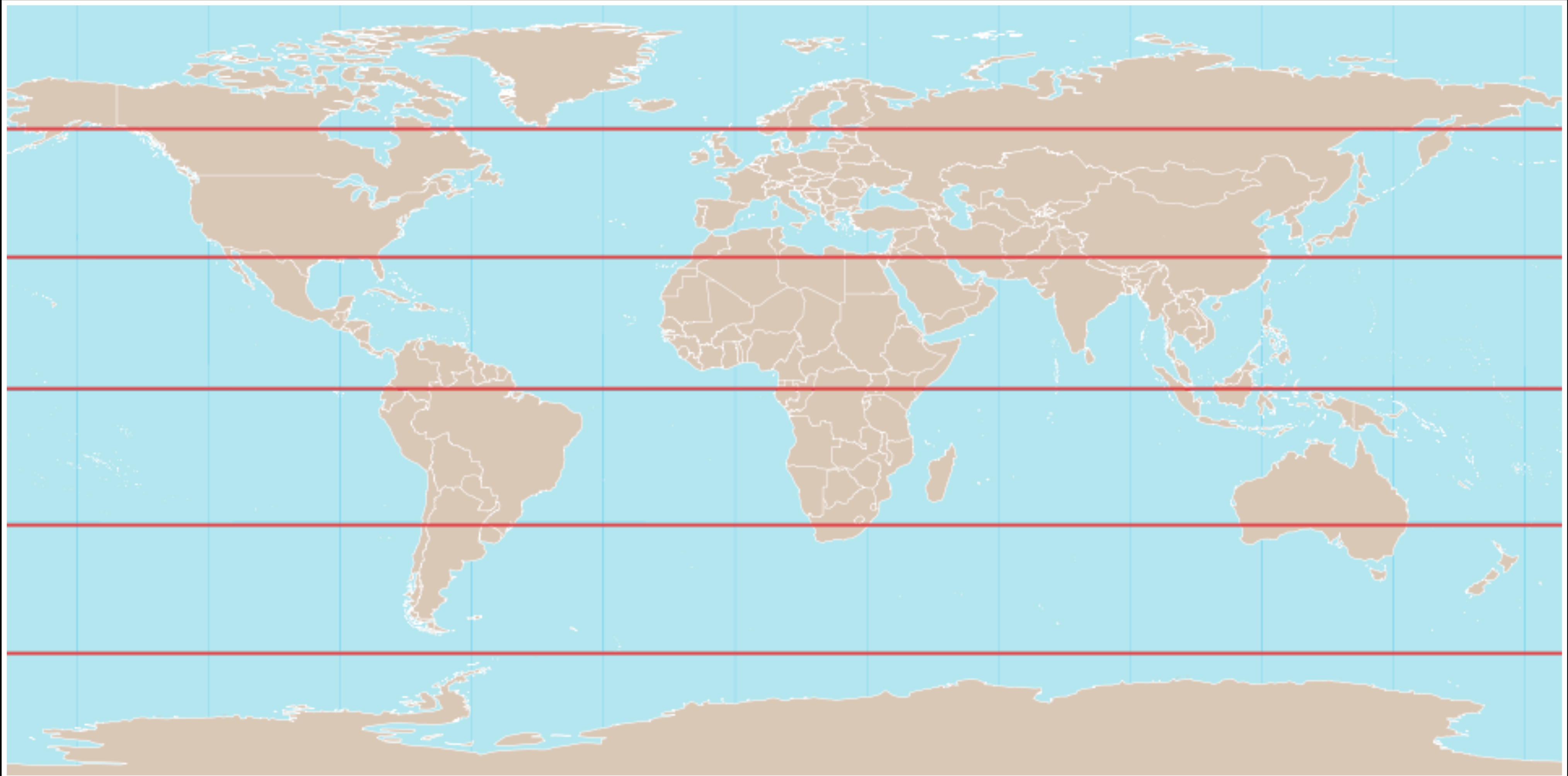
- Latitude - parallel lines that measure north and south of the equator
  - Also called parallels
  - These lines never intersect
- Equator - main reference line of Latitude [ $0^{\circ}$  latitude]



# Latitude and Longitude

- The North Pole is  $90^{\circ}$  N latitude
- The South Pole is  $90^{\circ}$  S latitude

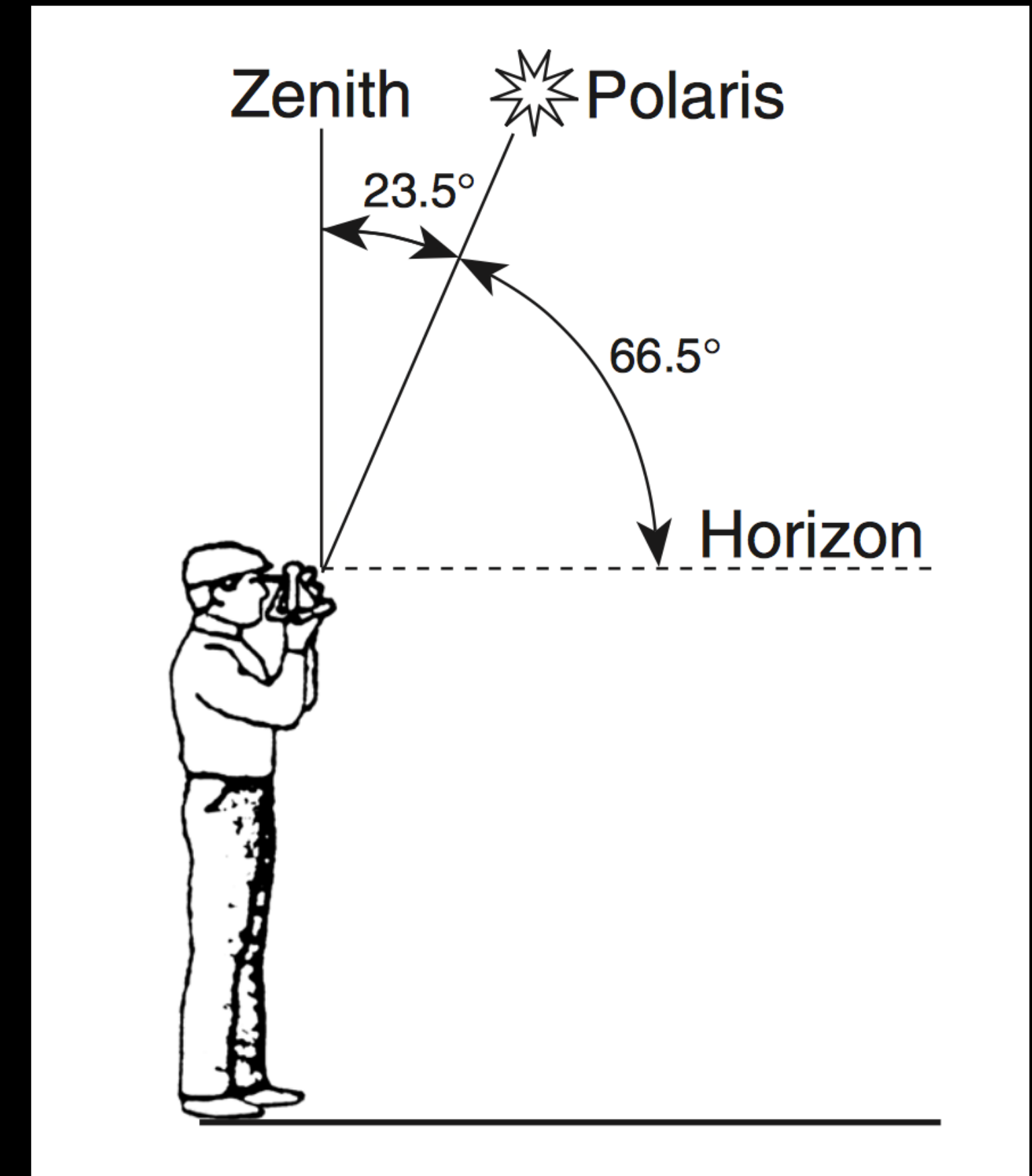




*Latitude*

# Latitude and Longitude

- Finding your latitude:
  - The altitude [angle] of Polaris is equal to your latitude



# Latitude and Longitude

- Longitude - measuring lines that measure distance east and west from the prime meridian
  - Also called meridians
- Prime Meridian - main reference line of longitude [0° Longitude]

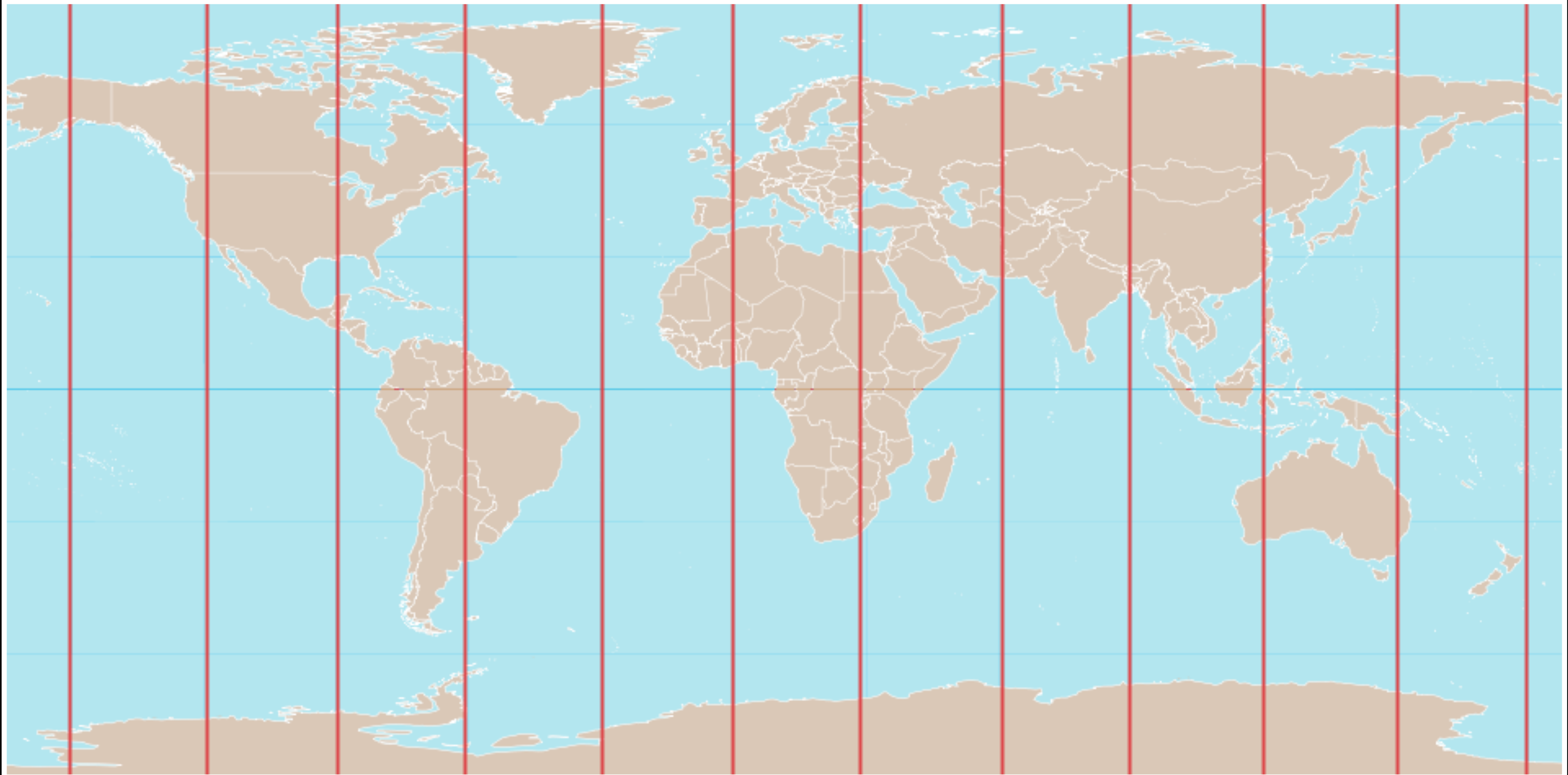




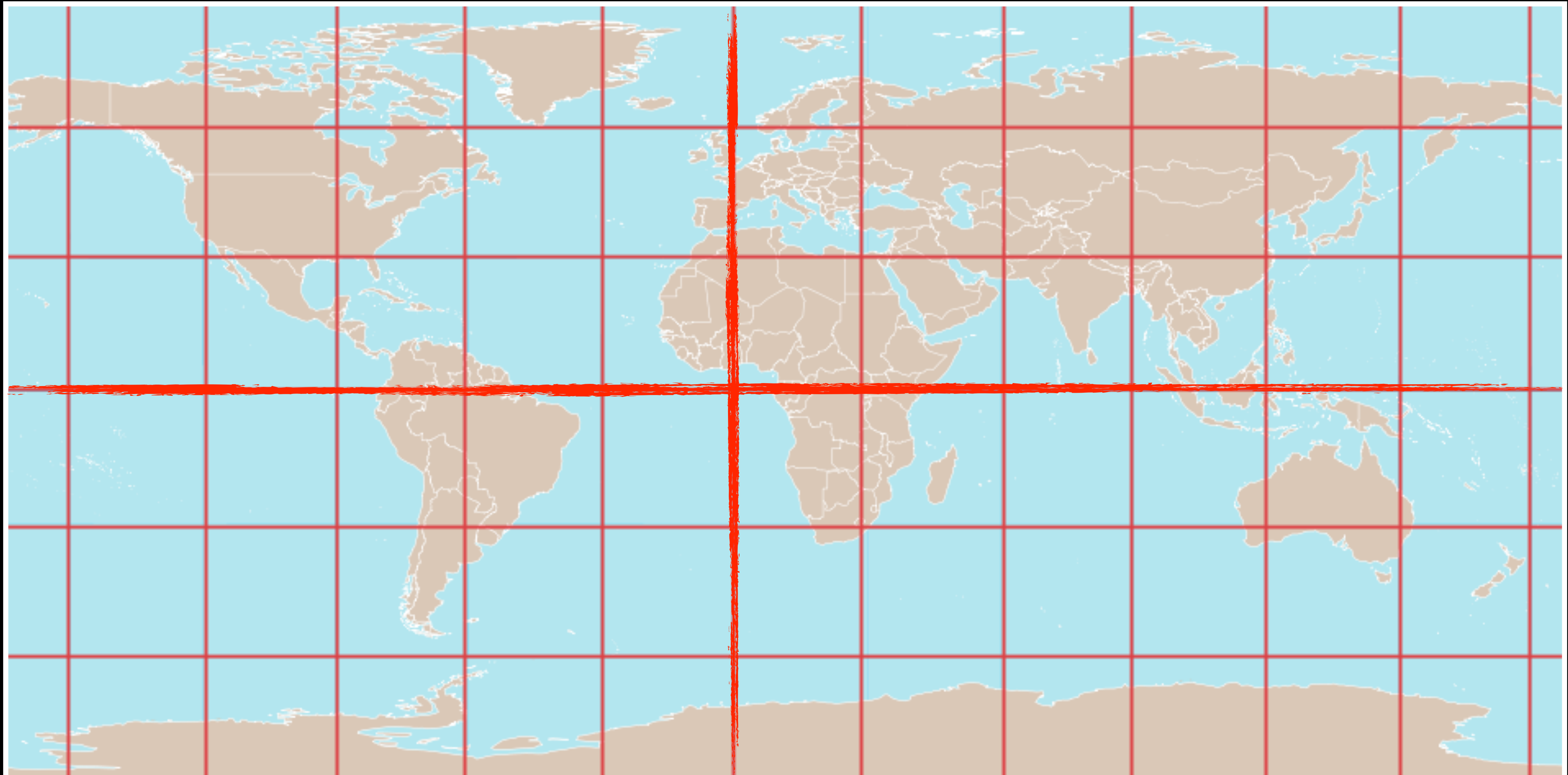
# Latitude and Longitude

- The International Date Line is 180° east or west of the Prime Meridian





*Longitude*



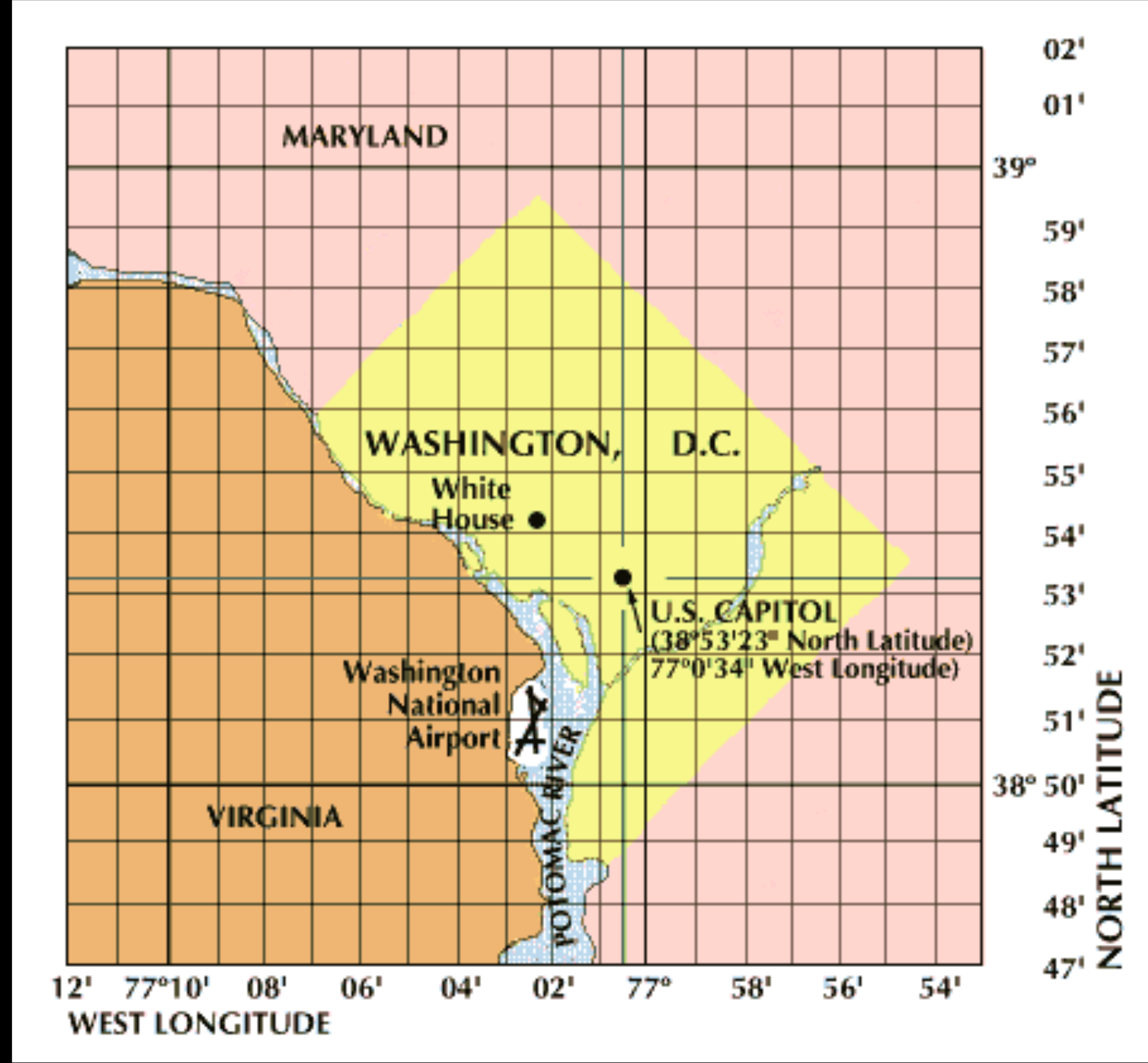
*Combine latitude and longitude to get a coordinate*

# Latitude and Longitude

- Be sure you include direction with both latitude and longitude
  - Example:  $20^{\circ} 30' N$  and  $75^{\circ} 30' E$

# Latitude and Longitude

- Subdivisions of Latitude and Longitude
  - One degree is divided into 60 minutes [60']
  - One minute can be divided into 60 seconds [60"]



Subdivisions of Latitude and Longitude

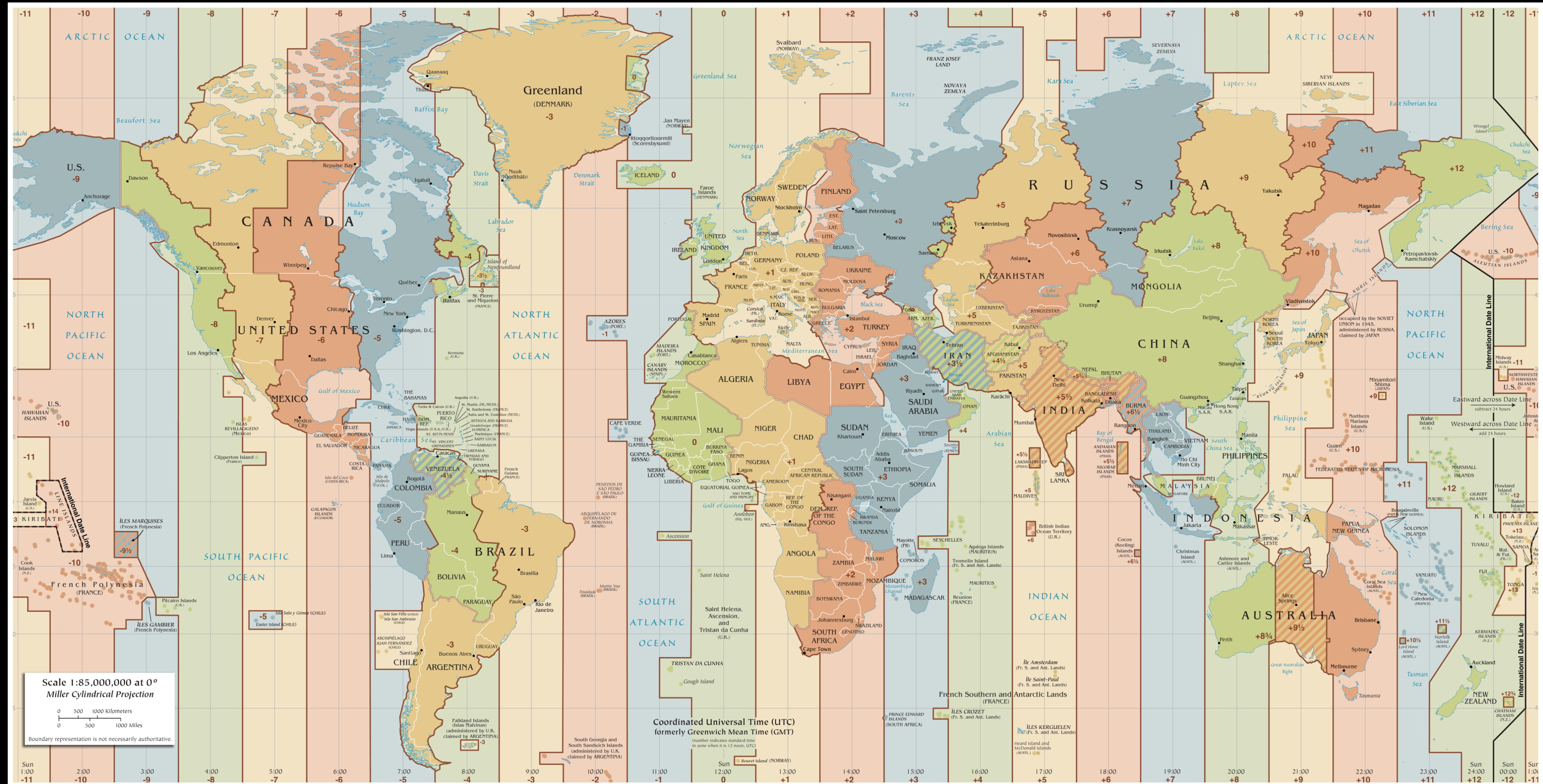
# Latitude and Longitude

- Time Zones:
  - Earth's rotation is the basis for local time
  - The Earth rotates  $360^\circ$  in 24 hours
  - Earth rotates on an imaginary axis at  $15^\circ$  per hour
  - Earth is divided into 24 [ $15^\circ$ ] time zones

# Latitude and Longitude

- Time Zones [continued]:
  - Each time zone is one hour different
  - Each time zone covers  $15^\circ$  of longitude
  - There are 6 time zones in the United States





# World Time Zones

[earthtoleigh.com](http://earthtoleigh.com)