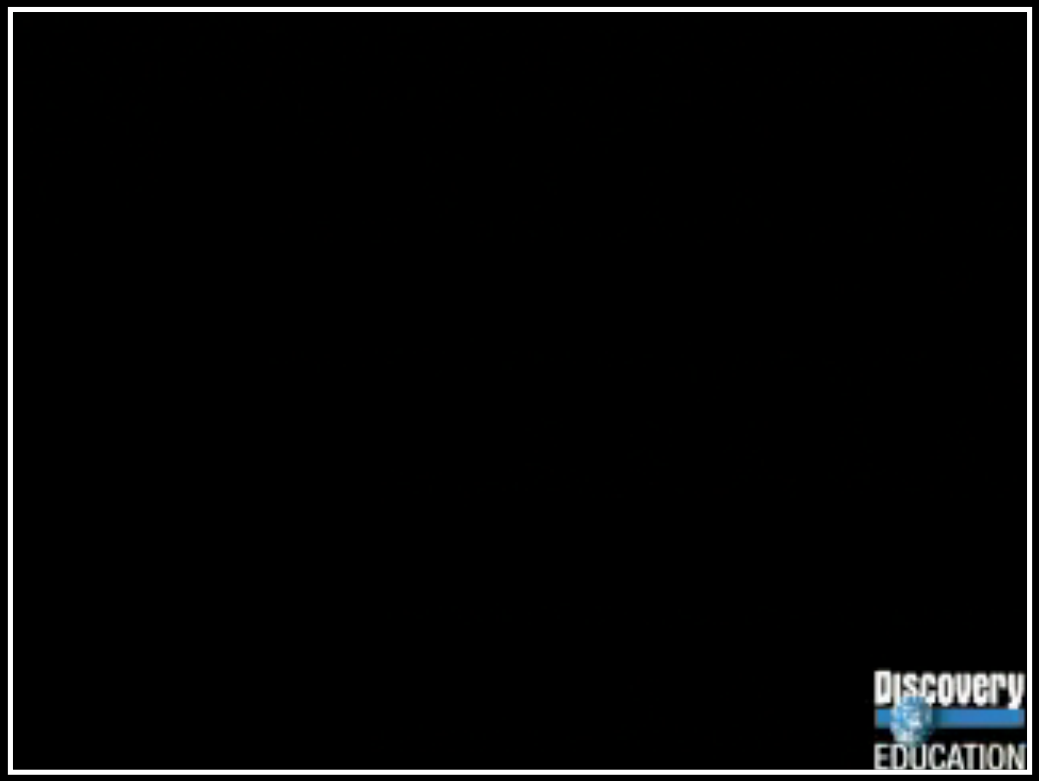
Latitude and Longitude

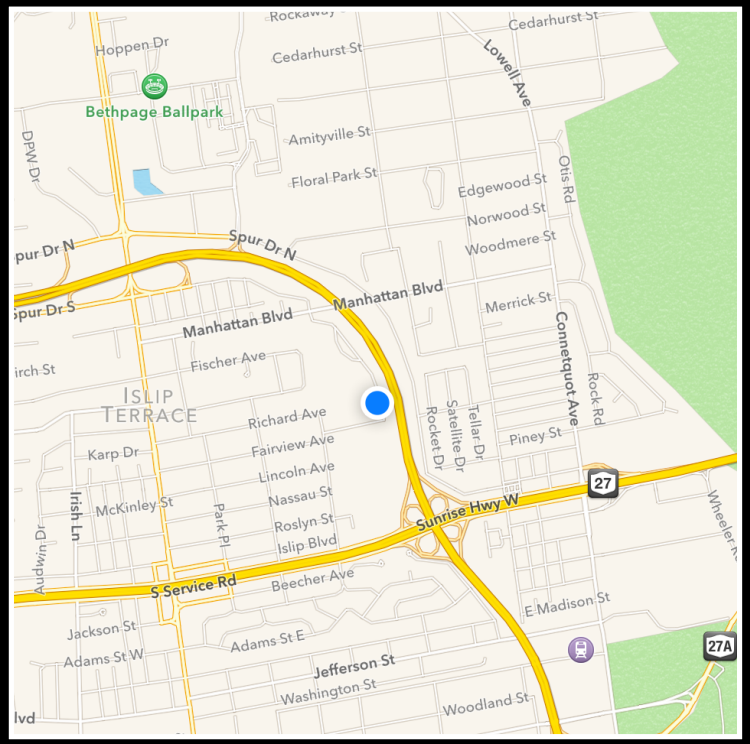
How do you find a location on the Earth?



Latitude and Longitude Introduction

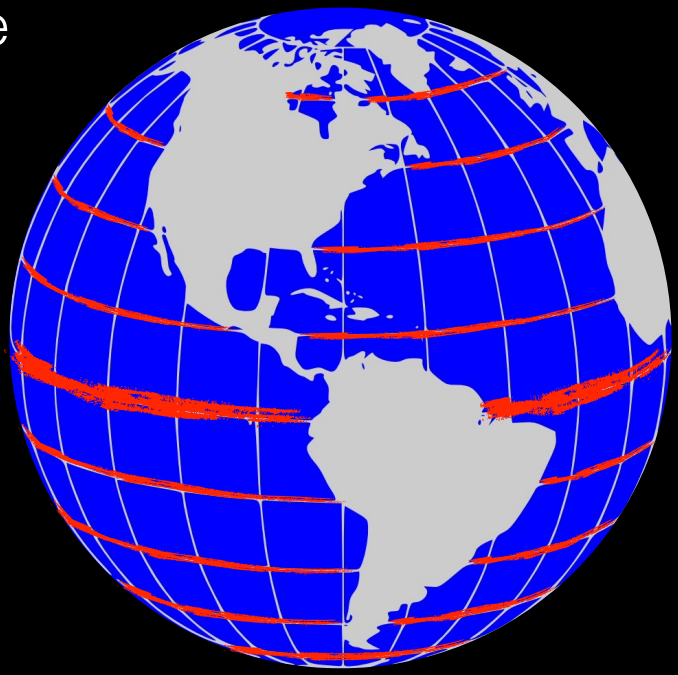
Latitude and Longitude

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



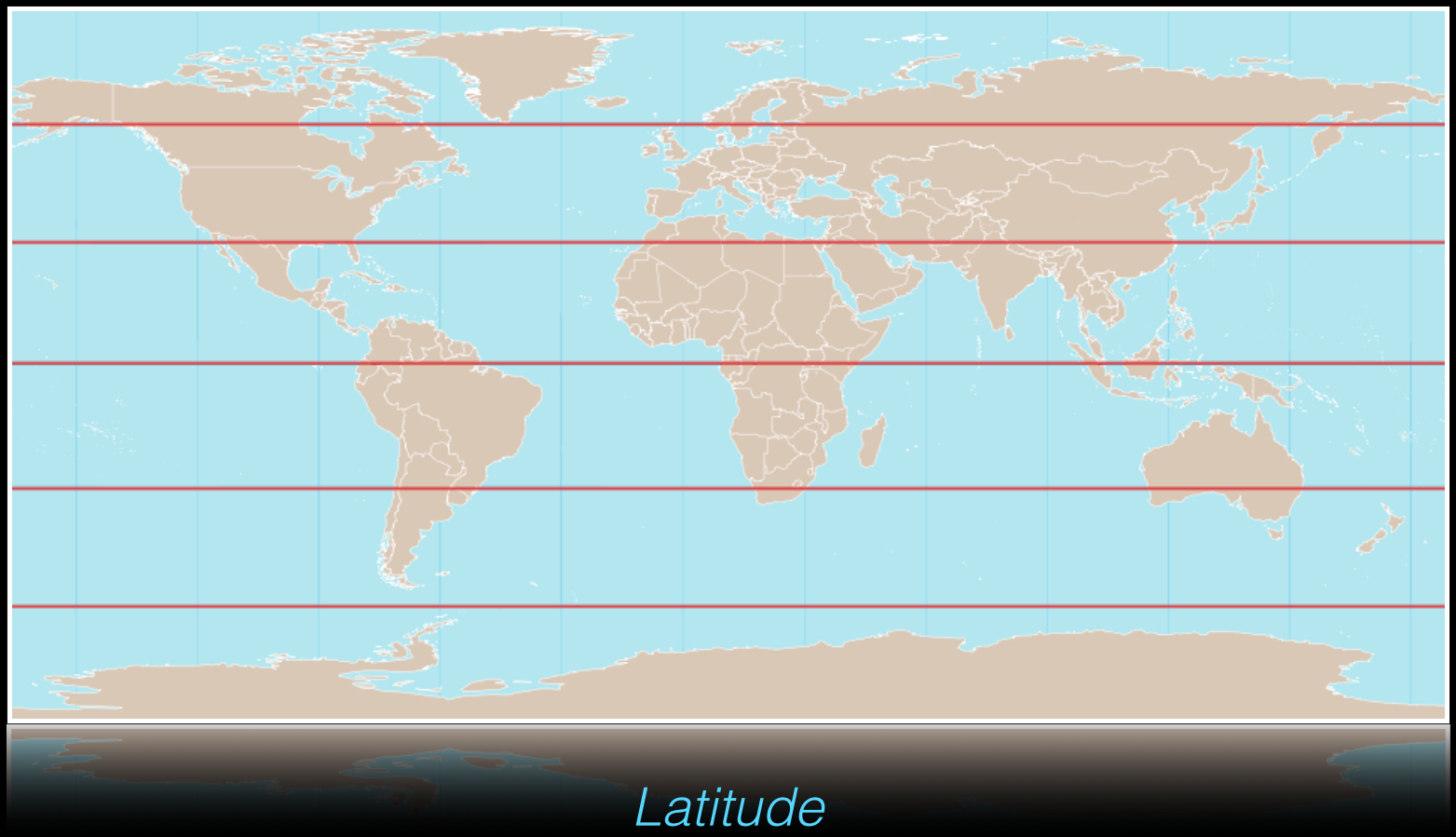
Latitude and Longitude

- 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° latitude]



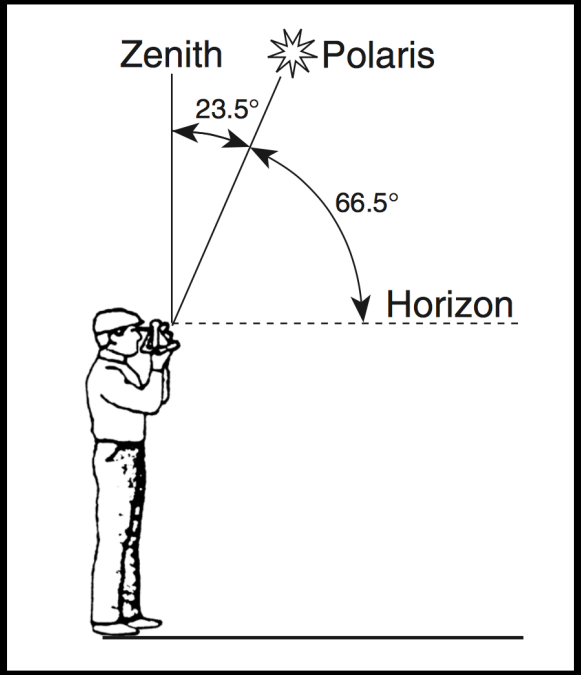
Latitude and Longitude

- The North Pole is 90° N latitude
- The South Pole is 90° S latitude


Latitude

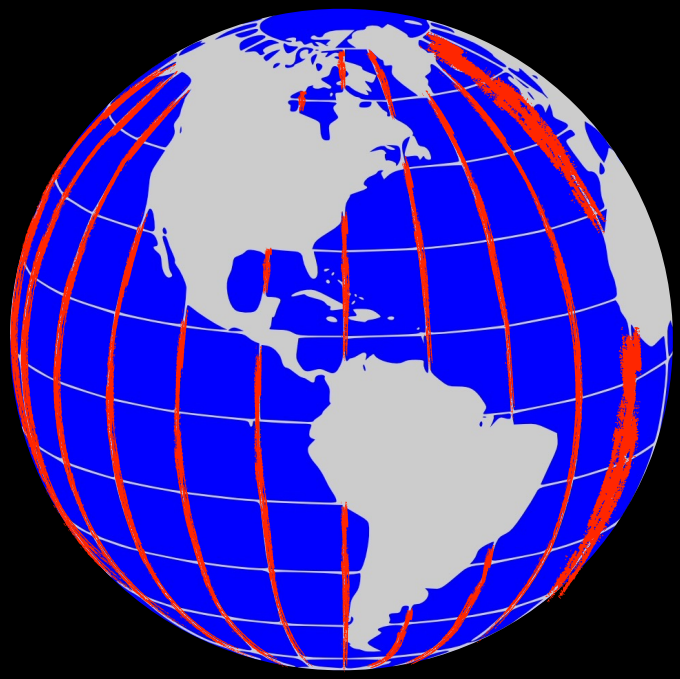
Latitude and Longitude

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



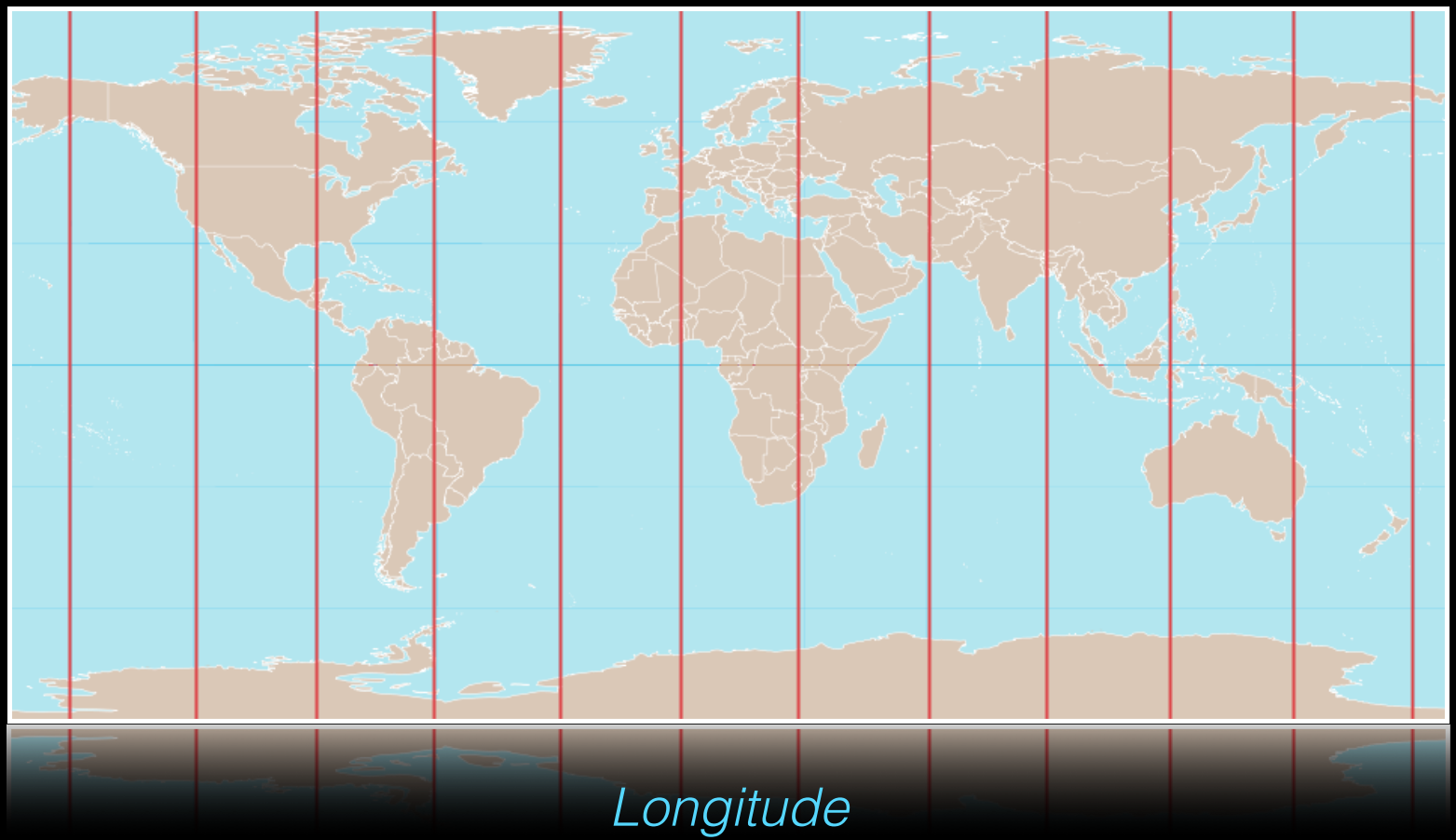
Latitude and Longitude

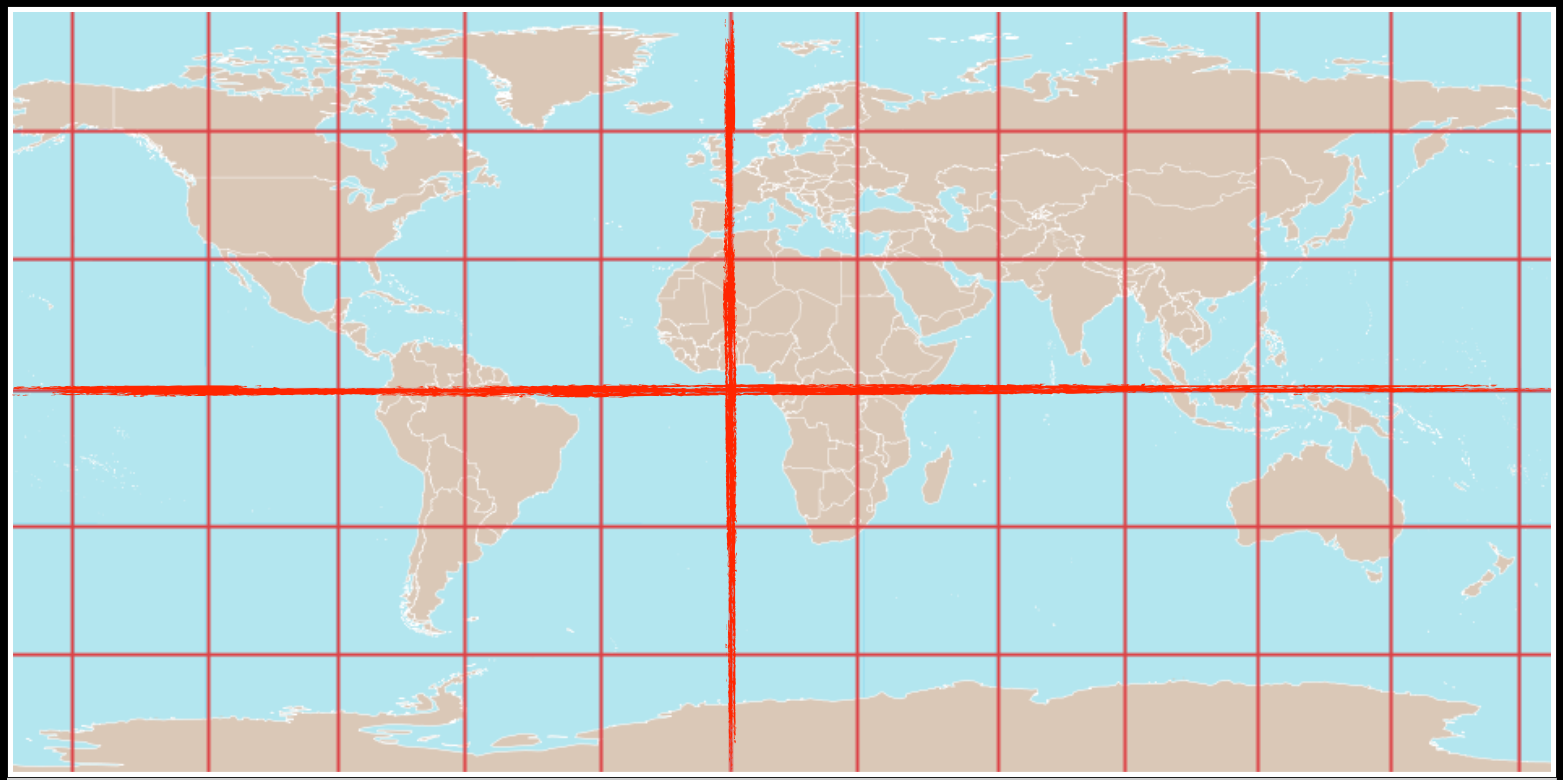
- Longitude - measuring lines that measure distance east and west from the prime meridian
    - Also called meridians
- Prime Meridian - main reference line of longitude [0° Longitude]



Latitude and Longitude

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


Longitude



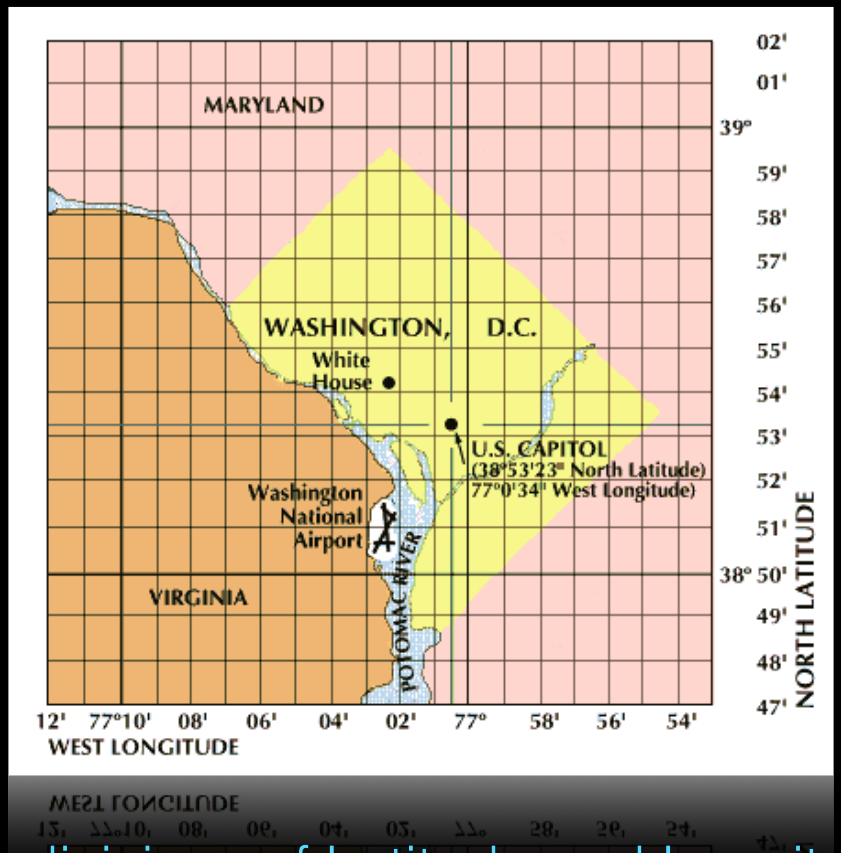
Combine latitude and longitude to get a coordinate

Latitude and Longitude

- Be sure you include direction with both latitude and longitude
    - Example: 20° 30’ N and 75° 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”]



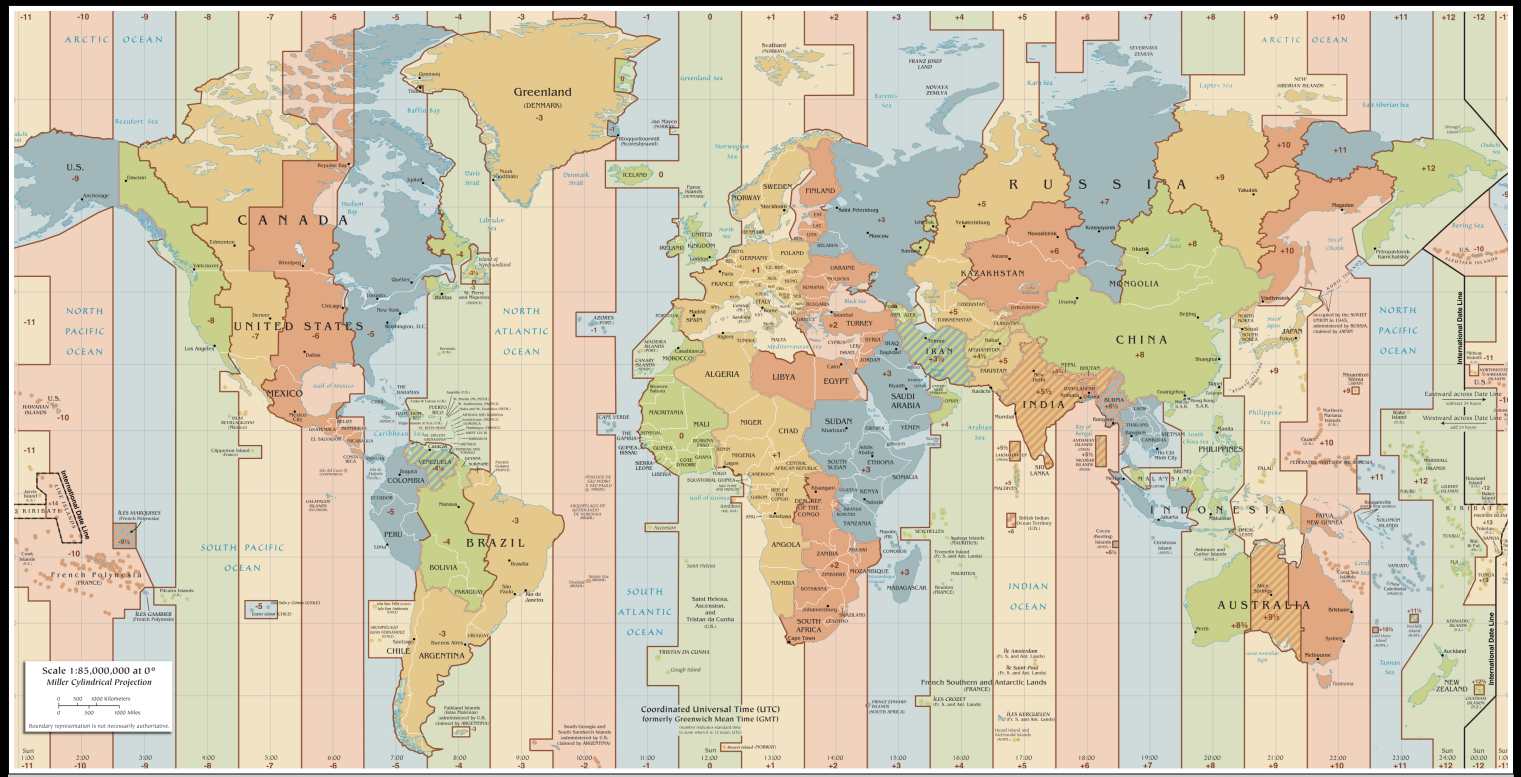
Subdivisions of Latitude and Longitude

Latitude and Longitude

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

Latitude and Longitude

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



World Time Zones