Latitude / Longitude





The Prime Meridian

- Today the world has agreed the the Prime Meridian or 0° line of longitude runs through the Royal Observatory at Greenwich, England.
- Prior to the 1884 International Meridian Conference, most countries defined their own prime meridian running through their own capital city.
- The French did not abandon use of their prime meridian, which ran through the Paris Observatory, until 1911.



Longitude was difficult to measure at sea

- Your longitude is the time difference between high noon at a known longitude (A ship's home port for example.) and high noon at your current location.
- How many degrees does a one hour time difference represent?

No Clock

No Longitude



H3 John Harrison 1740-1757



National Maritime Museum, Greenwich, London, Ministry of Defence Art Collection



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If the history of navigation intrigues you, I'd suggest you read...

- Longitude: The true story of a lone genius who solved the greatest scientific problem of his time.
- By Dava Sobel
- Also as a PBS Nova show.
 On DVD, Netflix has it.



Degrees, Minutes, and Seconds

- Because measurement of latitude & longitude were so closely tied to time, it made sense to subdivide degrees into minutes and seconds.
- A degree is made up of 60 minutes
- A minute is made up of 60 seconds

DDD° MM' SS"

• A latitude / longitude coordinate would be written like...

N 37° 22' 30" W 122° 15' 45"



DDD° MM' SS"

• A latitude / longitude coordinate would be written like...

N 37° 22' 30" W 122° 15' 45"

DDD° MM.MMM'

• It is now common place to write lat / lon coordinates in a "decimal minutes" format.

N 37° 22.5' W 122° 15.75'

DDD.DDD°

• Many computer based systems report lat/lon in decimal degrees.

N 37.3750° W 122.2625°

Units Matter

- It is important to include all of the units and notation.
- It's N 37° 22' 30" W 122° 15' 45"

Not 372230 1221545

Using Lat/Lon is Tricky

- Take a look at the "Lat/Lon Practice Map" handout.
- Can you quickly determine what map feature is at: N 38° 36' 22" W 120° 03' 58"

Plotting Lat/Lon Video

Reading Lat/Lon Video







Measuring Longitude

Lat/Lon Coordinate Exercise





