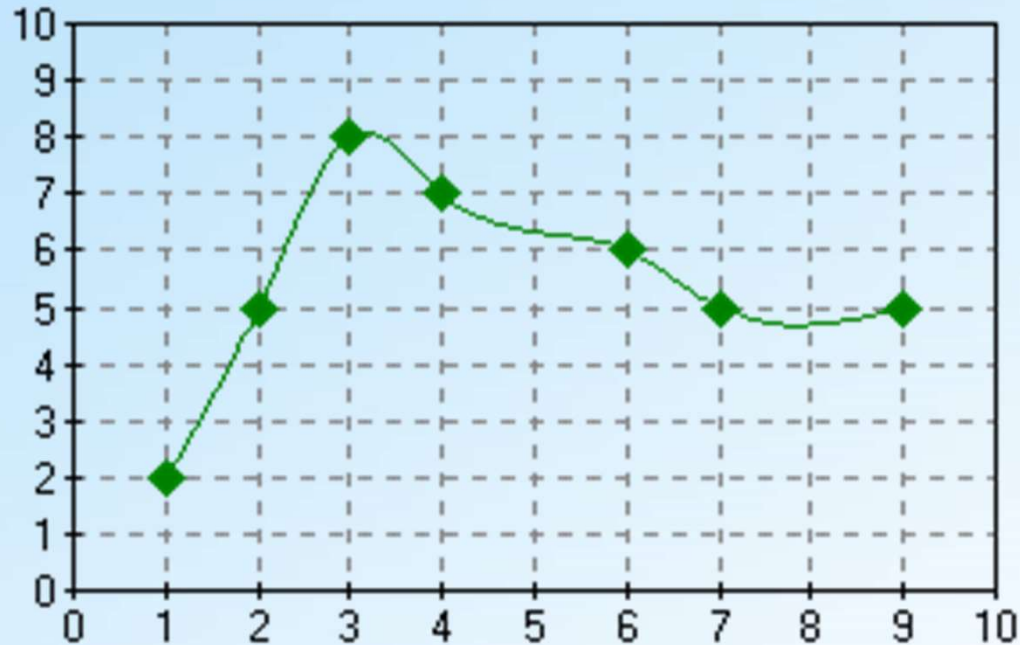




# *Latitude and Longitude:*

*Finding Locations on  
Planet Earth.*

## >> Typical Graph

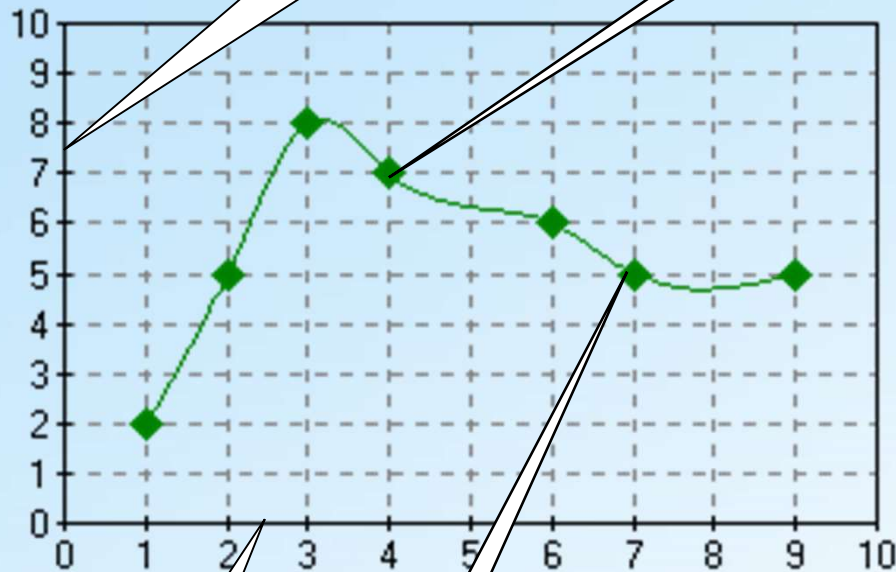


This is an example of a typical graph.

It is made up of *points* that are connected by a line.



## Typical Graph



(4,7)

**Each point has two values:**

**An 'X' value that runs along the horizontal 'X' axis and.....**

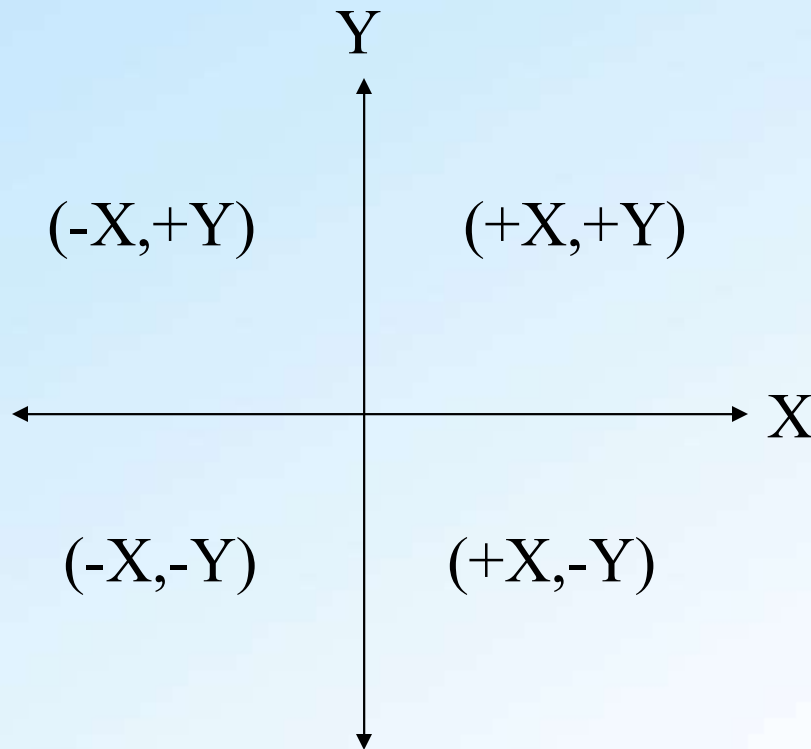
**A 'Y' value that runs along the vertical 'Y' axis**

X axis

**Each point is expressed as an X value and a Y value with the X value written first. For example... and.....**

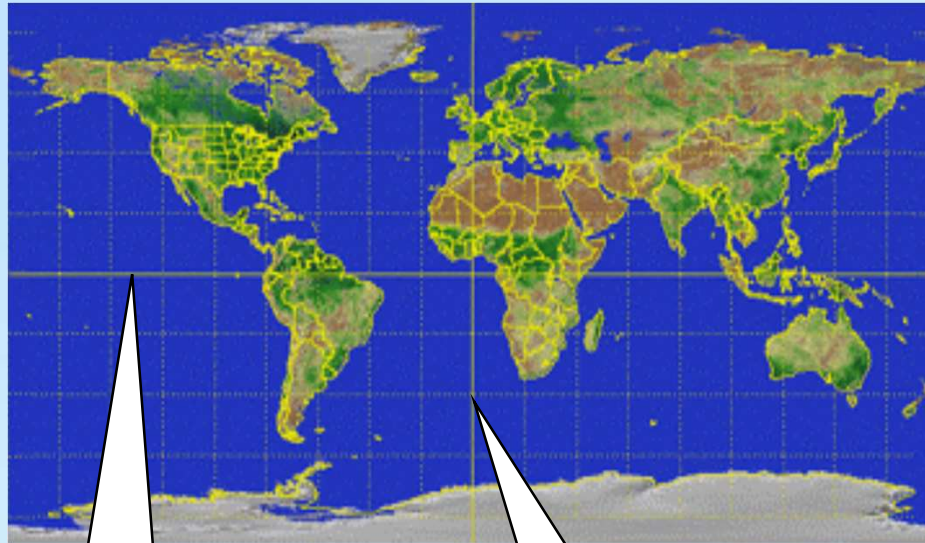
(7,5)

## >> Typical Graph



**Graphs may be divided into quadrants with the X and Y values being either positive (+) or negative (-) depending on the quadrant in which they are located.**

**Now let's apply the same principles to latitude and longitude.**



**Equator**

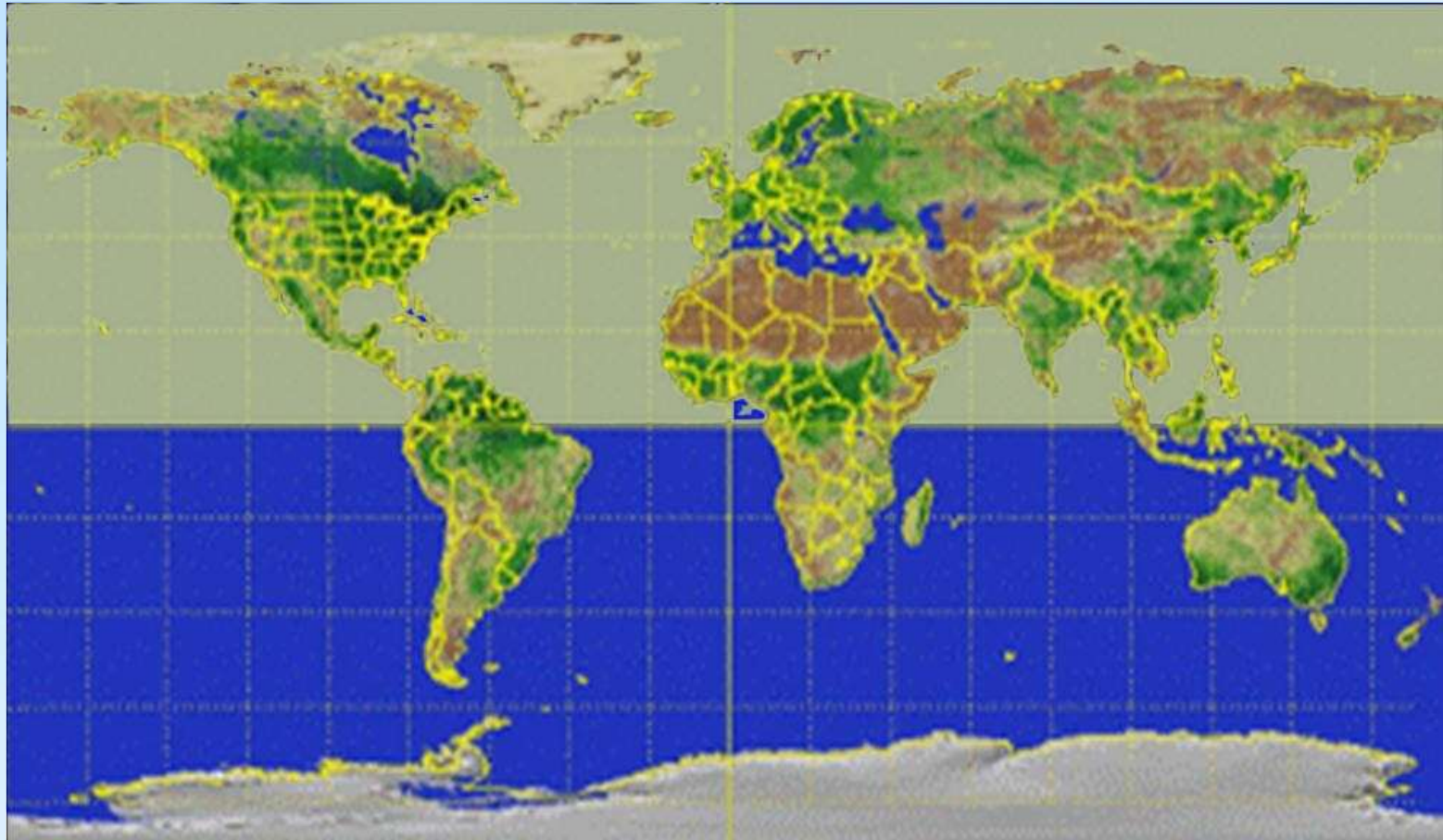
**Prime Meridian**

On the map horizontal lines are lines of latitude and....

vertical lines are lines of longitude.

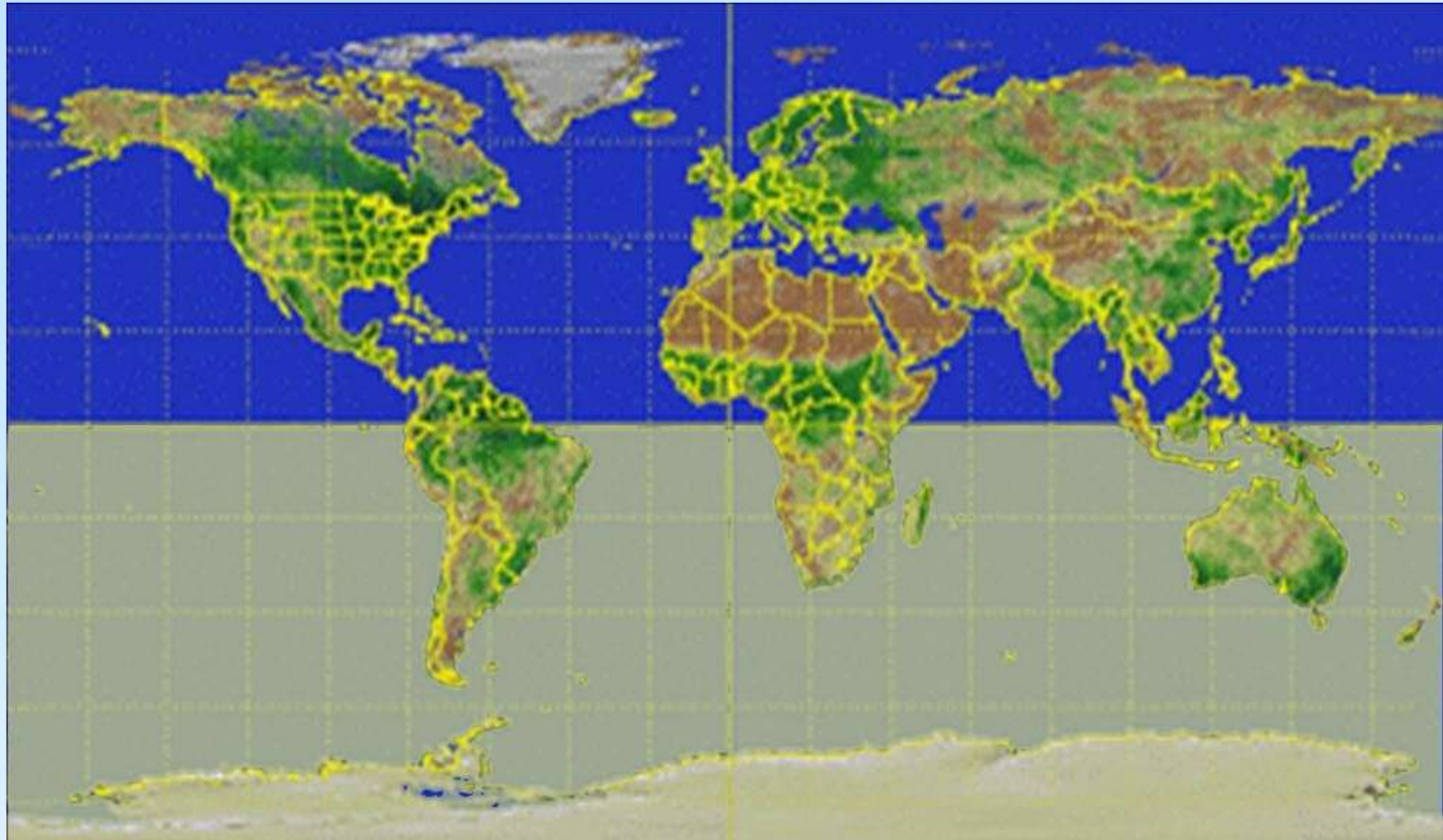
The X axis is the equator

and the Y axis which runs through Greenwich, England is the Prime Meridian.

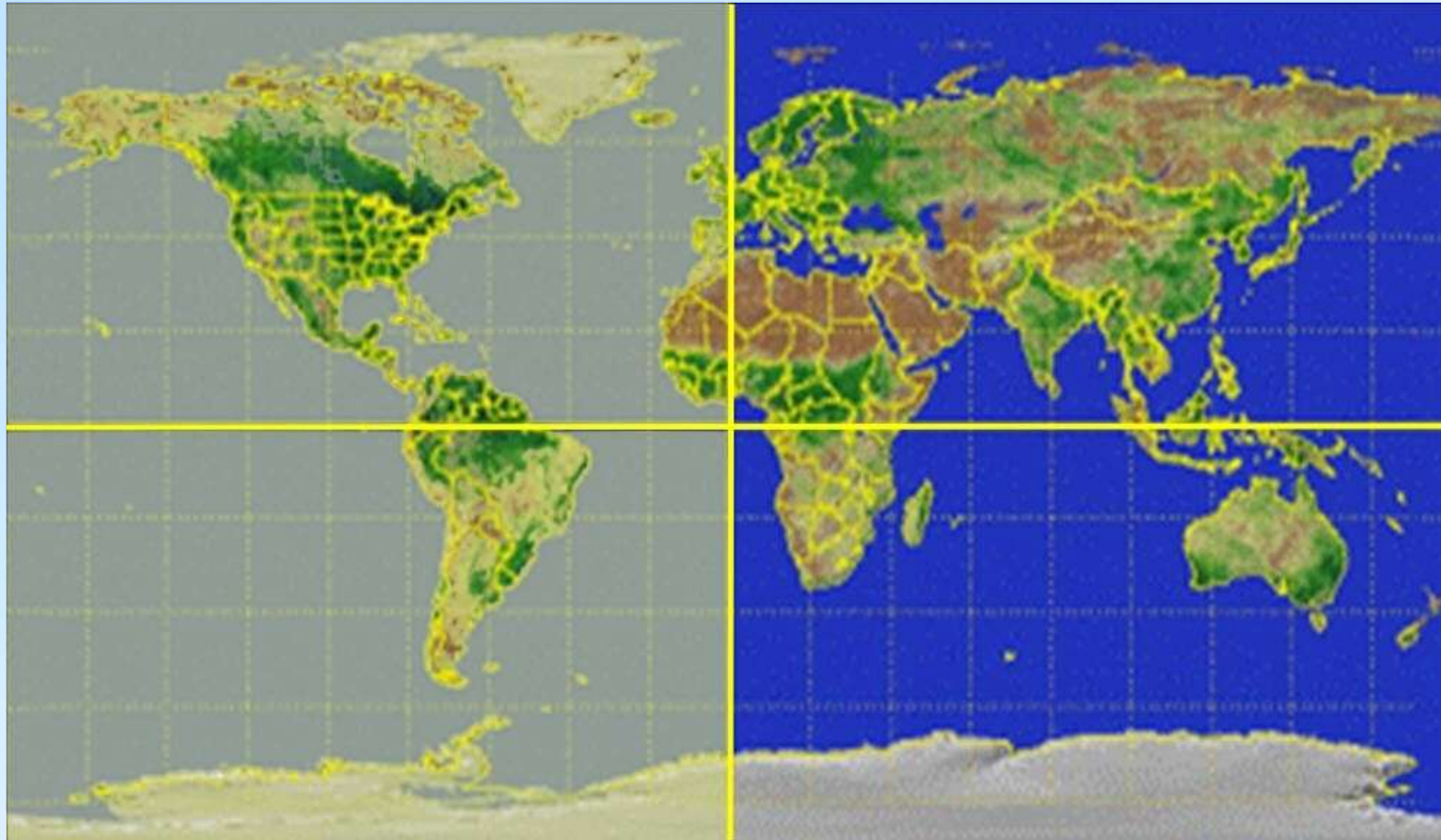


Any location north of the equator is a **NORTH LATITUDE**



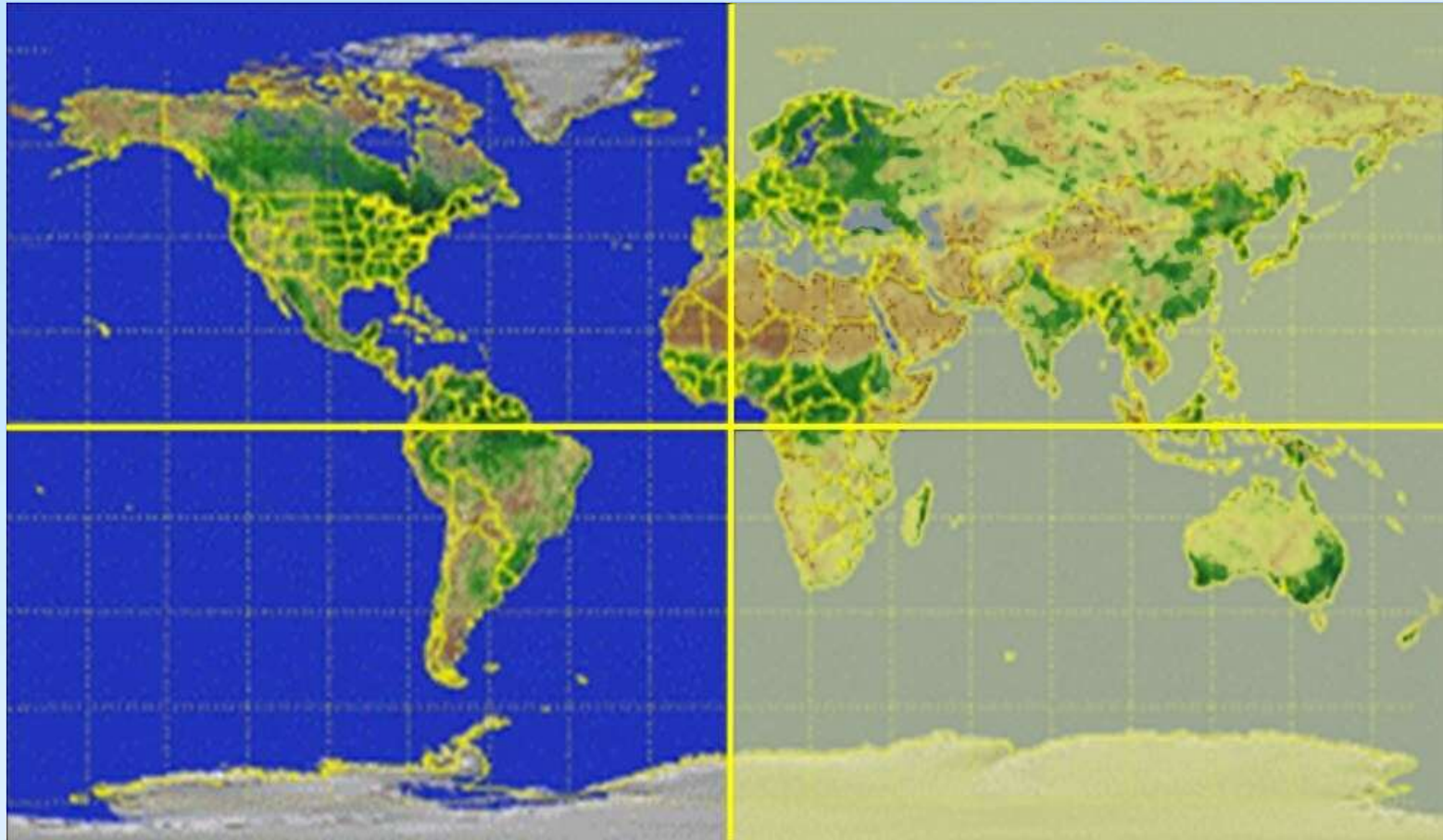


Any location south of the equator is a **SOUTH LATITUDE**

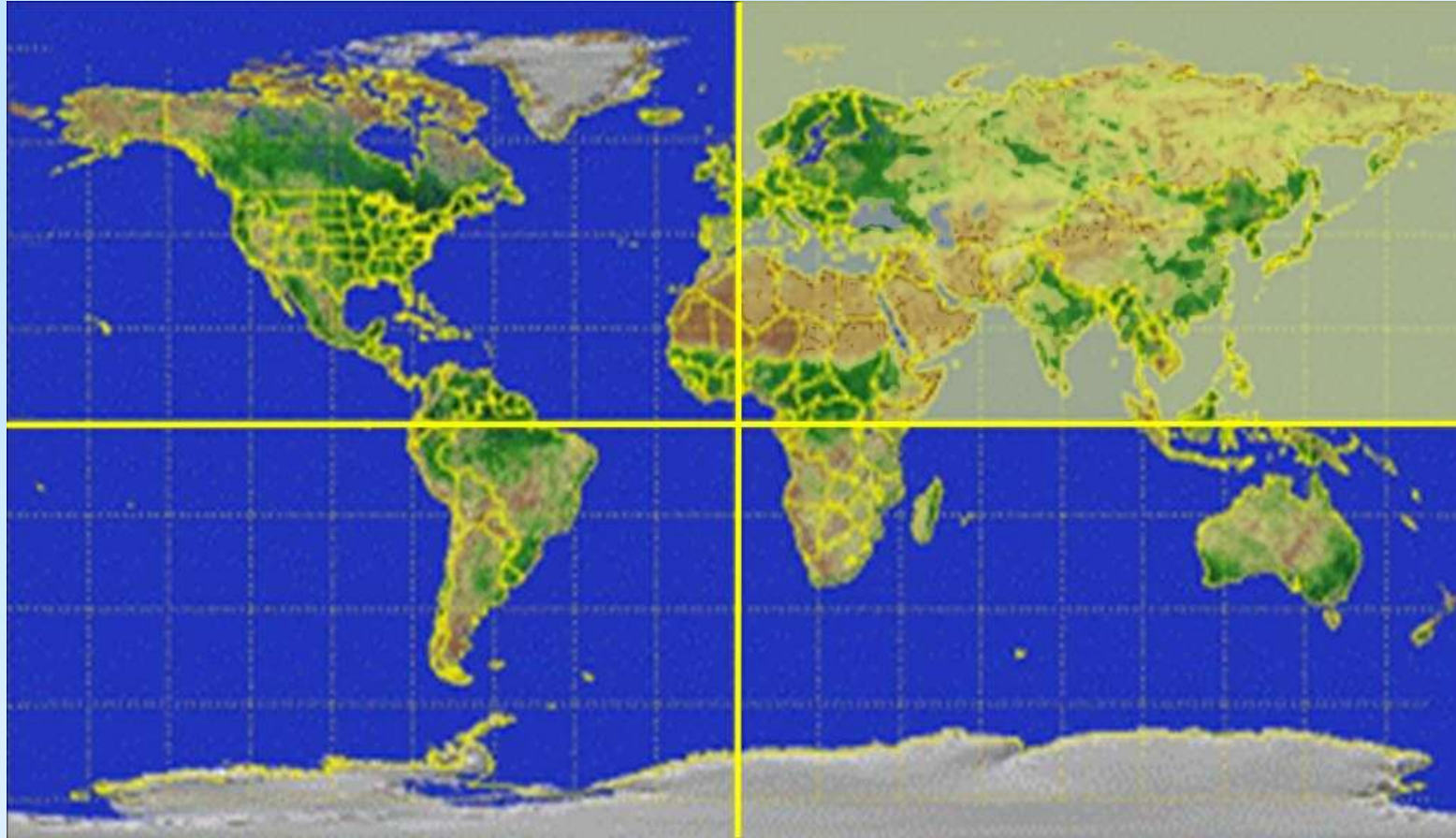


Any location west of the prime meridian is a **WEST LONGITUDE**



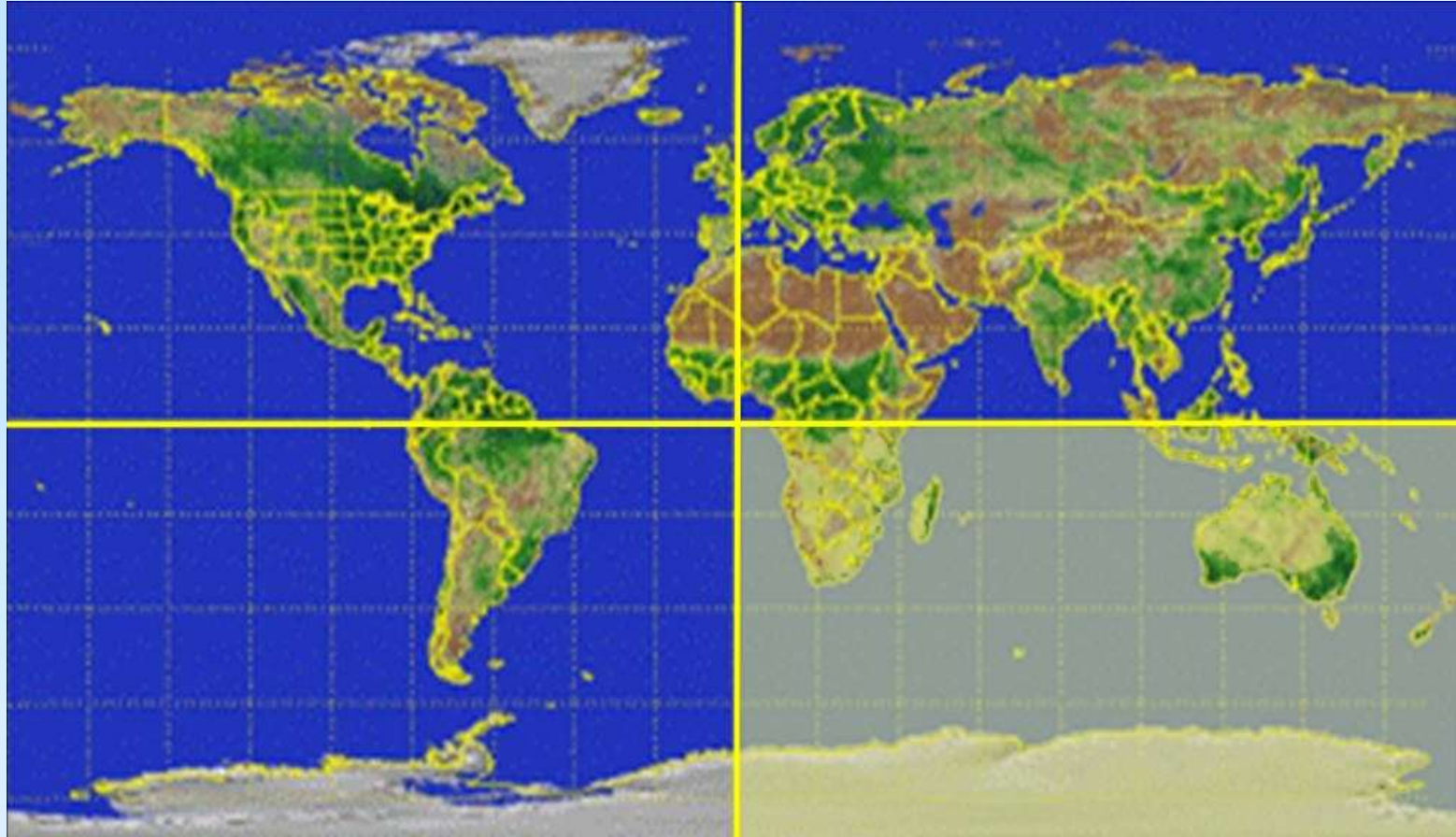


Any location east of the prime meridian is an ***EAST LONGITUDE***

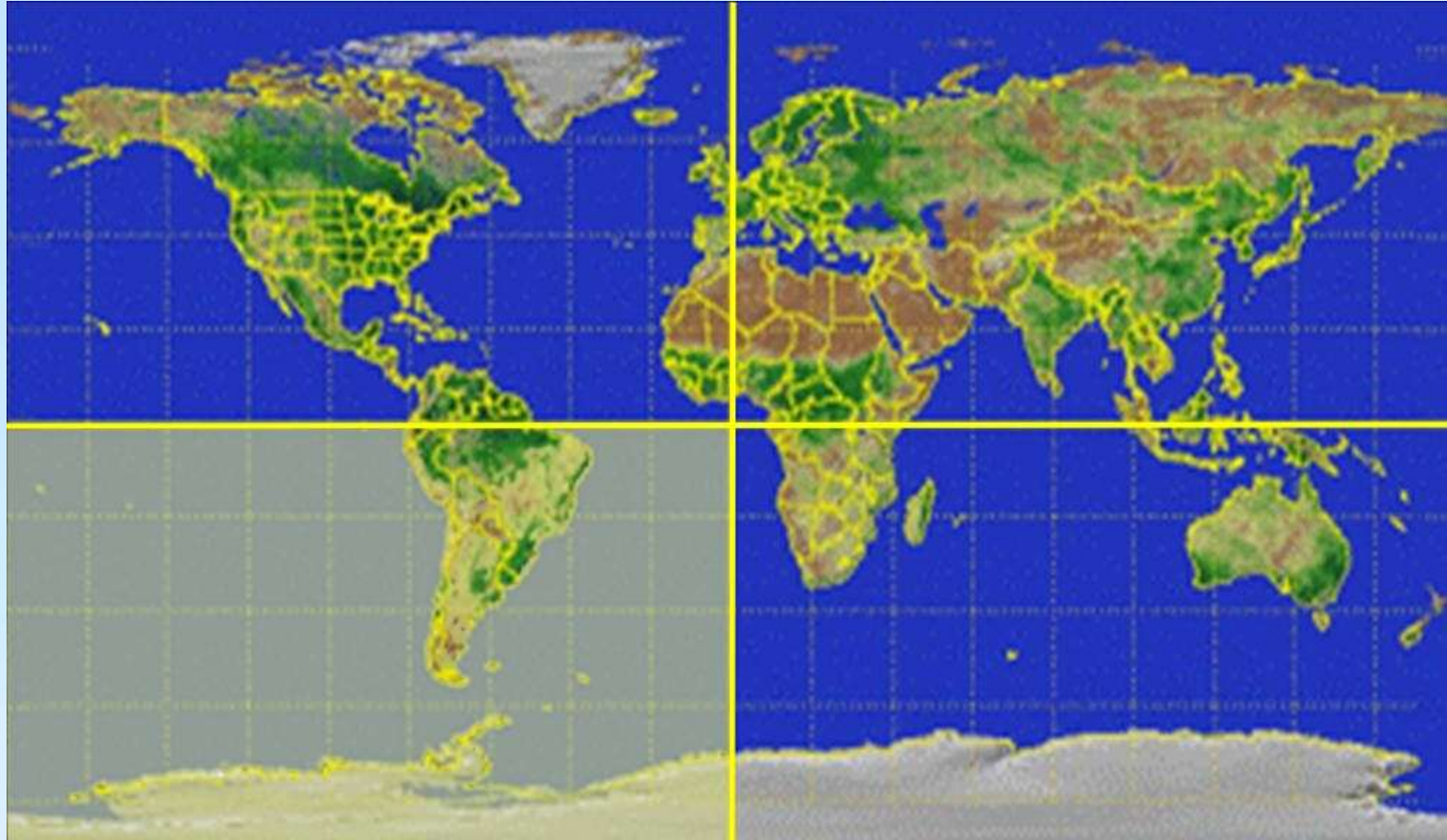


We can divide the Earth into quadrants: **NE** where all latitudes are **NORTH** and all longitudes are **EAST**.



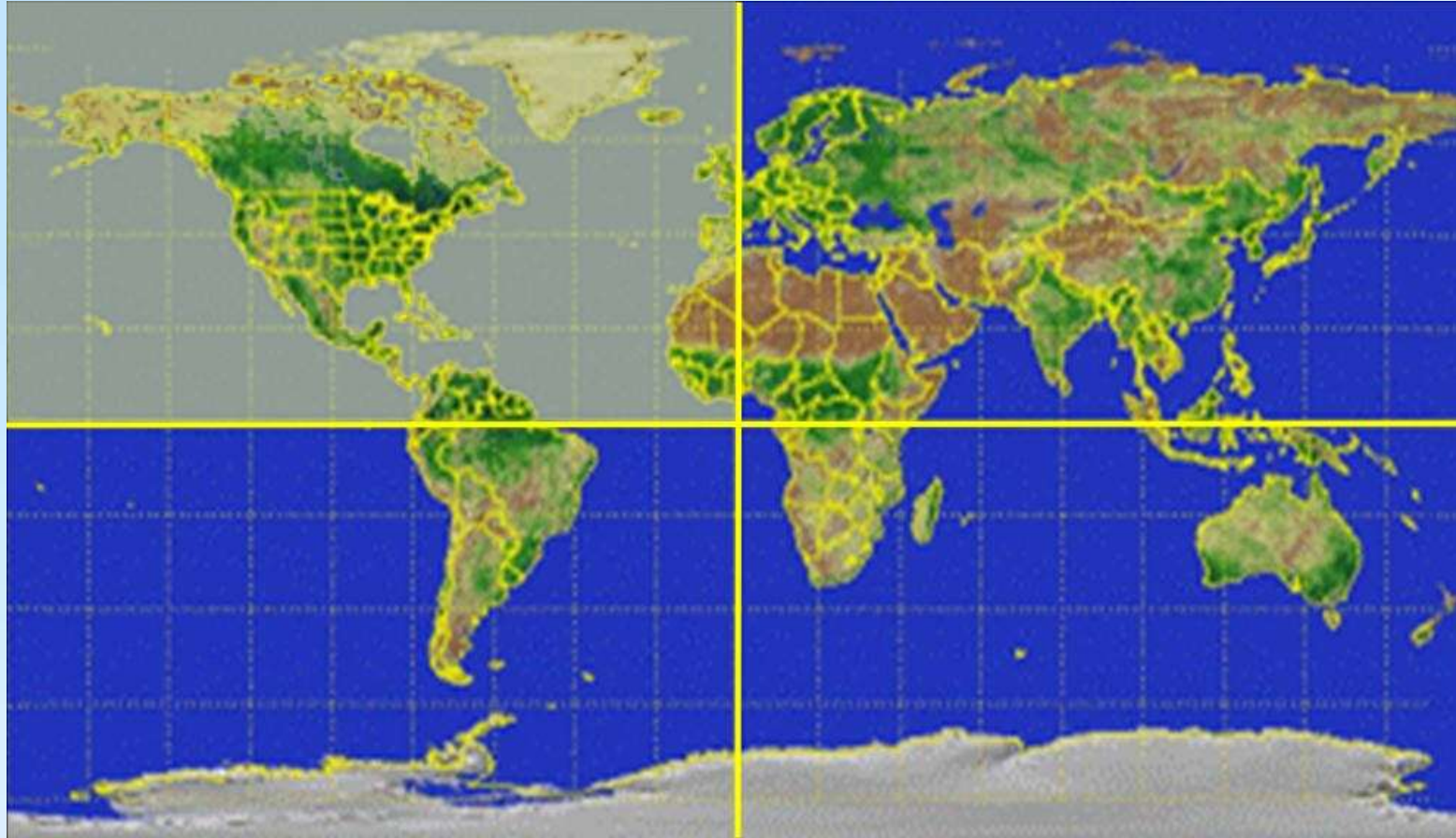


We can divide the Earth into quadrants: **SE** where all latitudes are **SOUTH** and all longitudes are **EAST**.



We can divide the Earth into quadrants: **SW** where all latitudes are **SOUTH** and all longitudes are **WEST**.

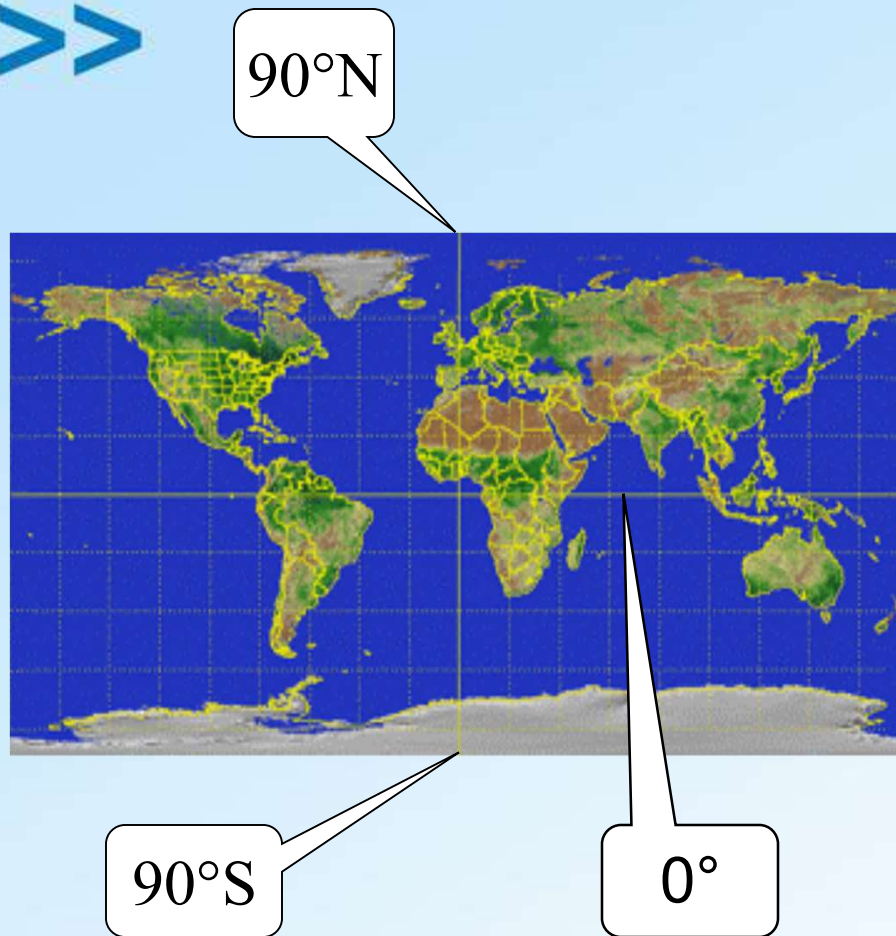




We can divide the Earth into quadrants: **NW** where all latitudes are **NORTH** and all longitudes are **WEST**.

Notice that **EVERY** point in the United States will have a **NORTH** latitude and a **WEST** longitude since we are in the NW quadrant.





## What is latitude?

Latitude is the distance from the equator along the Y axis.

It is expressed in degrees.

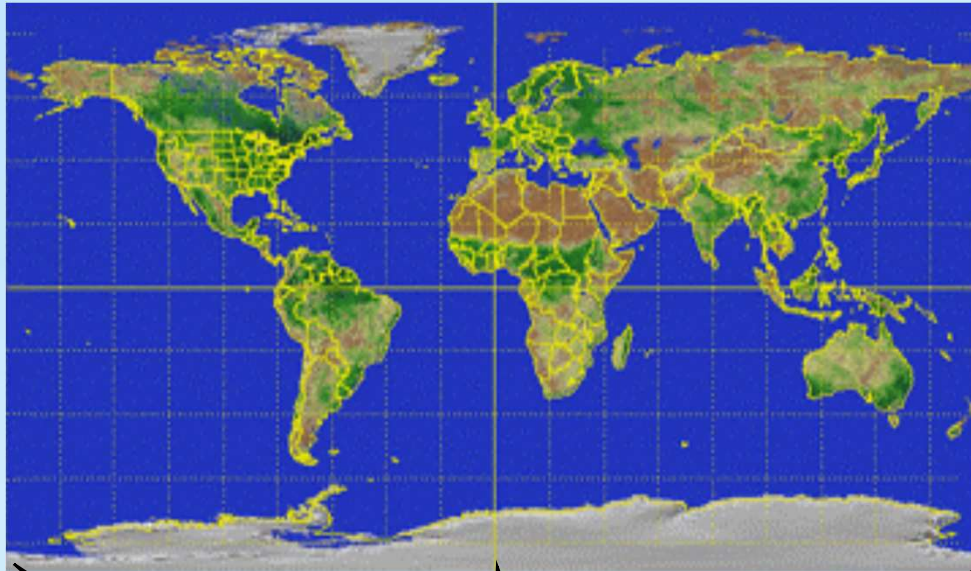
The north pole is 90° N

The south pole is 90° S

And remember that the equator is 0° latitude.

**What is the maximum possible latitude on Earth?**

**90° is maximum. You could be at 90°N or 90°S but there is no greater latitude on Earth (or anywhere else)**



180°

0°

180°

**What is longitude?**

**Longitude is the distance from the prime meridian along the X axis.**

**Just like latitude, longitude is measured in degrees.**

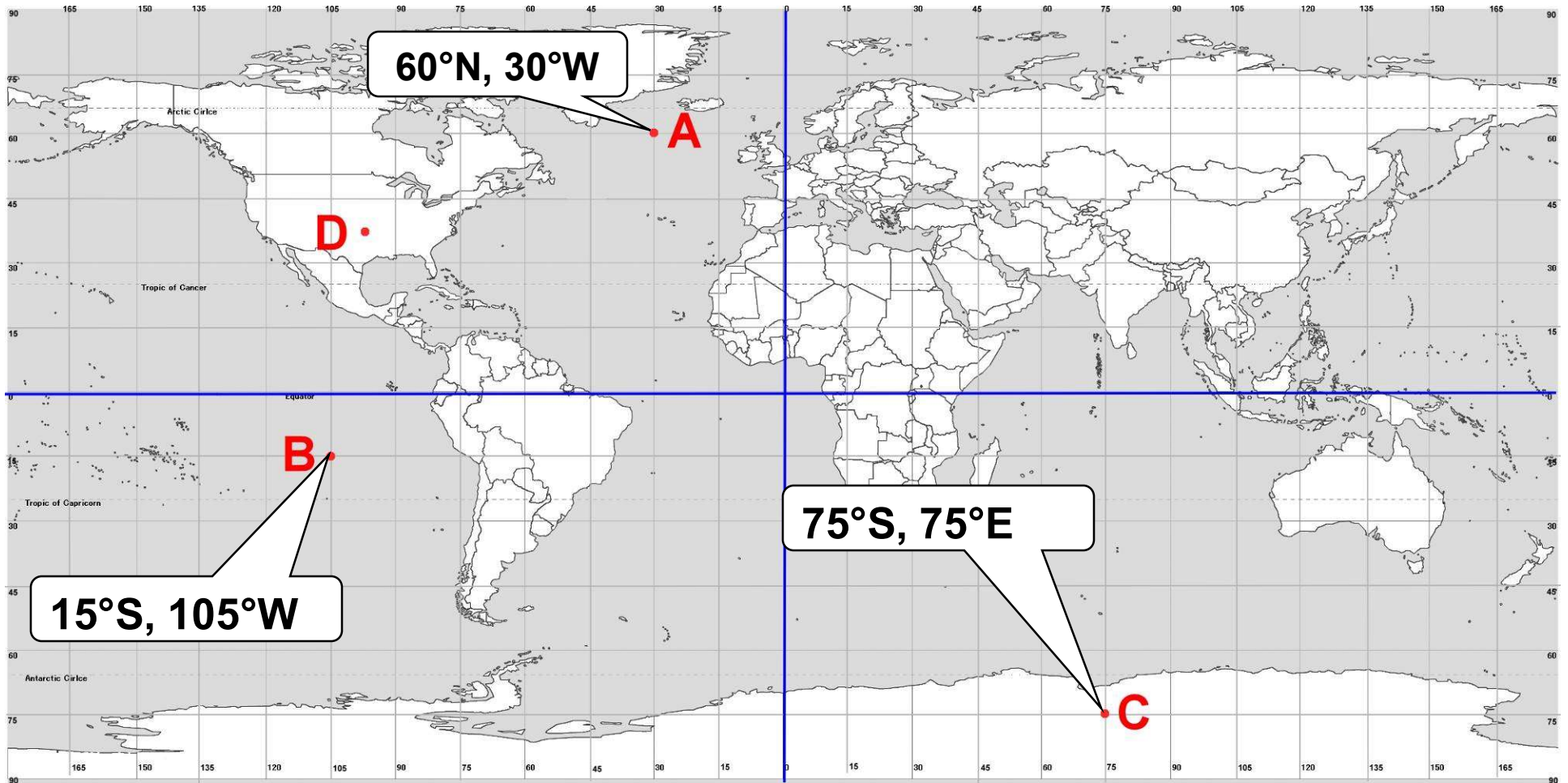
**The prime meridian is 0°**

**And if you go half way around the world you will reach the 180° longitude line.**

**Understand that there aren't two 180° lines. On this FLAT map it just looks that way. It's the SAME line.**

**What is the maximum possible longitude on Earth?**

**180° is the maximum possible longitude on Earth.**



Each box on this map is  $15^\circ$ . With that in mind how can we identify specific locations (red dots)? Remember, write latitude first!

What are the coordinates of location.....**A**

What are the coordinates of location.....**B**

What are the coordinates of location.....**C**

But what about location **D** ? It's in the middle of a box. What do we do now?