The Earth System

Earth System:

Earth as a System

- Atmosphere
- Hydrosphere
- Lithosphere
- Biosphere
Atmosphere

- The layer of gases that surround and form an envelope around the Earth.
  - Consists of several gases
    - Nitrogen – 78%
    - Oxygen – 21%
    - CO2, H2O, others – 1%
Lithosphere

- Earth's solid, rocky outer layer
  - The continents, islands and ocean floors
Hydrosphere

- All of the water present on the planet
  - Oceans, lakes, streams, ice caps, snow, glaciers, etc.
Biosphere

- That area of the land, water and air that contains life!
The Earth’s Surface
The Earth's Surface

- **Topography:**
  The shape of the land. The topography of an area includes the area's elevation, relief, and landforms.
Elevation - Relief

- **Elevation** - height above sea level
- **Relief** - difference between the highest and the lowest points of an area
Landforms

• 3 main types: **plains**, **mountains** & **plateaus**.

**Plains**: made up of flat or gently rolling land with low relief.
**Mountains**: made up of high elevation and high relief.
**Plateaus**: high elevation and a more or less level surface.
Earth's Grid – Equator & Prime Meridian

Prime Meridian goes thru Greenwich, England

Equator is half way between the north & south pole
Latitude & Longitude

- Latitude: the distance north or south of the equator
- Longitude: the distance east or west of the prime meridian

Both latitude & longitude are measured in degrees.
Topographic Maps

- They provide information on the elevation, relief, and slope of the ground surface.
- You must familiarize yourself with the map's scale and symbols and interpret the map's contour lines.
- Closely spaced contour lines indicate steep slopes.
- Closed loop with no other contour lines inside it indicates a hilltop.
- V-shaped contour lines pointing uphill indicate a valley.
Reading a Topo Map

- Contour lines
  - Thin lines
- Contour interval
  - Spaces between
- Index contour
  - Thick lines
Making a Topo Map
No mas... no mas