# Introduction to the Principles of Geography

Chapter 1: Essentials of Geography

#### Geography Defined

- Geo (Earth) graphein (writing)
- The science that studies the relationships among natural systems, geographic areas, human culture, and the interdependence of all of these over space (pg. 5)
- Geographic analysis focuses on spatial relationships and variations



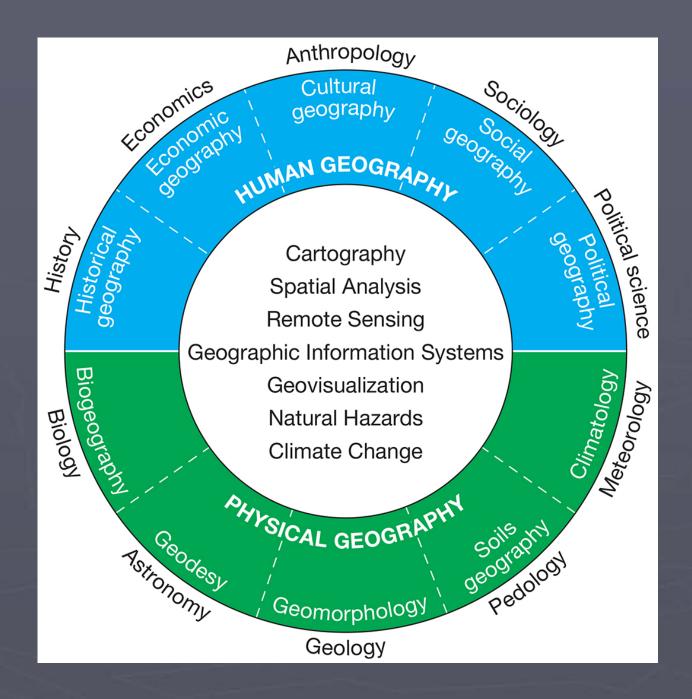
#### Human Geography vs. Physical Geography



Human Geography – Field of geography concerned with the spatial distribution of human systems and processes

Physical Geography –The science concerned with the spatial aspects and interactions of the physical elements and process systems that make up the environment

## The Scope of Geography



#### Five Themes of Geography

- 1. Location The Absolute and relative location of different things around the earth's surface
- 2. Place The human and physical characteristics of a place
- 3. Movement The forces of human migration, the spread of ideas, and the spread of physical resources and products and how they impact the planet.
- 4. Regions The formal, functional, and perceptual regions humans use to sub divide the earth.
- 5. Human-Environment Interaction The impacts that humans have on the environment, the ways they adapt to their environments, and the ways humans use the earth's resources

### Reading the Five Themes of Geography



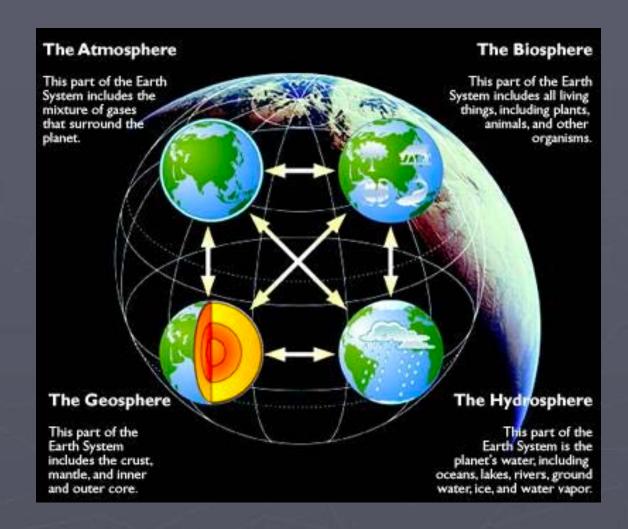
#### The Scientific Method

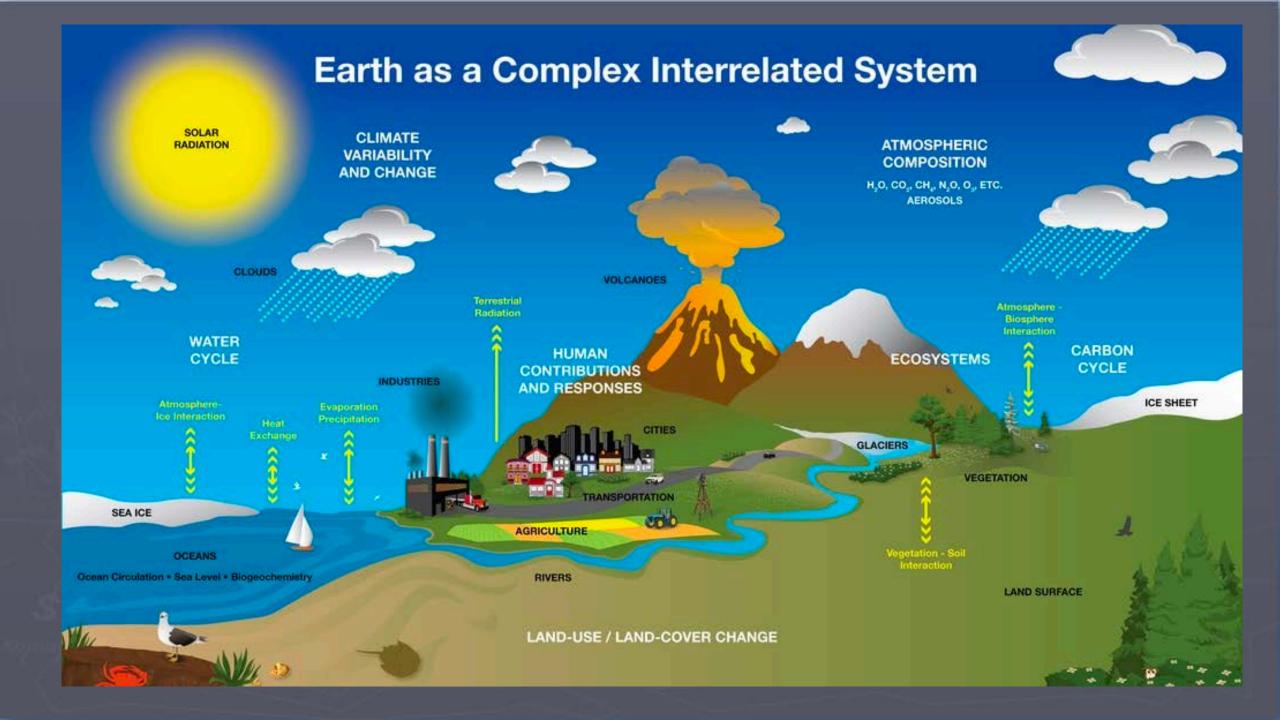
- Geography is dependent upon the the formulations of theories based on calculated analysis
  - More dependent upon development of theories, models, and truths
    - Does not develop scientific laws
    - Does not "prove" anything only proves or refutes hypothesis
  - Reliant upon asking geographic questions and making observations

#### Observe real world Observe nature, ask questions, collect preliminary data • Search for patterns, build conceptual or numerical models of natural systems Form hypothesis • Put forth a logical explanation · Identify variables, determine data needed and collection methods **Experiment and measure** Conduct experiments to test hypothesis—called "hypothesis testing" Results support Results do not support hypothesis hypothesis Reject methods or Peer review • Communicate findings conclusions for evaluation by other scientists Develop a scientific theory • Hypothesis survives repeated testing without being rejected • Explanation for real-world observation is widely accepted and supported by research

#### Earth Systems Concept

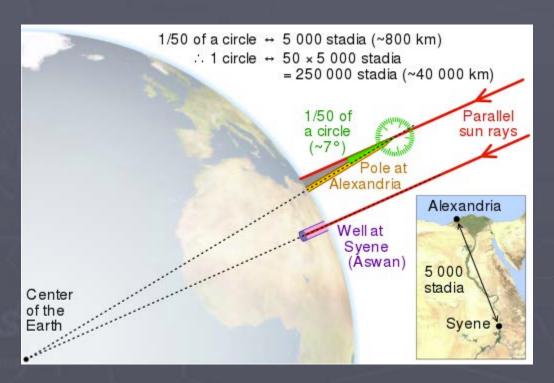
- Examines the Earth as a function of codependent and interrelated parts
  - Closed System Examination of the earth as an enclosed system with little outside influence
    - Can be used for air, water, resources
      not as much for energy or gasses
  - Open System Examination of the Earth that accounts for the input and output of energy and resources into the system
    - Especially for energy

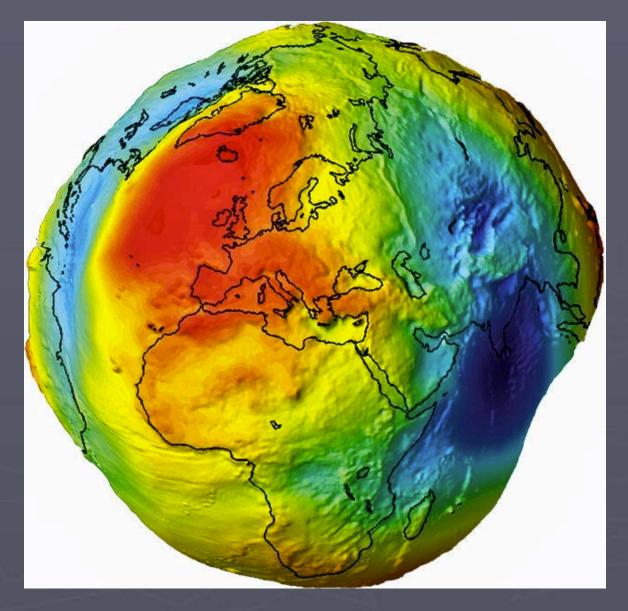




#### Earth's Shape

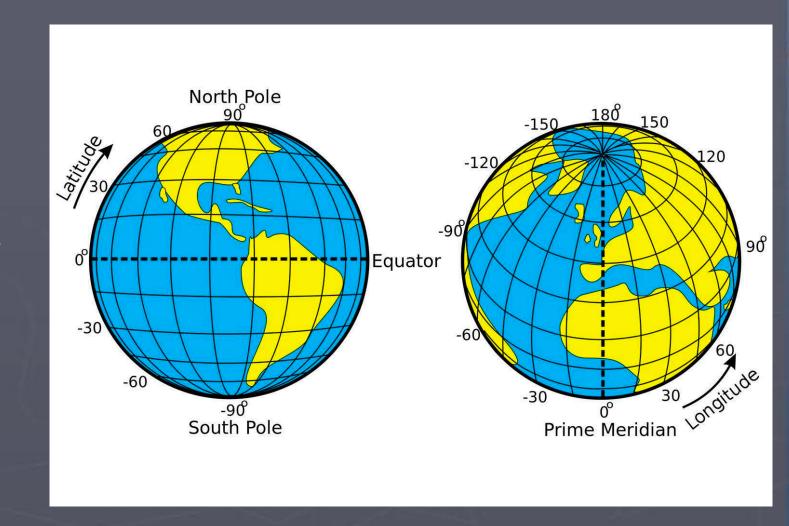
- Shape is defined as a "Geoid"
- Eratosthenes 247 B.C.E.





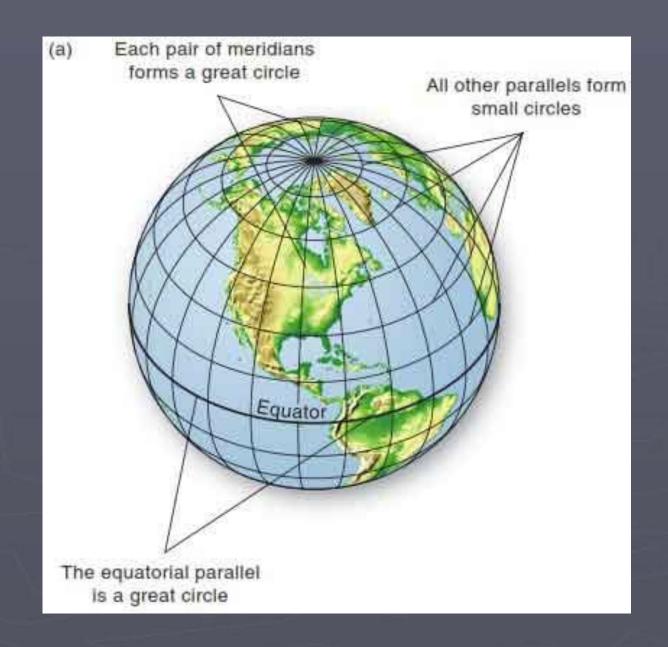
#### Lat Long

- Lines of Longitude connect North to South but are measured East to West
  - Also known as Meridians
- Lines of Latitude circle the globe East to West but are measured North to South
  - Also known as Parallels

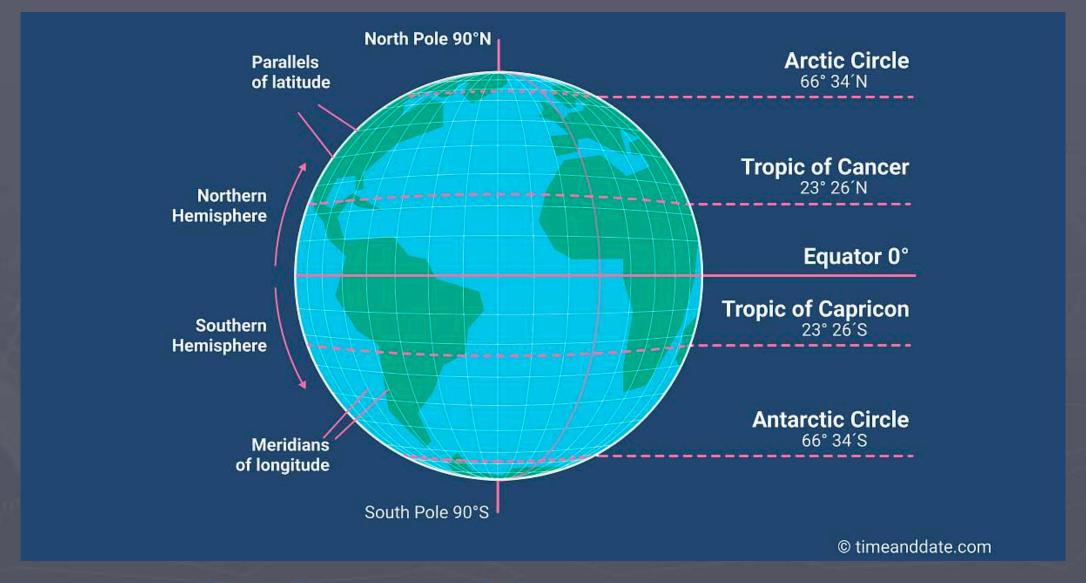


#### The Great Circle

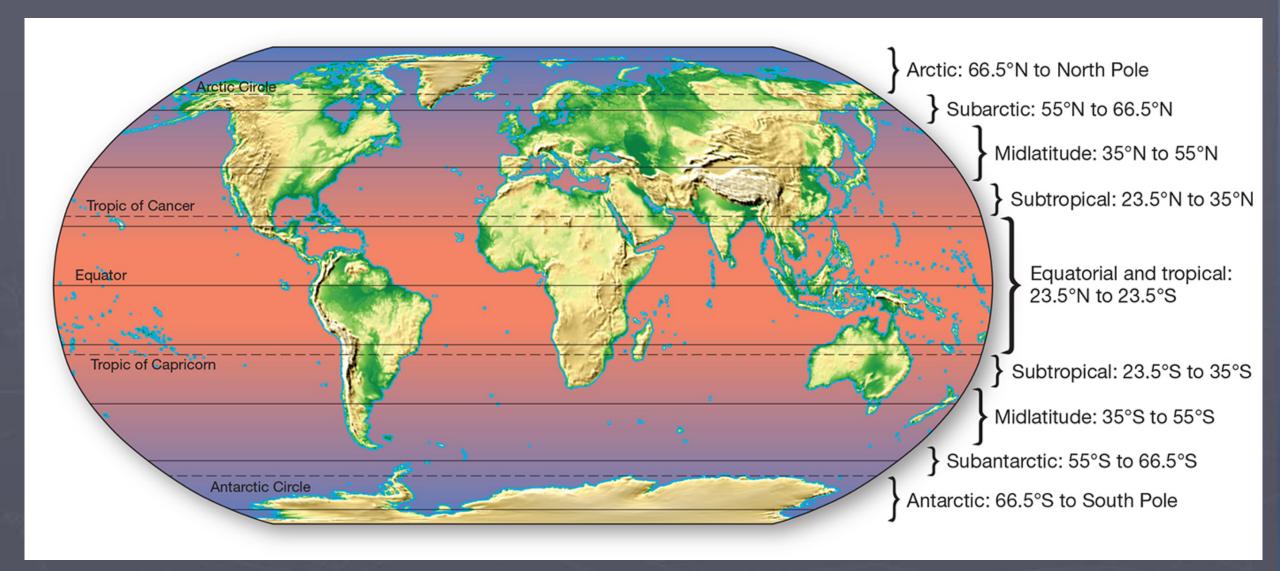
- Earth is comprised of a number of Great Circles and Small Circles
  - Helpful in Navigation
  - All meridians are great circles
  - Equator is only parallel that is a great circle
    - All other Meridians are small circles



#### Important Lines of Longitude and Latitude



#### Latitudinal Geographic Zones



#### Time Zones

