Developments of Geography

Early Origins to Modern Map Making
Basic Descriptions

• Geography
  – Literally means “Earth Study”, the science of the Earth’s land and peoples

• Cartography
  – The study and maps and the science of making maps
Patterns

• Geographers use different maps and models to look for **patterns**
  – Series of similarities or differences
Uses of Maps

• Maps are representations of the Earth’s features or other geographic data

• Two reasons to use maps:
  – As a location reference guide
    • To find location of different places and objects
  – As a communications tool
    • To display and explain information
Connections to Astronomy

• Early geographers had to rely on measurements using the stars to measure distance and angles
  – Developed to the point of being able to get fairly accurate calculations
  – Developed tools like sextant and star charts to track courses
Earliest maps date back thousands of years
- Represent the location of major land forms, and hunting grounds
- Maps have been evolving and changing based off the needs and resources of people
  - Example – Babylonian maps on clay tablets, Polynesians used interwoven sticks, and Greeks used paper

Mattang Stick Map from Polynesia
Babylonian Cartographers

• Babylonians were skilled surveyors, making maps of their empire
  – Surveyors take measurements and make maps of boundaries
    • Helpful for construction, map making, and defining property lines
Greek Geographers

• Made major contributions to cartography and development of geography
  – Anaximander considered to be first true cartographer
    • Made first map of the world around 550 B.C.E.
  – Eratosthenes (276–194 B.C.E) first one to use the word Geography
• Almost always drew Greece as center of the world
Ptolemy

- Greek Philosopher (est. 90-170 C.E.) who lived in Alexandria and wrote 8 volume book on geography
  - Came up with idea of Longitude and Latitude, Map Grids, and compiled maps into an Atlas
  - Influenced Roman and early Modern European Map makers
    - Came up with idea of a Southern Continent
Chinese Geographers

• Cartography began around the 5\textsuperscript{th} century B.C.E
  – Maps made on wood, stone, and silk
  – Developed over centuries
    • Grew in accuracy after invention of compass in 11\textsuperscript{th} century C.E.
    • Reached its peak around 15\textsuperscript{th} century C.E.

• China was source of most geographic information in East Asia until 20\textsuperscript{th} century

Da Ming Hun Yi Tu from 1389 C.E.
Islamic Geographers

• Muslim cartographers had access to books from both East and West
  – Translated and study many Latin Maps
  – Sent out expeditions to map and study Islamic regions
    • Influential in North Africa, Southwest Asia, and East and Central Asia

• Muhammad al-Idrisi (1099-1165)
  – Worked for the king of Sicily to make a accurate description of the Earth
Al-Idrisi’s Map of the Known World
1154 C.E.
European Exploration

• Age of Exploration starts in 15th Century renewed European interest in the world
  – Especially interested in the Americas, Africa, and trade routes to Asia
  – Competition among empires to discover more
    • Led to expeditions to Pacific Islands, Antarctica, Interiors of continents, and Arctic
Modern Cartography

• Modern cartography uses technology like satellites and GPS to take accurate measurement

• Computers are used to quickly update and create maps that display all bits of information
Hereford Mappa Mundi
c. 1285
Piri Reis Map
c. 1513
Ottoman Map
Mercator Map c.1569
The Wright-Hakluyt Map of the World, 1600
James Cook’s Map of Eastern Coast of New South Wales 1770
Modern Gall-Peters Map