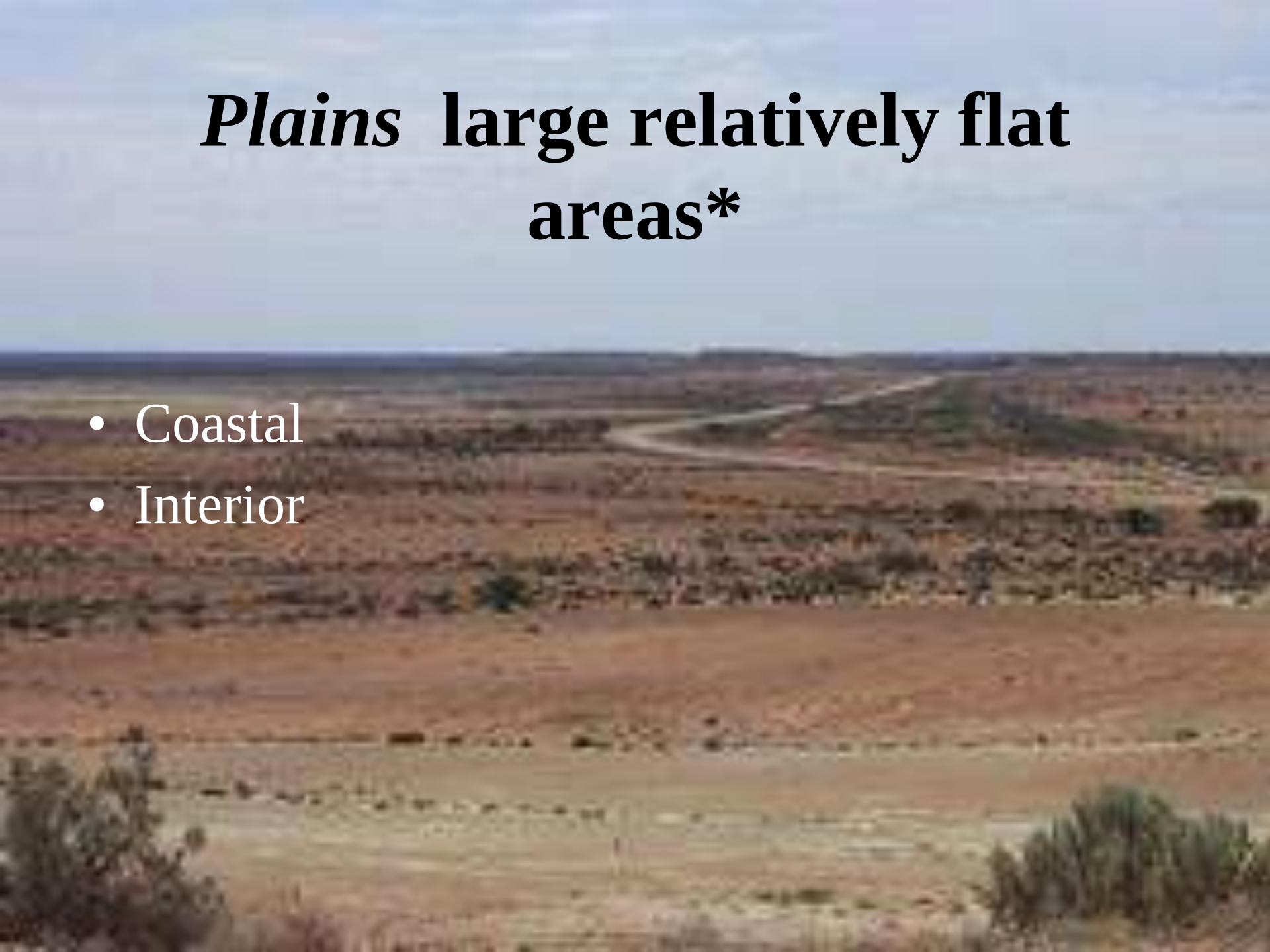
Views of the Earth

What is the
latitude and longitude
of your house?

Land Forms*

- Plains
- Plateaus
- mountains

Plains large relatively flat areas*



- Coastal
- Interior

Coastal plains

- **Plains along ocean's shores**
- **Low elevations**
- **Low rolling hills, swamps and wetlands**
  - **Example: Atlantic coastal plains**
- **Formed under water from sediments that fell on the ocean floor**
- **Gulf coastal plain formed from sediments deposited by the Mississippi River**

Interior Plains

- **From Appalachians to the Rockies to the Gulf Coast**
  - **Covered with sediments from mountains rivers or ancient seas**
  - **These make up about 50% of the land areas in the United States***

Plateaus

- **Flat raised areas of land**

*Mountains**

- **rise high above surrounding formations**
  - Folded
  - Up warped
  - Fault blocked
  - Volcanic

*Folded mountains **

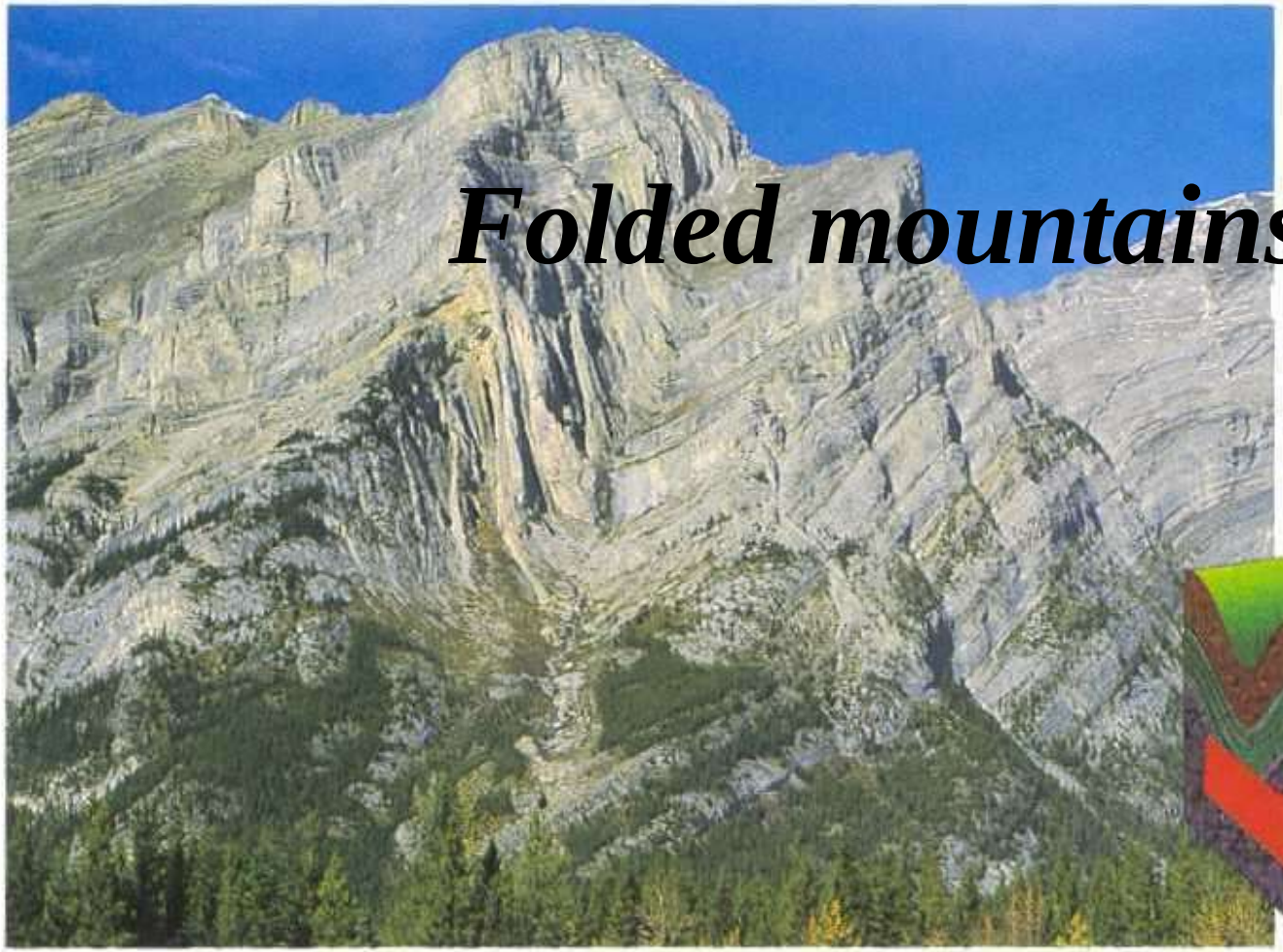
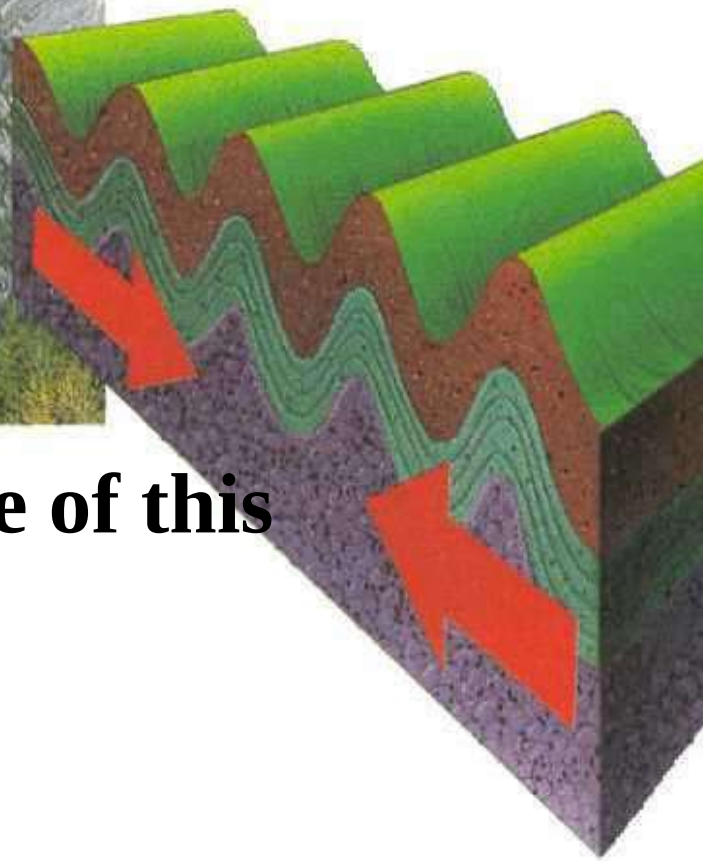


Figure 5-4

Folded mountains form whe
rock layers are squeezed fron
opposite sides.



- **Appalachians are an example of this**

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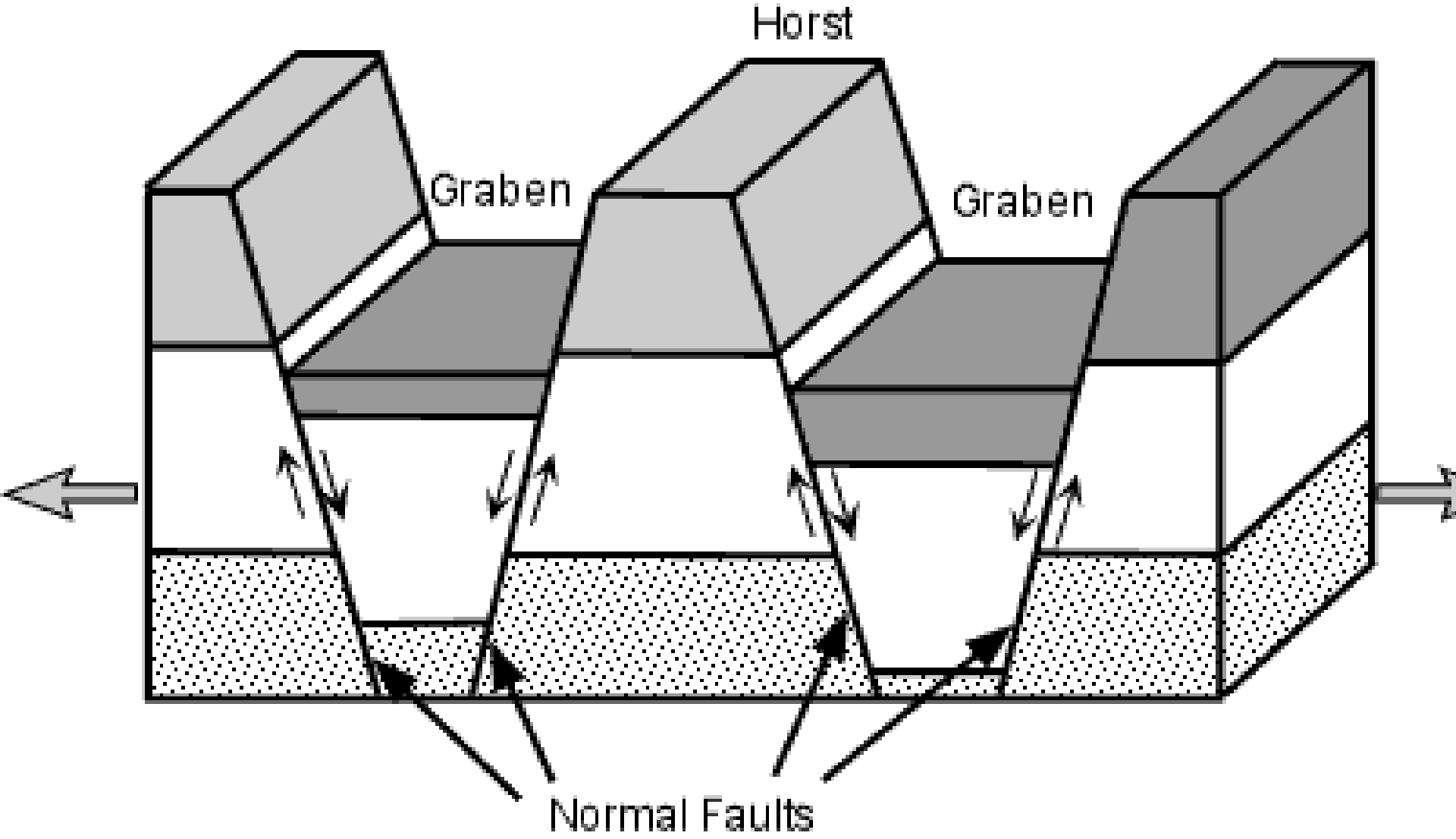
*Up warped Mountains **

- **Southern Rockies and the Black hills**

Black Hills

*Fault-block Mountains **

- **Grand Teton Mountains**


Horst
Graben
Graben
Normal Faults

*Volcanic mountains **

- **Formed from a volcano, like Mt St Helens**

- **(quiz next page)**

- **Know the four different types of mountains and how they form, and be able to give an example of each***

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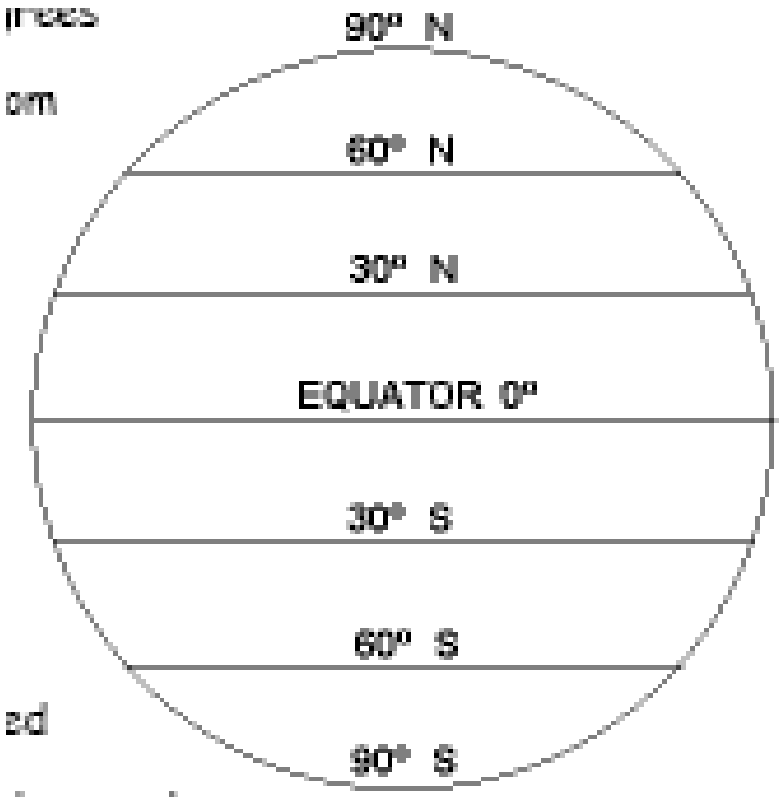
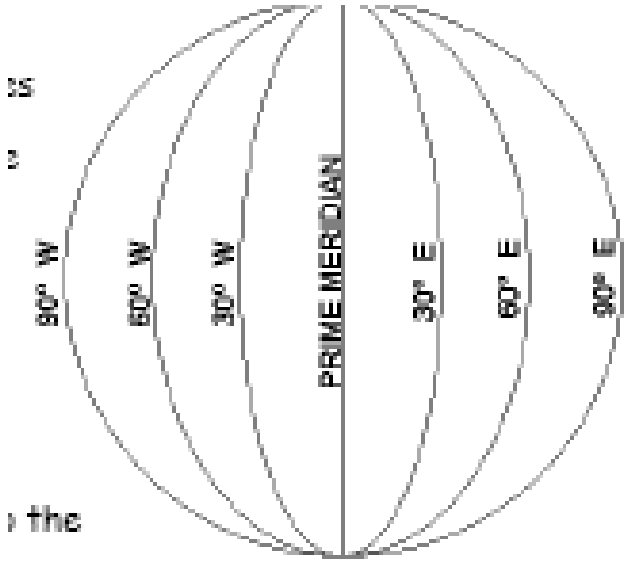
Quiz

1. What are the three land forms?
2. What are the two types of plains
3. What are the four types of mountains

View Point

- **Latitude and Longitude Global position**





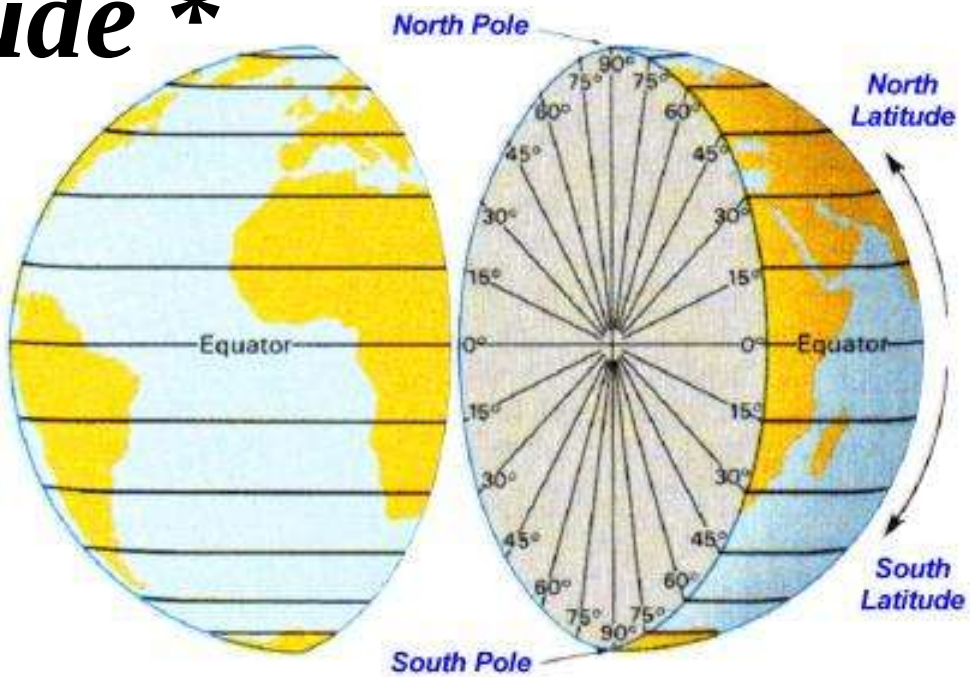
MAPS

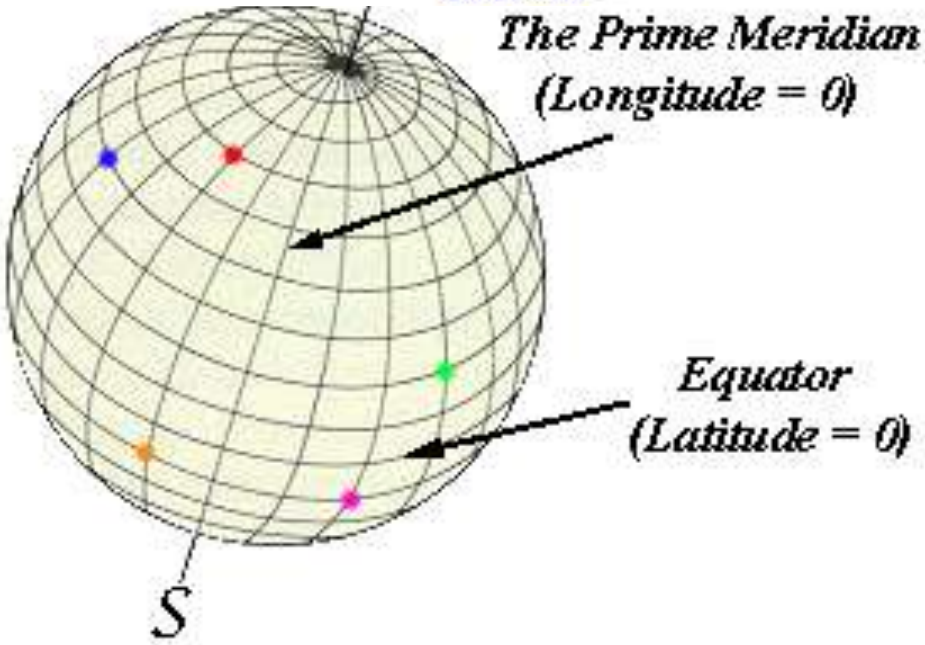
- Latitude lines run parallel to the equator and are measured N and S.
- Longitude lines intersect at the poles and measure E and W.
- There are 60 minutes in one degree and 60 seconds in one minute.

*Latitude **

- **lines running *parallel* *to the equator**
- **Equator - 0° latitude***
- **Poles - 90° latitude***
- **Divides the Earth into two hemispheres**
  1) **Northern**
  2) **Southern**

- **Why do men divide the earth up into longitude and longitude?**

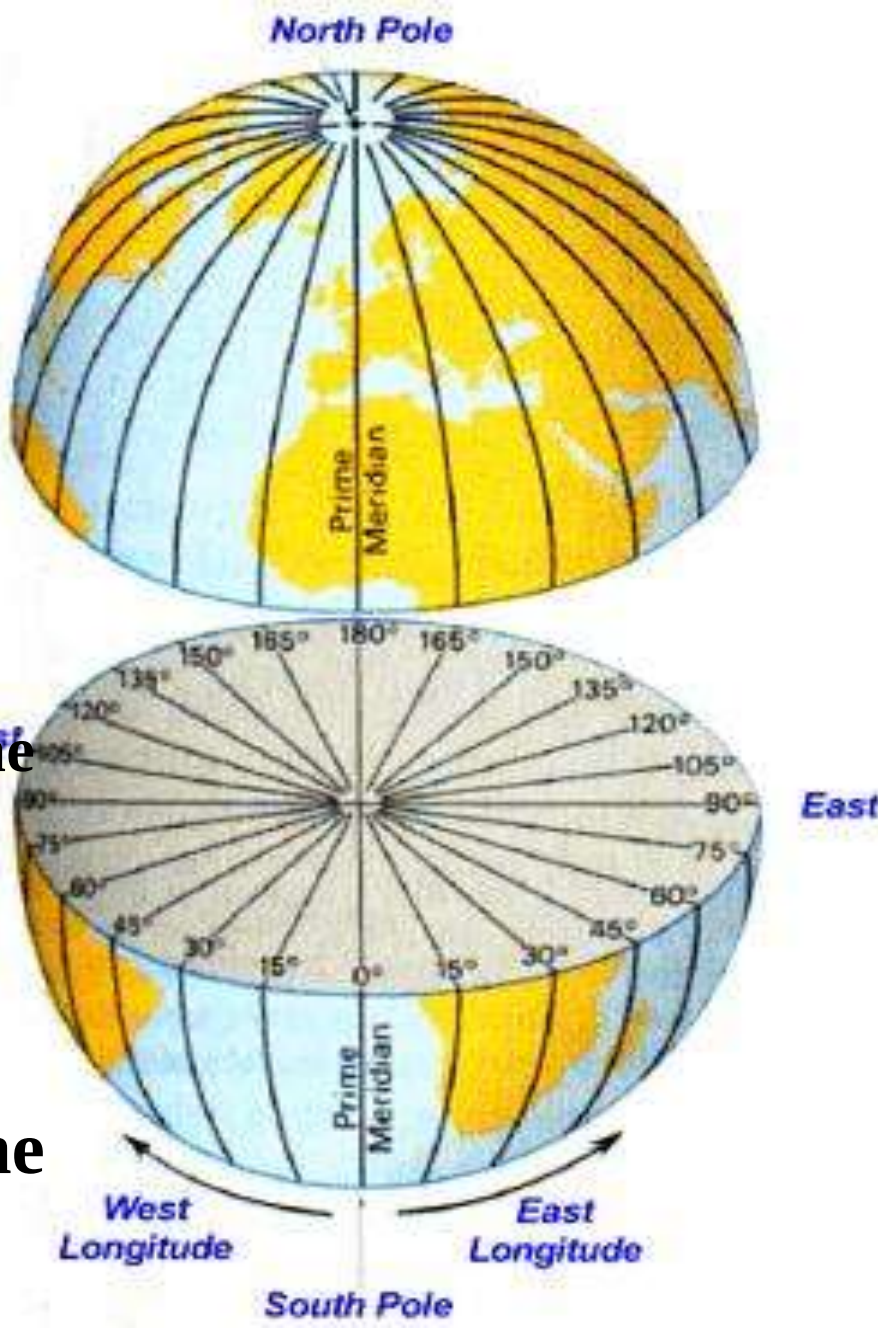




*Longitude **

- **lines running North and South**
  - **Lines are called meridians**
  - **Prime meridian is 0°***
  - **The International date line is 180° east and west***
  - **Those places west of the Prime meridian are west longitude and those east are called east longitude**
- **The earth turns 15°/hr***
- **At the International date line is when the calendar day changes**

*



Time Zones

- The Earth is divided into 24 time zones, corresponding to 24 hours in a day.*
- As the earth rotates, the sun shines in different areas, moving from east to west during the course of a day.
- Places that have the same longitude will be in the same time zone.
- How many time zones are there on earth?


United States
Interstate
Highway System/
Time Zones
PACIFIC
MOUNTAIN
CENTRAL
EASTERN
Pacific
Ocean
Atlantic
Ocean
Gulf of Mexico
N
0
500 mi
0
500 km
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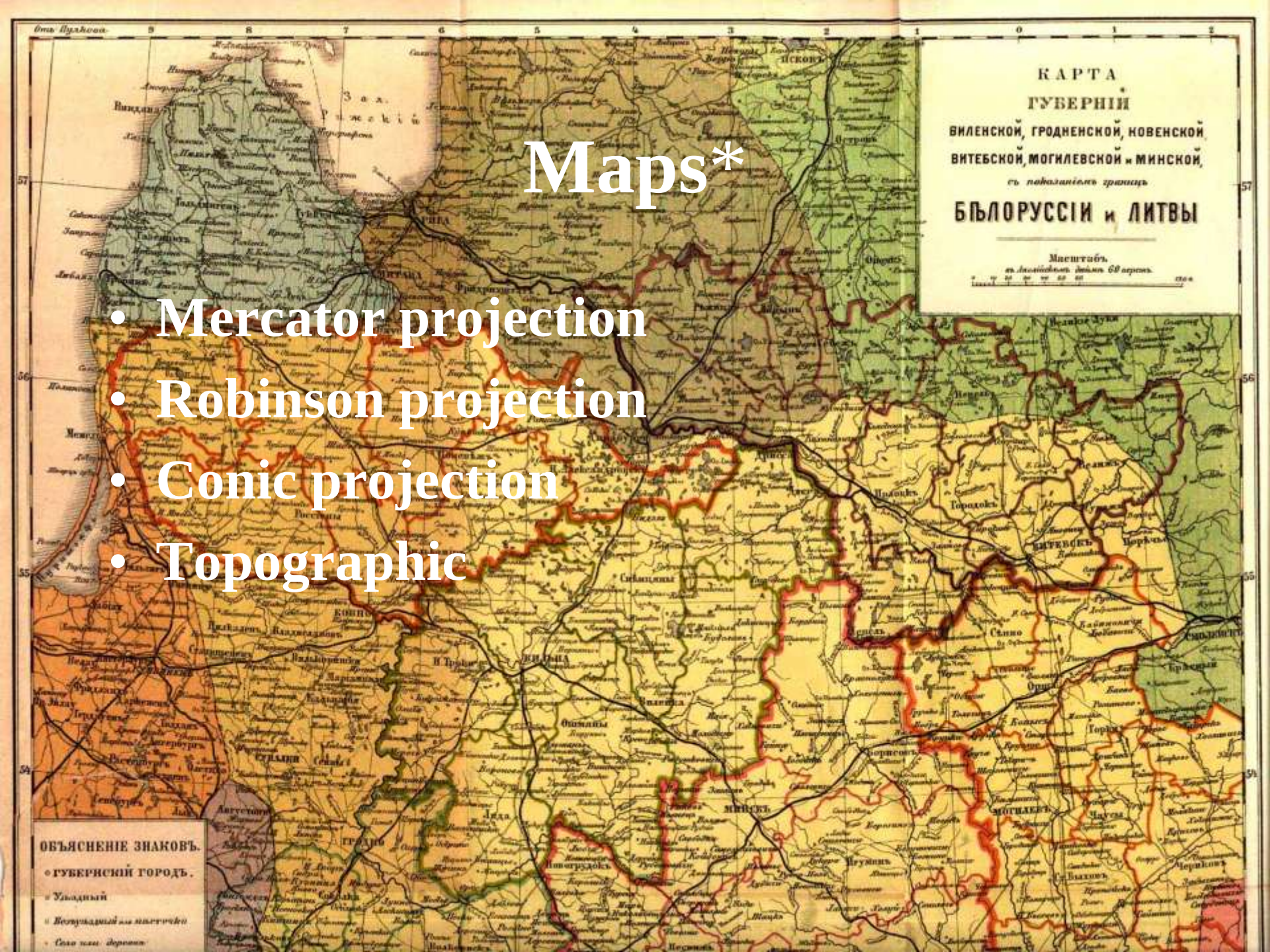
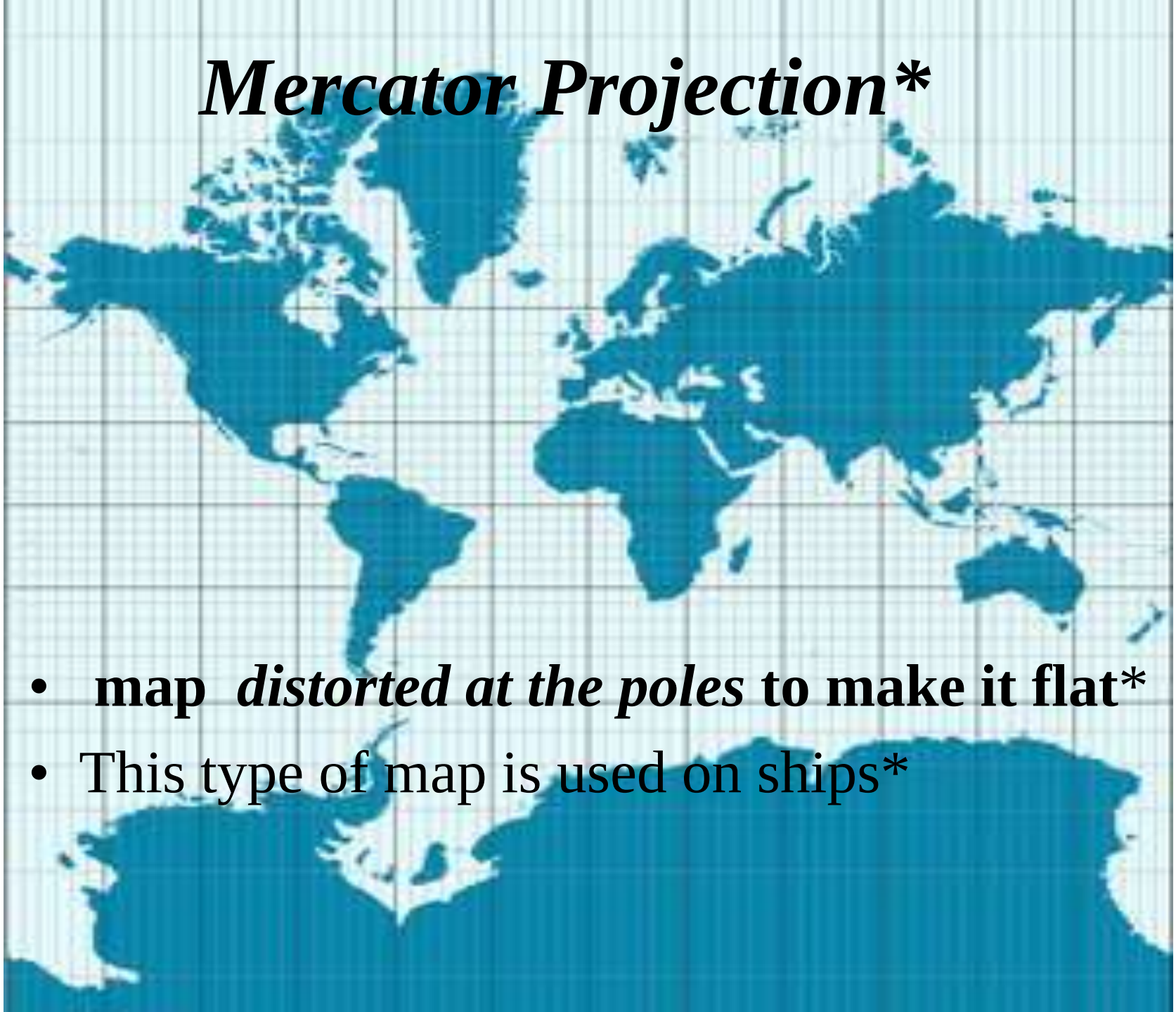


Maps*

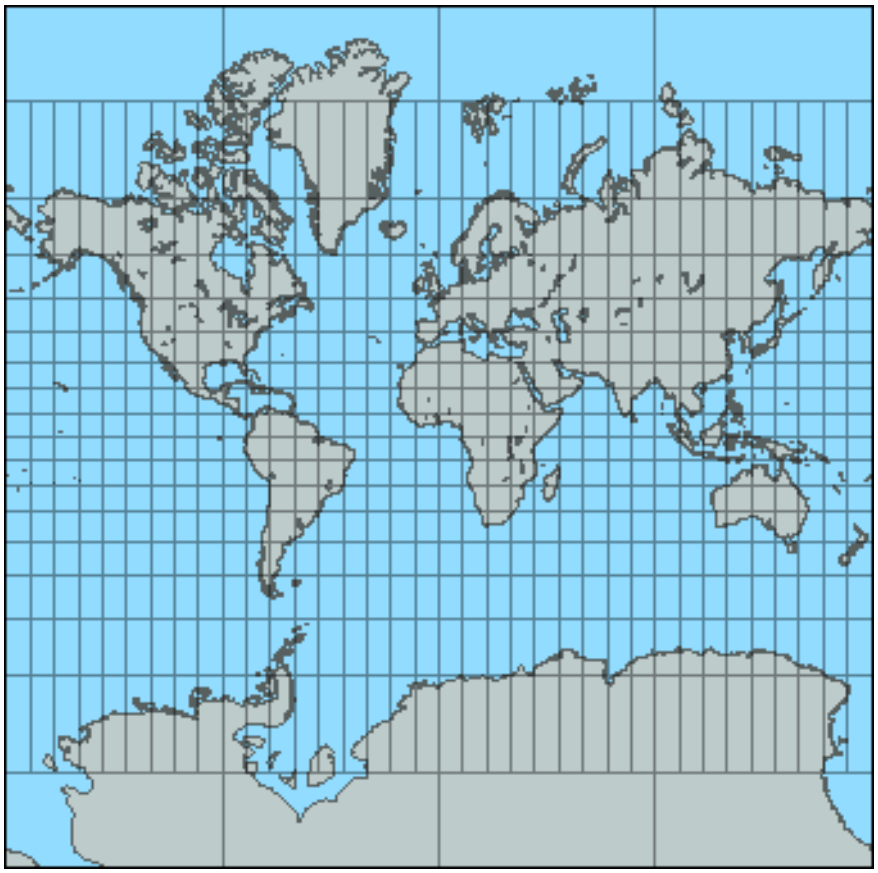
- Mercator projection
- Robinson projection
- Conic projection
- Topographic

*Mercator Projection**



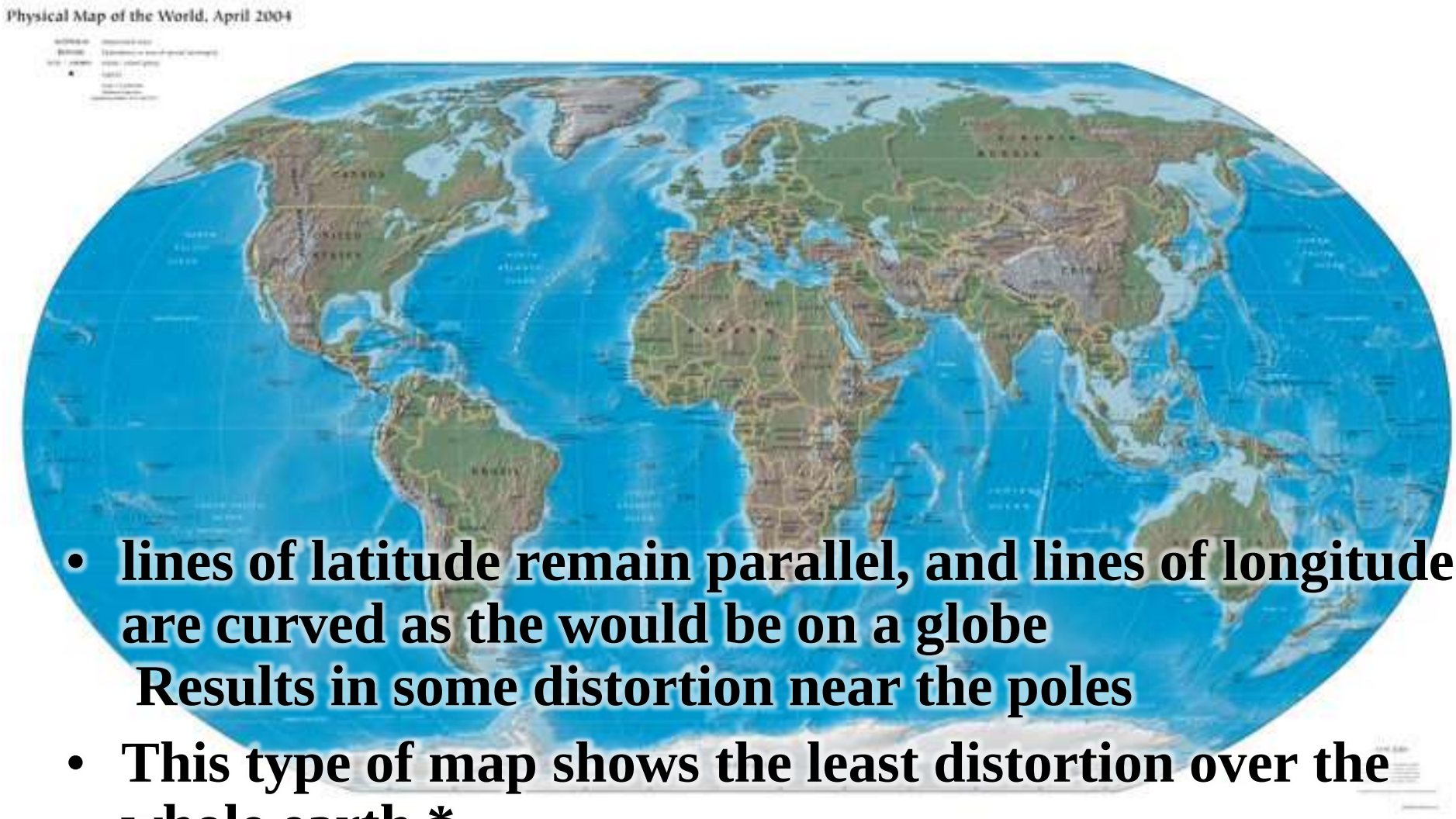
- **map *distorted at the poles* to make it flat***
- This type of map is used on ships*

Mercator Projection*

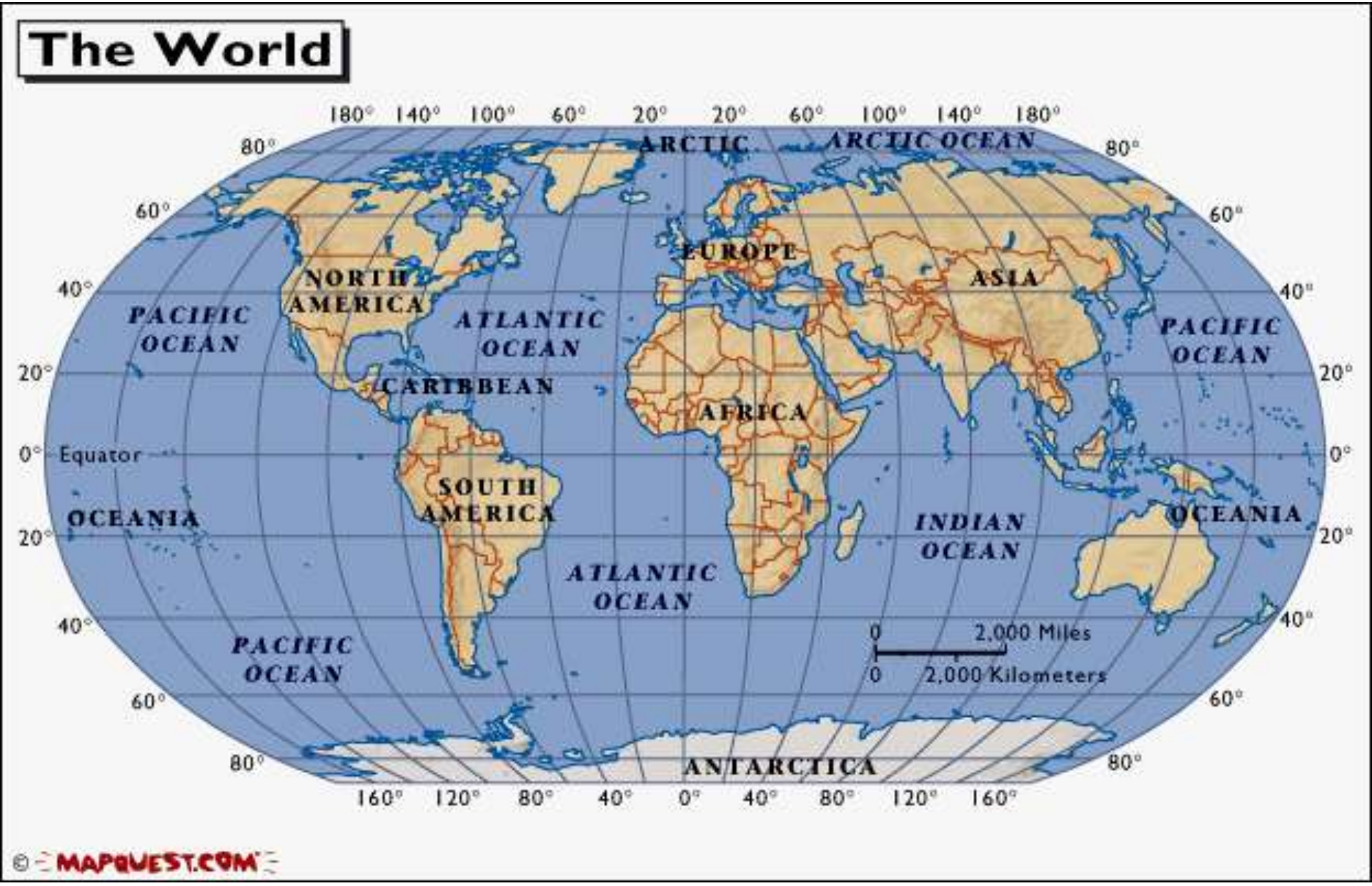


Mercator maps have both latitude and longitude lines parallel. N and S latitudes are distorted.

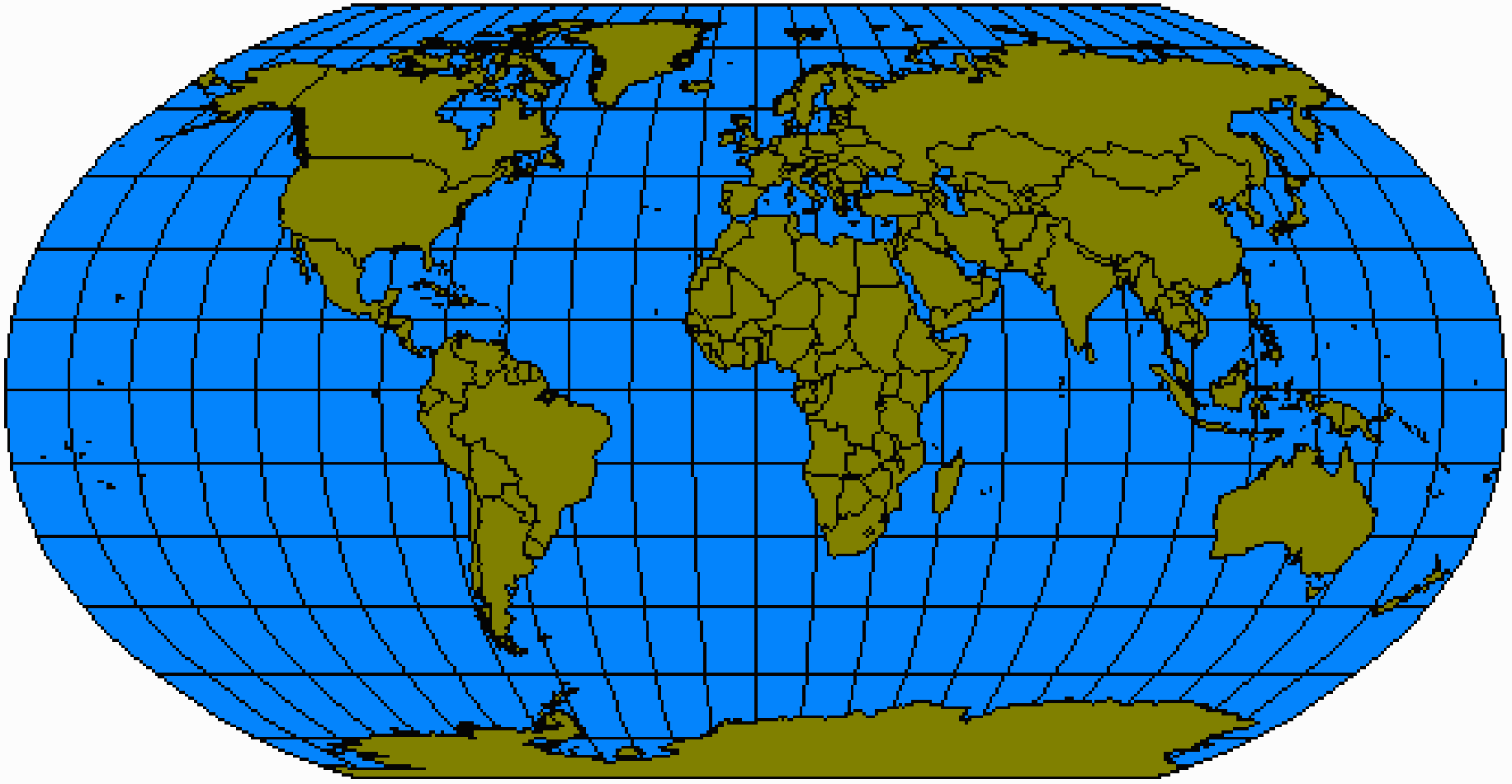
*Robinson Projection **



- **lines of latitude remain parallel, and lines of longitude are curved as the would be on a globe**
  Results in some distortion near the poles
- **This type of map shows the least distortion over the whole earth.***

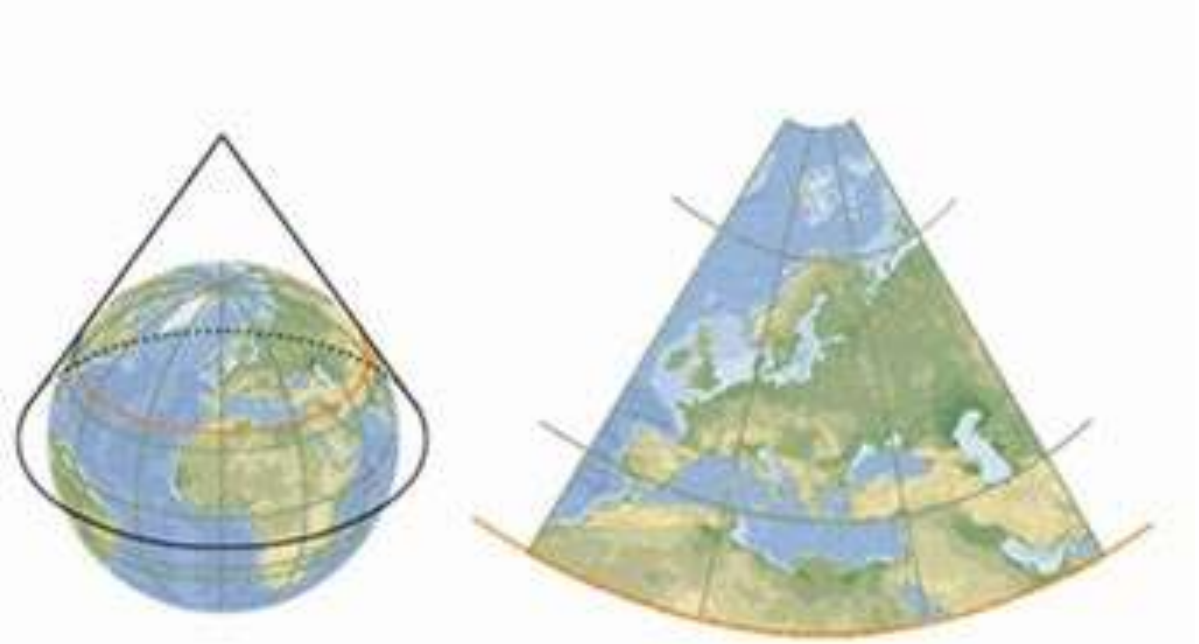

The World
180° 140° 100° 60° 20° 20° 60° 100° 140° 180°
80°
60°
40°
20°
0°
Equator
ARCTIC
ARCTIC OCEAN
EUROPE
ASIA
NORTH AMERICA
PACIFIC OCEAN
ATLANTIC OCEAN
PACIFIC OCEAN
CARIBBEAN
AFRICA
SOUTH AMERICA
OCEANIA
INDIAN OCEAN
OCEANIA
ATLANTIC OCEAN
PACIFIC OCEAN
0 2,000 Miles
0 2,000 Kilometers
ANTARCTICA
160° 120° 80° 40° 0° 40° 80° 120° 160°
© MAPQUEST.COM

Robinson projection



*Conic Projection**

- **is made by projecting points and lines from a globe onto a cone.**
- **Used to produce maps of small areas**
- **Road map and weather maps are Conic Projection***



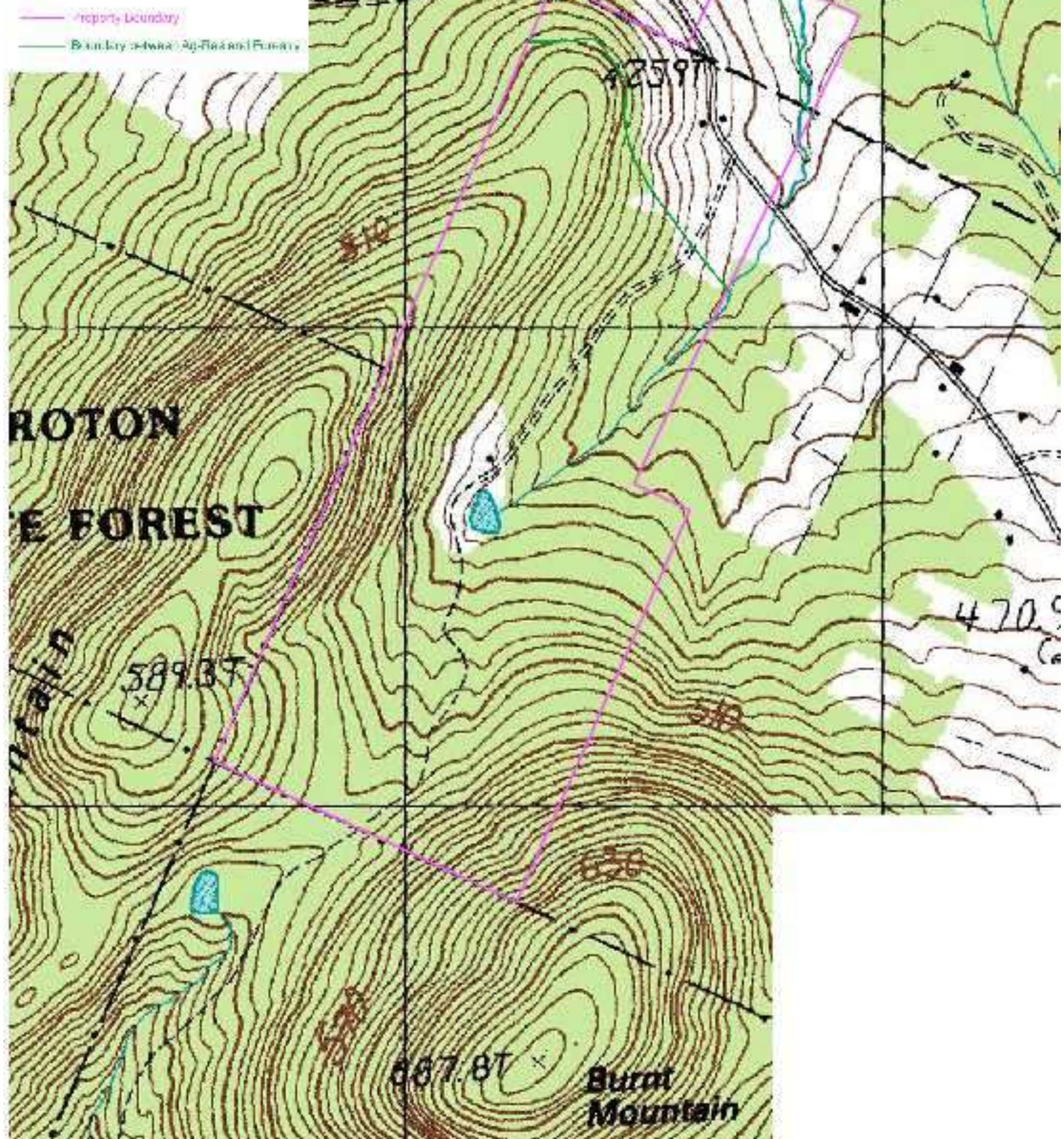
Conic Projections*

- **In a conic projection, the lines of latitude and longitude are curved slightly. They are especially useful for mapping large areas of land that fall in the middle latitudes.**

*Topographic maps **

- **shows changes in elevation**
- ***Contour Lines**** **- connect points of equal elevation**
- ***Contour Interval**** **is the elevation between each contour line**
- **Contour lines never cross**

- Topographic maps are measured with respect to sea level. The lines measurements are elevation*



ROTON
E FOREST
589.3T
687.8T
Burnt
Mountain

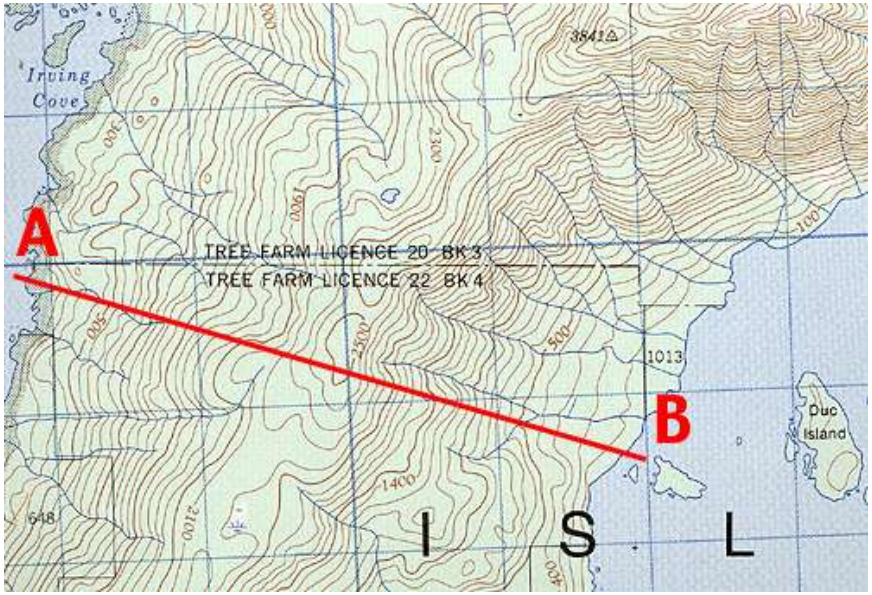
TOPOGRAPHIC MAPS

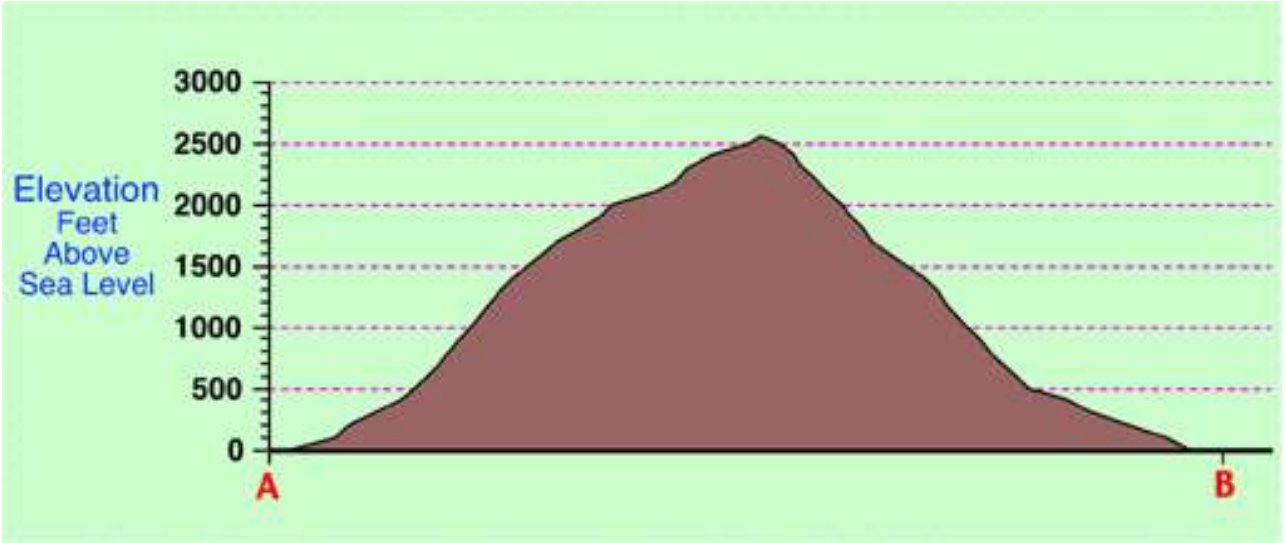
- Measure changes in elevation
- A profile is a side view of an elevation
- When contour lines are close together, the area is steep.
- Contour lines always point upstream (opposite of flow)
- Depressions or holes are identified by lines within a circle
- Valleys will have contour lines very spread apart

- Where would a topographic map be used?

TOPOGRAPHIC PROFILE

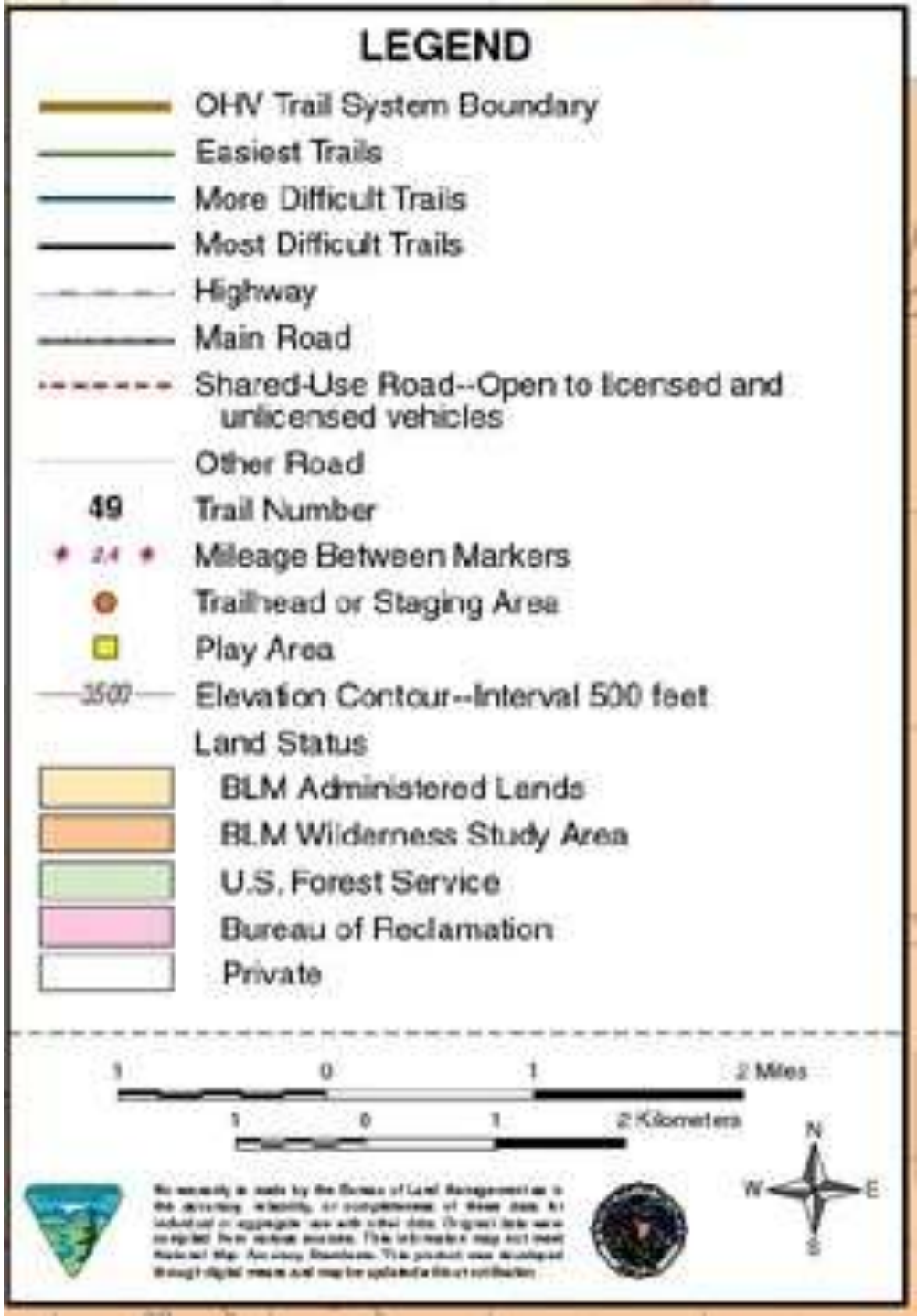
By transferring information from a topographic map to another sheet of paper, it is possible to draw a landform's profile, or shape.





*Map legend **

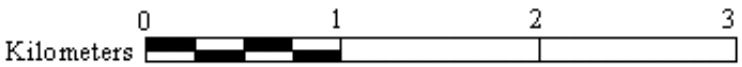
- **tells what symbols on the map means***
- ***Map scale** *- scale down equivalents*
- **This is a ratio of actual distance compared to a small measurement**



MAPPING AND SCALES

MAP SCALES*

- Map scale is the relationship between a unit of length on a map and the corresponding length on the ground.
- **Types of Map Scales**
  - **Verbal scale** expresses in words a relationship between a map distance and a ground distance. (*One inch represents 16 miles.)*
  - **A graphic scale**, or **bar scale** shows directly on the map the corresponding ground distance.
  - A **representative fraction**, or RF, shows the relationship between one of any unit on the map and one of the same units on the ground. (1:24,000)
  - In the above example, 1 cm on the map would equal 24,000 cm in reality on earth



A graphic scale

K H D B D C M

- Use the above to help you convert from unit to unit in the metric system
- Base units are:
  - Length—meter
  - Volume—liter
  - Mass—gram