GLY6932: GIS Applications in Earth Sciences Lab 2: Map Projections

Part 1 Questions:

1. What is the spatial extent of the view shown in terms of degrees of latitude and longitude?
   
   Latitude: -90° to 90° The spatial extent is 180°.
   
   Longitude: -180° to 180° The spatial extent is 360°.

2. Where is the point (0,0) latitude and longitude located on the earth's surface?
   
   In the center of the map where the prime meridian crosses the equator.
Part 2 Questions:

3. What is the geographic extent of the United States? Give the East and West limits of longitude of the continental US and those for the Northern and Southern extent of the continent to the nearest degree.

   **East:** -67°    **West:** -125°    **Northern:** 49°    **Southern:** 26°

4. Which parallel defines much of the border between the United States and Canada?

   The **49°** parallel is the border between most of the US and Canada.

5. If we removed a vertical slice out of the world cut along the meridians defining the most Eastern and Western points in the continental United States, how much of the globe would we have cut out?

   125-67 = 58    58/360 = 0.16   **16% of the globe would be cut.**

United States in Unprojected Geographic Coordinates
Part 3 Questions:

6. What is the geographic extent of Florida to the nearest degree in North, South, East and West?

North: 31°  
South: 25°  
East: -80°  
West: -88°

7. What meridian runs down the East side of the Florida Panhandle?

The -83° meridian runs down the East side of the Florida Panhandle.

Part 4 Questions:

8. How many UTM zones does it take to cover Florida?

It takes 2 UTM zones to cover Florida.

9. Which zone applies in West Florida? East Florida?

Zone 17 applies to east Florida and Zone 16 applies to West Florida.

Florida in geographic coordinates
Lambert Conformal Conic (TSMS) projection

UTM projection