MAP PROJECTIONS

Cylindrical Projection

A cylindrical projection map is the most common type of map that we see. Imagine placing the movie screen around the globe in a cylinder shape. The projection that results is depicted in this image. Notice that areas close to the equator have very little distortion. However, the closer to the poles that one travels the more distorted that the map becomes. In this example, Greenland appears to be many times larger than it really is.

Conic Projection

A conic projection map is created by placing a cone shaped screen on a globe. The resulting projection is more accurate than the cylindrical projection map discussed above. However, the further we travel down the map, the more distorted, and less accurate the map becomes.
Plane Projection

A plane projection is created by placing an imaginary screen directly above, or below a globe. The image that would result is called a plane projection. This type of map projection is not commonly used.

Interrupted Projection

There are many different types of interrupted projection maps. These types of maps try to depict the continents as accurately as possible by leaving blank space in the less important areas of the map, such as in the oceans.
Each of the map projections previously discussed as well as any other type of map projection must consider two important factors. What is more important, depicting the accurate sizes of objects on the map, or depicting accurate shapes of these objects. The challenge is that you cannot have both. The more accurately you depict shape, the less accurate will be your depiction of size, and vis-versa.

A map which portrays shape accurately is called a conformal map. Conformal maps are useful in that they help us understand the true shape of the items on the map. However, these maps have many drawbacks. A conformal map tends to get quite distorted, especially towards the top and bottom of the map. This creates problems with scale. The scale may be accurate near the equator, but the further one travels from the equator, the less accurate the scale becomes.

In recent decades technologies have improved dramatically. These technologies allow cartographers, or map makers to use remote sensing to measure the Earth, and create precise maps.
Remote sensing is any technology that can be used to create maps, without having to physically touch the territory being described. These remote sensing technologies are often deployed from a plane or satellite.

**Robinson Projection**
The Robinson projection is based on tables of coordinates, not mathematical formulas. The projection distorts shape, area, scale, and distance in an attempt to balance the errors of projection properties.
In contrast, areas where contour lines are placed close together are steep slopes. Here, the South side of Mount Joy is a very steep slope. The contour lines are 10 feet apart in elevation, and the heavy brown contour lines (which are just a shortcut that allow you to skip the lines between them) are 50 feet apart, so you can count the contour lines to work out how far (this peak of) Mount Joy is above the stream below.