

GEOG205 Assignment quiz March 18: Map projections 5%

- based on the Map Projections lectures this week; submit quiz by **Friday 25 March, 10am**

Suitable answers in italics – could be correctly expressed other ways

1. We are used to ‘scale’ on maps, but with map projections we also learn about ‘scale factor’ (SF).

a. Why does scale vary on a map (projection) ? *stretching is required to convert a 3D surface to 2D*

b. On the Mercator projection, what is SF at 60°N compared to the Equator ? *2.0*

2a. What is the difference between the Mercator projection and the Transverse Mercator projection.

2b. What is the difference between the Transverse Mercator projection and the UTM system.

Mercator has ‘normal’ orientation with the projection surface adjacent to the equator; Transverse is ‘flipped’ 90 degrees with the surface adjacent to a meridian

3. The province of BC uses the ‘BC Albers’ projection and coordinate system for provincial mapping.

a. Why did they choose these 2 standard parallels at 50 and 58.5°N. ?

b. Why is the Central Meridian located at 126° W and given a value of 1,000,000 Eastings?

*Distortion increases outside the 2 parallels; these two include most of BC
126 is midway E-W and 1million ensures eastings are 0-2million*

4. *earth.nullschool.net* - we saw this webpage in lecture (click on earth in the lower left for options) - they include 8 different map projections, which should be mostly familiar after the lectures, except for the first one - A for Atlantis. This is an alternate name for a projection we did see in lectures:

a. Which one is it (name and orientation) ? (use your knowledge of projections or googling).

b. How many of the 8 projections are either cylindrical or pseudo-cylindrical ?

Oblique Mollweide 4

5. *thetruesize.com* - this webpage views the real size of countries versus how they appear in the Mercator projection.

Select the country of Colombia and drag to lay over British Columbia (zoom in to see BC better).

a. Which one (Colombia or BC) has the greater N-S extent ? *Colombia (NOT Columbia !)*

b. Switching to New Zealand (NZ), can the two main islands (North and South) fit together inside any Canadian Province - if so, which one(s) ? *Quebec (Ontario –if you flip it ? clever!)*

Probably NWT also but not the question