

101 on Projections and Co-ordinate systems

Co-ordinate System: A reference system that is used to represent the locations of features on a map. There are geographic and projected co-ordinate systems. A projected co-ordinate system is sometimes called a 'map projection'

A **map projection** is a way of showing the surface of the world on a flat surface. Projections are needed to create maps, however they distort the surface in some way. Different projections cause different types of distortions – what this means is that each projection serves a slightly different purpose.

In general, projections are designed to minimize the distortion of one or two of your data's characteristics. Depending on the projection used, the area, shape, direction, and distance of a feature is either preserved or distorted. For example, a projection could maintain the area of a feature but alter its shape.

Geographic co-ordinate systems

Uses Latitude and Longitude to reference a location.

- Longitude runs north-south and has a value range of -180 to +180
- Latitude value runs east – west and has a value of +90 to -90

Projected co-ordinate systems

Uses an X,Y co-ordinate value on a grid to identify a location.

The following projections are widely used in BC Provincial Government:

BC Albers

This is an Equal Area projection that accurately depicts the area of displayed features

Universal Transverse Mercator (UTM)

UTM Co-ordinate system is a grid – it divides the earth into 60 equal zones. In BC, we use Zones 8, 9, 10, and 11. This co-ordinate system provides a constant distance relationship anywhere on your map.

Geographic Projection

This projection allows you to represent any point on the earth's surface accurately.