

4. Coordinates

Geographic Coordinate System

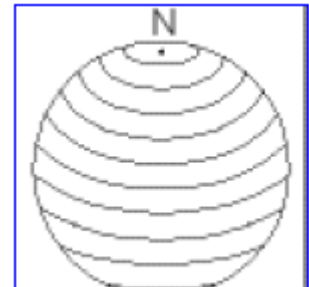
Every location on the Earth is specified in three coordinates – latitude, longitude and altitude.



Latitude

Latitude is the angle from a point on the Earth's surface and the the Equator, measured from the centre of the sphere.

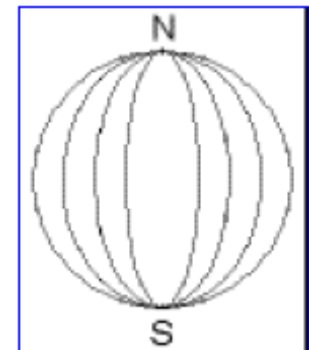
Lines of the same latitude are called **parallels**, which are concentric circles on the surface of the Earth, parallel to the Equator (0°). The North pole is 90° N; the South pole is 90° S. The equator divides the globe into Northern and Southern Hemispheres.



Longitude

Longitude is the angle east or west between the reference meridian (the Prime Meridian) and another meridian. All **meridians** are halves of great circles and are not parallel. They meet at the North and South poles.

A line passing the Royal Observatory, Greenwich (near London in the UK) has been chosen as the international zero-longitude reference line, the **Prime Meridian**. Places to the east are in the Eastern hemisphere (Europe, Asia, Africa), and places to the west are in the Western hemisphere. The opposite meridian of Greenwich is The International Date Line (180°).



Altitude

To completely specify a location on the Earth we also need altitude. It specifies the vertical distance from the Earth's surface (metres above sea level).

Keywords

Coordinates, latitude, longitude, altitude, parallels, Equator, North/South pole, meridians, Prime Meridian, International Date Line