INTRODUCTION:

MAPPING TYPES:
    a) 2D mapping includes:
        Equidistant:
            Under this mapping, the data points of the Earth (the world coordinates) are directly mapped to the screen. This mapping does not preserve the shape, nor the area of the displayed continents.

        Sheared Equidistant:
            The mapping is done in the same way as the *Equidistant* one except that the x-coordinate value is shifted by the value of the latitude. As a result, this mapping does not preserve the shape, nor the area of the displayed continent.

        Distorted (Equidistant):
            The mapping is done in similar way as the *Equidistant* one except that the x-coordinate value is shifted by the sinus (value of the latitude * number of bumps). This mapping does not preserve the shape, nor the area of the displayed continent.

        Mercator:
            Under this mapping, the x-coordinate value is the same as the world one. The y-coordinate is scaled such that poles lie at infinity. This mapping preserves the shape but not the area, especially in polar regions.

        Sinusoidal:

This is done by taking the y-coordinate as the same as the world y-coordinates. The x-coordinate is the world coordinate multiplied by the cosine of the latitude. Shapes are distorted, especially in polar region,   but   areas are shown correctly.

Hammer:
The feature of this mapping is achieved by multiplying the x-world coordinate by cos(latitude) and the y-coordinates are the sinus of the world y-coordinates values. Areas are shown equally.

Grave:
In this mapping, the y-coordinates are the same as the world one. The x-coordinates are scaled such that they converge to zero as the latitude reaches +90 degree. Neither the area nor the shapes are preserved, especially at the poles.

Rhombus:
In this mapping,   y-coordinates are the same as the world one. The x-coordinates are scaled such that they converge to zero as the latitude reaches ±90 degree. Neither the area nor the shapes are preserved, especially at the equator.

Splitting triangles:
The x-coordinates are the same as the world one. The y-coordinates are scaled such that they converge to zero as the latitude reaches 0 degree. Neither the shape nor the area are preserved, especially at the central meridian (the longitude at the center of the map).

Spike:

The x-coordinates are scaled such that they converge to zero as the latitude reaches +90 degree.   The y-coordinates are the same as the world one. Neither the shape nor the area are preserved, especially at the polar region.

In this kind of mapping only the Central Longitude slider has an effect of the mapping.

b) 3D mapping includes:
   Orthographic:
   This mapping shows perspective projection from infinity. It does not   preserve shape nor the area of regions near the edge of the sphere.

In this kind of mapping can be controlled by the Central longitude slider or   by the Central Latitude slider.