

## **CONIC PROJECTIONS**

Conic Equidistant Projection

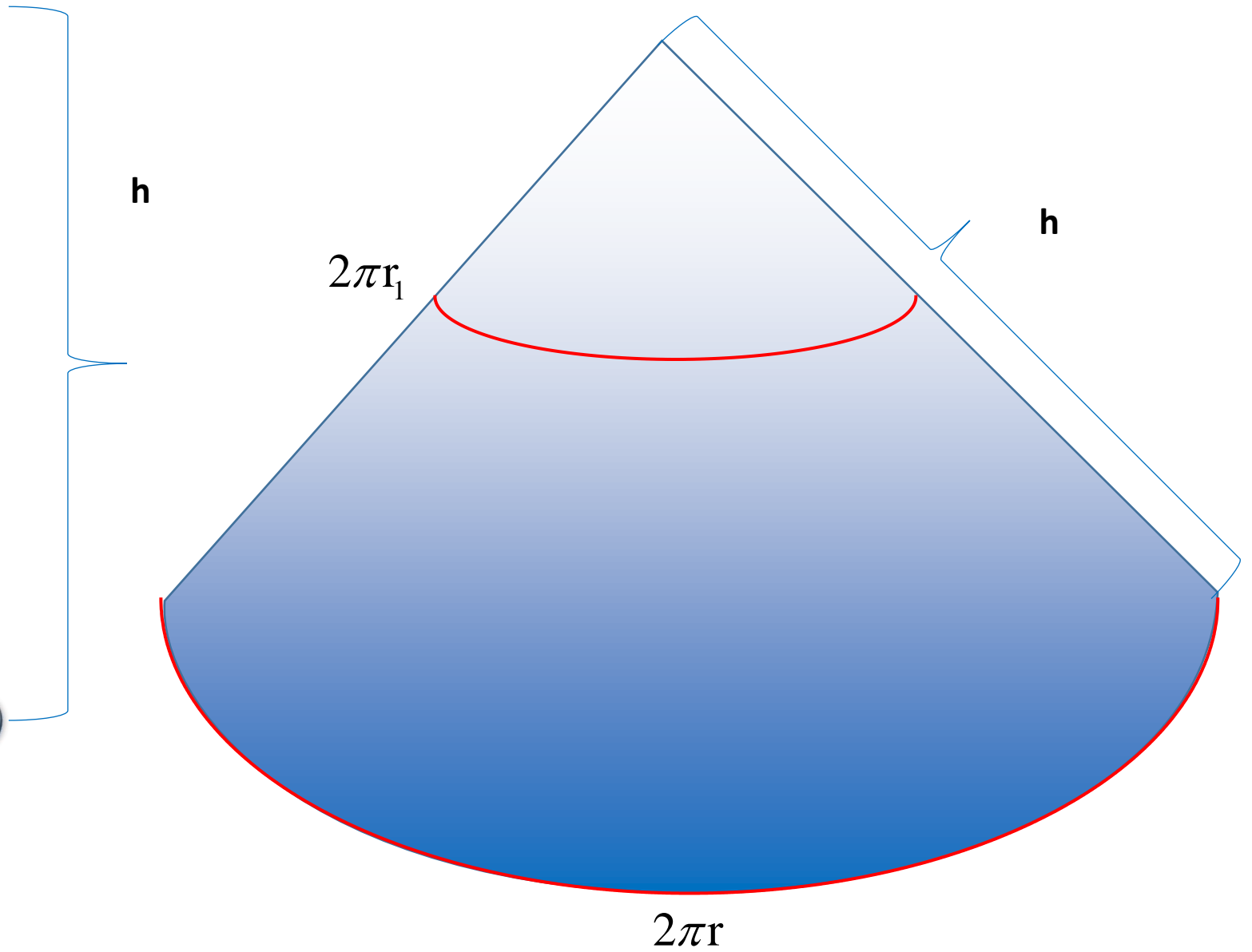
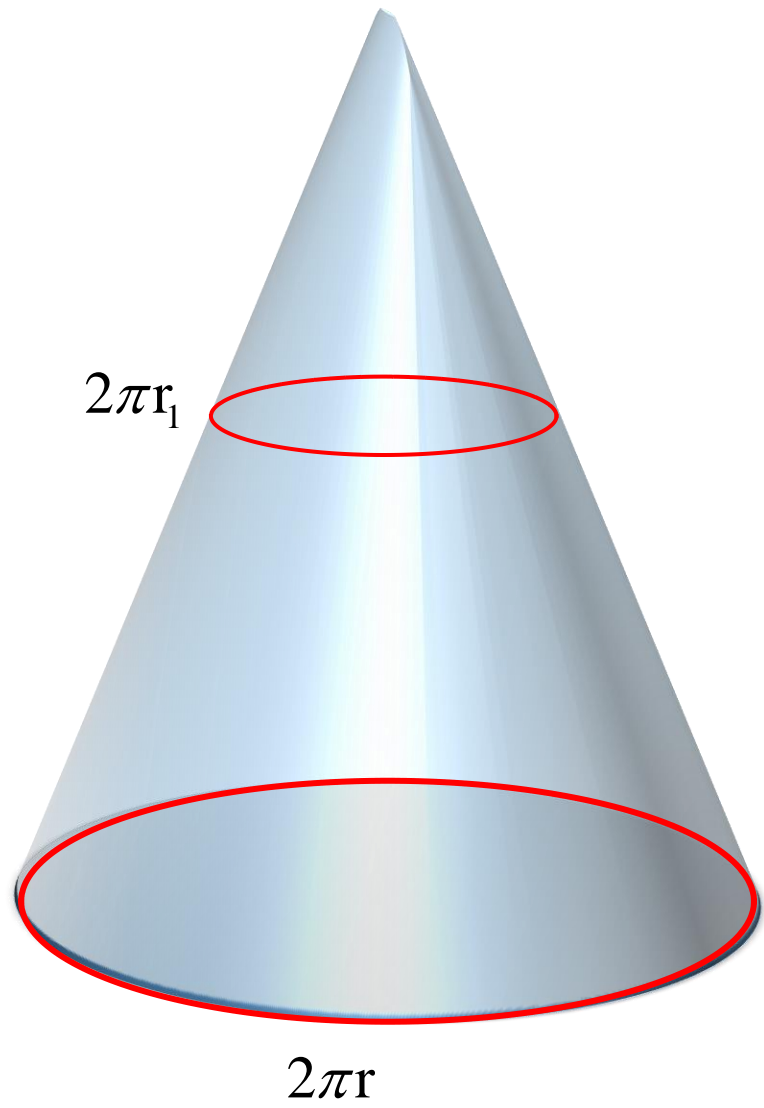
de Lisle's Projection

Bonne Projection

Albers Projection

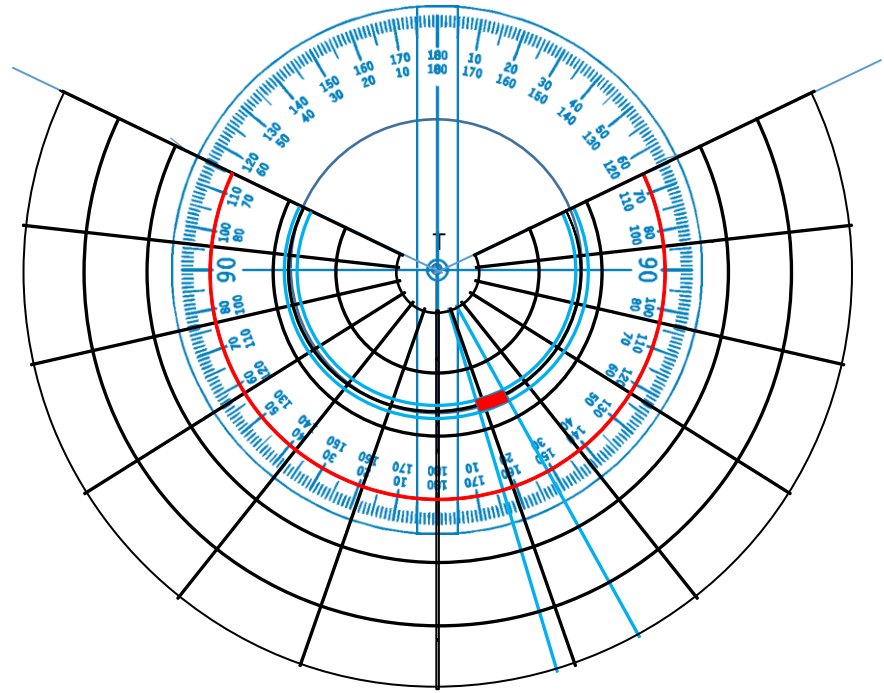
Lambert Equal Area Projection

Lambert Conic Conformal Projection



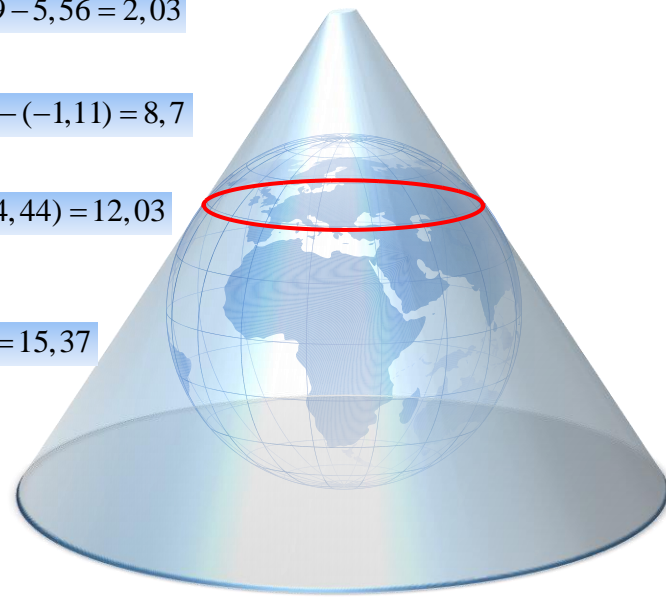
# Conic Equidistant Projection

Drawing of the graticule (grid network) of the Conic Equidistant projection at a scale of 1/100,000,000 (Interval: 30 degree) and showing the location of Turkey.



Logic

Tangent along a standard parallel.  
Maintain along the meridians.



$$2\pi TSP = 2 * 3,14 * 7,59 = 47,67$$

$$2\pi r_{40} = 2 * 3,14 * (\cos 40 * 6,37) = 30,64$$

$$\frac{231,43}{12} = 19,29$$

$$\varphi_{K60} = \frac{2\pi R(60^2 - 40^2)}{360} = \frac{2 * 3,14 * 6,37 * 20}{360} = 2,22$$

$$7,59 - 2,22 = 5,37$$

$$\varphi_{K90} = \frac{2\pi R(90 - 40)}{360} = \frac{2 * 3,14 * 6,37 * 50}{360} = 5,56$$

$$7,59 - 5,56 = 2,03$$

$$\varphi_{K30} = \frac{2\pi R(30 - 40)}{360} = \frac{2 * 3,14 * 6,37 * -10}{360} = -1,11$$

$$7,59 - (-1,11) = 8,7$$

$$\varphi_E = \frac{2\pi R(0 - 40)}{360} = \frac{2 * 3,14 * 6,37 * -40}{360} = -4,44$$

$$7,59 - (-4,44) = 12,03$$

$$\varphi_{G30} = \frac{2\pi R(30 + 40)}{360} = \frac{2 * 3,14 * 6,37 * 70}{360} = 7,78$$

$$7,59 + 7,78 = 15,37$$

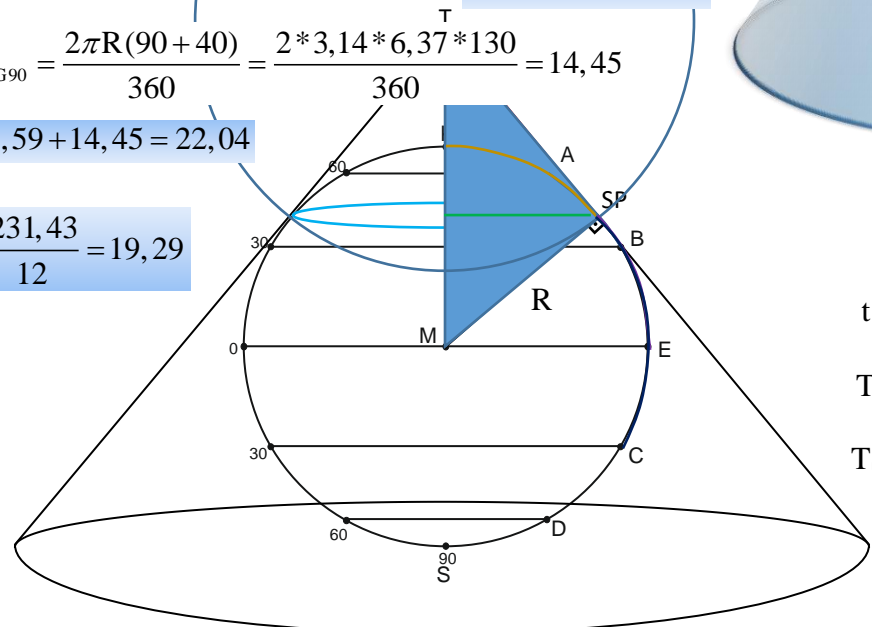
$$\varphi_{G60} = \frac{2\pi R(60 + 40)}{360} = \frac{2 * 3,14 * 6,37 * 100}{360} = 11,11$$

$$7,59 + 11,11 = 18,7$$

$$\varphi_{G90} = \frac{2\pi R(90 + 40)}{360} = \frac{2 * 3,14 * 6,37 * 130}{360} = 14,45$$

$$7,59 + 14,45 = 22,04$$

$$\frac{231,43}{12} = 19,29$$

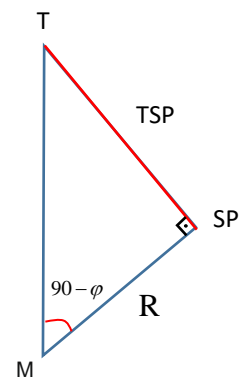


$$tg 90 - \varphi = \frac{\text{opp}}{\text{hyp}}$$

$$tg 90 - \varphi = \frac{TSP}{R}$$

$$TSP = tg(90 - \varphi) * R$$

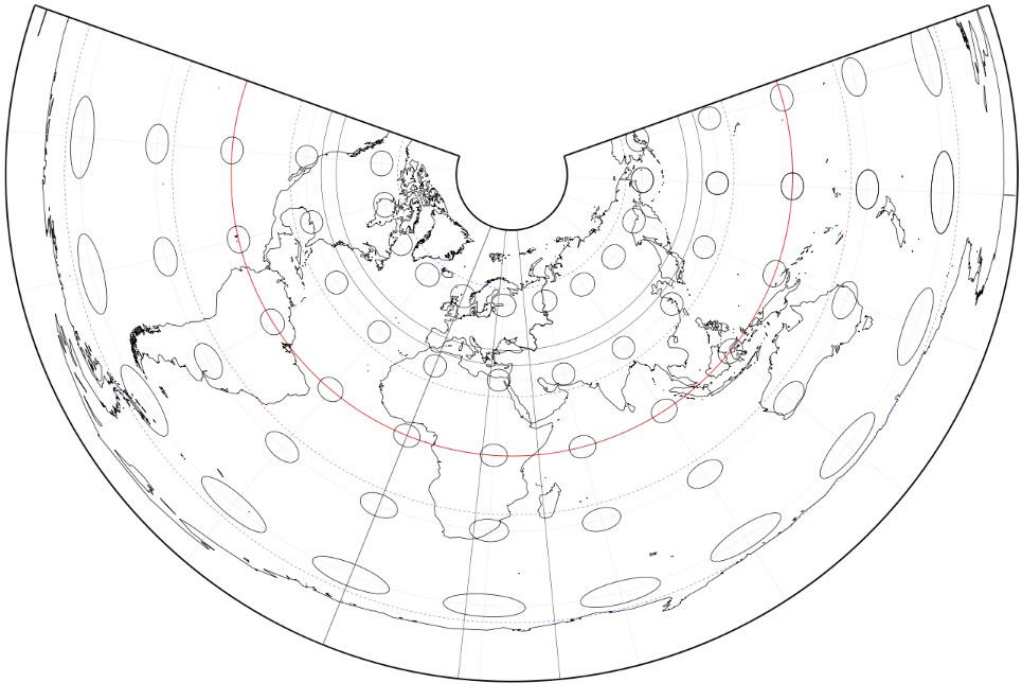
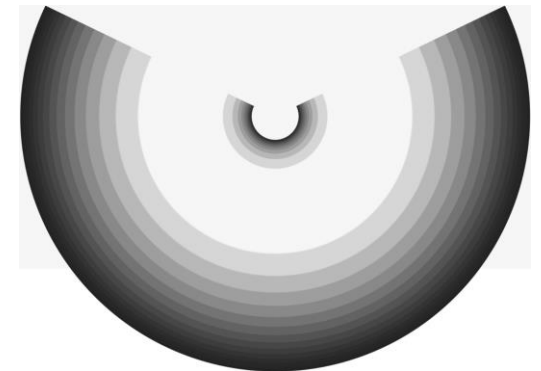
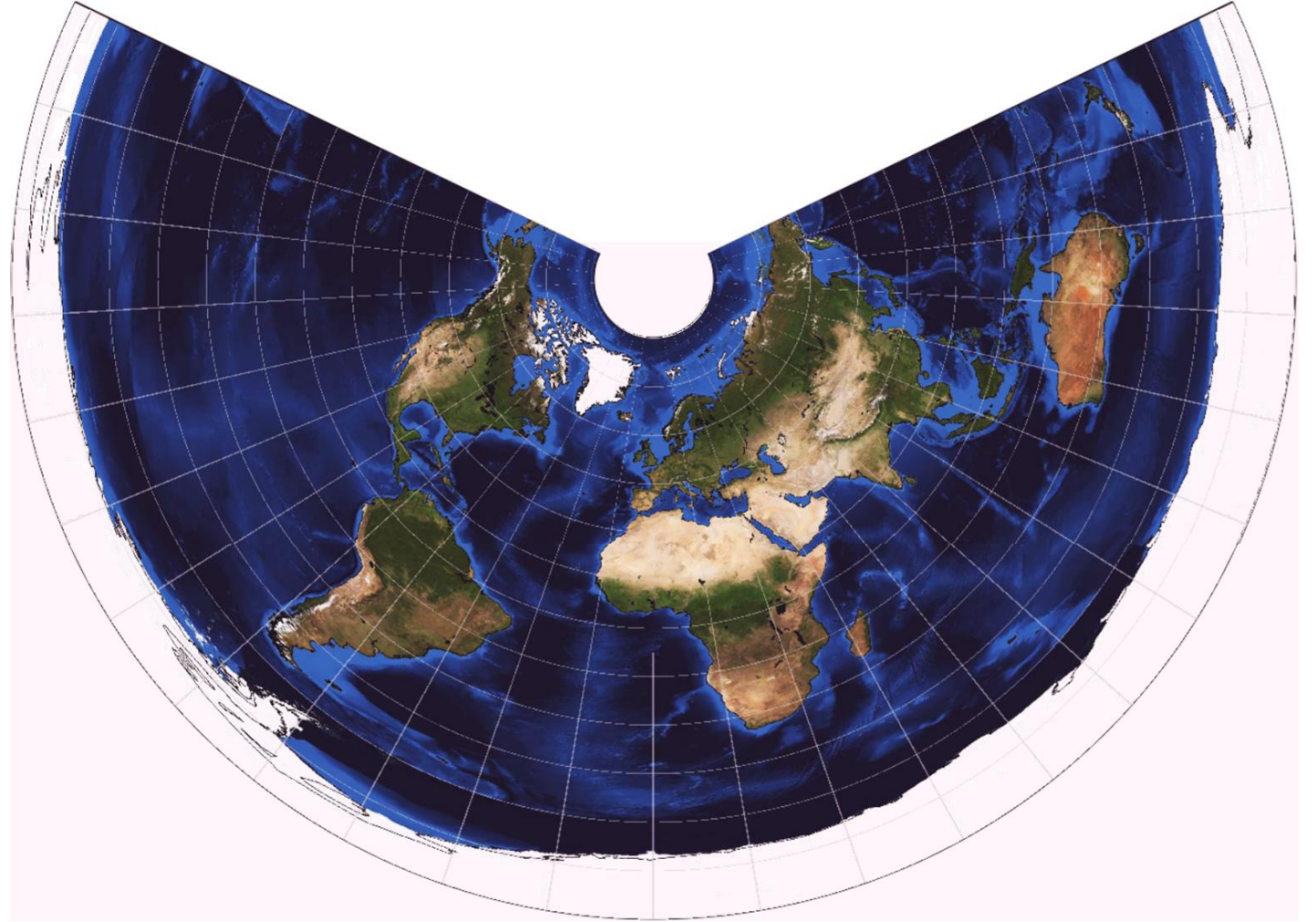
$$TSP = 1,192 * 6,37 = 7,59$$



0 2000 km

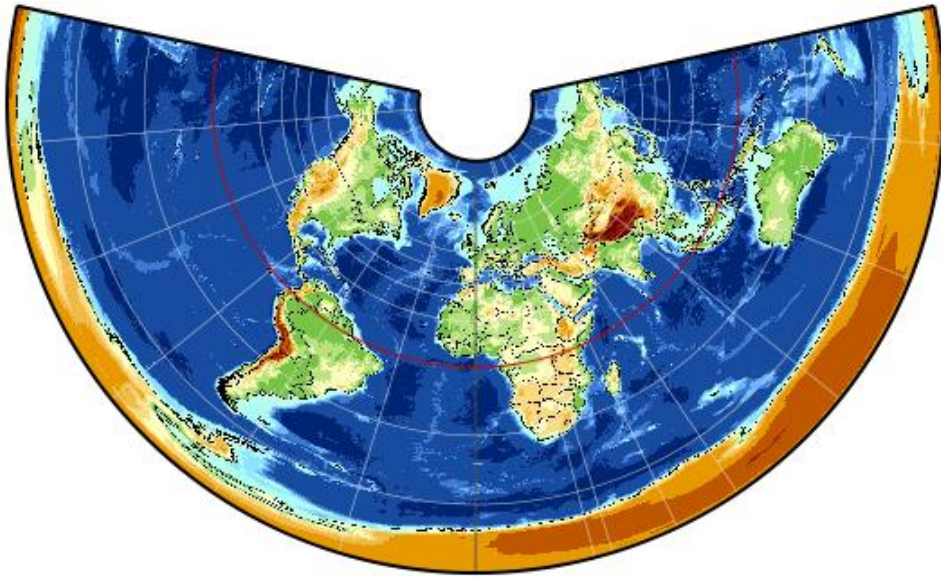
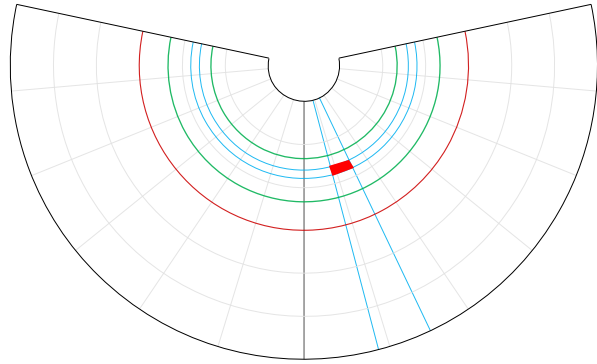
## Features of Projection

- Entire world.
- Maintains length along meridians.
- Parallels are circular arcs.
- The parallels spaces are equal.
- Meridians are radial.
- Meridian spaces are equal on any parallels.
- Distortion rate is low at the standard parallel.
- Distortion rates increase move away from the standard parallel.



# de Lisle's Projection

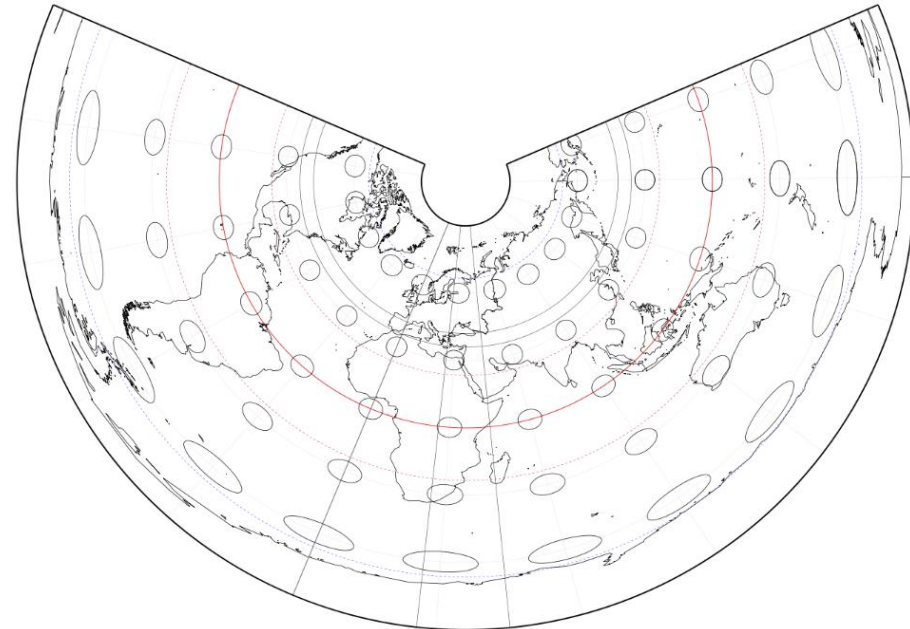
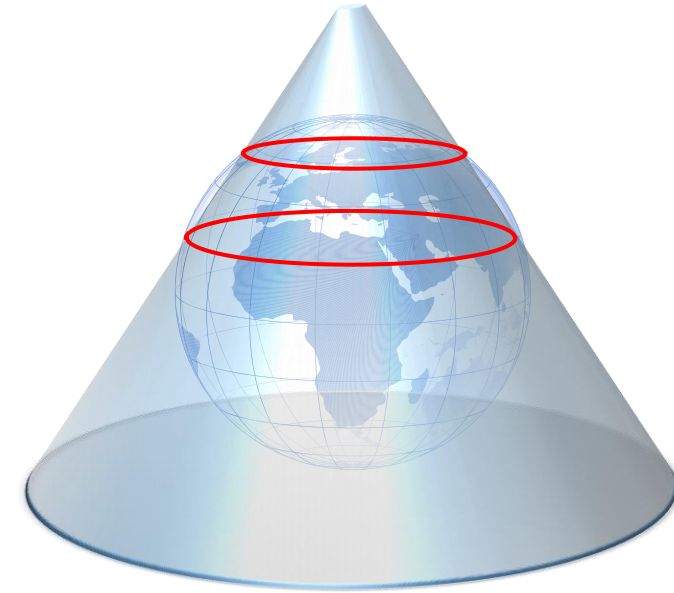
Drawing of the graticule (grid network) of de Lisle's projection at a scale of 1/100,000,000 (Interval: 30 degree) and showing the location of Turkey. (SP40).



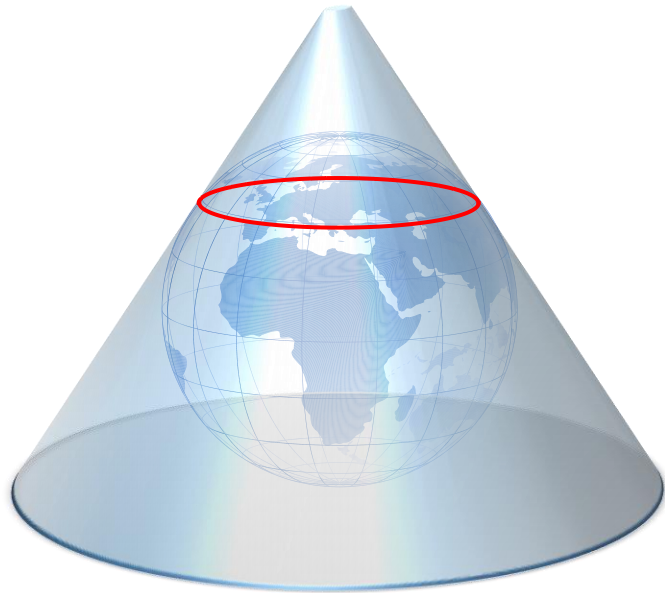
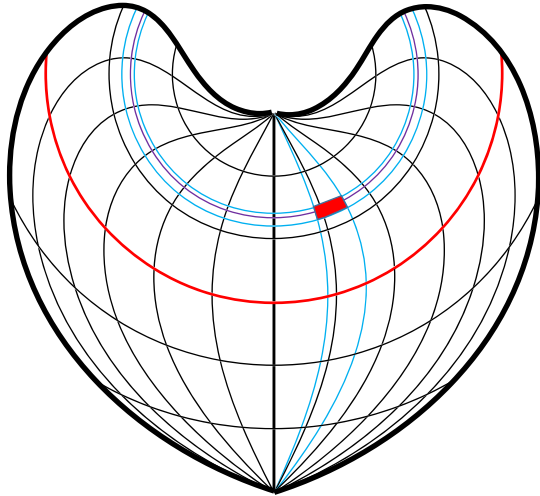
0 2000 km

## Logic

Cones are tangent at two standard parallels.  
Maintain length along meridians.



Drawing of the graticule (grid network) of the Bonne projection at a scale of 1/100,000,000 (Interval: 30 degree) and showing the location of Turkey.



0 2000 km

## Features of Projection

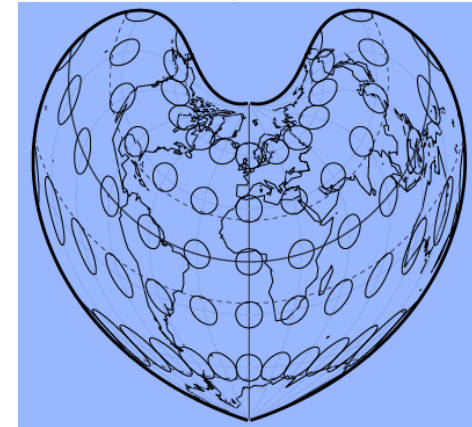
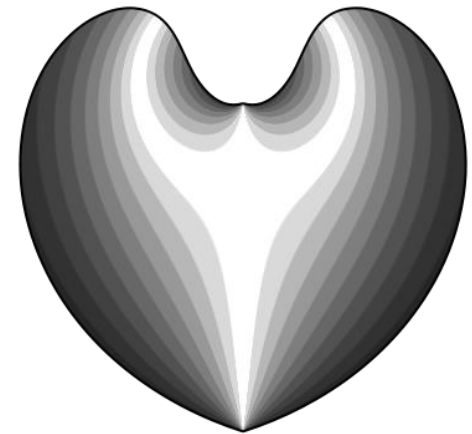
- Entire world.
- **Equal area.**
- Its parallels are circular arcs.
- The parallel spaces are equal.
- **Maintain length along the parallels.**
- Central meridian is straight line, other meridians are elliptical arcs.
- Meridian spaces are equal on any parallel.
- **Distortion rate is low at the standard parallel.**
- Distortion rates increase move away from the central meridian and the standard parallel.



## Bonne Projection

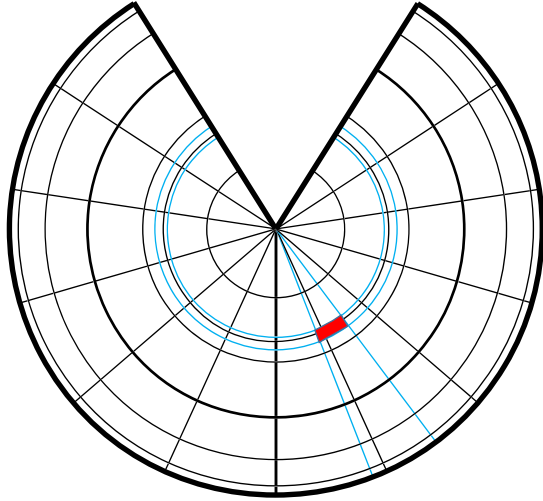
Logic

Tangent along a standard parallel.  
Maintain length along the parallels.

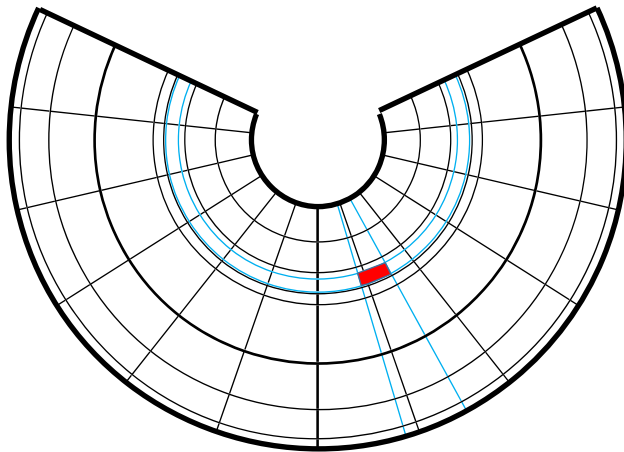


# Lambert and Albers Equal Area Projections

Drawing of the graticule (grid network) of the Lambert Equal Area Conic projection at a scale of 1/100,000,000 (Interval: 30 degree) and showing the location of Turkey. (SP40).



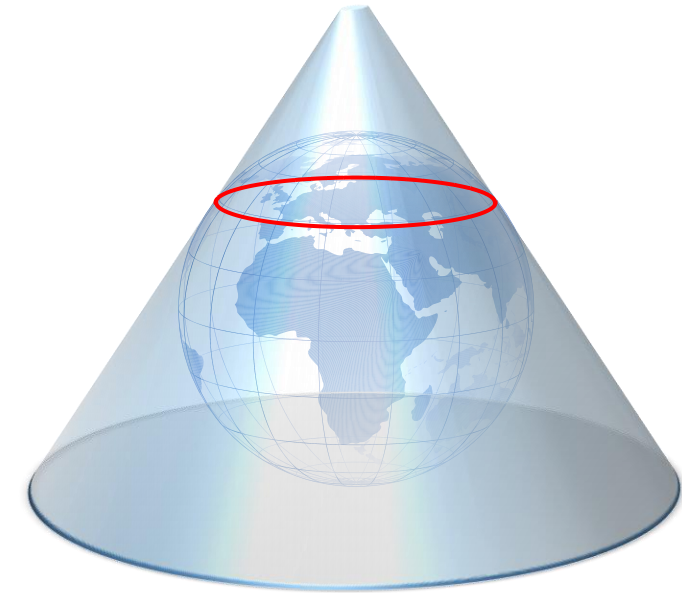
Drawing of the graticule (grid network) of the Albers projection at a scale of 1/100,000,000 (Interval: 30 degree) and showing the location of Turkey. (SP 35, 45)



0 2000 km

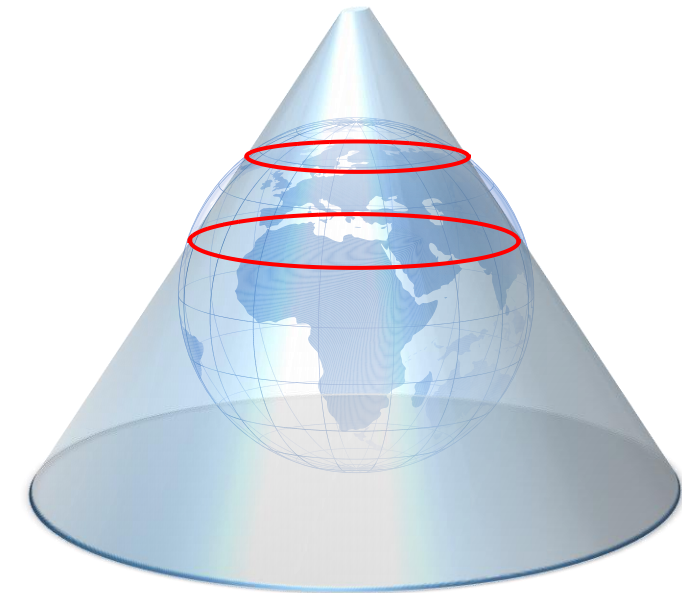
Logic

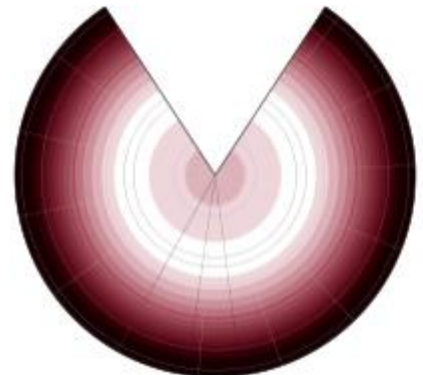
Cone is tangent on along a parallel.  
Equal area.



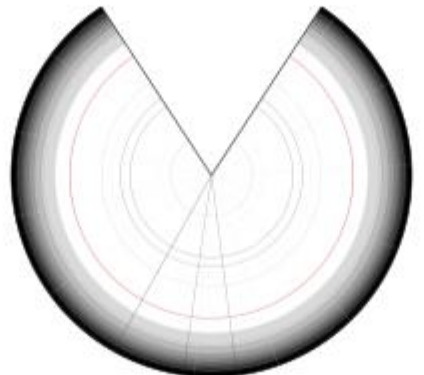
Logic

Cone is intersected at two standard parallels.  
Equal area.





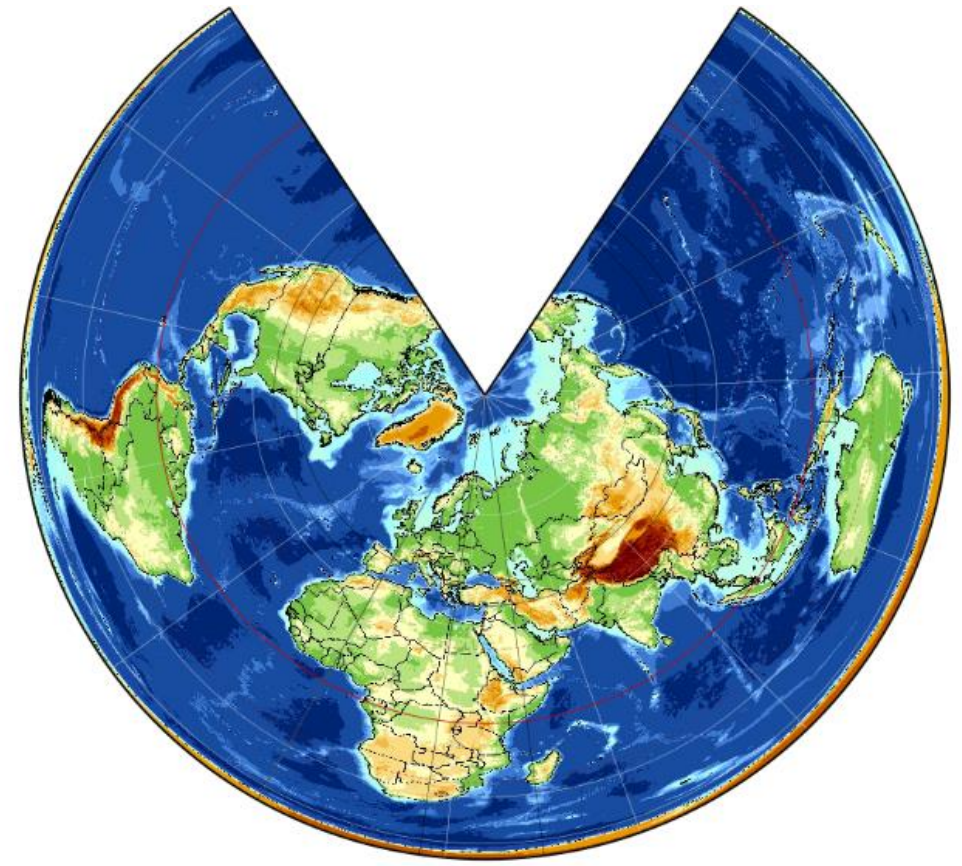
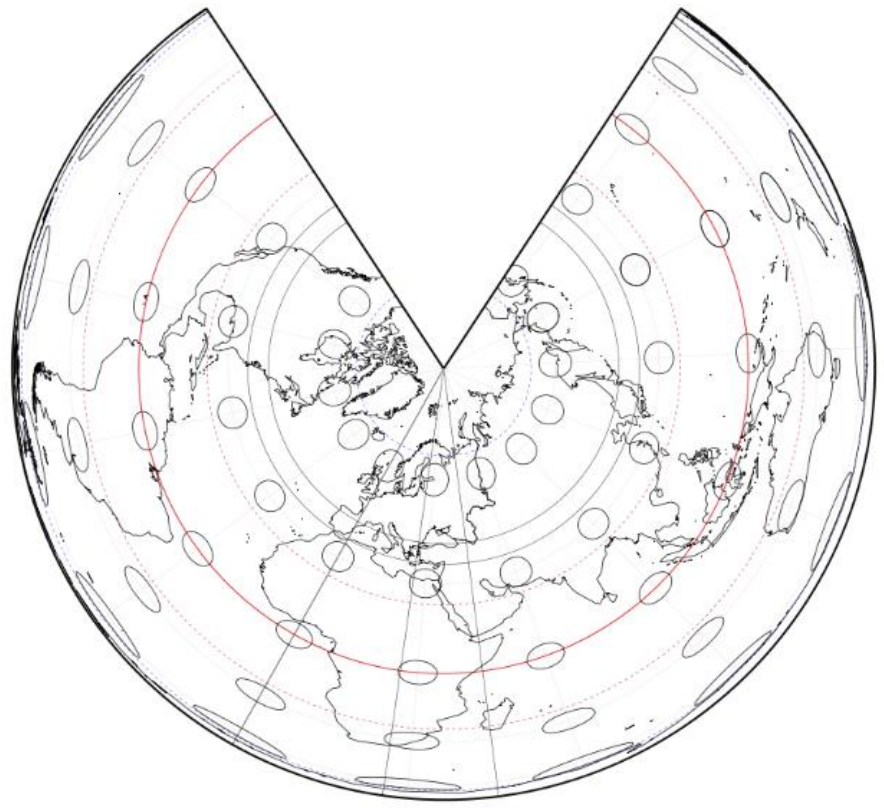
Angle



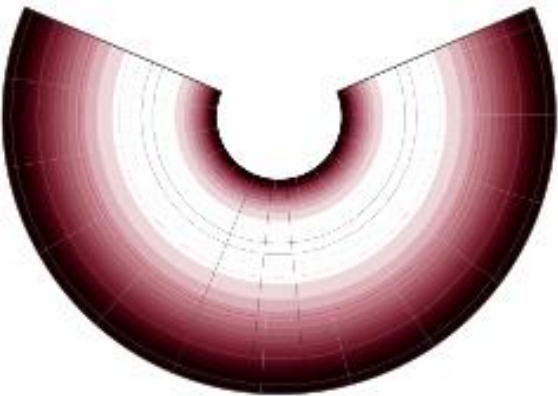
Distance



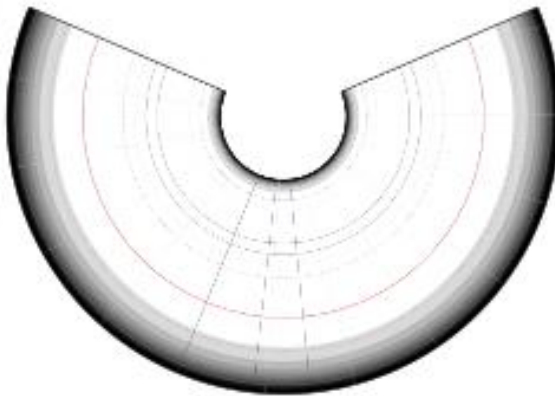
Area



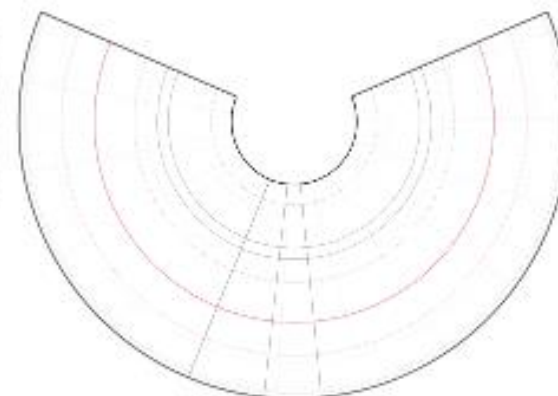




Angle



Distance



Area

