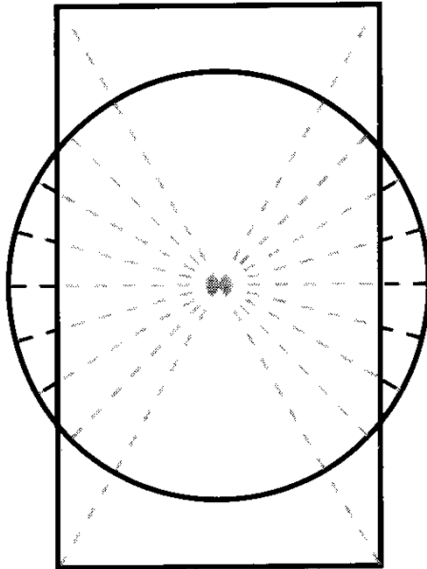


Mercator projection

Mercator



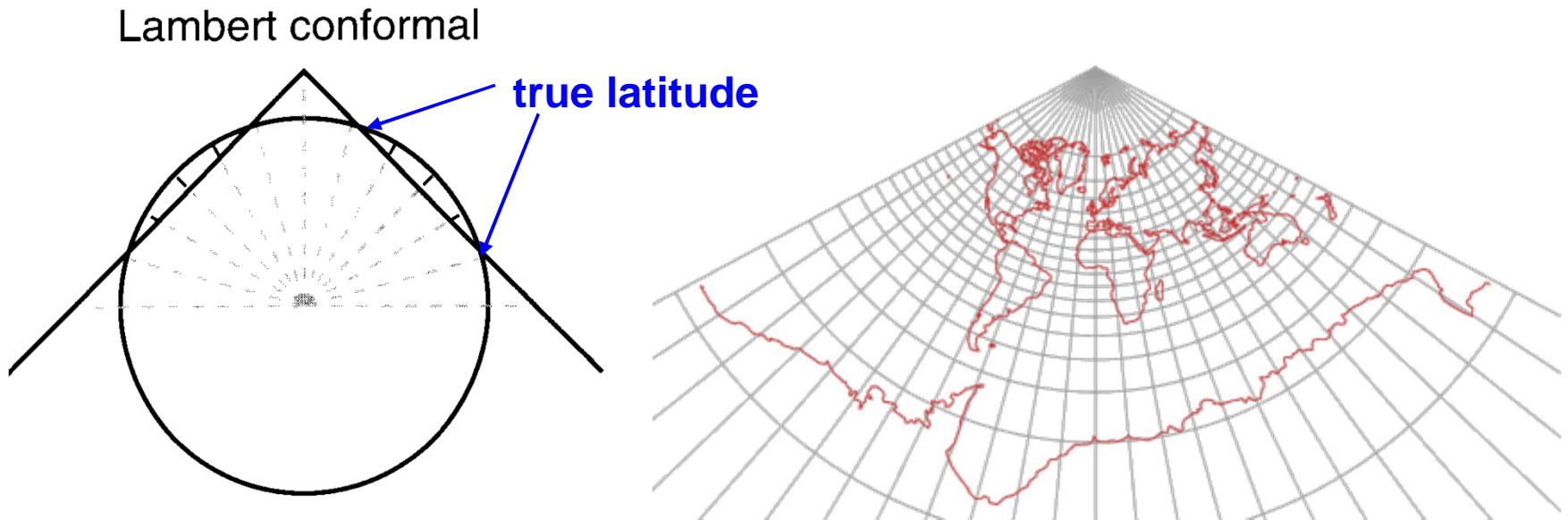
This is a **secant** projection.

If the cylinder touches at the equator, it is a **tangent** projection.



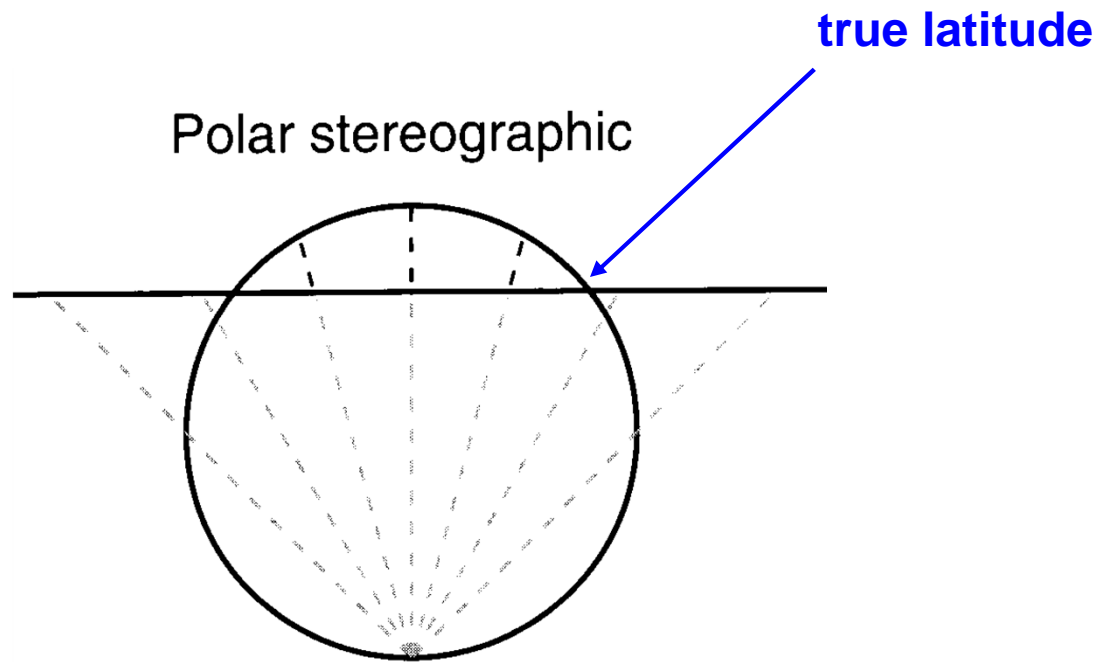
from Warner (2011) and wolfram.com

Lambert conformal conic projection



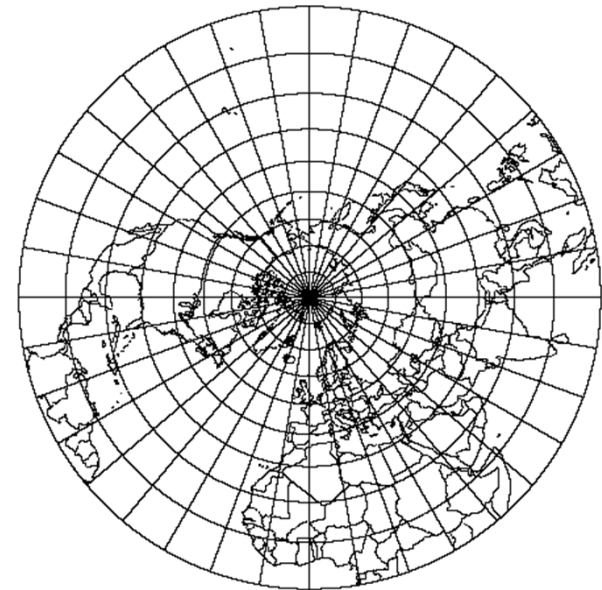
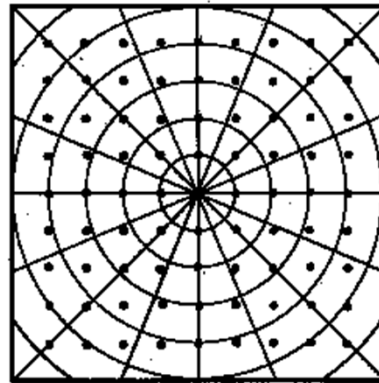
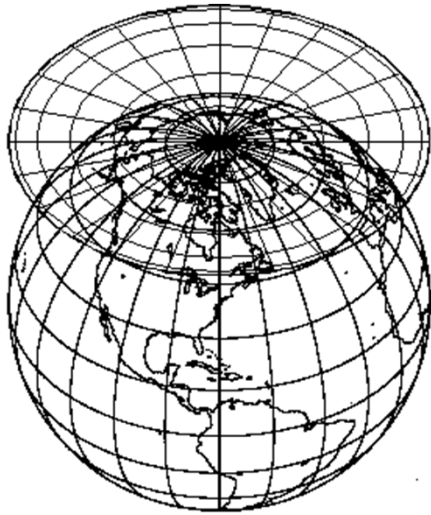
May have either one or two true latitudes.

Polar stereographic projection



from Warner (2011)

Polar stereographic projection



plane tangent to
sphere at pole or
"cutting" through
sphere at a given
latitude

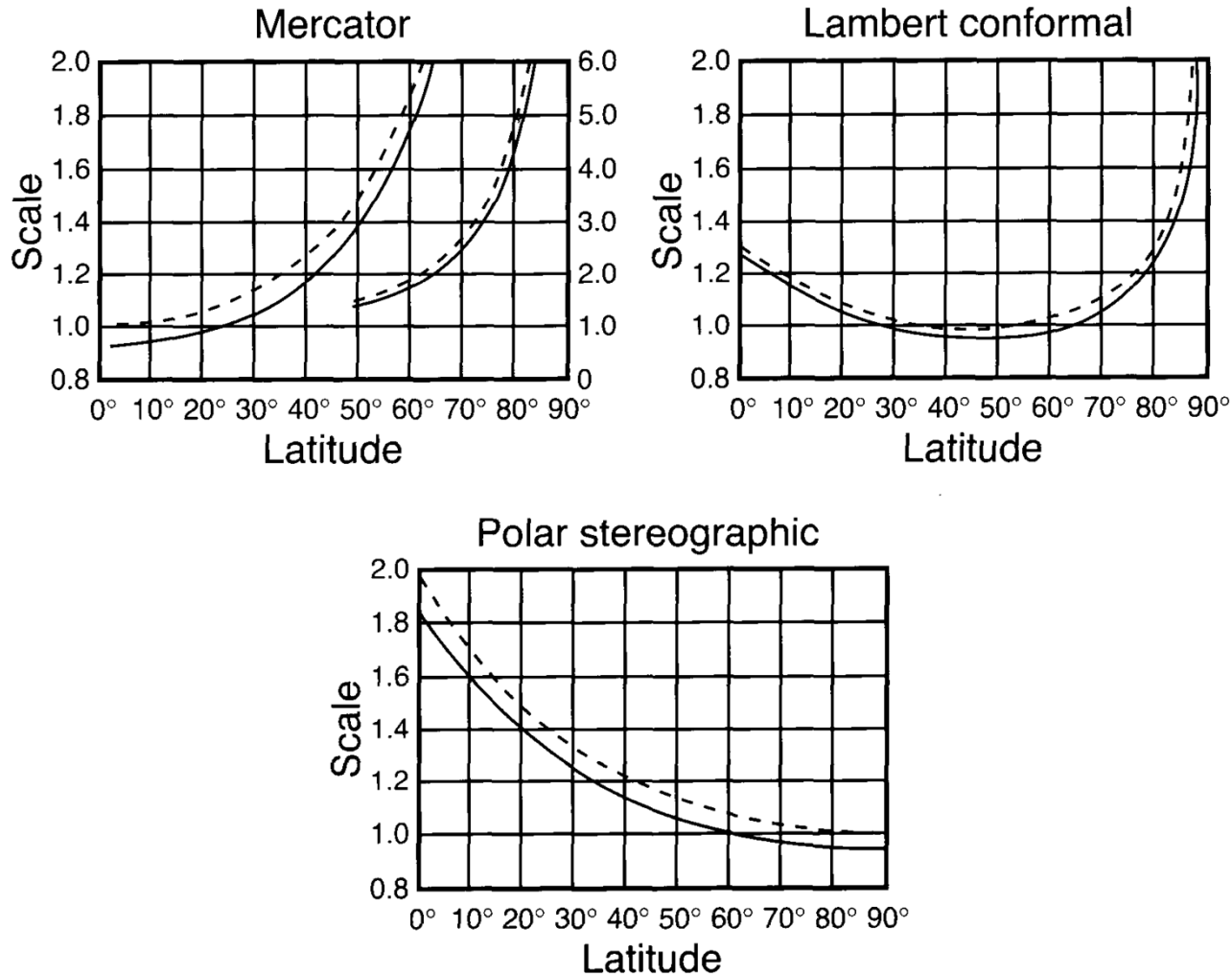


projection onto plane



grid points are farther
apart away from the pole

Map (scale) factors for Mercator, Lambert, and Polar Stereographic



Map projections for limited-area models

- Prof. Gutowski and some of his students are working on development of a Regional Arctic System Model. What map projection do you suggest they use? Explain.
- I am doing simulations for Central America and the northern half of South America. What map projection do you suggest that I use? Explain.
- Taleena is doing simulations over the continental U.S. with some nearby parts of Canada and Mexico. What projection do you recommend for her? Explain.