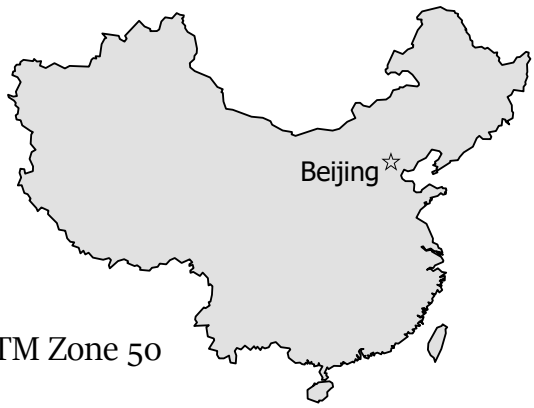
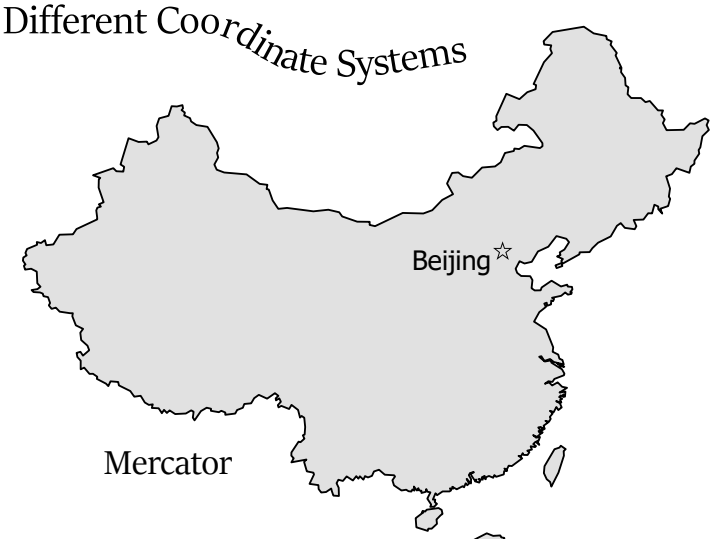
CHINA in Six Different Coordinate Systems



UTM Zone 50



Mercator

WGS 1984

Albers Equal Area Conic

Lambert Conormal Conic

Equidistant Conic

Certain coordinate systems (CS's) preserve certain characteristics and distort others. Depending on the map use and regional focus, certain map CS's are more advantageous over others. Conformal CS's shape is conserved, for equal-area CS's area is conserved, for equidistant CS's distance between any two points is conserved, and for azimuthal CS's directions from a single point is conserved. For example, Lambert Conformal Conic (LCC) preserves local angles and E/W adn N/S scales are preserved. Equidistant Conic (EC) is very similar to LCC, as they both share the conic projecticion, however for LCC, there is constant distortion along the parallel, where with EC there is no distortion along parallels, one preserving shape (LCC) and one preserving distance (EC). Albert Equal Area (AEA) preserves area, but the result is distortion in shape, direction, and angles (especially further from standard parallel). Mercator local angles are preserved and shape is is not too distorted, however area is distorted at points further from equator.

N

0 500 1,000 2,000 3,000
Miles

Source: ESRI, Natural Earth
February 2019 Mike Malone