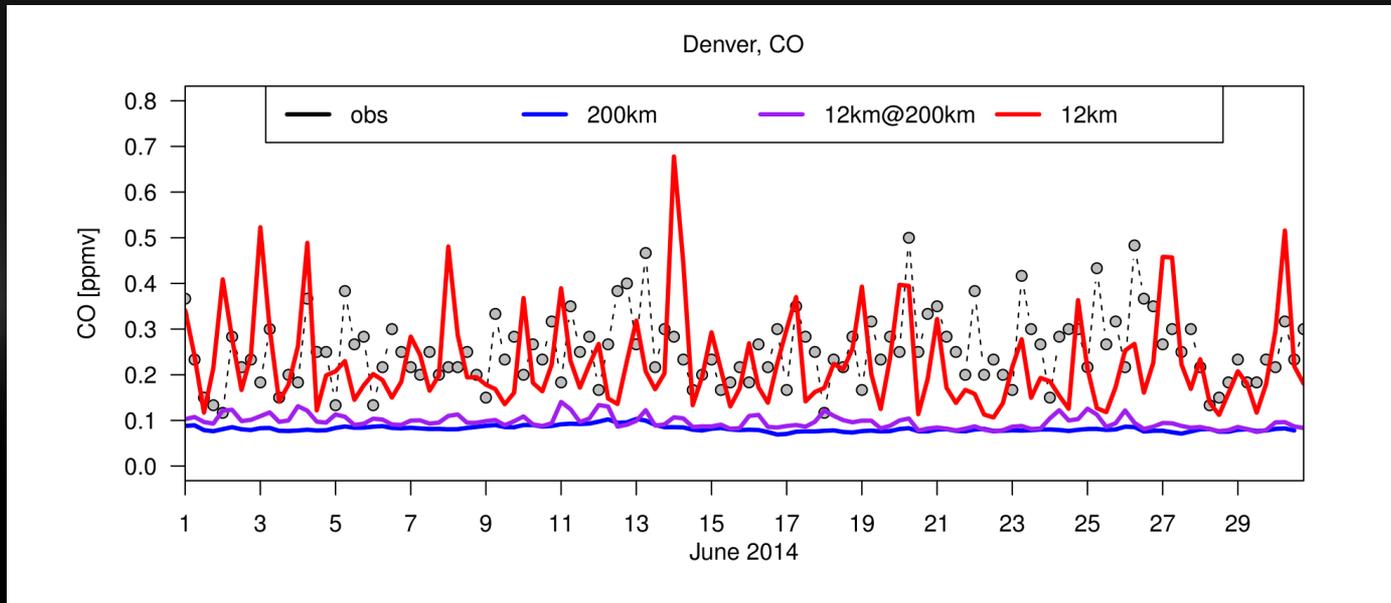


# High-Resolution Global Modeling of Atmospheric Chemical Composition



GMAO's high-resolution model (*red line*) does a significantly better job reproducing the variability of carbon monoxide at Denver, Colorado, seen in measurements than a broadly used coarser-resolution model (*blue line*). When running the model at coarser resolutions, the Denver grid box is large and overlaps with low-pollution areas outside the city (including parts of the Rocky Mountains). The coarser model sees the average of the low and high-pollution areas, blurring out the details and causing the model to under-predict carbon monoxide concentrations (*purple line*).