GMI Chemical Mechanism and its Applications in the Goddard Earth Observing System (GEOS) Earth System Model

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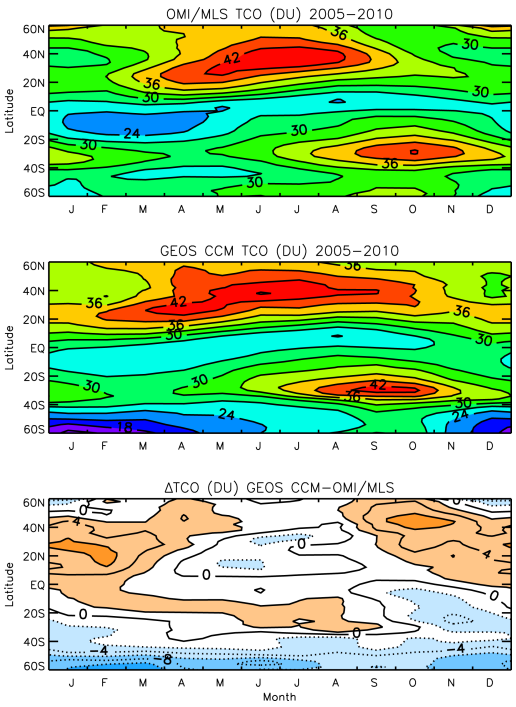
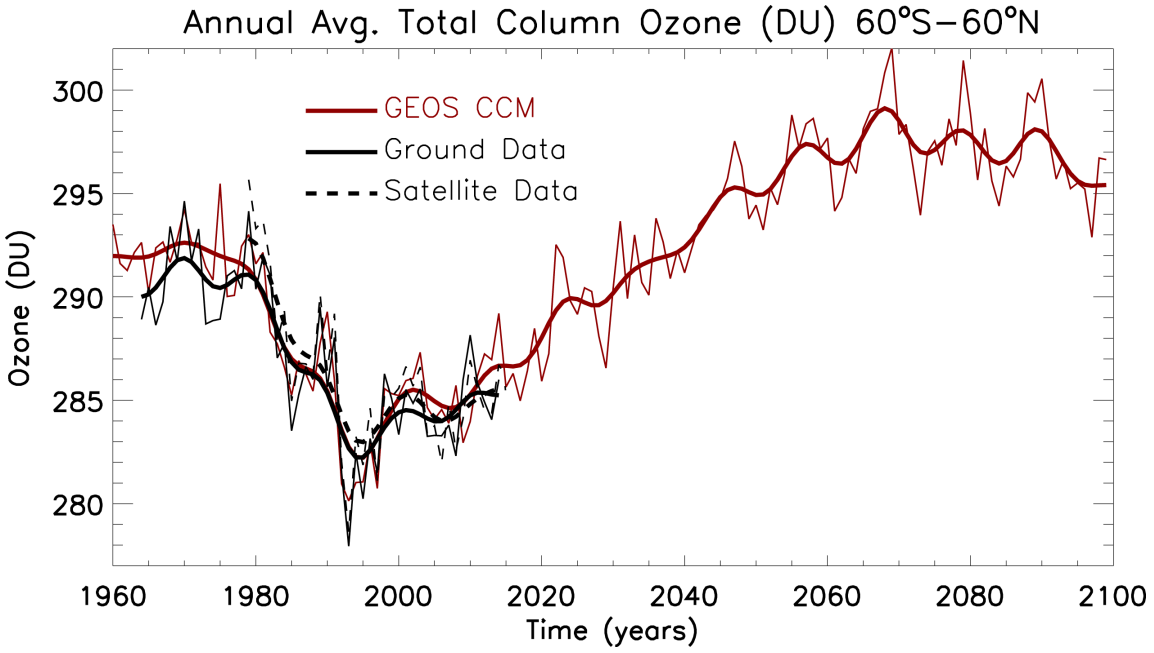
[1]Code 614 (ACDL), [2]Code 610.1 (GMAO), NASA/GSFC





Above are two examples of GEOS coupled to the Global Modeling Initiative (GMI) chemical mechanism from simulations done for the Chemistry-Climate Modeling Initiative (CCMI) and the 2018 World Meteorological Organization's (WMO) quadrennial Scientific Assessment of Ozone Depletion. On the left is a comparison of the seasonal cycle in tropospheric column ozone with observations derived from OMI/MLS measurements of the recent past. On the right is the quasi-global annual average total column ozone from 1960-2100 in GEOS CCM comparing well to satellite and ground-based observations.

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