

Transport tracer for AeroCom III model experiments

Transport tracer:

- CO with a 50-day lifetime (exponential decay rate = $2.315 \times 10^{-7} \text{ s}^{-1}$) and prescribed same sources for all simulated years.
- Prescribed sources:
 - CO from anthropogenic emissions: CMIP6, 2010.
 - CO from biomass burning emissions: CMIP6, 2010.
 - CO from CH₄ oxidation: assuming a fixed CH₄ concentration at 1760 ppbv, CH₄ lifetime of 8.5 years (exponential decay rate = $3.73 \times 10^{-9} \text{ s}^{-1}$) to form CO with a CO molar yield of 0.86.
 - CO from anthropogenic NMVOC oxidation: total anthropogenic NMVOC emission from CMIP6 2010 (aVOC) with fixed decay lifetime of 1 week (exponential decay rate = $1.65 \times 10^{-6} \text{ s}^{-1}$) to form CO and a CO molar yield of 0.70.
 - CO from biogenic NMVOC oxidation: total biogenic NMVOC emission (bVOC) will be provided that shares similarity with isoprene emission. bVOC has a fixed decay time of 1 day (exponential decay rate = $1.157 \times 10^{-5} \text{ s}^{-1}$) to form CO with a molar yield of 0.40.