WRF-GC Model (v2.0, two-way)

WRF-GC input
Including meteorological and chemical initial/boundary conditions and emissions input files

WRF time step loop

WRF grid
Dynamics
Physics

WRF-to-Chemistry Interface
Chemistry initialization and time-stepping

WRF-GC Chemistry Component
In distributed memory

WRF-GC output
Diagnostics and output

(a)

(b)

Speciated bulk aerosol mass concentrations

Aerosol number and mass concentrations in 4 size bins for each composition

Cloud droplet number, CCN number concentrations at 6 supersaturation ratios

Surface downward sw/lw flux, surface sw direct/diffuse irradiance, cloud optical depth

Cloud water, cloud ice, rain, snow, graupel, and hail mixing ratio, cloud droplet number