Coupling GEOS-Chem with WRF: Model Structure & Preliminary Results

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• On-line, two-way coupling of GEOS-Chem with the WRF (Weather Research and Forecasting) Model

• Minimal changes to either model, making independent upgrades possible

• Meteorology-Chemistry interactions at a wide range of resolutions in both forecast and hindcast mode

**WRF-GC Model**
Unified Compilation, Configuration and Output

- **WRF Model**: Conversion Routines, Domain Parallelization & Timesteps
- **Isolated Coupler**: WRF-GCHP Chemistry Driver
- **GCHP State Data**: Distributed Memory Pool, Managed by State Conversion Module
- **WRF grid Data**: Columnized GCHP State Variables
- **GC Column Code**: Compatible with GCHP
- **GEOS-Chem Model**: On-line, two-way coupling of GEOS-Chem with the WRF (Weather Research and Forecasting) Model

### Model Configurations

- **81x81km**
- **27x27km**