CCMI Branch

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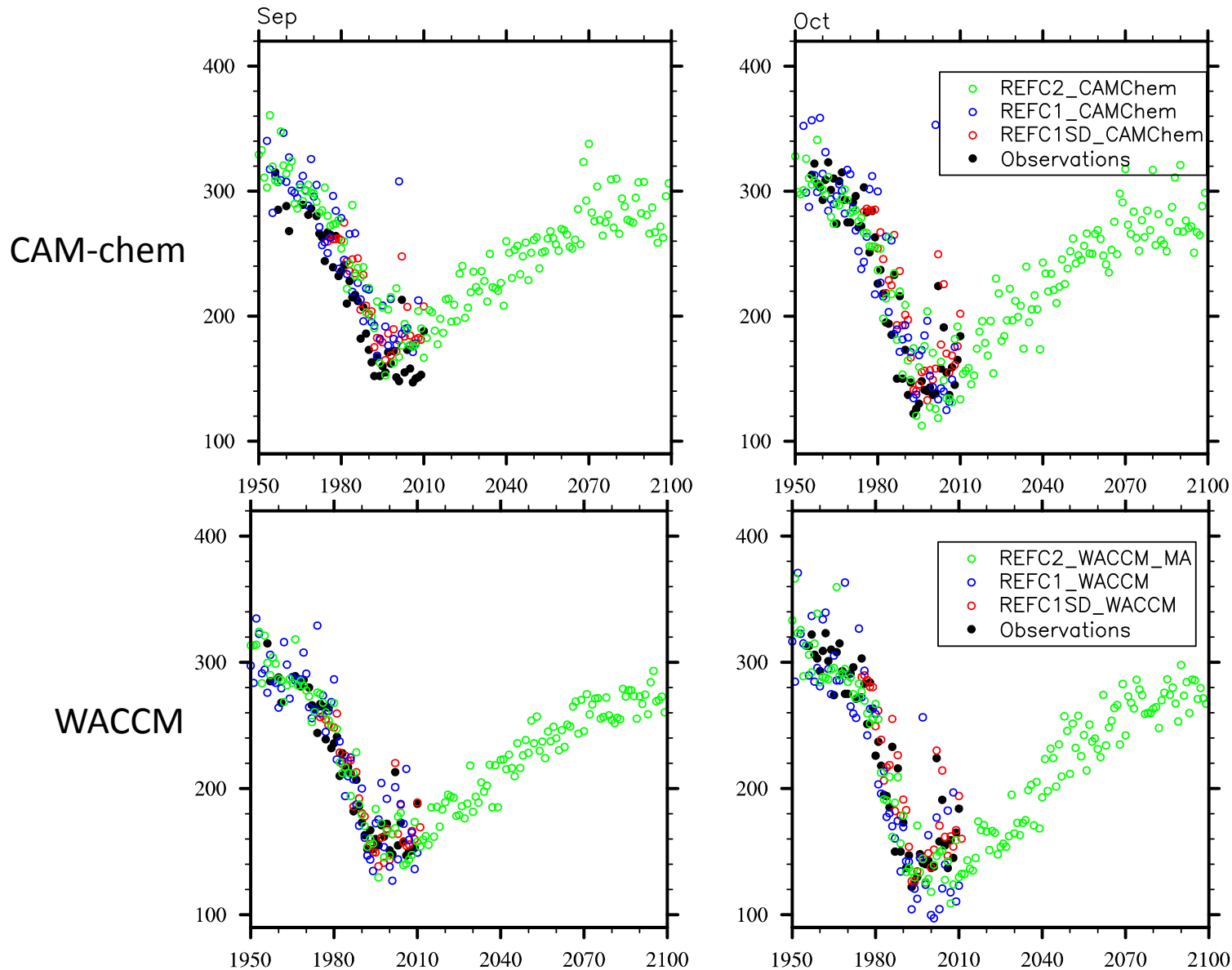
What is CCMI?

- Chemistry-Climate Model Initiative
- 3 initial sets of simulations
  - REF-C1 ⎤
  - REF-C1-SD ⎦ 1960-2010
  - REF-C2: 1960-2100, with interactive ocean
- 3 members for each (CAM-chem and WACCM)
- 2-degree simulations (also planned 0.5-degree SD 1990-2010)
- CAM4 physics

CCMI branch

- Updated stratospheric heterogeneous chemistry (as in WACCM)
  - ➢ Required implementation and tuning of inertio-gravity and gravity wave drag
- New volcanic aerosol dataset
- Updated LBC file (WMO-2010)
- Additional VSL species ($CHBr_3$ and CH_2Br_2)
- Chemistry updated to JPL-2010
- Review of double-counting in chemical reactions on aerosols
- Extension of tropospheric chemistry to include more SOA precursors
- Explicit relaxation to 0 of BAM aerosols in stratosphere
- MEGAN updated to v2.1
- Update to Neu wetdep to expand mixed-phase range
- Nudged QBO (in REF-C1)
- Expanded output streams (up to 10) and fincl size
- Ability to easily output rates and combinations in fincl
- Additional tracers (25 new tracers)

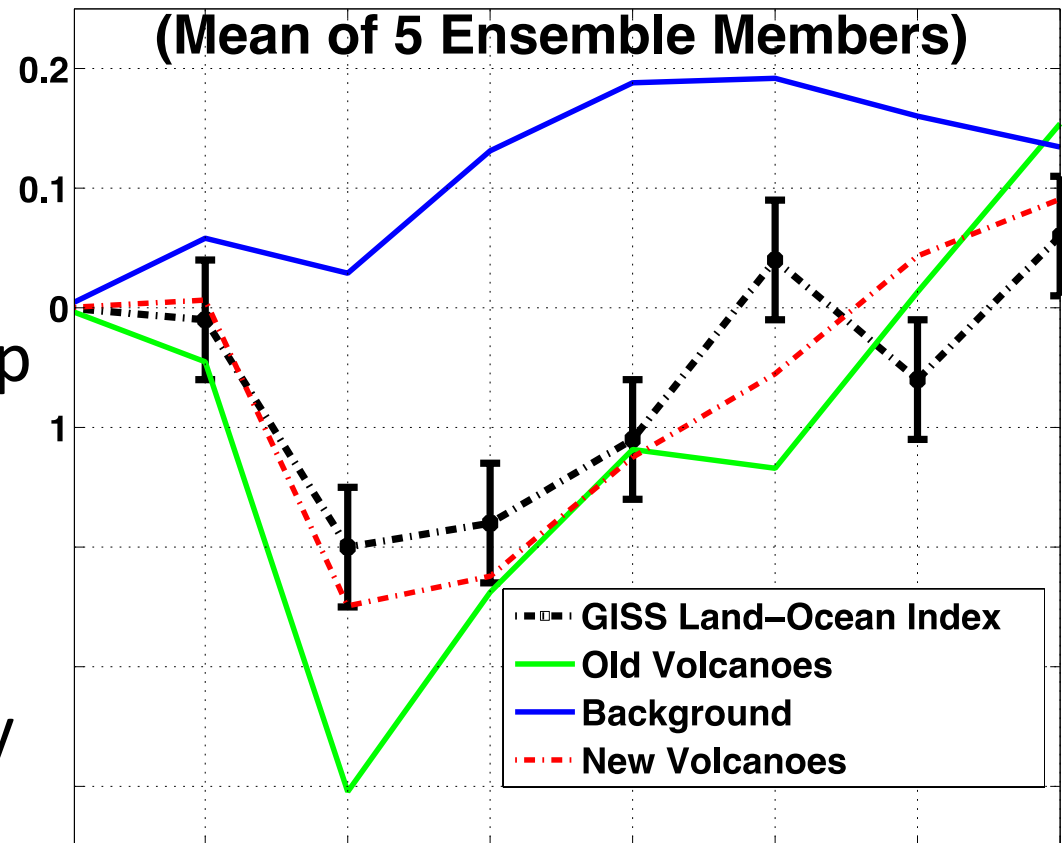# Total ozone column at Halley Bay (69ºS)

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New Stratospheric Aerosol Parameterization: Improved Response to Volcanic Eruptions

- New mass, radius and SAD inputs based on a new reanalysis of observations

- Improved optical lookup tables for CAMRT and RRTMG

- Coherent treatment of radiation and chemistry parameterizations

(Mean of 5 Ensemble Members)

Legend:
- GISS Land–Ocean Index
- Old Volcanoes
- Background
- New Volcanoes

See Ryan Neely's talk tomorrow for more information.

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