



Science & Technology  
Facilities Council

# CF Standard Names and CMIP5

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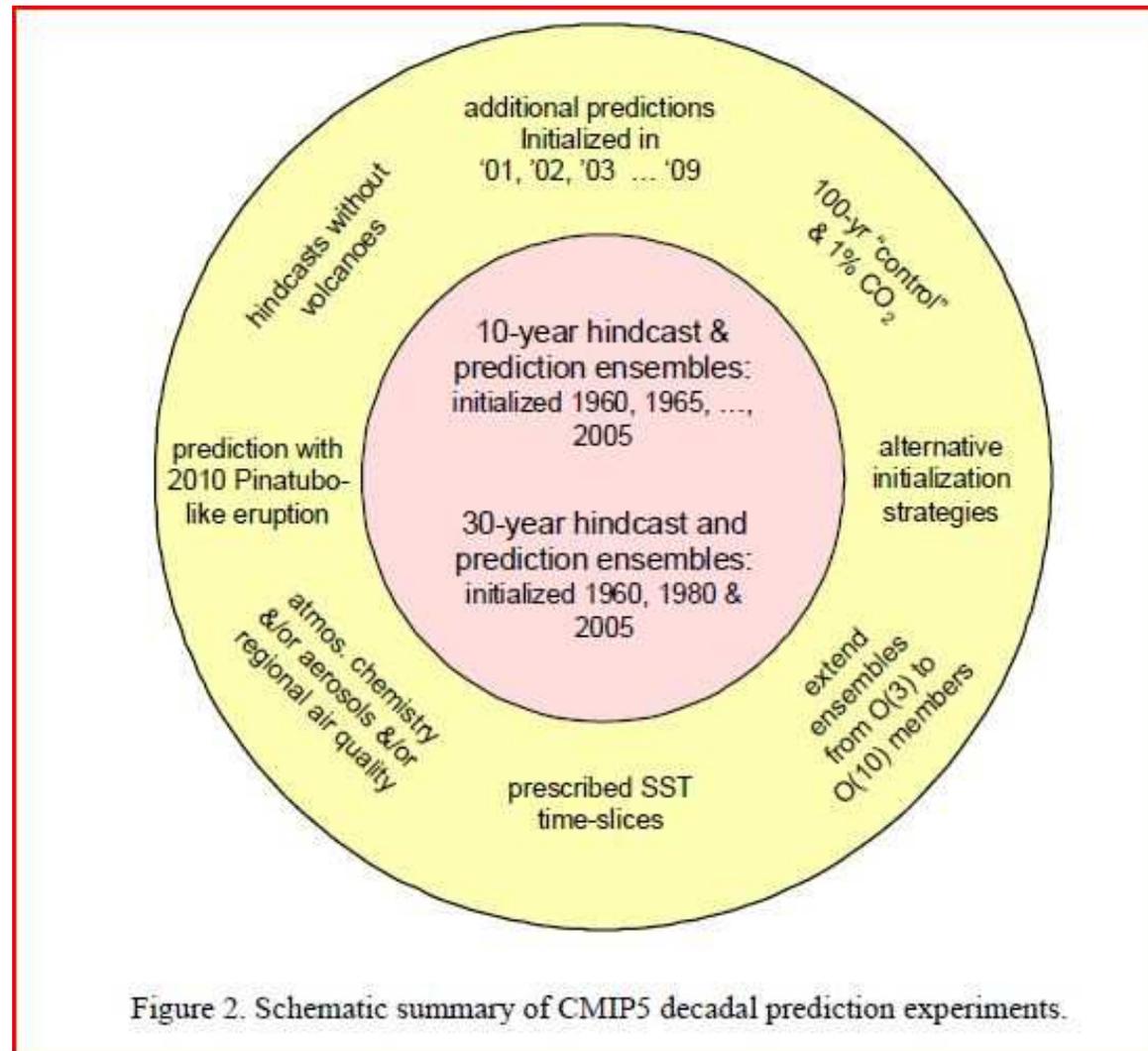
NATIONAL CENTRE FOR ATMOSPHERIC SCIENCE  
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# CMIP5 Archive

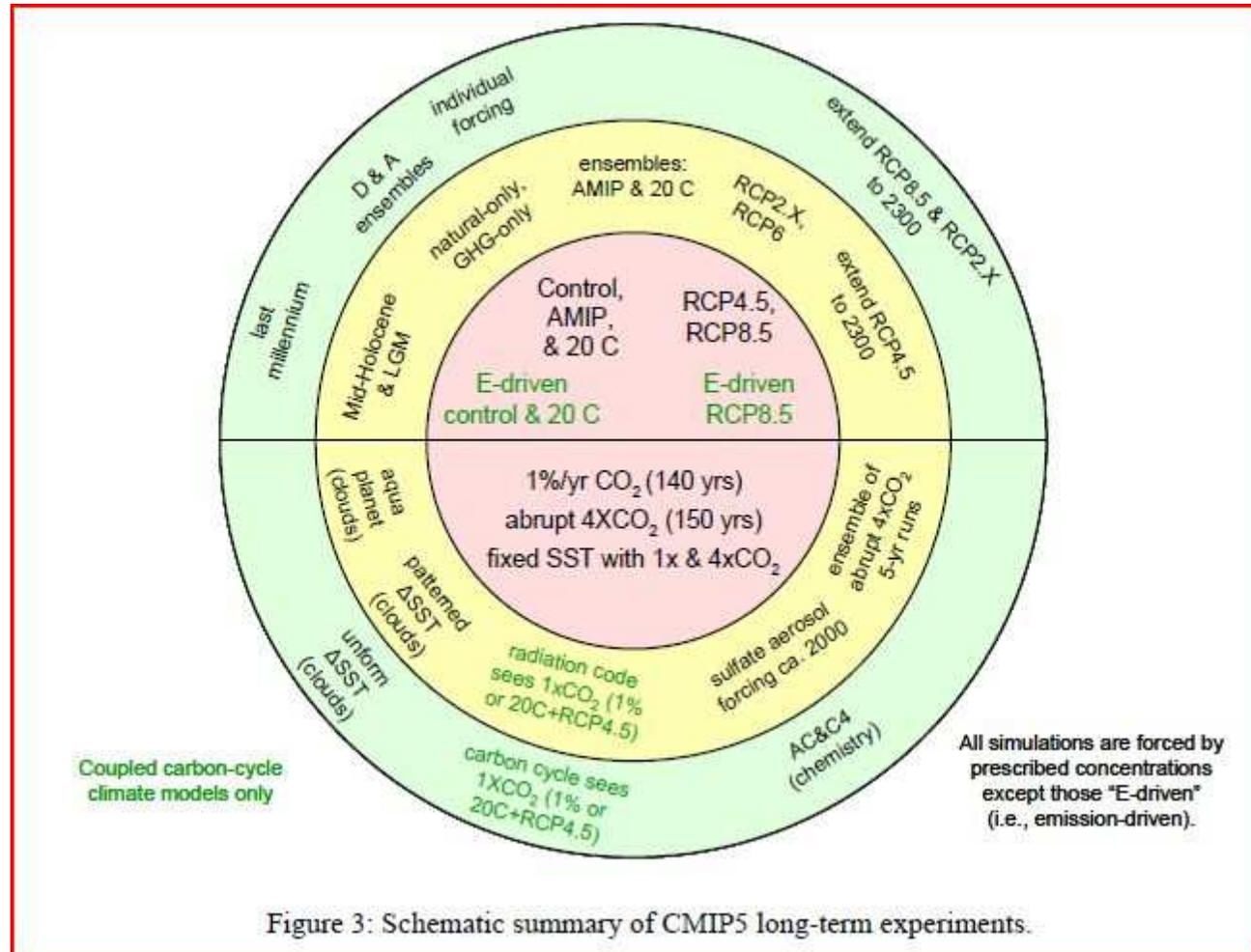
- All model data archived for CMIP5 are required to be processed by CMOR
- CMOR contains tables of CF standard names for all model output parameters
- Thus it is essential that CF standard names for all model outputs are agreed at the outset





## CMIP5 Decadal Prediction Experiments

(Taylor, Stouffer and Meehl, 2008)



## CMIP5 long-term experiments

Taylor, Stouffer and Meehl, 2008



# Chemistry Names (1)

- Proposal for a large number of chemistry standard names for CF compatibility with GRIB2 (Martina Stockhause, September 2008)
- Some of these also needed for CMIP5
- Generated by script
- New process names
- New species





## Chemistry Names (2)

- Suggested '2 table' approach for chemistry names (not adopted)
- Should we allow 'nonsense' names?  
(No)
- Should all species have IUPAC names?  
(Be pragmatic)
- Guidelines document
- All chemistry names needed for CMIP5  
are in the table





# Aerosol Names

- Proposal received November 2008 (Heinke Höck)
- We need to be consistent about medium (atmosphere/in\_air)
- Yet to resolve coarse/aitken mode names
- What do we mean by a 'dry' aerosol
- Most names are in the table, a few outstanding





# Physical Oceanography

- Proposal received December 2008 (Stephen Griffies)
- Mostly uncontroversial
- Medium question again (ocean/in\_sea\_water)
- Region names for straits/channels (conventions issue)
- All standard names are in the table (~ 100)





# Cloud Feedbacks

- Proposals received Jan, Feb and July 2009 (Tomoo Ogura, Alejandro Bodas, Mark Webb)
- Lots of new cloud microphysics names
- Simulated satellite retrievals for cloud fraction will be distinguished by file names, not standard names
- Most names in the table, most recent under discussion (~6)





# Cryosphere

- Proposal received February 2009 (Siobhan O'Farrell)
- Sea-ice dynamics
- Change in ice sheet thickness due to melting/evap/etc.
- ~100 names
- Not yet in table





# Carbon Cycle

- No formal proposal received as yet
- Some offline discussion
- New vegetation types (area\_type table?)
- Anthropogenic processes, e.g, land\_use\_change, biomass\_burning
- ~50 output parameters





# Atmospheric Radiation

- Mature area of standard names due to fundamental importance of radiative forcings on climate
- 4 x CO<sub>2</sub> names yet to be proposed (but maybe we don't need separate names)
- ~10 model output parameters





# Ocean biogeochemistry

- No proposals received as yet
- Approximately 130 model output parameters (concentrations and tendencies of chemical species, e.g., iron, silica and particulate fluxes)

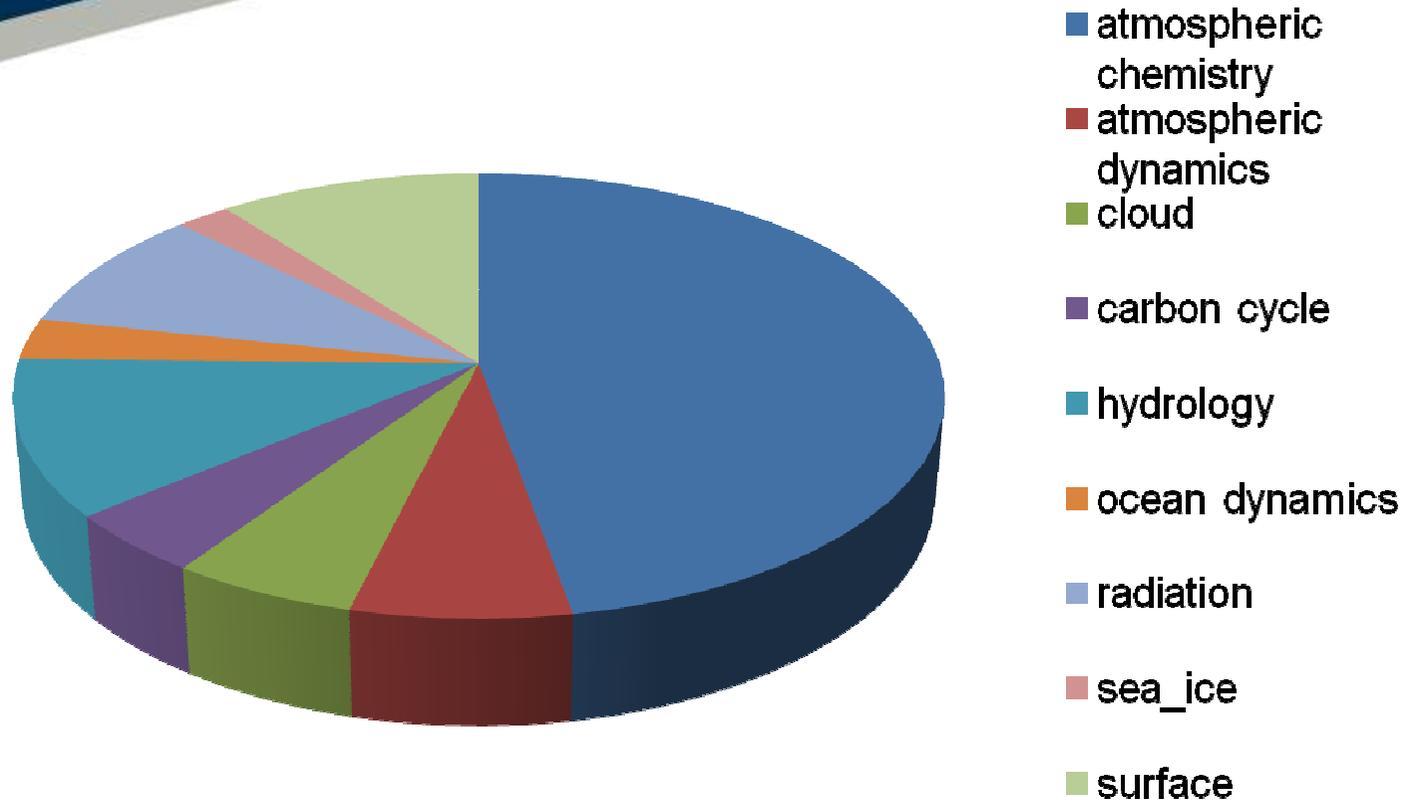




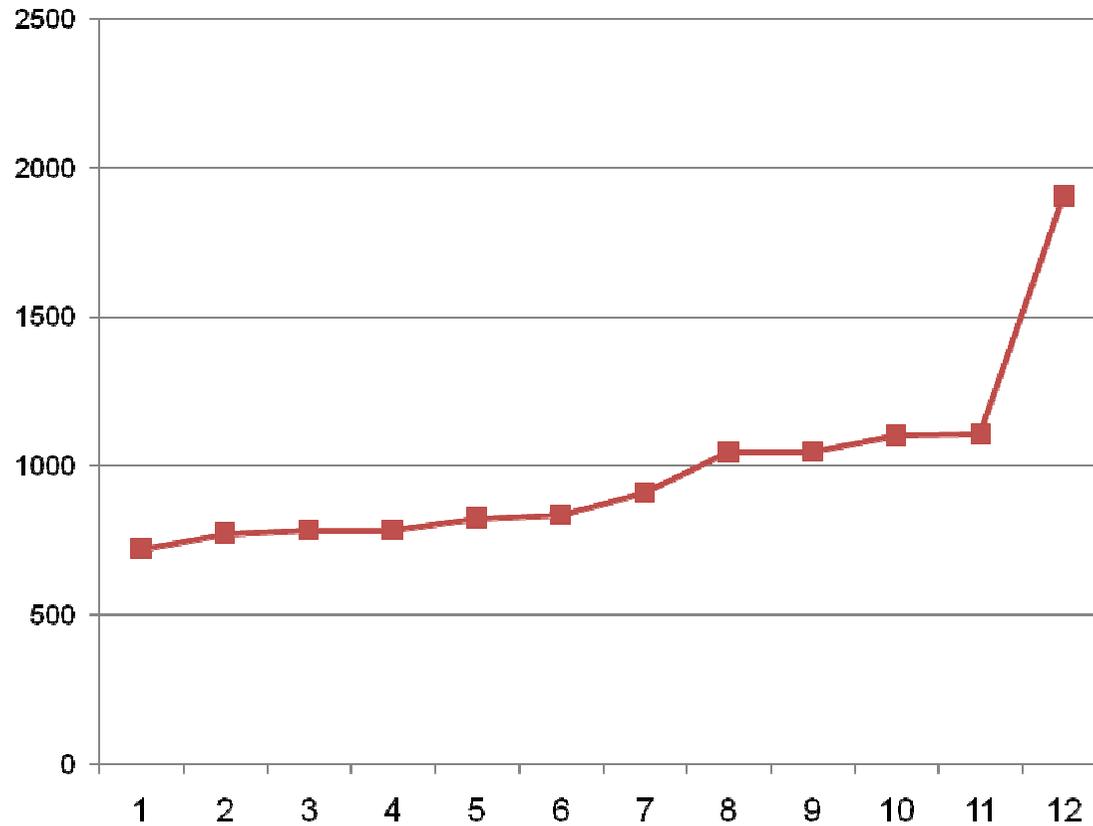
# CMIP5 Standard Name Status

- ~250 names yet to be added to the table (compared with 800 added at last update)
- There is light at the end of the tunnel!





## CF standard names vn12 (July 2009) by science area



**Number of CF standard names by  
table version**