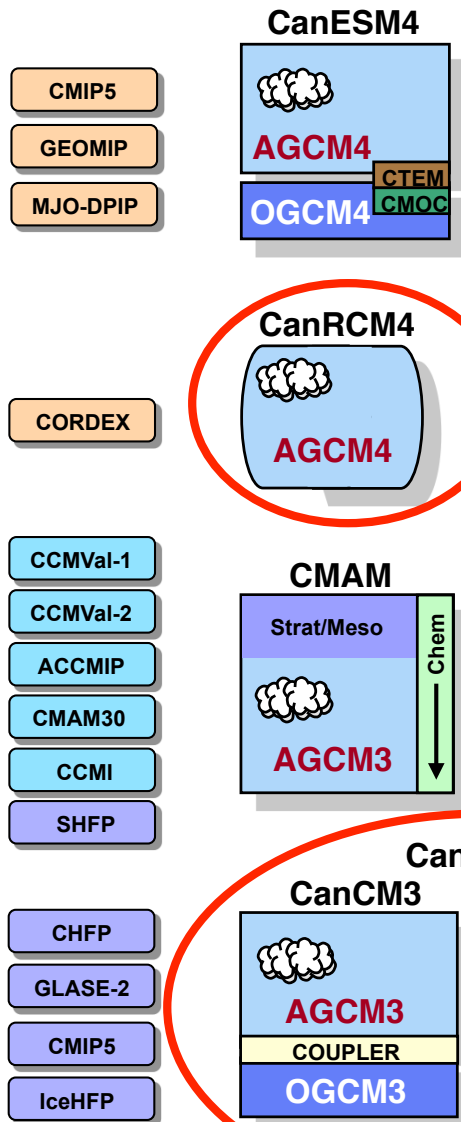


CCCMa Model Development

~CMIP5 Model Suite



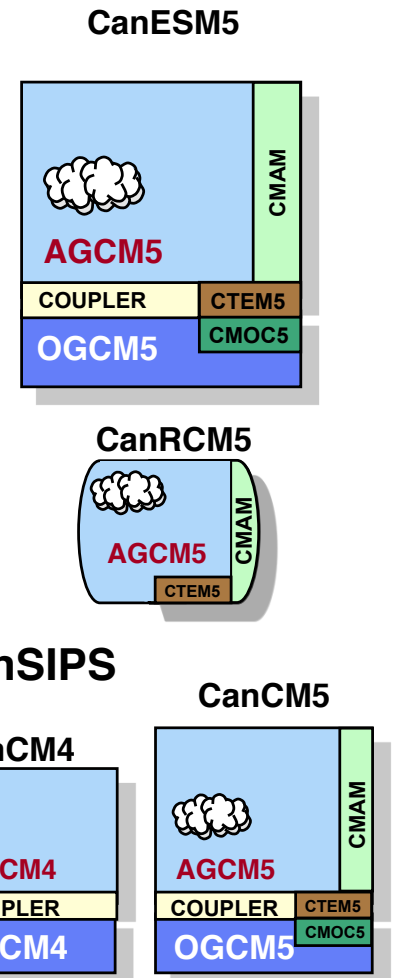
Unification

- carbon cycle
- strat/trop chemistry

Development

- ocean model (NEMO)
- AGCM dynamical core
- AGCM physics (eg aerosols, clouds)
- land surface
- sea ice
- ocean/land biogeochemical physics

CMIP6 Model Suite



Model (Physics) Development at CCCma

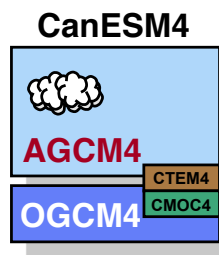


When significant changes are detected, how can we determine what model changes were responsible

- AMIP simulations
- 1850 preindustrial control
- CMIP5 Historical simulations
- CMIP5 future RCP simulations
- Hansen/Gregory radiative forcing simulations

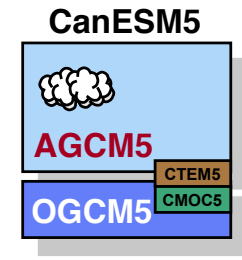


Model (Physics) Development at CCCma



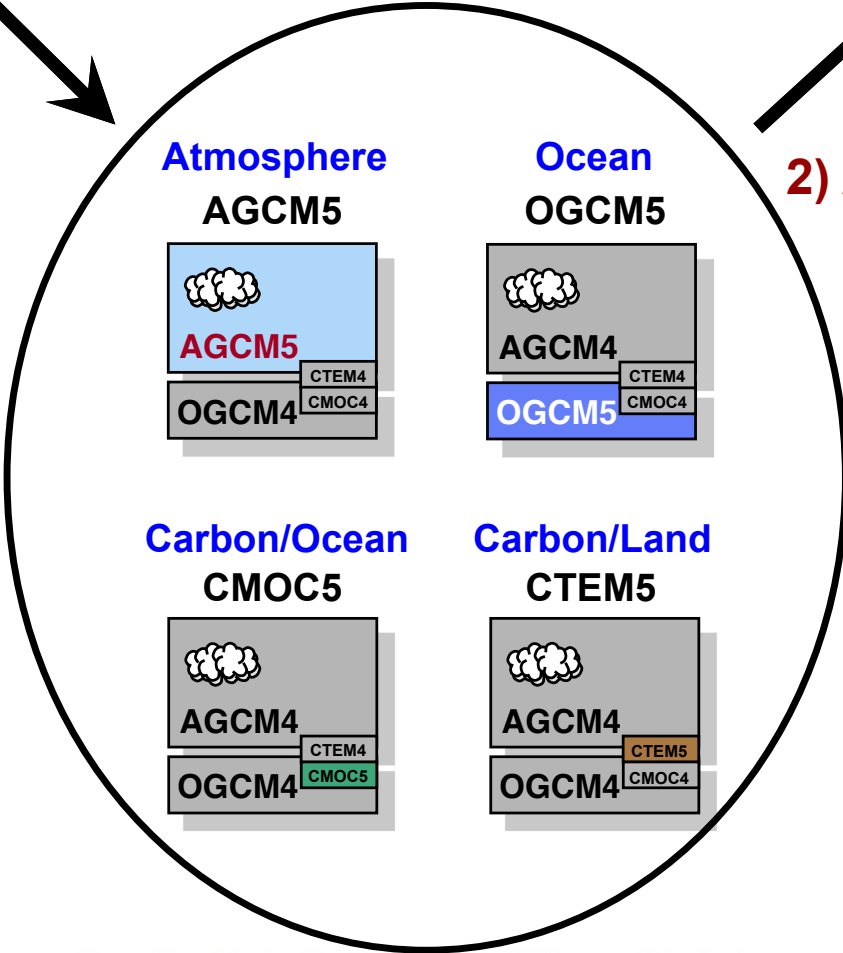
1) Version response changes

Physics Development {P_x}:



2) Area response changes

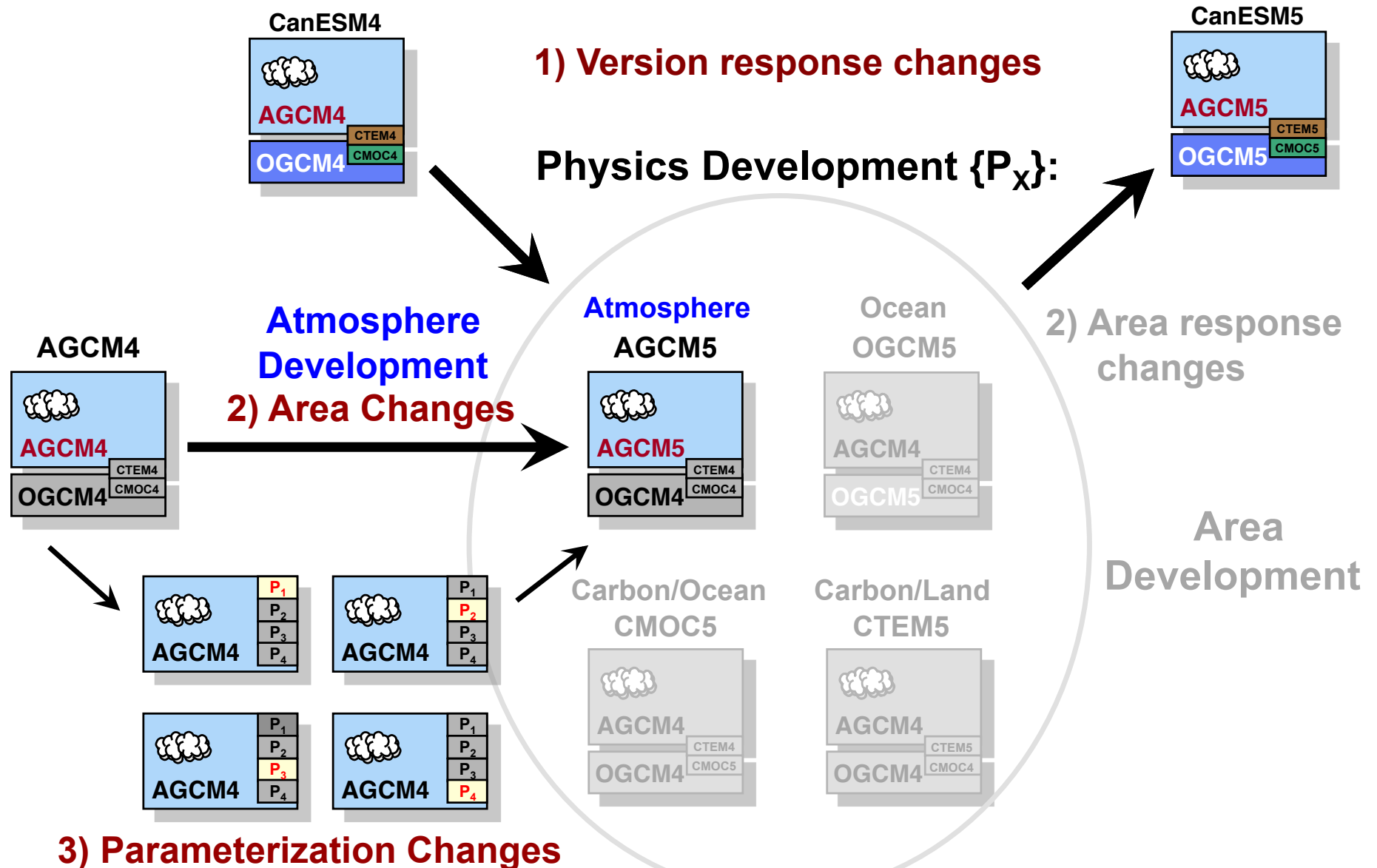
Area Development



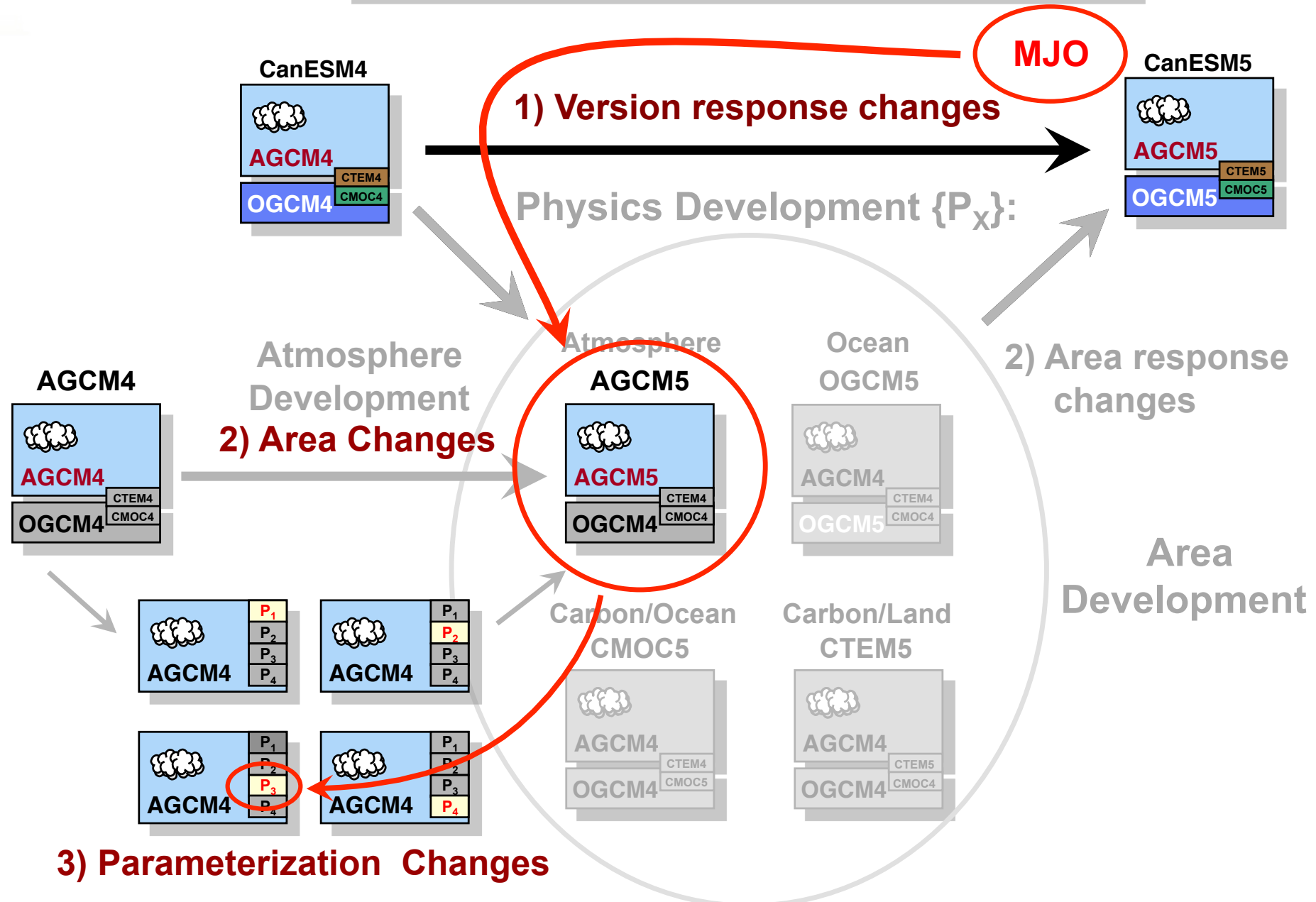
- AMIP simulations
- 1850 preindustrial control
- CMIP5 Historical simulations
- Hansen/Gregory radiative forcing simulations



Model (Physics) Development at CCCma



Model (Physics) Development at CCCma



CCCma 18 Month Cycle of Model (Physics) Version Development

