C4MIP experiments: AIMES perspective

• Repeat CMIP5 1%-CO2 experiments to quantify climate CO2 feedback:
  – fully coupled (core experiment)
  – biogeochemically coupled
  – radiatively coupled
  These runs would also allow to quantify effective radiative forcing of several biospheric components (e.g. fire emissions)
• Emission-driven historical simulation to benchmark C cycle against observations and emergent constraints
• Future runs (emissions-driven or concentration-driven)
• Interactive CH4 and N2O simulations;
• EMICs runs with CO2-pulses to quantify atmospheric CO2 fraction after 1000 and 10,000 years
CO$_2$ fraction in the atmosphere

IPCC WGI AR5, TS