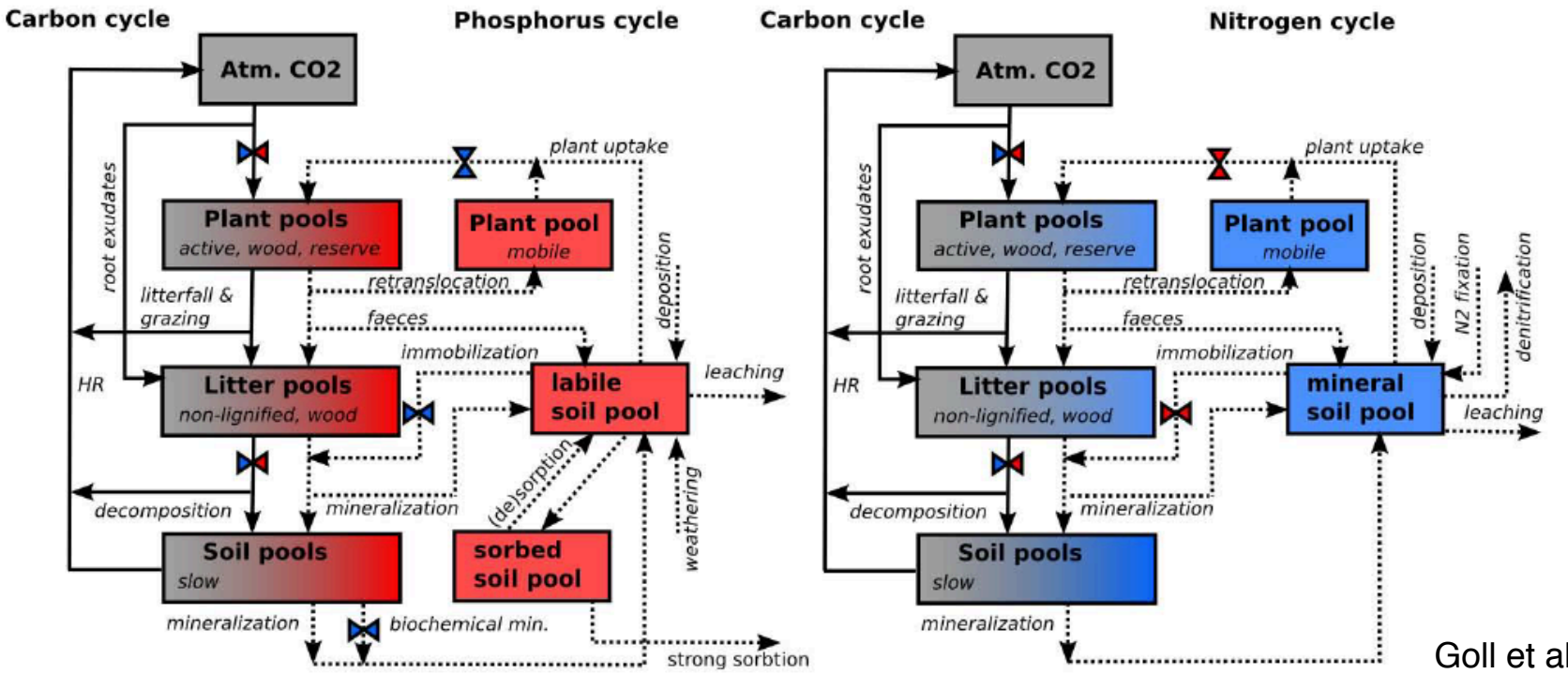
Alanna Shaw
Ecosystem Model Evaluation



Goll et al. 2012

Input Drivers

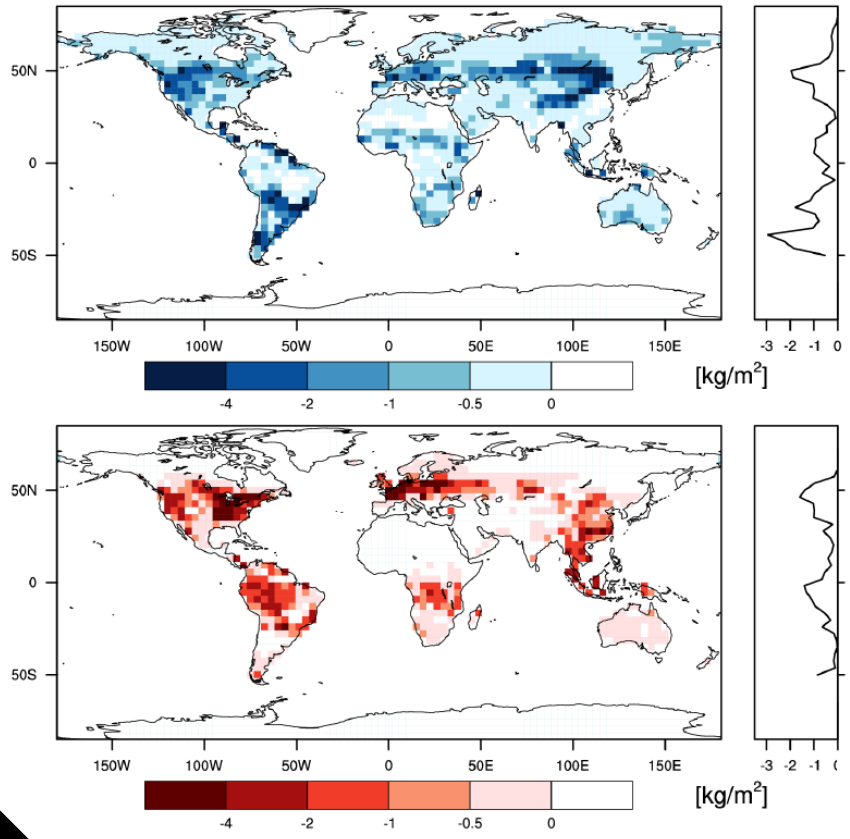
- Outputs of MPI-ESM (or forced with climate data)
- Net Primary Productivity (NPP)
- Leaf Area Index
- Soil temperature and moisture
- Runoff
- USGS land cover characteristics (PFT)
- USDA Soil Classification

Key Outputs

- NPP
- Autotrophic and Heterotrophic Respiration
- Terrestrial C storage
- Nitrogen and phosphorus fluxes and storage
- Decomposition rates

Modelled Terrestrial NPP and Carbon Storage Reduction with Nutrient Limitation

From Goll et al. 2012



Reduction in mean C storage (kg m^{-2}) by nutrient limitation at the end of the 21st century.

Upper: Difference between the CN simulation and the C-only simulation

Lower: Difference between the CP simulation and the C-only simulation

Mean reduction in % NPP due to nutrient limitation

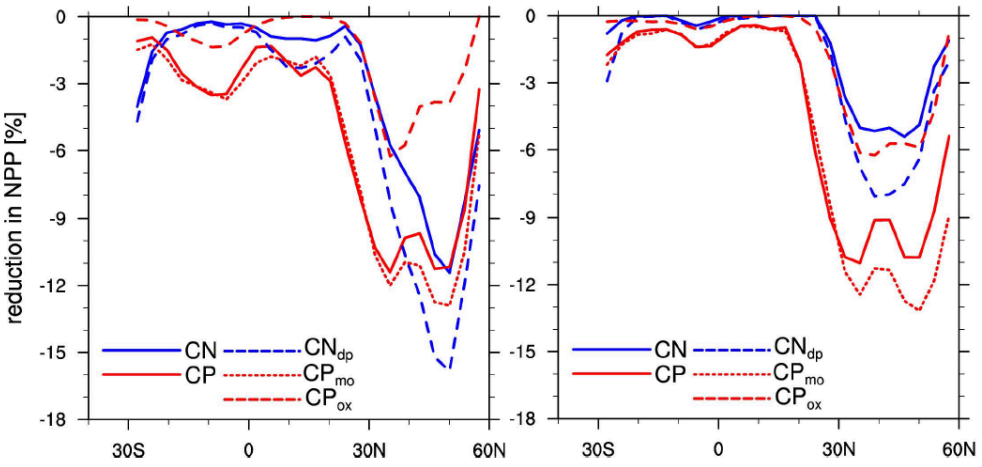
Left: averaged over 2070-2099

Right: averaged over 2320-2349

Solid: results from CN and CP simulation for N or P limitation

Dashed: sensitivity experiments

CP_{ox}: high P sorption capacity

CP_{mo}: low P sorption capacity

CN_{dp}: N deposition constant