

Land Breakout Summary

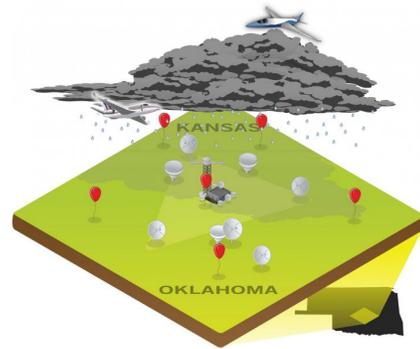
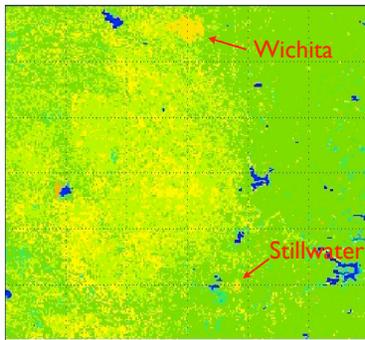
CMMAP Team Meeting
Fort Collins CO
6-8 August 2013

Agenda

- Don Dazlich: Giga-LES
- Mark Branson: Distributed land in CESM
- Ian Baker: Multi-scale land in Amazonia
- Aaron Piña: Nitrogen transport from feedlots to RMNP
- Kathy Haynes: New developments in SiB4

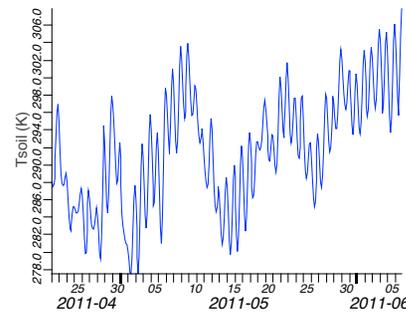
Mar 25, 2013

MODIS 1-km vegetation type
ARMICART region

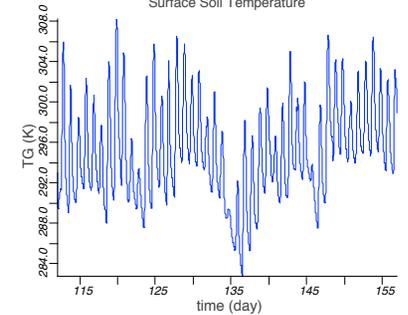


Don Dazlich: Giga-LES

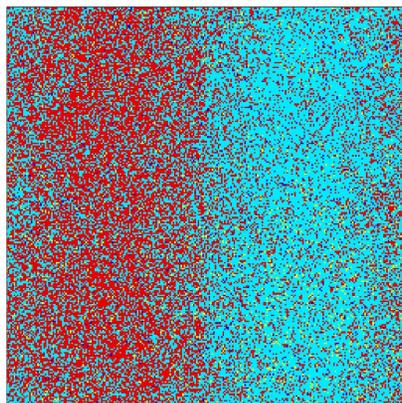
v0.4vcdat_sgp1104.nc
Ts_Soil



MC3E_SOREF_1.6km_64L.nc
Surface Soil Temperature

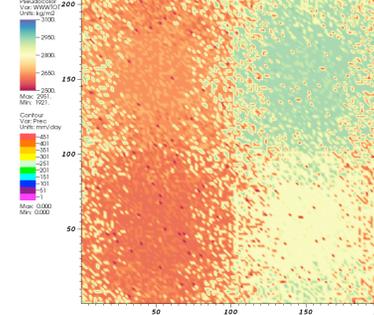


Initial tests at
1.6 km
resolution

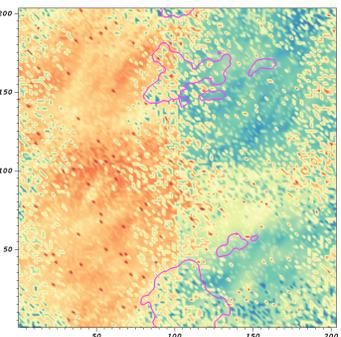


Forest Grassland Agriculture
■ ■ ■

DB: MC3E_SOREF_visit.nc
Cycle: 0



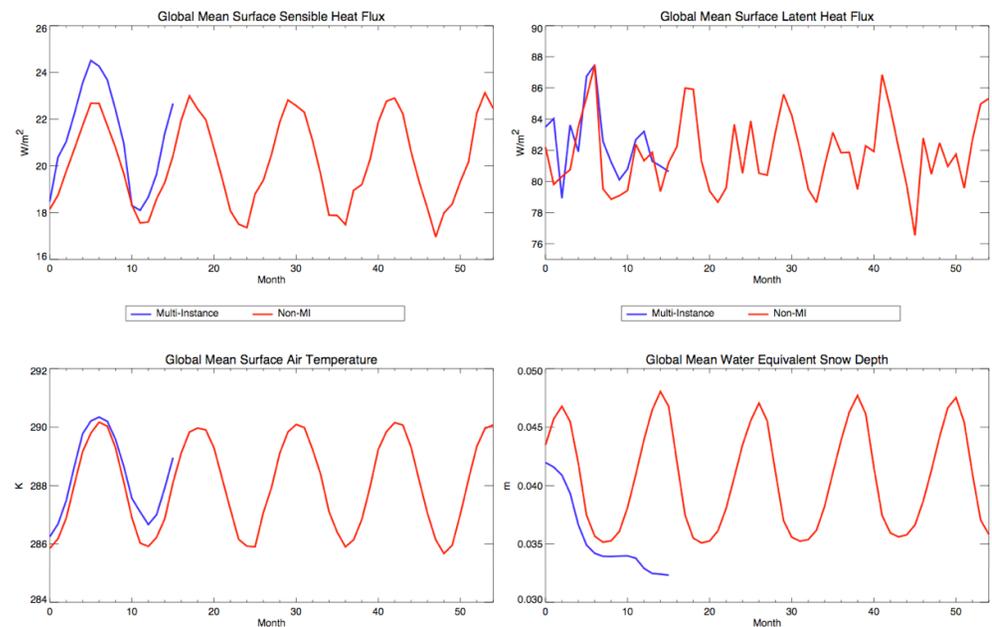
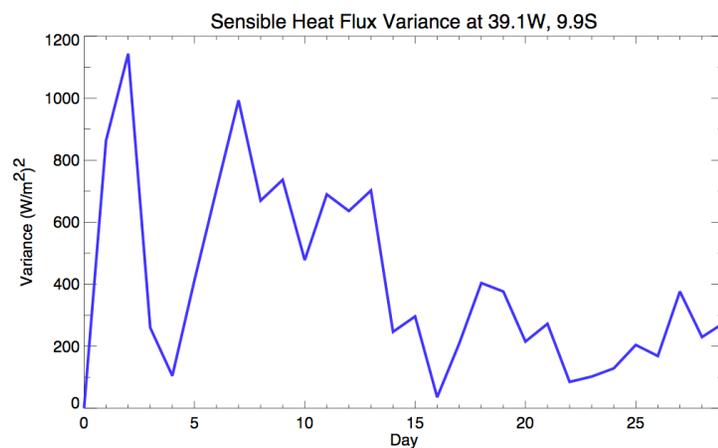
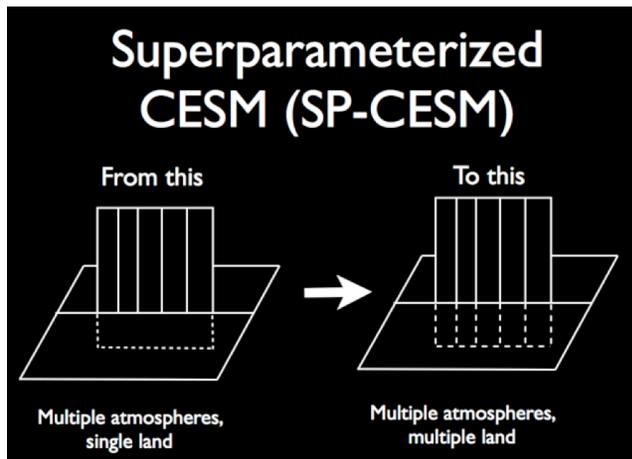
DB: MC3E_SOREF_visit.nc
Cycle: 4319



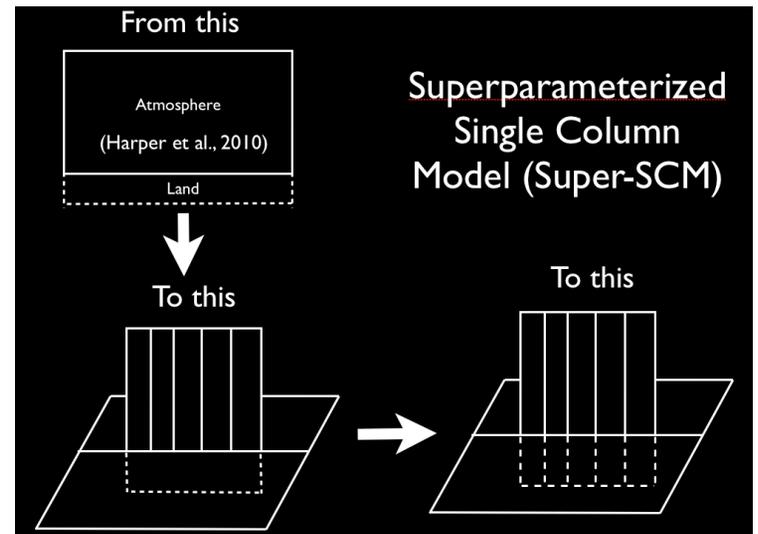
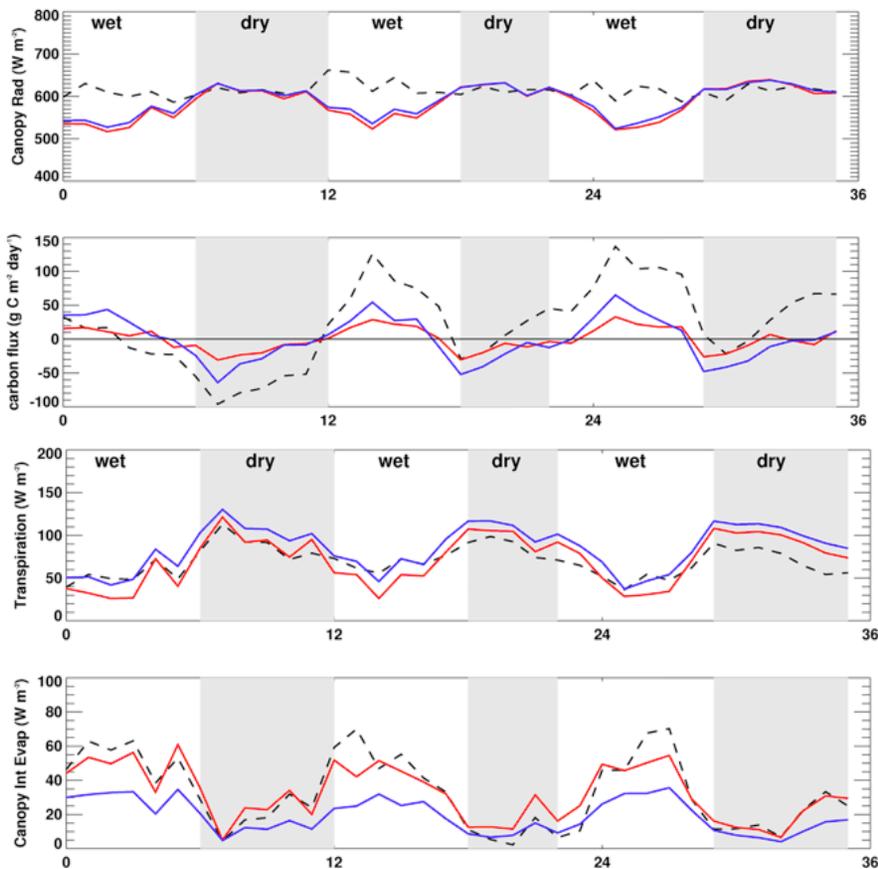
- Left: land cover specification
- right, upper: Temperature evolution
- right, lower: soil moisture evolution

Mark Branson: distributed land in CESM

- Considerable work to date on software engineering
- ‘fooling’ the flux coupler
- Initial tests are encouraging
- still some bugs in the system, elements to include (tracers)

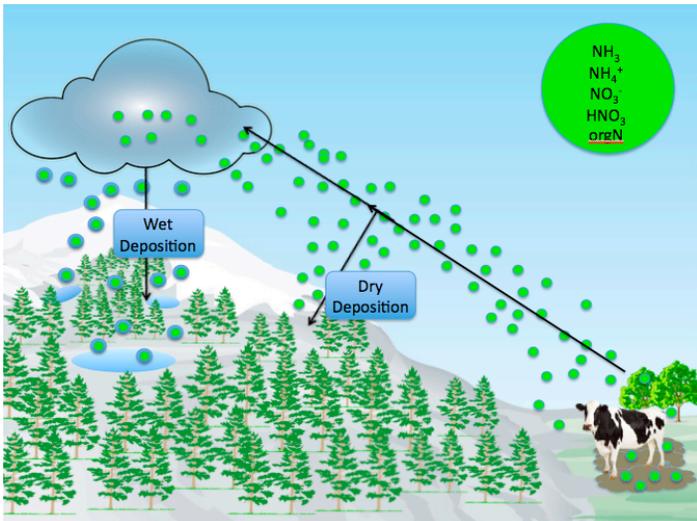
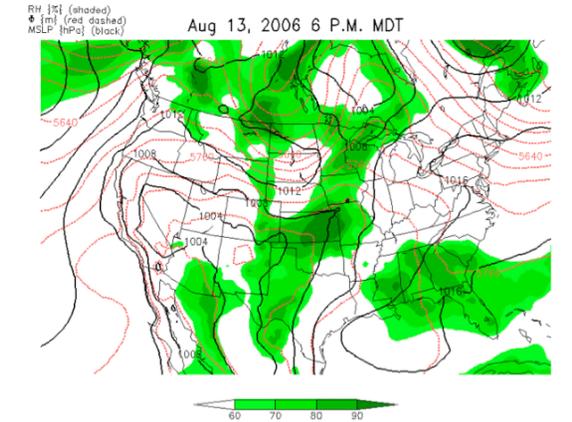
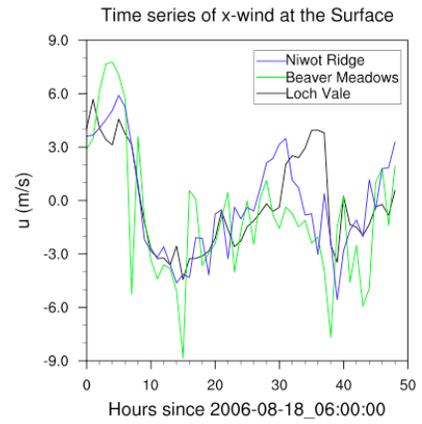


Ian Baker: Distributed land test (Amazon)



- lower radiation in either CRM case (radiation parameterization)
- repartitioning of hydrology
- decreased amplitude of carbon cycle

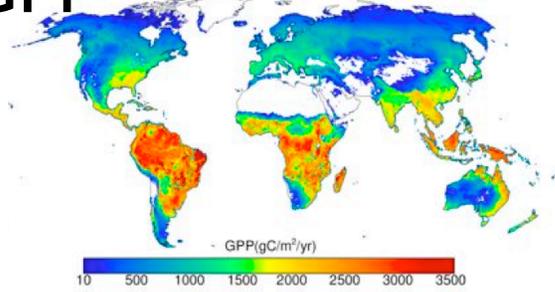
Aaron Piña: pollution transport



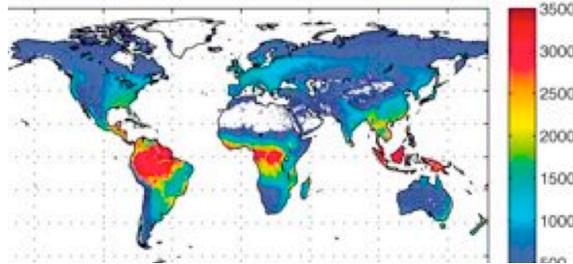
- Tracer transport: from feedlots in eastern CO to RMNP, deposition in lakes
- 2 mechanisms
 - diurnal cycle
 - synoptic

GPP

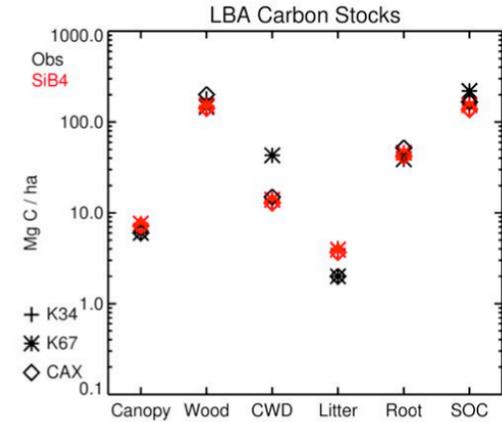
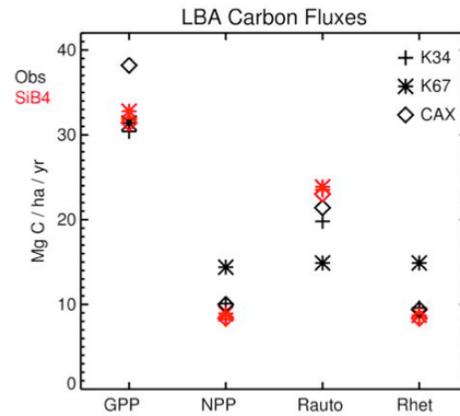
SiB4



Beer et al. (2010)

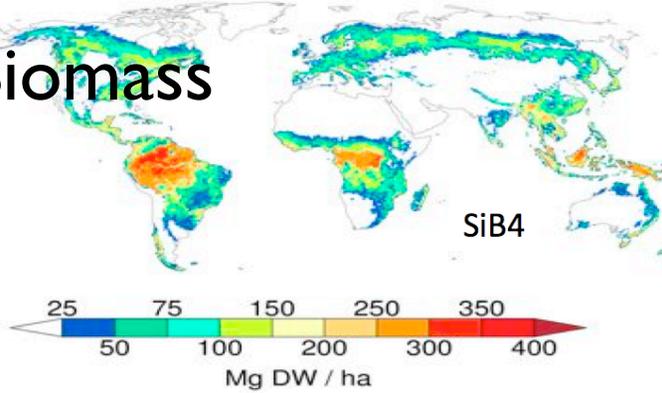


Kathy Haynes: SiB4

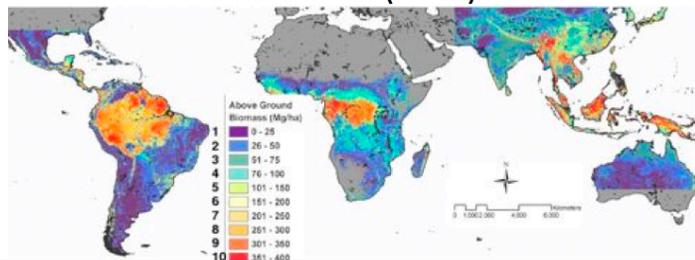


Biomass

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Saatchi et al. (2011)



- New features (PFT, PGSI, pools)
- evaluation:
 - satellite (biomass)
 - global products (GPP)
 - local observations