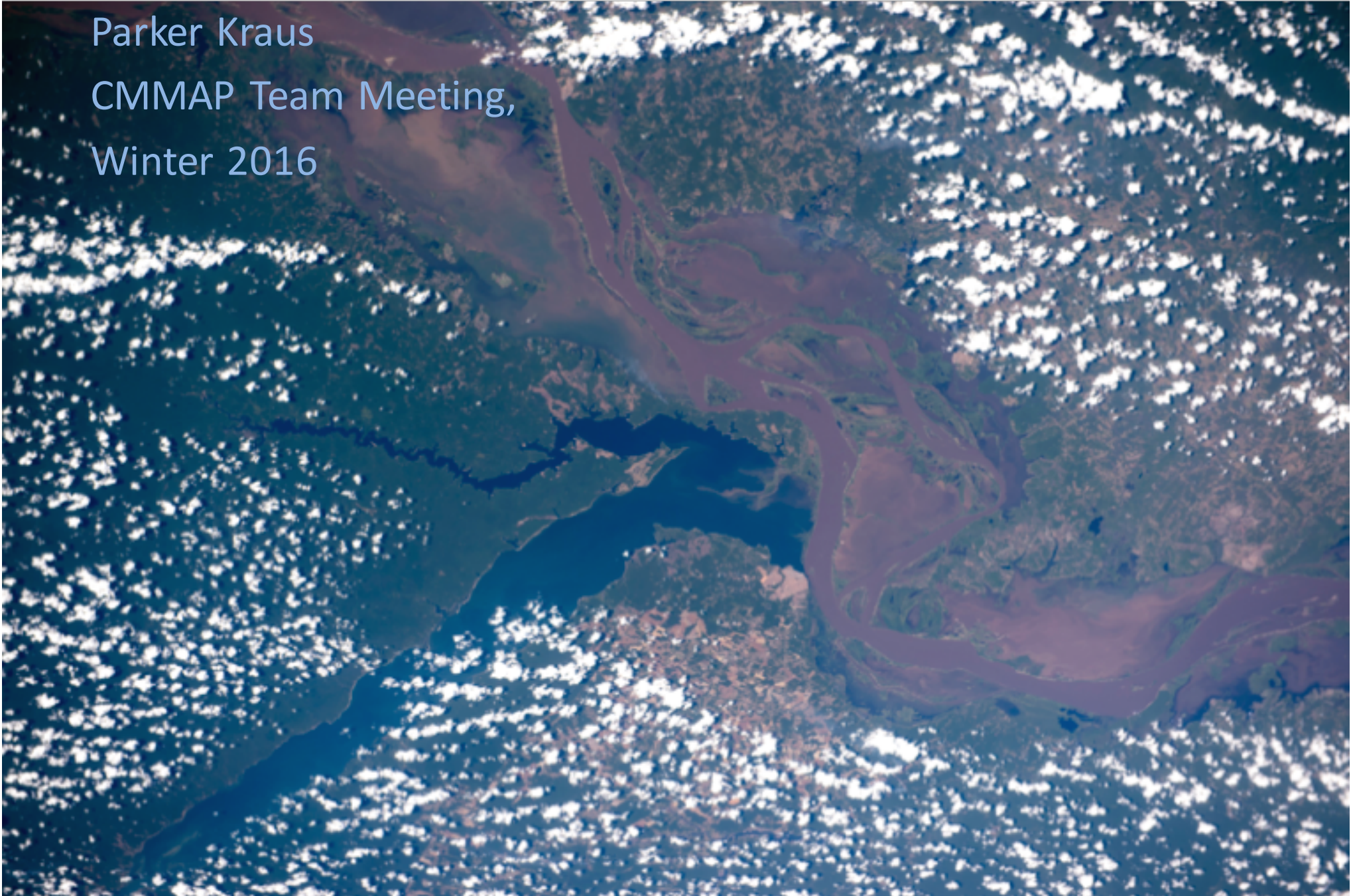


Further work with SiB-SAM

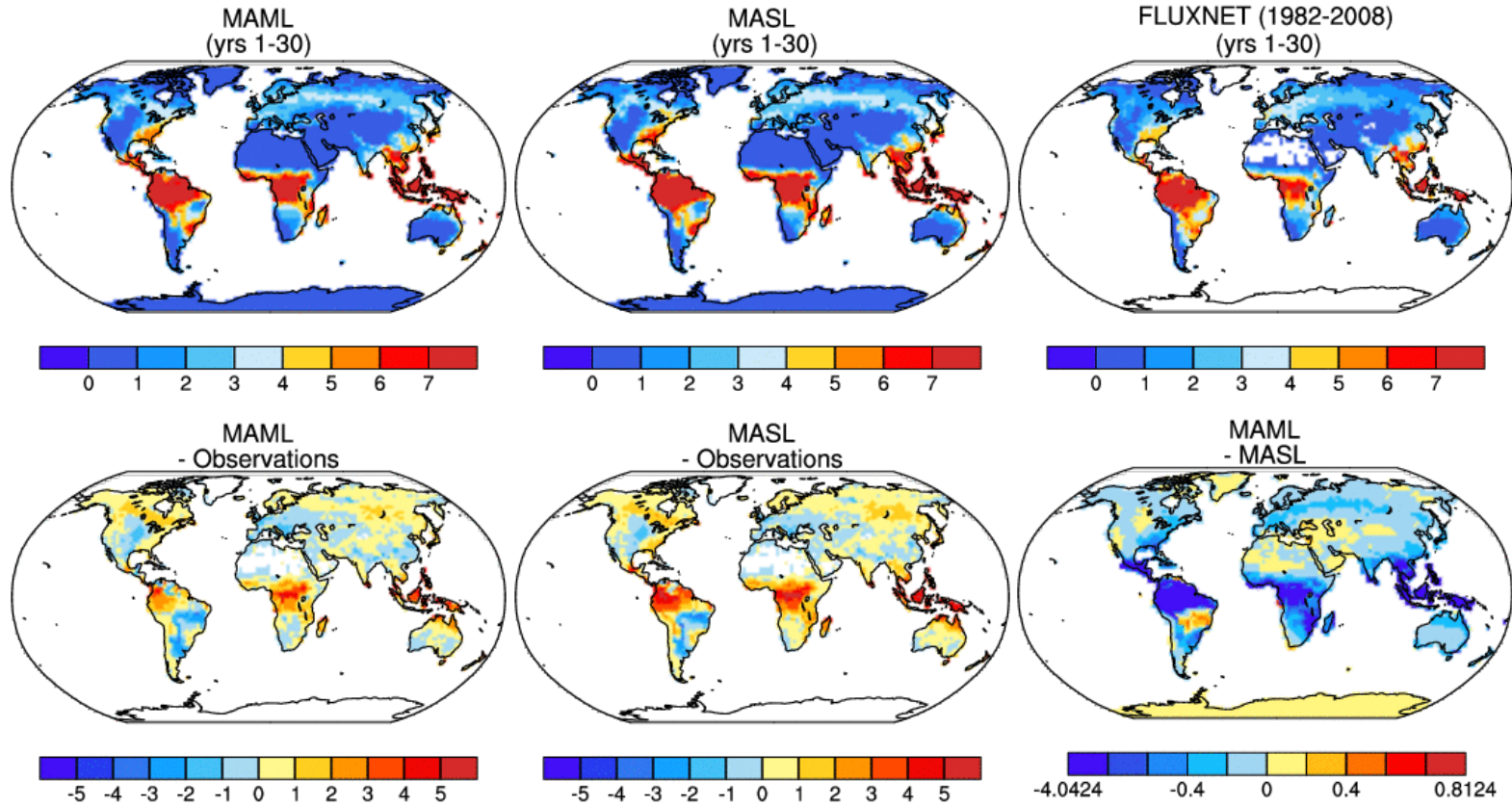
Parker Kraus

CMMAP Team Meeting,

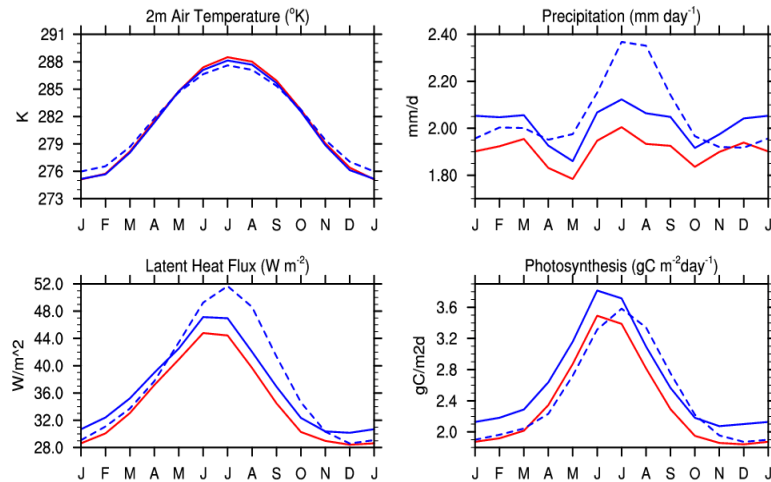
Winter 2016



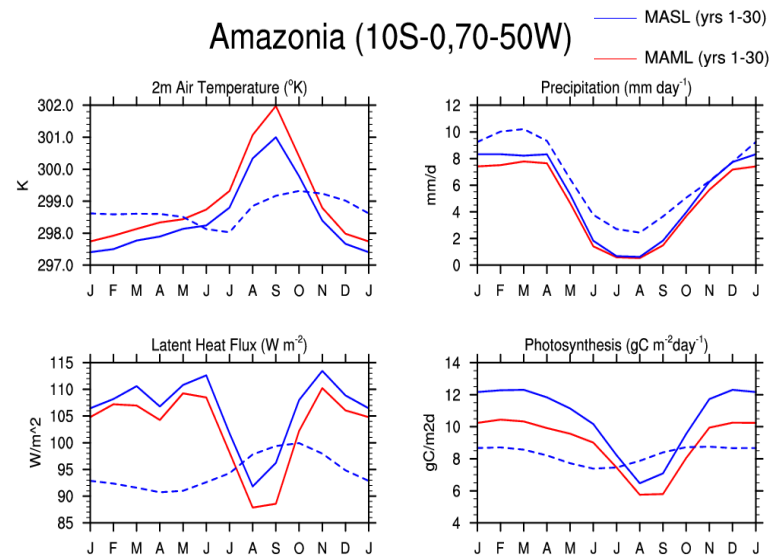
Annual Photosynthesis (gC/m2d)



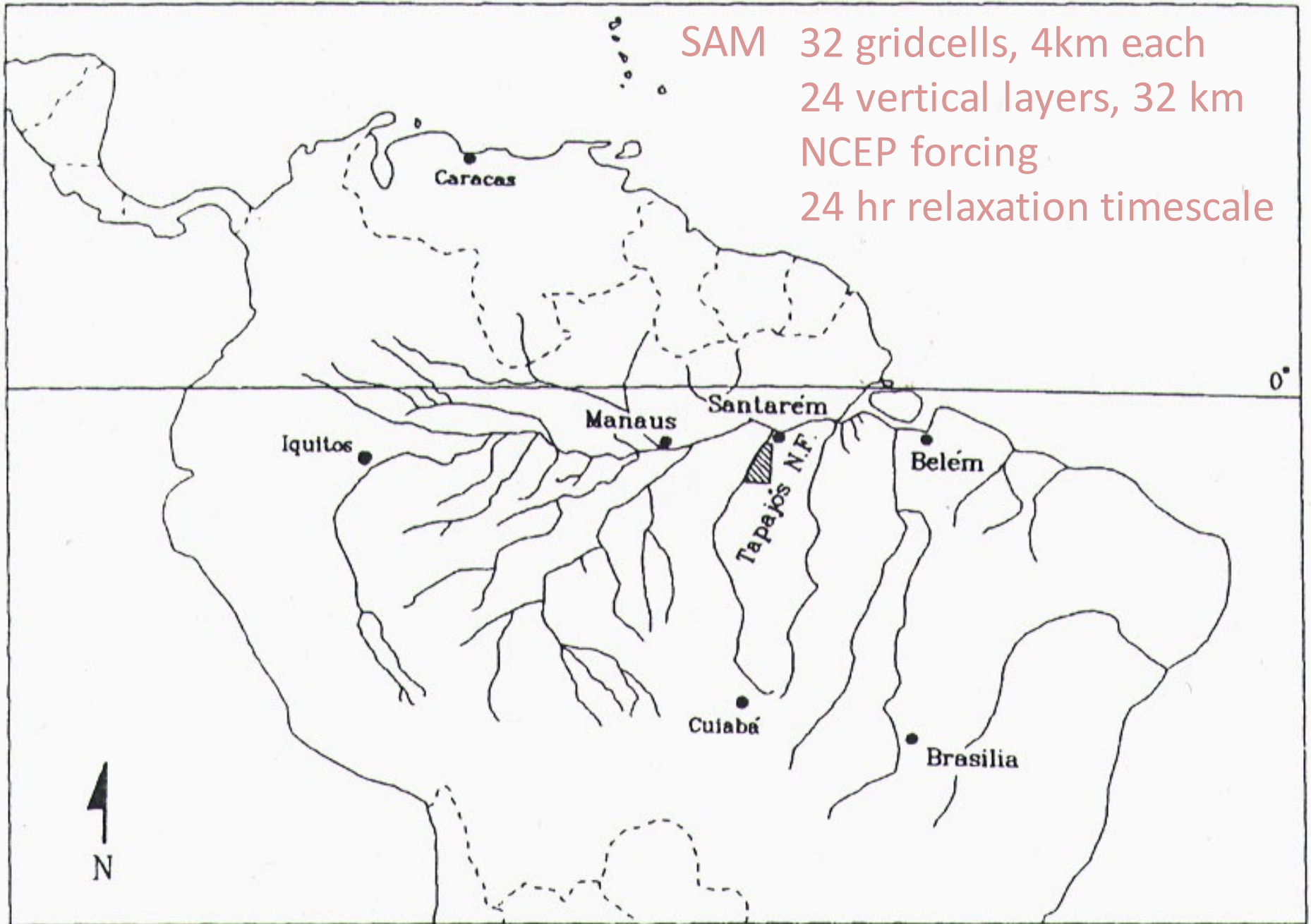
Global (90S-90N,180W-180E)



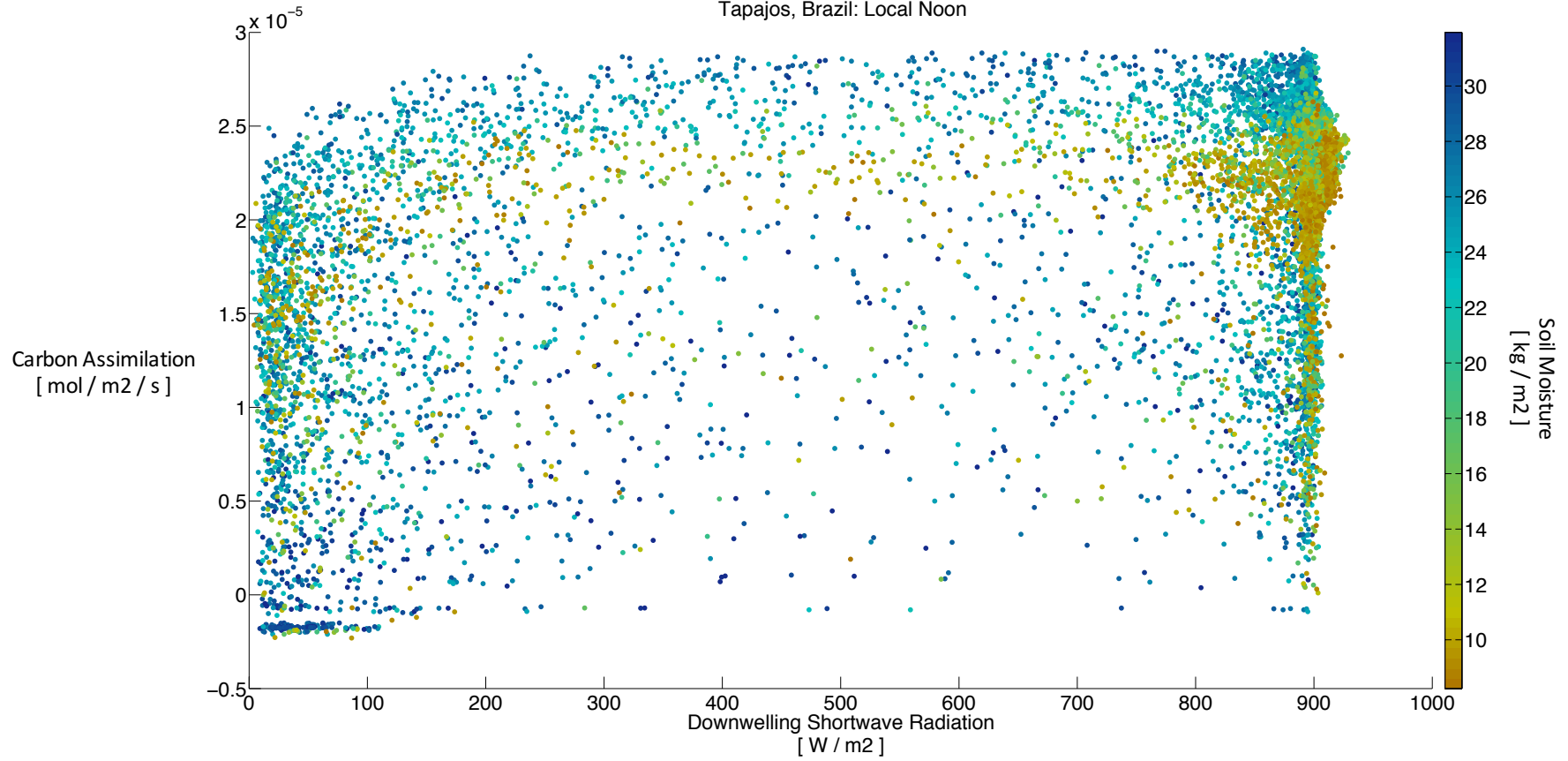
Amazonia (10S-0,70-50W)

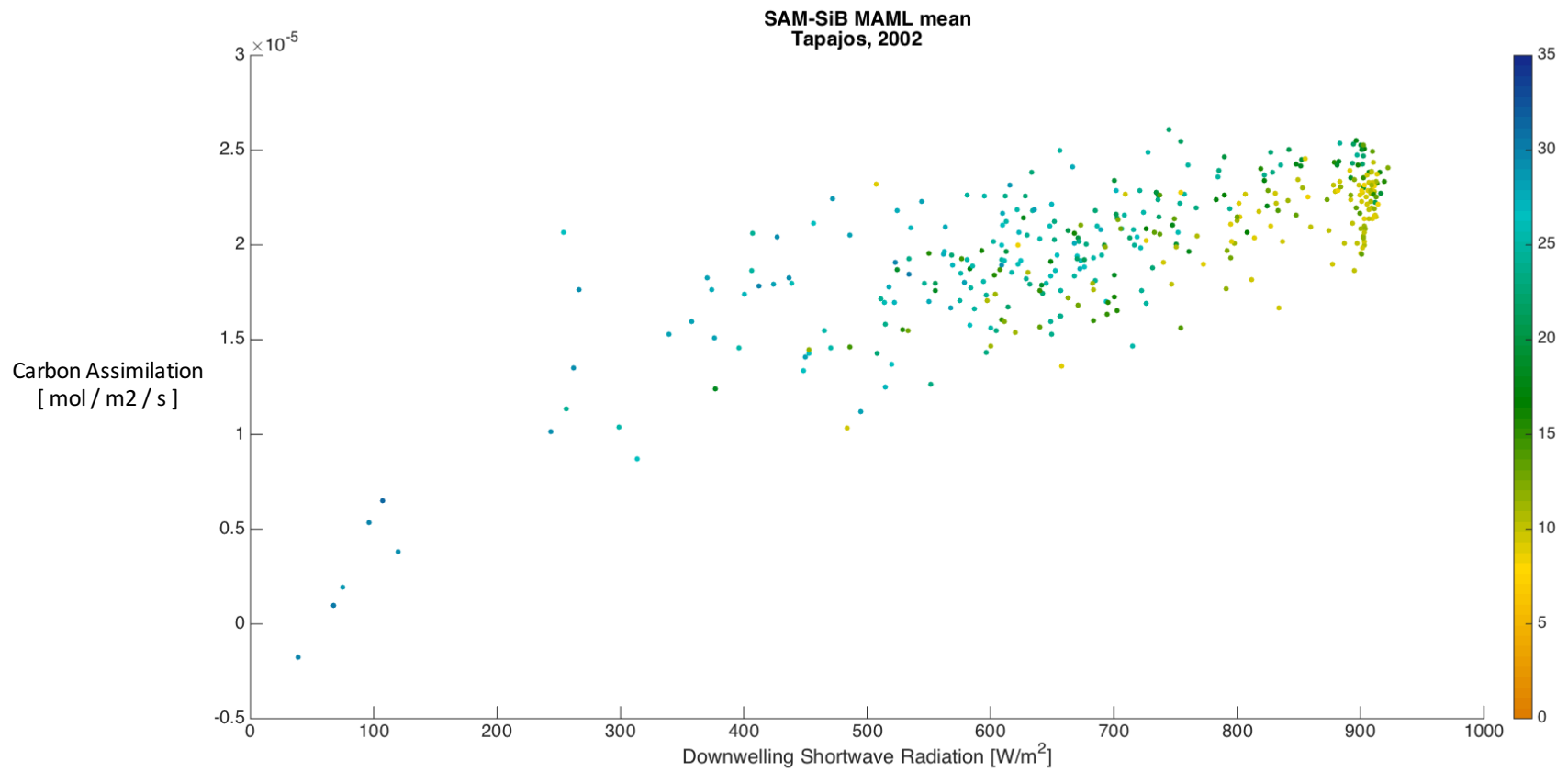


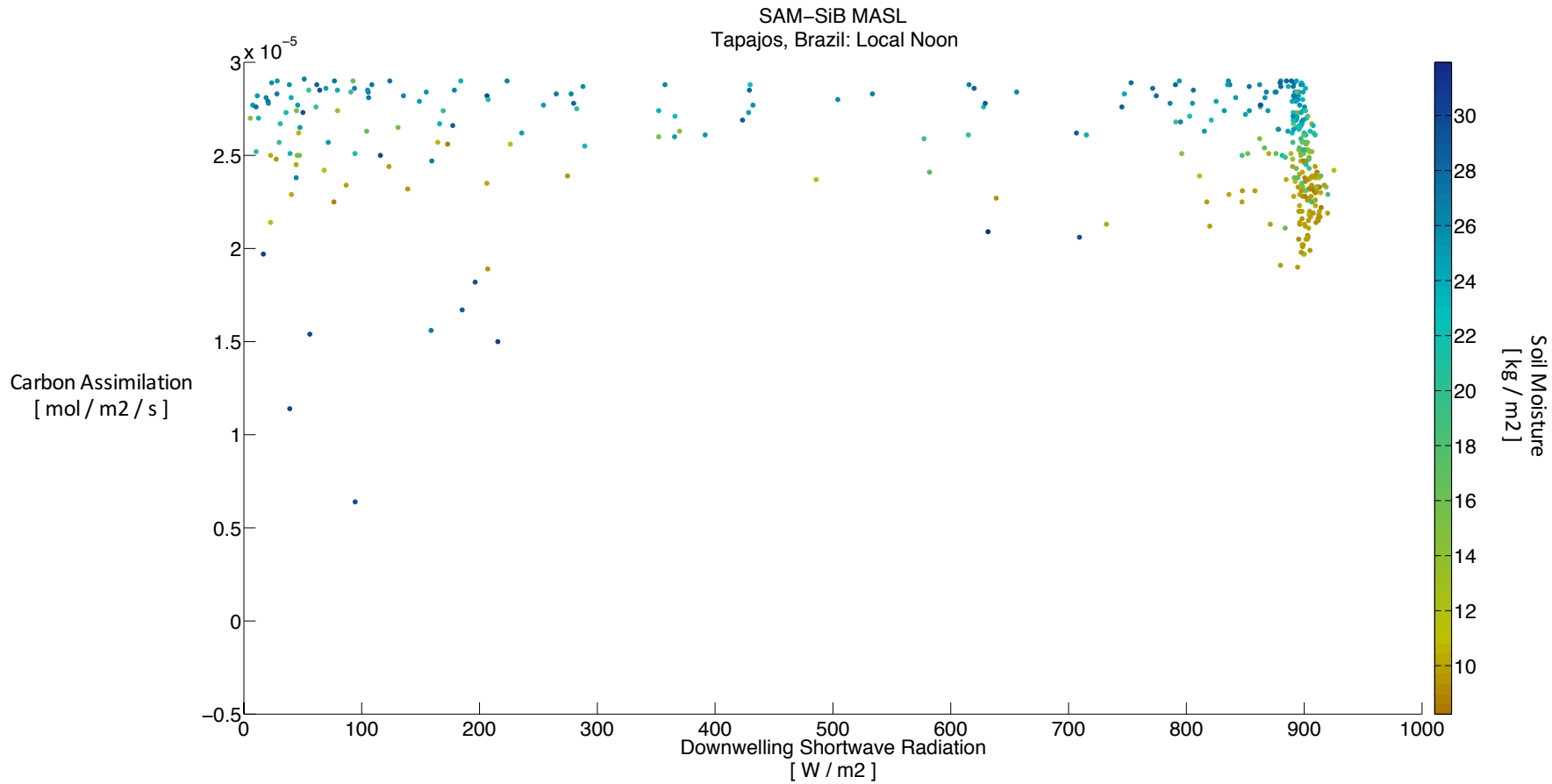
SAM 32 gridcells, 4km each
24 vertical layers, 32 km
NCEP forcing
24 hr relaxation timescale

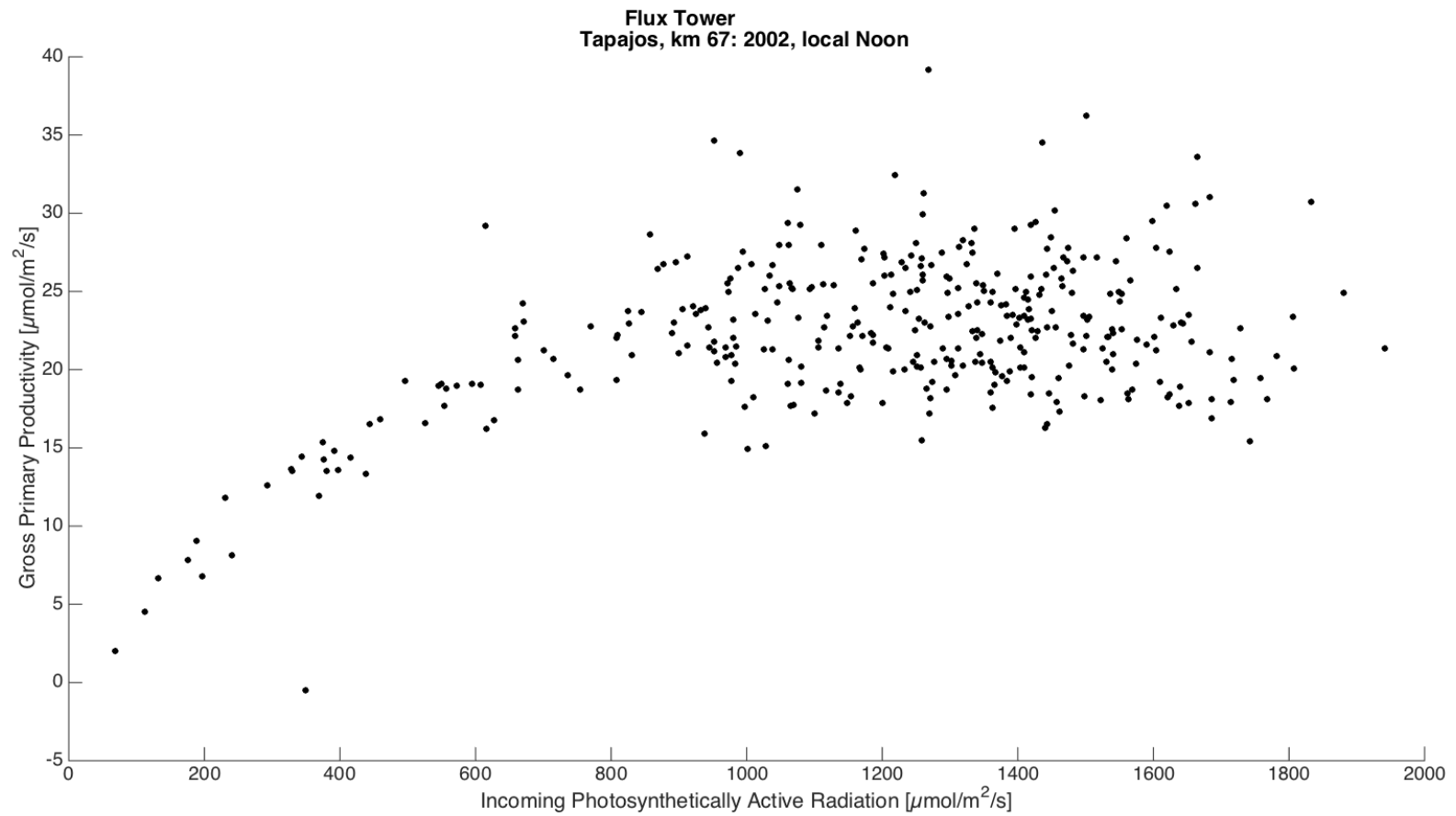


SAM-SiB MAML
Tapajos, Brazil: Local Noon



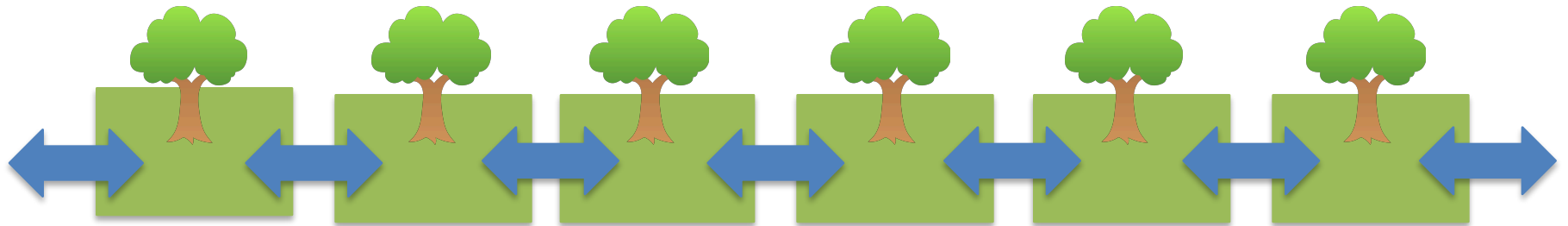




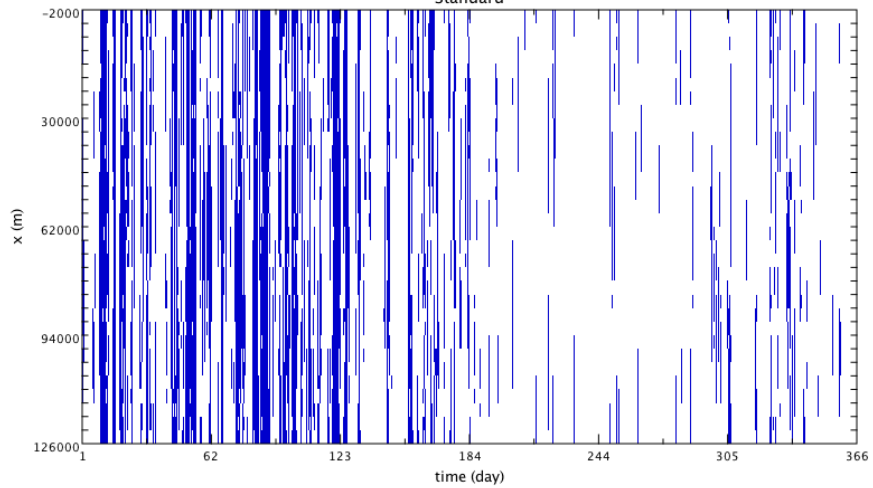


5 reductions to 10% of the maximum PAR
24 reductions to 25 % of the maximum

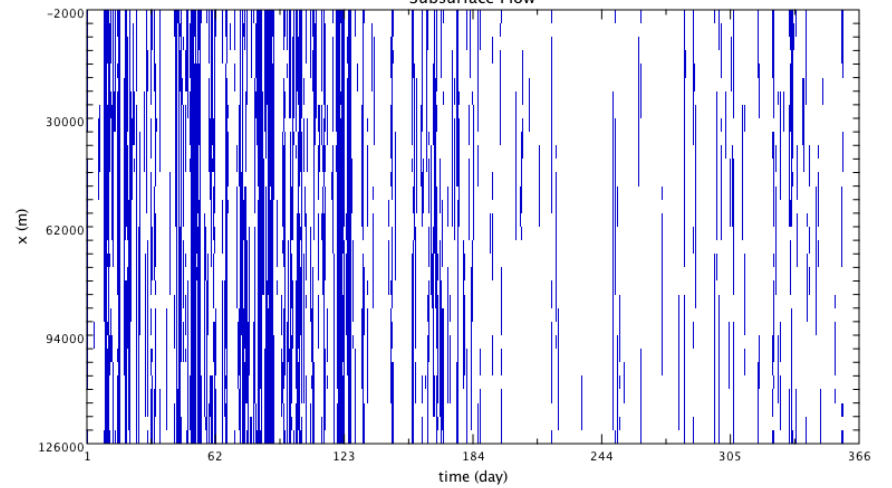
Subsurface Flow in MAML



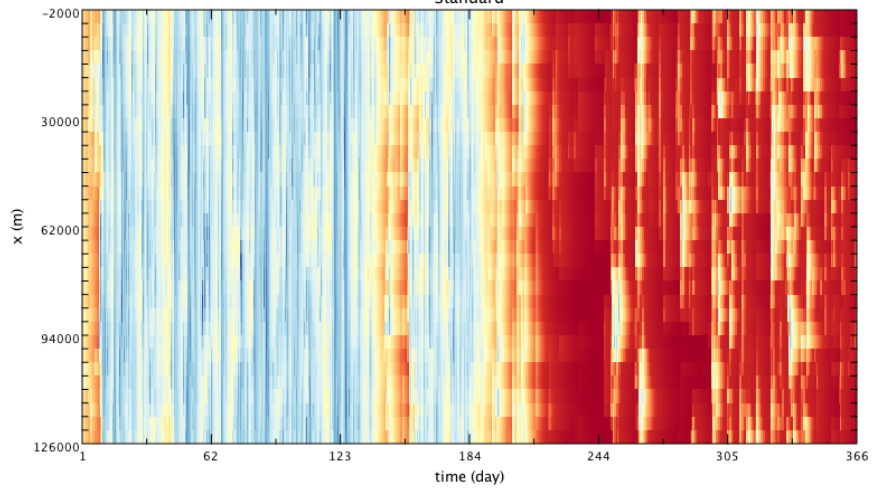
Surface Precipitation
Standard



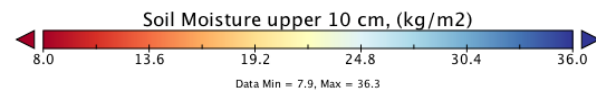
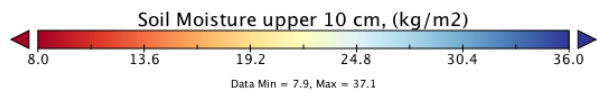
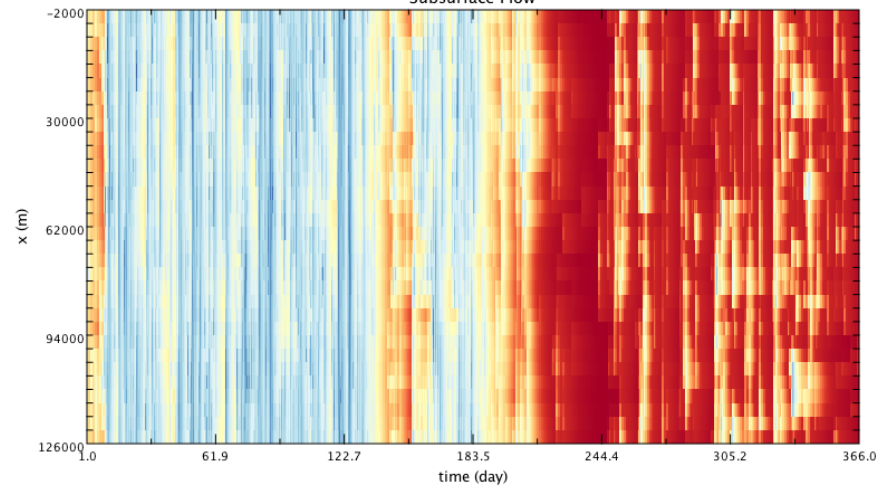
Surface Precipitation
Subsurface Flow



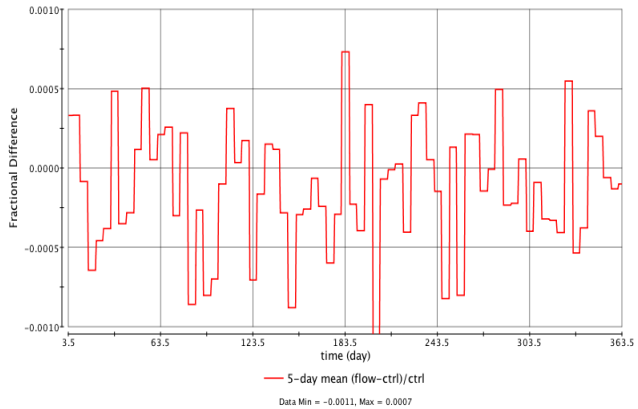
Soil Moisture upper 10 cm
Standard



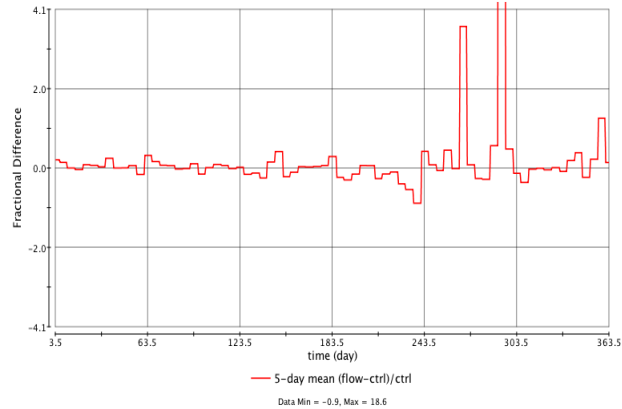
Soil Moisture upper 10 cm
Subsurface Flow



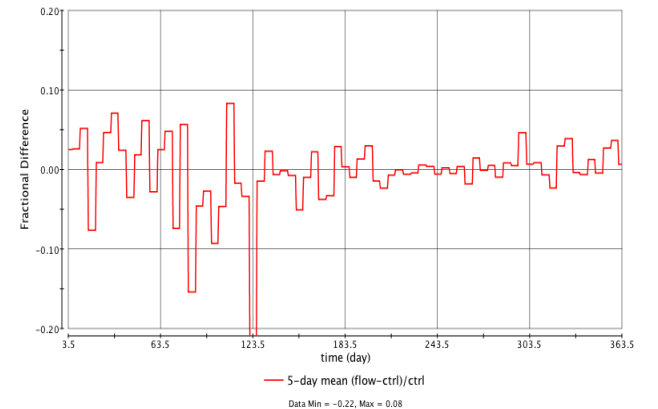
Canopy Air Space Temperature



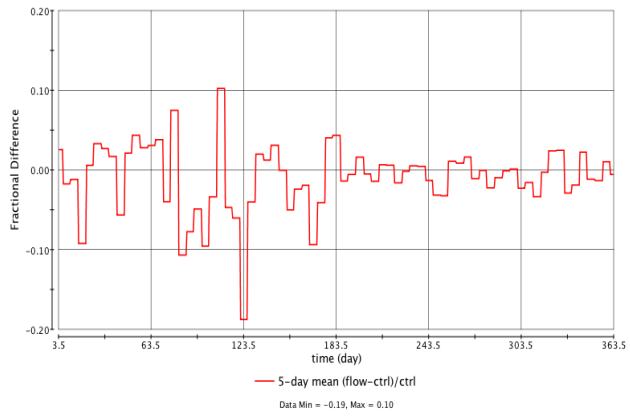
Surface Precip. Rate



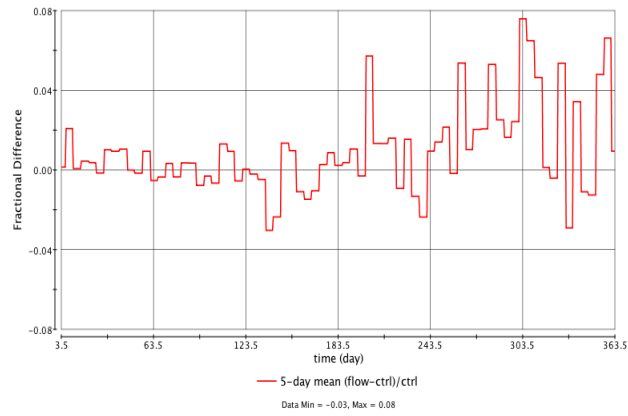
Net Carbon Assimilation



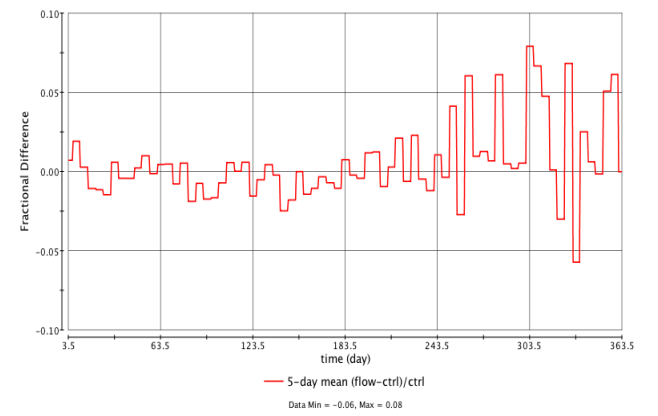
Latent Heat Flux



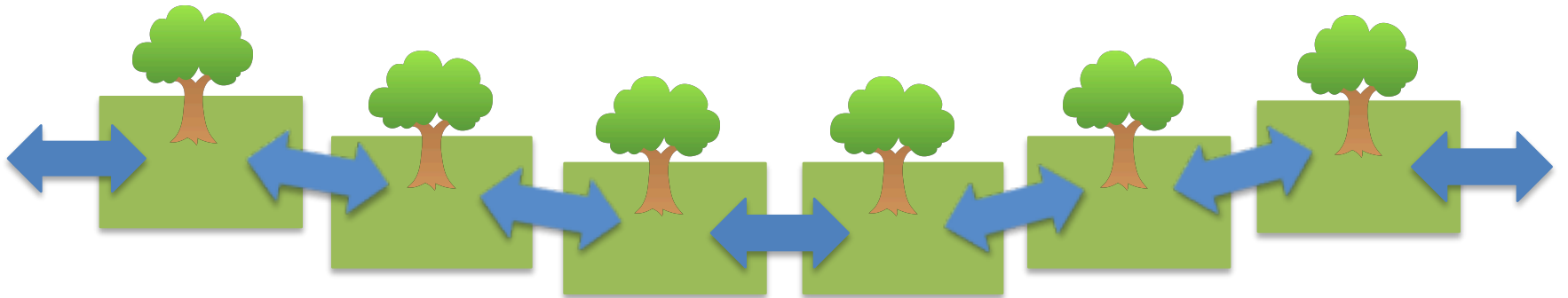
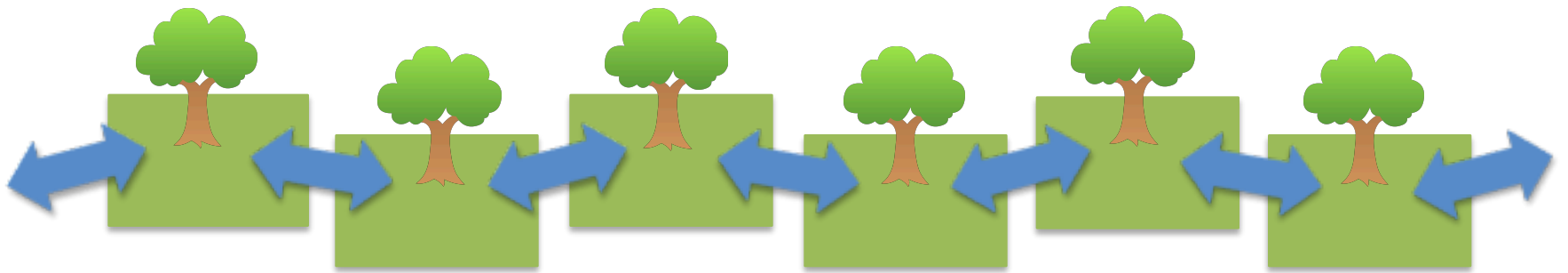
Soil Moisture upper 10 cm,



Respiration

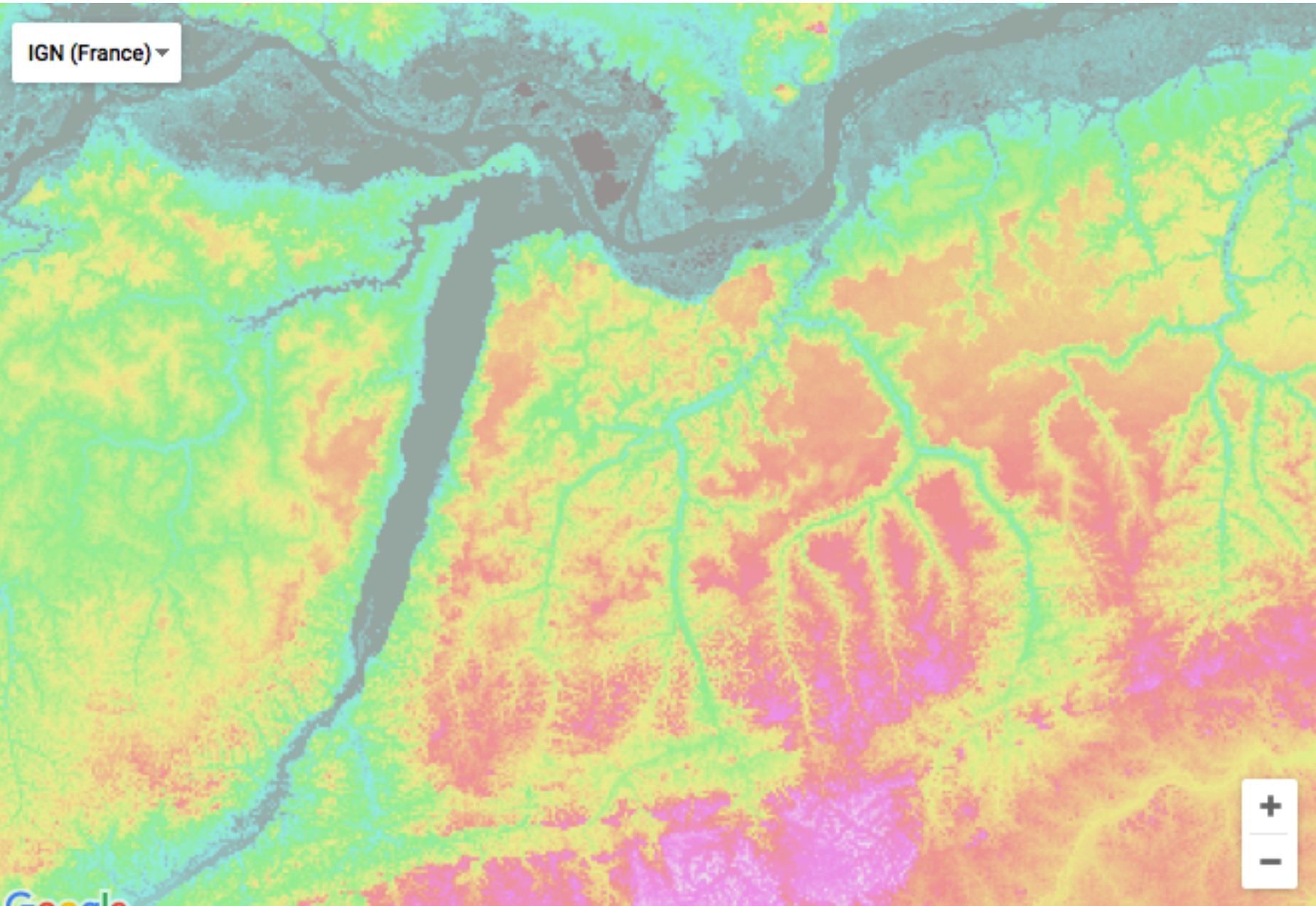


Topographic Drainage



- 469 m
- 436 m
- 404 m
- 372 m
- 342 m
- 313 m
- 285 m
- 259 m
- 233 m
- 209 m
- 186 m
- 164 m
- 143 m
- 124 m
- 106 m
- 89 m
- 74 m
- 59 m
- 47 m
- 35 m
- 25 m
- 17 m
- 10 m
- 5 m
- 1 m
- 0 m

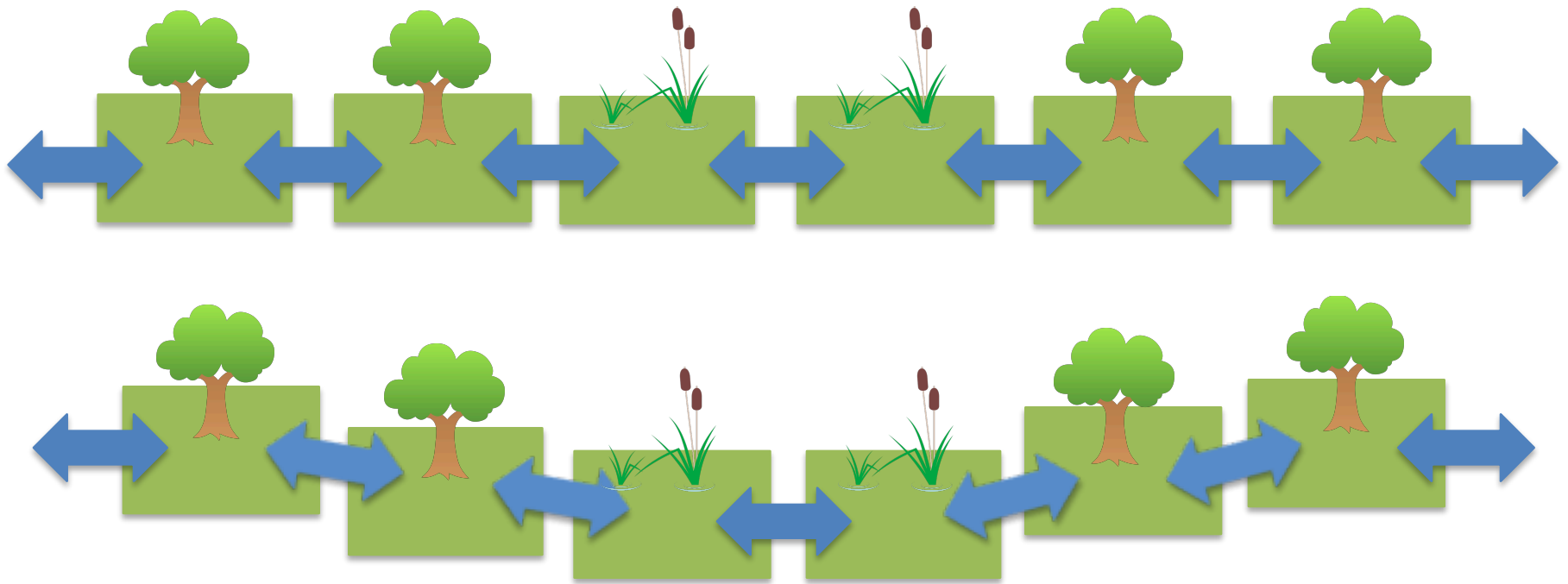
IGN (France) ▾



Google

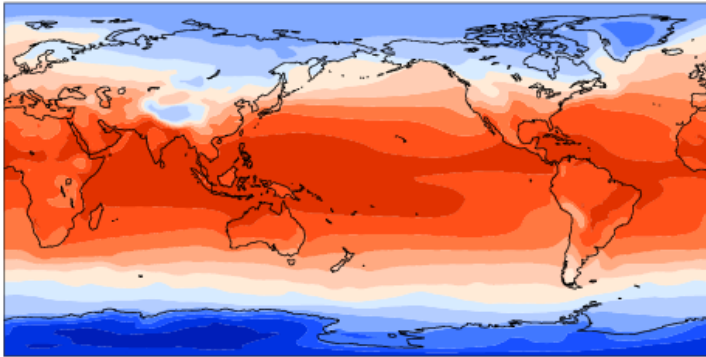


Ecotones and Drainage



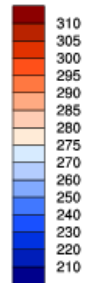
SPCAM_multi_instance (yrs 1-29)

Surf Temp (radiative) mean= 288.14 K



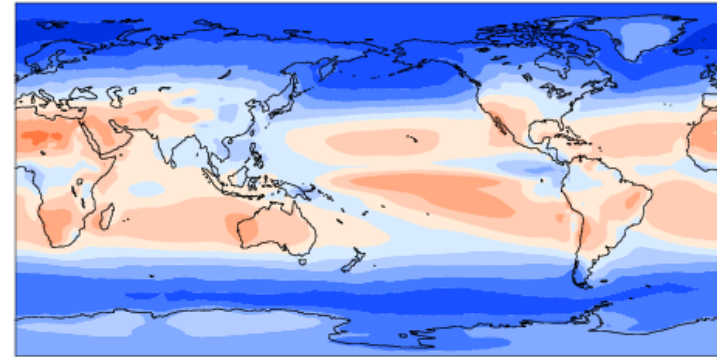
ANN

Min = 214.55 Max = 304.29



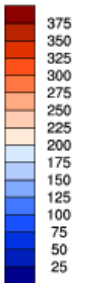
SPCAM_multi_instance (yrs 1-29)

Surf downwelling SW mean= 182.35 W/m²



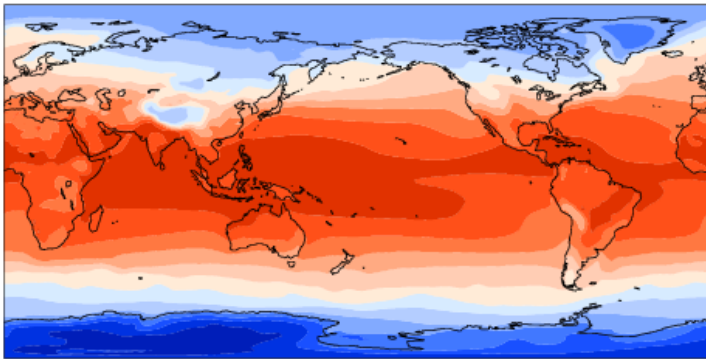
ANN

Min = 52.60 Max = 281.31

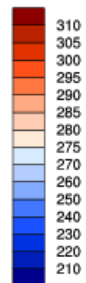


SPCAM_cntl (yrs 1-29)

Surf Temp (radiative) mean= 288.13 K

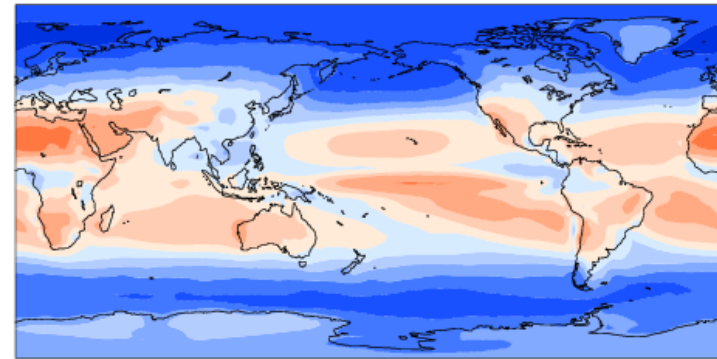


Min = 213.36 Max = 304.79

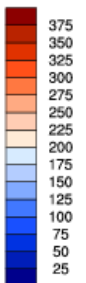


SPCAM_cntl (yrs 1-29)

Surf downwelling SW mean= 183.72 W/m²

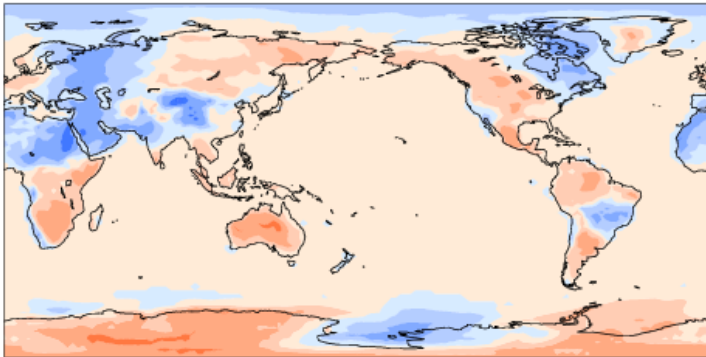


Min = 52.70 Max = 293.70

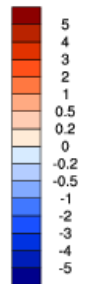


SPCAM_multi_instance - SPCAM_cntl

mean = 0.02 rmse = 0.24 K

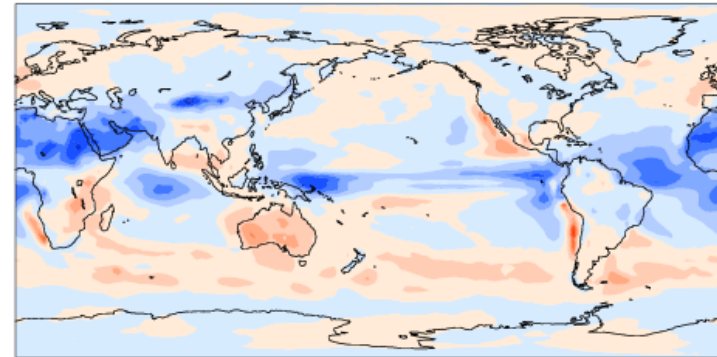


Min = -2.23 Max = 1.81

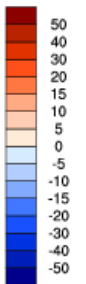


SPCAM_multi_instance - SPCAM_cntl

mean = -1.37 rmse = 6.13 W/m²

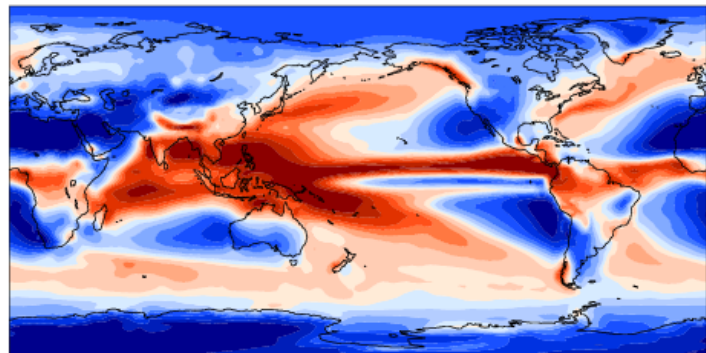


Min = -46.03 Max = 31.24



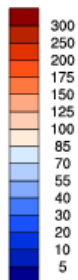
SPCAM_multi_instance (yrs 1-29)

Cumulative precipitation mean= 103.02 cm



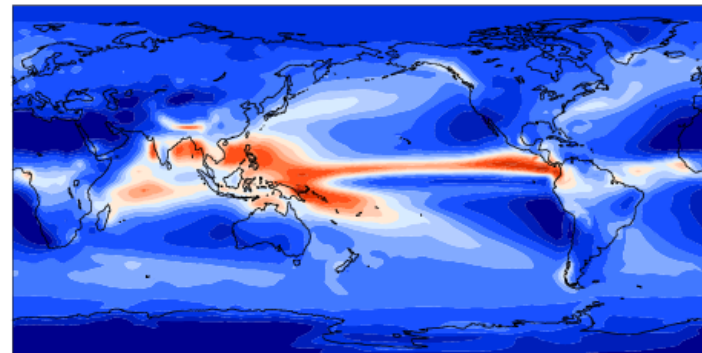
ANN

Min = 0.03 Max = 681.21



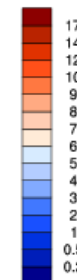
SPCAM_multi_instance (yrs 1-29)

Precipitation rate mean= 2.82 mm/day



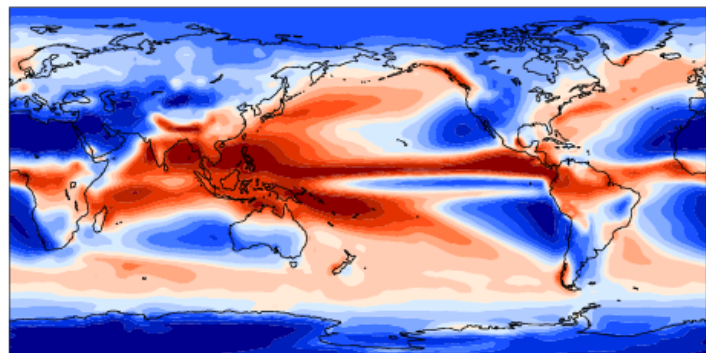
ANN

Min = 0.00 Max = 18.66

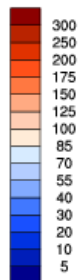


SPCAM_cntl (yrs 1-29)

Cumulative precipitation mean= 103.02 cm

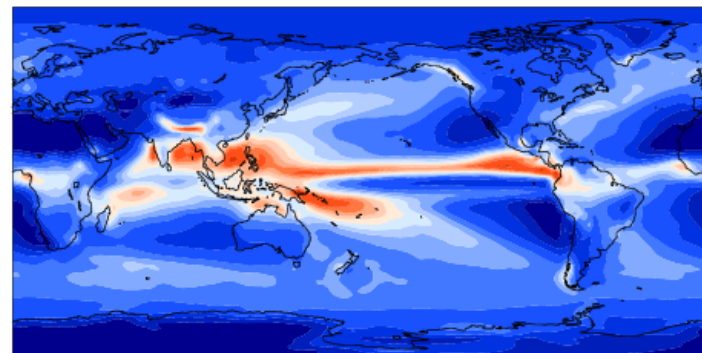


Min = 0.16 Max = 581.60

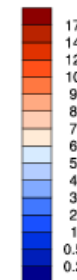


SPCAM_cntl (yrs 1-29)

Precipitation rate mean= 2.82 mm/day

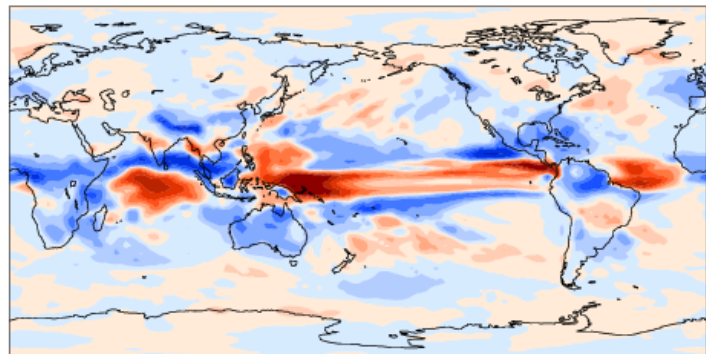


Min = 0.00 Max = 15.93

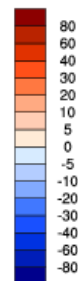


SPCAM_multi_instance - SPCAM_cntl

mean = 0.01 rmse = 16.17 cm

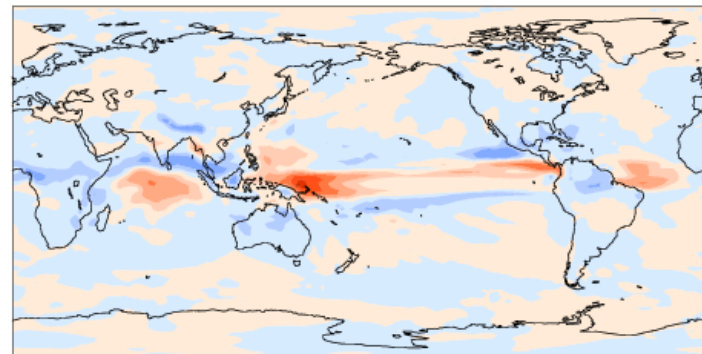


Min = -75.14 Max = 162.26



SPCAM_multi_instance - SPCAM_cntl

mean = 0.00 rmse = 0.44 mm/day



Min = -2.06 Max = 4.45

