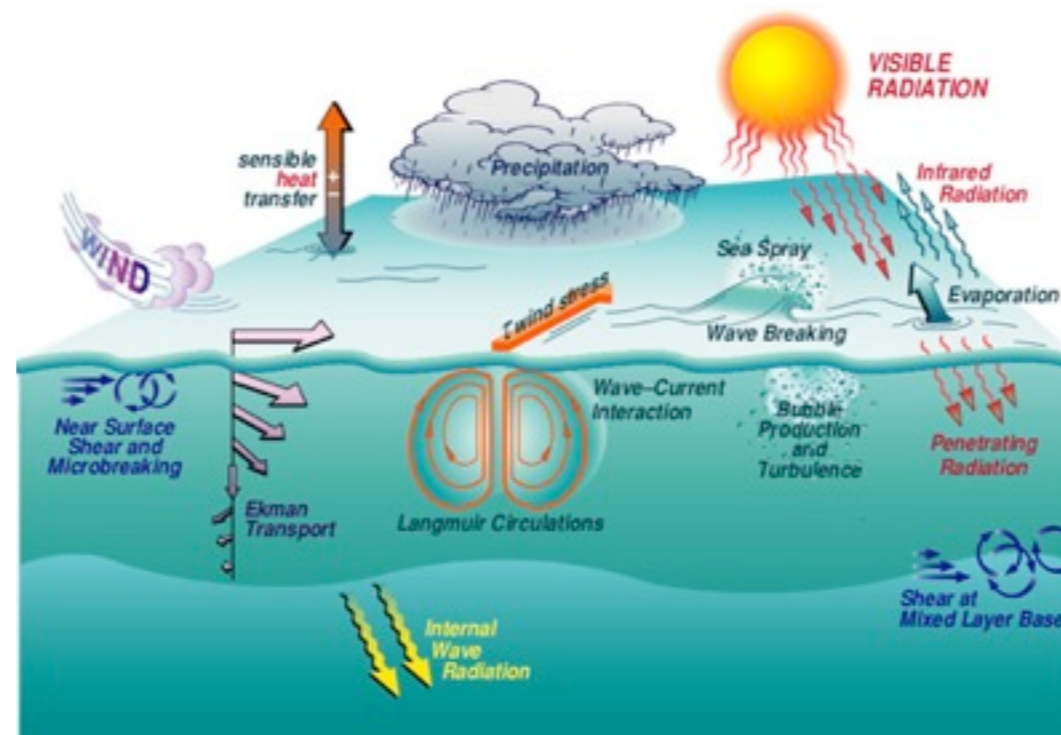


Atmosphere-Ocean Interaction: Coupling of Cosmo/Roms

David Byrne

Goals

Atmosphere-ocean interactions determining the net transfer of freshwater and the resulting impacts on atmosphere and ocean dynamics in the Southern Ocean region.



Coupling



SST

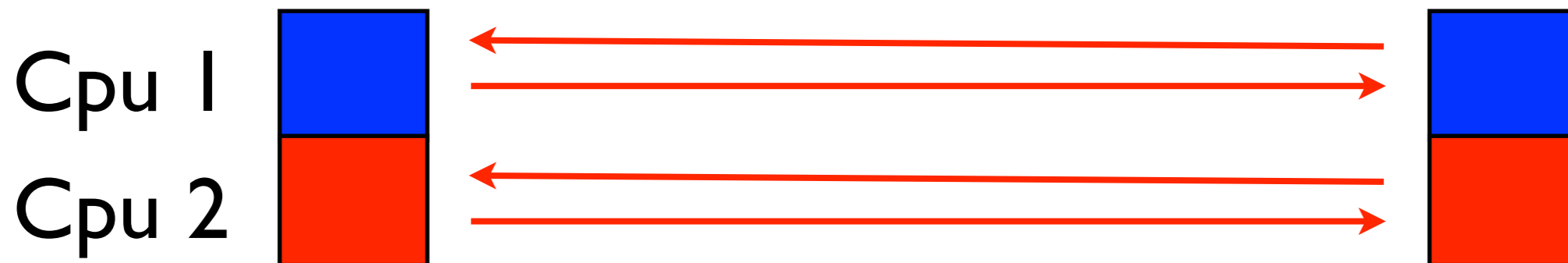
Net Heat Flux

Momentum Fluxes

Fresh Water Flux

(Edouard Davin) Cosmo-clm2

Grids and decomposition are the same

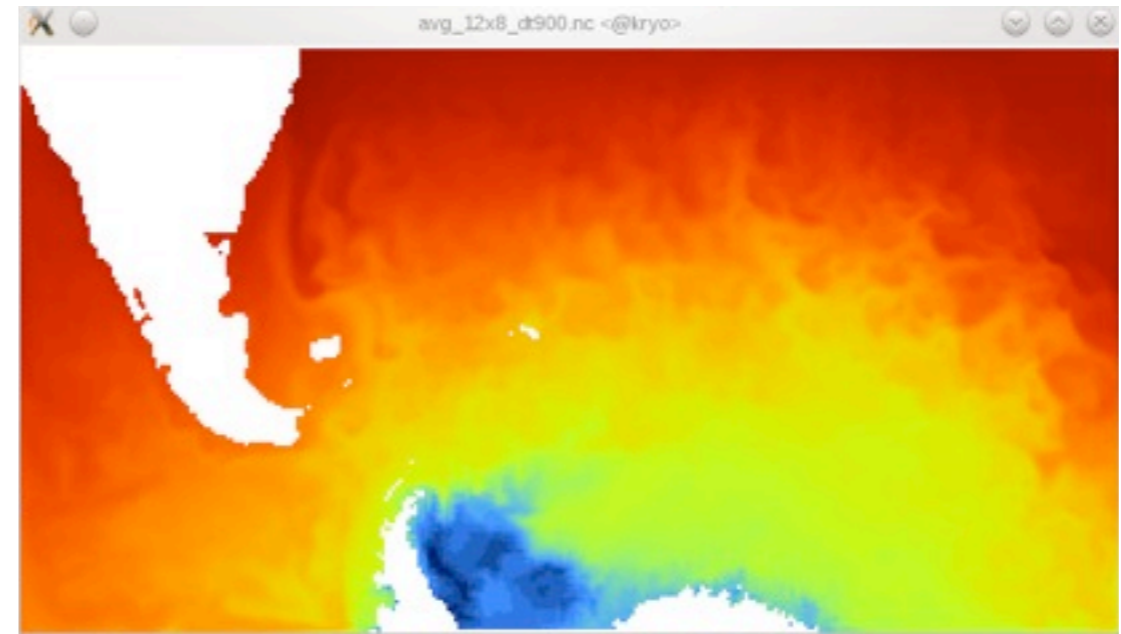
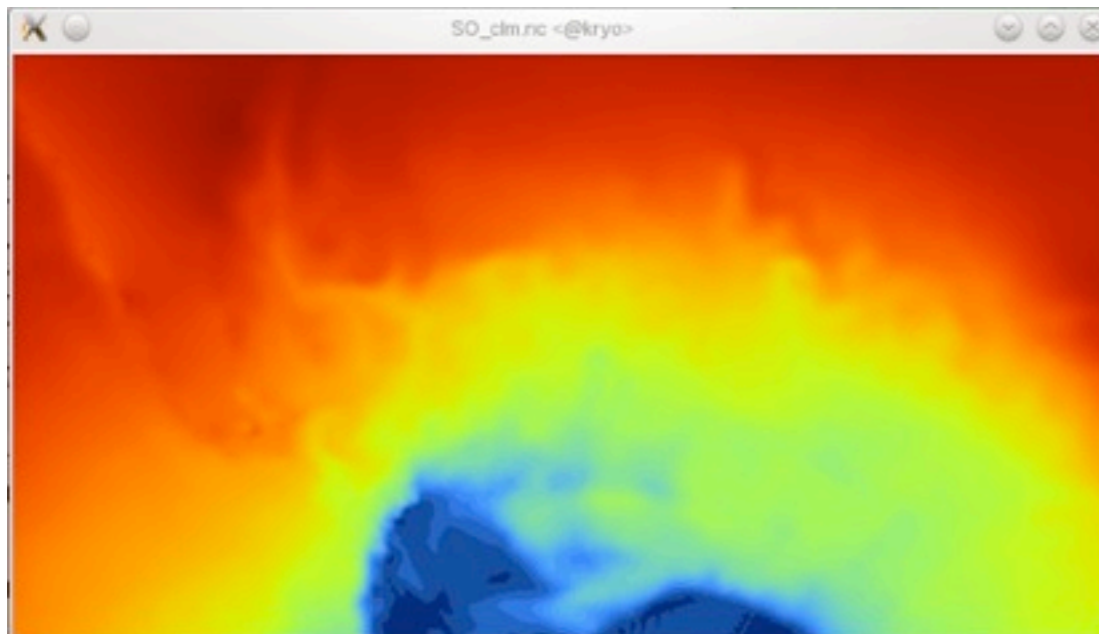


No need to interpolate between grids - Conservation of fluxes.

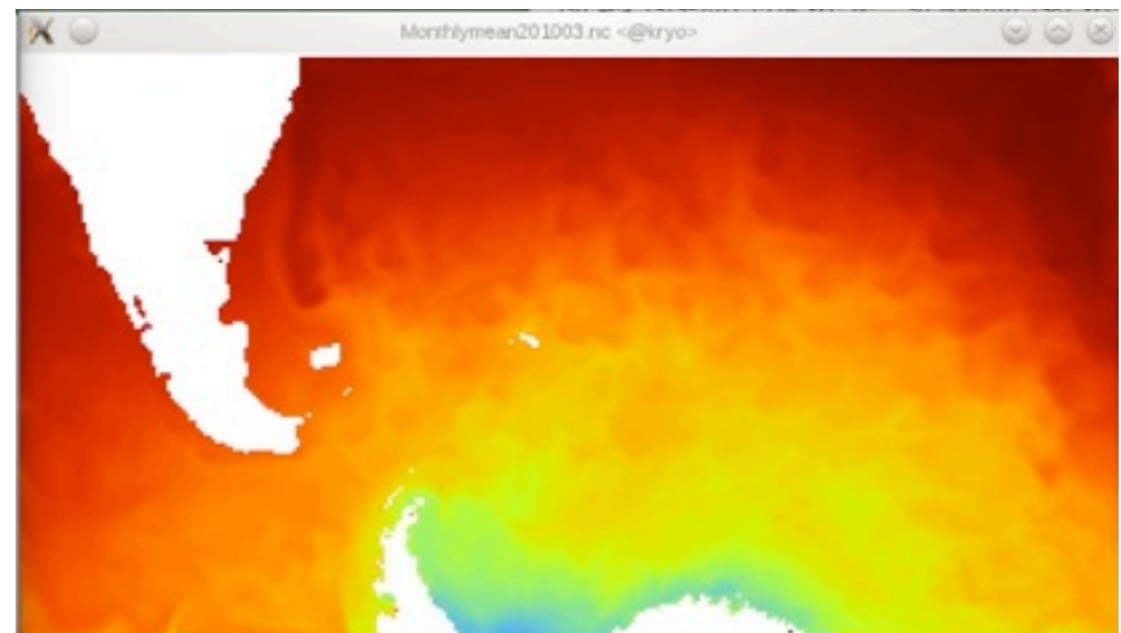
Results - Testing SST

Roms Stand alone

Climatology - Soda

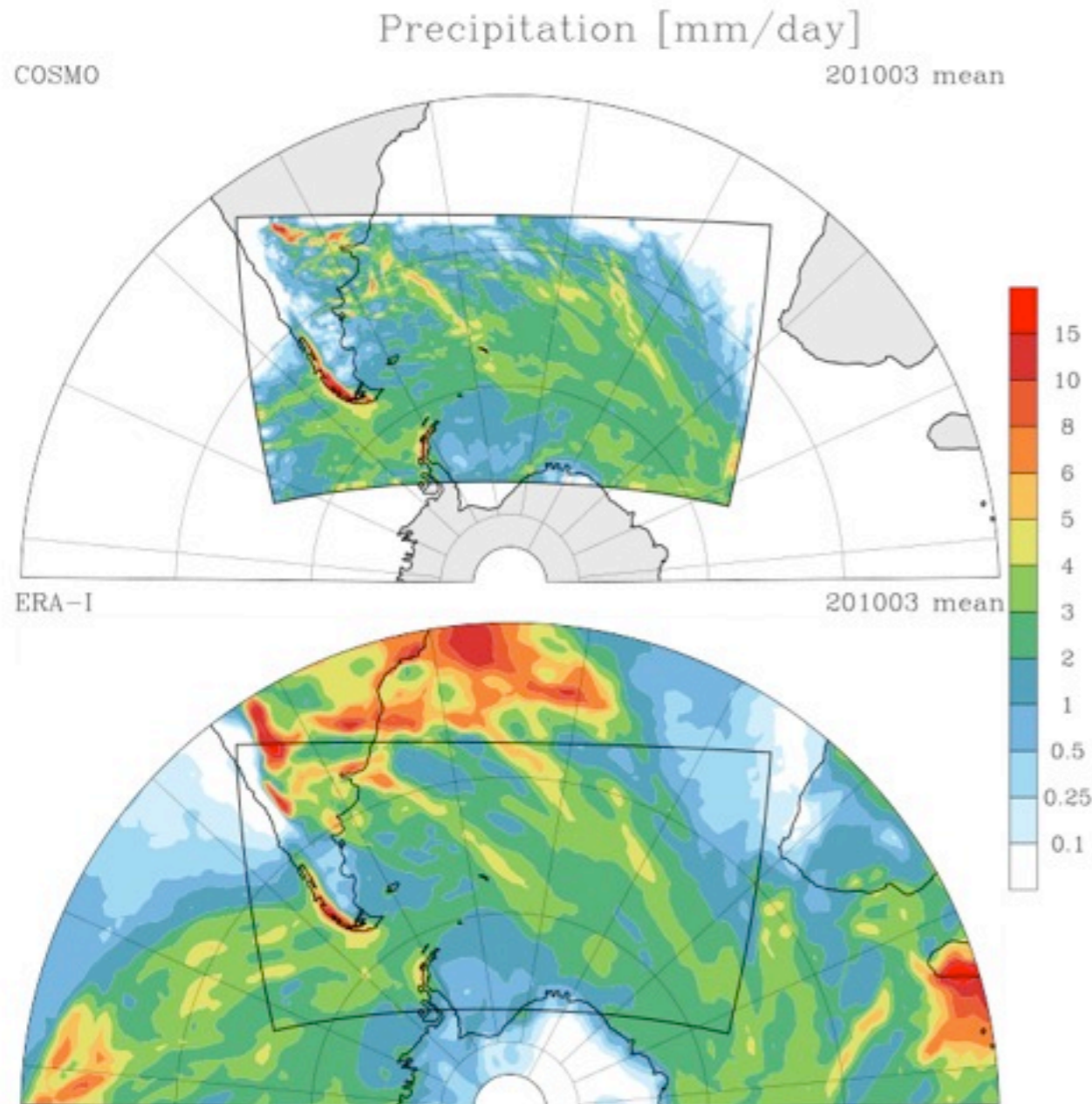


Coupled

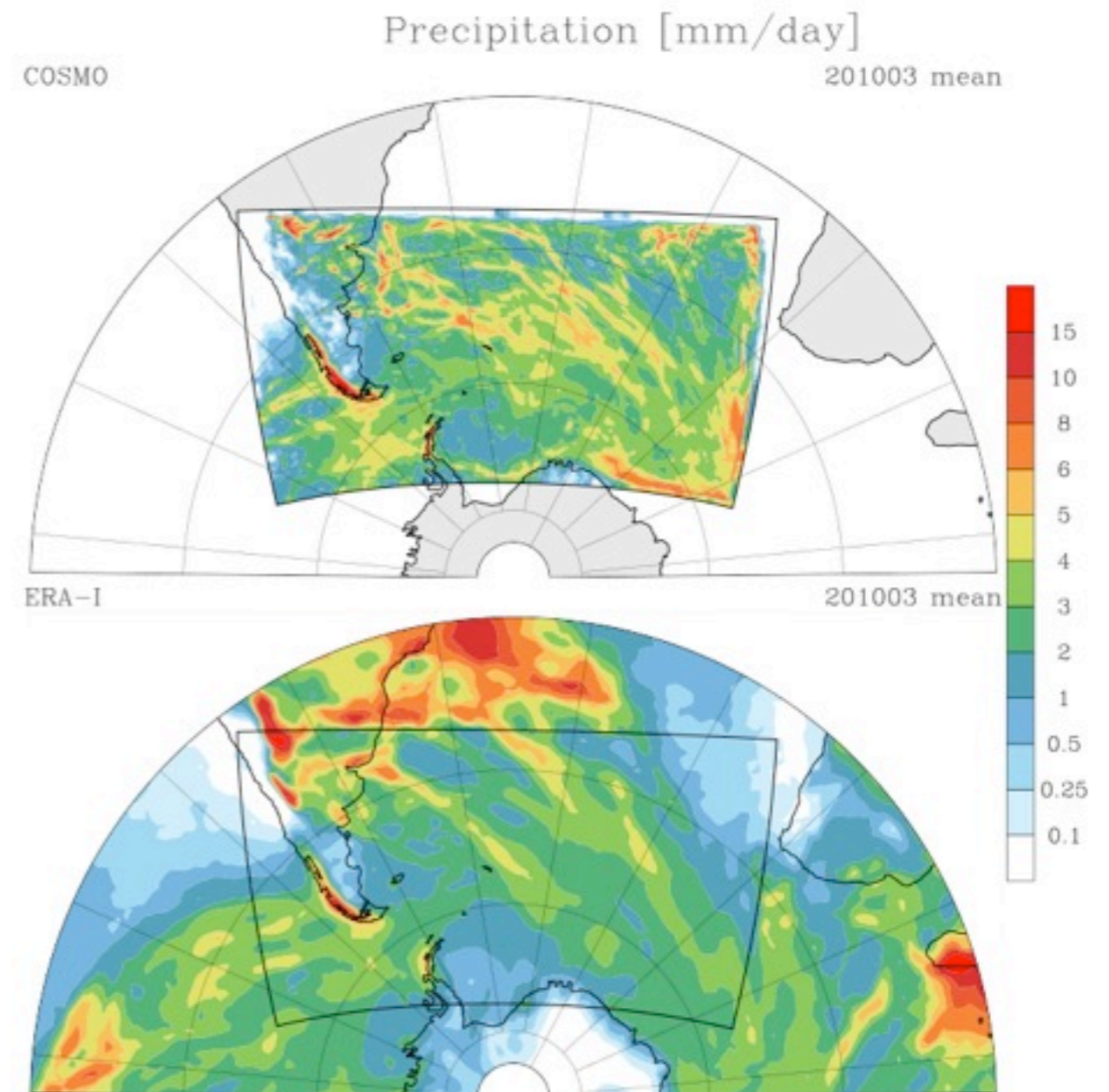


Results - Testing

Cosmo Standalone



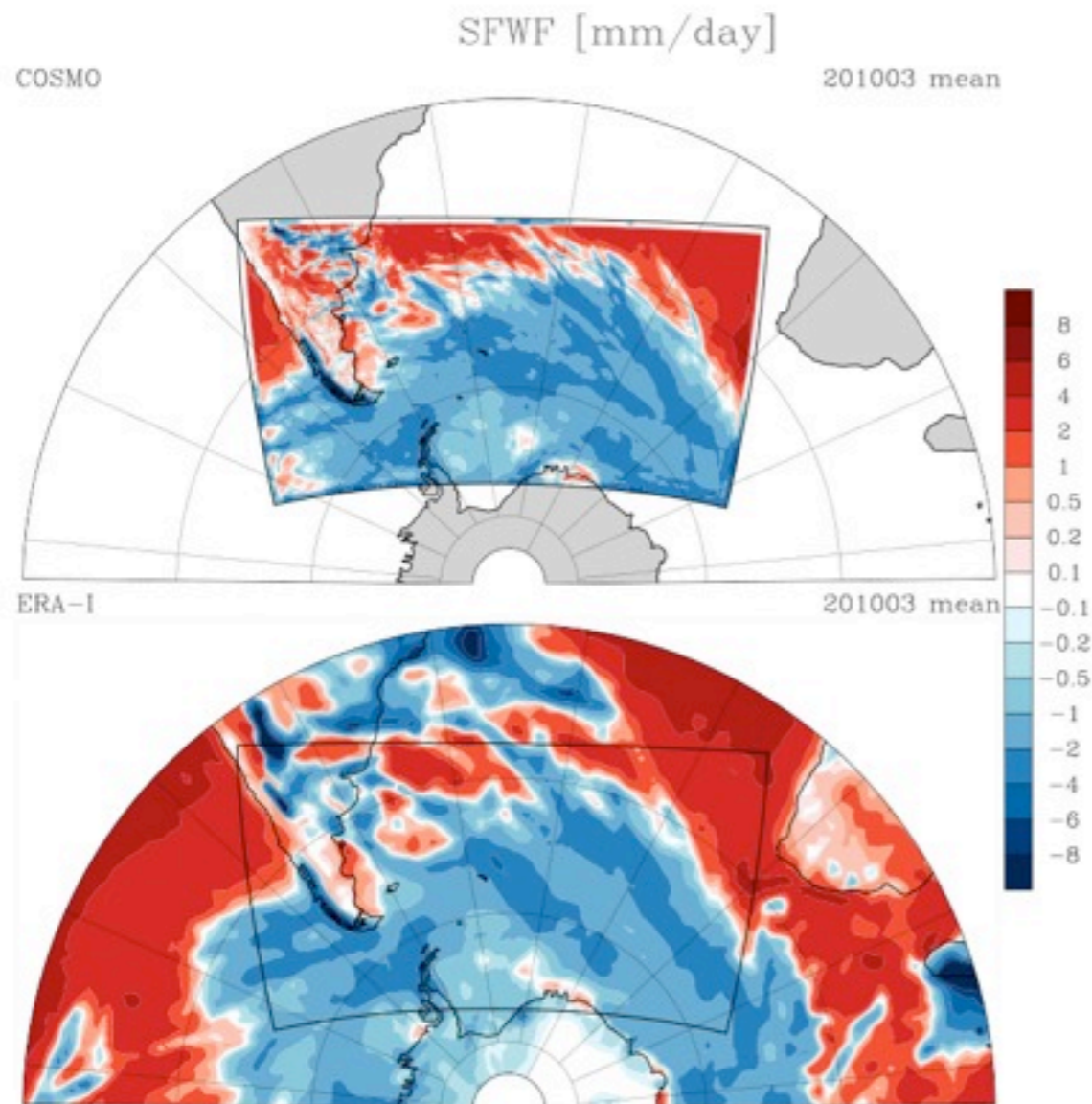
Cosmo Coupled



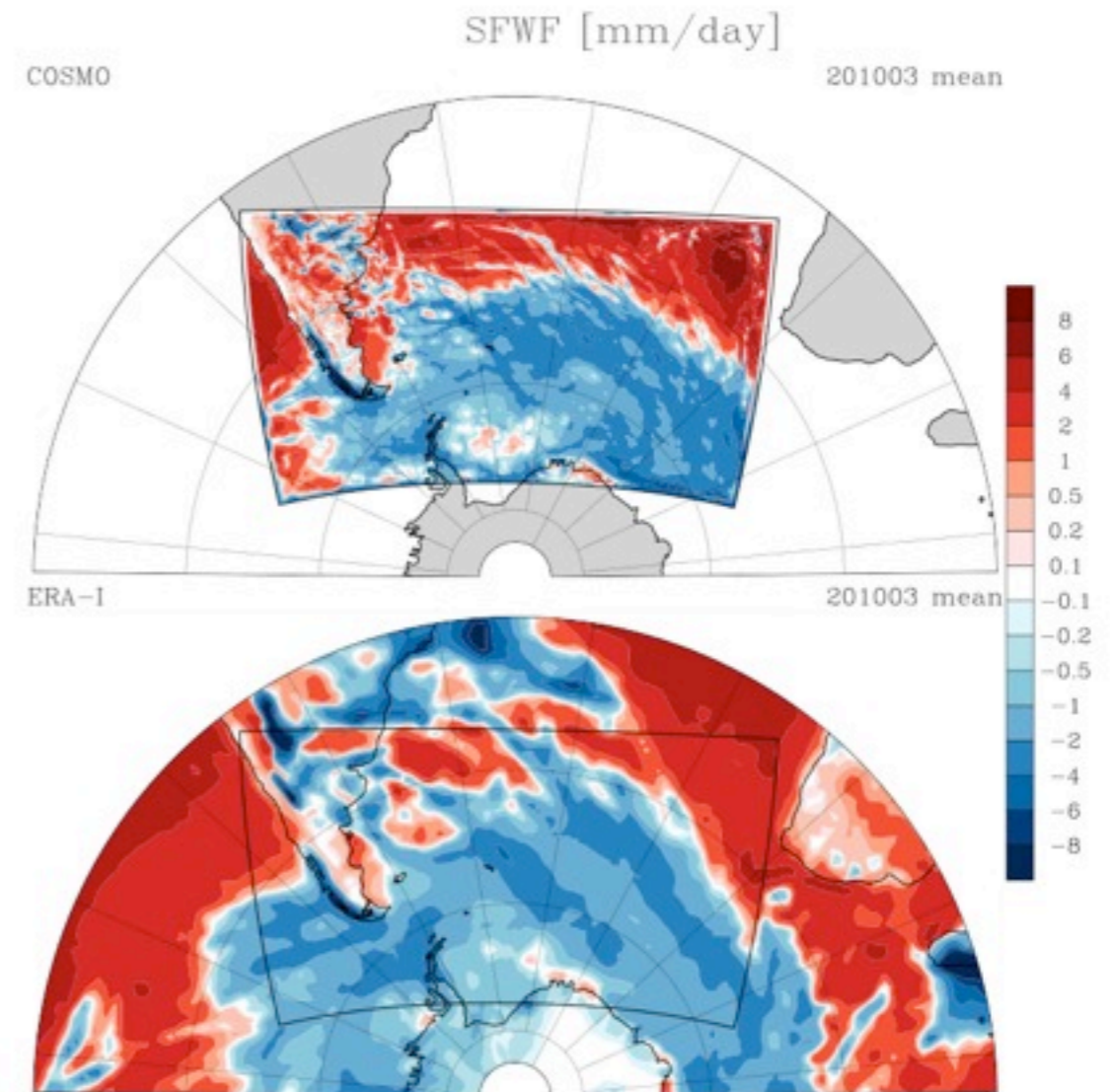
Plot generation code and model setup - Lukas Papritz

Results - Testing

Cosmo Standalone



Cosmo Coupled



Cosmo well behaved in region.

Difficult boundary conditions for Roms - cutting strong currents.