

Interaction/teleconnection between tropics and extra-tropics

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AIM: Evaluate the ability of current seasonal forecasting systems in representing trop-extratrop. teleconnections. The analysis, based on observational and model data, uses a common framework for a straightforward intercomparison. Tropical rainfall is used to represent the atmospheric heat sources.

Precipitation:

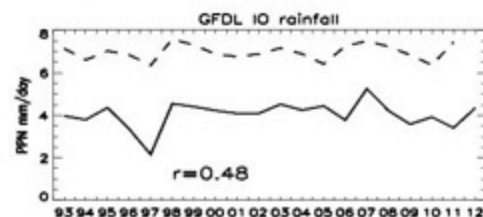
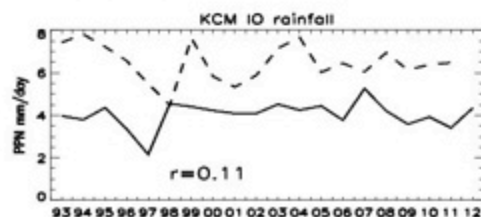
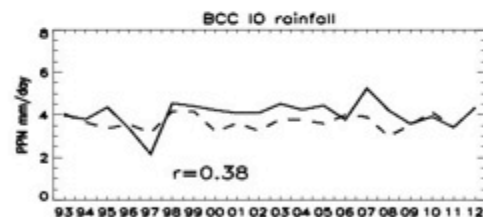
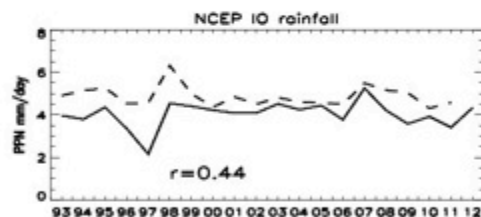
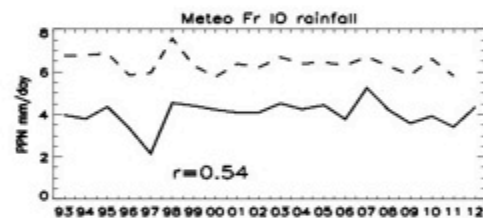
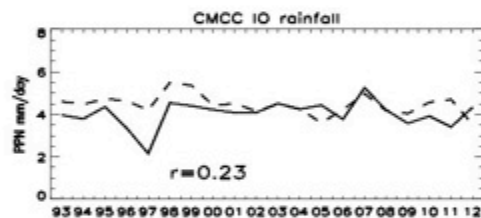
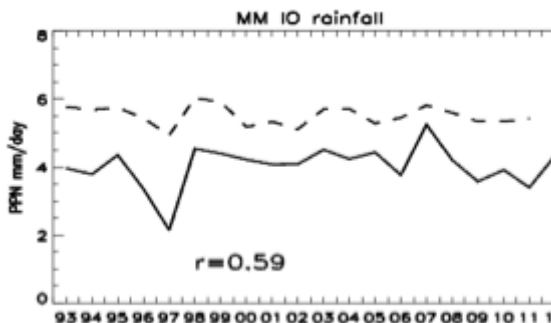
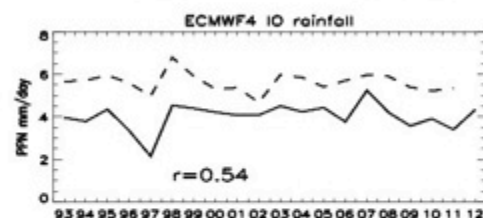
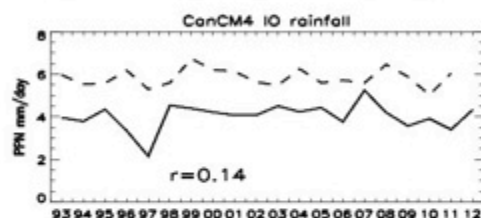
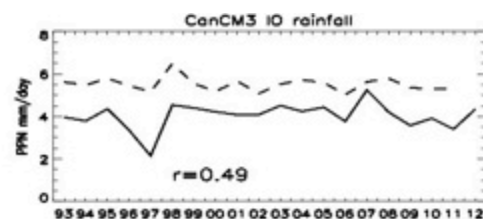
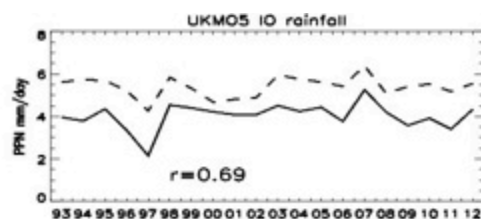
precipitation variability relationship over the tropical regions.

the predictive skill of tropical precipitation across different basins.

(Scaife et al. in preparation)

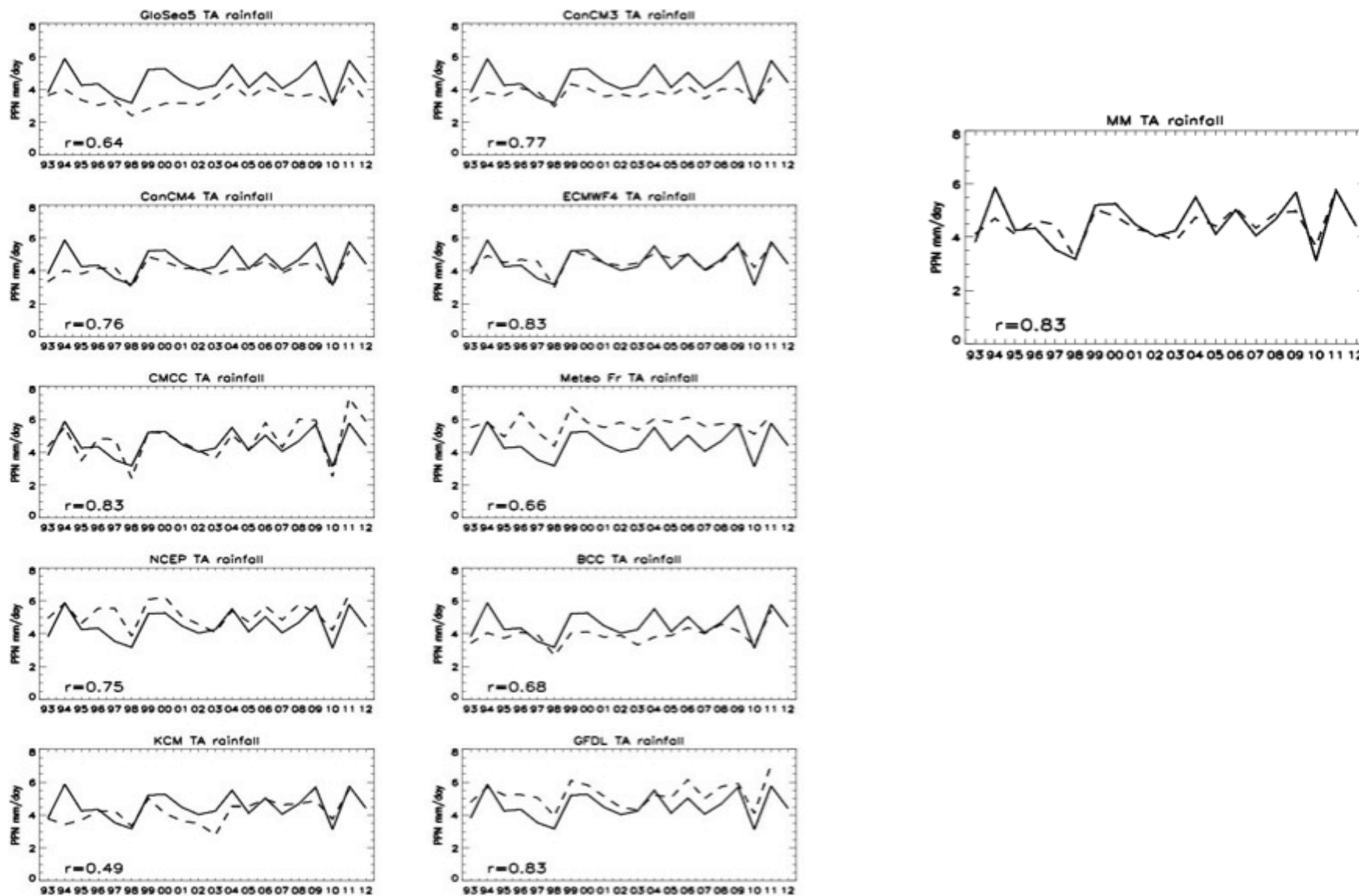
Teleconnections patterns associated with trop. precipitation (Covariance)

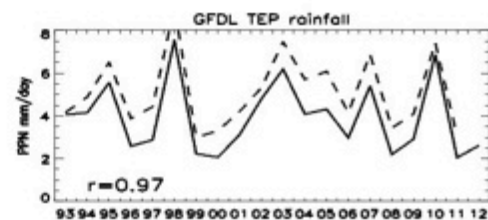
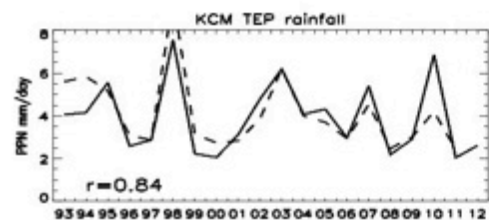
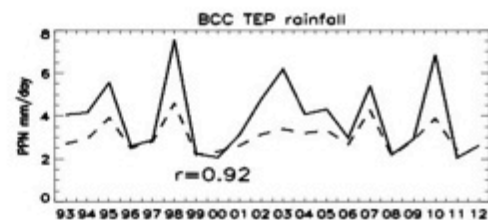
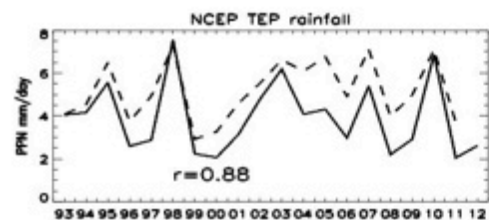
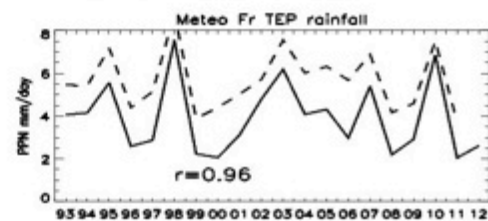
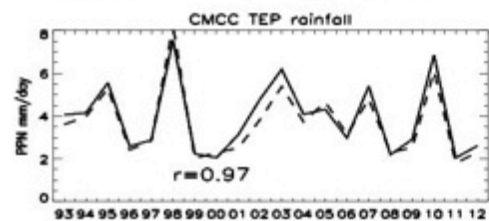
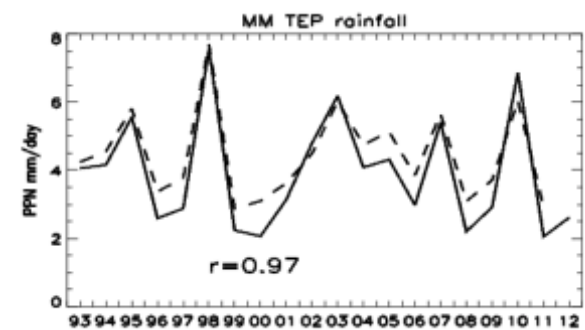
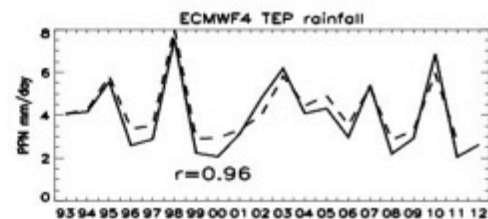
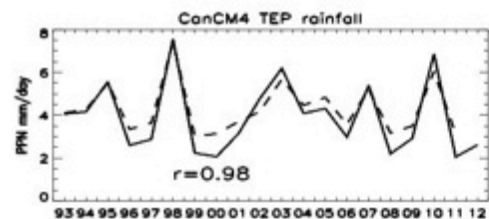
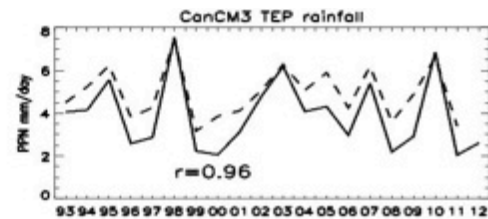
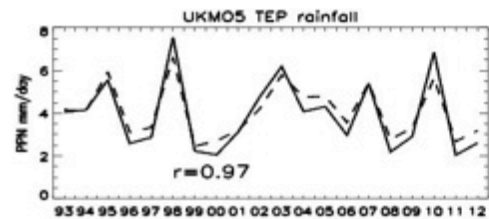
Seasonal skill for tropical rainfall: IO

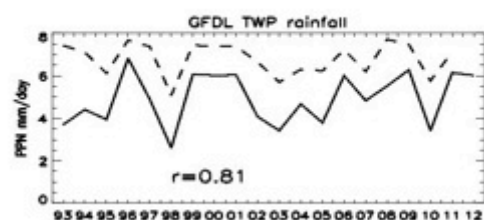
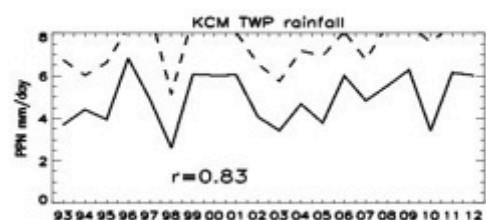
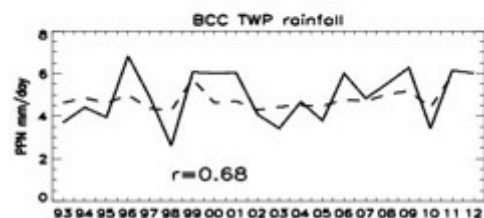
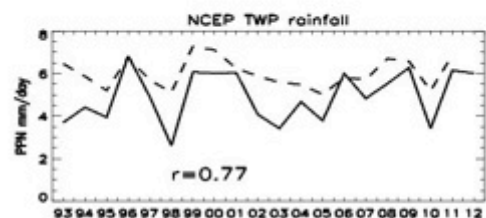
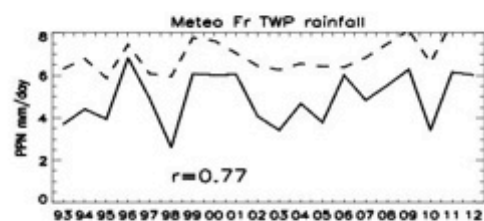
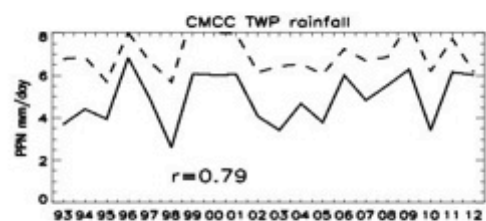
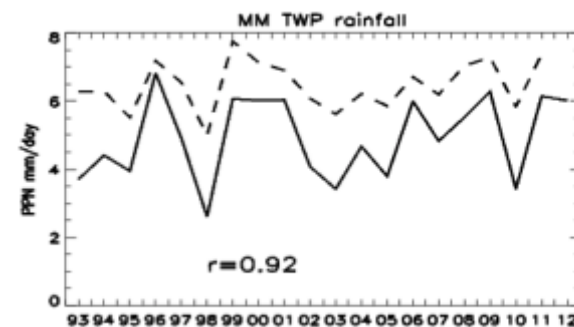
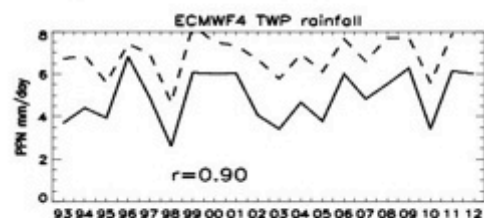
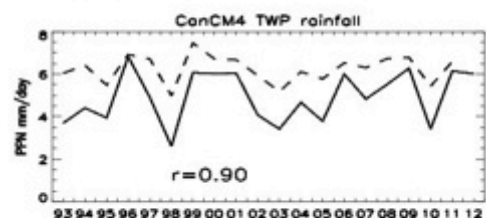
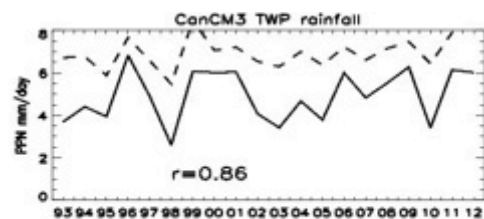
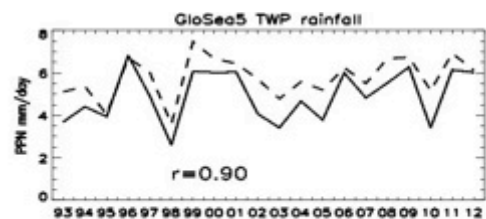


- Trop. East Pacific - the most skilful
- Trop. West Pacific - highly skilful
- Trop. Indian and Atlantic - lower but good skill.
- Some models outperform Multi-model .
- General wet biases

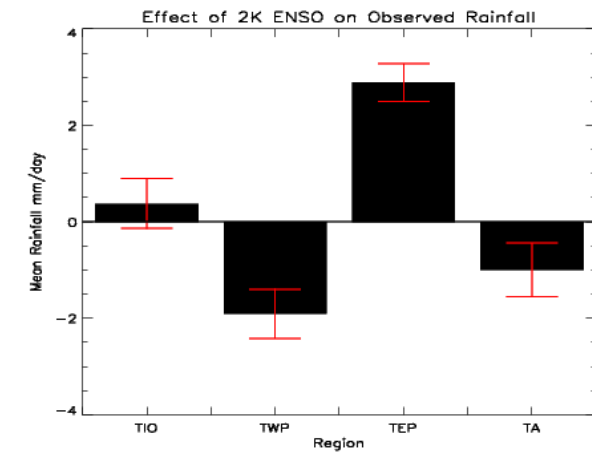
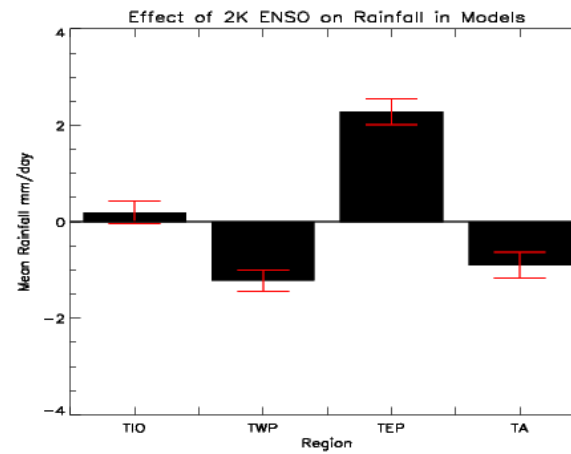
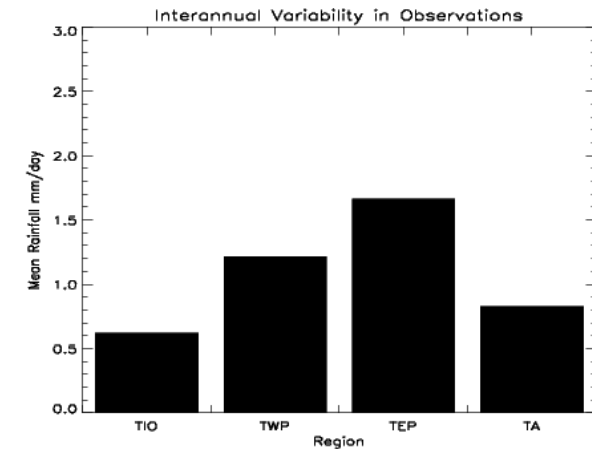
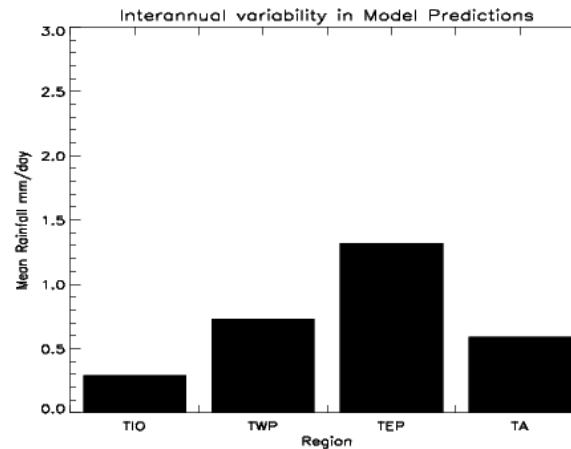
Seasonal skill for tropical rainfall: TA





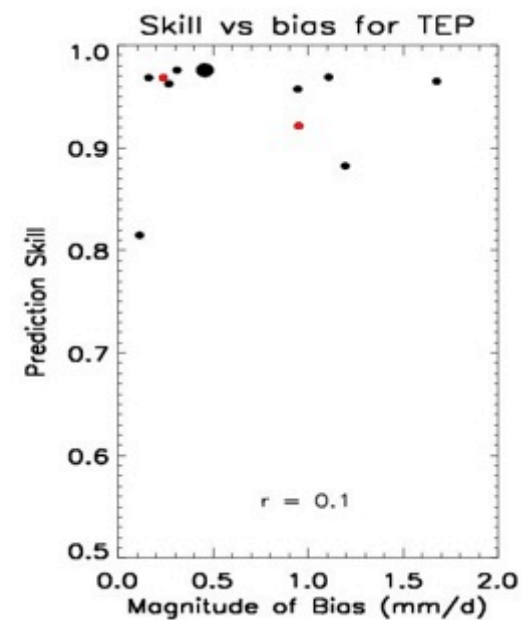
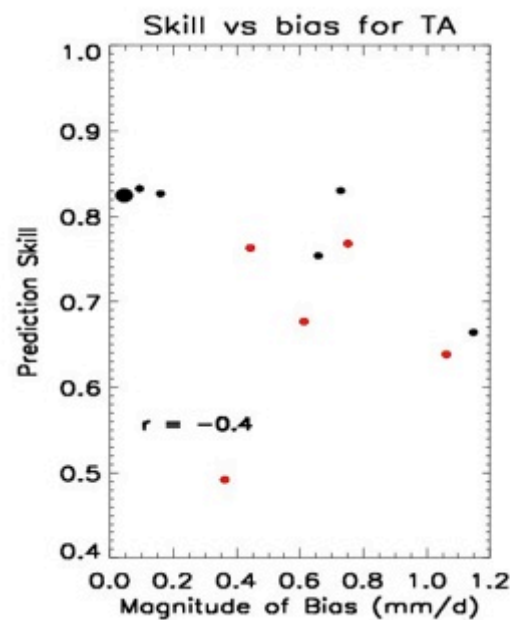
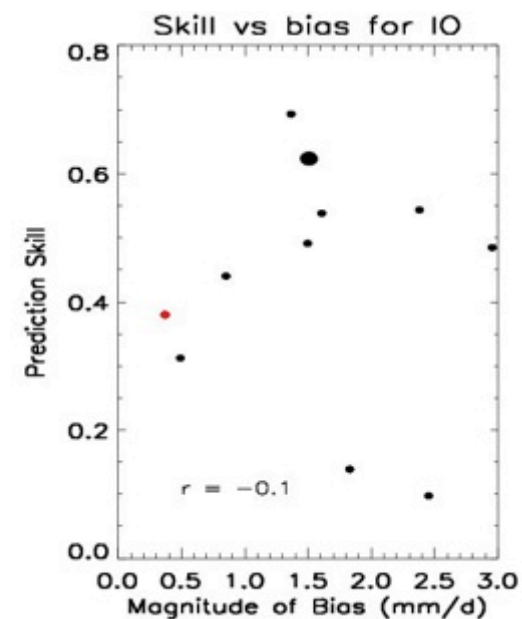
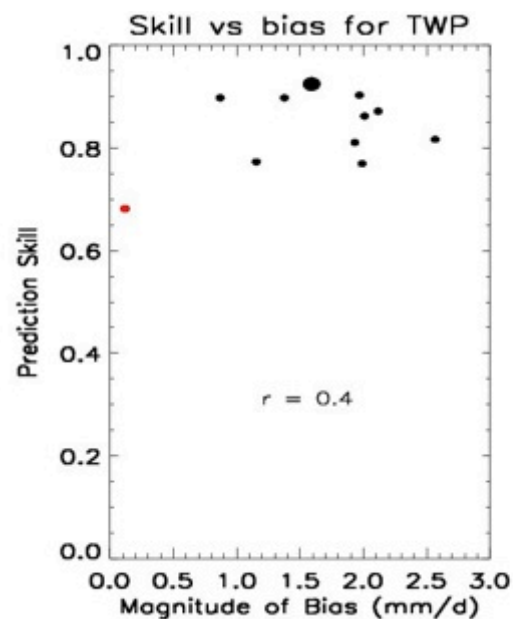


ENSO impacts on tropical rainfall predictions



Relationship between prediction skill and bias

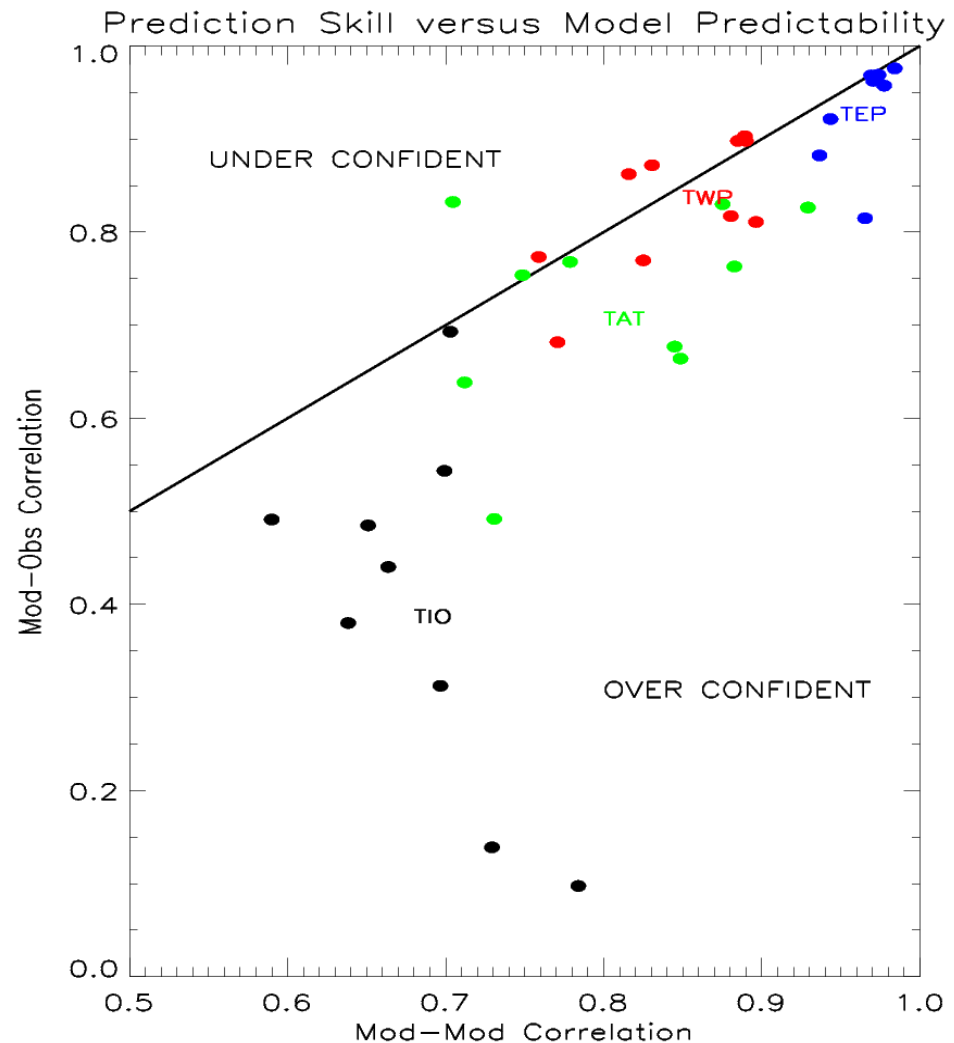
The relationship between bias and skill is not so clear



Model predictability versus real world prediction skill

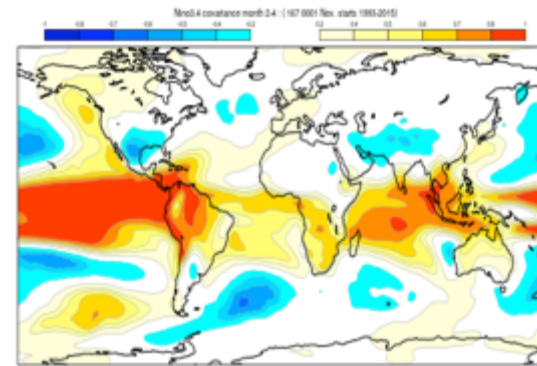
For TA - greater correlation with own ensemble members than with the observations. OVERCONFIDENT

For IO larger discrepancy between potential pred. and actual skill.

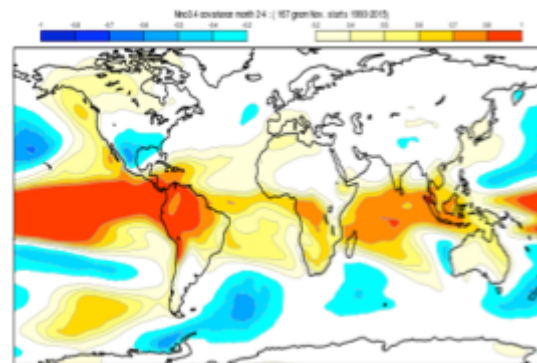


Teleconnections Niño 3.4 –T2m:

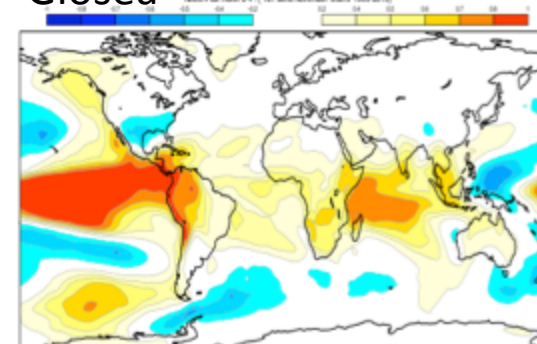
SEAS4



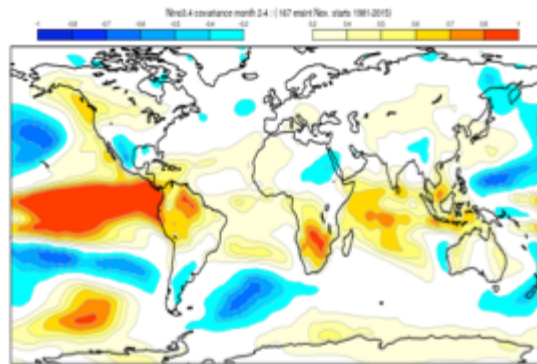
SEAS5



Glosea



ERA-INTERIM



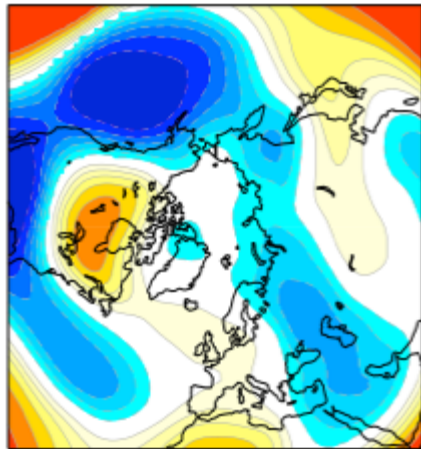
Teleconnections: Tropical Precip - Z500

ERAINTERIM

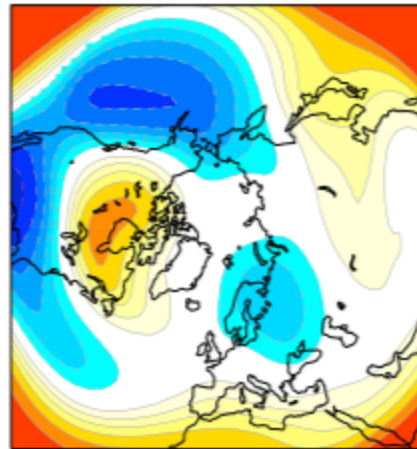
SEAS 5

SEAS 4

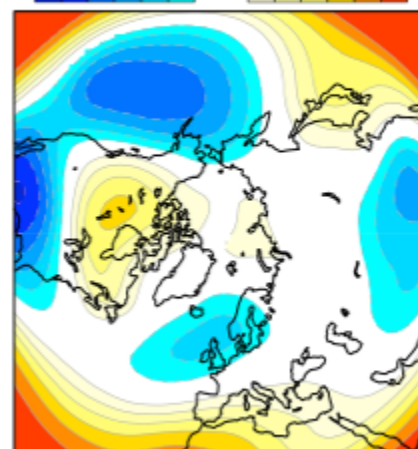
precip nino34 covariance month 2-4 : (129 eraint Nov. starts 1981-2015)



precip nino34 cov month 2-4 : (129 gnom Nov. starts 1993-2015)

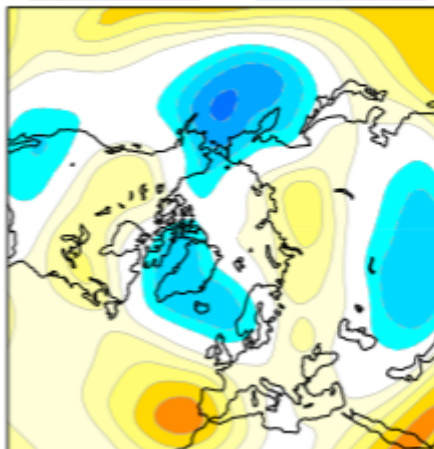


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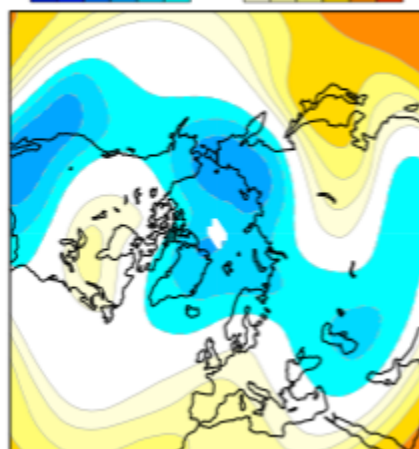


Niño3.4

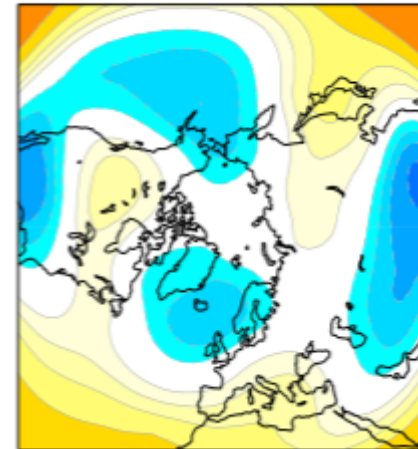
precip WCIO covariance month 2-4 : (129 eraint Nov. starts 1981-2015)



precip wcio cov month 2-4 : (129 gnom Nov. starts 1993-2015)



precip Nino3.4 covariance month 2-4 : (129 0001 Nov. starts 1993-2015)



Wcio



Teleconnections: Tropical Precip - Z500

ERAINTERIM

SEAS 5

Glosea

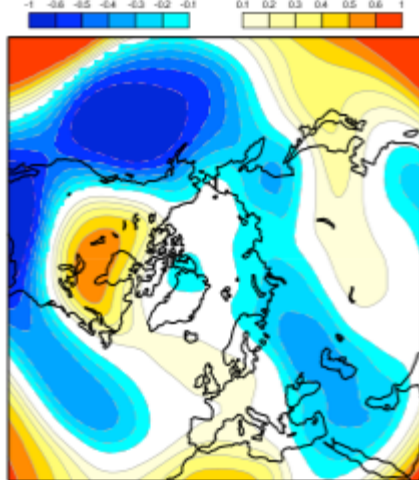


Niño3.4

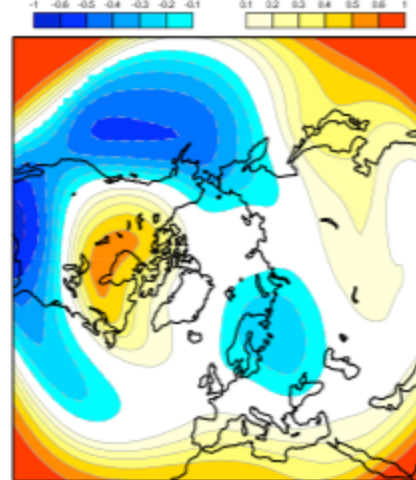
Wcio



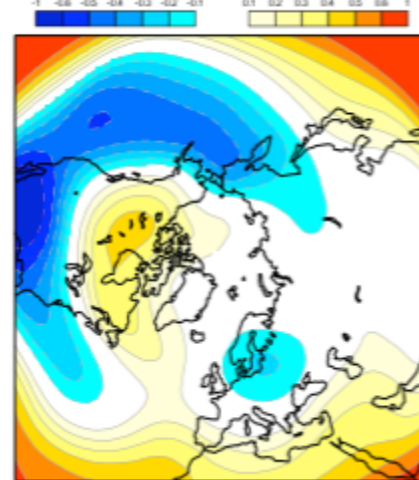
precip nino34 covariance month 2-4 : (129 eraint Nov. starts 1981-2015)



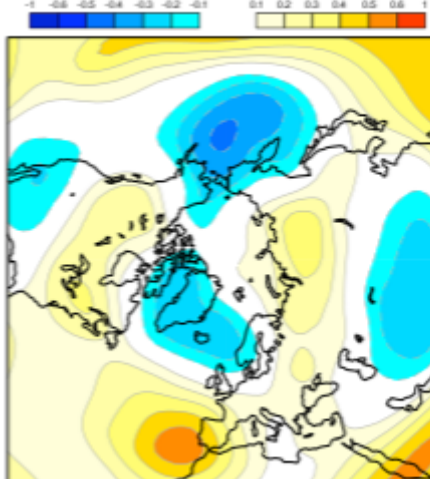
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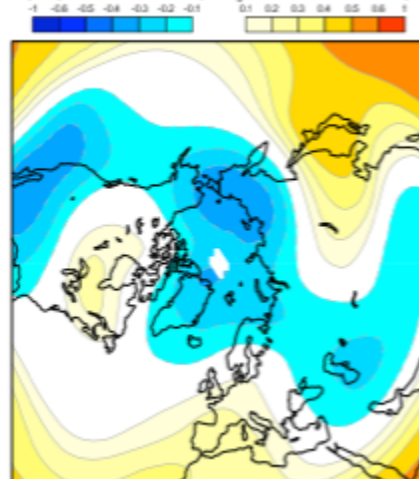
Niño3.4 cov month 2-4 : (129 ukmo November starts 1993-2015)



precip Wcio covariance month 2-4 : (129 eraint Nov. starts 1981-2015)



precip Wcio cov month 2-4 : (129 gnrm Nov. starts 1993-2015)



precip Wcio cov month 2-4 : (129 ukmo November starts 1993-2015)

