

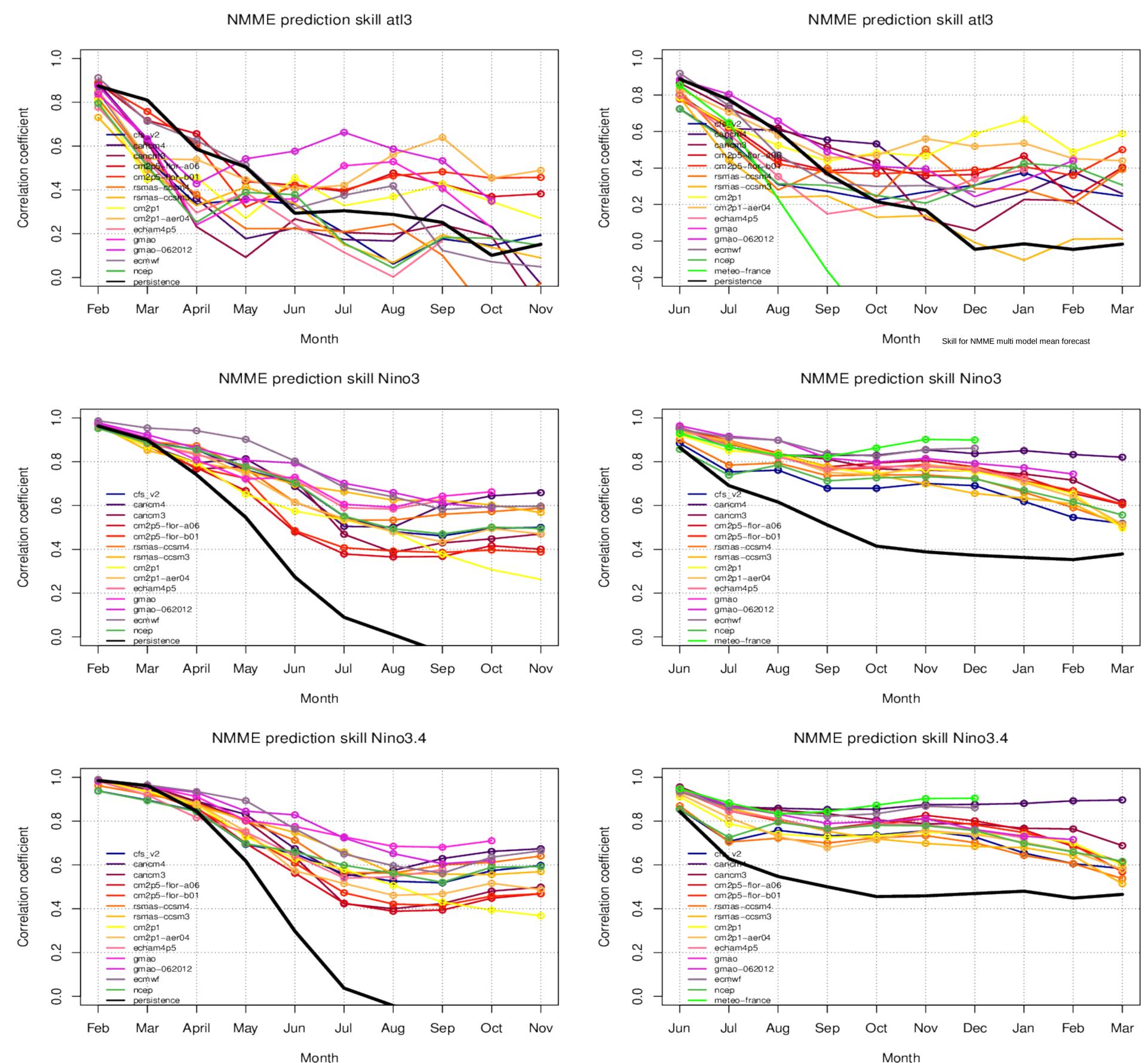
Impact of Tropical Atlantic variability on Tropical Pacific predictability TROPF UCM

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Previous studies indicate the of Atlantic influence ENSO variability on frequency and variability (Wu and Kirtman, 2004; Dommenget et al. 2006; Jansen et al., 2009).

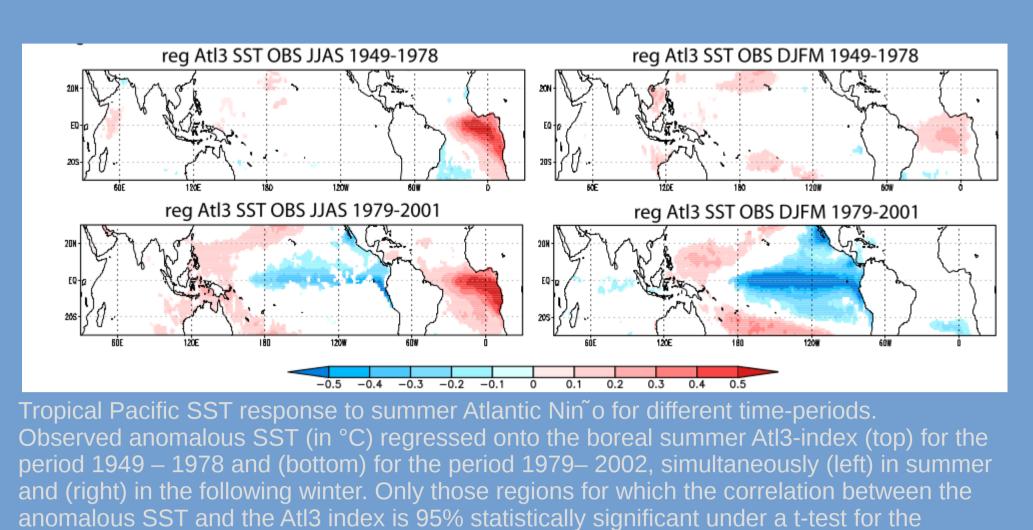
Rodriguez-Fonseca et al (2009) shows that summer Atlantic equatorial anomalous SSTs are highly anticorrelated with the equatorial Pacific in the next winter months.

OBJECTIVE: To investigate the impact of the summer Atlantic variability on the predictability of ENSO, using the NMME



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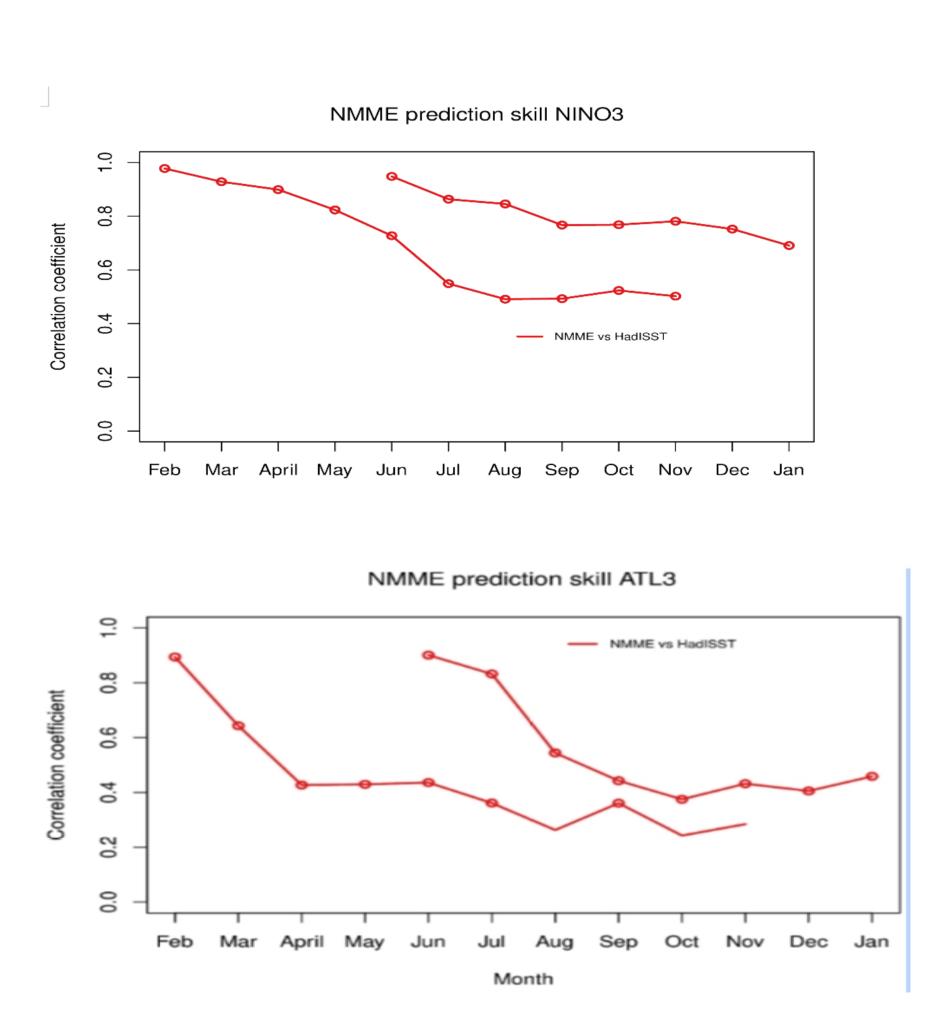
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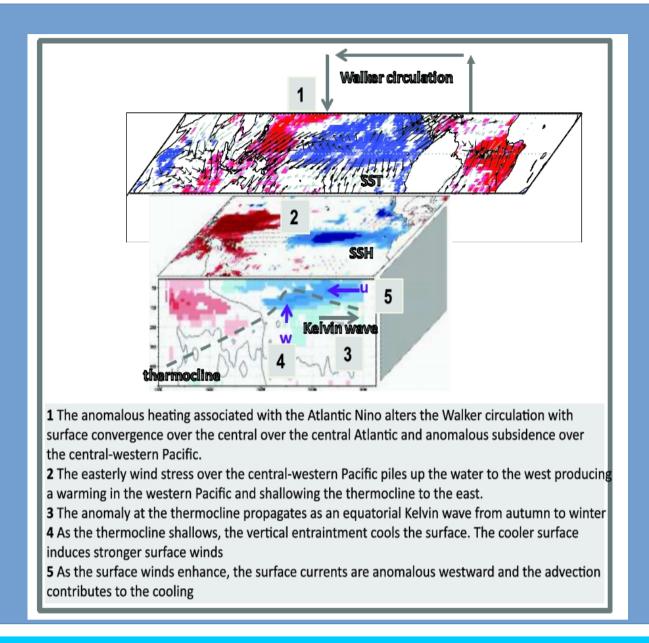
The mechanism of the Atlantic/Pacific teleconnection involves an anomalous Walker circulation triggered by the anomalous SST over the eastern Tropical Atlantic, which results in anomalous easterly winds over western Pacific and thermocline perturbations that propagate eastward thus favoring the development of ENSO conditions (Polo et al., 2015Ding et al., 20011; Losada et al., 2010;)

DATA: NMME and EUROSIP multi-model seasonal prediction systems for the period 1981-2014. compare retrospective forecasts initialized in February to forecasts initialized in June. Given that the METHODS: Tropical Atlantic is an area of large and systematic biases and poor prediction skill (i.e. Richter et al., 2017) this study emphasizes the importance of correctly representing the Tropical Atlantic mean state and variability in order to improve **Tropical Pacific predictability**

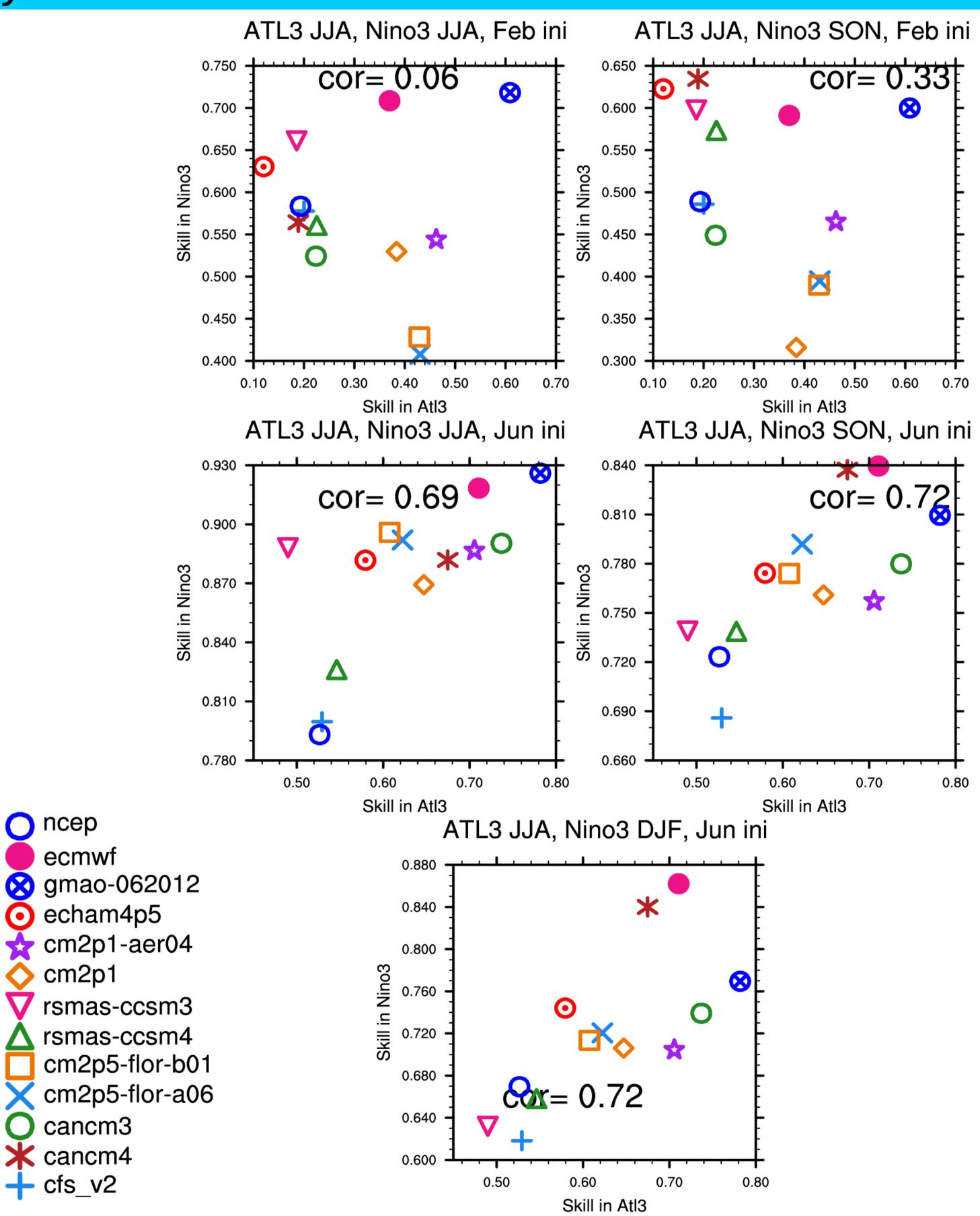
initialized forecasts June have consistently higher skill in predicting ENSO than the February initialized at longer lead times, indicating a source of ENSO predictability in the initialization of June.

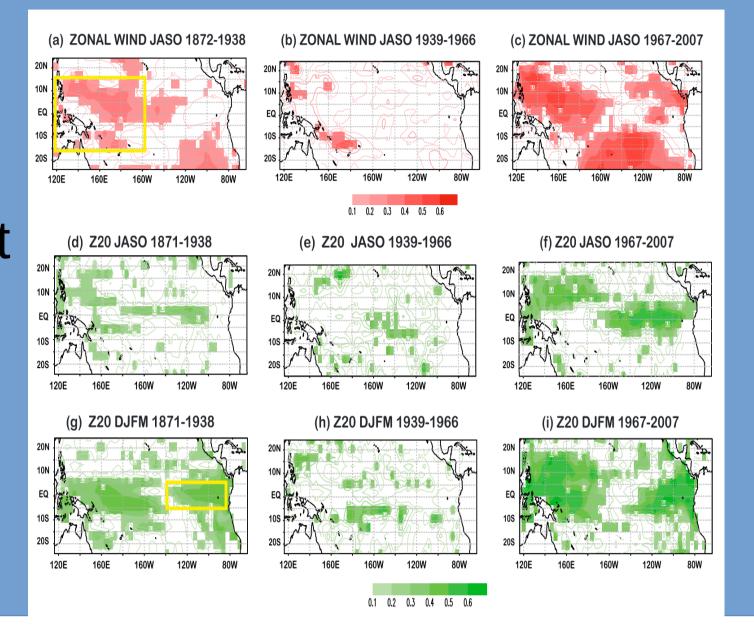


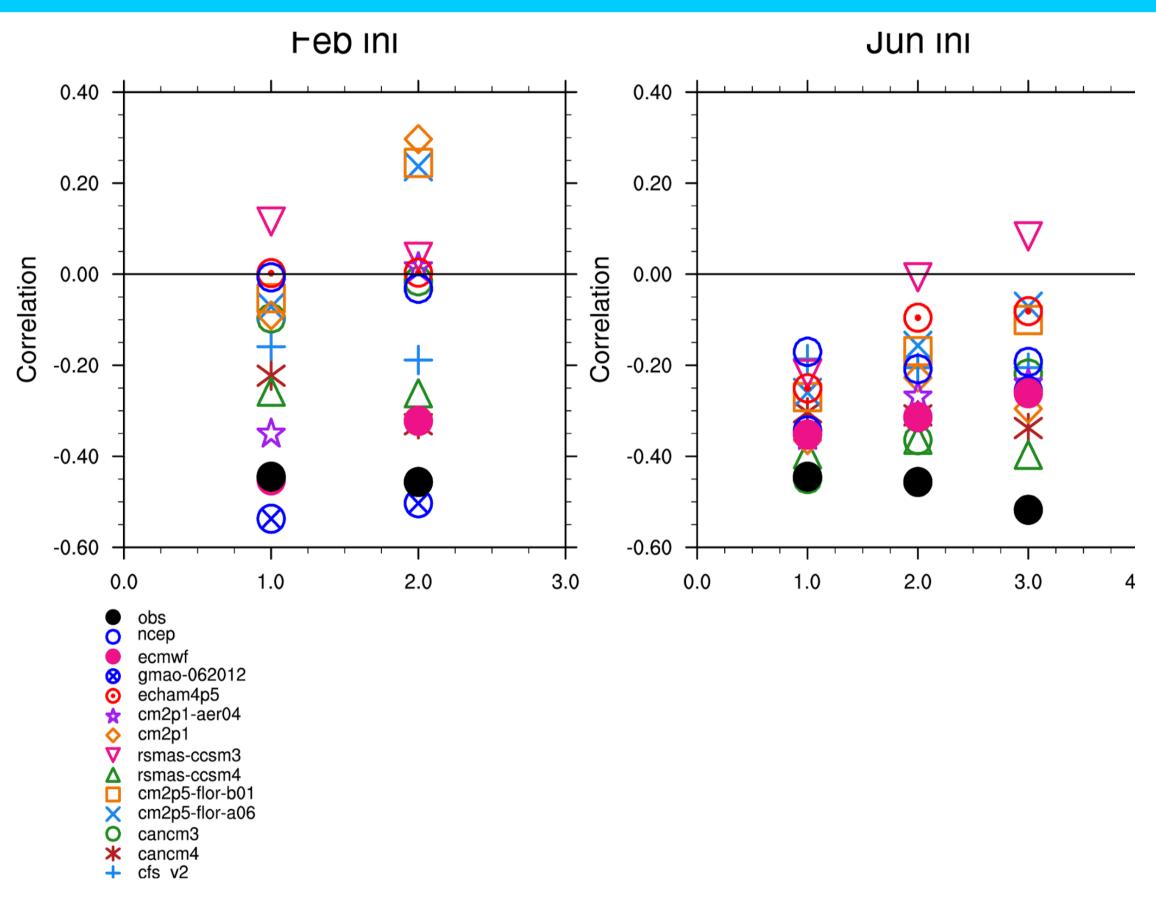
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This between an Atlantic Niño (Niña) and a Pacific Niña (Niño), through an air-sea coupled mechanism occurs during the first and last decades of the twentieth century, and highlights an opportunity for ENSO prediction (Martín-Rey et al., 2014,2015,2016)







Models with high prediction skill over the summer Tropical Atlantic tend to both better reproduce the connection between the summer **Tropical Atlantic SST and the winter Tropical Pacific SST, and also have** higher skill in predicting the winter **Tropical Pacific SST.**