S2S Technological Improvement: Issue to Consider

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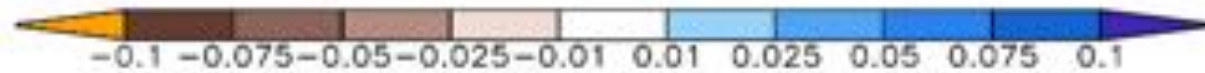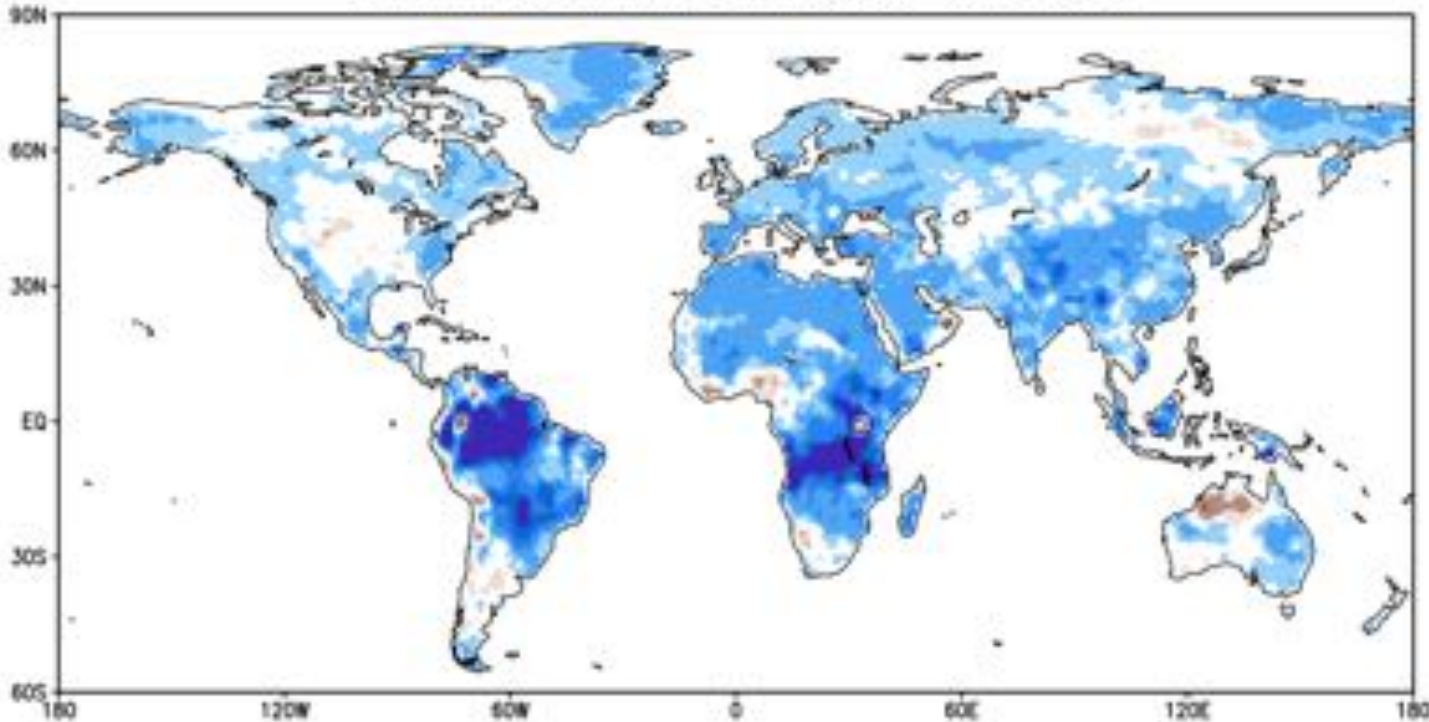
University of Miami - RSMAS

S2S Technological Development: Issues to Consider

- **Ensemble Size**
- **Ensemble Generation**
- **Resolution**
- **Reforecast Period**
- **Initialization Frequency**
- **Multi-Model**
  - **Purposeful vs. Ad-Hoc**
- **Model Weighting**
- **Forecasts of Opportunity**

- **Data Assimilation**
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- **Model Complexity**
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- **RtoO, OtoR**

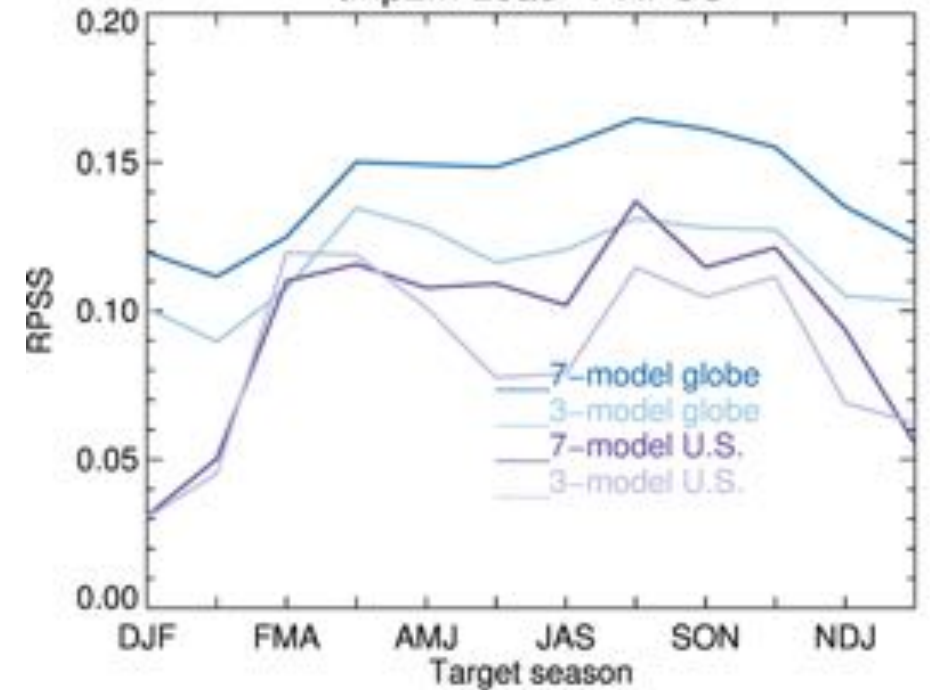BSS tmp2m North. Hem., FebIC for MAM
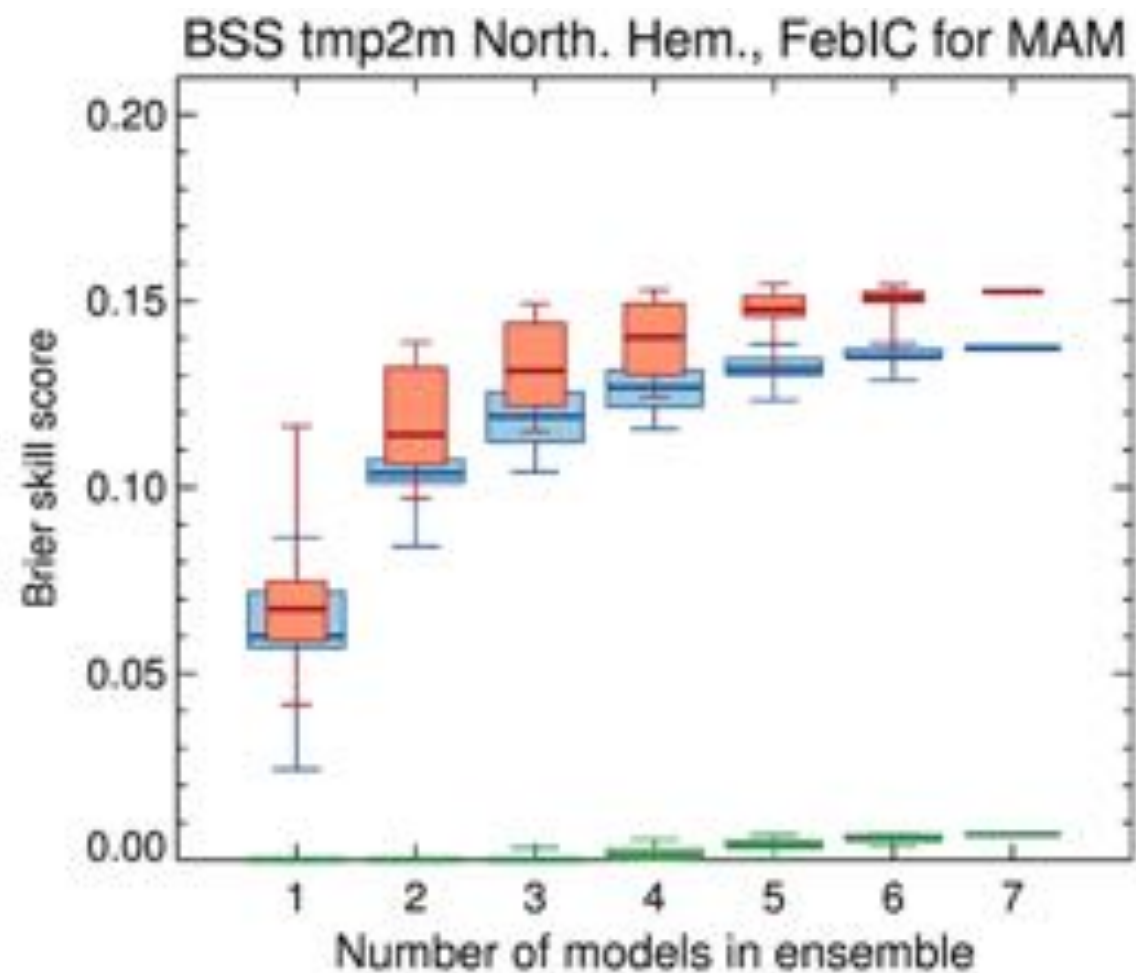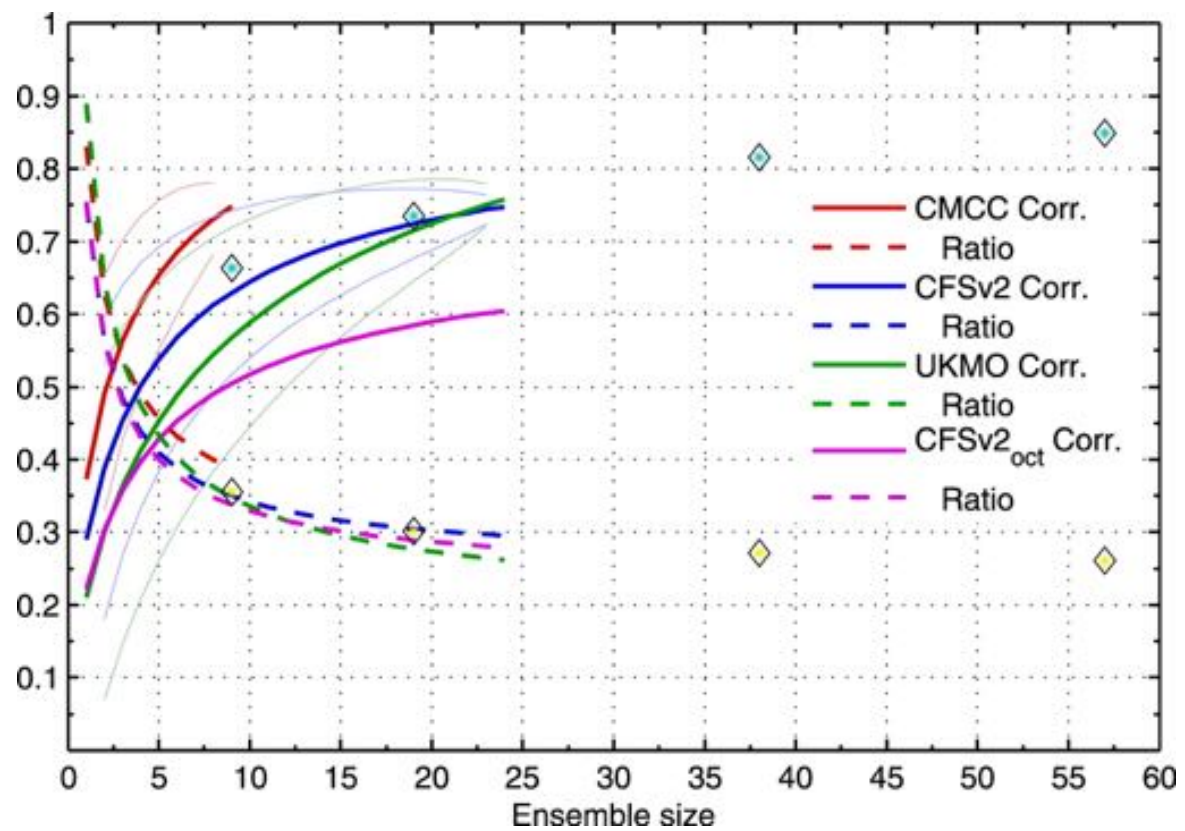
2 m temperature Ranked Probability Skill Score

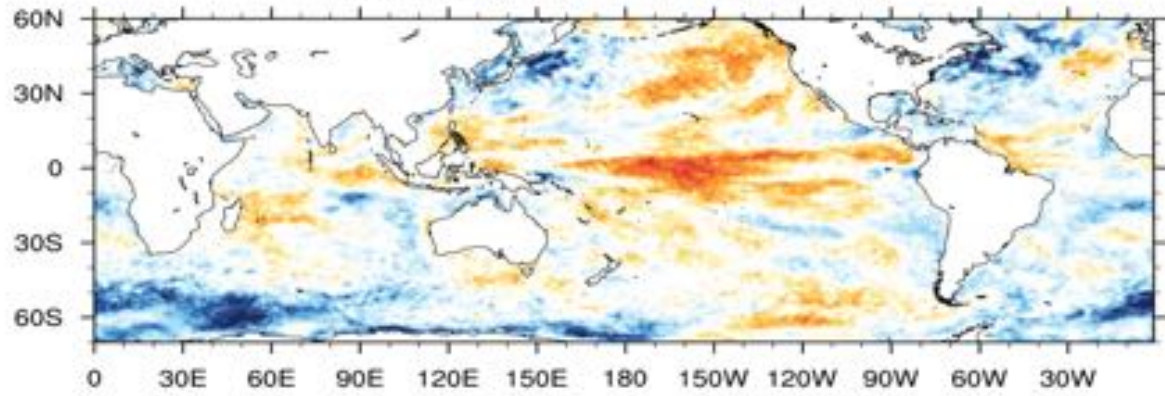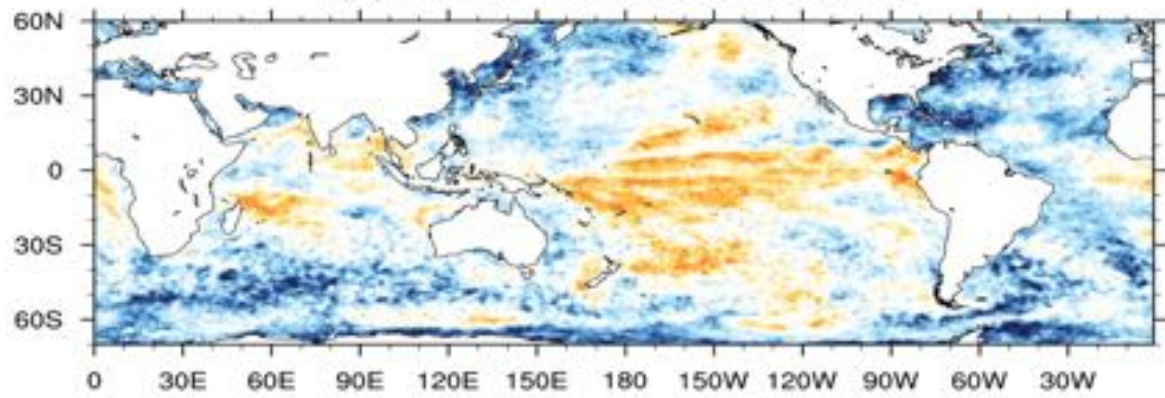T2m RPSS NMME 7models−3models

tmp2m Lead−1 RPSS

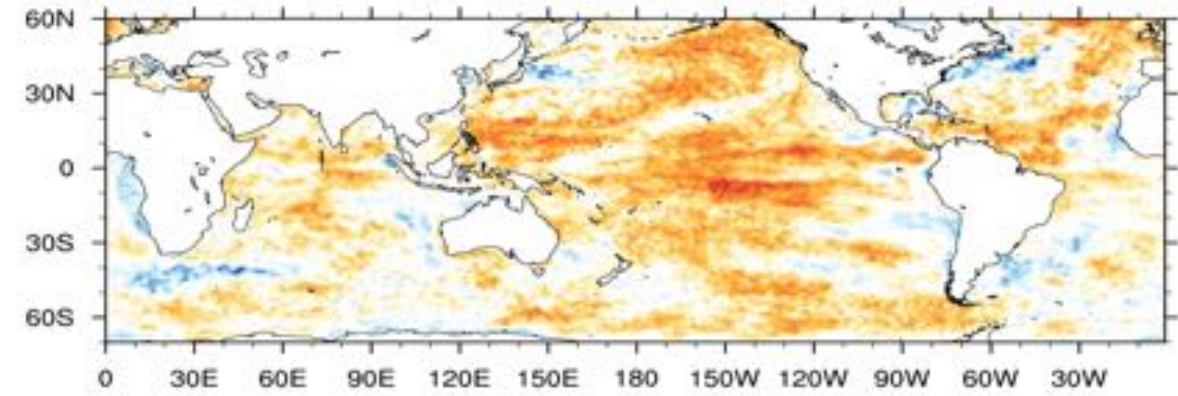# Better Model and Better Initial Condition
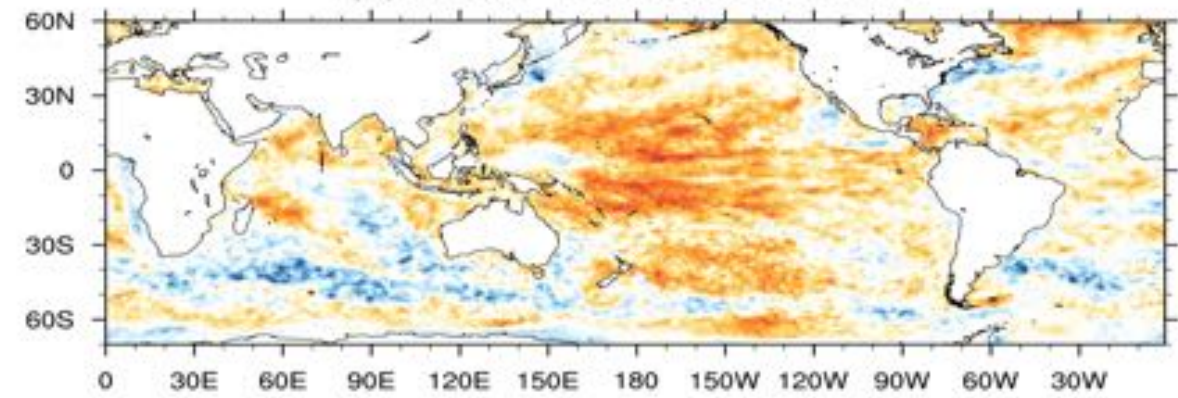

(a) RPSS - JanIC JFM CCSM3

(b) RPSS - JunIC JJA CCSM3
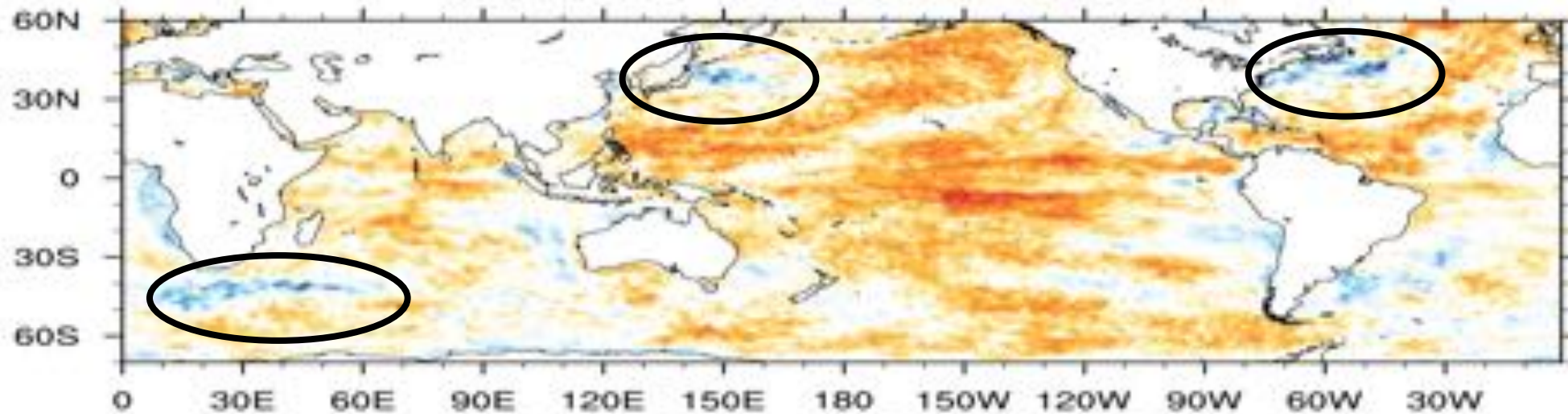
(a) RPSS - JanIC JFM CCSM4

(b) RPSS - JunIC JJA CCSM4

CCSM3
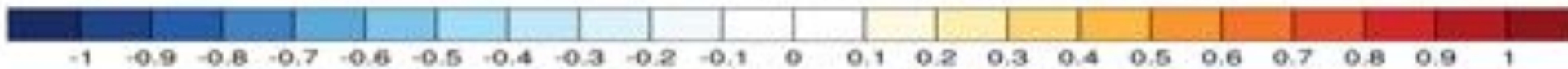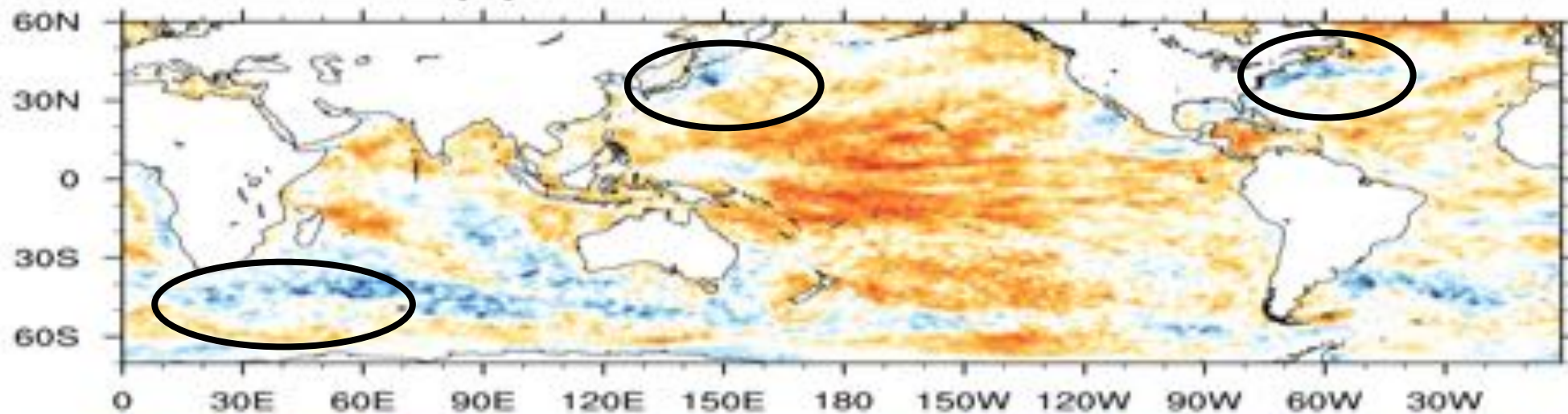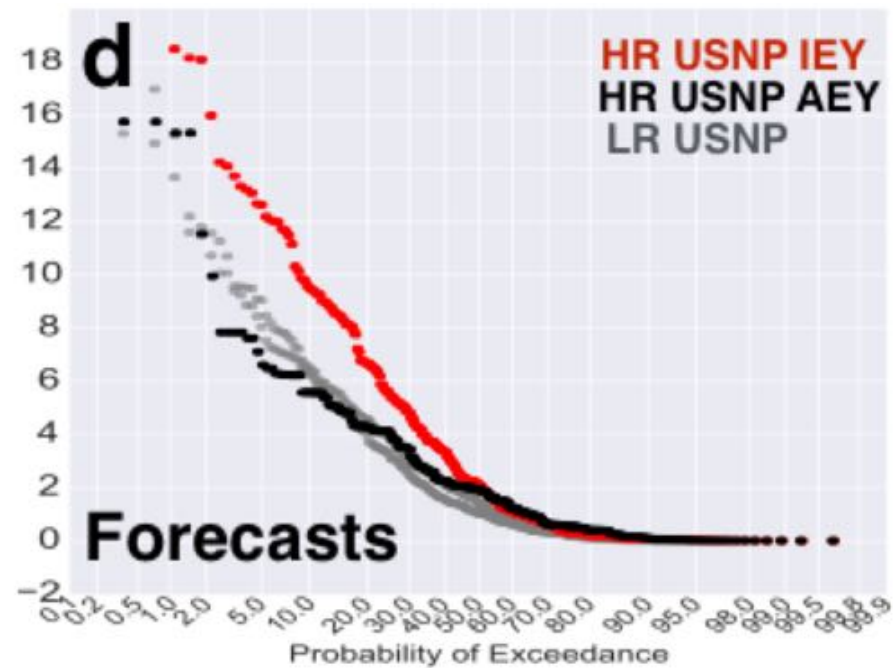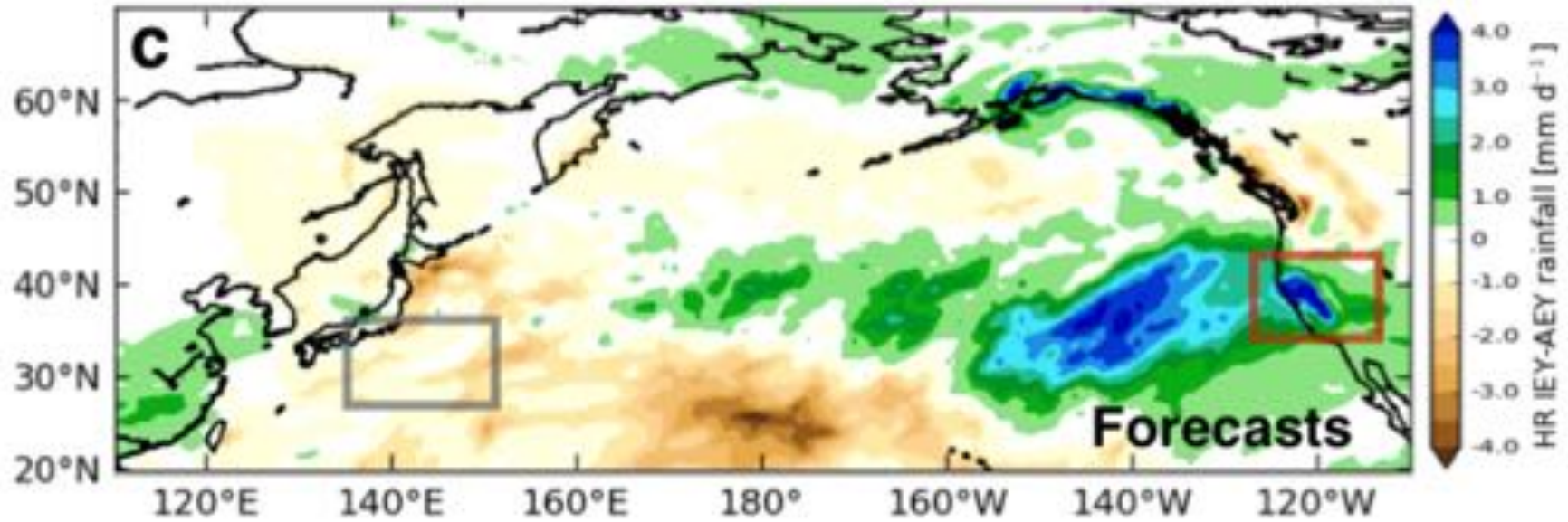
CCSM4

Can Resolved Ocean Eddies Improve Forecast Skill?
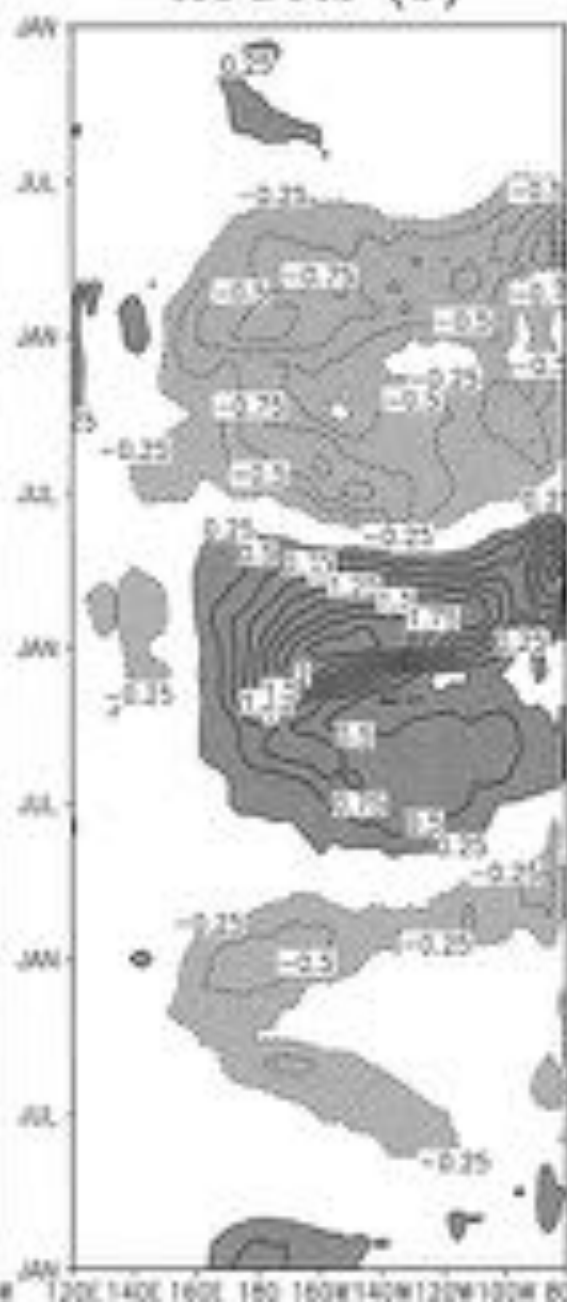
Improving the Seasonal NMME Forecasts
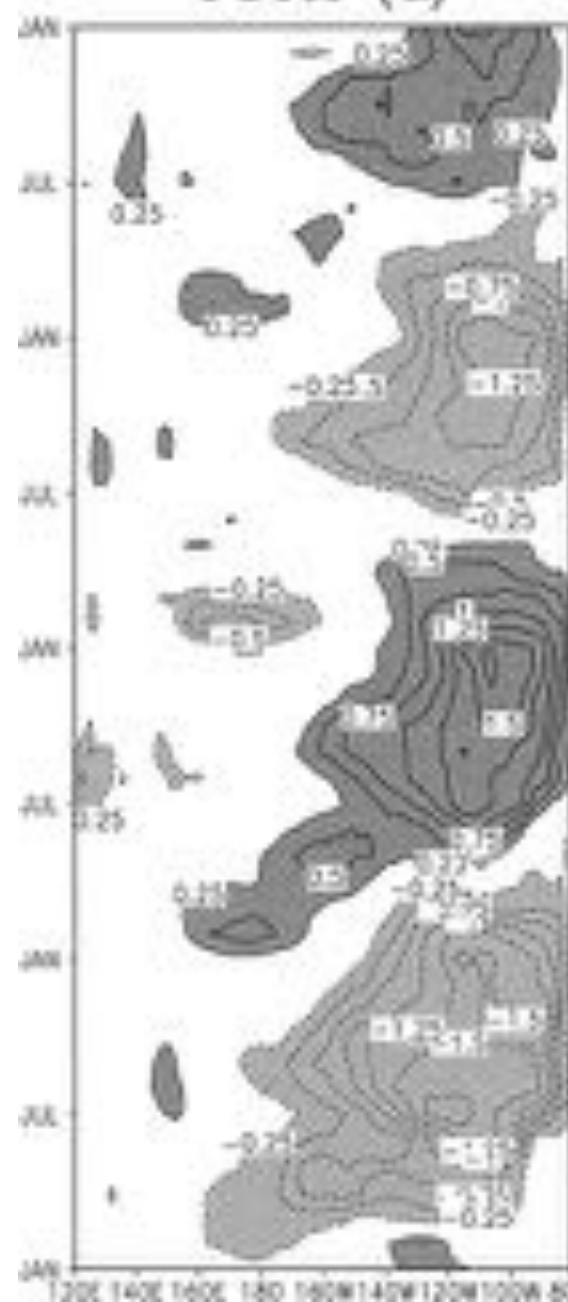
CGCM (a)   ACGCM (b)   ODA (c)
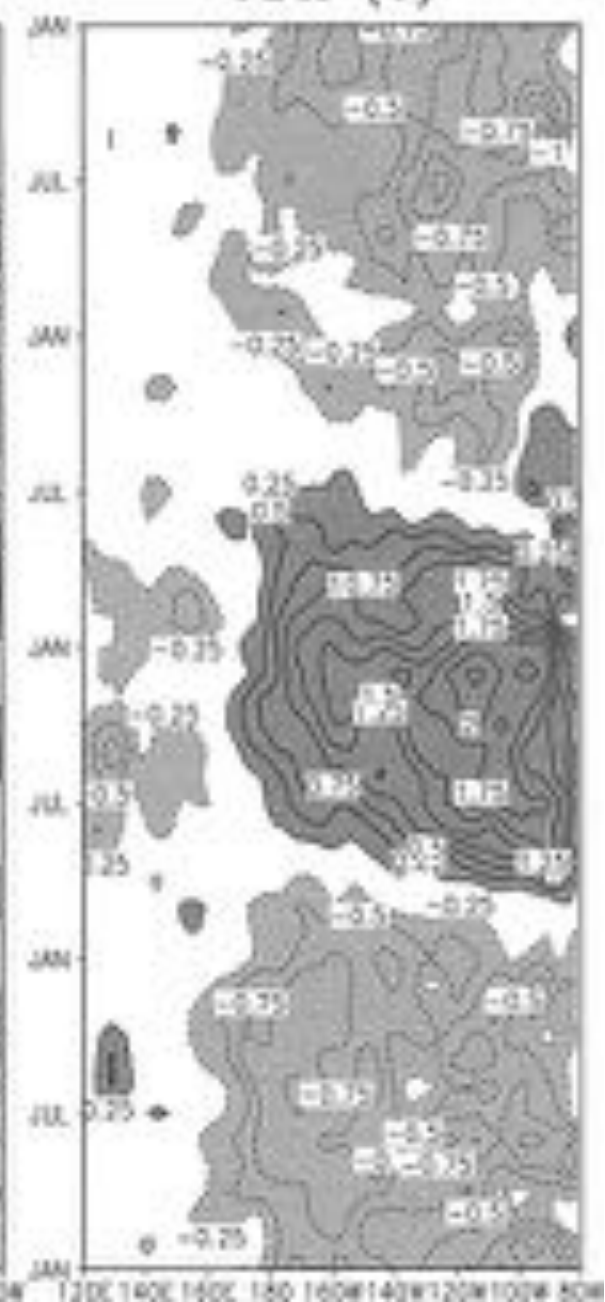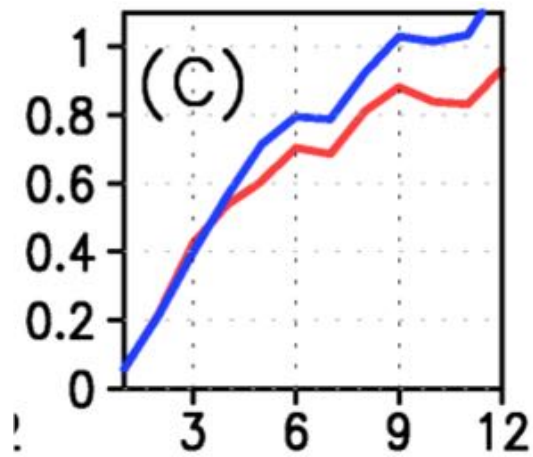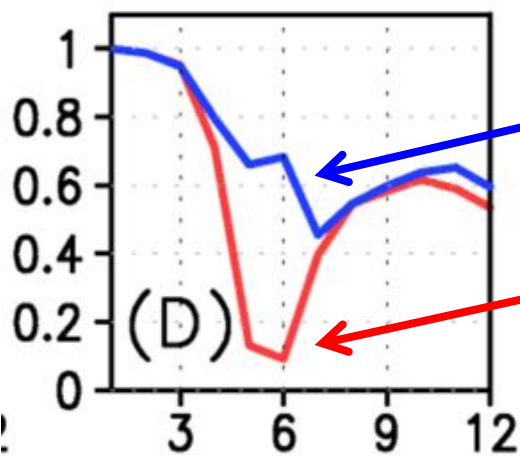
ACC of N3.4 SSTA (JanIC) with OISST

Lopez and Kirtman 2013
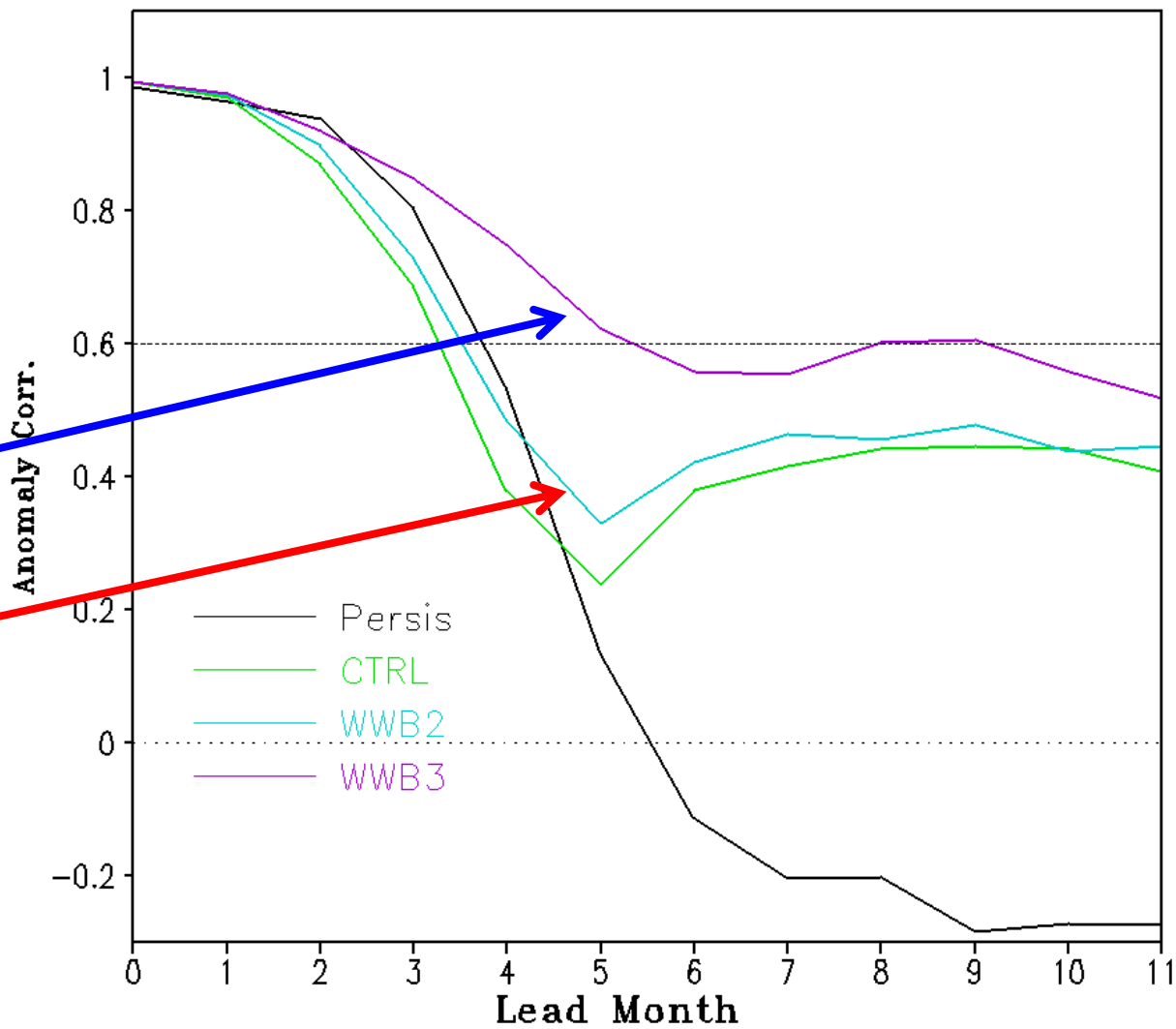
Research Model Informing Operations

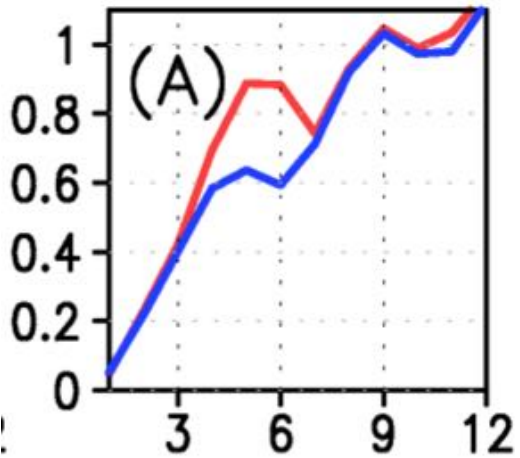NMME Forecast for Nino 3.4 (scaling) IC= 201603

NMME Forecast of SST Anom   IC=201603 for 2016JAS

CFSv2 Forecast of SST Anom   IC=201603 for 2016JAS

NCAR_CCSM4 Forecast of SST Anom   IC=201603 for 2016JAS

CFSR-ICs

CFSR-ICs

CFSv2

CCSM4

CFSv2 Forecast of SST Anom   IC=201604 for 2016JAS

NCAR_CCSM4 Forecast of SST Anom   IC=201604 for 2016JAS

GODAS

GODAS

CFSv2

CCSM4
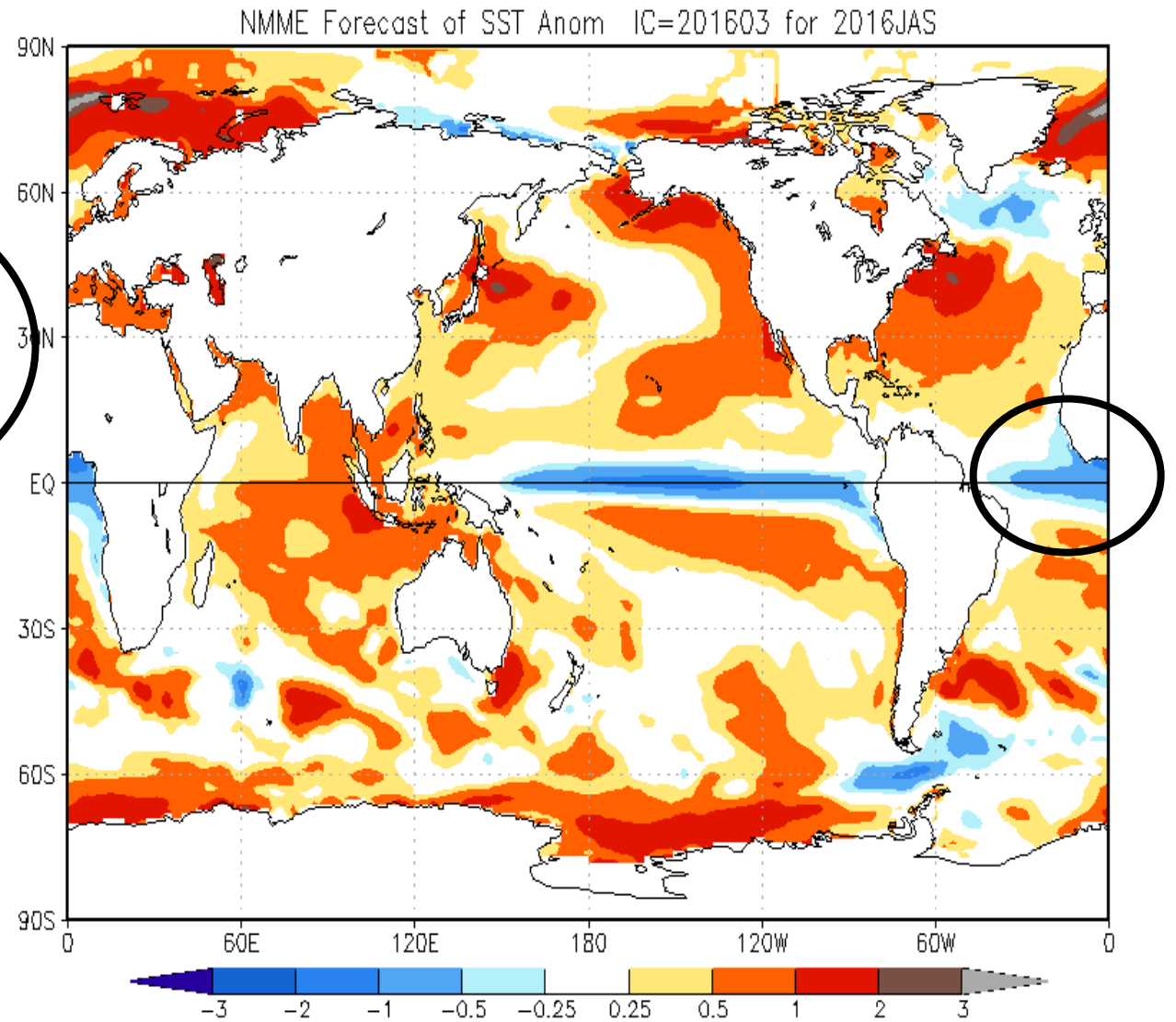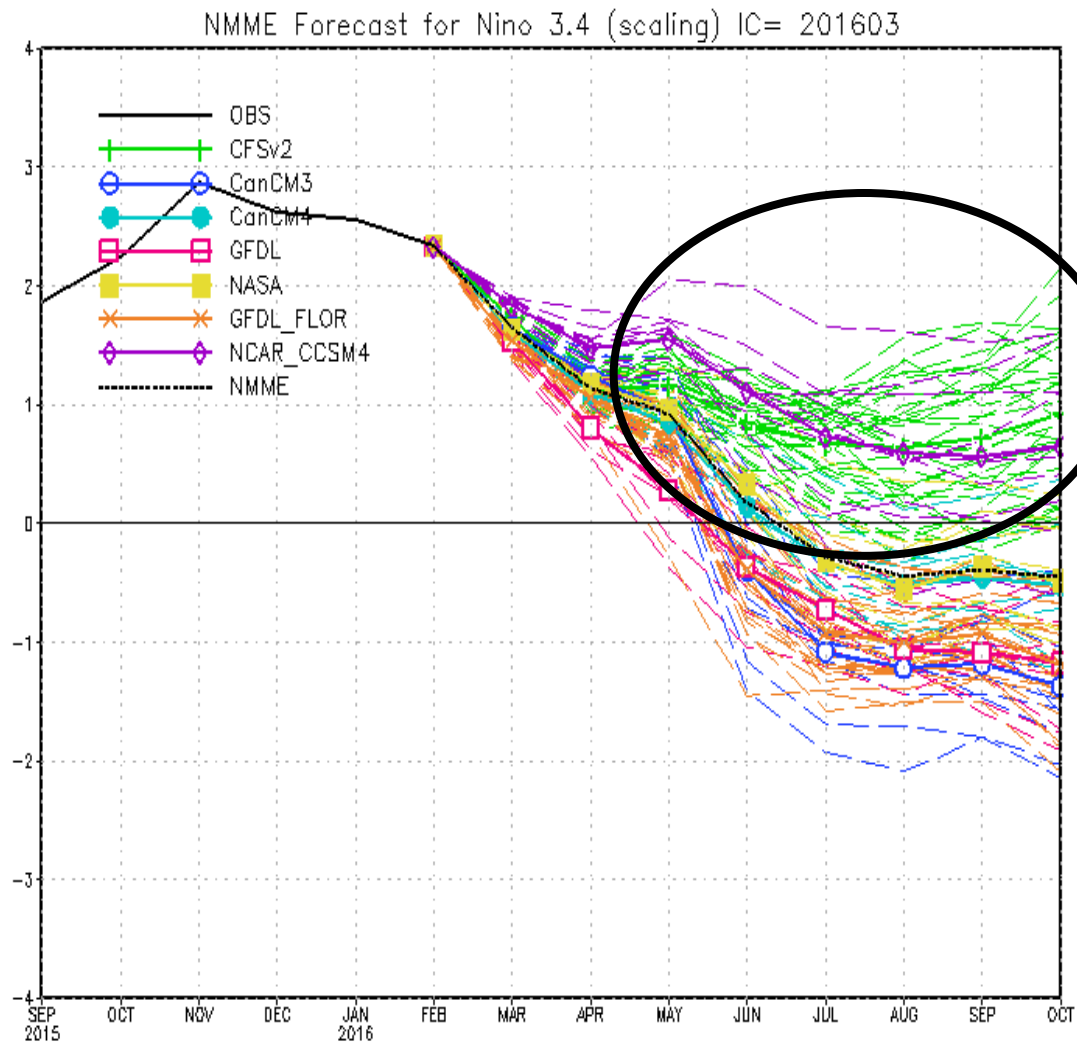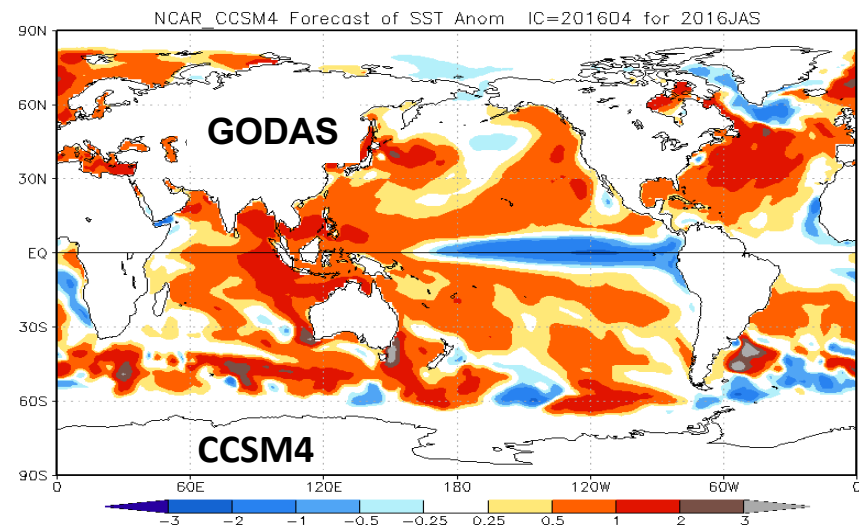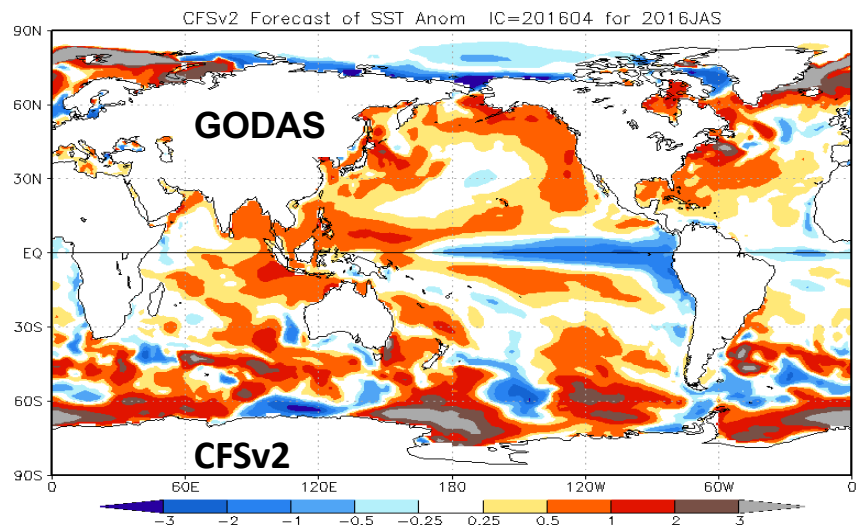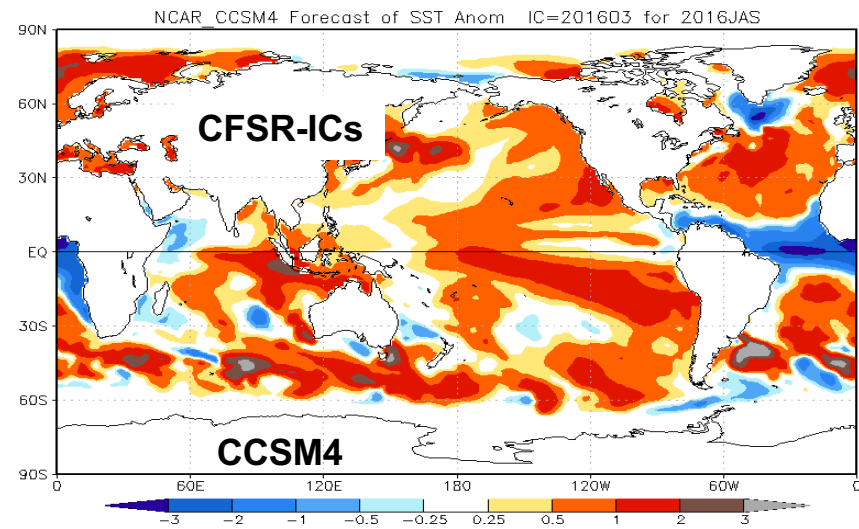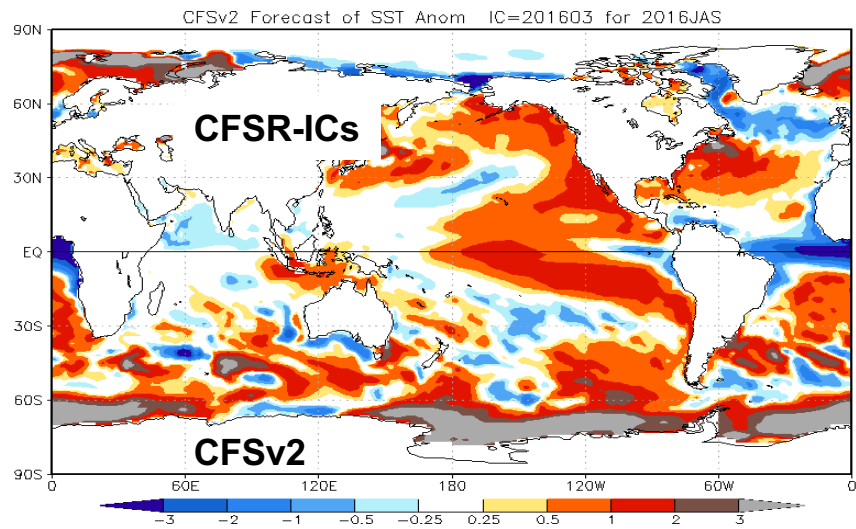
NMME Forecast for Nino 3.4 (scaling) IC= 201603

NMME Forecast for Nino 3.4 (scaling) IC= 201604

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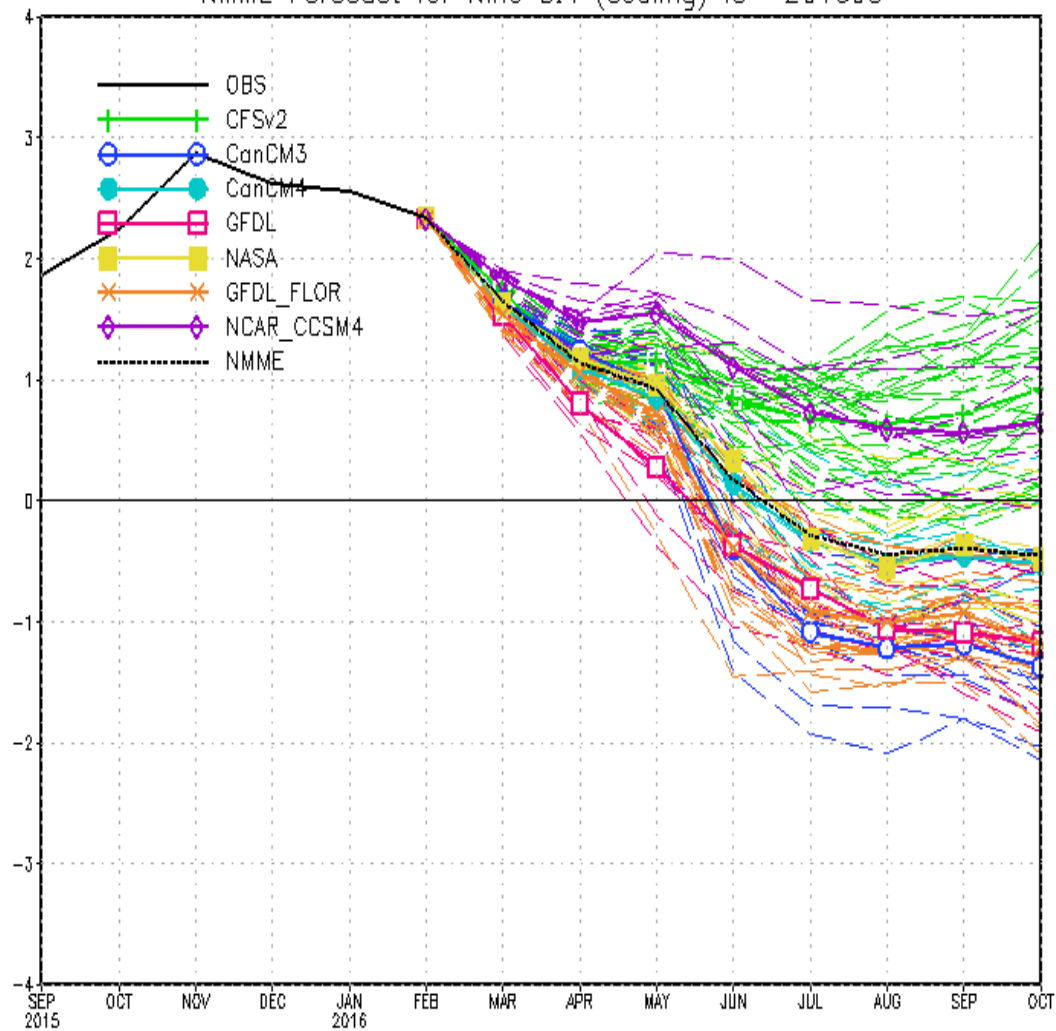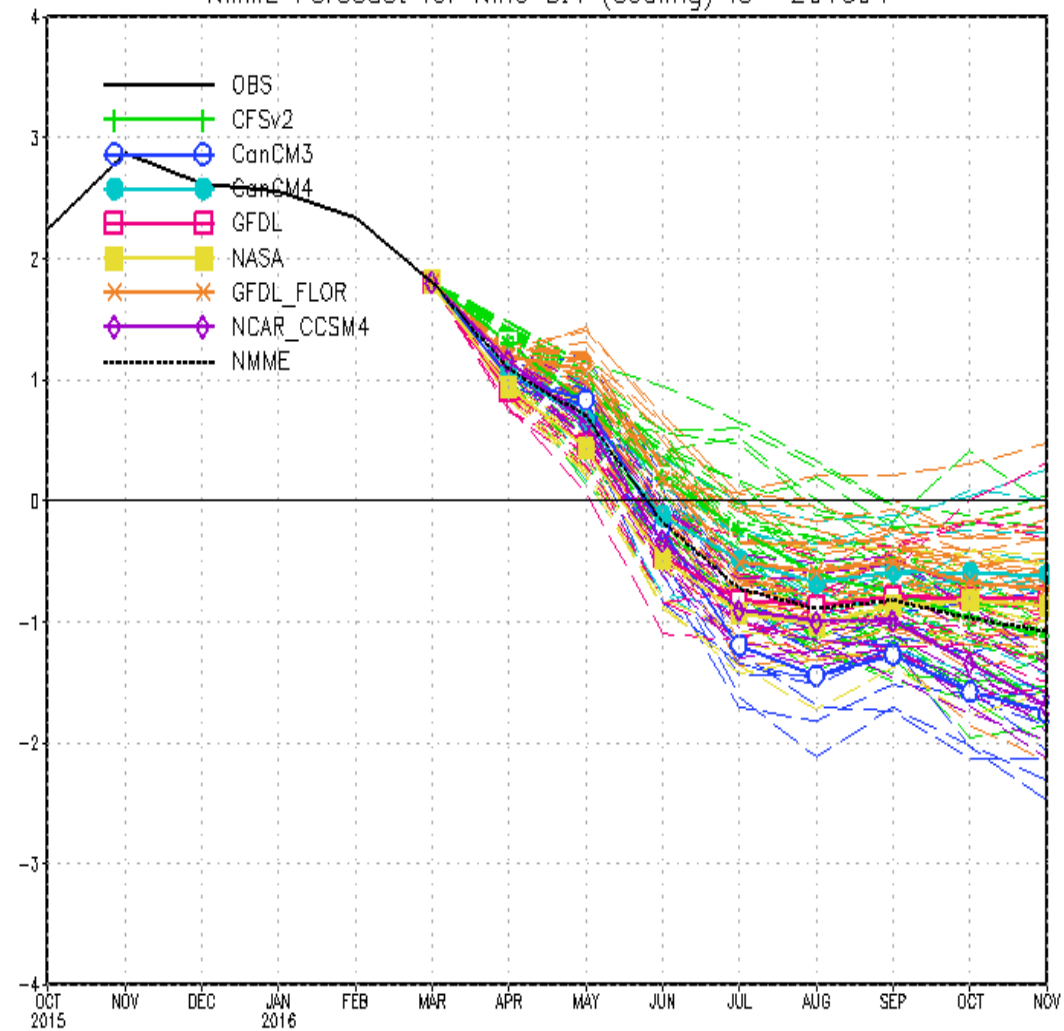
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