

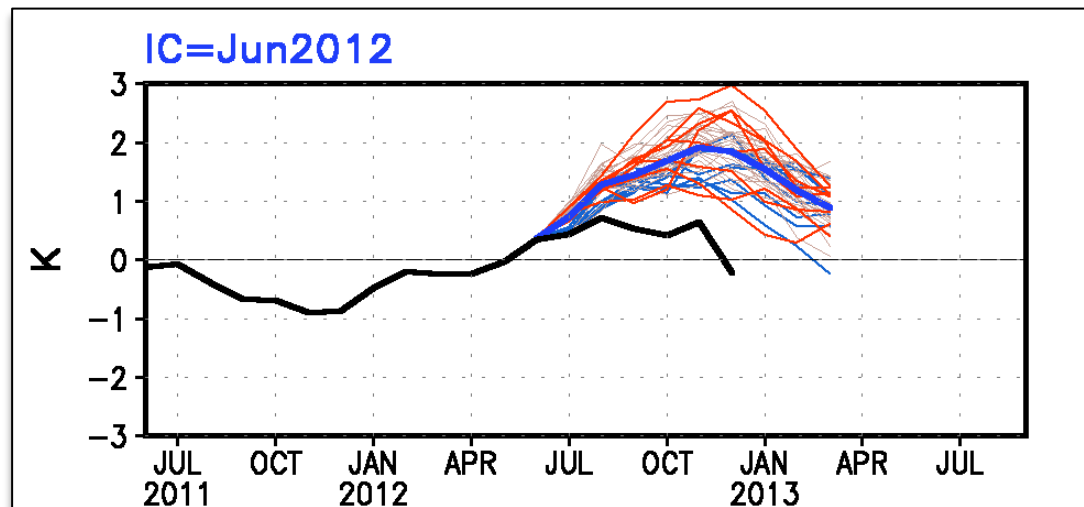
# US CLIVAR ENSO Session: Why now?

Arun Kumar

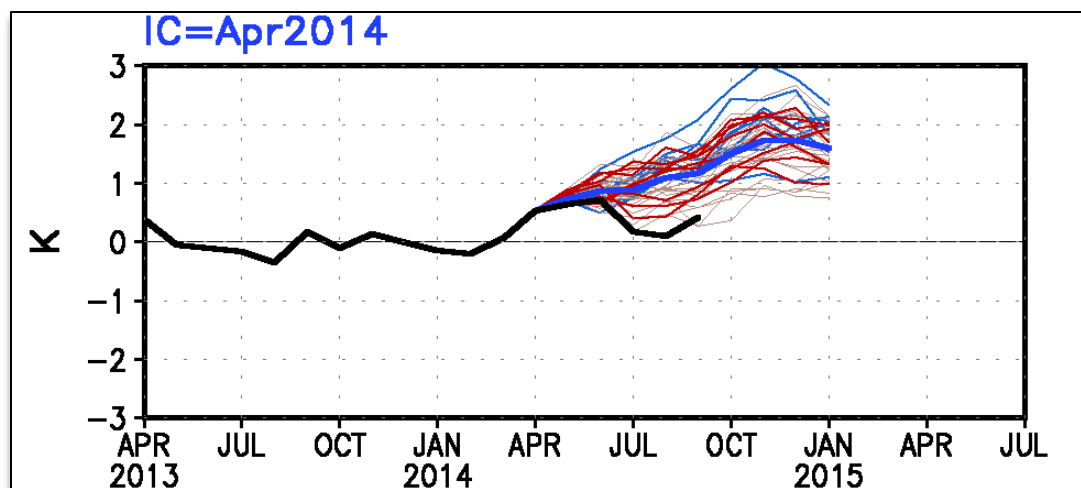
Climate Prediction Center

[arun.kumar@noaa.gov](mailto:arun.kumar@noaa.gov)

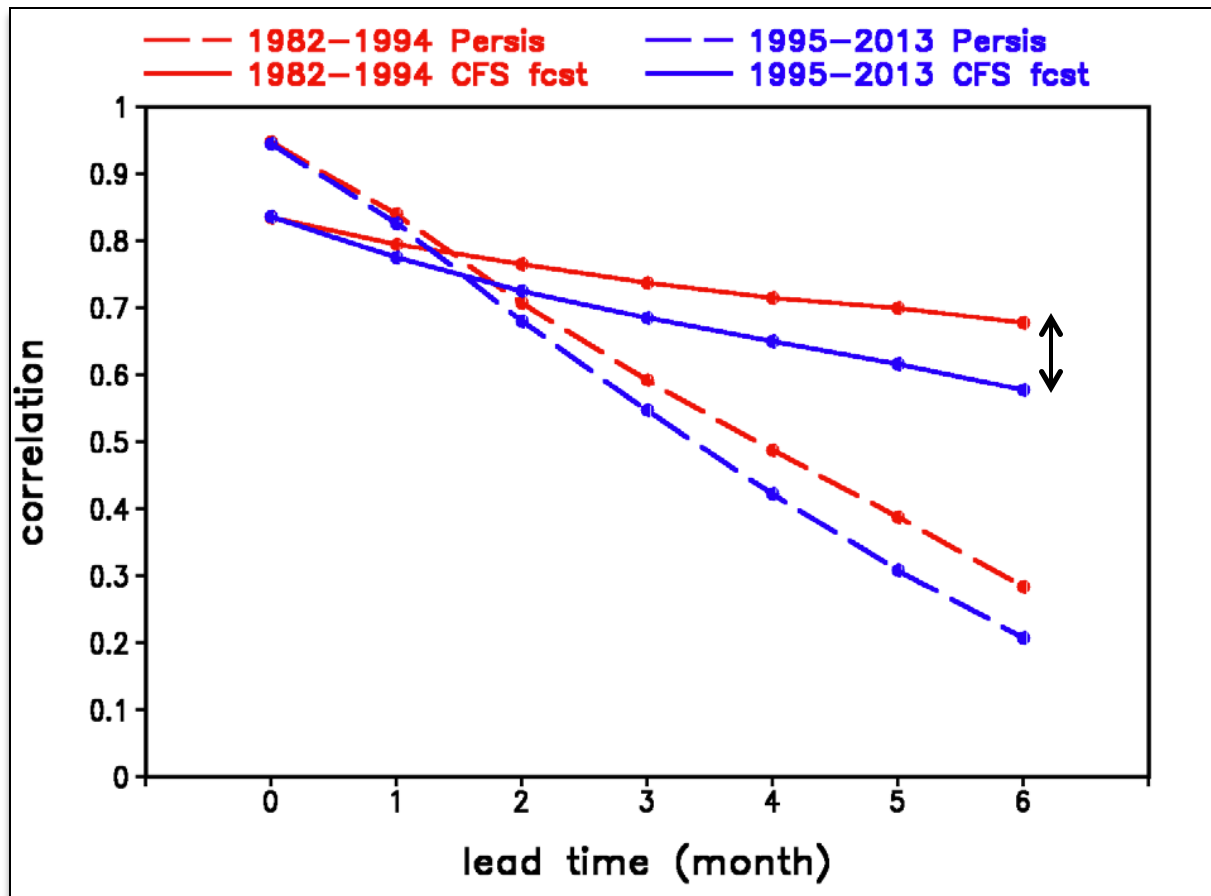
# Some notable ENSO forecast failures in recent years...



Nino 3.4 SST  
NCEP CFSv2

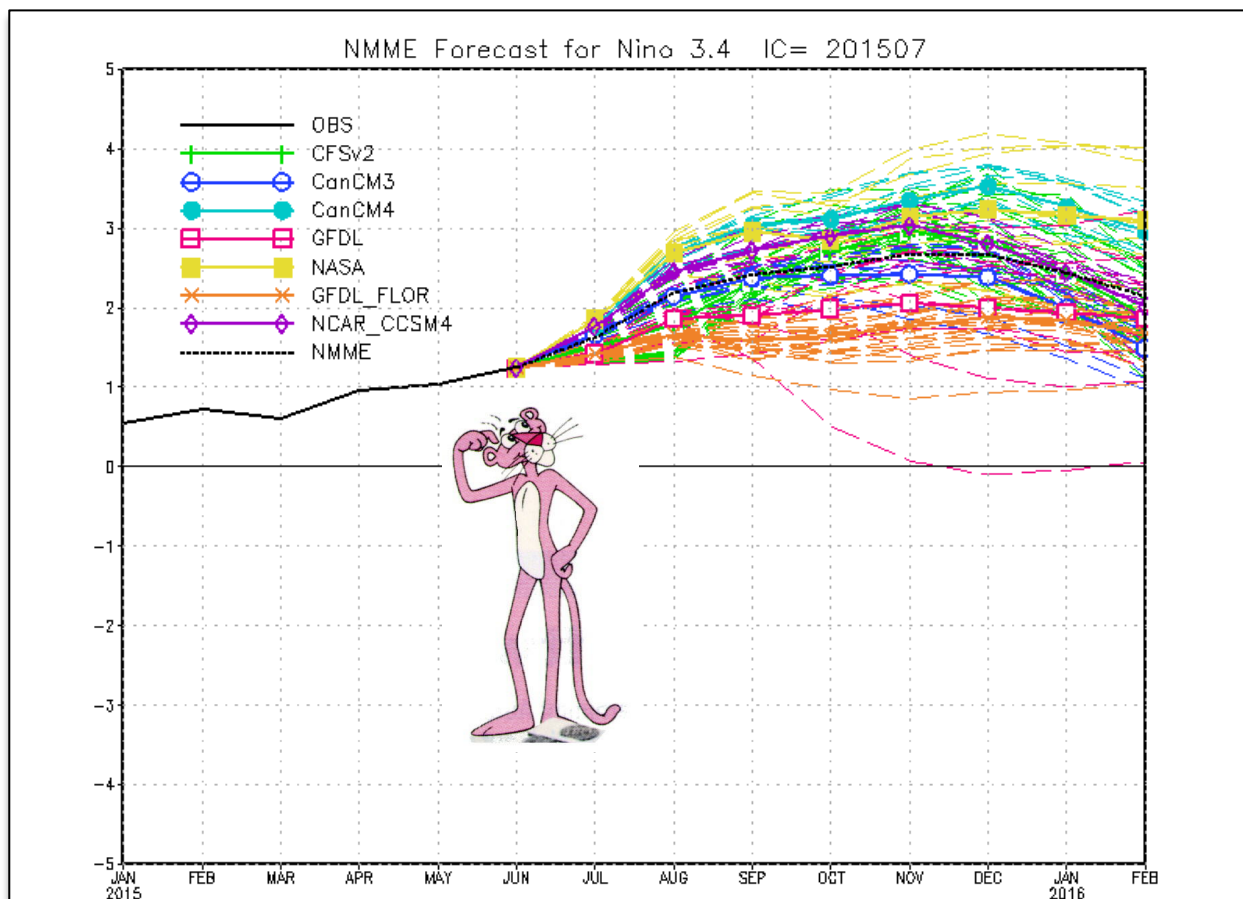


A feeling that despite advances in ocean observing and forecast systems, ENSO skill has plateaued...

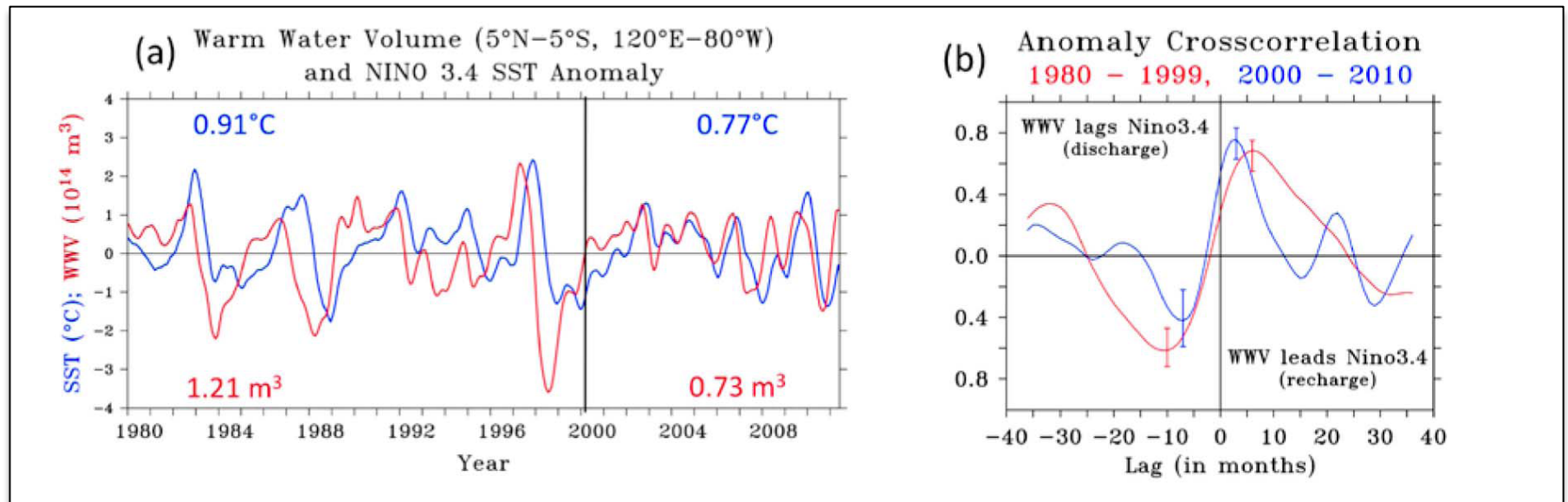


Nino 3.4 SST  
NCEP CFSv2

# Baffling outcomes in predicting ENSO amplitude...

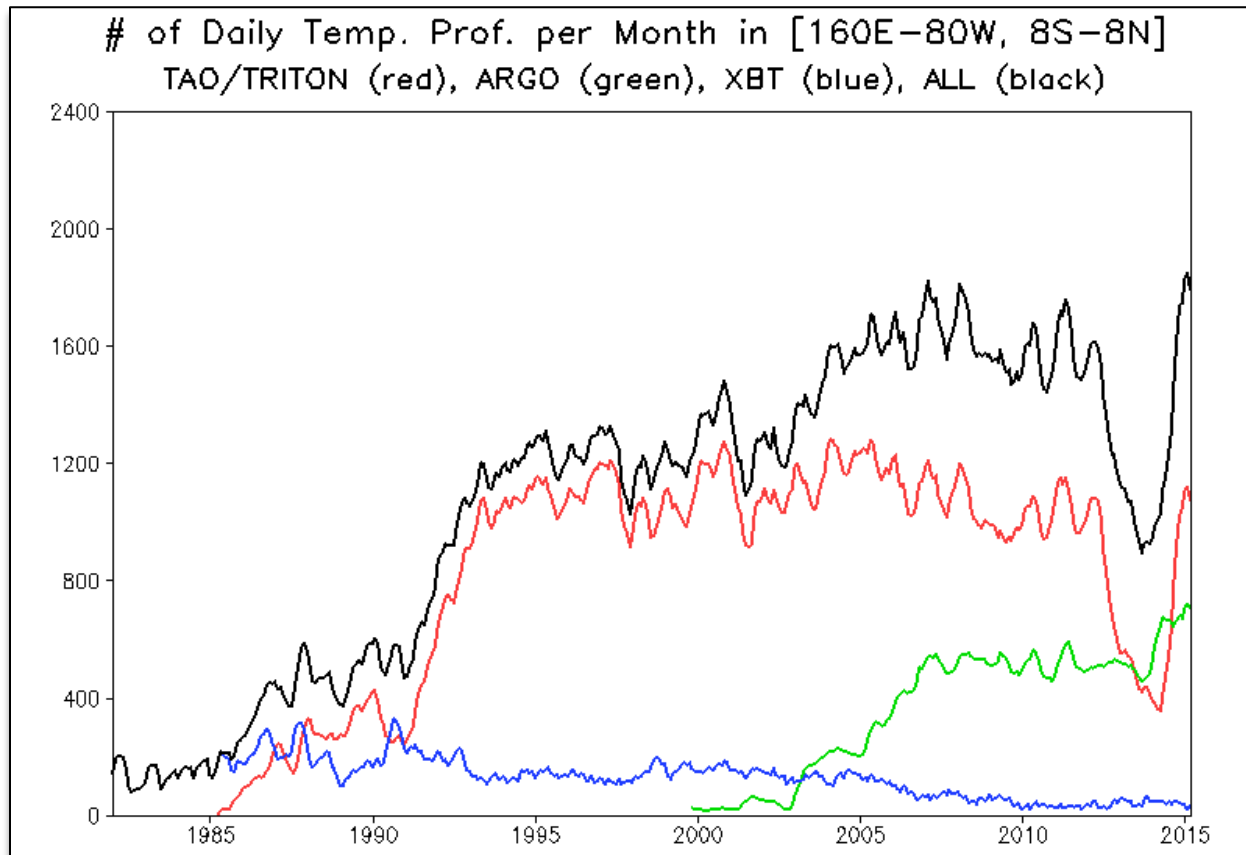


# Changes in the characteristics of ENSO...

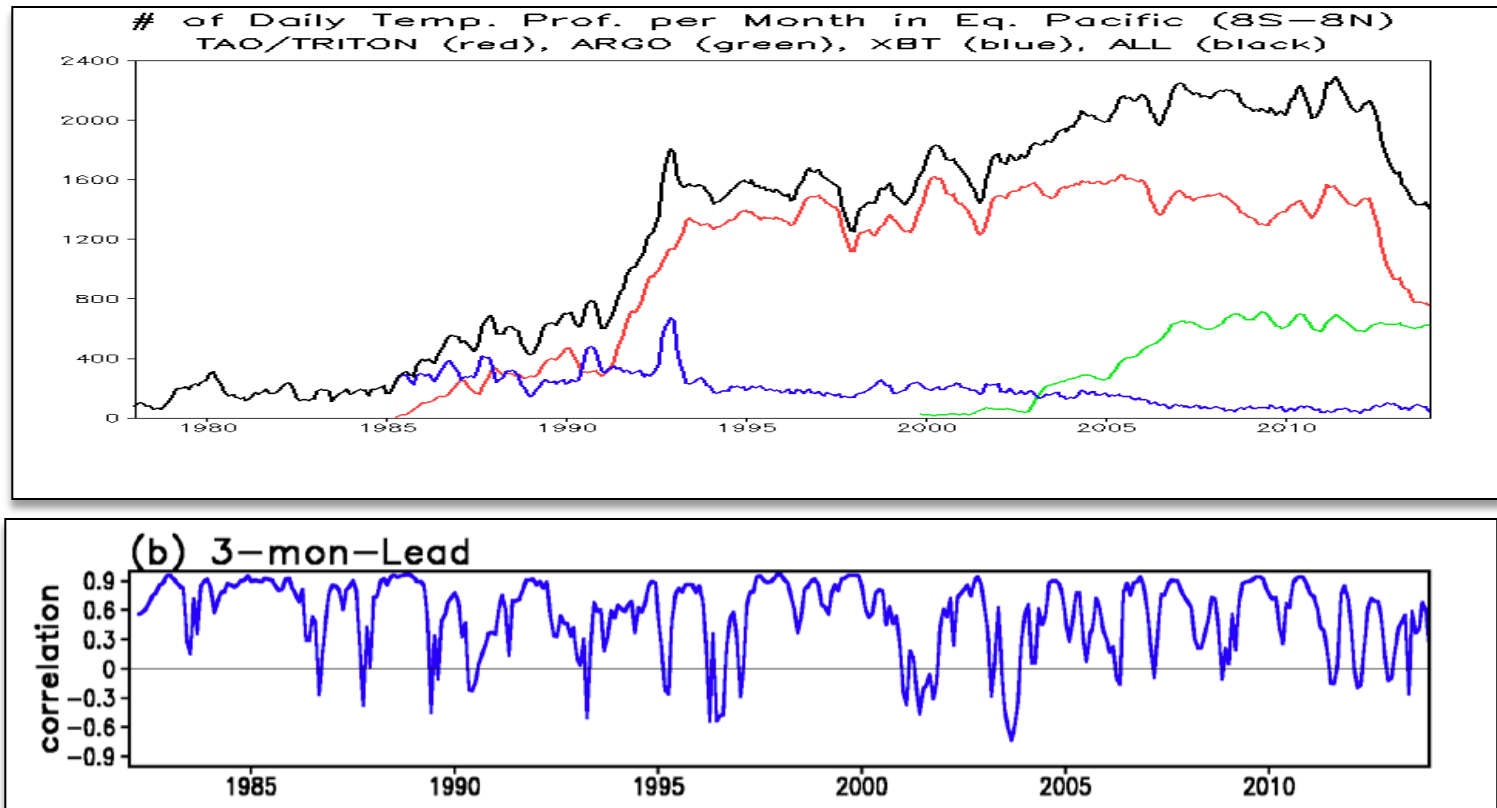


McPhaden, 2012

# Issues in maintaining tropical Pacific observing system...

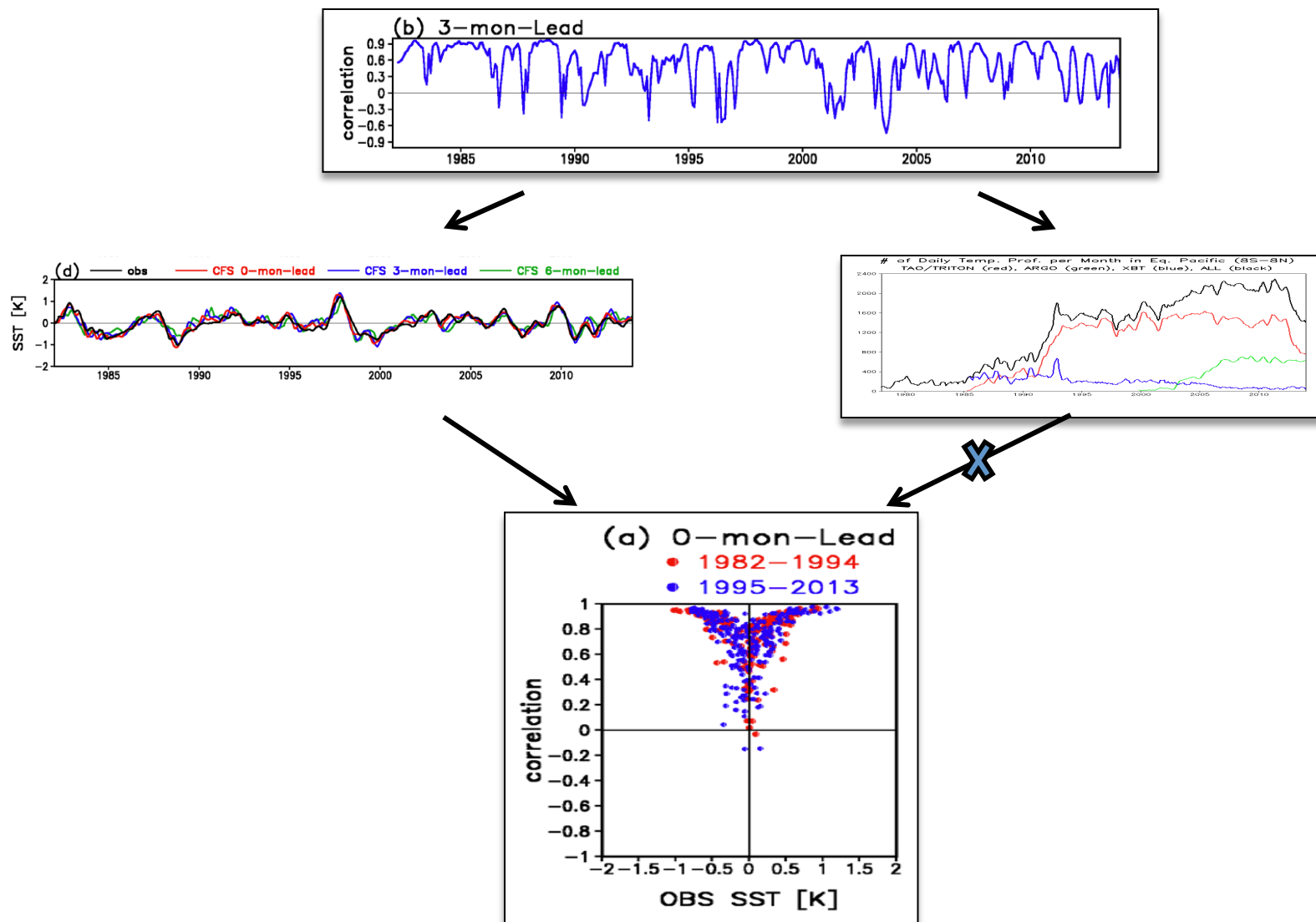


Hard to link evolution in the tropical Pacific observing system with the evolution in ENSO skill...



NCEP CFSv2

# Hard to link evolution in the tropical Pacific observing system with the evolution in ENSO skill...





# Tropical Pacific Observing System 2020

- Design of future Tropical Pacific Observing System



## This leads to an array of questions...

- What are the causes for low-frequency variability in ENSO? Can it be anticipated/predicted?
- What observations (and spatial and temporal sampling) are important for ENSO monitoring and prediction? → TPOS 2020
- Forecast dispersion, predictability, and prospects for amplitude prediction
- If forecast dispersion is a fact of life, how to communicate forecast information and manage expectations
- ENSO precursors and building an appropriate monitoring system
- Connecting ENSO research and wealth of (underutilized data) from operational prediction systems
- ...

# US CLIVAR SSC decided to have a session following the on during the 2014 summit...



## US CLIVAR Summit 2014 Agenda July 8-11, 2014 Warwick Hotel, Denver, Colorado

### Tuesday, July 8

Time	Agenda	Room
1745 – 1800	<b>Check-in</b>	Millennium Gallery
1800 – 1815	Welcome, introductions, meeting objectives, and outcomes ( <a href="#">Bob Weller</a> )	Millennium Ballroom
1815 – 1830	US CLIVAR overview ( <a href="#">Mike Patterson</a> )	
1830 – 1900	<b>Working dinner</b>	
1900 – 2030	ENSO Monitoring, Analysis, and Prediction Challenges <ul style="list-style-type: none"><li>Challenges in Monitoring and Prediction for Current ENSO Conditions (<a href="#">Yan Xue</a>)</li><li>Uncertainties in Prediction – An ENSO Perspective (<a href="#">Arun Kumar</a>)</li></ul>	Millennium Ballroom

# Organization of the session...

- Three talks
  - ENSO theory and predictability (Mike McPhaden)
  - Building the bridge between ENSO theories and operational predictions (Ben Kirtman)
  - ENSO precursors and building an operational monitoring system (Bruce Anderson)
- Panel discussion