Diversity of ENSO in the NMME Experiment

Ben Kirtman and the NMME Team
University of Miami - RSMAS
Diversity of ENSO

• Diversity of ENSO (CP vs. EP) in NMME
  – Tropical Pacific Sector and North America
    • Event Based – JFM 1995 vs. 1998
      – Some Composites
    • SST, T2m and Precipitation
    • Short Lead (SL) – 0.5 Months
    • Long Lead (LL) – 3.5 Months

• CP vs. EP ENSO Debate (Agnostic View)
  – Continuum vs Discrete Events
  – Different Teleconnections
    • Pattern Correlation
Observational Estimate Precip CP-EP
JFM Verification Time

0.5 Month Lead – SST & T2m

3.5 Month Lead – SST & T2m

0.5 Month Lead – Precip

3.5 Month Lead – Precip
SL95 – SST & T2m
SL98 – SST & T2m
SL95 – Precip
SL98 – Precip

-2.4 -2 -1.6 -1.2 -0.8 -0.4 0 0.4 0.8 1.2 1.6 2 2.4

-5.0 -4.5 -4 -3.5 -3 -2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5
SL95 – Precip

SL95 – SST & T2m
SL98 – SST & T2m
SL95 – Precip
SL98 – Precip
Pa#ern'Corr'with'Obs JFM1995'(CP)'—'Short'Lead'

Pa#ern'Corr'with'Obs JFM1995'(CP)'—'Long'Lead'

Pa#ern'Corr'with'Obs JFM1998'(EP)'—'Short'Lead'

Pa#ern'Corr'with'Obs JFM1998'(EP)'—'Long'Lead'

Rainfall

SSTA

Tropical Pacific (20S-20N) Pattern Correlation
Rainfall

T2m

North American Land Pattern Correlation
Concluding Remarks

• **Tropical Pacific Sector**
  - SST - EP Better Predicted; CP Warms to Rapidly
  - Precipitation Contrast “Captured”

• **Teleconnections over North America**
  – EP (Precip., T2m) Better Predicted
  – Contrast (CP-EP) Rainfall Difference “Captured”
  – CP-EP T2m Difference Not Captured