Objectives
- Examine summer and winter seasonal precipitation prediction using the Eta Regional Climate Model (Eta RCM)
- Examine the impact of predicted lateral boundary conditions and SSTs on seasonal precipitation with the Eta RCM. Focus on interannual variability.

The Eta-based Regional Climate Model
- Virtually exact match to the Eta model in Regional Reanalysis
  R/R domain and grid (32-km, 45-layers, large R/R domain)
  R/R Eta model physics, e.g. Noah Version 2.3 with R/R 4
  soil layers  NCEP will provide as a community workstation
  Eta RCM
- Developed: use very recent Eta physics
  As implemented in operational NCEP Eta on Mid-Jul 01
- Source of Initial land states
  1. From GR2 in runs to date (Noah 2.3, frozen soil states)
  2. From NARR (finished, not presented here)

Case Chosen and Data Used
- Executions: Seasonal Predictions
  Summer: 10-member ensembles from 00UTC 19-23, 29, 30 April
  and 01, 02, 03 May. Years: 1999 to 2004
  Winter: 7-member ensembles from 00UTC 19-23, 30, 31 Dec
  Years: 1983, 2000-2004
- Convection Schemes: Betts-Miller-Janjic
- Temporal lateral boundary conditions from CFS:
  Used 12-hrly CFS predicted boundary conditions
- Predicted SST from CFS (T62, L64)
- Daily updates of several surface boundary fields:
  1. Daily predicted 1-deg SST (CFS)
  2. Satellite NDVI-based 0.15-degree monthly greenness (NESDIS)
  3. Seasonal 1.0-deg snow-free albedo climatology (NASA)
  4. Snow depth: USAF operational 47-km daily global snow depth

Conclusions/Future Directions
- SST Climo and Anomaly Comparison (00-04 & 99) Monsoon Event
  JJA Mean Precip Comparison
  200 mb GPH comparison
- SST Climo and Anomaly
  JFM Mean Precip Comparison
  200 mb GPH comparison
- 1983 Winter ENSO event:
  Eta RCM shows less skill than CFS
- 1999 Summer monsoon:
  Eta RCM is modestly better than CFS
- Biased Corrected SST test
- T126 test (High Res)
- Anomalies add on Climo SST test
- Domain size test