

CPC Challenges and Center Needs

CPC has a diverse mission that relies on the NCEP modeling suite:

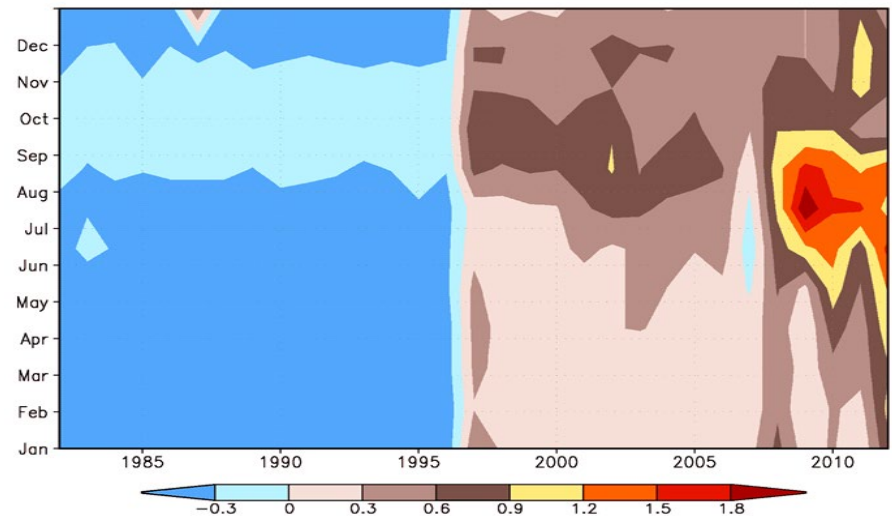
- (1) Dissemination of climate outlooks spanning multiple time scales
- (2) Climate monitoring and assessment products for short-term climate variability and teleconnections in realtime (ENSO, MJO, AO, etc.)

Some challenges:

(1) Precipitation guidance across time scales (Weeks 2-4 to seasonal)

(2) Mitigation of analysis discontinuities

Analysis jumps influence reforecasts and bias correction for real-time forecasts is a challenging issue



Differences in sea ice extent between CFSR and NSIDC. Two significant jumps: One in 1997 and the other in 2008.

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GEFS:

- Make reforecasts available for each GEFS update cycle with minimum requirements (i.e., 20 years, 5 members per cycle, 2 cycles per week)
- Reforecasts are critical for proper forecast reliability and targeting extremes
- Model consistency in initialization system for reforecasts and real-time system is important and required

Additional Requirements for Analysis Products:

- Operationalizing the Hybrid-GODAS for ocean monitoring.
- Continued technical support for multi-decadal conventional reanalysis (CoRE) for verification, validation, and diagnostics.

Model Improvements:

- Updated CFSVNext (Coupled UFS) developed in a collaborative manner to ensure the best possible product for stakeholders.
- Increased attention to stratosphere in GEFS and CFS (enhanced vertical resolution, higher model top, minimize artificial damping and impact of the rigid lid).