

Global Climate Review of 2012

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Climate Prediction Center

National Centers for Environmental Predictions

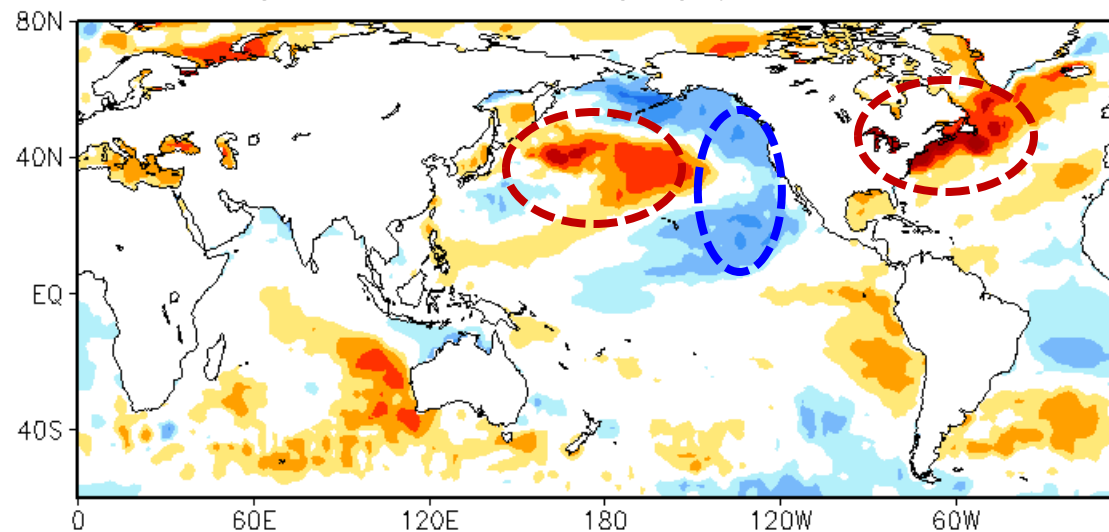
University Research Park, College Park, MD

Outline

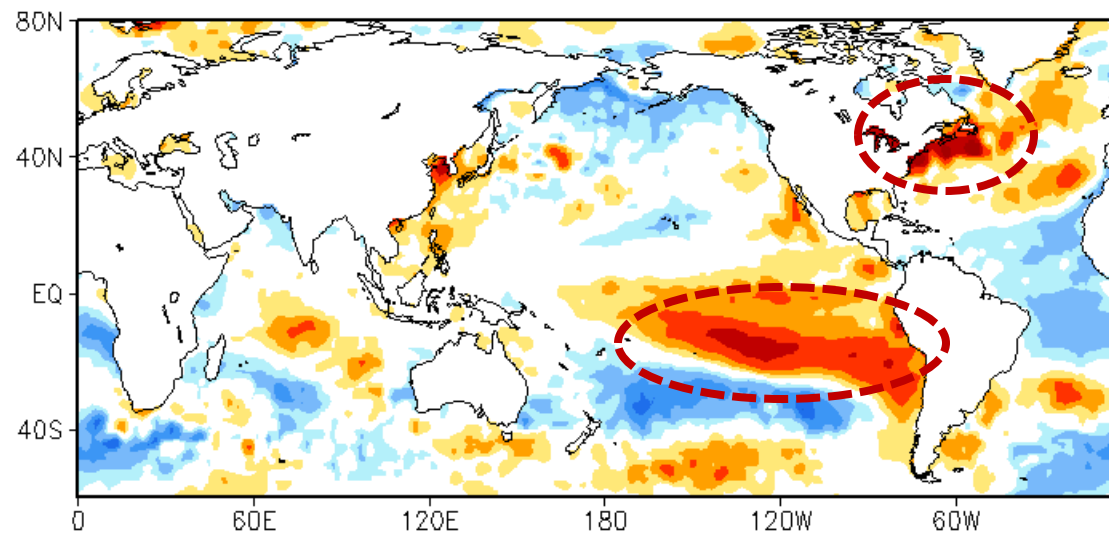
- Surface Temperature
- Precipitation
- Notable extreme events

Sea Surface Temperature, NOAA/OI, 2012

Jan–Sep, 2012 Anomaly (C)

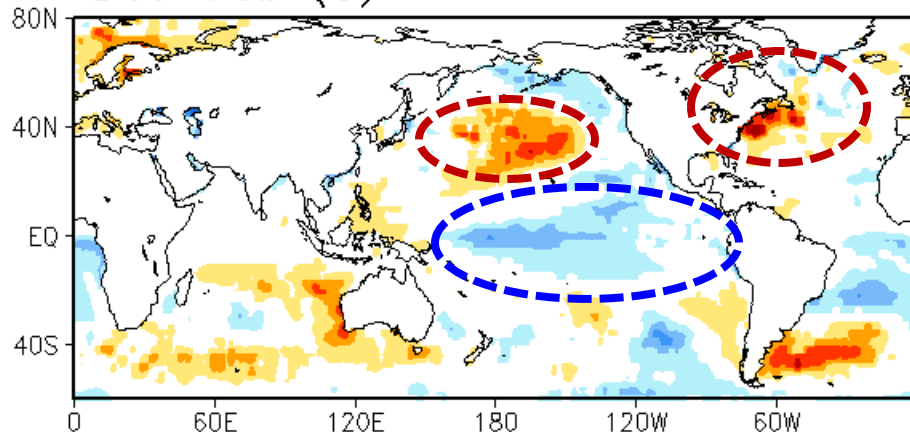


(Jan–Sep, 2012) – (Jan–Sep, 2011) (C)

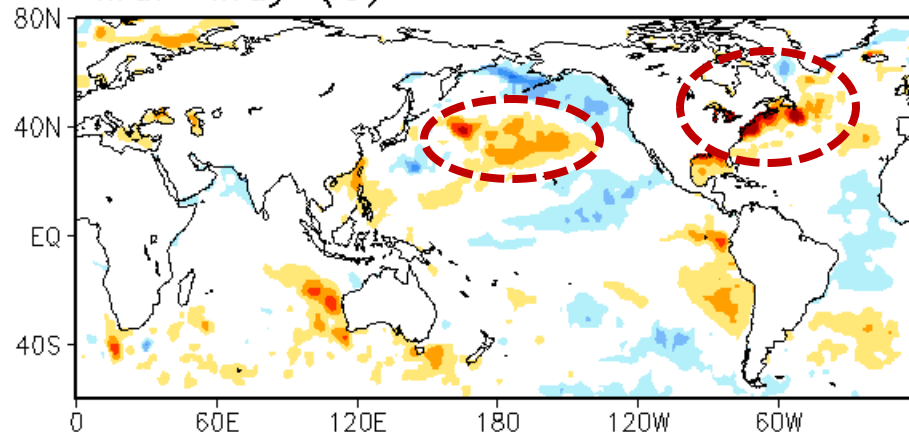


Sea Surface Temperature, NOAA/OI, 2012

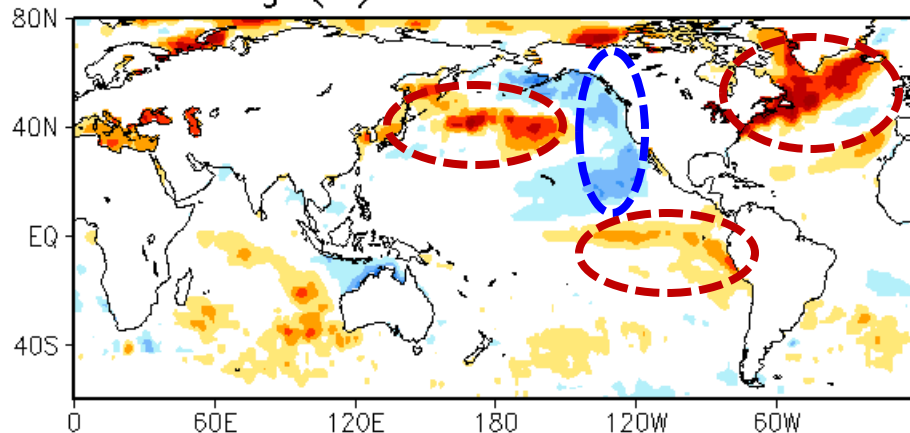
Dec-Feb (C)



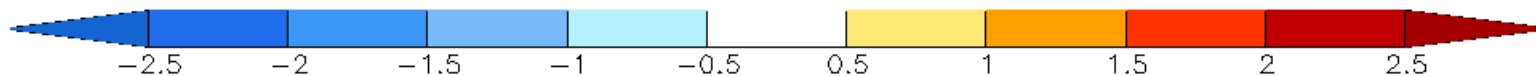
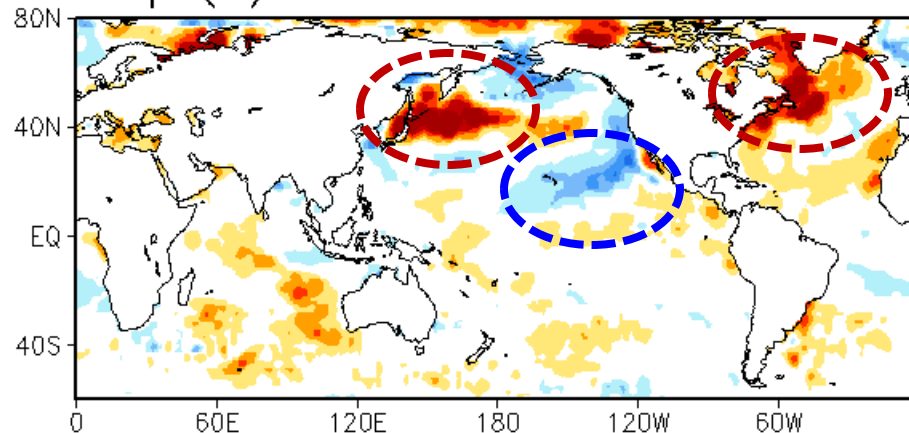
Mar-May (C)



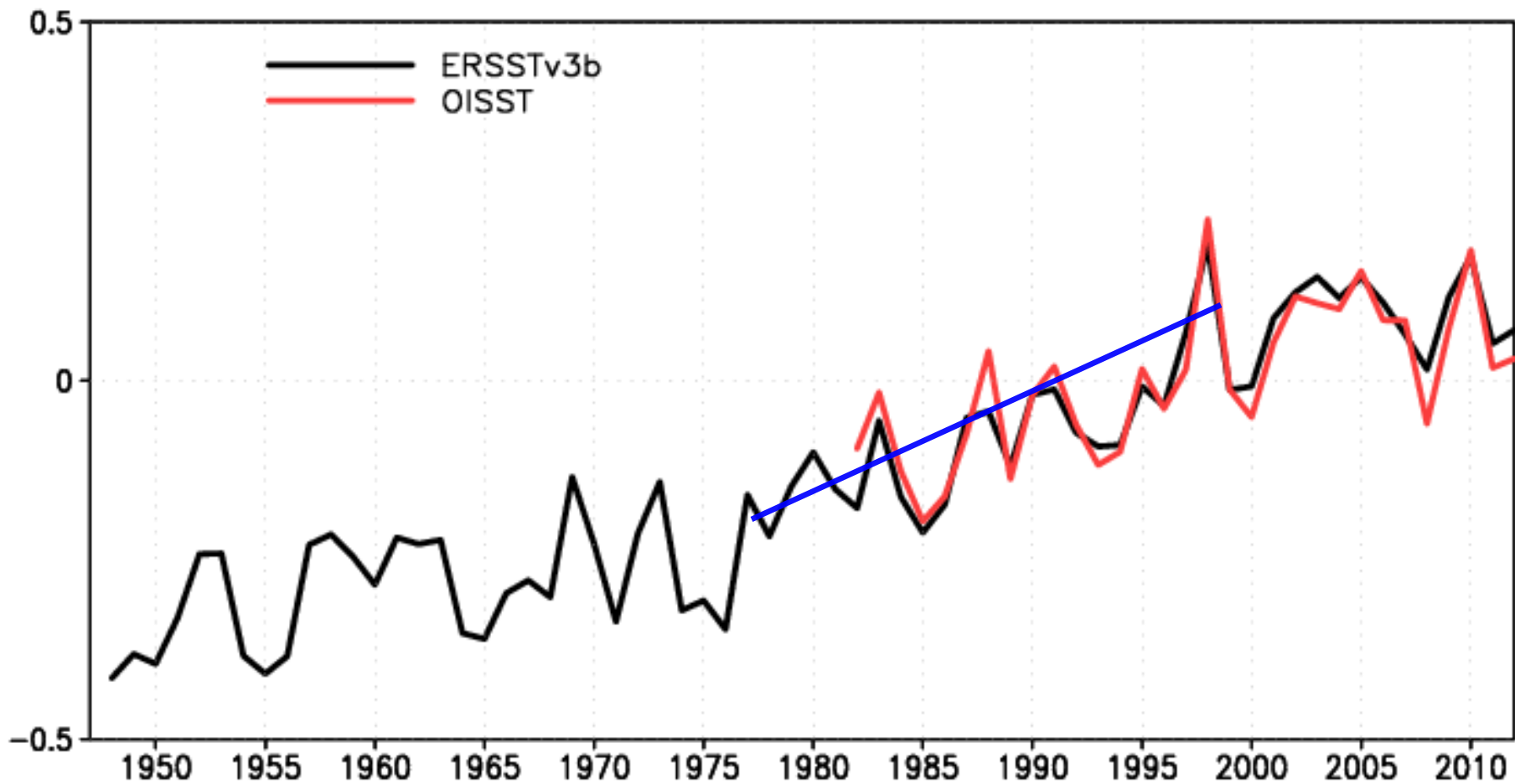
Jun-Aug (C)



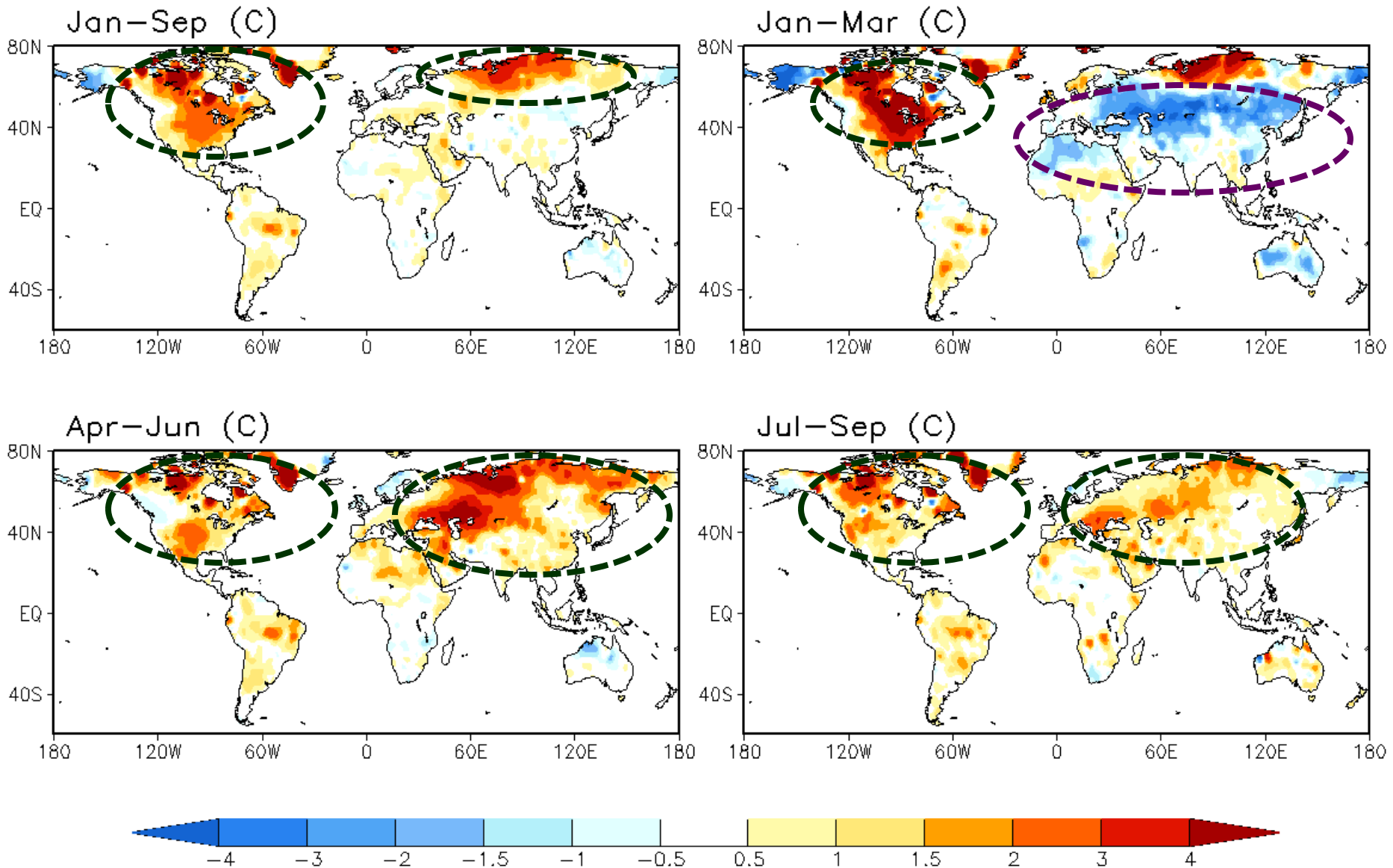
Sep (C)



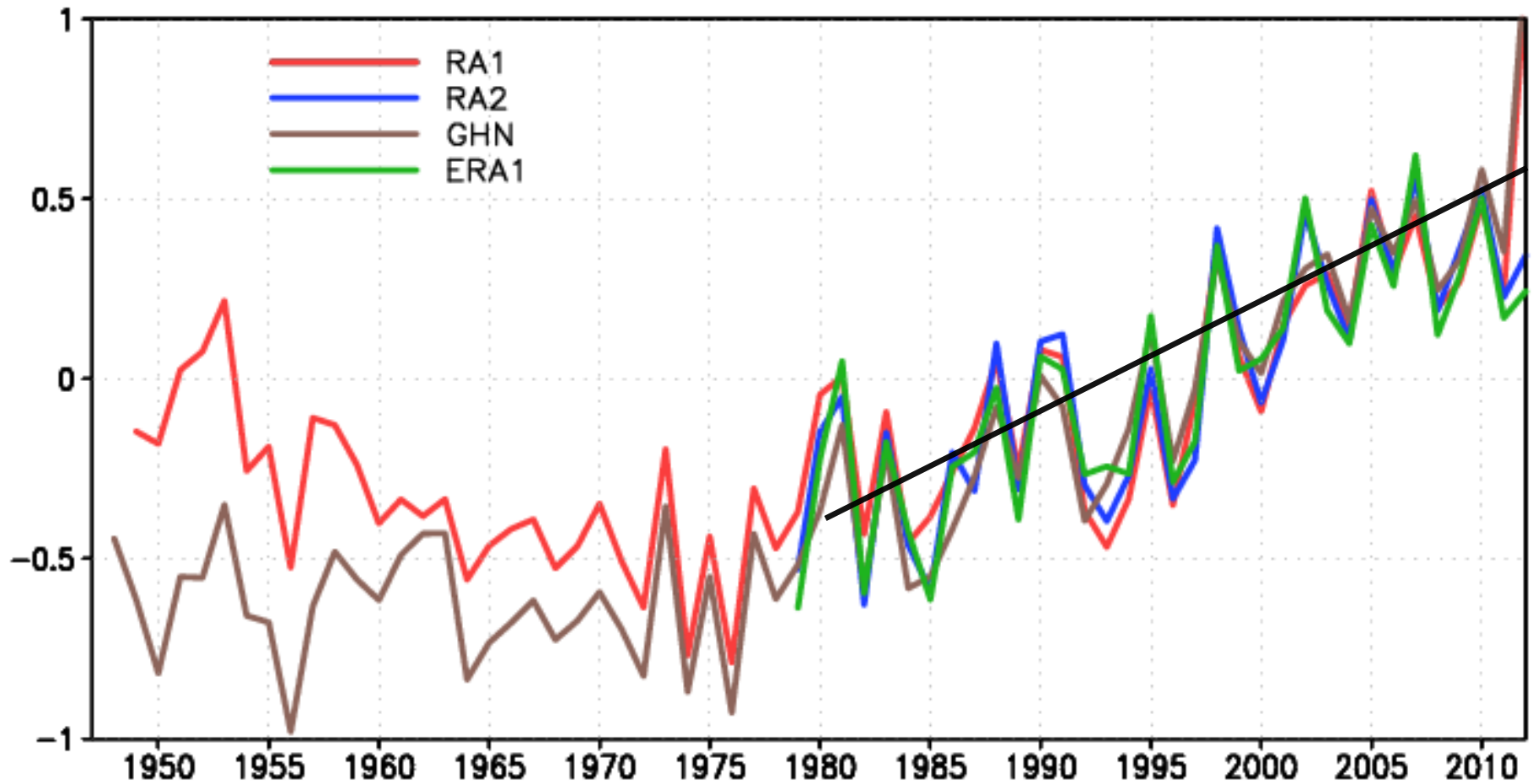
Globally Averaged SST anomaly



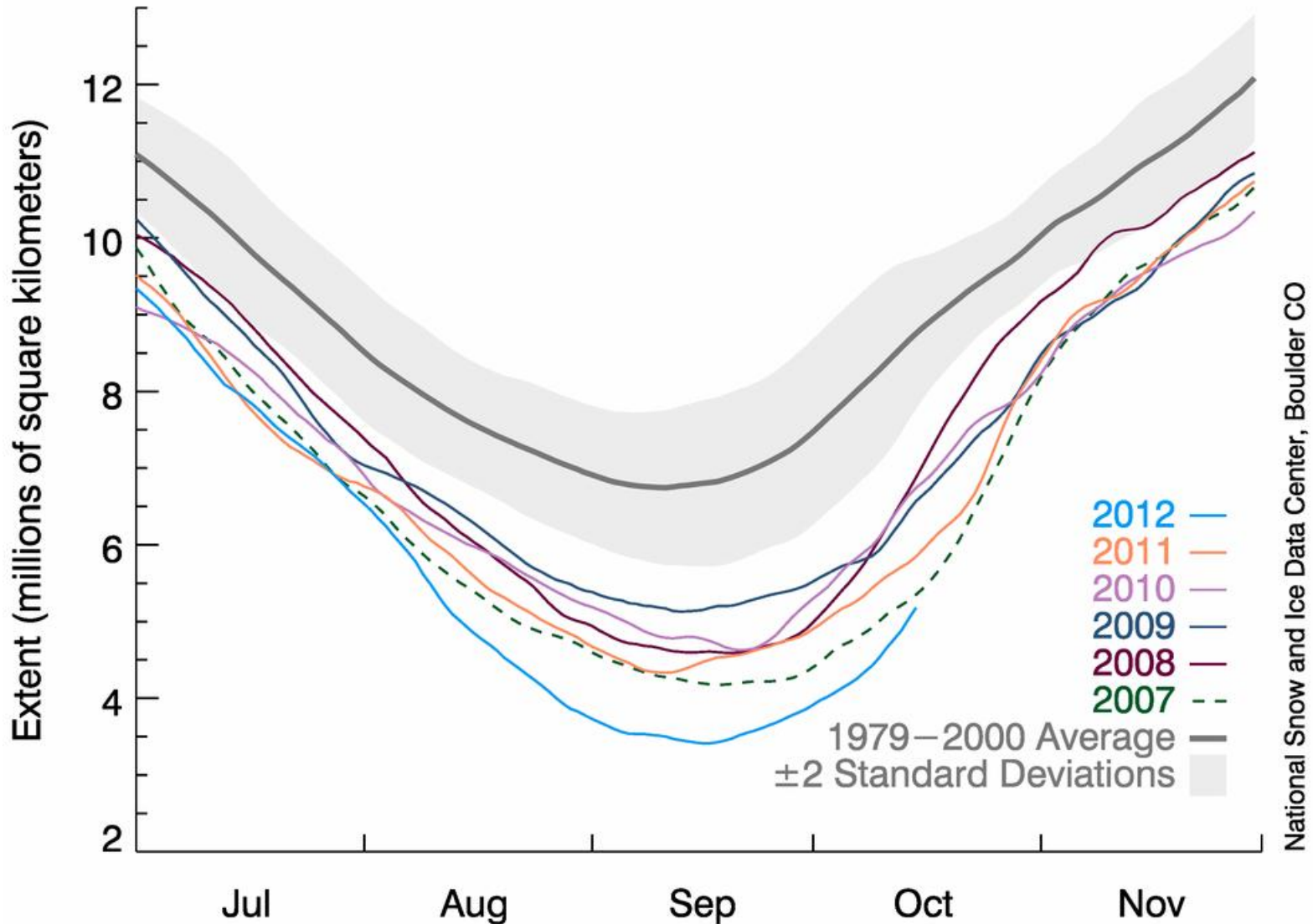
Land Surface Temperature, CAMS-GHCN, 2012



Globally Averaged Land T anomaly

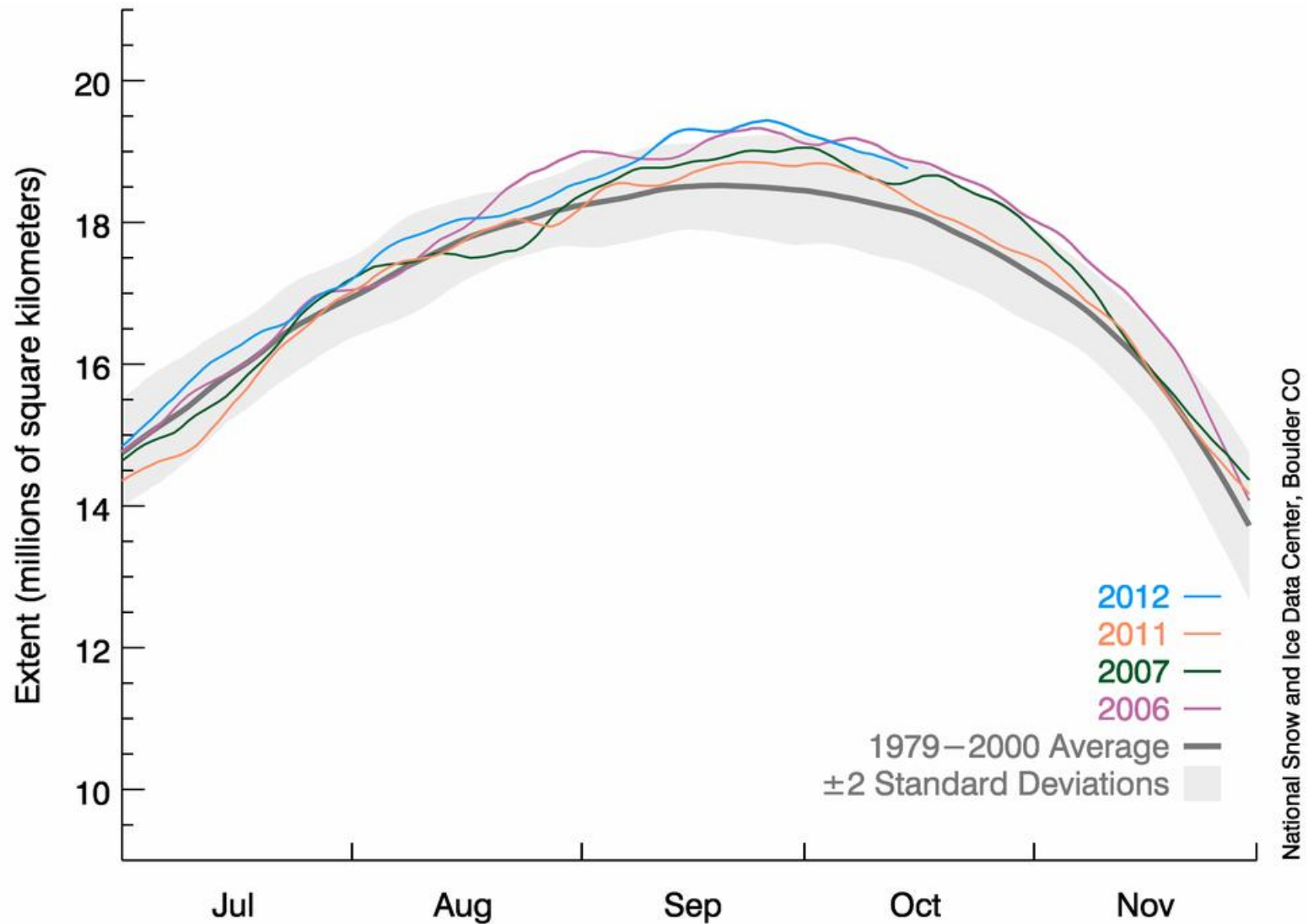


Arctic Sea Extent – Area 15% Sea Ice



National Snow and Ice Data Center, Boulder CO

Antarctica Sea Extent – Area 15% Sea Ice



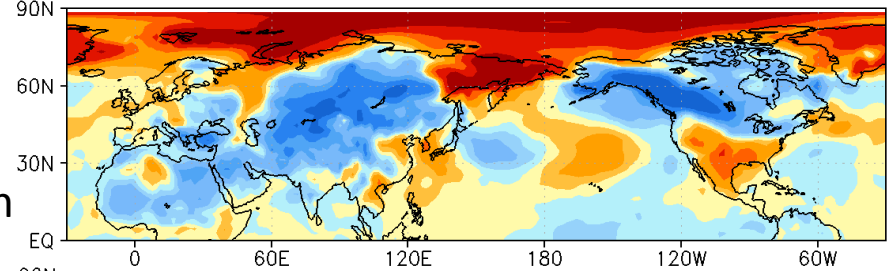
15 Oct 2012

National Snow and Ice Data Center, Boulder CO

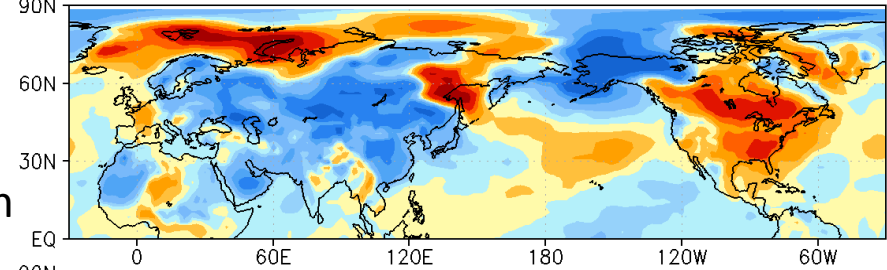
Eurasia Record Breaking Cold Wave

Weekly 2m T Anomaly
15 Jan – 18 Feb 2012

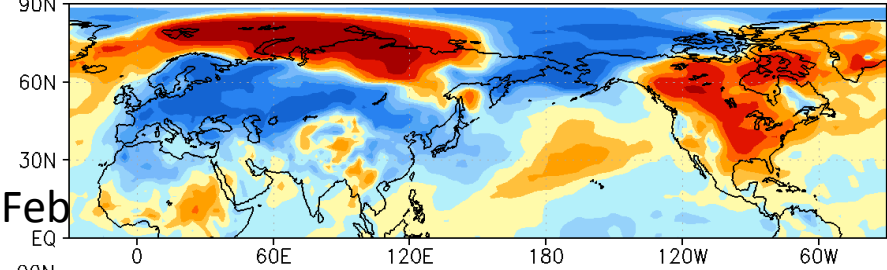
15 – 21 Jan



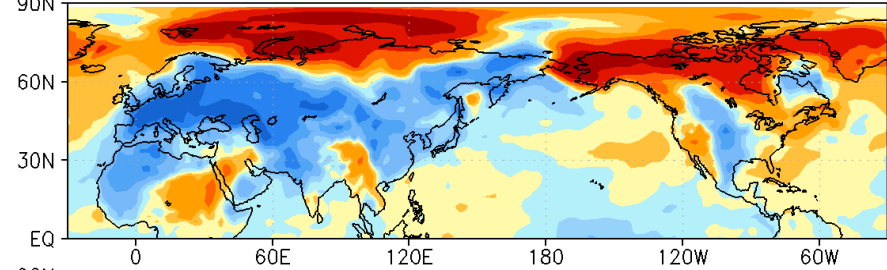
22 – 28 Jan



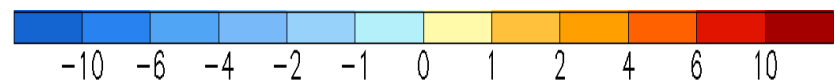
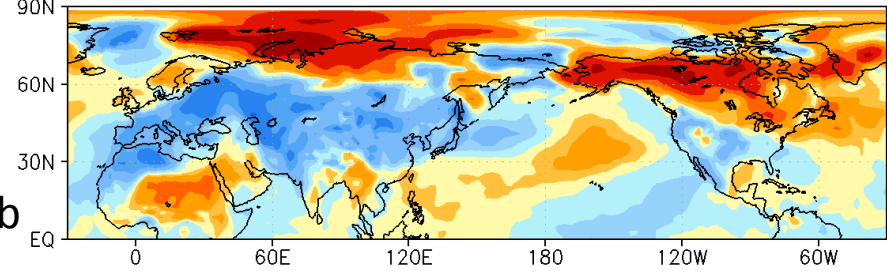
29 Jan – 4 Feb



5 – 11 Feb

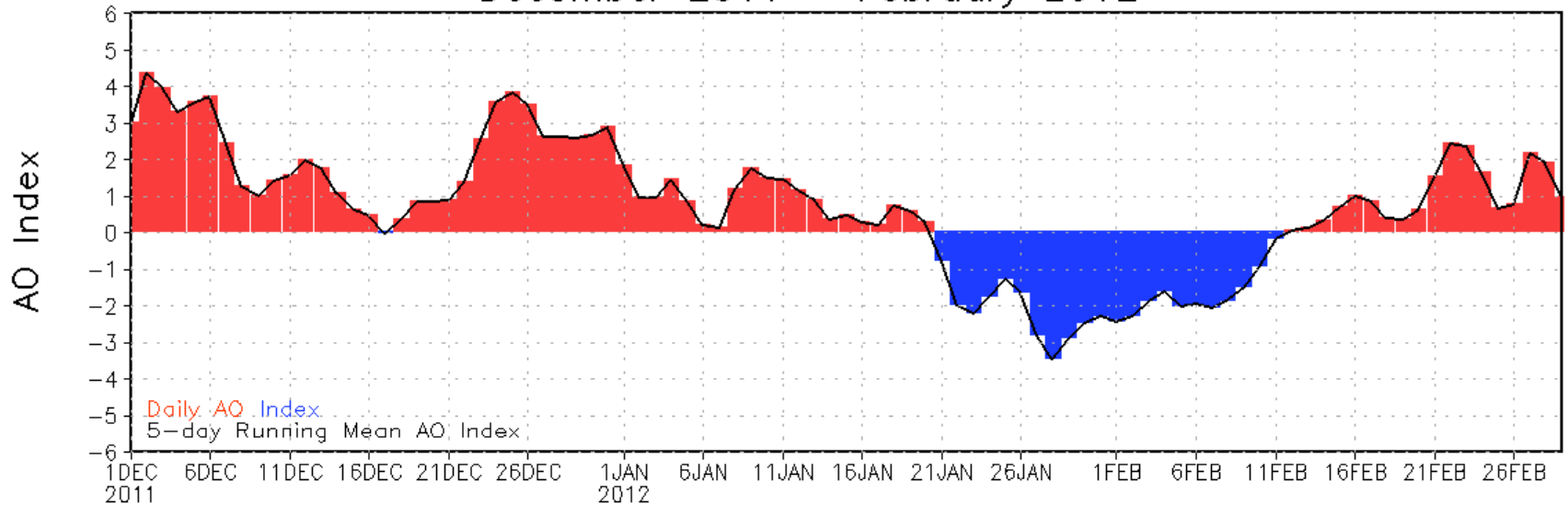


12 – 18 Feb

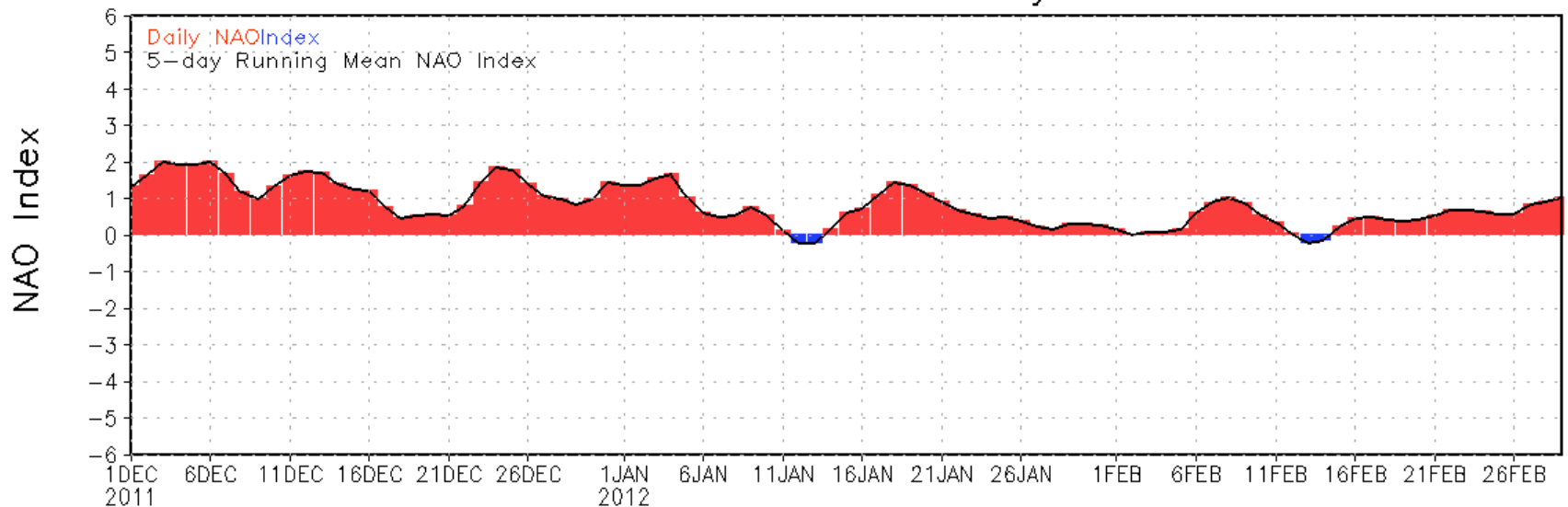


Arctic – North Atlantic Oscillation

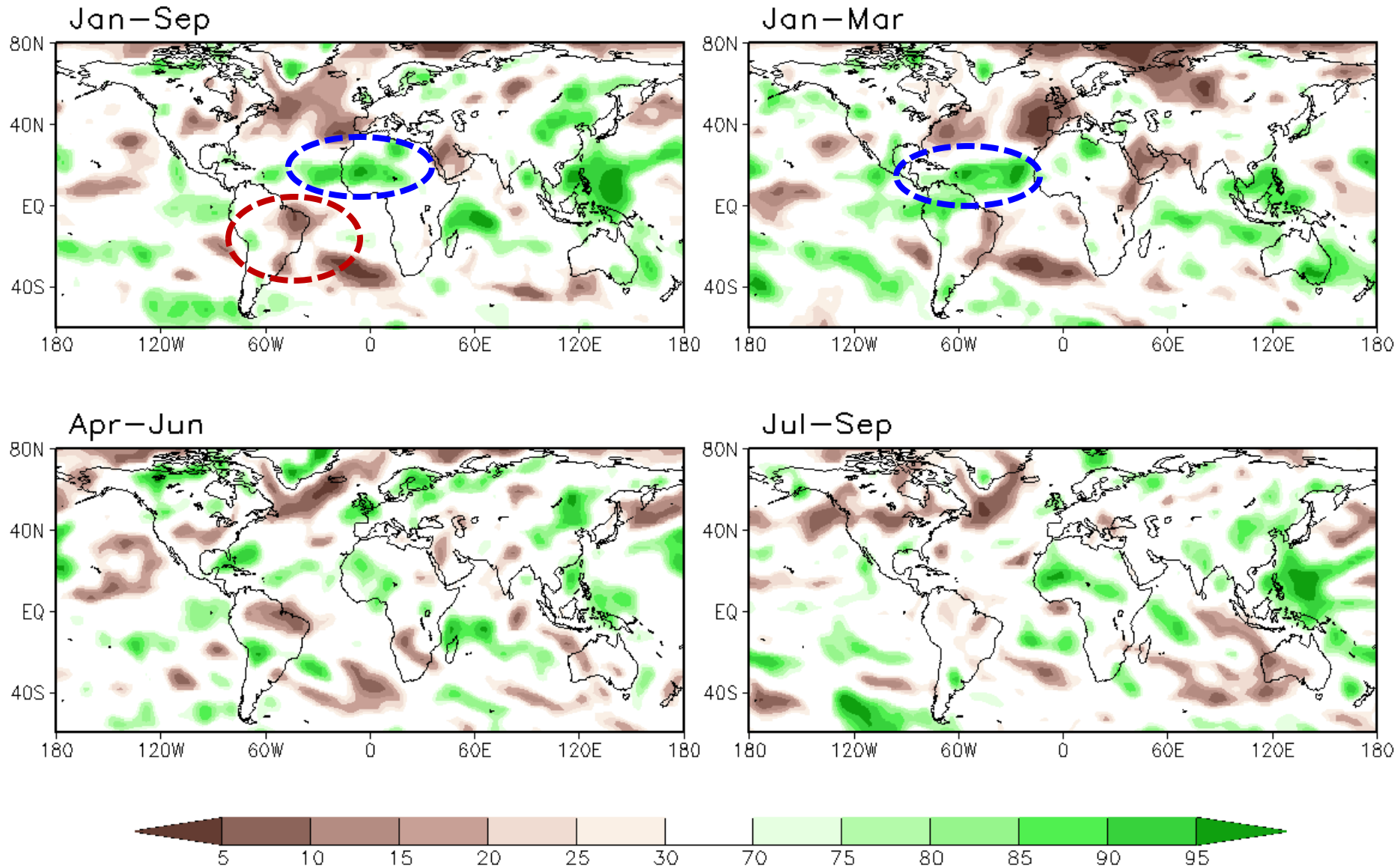
December 2011 – February 2012



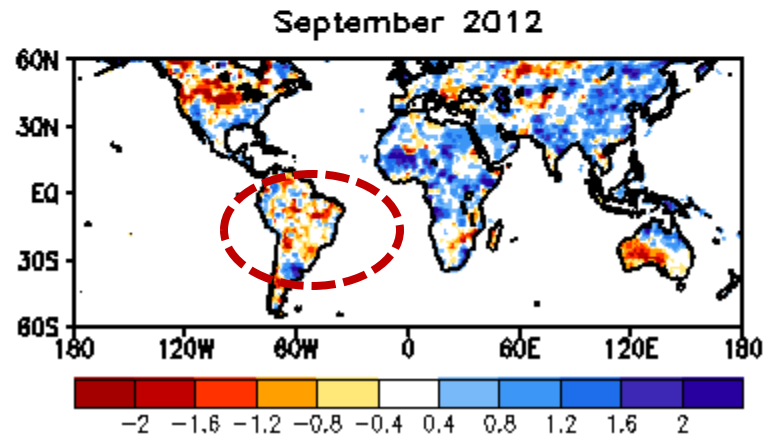
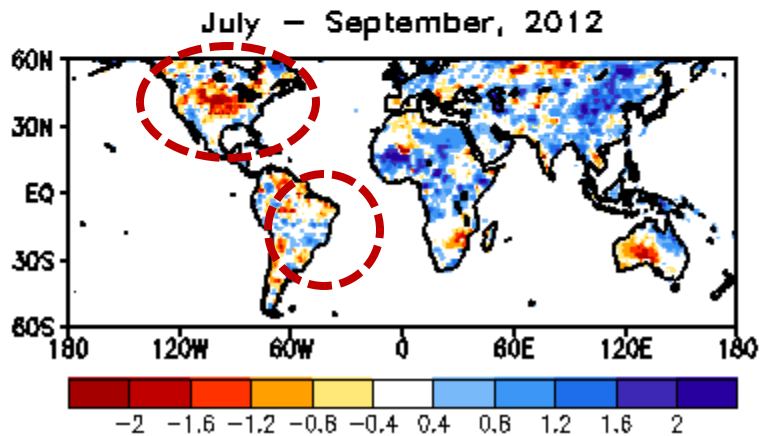
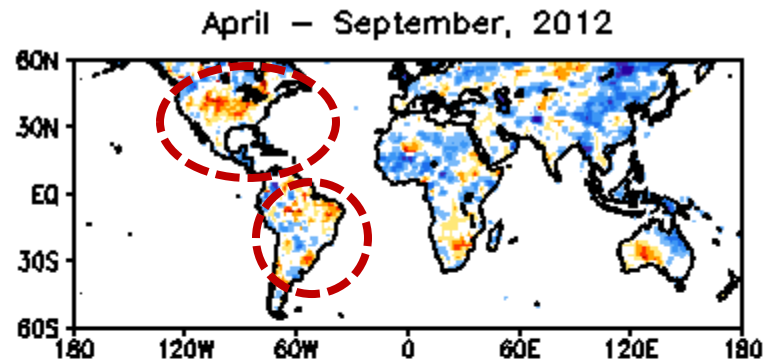
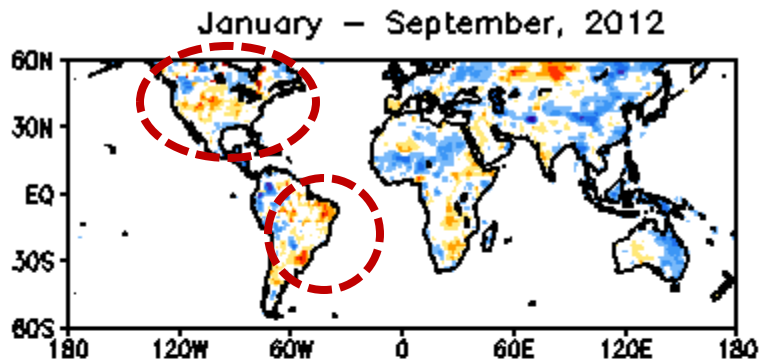
December 2011 – February 2012



Precipitation, CAMS-OPI, 2012

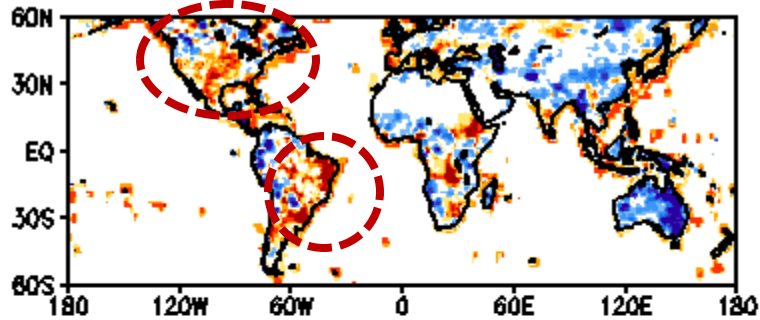


Standardized Precipitation Index, 2012

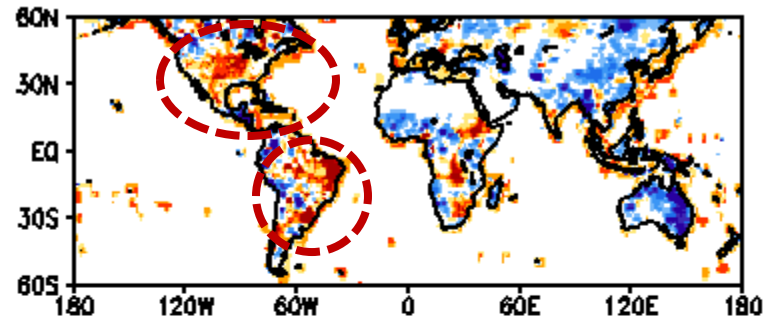


Soil Moisture, 2012

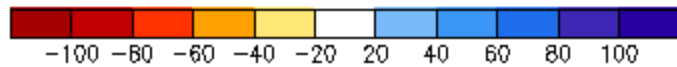
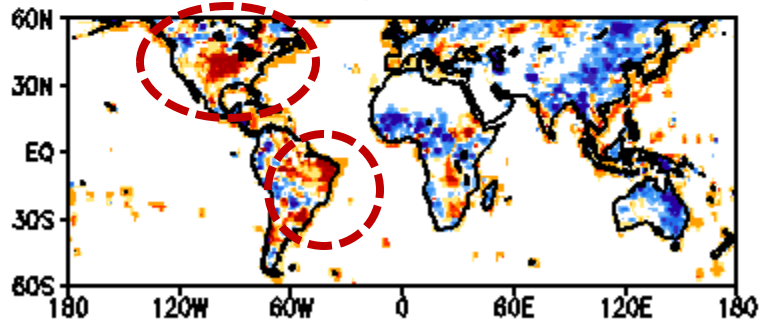
January – September, 2012



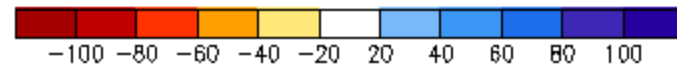
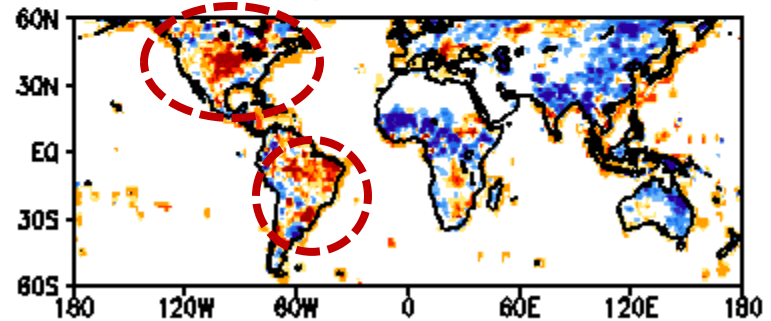
April – September, 2012



July – September, 2012

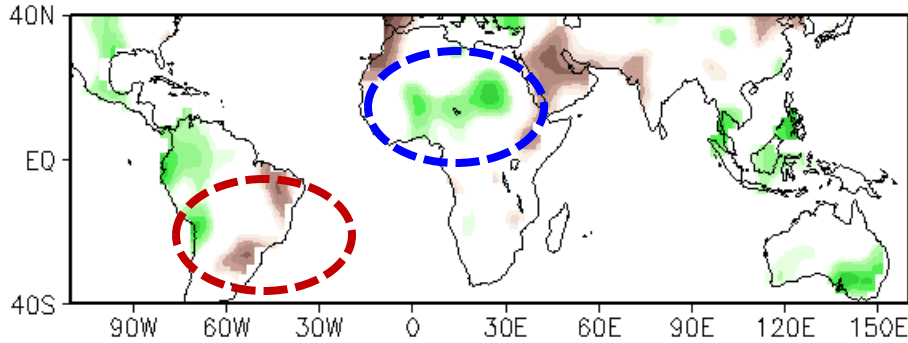


September 2012

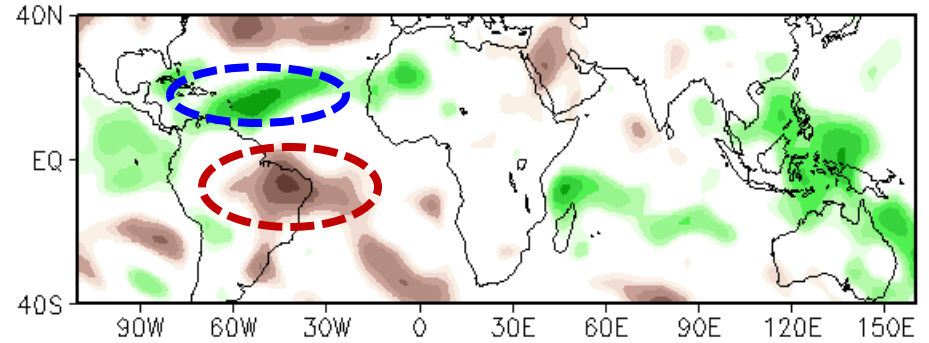


Global Monsoon – Precipitation 2011-12

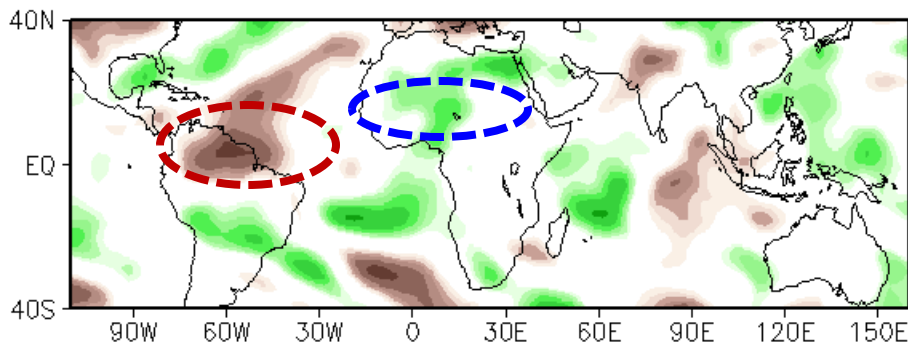
Dec–Jan



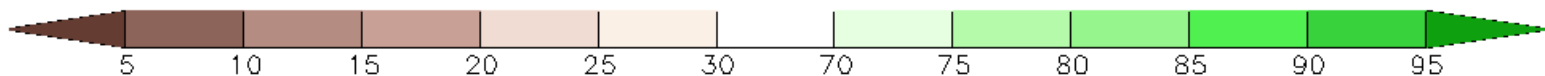
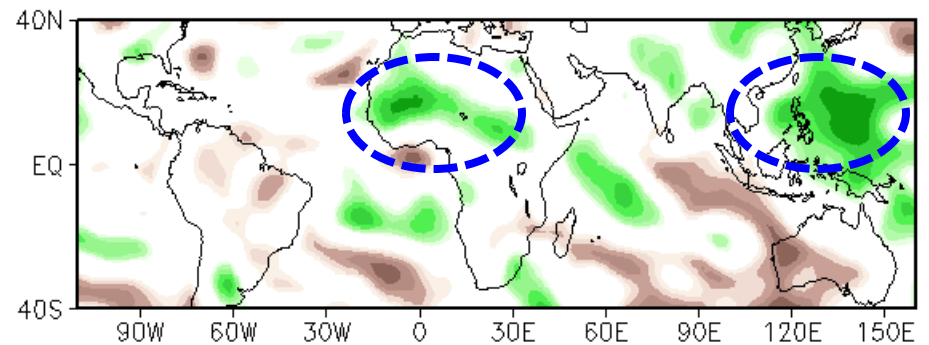
Mar–May



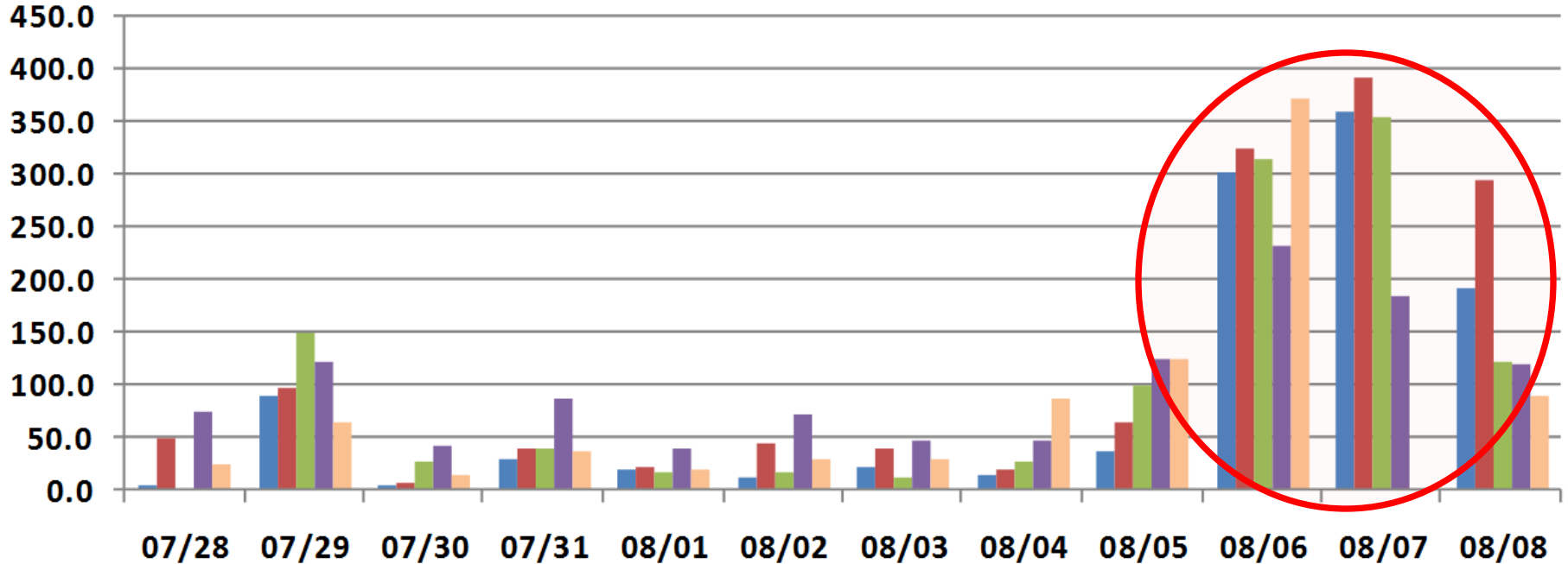
Jun



Jul–Sep



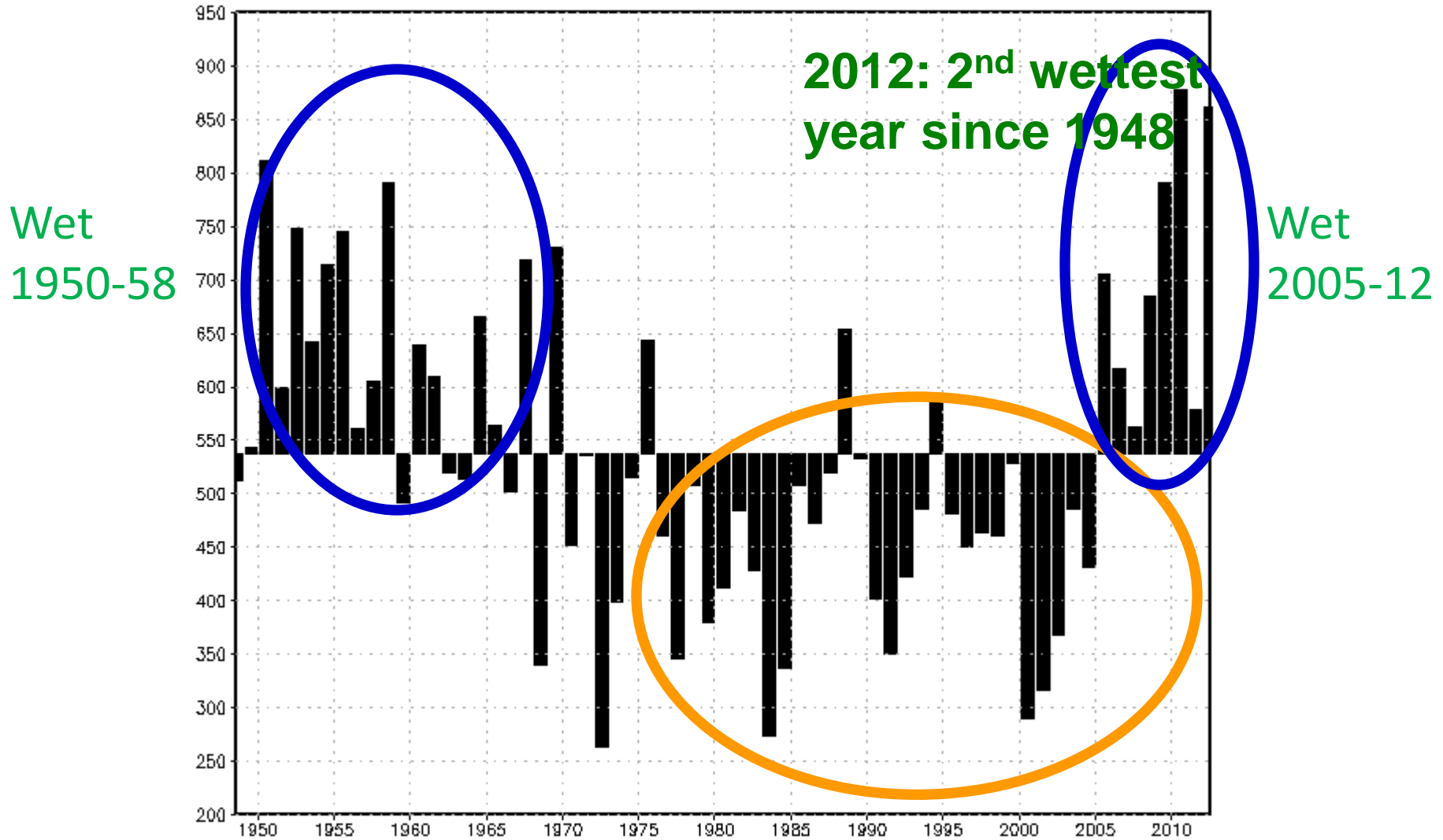
Extreme Weather Events in the Philippines



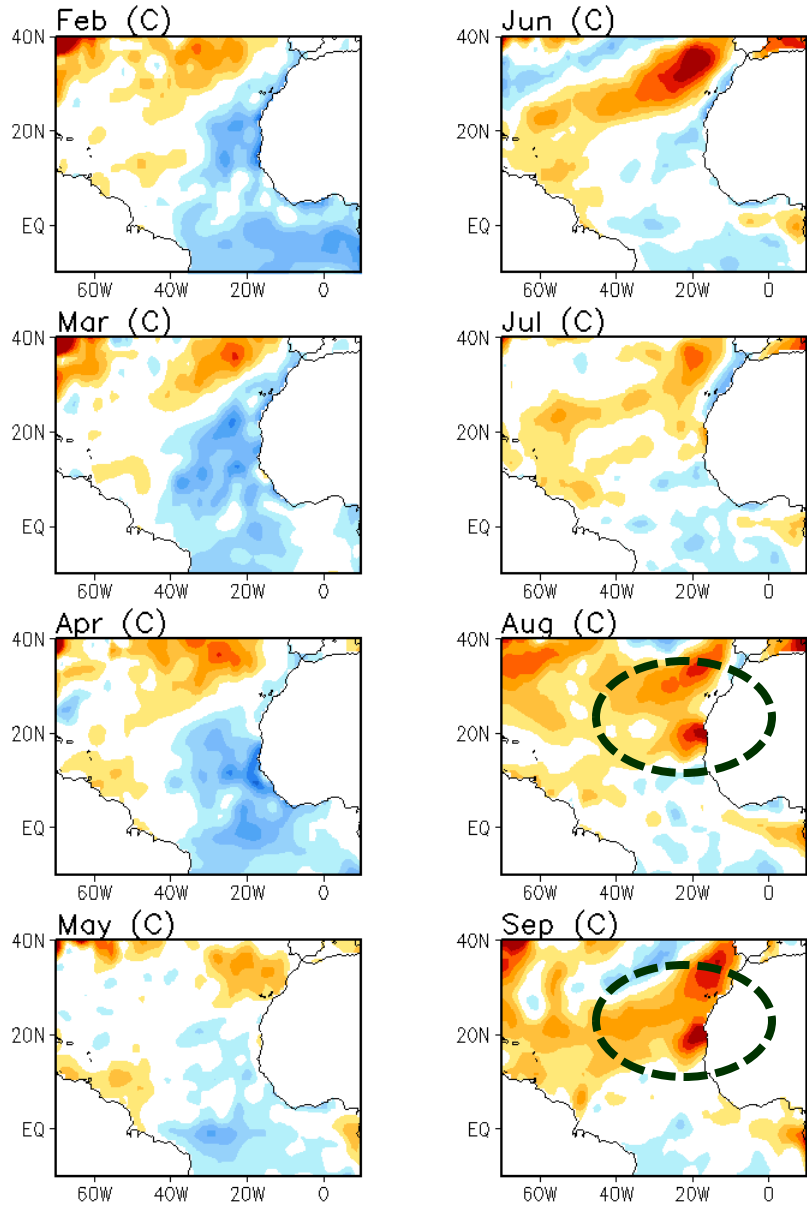
- **12 Tropical storms made landfalling or approached Philippines**
 - Quezon City: 24 days continued rainfall, 16 July – 8 Aug
 - 1-8 Aug: 1,200 mm; 237% of normal
 - 6-8 Aug: 1,007 mm; 200% of normal

**Source: R. Ebasillas,
PAGASA, Philippines**

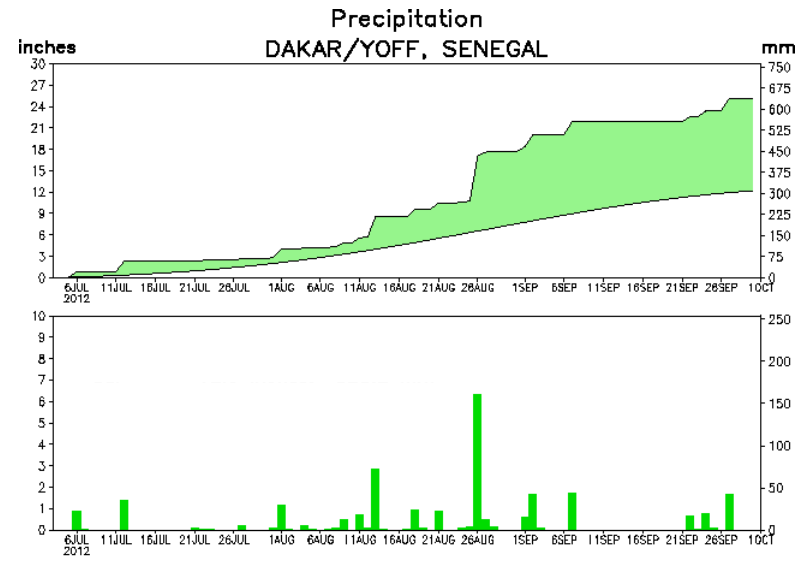
Active West African Monsoon Season



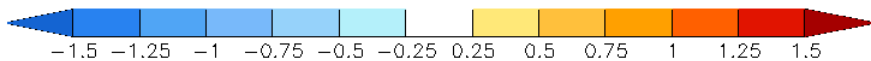
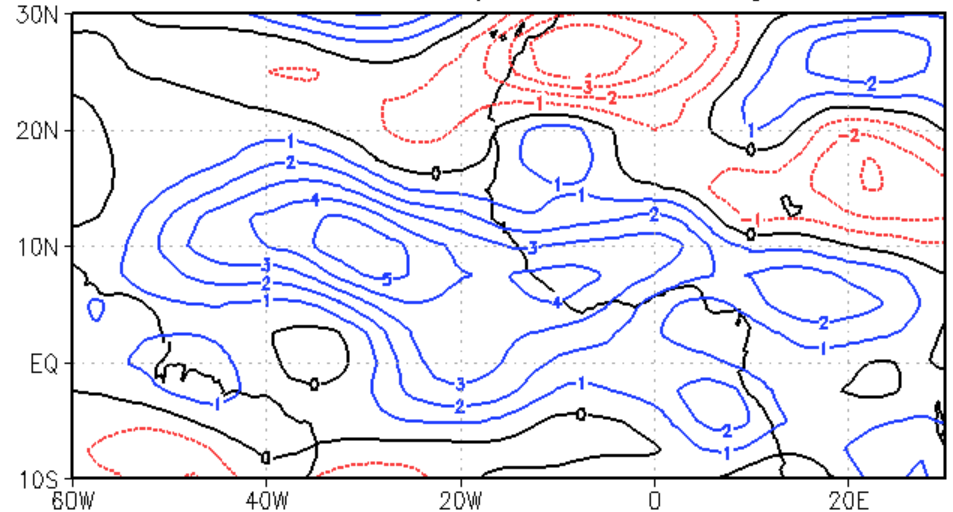
Atlantic SST Evolution



Senegal Rainfall Evolution

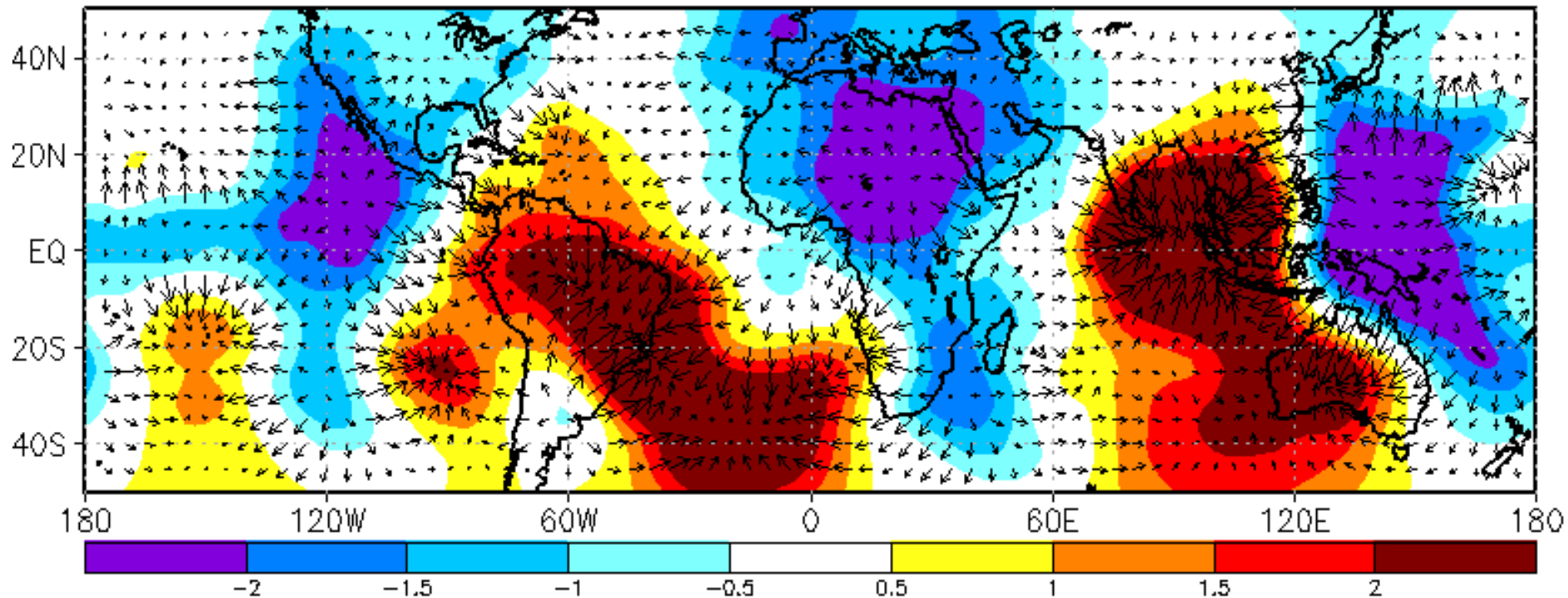


Zonal Wind Anomaly, 850 hPa, Aug 2012



NH Monsoon Circulation

Velocity Potential Anomaly and Divergence, 200 hPa, Aug 2012



Summary

- Record breaking extreme events occurred once again in 2012. The global land temperature reached a record high. Much of this warming accounted for by a very mild winter in the eastern half of the US and Canada and a warm spring in Asia.
- The Arctic Sea Ice Extent reached its lowest value in record in September in response to the warming.
- However, a NH winter cold wave associated with extremely low temperatures and heavy snowfall extended from east Asia to western Europe. The spell was associated with the negative phase of the AO.
- Other notable events include the drought in NE Brazil, the extremely active West African monsoon, and Atlantic and Indo-Pacific TS activity.