

Persistence and Predictability Barriers for the Tropical Indian Ocean Climate

by

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with special thanks to

NCEP/EMC and NASA/GMAO

Core Teams

References:

Wajsowicz, J. *Climate*, 2004, 2006a,b
Wajsowicz, *Dyn. Atmos. Oceans*, 2005
Wajsowicz, *Geophys. Res. Lett.*, 2005

Order of Talk

1. Salient features of tropical Indian Ocean and IOD
 - Current forecasts for IOD and ENSO from NASA/GMAO;
 - Relationship between IOD and ENSO;
 - Decadal variability vs. heteroskedascity.
2. Review seasonal modulation of ENSO
 - Peak SSTA in December;
 - Persistence barrier in boreal spring;
 - Robustness of predictability barrier in boreal spring.
3. Examine tropical Indian Ocean using EP and WP of IOD Index
c.f. Nino3 Index
 - Observations: NCEP OI v.2 SST, NCEP Reanalysis, GODAS (ocean reanalysis);
 - NCEP CFS retrospective forecasts from 1981-2003 (9 months long, every month);
 - NASA/GMAO hindcasts from 1993-2002 (12 months long, every month).

Potential Predictability of Tropical Indian Ocean SSTAs

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 After Wajsowicz, J. Climate, 2004, 2006
 & Wajsowicz, Geophys. Res. Lett., 2005

90°E-110°E, 0°-10°S: East pole, 50°E-70°E, 10°N-10°S: West pole of Indian Ocean Dipole Index
 as defined by Saji et al., Nature, 1999

