

Atmos. Sci. 591A: Atmosphere-Ocean Interactions

Note: The basic text for the course will be a manuscript of a book by Sarachik and Cane “ENSO and Atmosphere-Ocean Interactions”

1. Review of Observations (Annual Cycle in Tropics, Fluxes)

Chapter 2 of Sarachik and Cane
Källberg et al., 2005

2. Atmospheric Processes (Chapter 5 of Sarachik and Cane)

3. Oceanic Processes (Chapter 6 of Sarachik and Cane)

4. ENSO

Wallace et al., 1998
Barnett, 1991
Hirst, 1986
Zebiak and Cane, 1987
Battisti and Hirst, 1989
Thompson and Battisti, 2000, 2001
Chapter 7 of Sarachik and Cane
Goddard et al., 2001

5. Mid-latitude Atmosphere-Ocean Interactions

Deser et al., 2002

References:

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- Battisti, D. S., and A. C. Hirst, 1989: Interannual variability in a tropical atmosphere–ocean model: Influence of the basic state, ocean geometry and nonlinearity. *J. Atmos. Sci.*, **46**, 1687–1712.
- Deser, C., M. A. Alexander, and M. S. Timlin, 2002: On the persistence of sea surface temperature anomalies in midlatitudes. *J. Climate*, **16**, 57-72.
- Goddard L., S.J. Mason, S.E. Zebiak, C.F. Ropelewski, R. Basher, and M.A. Cane, 2001: Current approaches to seasonal-to-interannual climate predictions. *Int. J. Climatol.* **21**: 1111–1152
- Hirst, A. C., 1986: Unstable and damped equatorial modes in simple coupled models. *J. Atmos. Sci.*, **43**, 606–630.
- Kållberg, P., P. Berrisford, B. Hoskins, A. Simmons, S. Uppala, S. Lamy-Thépaut and R. Hine, 2005. The ERA-40 Atlas. ECMWF ERA-40 Report Series No. 19, 191 pp.
(Available at: http://www.ecmwf.int/research/era/ERA-40_Atlas/index.html)
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- Wallace, J.M, E. M. Rasmusson, T. P. Mitchell, V. E. Kousky, E. S. Sarachik, and H. von Storch, 1998: On the structure and evolution of ENSO-related climate variability in the tropical Pacific: lessons from TOGA *J. Geophys. Res. Oceans*, **103**, 14,241-14,260.
- Zebiak, S. E., and M. A Cane, 1987: A Model El Niño–Southern Oscillation. *Mon. Wea. Rev.*, **115**, 2262-2278.