

METEOROLOGY 5503

Climate Dynamics (Spring 2011)

Professor Peter J. Lamb
NWC Room 2107
2:00-2:50 p.m. M, W, F
(extended to 3:15 pm when needed)

TOPICS

1. An Historical Perspective – From Climatology to Climate Dynamics (5 lectures)
2. General Circulation of the Atmosphere – Present Average Behavior of Climate System (15 lectures)
3. Introduction to Climate Modeling (8 lectures)
4. Survey of Past Climates (7 lectures)
5. Example of Interannual Climate Variability – the El Niño-Southern Oscillation (9 lectures)

GRADING

Mid-Course Exam -- on first half of course (20%)
End-of-Course Exam -- on second half of course (20%)
Homeworks (4) -- discussions, problems, report on *Science* or *Nature* article (30%)
Literature Review or Research Paper (30%)

TEXTBOOKS (need to be purchased)

Peixoto, J. P., and A. H. Oort, 1992: *Physics of Climate*. American Institute of Physics, New York, 520 pp. (Not available at campus bookstores: Obtain through web, e.g. www.half.com)

Lamb, P. J., 2011: Course Notes for Meteorology 5503. (available from campus copy shop).

REFERENCE BOOKS (available for loan from me)

Crowley, T. J., and G. R. North, 1991: *Paleoclimatology*. Oxford University Press, 339 pp.

Trenberth, K. E., ed., 1992: *Climate System Modeling*. Cambridge University Press, 788 pp.

Additional reading materials will be assigned and distributed throughout the course.

Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your education opportunities.