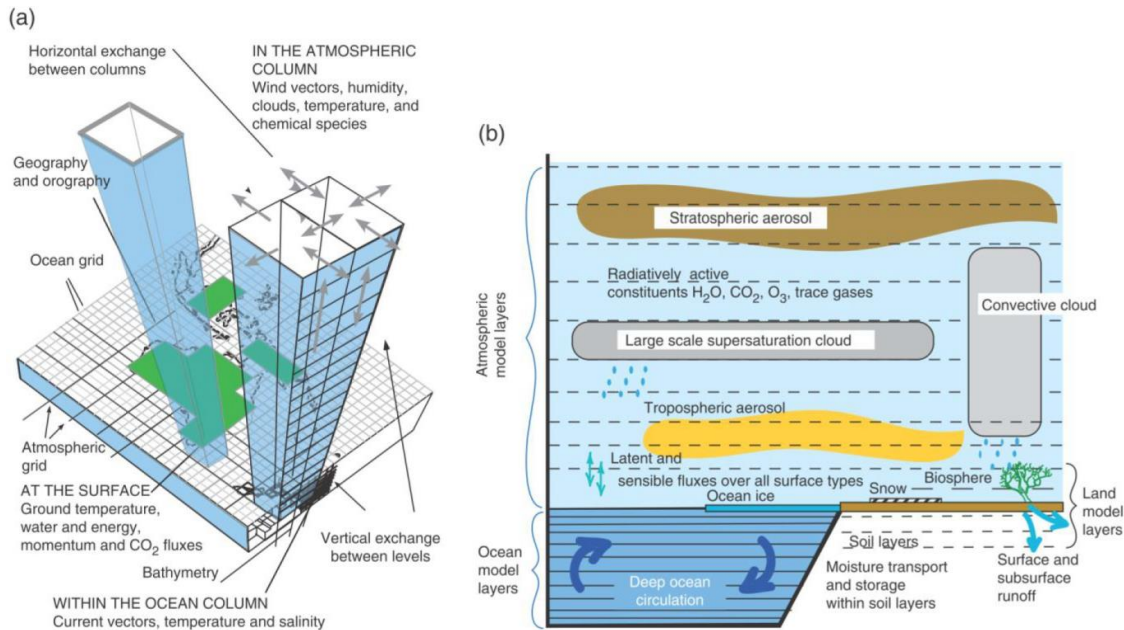# 16:107:544 Modeling of Climatic Change

Fall 2017, Tuesday and Thursday, 3:55 - 5:15 p.m., Room ENR-223

Professor Alan Robock, robock@envsci.rutgers.edu, Phone: 848-932-5751

This is a class about the range of climate models, from energy-balance models to single-column models to coupled atmosphere-ocean-biosphere earth system models, as well as regional models. It is about how to use climate models and how to evaluate them, the different types of experiments that can be done and how to design them. It will cover using multiple ensembles and model intercomparison projects. It is not a course in building new climate models or the nuts and bolts of programming them. Rather students will learn how to choose the model needed to answer the scientific questions they are addressing. The course will include practice on running simple models, conducting climate model experiments, and evaluating their results.

This course should be taken by every graduate student who will use climate models or climate model output in their research.

Students should have familiarity with climate science. No formal programming experience is necessary, but a familiarity with Linux and graphing software, such as Matlab or GrADS, will be useful.

Text: McGuffie, Kendal, and Ann Henderson-Sellers, 2014: *The Climate Modelling Primer*, Fourth Edition, (Wiley Blackwell), 439 pp.