### Instructions for Project:
The goal of the project is to carry out a scientific experiment using the model that we developed. The project may have two components: 1) added model development, and 2) testing of a hypothesis with the model. Model development is optional, and should be dictated by the needs of the particular science question that you want to address. The hypothesis test is the heart of the project, and must be present in every case. I will weight my grade of each project based on the relative proportion of time spent on model development versus doing actual science with the model. However, even if you spend a significant amount of time on adding to the code, my primary criterion for a graduate level project is that you must show that you have used the model as a part of the scientific method, and that you have done some interpretation. I will have some comments on using a model to test hypotheses during class on 30 November.

Criteria for evaluating model development: degree of difficulty, appropriateness for selected science problem, accuracy of coding (you will turn in your added code as an appendix: does code look right and do the results look realistic?).

Criteria for evaluating science component: well-conceived hypothesis, design of appropriate test using the model, completion of appropriate number and scope of simulations to test the hypothesis, graphical presentation of supporting results in an attractive way, accurate interpretation of results (physically and numerically).

### End Products:
Thursday, 12/14, 1-4 PM: Class colloquium in which you present your semester project in a 14 minute PPT presentation (followed by 6 minutes for questions). You will be graded on content (above), effective use of time (and not going long), presentation style, and effective use of legible, attractive, well-labeled graphics to illustrate points. Talks should emphasize science, not model development. Audience members are expected to ask questions, and this will factor into classroom participation grades.

due Friday, 12/15, 5 PM: Paper on your semester project: 5 pages of text in AMS style. You should use extensive figures to illustrate your results and an appendix to show any novel code that you added, but these do not count against the 5-page limit. Figures should have captions and should be referred to by number in the text. Consider using roughly 1 paragraph to describe any model modifications you made, 1 paragraph to explain the experimental design and its logic, and the remainder of the paper to discuss the science problem and interpret the results of your experiments. The paper should end with a conclusion summarizing the key scientific insights of your work.

### Final Weighting of Semester Assignments (revised from syllabus):
- 8% two informal assignments (4% each)
- 36% six CMM assignments (6% each)
- 16% midterm assignment
- 30% semester project (5% proposal, 10% presentation, 15% paper)
- 10% participation