Math 319 - Differential Equations II
Pre-Reading Assignment # 13
due 10am Tue Oct 28th, via email

Reading For this pre-reading assignment, I have found some material focussed on applications of PDEs to climate change. I hope that you find it interesting!

1. Skim the section titled "Forces that cause atmospheric motion" at http://en.wikipedia.org/wiki/Primitive_equations.
2. Skim pages 22-23 of the MSRI book, Mathematics of Climate Change. The book can be found here: http://www.msri.org/attachments/workshops/462/MathClimate.pdf.
3. Flip through the entire MSRI book and find something interesting (a figure, a sentence or two, a topic, ...).

Questions Answer the questions below to the best of your ability. Note that the first three questions are about the reading, while the last question is a POLL. Please don't forget to cast your vote!

1. In "Forces that cause atmospheric motion", there are some PDEs listed. Consider the first equation in the last set of 4 equations. How would you classify this PDE (parabolic, hyperbolic, or elliptic)? Why?
2. How many of the problems listed in "Opportunities and Challenges for the Mathematical Sciences" require expertise in PDEs? Were you surprised?
3. Tell me about something interesting you found in the remainder of the MSRI book.
4. Would you prefer to have me use (A) the projector or (B) the whiteboard?