

**METR 4433 – Mesoscale Meteorology  
Spring 2007**

**Dr. Ming Xue  
Term Project Assignment  
March 6, 2007**

**Schedule:**

Tuesday March 27 Half to one page proposal due  
Tuesday, May 1<sup>st</sup> Final paper due

**Guidelines:**

In this term project, you will read research papers and/or reports (e.g., AMS journal articles) on a subject of mesoscale meteorology selected by yourself (with the help of the instructors if needed), and write a review on the subject. The article should be 10 to 15 page long with double space, including references and figures. The number of pages for figures should not exceed 1/3 of the total number of pages. You are encouraged to include your own critical views on the subject in your review. Original research and topics different from those covered in the lecture are encouraged. You are encouraged to discuss your topic with the instructors.

The AMS Manuscript Guide on the convention, formatting, units etc. should be followed. Here is the link: [http://www.ametsoc.org/pubs/authorsguide/pdf\\_vs/authguide.pdf](http://www.ametsoc.org/pubs/authorsguide/pdf_vs/authguide.pdf).

A brief guide for authors can be found here:  
[http://www.ametsoc.org/pubs/Authorsguide/pdf\\_vs/agbrf2002.pdf](http://www.ametsoc.org/pubs/Authorsguide/pdf_vs/agbrf2002.pdf).

The paper should include a short abstract, an introduction, main body (which can have one to several sections) and summary and/or conclusion sections. This term project accounts for 25% of your total score.

The review should demonstrate a good understanding on your part of the chosen subject. It should use your own words in summarizing the views and understandings – it should not directly copying paragraphs or sentences from other people's paper or article. Internet sources of information should be referenced by URL links.

The paper will also be graded based on the perceived understanding by you on the topic as well as on the organization, clarity, grammar, completeness and neatness. All figures should contain numbered captions of your own, and the figures should be arranged (either at the end or inserted into the text) in the order they are referenced in the text.

The following aspects will be considered when grading your paper:

Are the material well organized and is the flow logical? Does the introduction clearly state the purpose and/or motivation of the review? Does the paper have a proper and informative title? Are proper headings used for the sections?

Are the paper and presentation clear and easily understandable? Can other students learn anything from your review if they are to read it?

Are figures appropriate and effective in supporting the text in the paper? Do they have adequate captions and are they adequately discussed? Are the figures and tables numbered consecutively? Are tables and figures appropriately referenced in the text?

You should avoid choosing the same topic as your capstone project. A modified version of your capstone report (I will be able to find out if you do so) is not acceptable. Some what related topics, perhaps looking at different aspects of a problem, is okay.

### **Example Topics:**

Low-level jet  
Dryline  
Convective initiation  
Convective boundary layer, mixed layer  
Cloud streets  
Boundary layer rolls and eddies  
Land or sea breeze  
Valley flow  
Mountain waves  
Gravity waves  
Density Current  
Multicell storm  
Squall Line  
Tornado  
Supercell storm  
Mesocyclone  
Mesoscale convective system/complex  
Hurricanes  
Cold front  
Rainbands  
Symmetric Instability  
Lake-effect storm  
Downslope windstorm  
Orographic precipitation  
Instabilities  
Others