Agronomy 505
Spring 2009
Problem Set 8
Due Tuesday, March 24, 2009

Assigned February 25, 2009

1. Mid–term course evaluation. Comment on the following.

   (a) Assignments: difficulty, appropriateness, whether or not they are clearly defined.
   (b) Lectures: pace, content, presentation (is writing legible, etc.).
   (c) Mid–term exam: difficulty, length, appropriateness of topics.
   (d) Professor: availability, is he approachable, authoritative on subject material.
   (e) Webpage: organization, information, functionality of links.
   (f) Project: has it been clearly defined, appropriateness.
   (g) MATLAB: introduction, usefulness, support from instructor.
   (h) What do I do particularly well?
   (i) In what area or areas do I need to improve?

If there is anything else you would like to comment on, please do. I will use this information to improve the second half of the course. Please send this information in an email (either in the body of the email, or as a .txt, .rtf, or .doc attachment) to Pam Mundt, pmundt@iastate.edu. She will note your submission and compile all the responses in one document. I will only see the final compilation, so that your answers will be anonymous. Full credit given as long as each question is answered.

2. Project update. Include the following:

   (a) a one– to two–paragraph summary of your progress to date;
   (b) a timeline for the balance of the semester, illustrating how you will successfully complete the project by the due date;
   (c) at least one figure of either data or results.
3. Read “Global Warming at the Poles,” doi:10.1038/ngeo346. Dr. Ackerman mentioned that these findings were in the Des Moines Register on February 24, and Andrew expressed interest.

(a) During the past half–century, Arctic near–surface air temperatures have increased at twice the global rate. What are the main consequences of Arctic warming?

(b) What may be causing the rate of climate change to be different in the Arctic than in the rest of the world?

(c) What is unique about work detailed in the article mentioned in the text, the article by Gillett and colleagues concerning Antarctic temperatures?

(d) Why do Gillett and colleagues believe that Antarctic climate change is caused by humans?

(e) Can the findings of Gillett and colleagues be applied to all of Antarctica?

The article “The Other Greenhouse Effect,” at the bottom of the second page of the pdf version of “Global Warming at the Poles,” is also interesting. I think the numbers in the last paragraph are wrong. Think about how much warming has occurred if these changes were in fact per year. I think this is too much.