Astr450 Assignment 10: the moderating effect of Earth’s atmosphere
due Thu Nov 5, 2009

Word limit: 350

Answer the following questions. Cite your sources of information on a question-by-question basis.

1. What is the average equatorial surface temperature of the Earth’s Moon? Over what range of surface temperatures does the Moon experience?

2. What is the average equatorial temperature of the Earth? Over what range of surface temperatures does the Earth experience?

3. Make a statement about the importance of the greenhouse effect on Earth’s surface temperature; be numerical as part of your answer. Speak of both averages and ranges.

4. Read the wikipedia article, “faint young Sun paradox”. Define the word paradox (in its strict logic definition). Explain why paradoxes can not exist, and how paradoxes are resolved.

5. Explain the faint young Sun paradox in your own words. Rely upon communicating fundamental concepts. Explain how the greenhouse effect resolves the paradox.

6. List, in rank order, the most important greenhouse gases in Earth’s atmosphere.

Requirements for a good assignment

- The assignment is not a group project. All work must be completely original. The assignment will be graded strictly, as expected for a 400-level course. All assignments are weighted equally.
- Have your name, SID, and a word count at the top of the paper. Use numbered question-and-answer format when writing your assignment, NOT a run-on paragraph(s) (50% penalty).
- Be typed, single- or double-spaced is ok, and within the word limit. Assignments longer than the word limit will receive zero credit. Equations and diagrams can be hand written.
- Reference all sources of information you use.
- Use quotations only to illustrate your point, not to make it. If you are unclear about this requirement, then speak with the instructor.
- Show completeness of information, conciseness of expression, have a logical development of ideas, and evidence of thought regarding the content.
- Be professional of presentation, e.g., no ragged ends, creases, or ink blobs on the paper.
- In all ways, show pride in your work.