

AOSC 433/633 & CHEM 433/633 Atmospheric Chemistry and Climate

Admission Ticket, Lecture 08: 15 points

Due: Tuesday, 19 February 2013 (at start of class)

Your name: _____

a) (5 points) As the atmosphere warms due to rising GHGs, what is expected to happen to concentration of atmosphere water vapor levels and quantitatively, how much will this either amplify or dampen the response of surface temperature due to Radiative Forcing by GHGs?

b) (5 points) Is the description of “Water vapor – high cloud” and “Water vapor – low cloud” on page 339 of the Jacobson reading consistent with the description of “Cloud-radiation feedback” given on pages 91 and 93 of the Houghton reading?

If not, summarize the difference.

If so, what type of clouds, if these clouds become more prevalent in the future, would cause the rise in surface temperature due to Radiative Forcing by GHGs to be less than is commonly forecast?

c) (5 points) According to Jacobson, what is a “major unresolved issue” regarding the effects of aerosols on climate ?

Please limit your reply to a few sentences at most. You need not transcribe all of the reading but rather, summarize in your own words the essence of what was written ☺

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