

ATM S 111 Exam Review Sheet Summer 2010

1. What happens to solar radiation when it reaches Earth?
2. What is albedo? Why is it important for climate?
3. What is energy balance? How does adding greenhouse gases to the atmosphere upset global energy balance? How does the climate system respond?
4. What is a positive (negative) radiative forcing?
5. What is the most important natural greenhouse gas? What is the most important anthropogenic greenhouse gas?
6. What is a climate feedback? How is it different from a forcing?
7. What is climate sensitivity?
8. What type of clouds have a large albedo effect? What type have a large greenhouse effect? For what type is the albedo effect more important than the greenhouse effect, and vice versa?
9. What is the relationship between extreme heat and humidity?
10. How is precipitation expected to change due to global warming?
11. What are the obstacles in documenting the (possible) change in tropical cyclone intensity or frequency in the 20th Century?
12. How are tropical cyclones expected to change in the future?
13. What are the dominant contributors to sea level rise right now?
14. How are the ice sheets on Greenland and Antarctica expected to contribute to sea level rise in the future?
15. Why do most climate scientists claim that observed 20th century global average temperature increases are anthropogenic?
16. What is the cause of the Ice Ages?
17. How is CO₂ added to and removed from the atmosphere on geologic time scales?
18. How are weather prediction models and climate models similar? How are they different?