

Atmospheric Sciences 101
Homework #5

Name _____
Section _____

Autumn 2006
Due: November 30, 2006

1. One day you notice that you can see objects very far away, far beyond the usual horizon and some objects seem much higher than normal. What can you deduce about the vertical temperature structure in the lower atmosphere? Explain your answer.
2. Would the day be longer or shorter if there was no atmosphere. Why?
3. During wintertime periods of unusually cold weather (teens to low 20s) over the Puget Sound lowlands, there is often a line of clouds (directed N-S) along the Sound. Why do you think this occurs? Hint: Puget Sound is much warmer than the land.
4. Fifty million years ago, the earth was warmer than today and the differences in temperature between the tropics and poles were far less. How do you think the strength of the jet stream during that period compared to the jet stream of today? Explain your answer.
5. Why does Seattle have a relatively mild climate and rarely gets very cold, while cities on the east coast that are far to the south experience much more severe winters?