

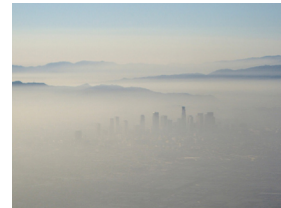
Written Homework – Module 5

Name:

- 1) Give two reasons why periods of glacial advance in the higher latitudes of the Northern Hemisphere tend to occur with colder summers, but not necessarily with colder winters? (Hint: consider the impact of temperature on glacial melt during summer and on saturation vapor pressure during winter.)

- 2) Paleoclimate data shows that recent ice ages in the Northern Hemisphere tend to occur with colder summers. Which orbital extremes would be conducive to colder summers. Defend your answers.
 - a) When the tilt (obliquity) of the Earth's axis is at a maximum or minimum?
 - b) When the sun is closer to or farther from Earth during summer in the Northern Hemisphere?
 - c) When the Earth's orbit is at its least or at its most elliptical phase?

- 3) Describe four meteorological factors that frequently occur together during the summer and early fall over the Los Angeles Basin that set the stage for a major buildup of photochemical smog, being certain to detail how each factor would contribute to a buildup. You can neglect seasonal differences in the input of primary pollutants that leads to the creation of photochemical smog.



[Skyline of downtown Los Angeles, shrouded by smog.](#)

Photo: Robert S. Donovan