## Written Homework – Module 5

Name:

 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.) There is a 600 character limit to all questions.

- 2) Paleoclimate data show that recent ice ages in the Northern Hemisphere tend to occur with colder summers. Which orbital extremes would be conductive to colder summers. Explain 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 eccentricity of 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