

Lecture Questions: Air Quality

In researching these questions and learning about air quality, please read sections 1.10-1.14 and 6.7-6.10 in your textbook. Another helpful source of information is [EPA's Air and Radiation portal](#). In particular, some of the data presented in lecture is taken from the [Air Trends](#) reports and web pages.

1.
 - a) What is the role of the NAAQS in regulating the quality of the air we breathe? Be complete; include a description of the difference between the primary and secondary NAAQS.
 - b) What is the 'averaging time' in the NAAQS? Why are different averaging times used?
2. Based on how often their respective NAAQS are violated, what air pollutants would you consider to be the biggest health risks in the US?
3.
 - a) How are nitrogen oxides ($\text{NO}_x = \text{NO} + \text{NO}_2$) released into the air?
 - b) List all the pollution problems that are related to NO_x emissions into the air. Be complete.
4.
 - a) Ground-level ozone is not emitted directly; what are its precursor pollutants?
 - b) What are VOCs, and what are their major emission sources?
5. What is 'particulate matter' (PM)? Differentiate between fine and coarse PM.
6. What are the emission sources of atmospheric SO_2 concentrations? What air pollution problems are related to SO_2 emissions?