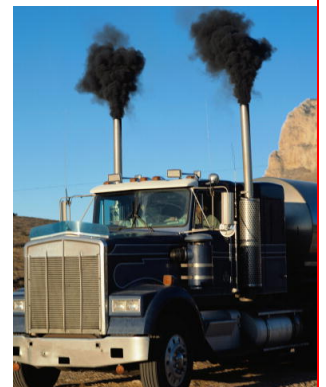


Today, we will:

- Continue definitions and terminology regarding particulate air pollution
- Discuss **particle motion** – how particles move through the air; equations of motion
- Specifically, discuss **buoyancy** and **weight, drag on particles**, and **drag coefficient**.

Terminology (from Chapter 3 of Phalen and Phalen, plus other references):

- **Aerosol** = A suspension of particles in air.
- **Hydrosol** = A suspension of solid particles in water.
- **Cloud** = An aerosol volume that behaves as an ensemble.
- **Dust** = An aerosol of dry solid particles, typically supermicron.
- **Fumes** = An aerosol of submicron particles, typically small condensed liquid particles from liquids or molten metals.
- **Mist** = An aerosol of liquid droplets, typically large ($D_p > 20 \mu\text{m}$ for water).
- **Smoke** = An aerosol formed by combustion, typically condensed vapors plus solid (unburned) particles and soot.
- **Soot** = An aerosol of particles resulting from the incomplete combustion of hydrocarbons, typically due to lack of sufficient oxygen (fuel rich combustion), or **pyrolysis**.
- **Smog** = An aerosol of “smoke” + “fog”, typically due to combustion.



Smog over Los Angeles, from <http://blacklemag.com/technology/science-explains-what-causes-smog/>

