

Conservation 1404 - Review of Air Pollution
Pages 439 - 463
“The Least You Should Know”

Vocabulary:

- Troposphere
- Stratosphere
- Ozone, Ozone layer
- Primary pollutants
- Secondary pollutants
- Carbon dioxide
- Carbon monoxide
- Nitrogen oxides = Nox
- Sulfur dioxide
- Temperature Inversion, two ways to form it
- Acid deposition, Acid rain
 - Acid deposition vs dry deposition

Concepts:

- Troposphere is where the weather takes place.
- Stratosphere is much drier (1/1000 as dry) at troposphere
- Stratosphere is where most of the ozone is
 - How Ozone layer is good for us although ozone gas is bad.
 - What human activity is doing to both ozones.
- 1/6 of all humans live where outdoor air is unhealthy
 - Mostly in developing countries with poor pollution laws.
 - Bigger threat for these people is indoor air pollution
 - Open fires inside.
- CO₂ is not regulated by the US Clean Air Act
 - Should be as it is a greenhouse gas.
 - Probably will be under Kyoto Accord.
 - Ten states sued EPA for not regulating CO₂
- How NO is formed.
- How NO formed Nitric Acid = HNO₃
- NO and NO₂ forming photochemical smog.
- N₂O = nitrous oxide , greenhouse gas, how it is formed.
- Relationship between sulfur dioxide & sulfuric acid.
- Formation of Industrial Smog, AKA gray-air smog
 - Where it is and is not a problem today.
 - Lichens as biological indicators.
- Asian Brown Cloud
 - What forms it, how it causes problems, and threat to US
- Photochemical smog, how it is formed.
- Five factors (pg 446) that reduce outdoor pollution.
- Six factors (pg 446) that increase outdoor pollution.
- How acid deposition is formed.

General pattern of acid rain in US (fig19 -7) and why.

How limestone in soil acts as a buffer

Why worst acid rain is in China.

Mechanisms of how acid rain is dangerous

Fish cannot live in lakes with pH less than 4.5

Why this is so, and examples of such lakes.

Mountaintop forests are especially susceptible to acid rain, and why.

Indoor air pollution is a greater threat to human health and why.

Indoor air pollution as the greatest of the cancer risks and why.

Indoor pollution in developing countries as a problem and why.

Smoke, formaldehyde

Formaldehyde as a problem for the working poor in Oklahoma.