**Lecture 2:**

1990 at least 179 confirmed air toxicants. Today it is at least 250.

If they are produced (more than 10 tons a year PER air toxicant). There are legislations on how to dispose them, how to transport them, etc.

This was not good enough, so they added: If the COMBINED emission is more than 25 tons a year. Then

EPA created a second list. […]

Acid rain in Sweden source is England, Germany, Poland meaning acid rain can travel long distances. Acid rain = NOx + SO2

Great lakes were affected by the acid rain. Main source was coming from Canada.

Lots of lakes were affected in Ontario the source was Pennsylvania.

After number of years the Protocol of the great lakes was signed by USA and Canada.

Legislation was not good enough, so they redone it 2000.

Ozone layer 30-40 km from surface very, very thin 1 molecule of ozone per 100 000 molecules. Protects against sun radiation.

32% of radiation is immediately reflected upon entering the atmosphere called Albedo

In the last centuries the temperature of earth was stable +- 0.5 degrees

Ozon layer destruction was caused CFCs

**Water pollution:**

Ground water :

* Aquifers
* Springs

Municipal water (drinking, cooking, washing)

Priority water Pollutants: (Page 43 book)

1. **Pathogens**: micro-organisms
   1. Virus: 1 cell smallest pathogen
   2. Bacteria: has tail and “mouth” so it can grow
   3. Protozoa
   4. Parasitic worms
2. **Organics** **matter**: water has around 12 ppm dissolved oxygen. Organics matters reduce the oxygen in the water
3. **Nutrients (Nitrogen, Phosphorus):** Coming from fertilizers and detergents
4. **Toxic** **chemicals**: e.g. Oil (oil spils)
5. **Toxic** **metals**: Pb, As, Hg
6. **Sediments**:
7. **Acidity**:
8. **Salts**:
9. **Heat**: