



Acid Rain

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ACID RAIN

ABOUT

- A broad term that includes any form of precipitation that contains acidic components i.e. sulfuric acid or nitric acid.

CAUSES

- SO₂ and NO_x emissions
- Industrial activities
- Burning of biomass and agricultural residues
- Volcanic eruptions
- Transportation emissions
- Formation of acid precursors in atmosphere

FORMS OF ACID DEPOSITION

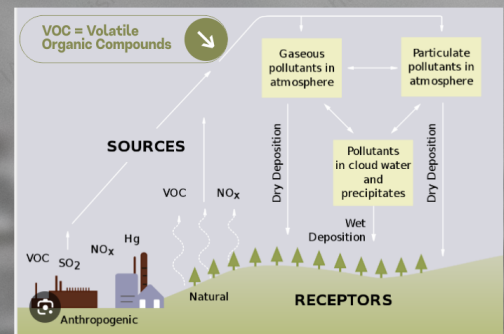
- **Wet Deposition:** When rain, sleet, snow, or fog become more acidic than normal
- **Dry Deposition:** When gases and dust particles become acidic

MEASUREMENT OF ACID RAIN

- Normal Rain (pH=5.6); Acid Rain (generally below pH 4.5)

EFFECTS

- Impacts on human health (skin and respiratory diseases)
- Soil degradation, water pollution and deforestation
- Aquatic ecosystem harm
- Corrosion
- Lower visibility



Acid Fog: When airborne pollutants, primarily acidic in nature, form a mist/fog that can have corrosive effects on surfaces and ecosystems.

SOLUTIONS

- Reducing emissions from vehicles, industries, etc.
- Adopting alternative energy sources
- Restoring acid rain damage through liming process

Convention on Long-Range Transboundary Air Pollution (LRTAP), 1979

A multinational accord to address transboundary air pollution, establishing a regional framework across Europe, North America, Russia, and former East Bloc nations.

◆ India is not a party.

Gothenburg Protocol to LRTAP (2019):

- ◆ **1st binding agreement** to include emission reduction commitments for fine particulate matter
- ◆ It seeks to reduce harmful effects of air pollution such as **acid rain** by targeting emissions of SO₂, NO_x, and VOCs.



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