

SMOG (TYPES AND CONSEQUENCES)

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Smog is a type of air pollutant. The word "smog" was coined in the early 20th century as a portmanteau of the words smoke and fog to refer to smoky fog, its opacity, and odour. The word was then intended to refer to what was sometimes known as pea soup fog, a familiar and serious problem in London from the 19th century to the mid 20th century. This kind of visible air pollution is composed of nitrogen oxides, sulfur oxides, ozone, smoke or particulates among others (less visible pollutants include carbon monoxide, CFCs and radioactive sources). Human-made smog is derived from coal emissions, vehicular emissions, industrial emissions, forest and agricultural fires and photochemical reactions of these emissions.

The emergence of smog contributes to such weather conditions when creating a stagnant condition of the air in which the city's streets and squares virtually ventilated.

Types of smog are ice smog (Alaskan type); wet smog (London Type); dry, or photochemical smog (Los-Angeles type).

Ice smog (Alaskan type) forms in high latitudes in winter when the temperature is $-30-35^{\circ}\text{C}$ and no wind.

Wet smog is combination of fog with a dash of smoke and gas waste. There has been more common in autumn and winter, typical for the temperate latitudes with a damp maritime climate.

Photochemical smog occurs as a result of photochemical reactions in the presence of high concentration of nitrogen oxides, hydrocarbons and other pollutants in the atmosphere, intense solar radiation and no wind or very low air exchange in the surface layer and with the strong, for at least one day, an increased population inversion.

Smog affects both people and plants, and buildings, and a variety of materials. Pets, mainly dogs and birds might die. People who find themselves under the influence of smog are experiencing severe irritation of mucous membranes of eyes and respiratory tract due to the presence in it of substances such as PAN. Prolonged contact with the air leads to increase in morbidity and mortality. Children and the elderly are especially strongly exposed to smog.

Methods of dealing with smog are:

- the rejection of private vehicles;
- development and introduction various treatment facilities;
- promising replacement of gasoline in cars by other fuels (eg, a mixture of alcohols);
- create a waste-free production.