What is smog?

Smoke fog, or smog for short, is a type of intense air pollution. This kind of visible air pollution is composed of nitrogen oxides, sulfur oxides, ozone, smoke and other particulates. Man-made smog is derived from coal combustion emissions, vehicular emissions, industrial emissions, forest and agricultural fires and photochemical reactions of these emissions.

Smog air is mainly composed of ground level ozone and particulate matter formed near the troposphere. It usually appears as haze in the air due to the mixture of smoke, gases, and particles.

Photochemical smog, often referred to as "summer smog", is the chemical reaction of sunlight, nitrogen oxides and volatile organic compounds in the atmosphere, which leaves airborne particles and ground-level ozone. Photochemical smog depends on primary pollutants as well as the formation of secondary pollutants such as include nitrogen oxides, particularly nitric oxide (NO) and nitrogen dioxide (NO2), and volatile organic compounds (VOC).
What is volcanic smog?

Volcanic Smog (VOG) is created when sulfur dioxide gas and other pollutants emitted from volcanic activity interact chemically with atmospheric moisture, oxygen, dust, and sunlight. VOG poses a health hazard by aggravating preexisting respiratory ailments and reducing driving visibility.

In the PHIVOLCS alert level, it was noted that Taal Volcano is emitting 14,326 tons/day of Sulfur Dioxide (SO2) since June 28, 2021 and June 29, 2021. 

What is the latest air quality in Metro Manila?

Below are the latest Air Quality monitoring data (PM10) from the Taal Volcano Designated Stations.

Air Quality Stations are measured using Gravimetric principle, the concentration of air quality are based on the deposition of PM-10 particles.

Smog air is mainly composed of particulate matter and ground level ozone formed near the troposphere and it usually appears as haze in the air due to the mixture of smoke, gases, and particles. If the smog stays longer in the troposphere, this may take longer time to be measured by the DENR-EMB ground level air quality monitors.

The recent Smog incident is a combination of Particulate and Gaseous air pollution from Human Activities (Vehicular, Industrial, Commercial Sources) which stayed in the urban area due to thermal Inversion (Hot Layer of Air in the atmosphere) and prevents vertical motion of air pollutants.

From open satellite data, the Philippine Institute of Volcanology and Seismology (PHIVOLCS) on Wednesday confirmed that sulfur dioxide (SO2) emissions from Taal Volcano reached Metro Manila and produced a haze over it.

PHIVOLCS said data released by the National Aeronautics and Space Administration (NASA) on Tuesday afternoon showed that Taal’s plumes extended from the planetary boundary layer to the upper troposphere at almost 20 kilometers above sea levels, and mostly spread over Metro Manila and the provinces of Batangas, Laguna, Cavite, Rizal, Bulacan, Pampanga, Bataan and Zambales.

Please click this link https://embco-my.sharepoint.com/personal/angelo_ronda_emb_gov_ph/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fangelo%5Fronda%5Femb%5Fgov%5FDocuments%2FAir%20Quality%20Monitoring%20of%20TAAL%20Volcano%20Eruption&originalPath=aHR0cHM6Ly9lbWJjby1teS5zaGFyZXBvaW50LmNvbS86ZjovZy9wZXJzb25hbc9hdmllbG9fcm9uZGFzZW1iX2dvdI9wcmFjaGxlXzdkX2FjZy9wcm9uZGFzZW1iX2dvdI9wcmFjaGxlX25hbWU%3D
ORANGE COLOR REFERS TO UNHEALTHY AIR QTY LEVELS TO SENSITIVE GROUPS

**July 02, 2021 8:00 AM**

- **Marina City Hall**
  - **Pollution Index**: 52 (FAIR)
  - Moderate pollution risk, some number of people who are unusually sensitive to air pollution

- **Parapang City**
  - **Pollution Index**: 26 (GOOD)
  - Air pollution present, will not cause health problems

- **Pang City**
  - **Pollution Index**: 8 (GOOD)
  - Air pollution present, will not cause health problems

- **Tapiq City**
  - **Pollution Index**: 34 (GOOD)
  - Air pollution present, will not cause health problems

**June 02, 2021 4:00 PM**

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**July 01, 2021 8:00 AM**

- **Interpretation of Pollution Index**
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  - **FAIR**: Moderate levels of pollution that may cause health issues for sensitive groups

**June 01, 2021 4:00 PM**

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**Environmental Management Bureau**

**July 02, 2021 8:00 AM**

**June 02, 2021 4:00 PM**

**July 01, 2021 8:00 AM**

**June 01, 2021 4:00 PM**
Environmental Management Bureau

June 30, 2021 8:00 AM

June 30, 2021 4:00 PM

June 29, 2021 4:00 PM

June 29, 2021 8:00 AM
For real-time NCR Monitoring you can click also this link
http://ambientair.emb.gov.ph/ncr/
June 29 to July 2, 2021 as of 5:00 pm
Pls. click link for recent data
What are possible causes of the presence of smog?

Smog are both caused by Manmade and Natural sources. Man-made smog is derived from coal combustion emissions, vehicular emissions, industrial emissions, forest and agricultural fires and photochemical reactions of these emissions.

Natural source, include Volcanic Smog (VOG) is created when sulfur dioxide gas and other pollutants emitted from volcanic activity interact chemically with atmospheric moisture, oxygen, dust, and sunlight. VOG poses a health hazard by aggravating preexisting respiratory ailments and reducing driving visibility.

What human activities are possible sources of smog/air pollution, aside from vehicle emissions?

Man-made smog is derived from coal combustion emissions, vehicular emissions (Traffic emissions – such as from trucks, buses, and automobiles– also contribute to the formation of smog). Airborne by-products from vehicle exhaust systems cause air pollution and are a major ingredient in the creation of smog in some large cities, industrial emissions, forest and agricultural fires and photochemical reactions of these emissions.

How do we address the issue on smog? Do we have mitigation measures on this?

Smog are both manmade and natural. To address manmade sources of Smog below are some recommendations:

a. Working From Home (WFH) schedules reduces demand for Transport, thereby reducing emissions from Vehicles.

b. Using non-motorized transport eg. Bicycles also reduce demand for vehicles.

c. Promoting Bike Lanes

d. Proper Urban Planning to reduce Traffic congestion.

e. Using Cleaner Fuels and Clean Technologies (Bioethanol, Coco-Diesel, Electric vehicle, Hybrid Vehicles)

f. Avoiding Open burning, smoking, grilling.

g. Planting More Trees and vegetations

In the case of Natural Smog:

1. Stay indoors.
2. Limit outdoor activities.
3. Use Face Masks.