

ENVIRONMENT

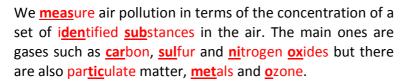
Air Pollution 101©

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Vocabulary & pronunciation study by Laurent Dufour©

Words are explained alongside the text

Stressed syllables are underlined and in bold*



<u>Different</u> types of activities – be they <u>anthropogenic</u> or <u>natural</u> - <u>generate</u> different types of air pollution, some worse than others. These days we are often above the recom<u>mended</u> levels of air particulate matter, famously known as PM10 and PM2.5. The numbers <u>denote</u> the size of those super small <u>particles</u> floating around in the air and <u>entering</u> our <u>lungs</u>.

PM10 particulates have a diameter between 10 and 2.5 micrometers. This is about 5 times smaller than the diameter of a human hair. They include pollens, all types of dust, molds, sand, etc. PM2.5 particulates have a diameter smaller than 2.5 micrometers. You need a special type of microscope to be able to see one of these. They are mainly produced by different types of combustion such as domestic wood burning and forest fires, and also motor vehicles and power plants.

Outdoor air pollution is a serious societal problem. We are now <u>recognizing</u> that it is a high-risk factor in <u>respiratory</u> and <u>cardiovas</u>cular dis<u>eas</u>es, and lung <u>can</u>cer. Each year a global <u>es</u>timate of nearly 4 million people die <u>prematurely</u> due to outdoor air pollution.

Air pollution has adverse effects not only on our human health but also on the environment around us, for example affecting crop yields and water qualityresulting in big economic losses and more health hazards for all of us.

There are many sources of pollutants but the ones that we



anthropogenic (adj.)
caused or produced by
humans

to denote (vb.) to signify, indicate

lung (n.) either of the two organs in the chest with which people breathe

mold (n.) growth of very small fungi on vegetable or animal matter

power plant (n.) factory where energy is generated

adverse(adj.) negative,
unpleasant

crop yield (n.) agricultural output

hazard (n.) something causing danger, peril

are most exposed to and that we should have the power to control as a society are industrial processes and transportation, especially road transport. Factories and industrial units continuously emit pollutants such as Carbon Monoxide (called C-O) or Sulphur Dioxide (called S-O-2) while transportation releases particulate matter of all sizes as well as CO2 and nitrogen oxide.

Today you can find air pollution **monitoring** stations in**stalled** more or less everywhere. The European Environmental Agency maintains a regional air quality database called Airbase. It contains data on over 3,000 cities in dozens of countries. Anyone can access the historical data and you can even find it in real-time on "airqualitynow.eu". In Ile-de-France there is a local agency called AirParif that audits air pollution in the region and informs citizens when there is a high-pollution alert. For the rest of France you can look on "esmeralda-web.fr". With this data we can see that some areas are highly polluted by one particular source of pollution and not at all by other sources. The geographical location of pollution sources is a big factor in determining the level of air pollution.

However there is a second major factor which is how it travels. Indeed some pollutants stagnate in the air while others disperse quite easily. How molecules travel depends on their weight and composition as well as how they react to local atmospheric conditions such as humidity or temperature. So relocating factories outside city centers does not reduce pollution however it reduces direct human exposure to pollution, if the wind doesn't bring it right back into the city...

So what is it like where you live or work? Go and have a look on one of the websites I've <u>mentioned</u> to have an idea of the type of air pollution you should keep an eye on.

Bye everyone! Stay tuned for a future 10 minutes for the Planet **ep**isode on how to **lim**it your exposure to outdoor pollution.

to release (vb.) to emit

to monitor (vb.) to watch and check a situation carefully

location (n.) place, position

***Tip!** Syllable stress can help us to understand spoken words. Let's take the words 'particle' and 'particulate' as an example.

First count the syllables: 'par.ti.cle' has 3 syllables, 'par.tic.u.late' has 4 syllables. Syllable stress is when you say one of the syllables slightly louder or with more emphasis. So in this example we say: particulate.