



Air and You

Almost all living things depend on air. The earth's air consists of mainly 3 gases; oxygen, nitrogen and argon. There are also small amounts of water vapour and other gases mixed in. A person breathes about 16 kilograms of air every day. That's 16 times more food than we eat each day! That's why keeping the air as clean as possible is really important to our health.

Air Quality

Chemicals and particles in the air like dust affect air quality. Together they are called pollutants or substances when measuring air quality. Many things can change air quality, including:

1. Natural and man-made activities.
2. How quickly pollutants are being put into the air.
3. How quickly wind, rain and other types of weather move around and break up the pollutants.

Tall chimneys, warm temperatures and wind help pollutants break up or go up high. Pollutants can get stuck low to the ground when there is no wind and the temperature is very hot or cold. Mountains, hills and valleys can also keep pollutants from breaking up quickly.

Measuring the Air

Knowing what changes air quality is important. Air pollution comes from many places. Most comes from businesses, houses, cars and trucks and nature. They all affect the quality of our air. In Alberta, we have groups called Airsheds that study the quality of the air every day.

The local Airshed group is called Fort Air Partnership. They look after a large area north and east of Edmonton. They check for what pollutants are in the air and how much of each pollutant there is.

Fort Air Partnership has nine stations that do not move. One station is on wheels and moves from place to place wherever it is needed. These stations use scientific equipment to monitor the air every minute of every day, all year long. These stations are located mostly in towns and cities.

Fort Air Partnership also has 63 other monitors that are called passive monitors. In these monitors, air flows past a filter. The filters are collected once a month to see how much of a pollutant is on the filter. These monitors are located next to fields and roads.



Air monitoring scientific equipment inside a station



Air monitoring station



Passive monitor

Pollutant Levels

It is important to know if pollutants in the air may be harmful to people, plants or animals. Fort Air Partnership measures many pollutants in the air. The level of each pollutant is then compared to what the government considers not harmful. This information is shared with everyone so they know what the air quality is like. Sometimes, there is a public health warning if the air is quite bad. An example of this is when there is lots of smoke in the air from a forest fire.

Air Quality Health Index

The picture below is called the Air Quality Health Index. It uses numbers to help people understand air quality and health impacts. Fort Air Partnership information is used by the government to set the local Index. A scale of one to 10 is used. The lower the number, the lower the health risks.



For current air quality, the Index is updated every hour. The Index also forecasts what the air quality will be tomorrow, much like a weather forecast. This forecast is updated three times a day. The Index is on Fort Air Partnership's website (fortair.org) and on mobile apps.

Health Risk Level

Sometimes, people have trouble breathing properly. For example, people with asthma, people who are sick or very young or very old people. These people should avoid doing anything outside that may make them breathe heavily when the Air Quality Health Index is moderate or higher. When the Index is high or very high, everyone should try to reduce doing things outside that may make them breathe heavily.

How You Can Help Keep the Air Clean

Everyone can play a part in keeping the air as clean as possible. For example, walking or riding your bicycle instead of riding in a car does a little bit to help air quality. So does using less energy in your house by shutting off the light when you leave a room. Or turning down the thermostat.

What other things can you think of that can help keep the air clean?