

# The Air Quality Health Index:

## Frequently Asked Questions

### WHAT IS AIR POLLUTION?

There are many different types of air pollutants from a wide range of sources. The pollutants that most affect health are the gases and particles that contribute to cardiovascular and respiratory disease. These pollutants are often lumped together under the term smog.

### How do I know if I am at risk?

**People with diabetes, lung disease** (such as chronic bronchitis, asthma, emphysema, lung cancer) or heart disease (such as angina, a history of heart attacks, congestive heart failure, and arrhythmia or irregular heartbeat) are more sensitive to air pollution.

**Seniors** are at higher risk because of weakening of the heart, lungs and immune system and increased likelihood of health problems such as heart and lung disease.

**Children** are also more vulnerable to air pollution: they have less-developed respiratory and defense systems. Children also typically spend more time outdoors being physically active, which can increase their exposure to air pollution.

**People participating in sports or strenuous work outdoors** breathe more deeply and rapidly, allowing more air pollution to enter their lungs. They may experience symptoms like eye, nose or throat irritation, cough or difficulty breathing when air pollution levels are high.

### How does air pollution affect my health and the health of my family?

Depending on the length of time you are exposed, your health status, your genetic background and the concentration of pollutants, air pollution can have a negative effect on your heart and lungs. It can:

- Make it harder to breathe
- Irritate your lungs and airways
- Worsen chronic diseases such as heart disease, diabetes, chronic bronchitis, emphysema and asthma

Negative health effects increase as air pollution worsens. Small increases in air pollution over a short period of time can increase symptoms for those at risk.



## What can I do to protect my health and the health of my family? How can I find out about the health risks posed by air pollution in my community?

You can better protect yourself and those in your care by understanding how air pollution affects your health, and by checking the *Air Quality Health Index* (AQHI) on a regular basis to find out what the health risks from air pollution are in your community.

To check the AQHI reading for your community and learn more about how air pollution can affect your health, go to the [www.weather.gc.ca](http://www.weather.gc.ca) or [www.theweathernetwork.ca](http://www.theweathernetwork.ca).

We can protect our health from the health effects of air pollution by changing our behaviour to reduce our exposure to air pollutants.

When the AQHI reading rises, you can decide if you need to:

- Reduce or reschedule outdoor physical activities
- Monitor possible symptoms, such as difficulty breathing, coughing or irritated eyes
- Follow a doctor's advice to manage existing conditions such as heart or lung disease

You can also use the index as a reminder of the need to take action to reduce air pollution.

## What is the Air Quality Health Index (AQHI)?

The AQHI is a scale designed to help you understand what the quality of the air around you means to your health. It is a tool developed by health and environmental professionals to communicate the health risk posed by air pollution.

It is designed to help you make decisions to protect your health and the environment by:

- Limiting short-term exposure to air pollution
- Adjusting your activity during episodes of increased air pollution and encouraging physical activity on days when the index is lower
- Reducing your personal contribution to air pollution

The index provides specific advice for people who are especially vulnerable to the effects of air pollution as well as the general public.

## What can the AQHI tell me about the health risks I may experience due to the current local air quality?

The AQHI provides a color coded scale from 1 to 10+ to indicate the level of health risk associated with air quality in your community. Occasionally, when the amount of air pollution is abnormally-high, the number may exceed 10.

The higher the number, the greater the health risk and need to take precautions.

The index describes the level of health risk associated with this number as 'low', 'moderate', 'high' or 'very high', and suggests steps you can take to reduce exposure to air pollution.

It also forecasts local air quality for today and tomorrow and provides associated health advice.

## Does the Air Quality Health Index (AQHI) measure odour, pollen, dust, heat or humidity?

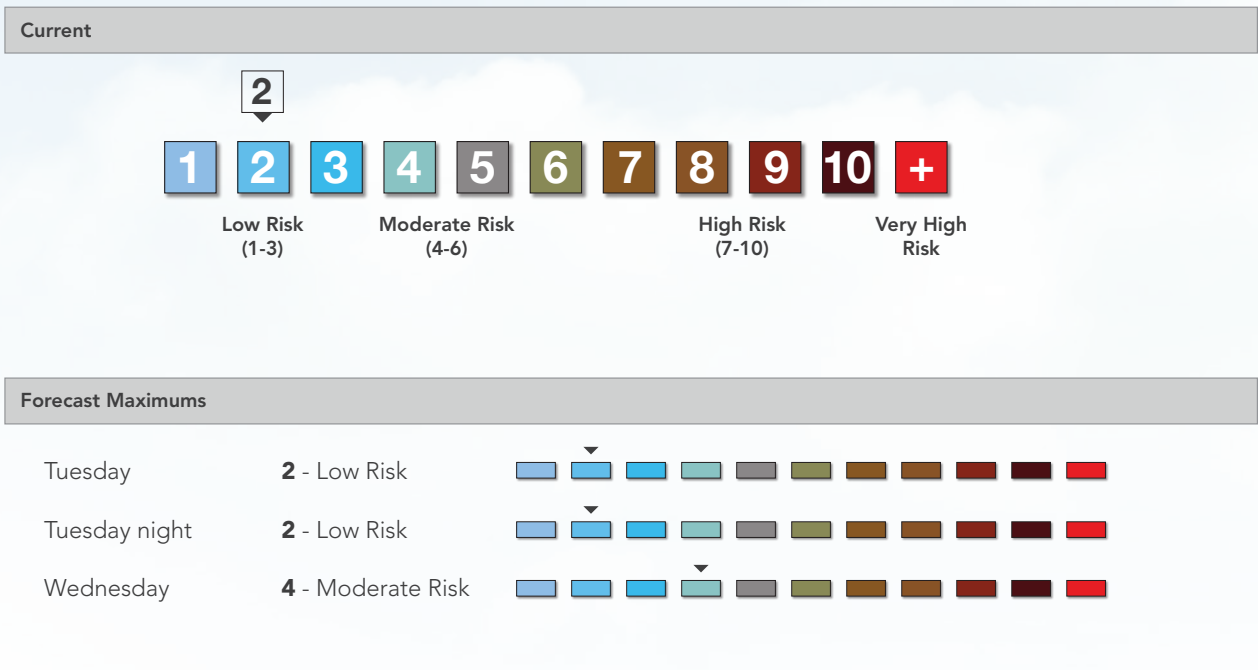
The index does not, measure the effects of odour, pollen, dust, heat or humidity on your health.

You can refer to the *Air Quality Health Index* (AQHI) (at [www.airhealth.ca](http://www.airhealth.ca) or [www.weatheroffice.ec.gc.ca](http://www.weatheroffice.ec.gc.ca) or [www.theweathernetwork.ca](http://www.theweathernetwork.ca)) to check the quality of outdoor air in your community before heading off to work or play. You can also use the forecasts to plan your activities, whether over the next hour or the next day.

Seniors, children, people suffering from asthma, diabetes, heart or lung disease, can use the index to find out about the risk air pollution poses to human health and take steps to reduce that risk.

Even if you're relatively healthy, fit and active, you should consult the index to decide when and how much to exercise or work outdoors.

# Moncton - Air Quality Health Index



## AIR QUALITY HEALTH INDEX (AQHI) MESSAGES

Health Risk	Air Quality Health Index	HEALTH MESSAGES	
		At Risk Population*	General Population
Low Risk	1–3	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities.
Moderate Risk	4–6	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High Risk	7–10	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very High	Above 10	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.

## How is the Air Quality Health Index (AQHI) presented?

The AQHI is a scale that lists a color coded number from 1 to 10+ on a scale to indicate the level of health risk associated with air quality.

- 1–3 = ‘Low’ health risk
- 4–6 = ‘Moderate’ health risk
- 7–10 = ‘High’ health risk
- Above 10 = ‘Very high’ health risk

Scientists created the index by estimating the daily change in mortality risk for ten cities from 1998–2000 and plotting it on a 10 point scale.

The higher the number, the greater the risk and the need to take precautions.

## How is the AQHI calculated?

The AQHI is designed as a guide to the relative risk presented by common air pollutants which are known to harm human health. Three specific pollutants have been chosen as indicators of the overall mixture:

1. **Ground-level Ozone (O<sub>3</sub>)**
2. **Particulate Matter**
3. **Nitrogen Dioxide (NO<sub>2</sub>)**

All three can have serious, combined effects on human health—from illness to hospitalization to premature death—even as a result of short-term exposure especially among those with pre-existing health problems.

In developing the AQHI, these three pollutants were found to be the best indicator of the health risk associated with air pollution.

## Why aren't sulphur dioxide and carbon monoxide captured in the AQHI?

Sulphur dioxide and carbon monoxide are not associated with additional health risk once the effects of ozone, nitrogen dioxide and particulate matter were taken into account.

## What difference will the AQHI make in the lives of Canadians?

It will help Canadians better understand how to protect their health from the adverse effects of air pollution on a daily, or even hourly, basis, just like the UV Index helps Canadians protect themselves from the harmful effects of too much sun.

## What's the federal governments' role in implementing the AQHI?

Health Canada and Environment Canada led the development of the *Air Quality Health Index* (AQHI) and continue to collaborate with provincial and territorial governments, health and environmental NGO partners on further refinements of the *Air Quality Health Index*.

Environment Canada is overseeing the technical development of the index and constantly updating its capacity to provide AQHI forecasts.

## What are the real impacts of air pollution on human health?

Air pollution can worsen health conditions in people who already suffer from chronic illness such as heart and lung disease.

The World Health Organization estimates that 1.3 million deaths per year worldwide could be attributed to urban outdoor air pollution.

In Canada, scientific evidence based on data from eight Canadian cities shows that 6,000 deaths can be linked to air pollution every year.

Research also shows that poor air quality sends thousands more Canadians to hospital each year.

## While it's great that the AQHI informs people about air pollution and their health, shouldn't we focus on ways to reduce air pollution?

The AQHI encourages Canadians to reduce personal and household emissions as well as promoting individual health.

Governments and advocates can use this tool to engage the public in education programs that encourage them to reduce vehicle emissions and energy use.

Canadians can act in a number of ways to lighten their impact on the environment, from driving their cars less to conserving more energy at home.

The AQHI will where possible link to federal, provincial and municipal action plans to reduce air pollution and greenhouse gases.

## Why hasn't a local AQHI been created for my community?

One of the goals of the AQHI is to provide Canadians with health risk information that would be consistent across the country. The air quality Index was developed based on the best available dataset of national air pollution measurements.

The AQHI is available in many communities. The service continues to grow year by year.