



## POTENTIAL HEALTH EFFECTS OF VOLCANIC ASH.

### The Issue

Occasional eruptions of volcanoes around the world have led to concerns about volcanic ash drifting into Canada and the respiratory problems it might cause.

### Background

Volcanic ash is formed during explosive volcanic eruptions. Volcanic ash is made of fine rock fragments, minerals and glass. The ash is hard, rough, mildly corrosive and does not dissolve in water. The tiny ash particles can be blown by the wind for thousands of kilometers away from the volcano, depending on wind speed and the type of eruption.

Microscopic volcanic ash particles can be inhaled deeply into the lungs and cause respiratory problems. These respiratory problems depend on a number of things:

- How many and how big were the particles in the ash that you inhaled?
- How often and how long did you breathe the ash?
- Did you also breathe volcanic gases?
- What were the weather conditions like?
- Did you already have heart and lung problems?

### Health Effects

While short-term exposure to ash is not known to be a major health hazard, it can cause eye, nose and throat irritation. We

still do not know what kinds of long-term health effects ash can have on people.

Children, the elderly and people with heart and lung problems are probably most at risk from volcanic ash exposure. The risk is similar to when people breathe smog. Breathing smog can increase your risk of some negative health effects, such as:

- minor breathing problems
- heart and lung disease getting worse
- premature death

Volcanic ash can also cause dangerous conditions, such as:

- creating skid conditions on roads
- causing 'mud' slides
- clogging the air intake of engines, causing them to stall

After the eruption of Mount St. Helens in May 1980, some studies on animals showed that the damage done by volcanic ash was low, even when the animals were exposed to a lot of ash, especially when compared with the health effects of particles from other particle sources, such as the particles in the air in cities.

However, ash falling from the Mount St. Helens eruption in May 1980 caused people mainly to have eye, nose and breathing problems.



## Minimizing Your Risks

- Because tiny particles from volcanic ash can go deep into your lungs, you should not breathe it if you can help it.
- Dust or filter masks will help minimize your exposure to ash.
- Children, the elderly and those with heart and lung problems should take special care to limit their exposure to ash particles. They should keep windows and doors closed, stay indoors when possible and avoid strenuous outdoor activities, like jogging, cycling or heavy yard work.
- Check radio, television or newspaper weather reports for information about the air quality in your area.
- Talk with your doctor if you have any symptoms that you think may be related to exposure to volcanic ash.

## Health Canada's Role

Together with the United States, Health Canada participates in the Border Air Quality Strategy, which looks for new opportunities to reduce build on previous cross-border pacts that saw reductions in acid rain in the 1990s and reductions in trans-boundary air pollutants.

Health Canada is currently involved in two major pilot projects funded under the Border Air Quality Strategy:

- The Great Lakes Basin Airshed Management Framework involving Michigan and Ontario
- The Georgia Basin/Puget Sound International Airshed Strategy involving British Columbia and Washington State.
- The Government of Canada has committed \$40 million over two years to implement these pilot projects and enhance Canada's Clean Air Agenda.

## Need More Info ?

For further information on volcanic ash see:

<http://volcanoes.usgs.gov/ash/>  
<http://volcanoes.usgs.gov/ash/health/index.html>

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