



Monitoring air quality at Auchencorth Moss.  
(Photograph - CEH)

## Background

**Air quality and human health are inextricably linked. Although a healthy person is unlikely to experience any adverse impacts in the short term, there can be times when levels are high enough for most people to be affected. People with heart diseases or severe lung diseases might be more sensitive than others - not just to immediate impacts but also to less-well defined, longer-term effects. It is suggested that cutting long-term exposure to fine particles could increase life expectancy by up to 11 months. Because air pollution is no respecter of national boundaries there are international agreements on limiting its levels. Consequently, a wide range of pollutants is monitored routinely in the UK, work overseen and partly funded by Defra (the Department for Environment, Food and Rural Affairs) under its Air Quality and Industrial Pollution Programme.**

## Research and Monitoring by CEH

Just to the south of Edinburgh, on Auchencorth Moss, CEH runs one of two UK air quality monitoring supersites on behalf of Defra. Controlled air pollutants such as ozone, nitrogen dioxide, mercury and fine particles that are hazardous to health are monitored and measured. The measurements are used to show UK compliance with international conventions and for models. One such model, EMEP4UK, has been developed by the University of Edinburgh in collaboration with CEH and funded by Defra. It predicts concentrations and sets them into a context across the whole country. This allows policy-makers to make decisions on the basis of solid evidence. Other projects include EDPHiS, led by the Institute of Occupational Medicine, which seeks to support the Scottish Government's strategy, 'Good Places, Better Health'. CEH aims to combine data and modelling in order to quantify impacts on human health, and on asthma in children in particular. CEH is also using measurements taken at Edinburgh's Calton Hill to investigate whether the chemical composition of air pollution is more or less important compared to total mass.

Much of CEH's research is carried out in partnership with, or funded in conjunction with, other organisations.