

Health and Climate Change

What do we mean by health and climate change?

Climate change has always happened but current concern relates to:

- the 0.6 degrees centigrade rise in global average temperature from 1961 to 1990,
- the major and continuing rise in atmospheric greenhouse gases which is certainly linked to the burning of fossil fuels and to deforestation, and
- human activity is the major influence and natural factors also play a part¹.

Health is about physical and mental wellbeing and not just about diseases. The local and global consequences of continued global warming, and of possible disruption to the stability of the climate, will profoundly affect human health for everyone on our planet.¹⁻³



Why is this important?

Major health impacts globally from climate change will be through:

- rising sea levels and flooding,
- droughts and water scarcity, affecting people directly and through crop failure,
- extreme weather events including storms and heatwaves, and
- mass migration and human conflict relating to shortages of food, water and productive or habitable land.¹⁻³

What is the picture in Bristol?

Although the South West of England is predicted to have a smaller direct impact from rising temperatures and rainfall shortage than many other parts of the globe, the latest projections from the Met Office published in June 2009 (UKCP09)⁶ show that temperatures will continue to rise, that summers are likely to get drier, winters wetter and there will be sea level rise and more extreme weather events. This will mean:

- *direct* effects from increased flood risk, changed rainfall patterns, heatwaves and extreme weather events. This includes the knock-on disruptive impact on strategic infrastructure (eg transport, utilities, communications). The health risks include injury, death, harm from contaminated floodwater and impacts from loss or damage to property, homes and livelihoods
- *indirect* effects because of our globalised food and economic systems. This could include hardship and loss of livelihoods due to the consequences of rising food and commodity prices, impacts from migration or conflict as well as changes from altered patterns of pests and diseases.

Individuals and communities with low income and living in areas of deprivation, have fewer resources and less ability to cope with change or achieve energy efficiency in homes. The direct and indirect impacts of climate change will therefore be greatest for the least well off.

What is the picture in Bristol (continued)?

Recent research by CAG Consultants⁷ in 2009, looked at the social impacts of climate change in the UK. Their conclusion was that climate change will affect our physical and mental health and quality of life.

The study found that deprived communities were more likely to be:

- at high risk of flooding,
- susceptible to the effects of heat wave from poor housing,
- living in areas with poor air quality which can be exacerbated by high temperatures,
- live near rivers of poor and bad quality, and
- are less likely to live near green spaces giving shelter and cooling in hot weather.

In other words the state of deprivation causes increased vulnerability to climate instability and climate instability in turn leads to a further increase in deprivation.

Research in other countries⁸ has found that extreme climate events have the biggest impact on urban populations, particularly affect those with pre-existing disease. The California heatwave of 2006 was associated with large increases in admissions to hospital from illnesses including cardiovascular events. During the heatwave in 2003, there was a sharp increase in death rates, especially from respiratory causes in Germany, and a spike of 600 excess deaths occurred in London.



In the UK, death rates in the cold winter months (December to March) are higher than during the rest of the year. Primarily this affects the elderly, although children and those with long-term illness also have excess winter deaths. Cold is believed to be the main factor. In 2005, there were 27,500 additional deaths in this period across the UK. Extreme weather events in winter – storms, floods, and cold-spells - are likely to exacerbate these winter deaths⁹. The December 2009, cold snap was part of the normal regional variations that take place in the winter season. With a mean UK temperature of 2.1°C, December 2009 was the coldest for 14 years and colder than the long-term average of 4.2 °C. However, 2009 as a whole was the 14th-warmest on record for the UK (since 1914) and globally, the 5th-warmest on record (since 1850).

What is our current performance in this area?



- Performance measures for health impacts of climate change are not yet specifically available.
- Carbon measurement (ie carbon dioxide emissions associated with travel, energy use in buildings, procurement etc) is actively being developed both within the public sector and for businesses.
- Audit measures for sustainability, environmental impact and oil vulnerability are also under development.

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What are we doing about it?

Any city is made up of a wide variety of individuals and organisations. Responses to climate change are happening everywhere and in all kinds of ways. They relate to;

- *mitigation*, which requires major cuts in greenhouse gas emissions by using less energy and by generating more of what we do use from renewable sources (wind, solar, geothermal, hydro and biomass provided that this does not compete with food supplies or lead to unacceptable GHG emissions from its production and transport).
- *adaptation*, which means anticipating and preparing for the consequences of a warmer climate, increased frequency and severity of extreme weather, seasonal change, sea-level rise, and changing ground conditions so that disruption to health and other services, and to homes and businesses, is minimised.

There are now many agencies, organisations and individuals that are actively making changes in Bristol. For example:

- NHS organisations in Bristol have contributed to the NHS Carbon Reduction Strategy¹⁰ are actively adopting carbon reduction as a key priority, and most have signed up to the 10:10 campaign¹¹.
- The Bristol Green Capital Programme has brought public sector organisations and businesses together to help raise awareness of the changes needed and to stimulate necessary business development for a green economy
- The Bristol Green Capital Momentum Group is acting as a multi-sector 'think-tank' and as a pressure group for stimulating action.
- The Bristol Partnership has commissioned and endorsed a report examining the impacts of peak oil "Building a positive Future for Bristol After Peak Oil," October 2009⁵. The recommendations from this report provide an important work programme.
- Bristol City Council has adopted a 'Climate Change and Energy Security Framework'¹² made up of 20 key commitments for responding to climate change and peak oil.
- Bristol City Council is preparing a comprehensive action plan, including strategic actions and a risk register for embedding adaptation into the council's service delivery, asset management and community leadership. It is also actively pursuing carbon reduction and is signed up to the 10:10 carbon reduction campaign¹¹. (A detailed list of work is included in the NI 188 self-assessment matrix which is available on request from the Bristol City Council Sustainable City Team).
- The Avon & Somerset Local Resilience Forum provides the means whereby emergency services, health and social care service providers and the Bristol City Council Civil Protection Unit all work in partnership to prepare the city for emergencies, including those which are weather-related.
- Forum for the Future is actively engaging leaders in the Bristol city region to raise awareness and to help make sure people are working together, with a particular focus on food security.
- Bristol has a network of very active community groups engaged in local food growing, home energy reduction, sustainable travel and transport, global justice, and transition to a less fossil-fuel dependant way of living^{13,14}.

Bristol is also home to some high profile and influential organisations and academic institutions engaged in sustainability, including Sustrans, The Soil Association, Triodos Bank, the Converging World, the Centre for Sustainable Energy, the University of Bristol Department of Earth Sciences and the University of the West of England Institute for Sustainability, Health and Environment.

What works?

As a city, the key to making progress is;

- Ensuring everyone works together to maximise effect, rather than duplicating effort or working at cross purposes,
- creating a sense of what is possible. Most people are aware of climate change but feel there is nothing worthwhile that they can do,
- framing the issue as being about health and prosperity for everyone in the face of these challenges. New approaches are required for energy production, travel and transport, food production, staying healthy and reducing our consumption of non-renewable materials, and
- communicating clearly and in a positive way, the underlying aims and objectives of the actions being taken, with fairness for all citizens being built in to these objectives.



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