



A summary of the Local Climate Impacts Profile for Derby

Understanding the local impacts of extreme weather events on public services, places and people, helping us to prepare for future climate change

°Climate east midlands



Introduction



How will the climate change in the East Midlands?

UK Climate Projections 2009 data for the East Midlands suggests that, under a medium emissions scenario, by the 2050s the region may see:

- **An increase in summer mean temperature of around 2.5°C, and of winter temperatures of around 2.2°C;**
- **A 14% increase in winter mean precipitation;**
- **A 16% decrease in summer mean precipitation.**

(Source: UKCP09 - <http://ukclimateprojections.defra.gov.uk>)

Front Cover:
Cathedral Green swinging bridge is designed to swing out of the way in the event the river starts flooding. This helps the flow of water and stops the bridge acting as a barrier to debris floating in the river.

Derby's Local Climate Impacts Profile (LCLIP) was carried out as a means of increasing our understanding of the city's vulnerability to severe weather events. It helps inform us about how these events affect the City Council's assets, infrastructure and capacity to deliver services as well as how such events impact other public service providers and local communities.

The LCLIP covers the period 2000-2010 and was carried out in two phases.

- **Phase 1:** Interviews with Derby City Council officers and analysis of media reports to understand the impacts of severe weather on the City Council and the city as a whole.
- **Phase 2:** Analysis of the impacts of, and approach to, severe weather in Local Strategic Partnership organisations through interviews with key members of staff.

The LCLIP and climate change

Climate change is expected to increase the frequency and intensity of some of the extreme weather events which we already experience, such as heat waves, flooding and drought, though it may reduce the occurrence of severe winter cold spells. By helping us to understand our current vulnerability to severe weather, the LCLIP acts as a starting point for understanding our vulnerability to climate change.

It is for this reason that each of the city and county councils in the East Midlands has developed an LCLIP as part of the first stage of the regional 'Well Adapting East Midlands' project on resilience to climate change. Undertaking the LCLIP allowed all of the authorities to achieve Level 1 of the previous government's performance framework for local authority action on resilience to climate change, National Indicator 188. The UK government

continues to place high importance on local authority action on resilience to climate change and will publish a national risk assessment in 2012 and National Adaptation Programme in 2013.

The East Midlands Improvement and Efficiency Partnership has resourced this work by providing funding for ongoing Project Officer support on adaptation to each of the upper-tier authorities.

Key Findings

Key Weather Events and Impacts

Between 2000 and 2010, a total of 60 severe weather events negatively impacted Derby with each of these having varying degrees of consequence for the Council and its services.

The following are the types and number of events recorded in this period:

- | | |
|--|----|
| • Flooding/heavy rains | 18 |
| • Freezing temperatures and heavy snow | 10 |
| • Hail | 1 |
| • Heat waves | 7 |
| • Storms | 10 |
| • Gale force wind | 14 |

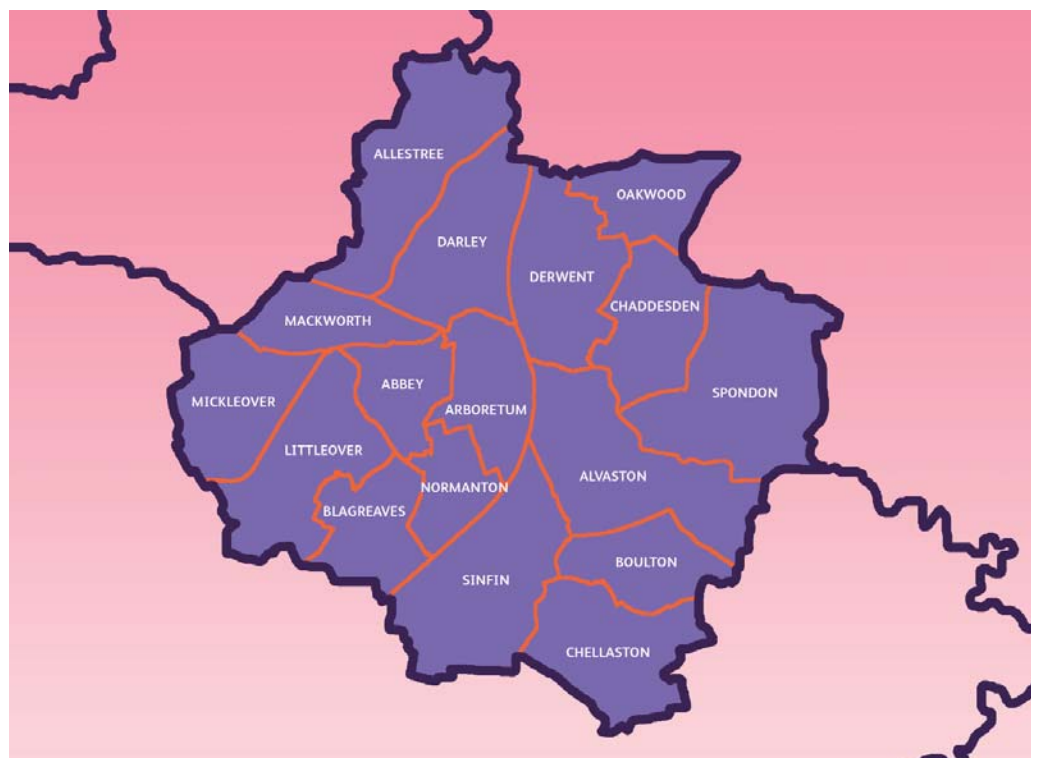
After interviews with Council staff the main concerns about severe weather were:

- The knock-on effect can often last 3-4 weeks.
- Dealing with the impacts of severe weather events can have a considerable effect on day-to-day service delivery.
- Hot weather increases pests that the Councils pays to have removed.

Derby is a city and unitary authority in the East Midlands region. It lies upon the banks of the River Derwent and is located in the south of the ceremonial county of Derbyshire. In the 2001 census, the population of the city was 233,700. There are 17 wards in Derby.

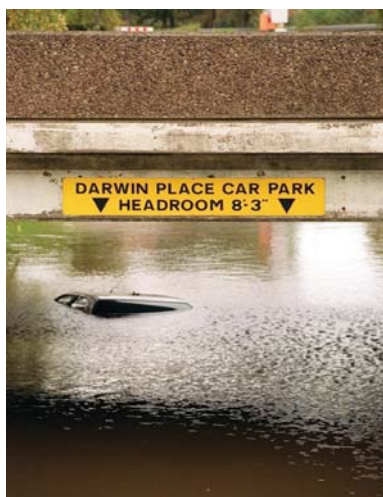
Derby is an advanced engineering and high technology manufacturing city being the home to Rolls-Royce plc, the Toyota Motor Corporation and the railway systems engineering firm Bombardier Transportation.

Any severe weather events impacting on these firms will result in serious disruption to the local and national economy as these firms are key economic players.



Key Findings

Severe weather impacts the Council and its partner organisations in various ways. Here are some examples of the impacts recorded to date



Car submerged at Darwin Place car park – June 2007.

Heatwaves

The 2003 heat wave resulted in some of the following incidents being reported:

- A 20% rise in visitors to the Tourist Information Centre during the heatwave.
- Ill-health, particularly in vulnerable populations such as the elderly.
- Reduced crime in parks but increases elsewhere as open windows created opportunities for burglars. In one week the number of burglaries was double the normal level.
- Increased business in city centre, particularly for sales of food and drink.

Flooding and heavy rains

- An increase in calls to the Council helpline caused staff to struggle with the unusually high number of incoming calls.
- The Council House suffered 3 major basement flooding incidents causing:
 - concerns regarding the structural integrity of the building
 - damage to furniture
 - loss of archived files
 - loss of staff working hours
- Flooding on major roads into the city on numerous occasions resulting in accessibility problems for city centre residents and commuters.
- Extra workload for Derbyshire Fire and Rescue by, for example, rescuing stranded motorists.
- Sewage overflowing when pumping stations became overloaded.
- Storm incidents resulted in:
 - large numbers of fallen trees which generated a heavy backlog of work for the council's arboriculture department
 - buildings being damaged by high winds.

The Council House in winter 2009.



Key Findings

Freezing temperatures and heavy snow:

- Freezing conditions damaging council buildings - especially relating to burst pipes.
- Several road accidents causing massive disruptions to traffic flow into and out of the city.
- Impact of heavy snow on schools resulted in an average of 7,342 pupil sessions lost each day:

- 84 schools in February 2009
- 14 schools closed in January 2010
- 24 schools closed in November and December 2010



Derby Council House, November 2001.
Source: Derby Telegraph.

City Council awareness and approach

The Council's approach to dealing with severe weather events was generally good. However, the LCLIP established that many officers had not considered how severe weather might impact their services in the future. Many believed it was the responsibility of emergency planning resulting in a reactive rather than proactive approach. However it was noted that:

- The Council has been effective in raising awareness about climate change mitigation and adaptation issues.
- All sections agree that severe weather events can negatively impact on the reputation of the council.
- Council departments should ensure that they also pursue a proactive approach to severe weather events in addition to responding when they occur.
- Alongside the need for improved forward planning is an understanding that severe weather affects most departments and so the risks of it should be incorporated into mainstream business planning.



Overnight snowfall in residential area.

Cathedral Green in Winter 2009.



Key Findings

City Council reputation



Derby's Silk Mill flooding – June 2007.

There have been no serious issues reported that have damaged the City Council's reputation as a result of any severe weather events apart from parental criticism relating to the closure of schools because of severe winter weather. During the severe winter weather events the Council has largely coped with the road gritting needs fairly well with most major roads remaining passable throughout.

Other Local Strategic Partnership (LSP) organisations' awareness and approach

Although many LSP members are aware of the impacts of severe weather and the need to prepare for them, most were not taking proactive action. However the general level of preparedness is good among LSP members.

To further develop this project meetings were held with a number of LSP members including the University of Derby, Rolls Royce, Derby College and the Derbyshire Constabulary. The Council has offered and will continue to offer support to these organisations in helping them to better understand how they can prepare for and adapt to more severe weather events.

Flooding on the Derwent River.



Using the LCLIP findings

Actions taken and next steps

Following the completion of the Local Climate Impact Profile exercise Derby City Council has (as of October 2011) taken the following actions:

- Used the LCILP to raise awareness of severe weather across departments.
- Carried out a Comprehensive Risk Assessment of high risk service areas to identify the risks posed by climate change and actions that can be taken to reduce them.
- Developed an Adaptation Action Plan which identifies adaptive actions, timescales and responsible service areas.
- Revamped the Corporate Climate Change Strategy including a call for all service areas to include at least one climate change adaptation activity in their business plans.
- Embedded climate change adaption in various Council policies such as the Local Transport Plan, Local Economic Development Strategy, Sustainable Community Strategy, Strategic Risk Register and Tree Strategy.
- Raised the level and scope of the Council's Climate Champions' work in promoting climate change mitigation and adaptation across the Council.
- Ongoing work to engage with LSP partners in ensuring a proactive approach to adaptation and encouraging the development of recording systems for documenting severe weather events and their impacts to aid future planning.

Derby's Silk Mill by the River Derwent.



Contact

LCLIP project coordinated by Climate East Midlands, advised by UK Climate Impacts Programme and part funded by East Midlands Improvement and Efficiency Partnership.

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For further information on Derby City Council's work on resilience to climate change see its webpages:

www.derby.gov.uk/environment-and-planning/sustainability/climate-change

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For information on the regional 'Well Adapting East Midlands' project visit the Climate East Midlands website:

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