



ClimateSouthWest

South West Local Climate Impacts Profile (LCLIP) Final Report

A partnership project funded by:



**SOUTH WEST IMPROVEMENT
& EFFICIENCY PARTNERSHIP**

with support from:



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1 Executive Summary

Between April to July 2010, Climate SouthWest led a project to support 9 upper tier local authorities in the South West undertake a Local Climate Impacts Profile. The project was funded by the SW Improvement and Efficiency Programme (SWIEP), and delivered in partnership with Studentforce for Sustainability and the UK Climate Impacts Programme (UKCIP).

The project was designed to help those local authorities involved to make progress against the National Performance Indicator, NI188: Planning to Adapt to Climate Change. The support offered through this project enabled the 9 authorities to complete, or build upon their existing LCLIP, and contributed to their being able to report progress at either Level 1 or Level 2 of NI188 in the 2010 self assessment.

Since the project was undertaken in July 2010, the coalition Government has abolished the National Indicator performance framework. Although local authorities are no longer required to report progress against NI188, NI188 and this project have actively helped drive local authority action on embedding adaptation into local authority decision making, planning and delivery of services. NI188 may no longer provide a national driver for climate change adaptation, but it is hoped that the key findings of both the individual LCLIPs and this regional summary report will provide the foundation upon which to build understanding of the issues and engage officers in the need to consider adaptation. So that further action on adaptation can be delivered at the local level.

The collective key findings from the 9 LCLIPs are outlined below.

- 48 – 78 individual extreme weather events recorded by each local authority. This results in hundreds of impacts recorded for each authority!
- The top 3 weather events (in order of frequency reported) experienced by the South West authorities were: Flooding/heavy rain; Storms; Snow/cold/ice.
- The top 3 local authority departments most affected by the impacts of extreme weather events in the South West were: Highways; Education; and Environment/Planning.

The consequences identified were numerous, and some variation was experienced between rural and urban authorities. Some of the most frequently experienced consequences were service disruption to waste collections, school buses; school closures; increased workloads; increased demand for information; increased insurance claims; disruption to the transport network and pressure on emergency services.

The individual LCLIP reports identified which weather events were most frequently reported as impacting on the Council, the number and types of impacts and consequences experienced and adaptation responses implemented. An interesting finding from the reports was that some of the impacts experienced as a result of a particular weather event were similar to those experienced by other types of weather events. If a Council takes action to reduce its vulnerability to particular impacts and consequences, then it will become more resilient. Therefore, it is not the event itself that is of importance, but the impacts and consequences that result from the event.

However, for the Council's response to be effective in the longer term it is essential for each Council to learn from how it dealt with past extreme events, to help build understanding of how to deal with future extreme events. This means that monitoring and reporting of the environmental, social and economic costs of extreme weather events on the Council is an essential next step following this project. This is one of a number of recommendations contained within this report, with guidance provided on how effective monitoring processes can be developed.

Thanks go to all the project partners and local authorities listed in this report and to the 8 project workers who did a fantastic job over the 3 month project: Lois Gallimore, Matthew Maynard, Phil Jones, Alana Williamson, Alistair Cunningham, Nichola Hughes, Sophie Isaacs, and Tom Redfern.

2 Introduction

In 2008/09 the Government introduced a new set of national performance indicators for local authorities. The indicator set included National Indicator 188 (NI188): Planning to adapt to climate change. In the South West region, 9 of the 16 upper tier local authorities adopted NI188 as one of their designated 35 indicators as part of their Local Area Agreement. Regardless of whether they had NI188 as a designated target, all councils were required to report on performance as part of the Comprehensive Area Assessment.

The performance indicator had 5 levels of achievement from 0 – 4. A Local Climate Impacts Profile (LCLIP) contributed to achieving Level 1, which focused on making a public commitment and undertaking an impacts assessment. The LCLIP framework was developed by the UK Climate Impacts Programme (UKCIP) in 2006. The purpose of the LCLIP is to raise awareness and understanding of current vulnerability to weather events in a specific locality, from looking at the recent past. It highlights the main consequences of weather events to which a local authority and its service provision are currently vulnerable.

At the time this project was developed only 6 of the 16 upper tier local authorities had undertaken an LCLIP or similar. To help all local authorities progress against NI188 and undertake an LCLIP, this project was developed.

3 Project Overview

This partnership project was developed and managed by Climate SouthWest. The project was funded by the SW Improvement and Efficiency Programme (SWIEP); with match funding contributions from each of the participating local authorities and UKCIP providing technical project support. Studentforce for Sustainability managed and employed the 8 project workers and each local authority involved hosted a project worker. The total cost of this project was £67,562. This equates to a cost of c. £7500 per local authority. However, due to the SWIEP funding, each local authority was only required to contribute £1200 towards the project. The value of the benefits for each authority therefore equated to 5 times greater than their original financial contribution.

The participating Councils and lead officers were:

- Bath and NE Somerset Council - Sara Grimes
- Bournemouth & Poole Councils (jointly) - Lee Green & Paul Cooling
- Bristol City Council – Lucy Darkin
- Cornwall Council – Hilary Gooch
- Gloucestershire County Council – Peter Wiggins
- North Somerset Council – Jessica Harper
- Somerset County Council – Caroline Rigby
- Wiltshire Council – Catherine Dixon

This project was based on the innovative partnership approach to LCLIP activity undertaken in the East Midlands. A coordinated approach to working

with multiple local authorities provides a number of benefits. This includes facilitating shared learning; providing collective support which individual partners may not be able to provide to each local authority individually; and helping to ensure a consistent approach to identifying (and ultimately addressing) vulnerability of Councils, and their services, to the impacts of extreme weather events.

3.1 Aims and objectives

The overall aim of this project was to support local authorities to enhance their delivery of adaptation activity, ensuring that local areas and the region are well prepared and able to adapt to the impacts of climate change.

3.2 Project objectives

As set out in the project initiation document, the project objectives were:

- All NI188 designated upper tier local authorities to have completed an LCLIP,
- To assist with achieving the South West Climate Change Action Plan stretch target of all upper tier local authorities to have achieved Level 2 (as minimum) of NI188 by 2011.

3.3 Baseline

This project supported 9 local authorities on LCLIP activity; enabling 5 local authorities to undertake an LCLIP and 4 local authorities to develop their LCLIP further.

Prior to the start of the project, pre-project evaluation forms were completed by the participating local authorities. These identified each authority's current baseline and the top 3 objectives they wanted to achieve through this project. Regionally, prior to this project, only 6 of the 16 upper tier local authorities had undertaken an LCLIP (or equivalent). This project directly supported 9 local authorities. Following this project, 15 of the 16 of the South West upper tier authorities have now completed an LCLIP (or equivalent).

3.4 Project Outputs

As outlined in the project initiation document, this project aimed (and did achieve) the following outputs:

- a) Each of the 5 local authorities (who had not yet done so) will complete an initial LCLIP. This included:
 - Completing a media review of significant weather events and their consequences over the last 5 years.
 - Conducting interviews with relevant local authority staff to provide additional information.
 - Producing a database of the information gathered.
 - Producing a presentation and report of key findings and start to share these across the authority (where appropriate).

- b) Each of the 3 local authorities that have started an LCLIP (Gloucestershire and Bournemouth & Poole jointly) will build on their initial LCLIP findings. This broadly includes:
 - o Furthering the LCLIP to deepen their Council's, and where relevant District Councils', Elected Members' and Local Strategic Partnership (LSP) partners', awareness of the consequences of weather events in their locality.
 - o Developing the initial LCLIP findings into resources and tools and use these to further understanding of the consequences of climate change.
 - o Building adaptive capacity by continuing to disseminate the LCLIP findings/key messages to departments within the organisation and with LSP partners where appropriate.
 - o Demonstrating how the LCLIP activity has contributed towards achieving Level 2 of NI188.
- c) Three support and shared learning meetings held for all project partners. (These meetings also incorporated training, advice and evaluation for the graduates from StudentForce for Sustainability.)
- d) Each of the 9 local authorities produce a final report/set of materials based on their LCLIP findings.
- e) Climate SouthWest will produce a report on the regional implications (benefits and limitations) of the local authorities' work on vulnerability to weather related events at the end of the project.
- f) Climate SouthWest will work with the 9 local authorities to identify systematic monitoring arrangements to record future weather events and their impacts and produce guidance on the possible approaches.
- g) Hold a meeting with the wider SW NI188 network to share the lessons learnt from this programme.

4 Summary of LCLIP findings

This report highlights some of the findings from the LCLIPs of the 9 local authorities involved in the project. In addition, the LCLIP findings of Dorset and Devon County Councils (who had already completed an LCLIP) have been used to help give a fuller regional picture to this report.

This report focuses on the common/aggregated impacts experienced by the individual local authorities in the project. Given the sensitivity of some of the outputs, the project group requested that no issues are attributed to individual authorities. However, individual LCLIP reports were completed by the project workers for all participating Authorities and are available on request (subject to internal sign off).

Although this report highlights areas of both commonality and difference between the authorities, it only highlights those issues or conclusions relevant at a local level. Information should not be aggregated or conclusions drawn at a regional level.

4.1 Weather Events Experienced in the South West

For the purposes of the LCLIP, the local authorities generally used 9 different types of weather events to record against, as suggested in the UKCIP LCLIP database template. These were categorised into:

Drought	Excessive rainfall/flooding
Fog, mist, low cloud	Frost, ice, snow
High temperature/heat wave	Low temperatures/cold spell
Lightning	Storm/hurricane/tornado
High Winds	

Four local authorities undertook the LCLIP looking back at weather related events over the last 5 years (January 2005 – May 2010). However, five authorities looked up to 10 years back or included additional years prior to 2005 where a major weather related incident had occurred.

For six of the eleven councils, the most common type of extreme weather event affecting local authority services was rain/flooding. Rain/flooding, snow/frost/ice and storms/high winds were the 3 most frequently reported extreme events for most authorities.

Reports on snow/frost/ice did dominate many of the reports, given the two particularly cold winters experienced in both February/March 2009 and January 2010.

(Top 3) Most frequently recorded by 11 local authorities

Extreme Event	Number of local authorities recording this event in their top 3 events occurring
Rain/flooding	9
Snow/frost/ice	7
Storms	5
High winds	2
High temperature/heat wave	2

The least common type of extreme weather event being reported was heat wave and drought. This may be because the extreme weather of the last 5 years has been dominated by two extremely cold winters (2008/09 and 2009/10), and no extreme heat related weather related event has occurred in the region during this time period.

However, it's also important to note that because the frequency of weather events is gathered from the media trawl, they may not correspond directly to meteorological events.

4.2 Impacts and Consequences

The LCLIP reports highlighted that one weather event may have more than one consequence. Some of the reports identified the frequency and severity of events occurring. However, frequency of an event does not always equate to the severity of impacts experienced. For example one authority identified that flooding only made up 18% of the weather events occurring, but actually accounted for 37% of the total number of incidents, and consequences reported. Conversely a frequently occurring event might only have a small impact, as the events are minor in scale and/or because the Council is beginning to take action to adapt.

The number of extreme events reported in the LCLIPs varied between 48 and 82 events. While the number of resulting impacts and consequences caused by those events ranged from 84 up to 421 in one case! Most local authorities identified over 100 reports of damage or disruption from the extreme events reported. On average, every event recorded resulted in at least 2 impacts on the council.

A common finding of all 9 Councils involved in this project was that most of the severe weather events impacting on the Councils were related to snow/ice/cold and heavy rainfall/flooding events. Conversely, the impacts resulting from high temperatures/heatwaves and wind were relatively low. This is likely to be attributable to the fact that the majority of LCLIPs looked back only 5 years in the media and there being a limited number of high temperature events being reported during this period.

Several reports also highlighted that the impacts experienced and lessons learnt due to one particular weather event are similar to those experienced by other types of weather events. For example the impacts and responses to snow and ice events are similar and transferable to those caused by flood events. This suggests that often it is not the event itself that is of importance, but the impacts and consequences that result from the event. Therefore, if a Council is able to take action to reduce its vulnerability to particular impacts and consequences, then it will become more resilient, often regardless of the cause of the impact.

In addition, a couple of the reports highlighted that a proportion of the impacts recorded were classed as 'sub regional' events directly effecting locations of infrastructure outside of a particular Council's administrative boundaries but still having an impact on that particular Council. The impact could be anything from congested roads within the Council's boundaries due to road closures outside the administrative boundary; to resources being diverted when called upon to provide help and support to neighbouring authorities directly affected by an event.

4.3 Council Services Affected

It is difficult to make direct comparisons between the services and departments directly affected by the extreme events, because each Council

structures itself slightly differently and allocates service responsibility to different departments or directorates.

The individual LCLIP reports reported a wide range of Council departments being affected. This includes chief executives, finance, IT, customer services, development and planning, environment, highways, street and waste services and social services (for young and old).

However, broadly speaking the top 3 most commonly impacted services were:

- Highways
- Neighbourhood services (including street & waste care, environmental health)
- Social services (both child and adult care)

Fire and rescue services were also frequently reported as being impacted, either because this is a service provided by the local authority or because some LCLIPs identified the impacts on wider service providers within the Council's administrative boundary.

Overall, the most frequently affected service was highways/transport. This was also the most frequently affected service identified in the East Midlands and London LCLIP projects.

4.4 Frequently Occurring Impacts and Consequences

As noted in section 4.3, a range of Council services were reported as being impacted by the events recorded. Undertaking interviews with service managers helped to add additional information on the range of impacts and consequences experienced.

The consequences were wide ranging, but the table below highlights some of the most commonly reported impacts by the Councils involved.

Table of commonly occurring impacts:

Increased workload – due to staff being unable to get to work; longer working hours, bringing staff in from other sections to help out	Increased calls received by the council from the public when extreme events occur
Inability of IT systems to cope e.g. due to direct impact of the weather on the system (i.e. flooded or too hot) or because more staff were trying to work remotely.	Structural damage to schools, council buildings and homes
Disruption to waste and cleansing services e.g. refuse not collected for several weeks due to flooded or icy roads	Closure of schools – due to extreme temperatures (hot and cold); teachers unable to get to work; school buses unable to run
Disruption to maintenance regimes – due to staff responding to emergency/priority issues	Disruption to transport network – affecting council staff, emergency services, local communities and

	businesses
Damage to trees, shrubs and vegetation – resulting in a need to remove and replace them	Localised flooding – due to melting of snow and ice
Damage to infrastructure – e.g. power lines blown down, melting of roads, cracking and potholes in roads	

In addition, consequences were also reported to include:

- cancellation of events,
- cancellation of staff training,
- cold restricting building of concrete and masonry walls,
- cancellations to crematorium services;
- slower response times of emergency services,
- trends of increased crime rates related to warmer weather
- contamination of water supplies
- burst pipes

The direct impacts on Council services also result in indirect impacts and consequences for the communities they service. This effect was magnified in the more rurally located authorities where transport infrastructure may not be so resilient to extreme events and as a result staff struggle to get to work. In one rural authority, a snow event meant that 30% of staff were unable to get to work. As a result some of the commonly occurring consequences for rural communities included closure of libraries and mobile library services; the need to get the emergency services to help move clients from care centres, providing care clients with meals-on-wheels and ensuring the provision of care support needed in the home.

In response to the impacts they faced, many Councils implemented their emergency planning, community risk register and business continuity plans. Many Councils also reported that reviews were undertaken to assess the effect of the impacts, the service response and identifying what worked well and what could be improved for next time.

4.5 Costs of Impacts

It is acknowledged that there are difficulties in recording the true and full costs associated with the impacts of extreme weather events. This is because costs associated with individual events are difficult to calculate, and are not necessarily recorded in a way that enables them to be directly attributable to specific events. However, four councils highlighted that increases in insurance and public liability claims are likely to be related to incidents of severe weather.

One council reported that their average number of insurance claims was around 20-40 per month between 2003/4 and 2008/9. However this rose to around 60 a month at its peak in 2009/10, which correlates to a number of extreme events.

Costs recorded against highways winter service delivery can also be an indication of the costs associated with extreme weather. One authority reported overspends of around £100,000 in 2008/09 and 2009/10 due to the snowy and icy conditions and the need for increased winter gritting and snow clearance.

Another authority suggested that total emergency and contingency budgets expenditure could also be used as an indication of costs associated with extreme events.

Of those LCLIPs that gave consideration to the associated costs of responding to and dealing with extreme events, it is clear that the costs involved depend on the size of the Council. Generally higher costs are associated with larger unitary and county Councils. For example one smaller authority estimated that c. £1.25m in insurance claims had been paid as a result of severe weather between 2005-10. In contrast the total costs related to extreme weather are estimated to be £30m for one larger authority, over the same 5 year period.

Consideration may also need to be given to the costs incurred by district councils when considering the full financial implications of two tier authorities.

5 Project Evaluation

5.1 Project Methodology:

The methodology of this project was based around working in partnership. Working with Studentforce for Sustainability (SFS), 8 graduate project workers were recruited to work with the local authorities involved. Each project worker was hosted by one of the local authorities for the 3 months of the project placement.

The project lasted 3 months, the suggested amount of time to complete an LCLIP by UKCIP. For those 5 authorities starting an LCLIP, the methodology was as follows:

- Complete a media trawl of local newspapers to gather information about extreme weather events in the local authority area.
- Input the data to a spreadsheet and analyse to identify key trends including most frequently occurring weather types on council services.
- Undertake council (and in some cases LSP partner) interviews with practitioners/officers/managers with responsibility for services. To 'ground truth' the media trawl and to capture additional information about service impacts and responses to extreme weather events.
- Write a report and prepare presentation material.

For those 3 project workers placed with an authority who was progressing their LCLIP, they:

- Revisited and updated the LCLIP with any recent weather related incidents (the 2009/10 winter snow in most cases).
- Worked with internal officers to develop tools and disseminate key findings from the LCLIP both internally and externally.
- Contributed to the NI188 self assessment reporting in May 2010.

All project workers and line managers (time allowing) were required to attend the three project meetings held during the project to report back on progress, address issues, share lessons and identify the next steps.

The project was very time intensive for the project workers and Climate SouthWest, who managed the overall project. However it did focus the mind, and a huge amount of productive activity took place. The project also had condensed timescales for the relocation of project workers, who did well to adapt to a new area, organisation and challenge with the intense focus of this project placed upon them as well.

The sharing of lessons was facilitated by the use of a closed online forum (Google group) which allowed peer-to-peer discussions and review in close to real-time.

5.2 Lessons Learnt

Following a review of the project with the Council line managers, a number of challenges and benefits were identified as a result of the way the project was run. These are outlined in the table below. It is felt that these would be useful lessons for any other local authorities or other supporting organisations to consider when running a collaborative LCLIP project.

Challenges	Benefits
Short timescale – some authorities felt that 3 months was quite short to undertake the LCLIP. But it does focus the mind!	Pace of Change – all the local authorities commented that they have achieved much more in the 3 months of the project, than if they had done the same work unsupported and without project workers and Climate SouthWest
Limitations of the methodology – as outlined below there are a number of limitations to the LCLIP methodology including bias, but it is a helpful tool to start identifying the issues and raising awareness	Dedicated resource to complete the work – using the Studentforce project workers to undertake this work meant that the local authorities have been able to complete the work in an efficient and cost effective way
Difficult to make comparisons between local authorities – despite trying to implement a common and consistent approach to the project, there was also a need to enable local flexibility to ensure that the outputs were relevant to each individual local	Shared learning – by working collectively, all the local authorities and project workers benefited from coming together at the 3 formal project meetings. Access to informal discussion via the Google Group between meetings to share issues,

<p>authority. Therefore, due to the definitions of events recorded and the structure of councils it is difficult to make direct comparisons of the data</p>	<p>problems and solutions was also a benefit. The additional added benefit was that the project was made up of some authorities who had already undertaken an LCLIP – so they were able to bring valuable learning to the project from their experiences as well as share the outputs of how their LCLIP was helping them progress work on adaptation.</p>
<p>Internal approval of reports – an unforeseen part of this project was that for most local authorities the final reports and recommendations needed approval from senior management before being released more widely. This did not affect the outcomes of the project, but it is something the authorities will need to progress themselves to ensure their outputs can be used to have maximum value.</p>	<p>Greater awareness with Local Authorities – This project and outcomes have helped, and will continue to, raise awareness of the impacts, vulnerabilities, and need to respond to extreme weather events through interviews, and internal presentations etc. Interestingly, those furthering their LCLIP found revisiting this work provided a good opportunity with which to re-engage with officers on the impacts of extreme weather.</p>
	<p>Support offered – support from Climate SouthWest, Studentforce and UKCIP in the running of the project helped to address any queries. The Google online discussion group enabled informal support and networking between all project partners.</p>

An additional benefit of the project, by working in partnership with Studentforce of Sustainability, was **Graduate personal and career development**. The project has created a cohort of graduates who can go forward with knowledge and skills to continue work on climate adaptation. More importantly, the project gave them vital experience, training and knowledge to create a platform for their future careers. This personal development was captured in the review process, and the success of the approach was shown in that since the project all but one of the project workers found employment through extensions or permanent positions in related fields or within the same organisations. The remaining candidate has secured a PhD position in their chosen area of study

5.3 Limitations

Throughout the project, there was an opportunity for the project workers and local authorities to raise any queries or problems. The project group agreed that the overarching LCLIP provided a useful framework to explore the impacts and consequences of extreme events on Councils. However, a number of limitations of the LCLIP methodology became evident during the project. The main limitations are summarised below.

- The method of categorising weather events was not always clear. Although weather event categories were provided, these were often interpreted or recorded slightly differently. The different methods of recording mean that the date is not always directly comparable.
- Data collection based on media reports is acknowledged to be biased and the information is not itself scientific, so caution must be used when trying to qualify qualitative information and when making assumptions.
- The LCLIP methodology encourages you to assess the significance of events. However, many project workers did not feel qualified to do this. Some assessment of risk was undertaken using officer knowledge (which might be subjective) while another Authority used their corporate risk processes and criteria to assess risk.
- The use of media sources, especially online, did not always result in equal geographical coverage across the county. This is a particular issue for authorities covering a larger geographical area. In addition, media coverage tended to cover areas more heavily populated than those less populated. Yet the impacts were not necessarily proportional to the size of the population.
- Interviewing local authority officers was viewed to be a valuable part of the process to help engage staff and build understanding of the issues. However, time was limited in the project and not all staff (or partners) could be interviewed. The information gathered must be treated with caution as it is dependant on the officers' understanding of weather vulnerability, their length of service working for the Council and the potentially subjective assessments of risk or severity of events and impacts.
- Confidence in the overall data analysis of the media review is limited due to the small sample size, which may result in over or under emphasis in the data.

5.4 Moving an LCLIP Forward

This project also supported Gloucestershire, and Bournemouth & Poole (jointly) to explore how their LCLIPs could be used to further enhance and develop action on adaptation. The aim of this was to help demonstrate to other local authorities the wider benefits of completing an LCLIP. Although the LCLIP methodology is a discrete piece of work, it is designed to act as an information resource to help local authorities become better informed and understand how their authority is affected by current extreme weather events. It is also a resource that can be used to raise awareness amongst internal officers and external partners as a precursor for investigating how council partners might be affected by extreme weather events and climate change in the future.

Climate SouthWest wanted to be able to demonstrate how the initial LCLIP work can be used to raise awareness of the issues particularly within the context of NI188 and the engagement of Local Strategic Partnership partners.

This element of the project played an important part in demonstrating how the outputs of an LCLIP can be used to contribute to the achievement of NI188 Level 2, and beyond. This is because following on from the project, most local authorities were aiming to achieve NI188 Level 2 or Level 3 by the end of March 2011. (Although NI188 has now been abolished, the way the outputs of the LCLIP have been used to further engage local authority officers and external partners in understanding issues of extreme weather and climate change demonstrates that this is still a valuable process through which to engage people and to consider climate change in risk based planning).

The activities that the three authorities undertook included:

- Reviewing the LCLIP carried out (as they had been undertaken at least 12 months ago) and identifying and analysing the headlines most appropriate for different audiences.
- Raising awareness of NI188 with departments, elected members, LSP members and the community through newspaper articles, internal briefings, workshops and information on the intra and internet.
- Using the initial impacts identified from the LCLIP to inform the comprehensive risk based assessment of NI188 Level 2.
- Identifying opportunities to integrate climate change into community risk registers and business continuity planning; working with partners to look at how the findings of the LCLIP can be built upon; using UKCP09 and existing council processes to ensure that climate change is embedded in the community risk register, business continuity and corporate risk work.

From this, a number of next steps were identified to ensure that the momentum on adaptation activity was maintained by the Councils involved. These included steps specifically related to communications and embedding adaptation into council activity.

Communications:

- Communication for Adaptive Capacity – building on the LCLIP, develop a communication strategy in line with the Joint Action Plan. This enables the council to build organisational adaptive capacity. It will also strengthen their leadership and communication with strategic partnerships, and adaptive capacity at the community level.
- Use the LCLIP to contribute to developing communication tools for risk management training, and upgrading internal and external web pages.
- Continue to use LCLIP headline messages to raise awareness of adaptation work and secure senior level and elected member buy-in.
- Engage with internal champions and at a community level on adaptation activity.

Embedding Adaptation:

- Use LCLIP findings in the Climate Change Adaptation Strategy and Action Plan development, including in workshops with service managers and as part of the evidence base.

- Build on the LCLIP to integrate further climate impacts into Comprehensive Risk Management to ensure a comprehensive area-based system is in place.

This work was integral to all three local authorities reporting Level 2 of NI188 in May 2010. It was noted by one authority that this work is repeatable, so the work can either be repeated internally or by other authorities/partners.

6 Monitoring and Recording

At least 6 of the 11 local authorities covered in this report made reference to the need to centrally record and monitor the consequences, costs and responses to extreme weather events. Some services within local authorities do monitor/record responses to incidents but this is often ad hoc and not routine or consistent across all services and local authorities.

The individual LCLIPs revealed that many local authorities undertook a service or corporate review of the impact of the 2009/10 winter snow event. The impacts on services, the response, and lessons learnt were reported. However, this was a fairly significant event and led to widespread consequences. It is not clear whether this kind of reporting is undertaken on a consistent corporate or service basis for all types of weather events (even small or localised ones).

It is acknowledged that it is not practical to complete an LCLIP every few years, as it is too resource intensive. Although organisations might want to update the LCLIP spreadsheet if a major event occurs. However, it might be more helpful to record events as they are experienced. This helps to capture information while it is still 'fresh in peoples' minds'. It also helps to ensure that institutional memory is built, rather than memory being held by individuals in the services. This is important, because if changes are made to the structure of the Council and information is only held by individual officers then this could impact on how the Council deals and responds to events in the future.

Ongoing monitoring and recording of extreme events is a frequent recommendation in the LCLIP reports completed for this project. Monitoring and recording is also a recommendation from the East Midlands LCLIP report (March 2009). Although limited activity on monitoring and reporting has taken place nationally, Oxfordshire County Council have focused on monitoring the impacts of extreme events on their Social and Community Services. In addition, Kent County Council has established a Severe Weather Impacts Monitoring (SWIMs) database to help record the impacts of events on both the Council and their strategic partners.

6.1 Benefits of Reporting and Monitoring

To help the South West local authorities consider how they might tackle the recommendation of recording and monitoring, Climate SouthWest facilitated a discussion at the July NI188 network meeting. During the discussions, a number of benefits to monitoring were identified. These include:

- Helping to secure high level buy-in to the issues;
- Providing a database of evidence which can be used to dispel sceptics, to highlight the costs and (opportunities) of extreme events. Data can help to justify adaptation actions, and evaluate how the local authority could improve response to future events;
- Monitoring of costs could be helpful in setting budgets by linking risks and likelihood to emergency response budgets;
- Help to manage expectations (of the public and others) by having information / headline messages on the impacts that can then be communicated, for example, via the authority's website. This helps bolster the local authority's reputation in being aware of and addressing these issues;
- Provide information that is of value to other partners like Local Strategic Partnerships (LSPs) and Local Resilience Forums (LRFs) and those under the Adaptation Reporting Power;
- Help to identify weak points/gaps in service provision, which can be addressed and ultimately lead to improving resilience;
- For effective and efficient service delivery;
- Helping to inform corporate reviews of events in an effective and cost effective way.

The outcomes of this discussion have been collated, together with some information from UKCIP, to form the following suggested recommendations on how to approach future monitoring.

6.2 Scale of Monitoring

Firstly consider the scale of monitoring you want to undertake. Below are 4 helpful scales to consider:

1. **Service Level** - recording the responses to disruption for a particular service, and identifying how to plan/respond better next time. (E.g. the approach piloted by Oxfordshire Council's Social and Community Services)
2. **Community wide** – ongoing collation of weather impacts to identify county-wide vulnerabilities and priorities (E.g. the approach piloted by Kent County Council's 'Severe Weather Impacts Monitoring' database)
3. **Resilience Forums** – learning from, and reviewing, past events to improve/enhance response in the future (engaging a wider range of organisations/emergency responders)
4. **Corporate Reviews** - one-off reviews following a particular weather related event, where the level of disruption has been recognised corporately. (E.g. the approach taken by many South West authorities following the 2009/10 winter snow)

If the Council doesn't have a system that immediately enables you to easily report on a corporate basis, it is suggested that you start at a service or directorate level, focusing on the critical services first.

6.3 What Information Do You Want to Capture?

Once you have agreed the scale of the monitoring, consideration then needs to be given to what information to capture. A suggested list of information needs are given below, but these need to be considered in relation to what is already recorded on existing systems in the authority:

- Costs of impacts i.e. expenditure related to responding to the event and remedial/rectification works after the event. Costs should also include staff costs (i.e. absences & overtime) as well as capital expenditure, where possible.
- Staff absences (those unable to work or get to work because of the event), particularly on the front-line delivery.
- Impacts on delivery of strategic priorities and delivery of services.
- Weather related calls/complaints logged to specific service call lines (i.e. highways) and/or the council's 'one stop' customer contact point.
- Spatial distribution of the event recorded (i.e. localised or county wide), to help map and identify services/areas where mitigating the impacts is needed most.
- Details of the extreme weather event itself. This might include daily weather, highs & lows, if any thresholds were reached/breached.
- The economic, social and environmental impacts an event has and the response of the service/authority/responding partners (depending on scale of event).

You may also want to consider rating the significance of the event, based on the council's corporate risk systems, to identify how to respond to incidents in the future. This is considered important, because how a council responds and manages the consequences can impact on the Council's reputation.

The aim should be to build up a collection of data and information on an ongoing basis to help identify trends, patterns, approaches, and responses.

6.4 How Could You Record?

There is no one right way to record the information, but the information should be recorded in a standardised system across the Council. Some recommendations for a standardised recording system of extreme weather events from the SW NI188 network are outlined below.

- It should be compatible with corporate GIS systems so geographical assessment and analysis of vulnerability can be undertaken.
- It should be useable and easy to search so it's helpful to service managers and those who wish to use the database.

- Explore the opportunity to link to/utilise existing recording systems as they currently operate, or that could be easily amended i.e. by adding a weather related column or tick box to enable it to be searchable by weather event. This way you are not duplicating recording needs.
 - An additional driver for recording on existing systems, like the Corporate Risk Register (CRR), means that often once reported on it, action has to be taken to address the risk.
 - Having a management system like EMAS is also considered helpful.
- Identify whether the system you use can generate reports of information. Reports can then be used to get a response from the appropriate directorate or at a corporate level.
- Records could be based on:
 - Number of school days lost due to extreme weather events.
 - Number of staff unable to get to work due to extreme weather events.
 - Using a certain cost code for expenditure to deal with the effects and clean up of extreme weather events.

If you don't already have a suitable existing reporting system you could consider:

- Developing a data system to log events needing a response e.g. emergency service responses.
- Appointing 1 person to input adverse weather warnings onto a database. But then there is the challenge of integrating/sharing this information with other services.

6.5 How Could You Share the Information?

Once the information starts to be collated you need to consider who the information should be shared with, how and in what format. You might want to consider the following points:

- Producing 'Post-event incident reports'. If these are already produced, is there additional information that they should include?
- Consider who reports need to be produced by i.e. heads of service, and for whom i.e. a director, partner, other heads of service affected. Where appropriate, include information on what extra resources were needed (staff time, finance, resources, materials).
- Consider sharing information via a web based tool, which can be low cost and user friendly.

6.6 Who Should Take the Lead Responsibility?

It depends on the scale of the monitoring and whether existing reporting mechanisms are being used, as to who should have responsibility for information gathering and reporting. As this might be dictated by the wider process.

If you are undertaking corporate level reporting, then overall responsibility may sit with the Corporate Information Team, Risk Management, Emergency Planning or Business Continuity Teams.

If you are undertaking service level reporting, then overall responsibility may sit with the Head of Service.

Either way, even if you are recording data at a corporate level, you might find that departmental/service specific staff are best placed to identify the issues on the ground, so you might want to involve them. Likewise, when monitoring at the service level, if you wish to ensure that the issues are being brought to the attention of senior decision makers then you may wish to report back or involve a corporate team.

If the lead is not already identified through your reporting process, then you could consider the following options. It is recognised that it can be difficult to get 'buy-in' from all departments, however, ultimately monitoring and recording the impacts of extreme events should become a routine task and embedded into all teams' work (as appropriate). This means that the responsibility then becomes part of many officer roles and helps to build institutional knowledge of the impacts and how to respond. This also helps overcome the difficulty of identifying a single lead, which can be a resource issue. It can be helpful to identify a corporate lead and use a corporate system that is accessible by all, rather than through the environmental team, to help ensure buy-in across the authority.

Suggested monitoring leads:

- Risk management group
- Monitoring team
- Emergency planning
- Business Continuity
- Service Managers through the performance management framework (who have responsibility for service risk registers, which feed into the Corporate Risk Register)
- Corporate Director who leads on climate change risk

NB. It should be noted that these are recommendations for local authorities, with the aim of helping them to monitor the impacts of extreme events on across their organisation. They are not recommendations for developing a regionally coordinated monitoring system, as this would be very complex to achieve and the value of the monitoring at the local level would be lost.

6.7 Examples from South West Local Authorities

Below are 4 brief examples of where local authorities in the South West have started to explore monitoring and reporting of extreme weather events.

Bath & North East Somerset - climate change was added to their corporate risk register in 2009. Business continuity plans are being updated by critical services following the 'lessons learnt' report after the January 2010 snow event.

Bristol City Council – In the Civil Protection Unit when a response to any emergency occurs, the Incident Management Software is used to record the response.

Devon County Council – to ensure that timely recording takes place the authority's Emergency Planning team 'nudge' the risk manager within each service to record and feed back after an event. This helps to ensure that information is captured and reported.

Gloucestershire County Council – are exploring the feasibility of a central system of record keeping, as a way of identifying weather related risks.

7 Recommendations and Conclusions

7.1 Regional Implications

As stated earlier in the report, the limitations of this methodology mean that direct comparisons between authorities are not possible, and so the outputs and issues arising from these LCLIPs should not be aggregated or interpreted as the region's vulnerability to extreme weather events. However, there are a common number of issues that individual authorities reported. These are issues that could be addressed through collaborative working between local authorities in the South West, with support from Climate SouthWest.

7.2 Recommendations

1. Recording and Monitoring of Events

The majority of local authorities recognised that they often don't, or at least not consistently across the authority, monitor the impacts and costs of extreme weather events affecting the council. Yet it is also recognised that it is not practical to repeat the LCLIP methodology on a frequent basis. Without some kind of individual monitoring being undertaken it is difficult for local authorities to know the true costs and impacts of extreme weather events, and understand and plan for similar events in the future.

Recommendations

For Councils:

Establish appropriate monitoring and recording mechanisms to effectively capture, record and report on the full impacts of extreme weather events.

For Climate SouthWest:

Climate SouthWest, in partnership with the local authority officers of the SW NI188 network and UKCIP, provide additional support and guidance to help establish and trial suitable monitoring and reporting processes (based on the recommendations noted in this report).

2. Building Adaptive Capacity

The information gathered through the LCLIP is a valuable tool through which to continue building understanding of vulnerability to extreme weather events. Building understanding of the issues and risks also helps to generate solutions and actions which will help to reduce both current and future vulnerability.

Recommendations

For Councils:

Continue to use the outcomes of their individual LCLIP report to engage and communicate with staff, elected members and key partners the current vulnerability, and resilience, of the Council to extreme weather events. To also use the outcomes of the LCLIP to highlight where good adaptation is already

taking place. In addition, use the UK Climate Projections 2009 (UKCP09) to help build understanding of future vulnerability.

For Climate SouthWest:

To offer collective, and one-to-one, support to local authorities in the South West on the impacts of climate change and extreme weather and the need for adaptation through workshops, events, presentations and the provision of relevant guidance e.g. on UKCP09.

To collaborate and disseminate example of good practice from both within and outside of the South West on building adaptive capacity.

3. Common Vulnerabilities and Cross Boundary Impacts

The individual LCLIP reports identified a number of impacts and consequences that are experienced by most local authority areas i.e. road closures, flooded homes. The LCLIP reports also highlighted impacts and consequences that stem from, or span across the boundary of more than one local authority. In these cases support was needed from neighbouring local authorities to help manage the impacts. The adaptation responses to these are likely to be similar and are also likely to involve a number of council departments and support from partners like the Fire Service and the Environment Agency. The experience of responding to incidents is a valuable learning experience that could be shared.

Recommendations

For Councils:

To continue, in collaboration with other council departments and key partners (as appropriate), to address common consequences of extreme weather events that affect the local authority area.

To explore opportunities to develop collaborative responses with neighbouring authorities to address extreme weather impacts. To then share these experiences of partnership working and implementation of adaptation responses with other local authorities in the South West.

For Climate SouthWest:

To explore whether there is a role for Climate SouthWest in helping to facilitate engagement with these strategic partners at the regional and sub-regional level (for example with groups of neighbouring local authorities that are willing and able to share resources).

4. Engagement with Emergency Responders

The focus of the LCLIP is initially on the impacts for the council itself. However the impacts identified in the LCLIP often have implications for emergency service providers, the Local Resilience Forums, health service etc. In most cases these organisations operate at a sub regional level i.e. Avon and Somerset Police. There is a need to ensure that these organisations are engaged once in an effective way, rather than by each individual local authority that is covered by their operational area. This has the additional

benefit of resources potentially being used more efficiently between local authorities to engage with these strategic partners.

Recommendations

For Councils:

To identify opportunities for collaborative engagement of sub regional strategic partners (like Fire and Ambulance services) with other local authorities in that operational area (e.g. through the West of England Partnership).

For Climate SouthWest:

To explore whether there is a role for Climate SouthWest in helping to facilitate engagement with these strategic partners at the regional level. To work with a group of local authorities to pilot an approach with one emergency responder and share the learning with the rest of the South West local authority network.

To work with other Climate Change Partnerships (particularly London and the East Midlands who took a collaborative approach to undertaking LCLIPs) to identify approaches that can be shared with local authorities in the South West.

7.3 Conclusions

The LCLIP project was a 3 month fixed term project, to help 9 upper tier local authorities gather and build momentum on addressing the issues around extreme weather events, and more broadly climate change adaptation. The primary driver for the project was to help local authorities progress against the performance indicator NI188; and this was achieved.

Although NI188 has since been abolished, there is still a pressing need to drive and deliver activity on adaptation to help ensure that both the councils themselves, as well as the communities they serve, are resilient to the impacts of climate change and extreme weather.

This project has enabled local authorities to develop an evidence base related to the impacts of extreme weather. While the methodology has some limitations, the Council officers engaged in the programme see it as a useful process to understand what the key impacts are, help engage with officers internally and other partners externally, and to identify which Council operations and processes are resilient and which are still vulnerable.

The benefits of giving graduates vital, paid, project experience, and supported personal and professional development, at a time of higher unemployment, and of forming a cohort who can take forward the knowledge of this area of work, should not be underestimated.

Much like the regional picture of vulnerability, the local one is still developing. However, there is a greater level of understanding of vulnerability at the local level, which is key to ensuring that adaptation is embedded at the local level.

One of the key benefits of this project was facilitating collaborative working amongst the Councils involved and with a number of external partners. To ensure that the momentum on adaptation activity generated through this approach is maintained, there is an ongoing role for Climate SouthWest to continue to explore and facilitate opportunities for collaborative local authority working in the future.

In addition, the Councils involved are strongly encouraged to continue to utilise the links made with Climate SouthWest and other Councils through this (and the NI188 coordinator project) to ensure continued peer support working to address the issues and identify and deliver appropriate adaptation responses. At a time when resources are increasingly under pressure, but adaptation remains a high priority at the national and sub-national level, collaborative working enables an effective use of time and resources to ensure that adaptation continues to be a priority issue addressed at the local level.