

HIGHLAND COUNCIL LOCAL CLIMATE IMPACTS PROFILE

INTRODUCTION

A Local Climate Impacts Profile (LCLIP) is a resource that enables organisations to understand their exposure to weather and climate. By looking at past media publications it is possible to provide evidence of severe weather events and how these affect individuals and communities. Such events also impact on a Local Authority's capacity to deliver services. Exploring our current ability to respond to weather incidents can help to better equip service delivery in the future and build resilience to any change.

The objective of the Highland LCLIP is to:

- Provide an understanding of weather events in Highland region in the recent past;
- Assess the Highland Councils vulnerability to weather events;
- Inform decision making on effectiveness of responses;
- Increase knowledge and understanding of the issue amongst staff, elected Councillors and the public.
- Contribute information that can be used to help prepare for similar events occurring in the future and build resilience to their effects.

The information gathered will be used alongside data gathered by various Council departments in relation to roads and community works, emergency planning, council housing and flood prevention.

THE PROJECT

The process involved looking at past weather-related media releases from newspapers and web articles and recording the variety of weather events, together with their impact.

The first Highland LCLIP was conducted in 2009 and looked at press releases between 2002 and 2008. A total of 110 weather incidents were logged. Many local news groups had not yet moved on to using the internet at this time. This limited the number of articles being identified due to the time required to manually search newspaper archives.

The second LCLIP looked at the period from November 2010 to July 2011 and logged a total of 152 weather incidents. Although a shorter study period, the widespread use of the internet by this time made searching for events by type and locality more streamlined.

The project was made possible through student placements. Unfortunately the available time and resources has meant that a continuous record of weather incident recording from 2002 to present has not been possible. However, the information provided is nonetheless invaluable.

The project focused on weather incidents in the Highlands and the associated

consequences for the Highland Council. The geographical range of the project was the Local Authority area of Highland Council, however access routes to and from the region were included.

The project did not:

- Attempt to establish climate related trends from the acquired information;
- Draw conclusions as to the causes of climate change.
- Include detailed responses/attitudes to weather events from other local agencies;
- Include weather events from out with Highland.

Weather is defined as ***“the state of the atmosphere at a given locality and time”***. It should not be confused with climate. Climate is the average weather in a locality over an extended period of time (usually thirty years).

For more information on past climate trends and future climate projections please refer to section 3 of the accompanying report [“Adapting to Climate Change in Highlands”](#).

For the purpose of this study a “weather event” is defined as any news item in the press, positive or negative, that occurred as a direct result of;

- Wind
- Rain (includes flooding or drought)
- Lightning or electrical storm
- Temperature (high or low)
- Fog and mist (reduced visibility)
- Snow, hail or ice.

It should be noted that some events may have been the cumulative result of different factors, not just weather. Where this has occurred the event has been logged, and more detailed exploration of the causes sought during follow-up interviews with Highland Council Service personnel.

In parallel to the LCLIP being conducted, the Highland Council Annual Public Performance Survey asked residents about their experiences of weather impacts. The results of this survey will assist in the review of Highland Councils response to weather incidents. This survey, which is conducted annually, asked people how satisfied they were with Council services, for their view on the quality of life in Highland and their attitude towards certain initiatives. The survey was sent to the Citizens’ Panel selected randomly from the electoral roll. The results were analysed independently by the UHI Centre for Remote and Rural Studies. With over 1100 responses received, the survey results can be generalised to the adult population of the Highlands as a whole. In addition, five focus groups were arranged to gather views from people with disabilities and with people in the Chinese community who are under-represented on the panel.

RESULTS

Media Trawl Results

A full breakdown of the weather events logged from the media trawl is shown in **Appendix 1** for LCLIP 1, and **Appendix 2** for LCLIP 2. A hard copy of each media article is kept on file for reference and can be obtained by contacting greencouncil@highland.gov.uk

Each weather incident has been logged together with the name and date of publication, the associated impact and an estimation of its significance to the Highland Council.

The pie charts in **Figure 1** compare the variety of weather events being reported in the media in LCLIP 1 and LCLIP 2. We cannot be certain if we have captured every weather event reported during the study period and so the data provided is not comprehensive. The two study periods are not comparable due to their timescales and robust conclusions cannot be made but they can help to demonstrate the variability of weather incidents being reported and certain assumptions can be applied to the findings and verified through secondary research.

It can be seen that in both study periods, winter weather made up the greatest proportion of events being reported in the press. In LCLIP2 it accounted for 78% of weather incidents reported and this is reflective of the study period occurring over a winter season.

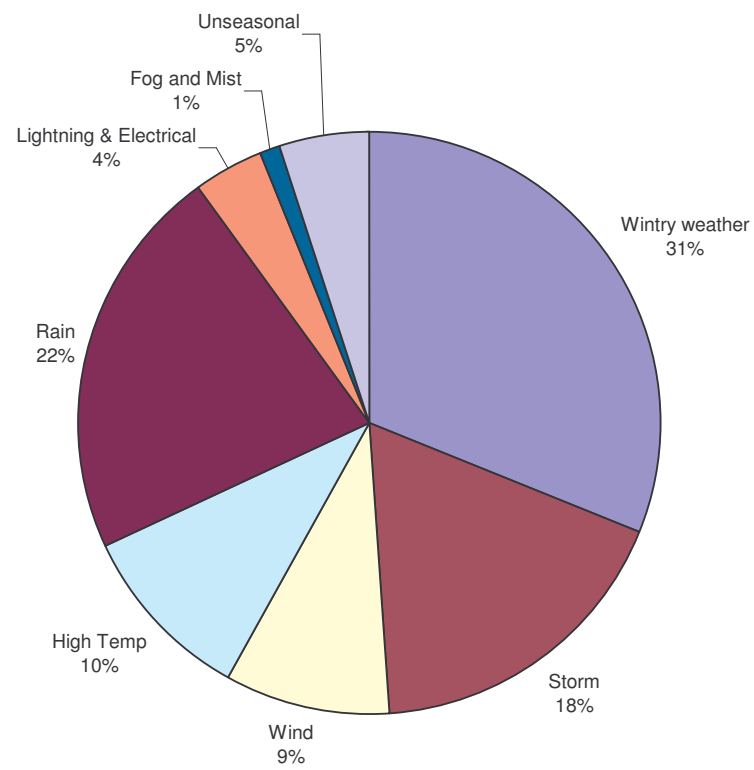
Storm events, wind and rain (including flooding) were the next most popular weather incident to appear in the press in both study periods. High temperatures did not feature frequently in the media reporting which is not surprising given the cool climate currently experienced in the North of Scotland. There were also few articles on fog and electrical storms. While these events are known to occur, this would suggest that the impacts are less significant for individuals and communities and therefore not worthy of reporting by the media.

The overall impact of the weather events for LCLIP1 and LCLIP are summarised in **Figure 2**. By far the greatest impact in both study periods was on travel and transport leading to problems with access to Services, disruptions to public transport, delivery of goods and maintenance of road and rail networks. As a rural Local Authority with a large area to cover and a road network of more than 6000 miles, it is easy to see why travel and transport issues have featured highly in the press.

LCLIP 2 was interesting because a far greater proportion of press articles were aimed at protecting public health and wellbeing. Some of these were concerned with the retention of the coast guard service, a topical subject at the time of the study, but many were issued around the time of the inclement winter weather advising the public of the dangers and encouraging individuals and communities to take responsibility for path clearing and looking after neighbours.

Figure 1:

Types of Weather reported in Highland media 2002-2008



Types of Weather reported in Highland media 2002-2008

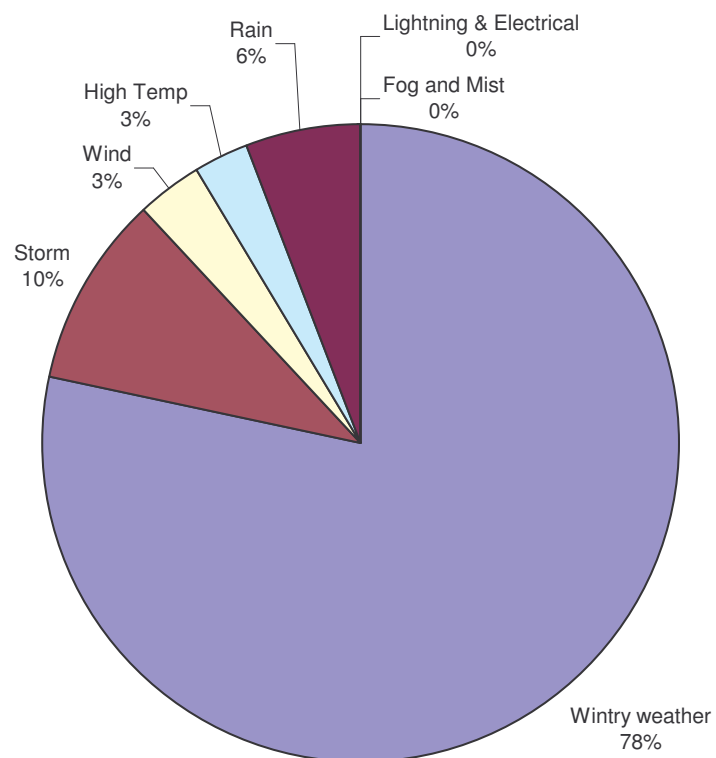
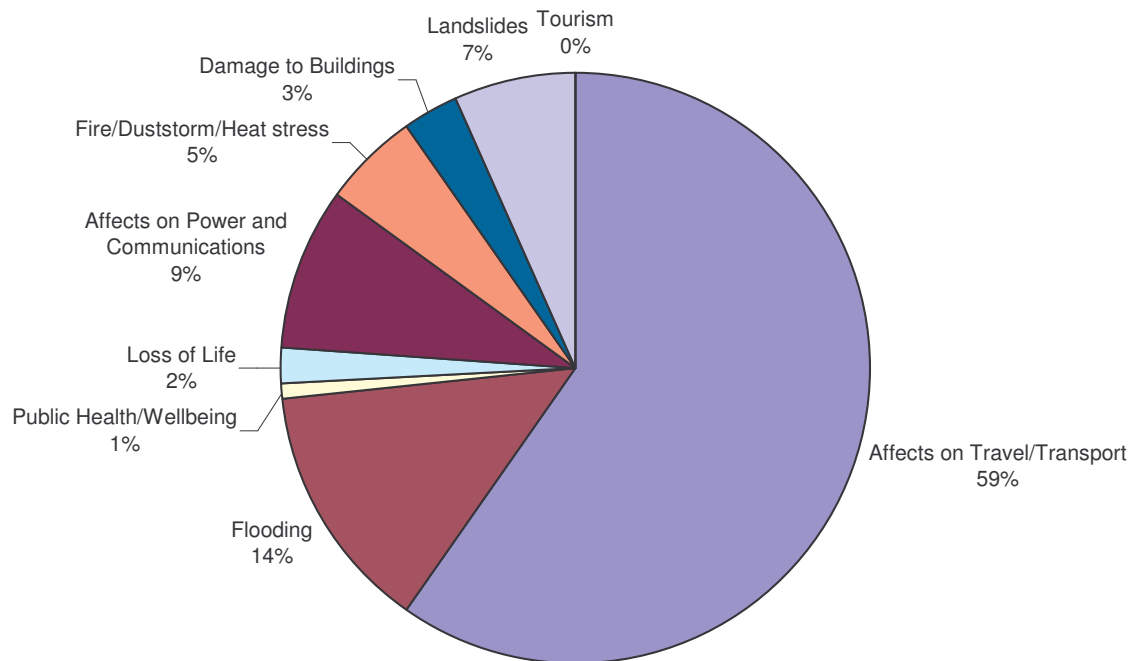
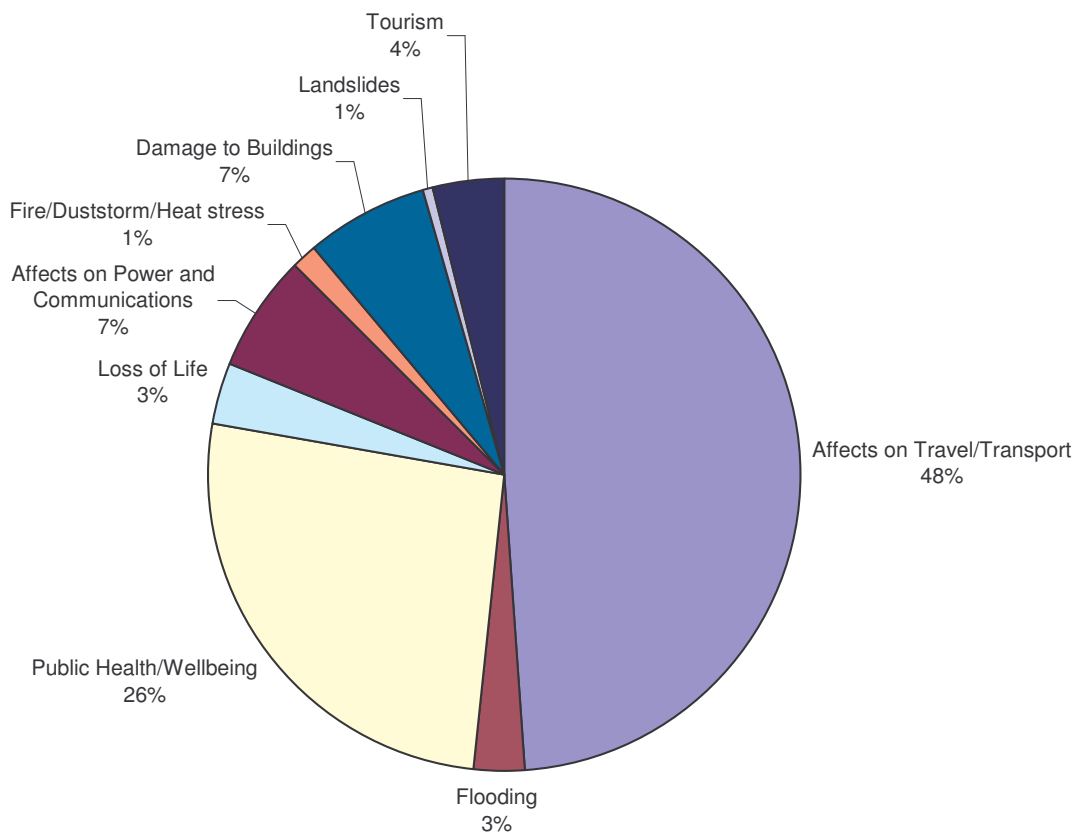


Figure 2:

Types of weather impacts reported 2002-2008



Types of weather impacts reported November 2010-July 2011

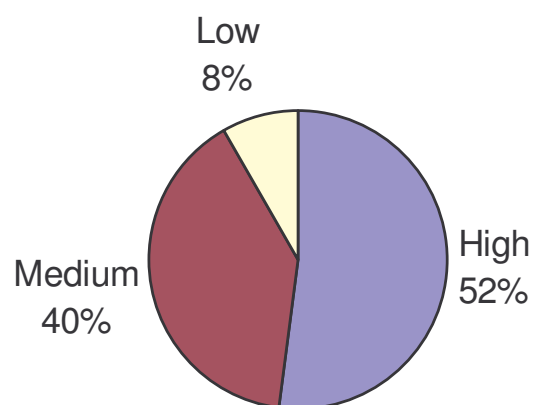


The significance of each weather incident has been estimated for LCLIP 2 in terms of Highland Council Service delivery. Articles were categorised as:

- **Low Significance:** affecting individuals in a given locality with little responsibility or cost to Council.
- **Medium Significance:** affecting groups or communities over a larger area, Highland Council shared responsibility with other agencies, and bearing some costs.
- **High Significance:** Highland Council directly responsible, occurring over a widespread area with high costs.

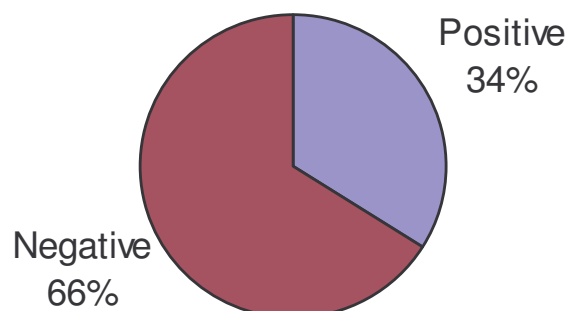
It can be seen from **Figure 3** that the majority of weather incidents reported were of high or medium significance to Highland Council. This re-affirms the assumption that reporters are more likely to release an article if the impact of the event is more significant. A media trawl is therefore an efficient way to quickly gather evidence of significant impacts for Local Authorities.

Figure 3: Significance of weather events for Highland Council Service delivery LCLIP2



The tone of each press article in LCLIP 2 was also examined to see whether it would affect the reputation of the Highland Council in a positive or negative way. It can be seen in **Figure 4** that most articles were negative about the Council and its ability to deliver Services, however, some articles praised the efforts being made and 34% of press releases had a positive impact on the Council's reputation.

Figure 4: Impact of press release on the reputation of the Highland Council LCLIP2



Public Performance Survey Results

The results in Figure 4 are further enhanced by the findings of the 2011 public performance survey which shows that of the 82.1% of people that had experience adverse weather 67% had not required assistance from the Highland Council, suggesting a degree of self-resilience in existence. 18.4 % received assistance from the Council without requesting it and 4.8% received assistance upon request. Of those that received assistance 69.4% of respondents were satisfied with the Service they had received from the Council.

However, 9.7% of respondents did not receive assistance though they requested it. Of this latter group a higher than average percentage of respondents were within the 25-44 age category.

The full public performance survey report is available on the Highland Council website at:

[Citizens' Panel Results on Council Performance, full report 2011](#)

NEXT STEPS

The findings of the LCLIP, the public performance survey and the interviews with individual officers will be shared with Council Services. Impacts identified through the media trawl will be added to those already present within section 4 of the document "Adapting to Climate Change in Highland" to highlight the variety of weather incidents that could be experienced in the future.

The full LCLIP database will be shared with "Adaptation Scotland" so that it can be added to their national database online and made available to the public and other agencies.

A workshop with Service representatives is scheduled to discuss these findings and identify actions that will help to prepare for and minimise future impacts of similar occurrences in the future. These actions will be incorporated into the monitoring and reporting of section 5 of the document "Adapting to Climate Change in Highland".