



Monitoring the impacts of

severe weather

SWIMS Event Summary Report for Kent & Medway

Annual Report for 2014

Executive Summary

Improvement and Efficiency
South East



**Kent
County
Council**
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1. Introduction to this report

This report summarises the impacts of severe weather on public service providers in Kent and Medway during the 2014 calendar year. It summarises some of the key data and information collected by services through the [Kent Severe Weather Impacts Monitoring System \(SWIMS\)](#) and from wider sources referenced at the end of this report (see References on p6).

2. Overview of the weather...

Across 2014, six severe weather events were logged on SWIMS (one heatwave and five storms & gales events). These events comprised:

- Groundwater floods (25 January)
- Stormy conditions (1 May)
- Heatwave, storms & lightning strikes (18-21 July)
- Heavy rain & storms - Hurricane Bertha (8-10 August)
- Heavy rainfall (19-20 September)
- Heavy rainfall (8-10 November)

The highest rainfall intensity recorded by the Met Office was at East Malling in Kent, where 17.2 mm of rain fell within a three hour period on 8 August during the Hurricane Bertha storms. During the groundwater floods in January, wind speeds reached 64.4 mph at East Malling in Kent.

3. Key Impacts

- **Calls:** During the groundwater floods, Gravesham Borough Council (BC) dealt with an unprecedented number of calls (1,370) for repair work to over 1000 council properties damaged by the storms. KCC H&T required 87 staff to handle 7,484 calls related to flooding, trees and repairs.
- **Health:** parks in Canterbury closed during high wind and flood conditions to maintain public safety.
- **ICT:** storms in July and August caused power outages across KCC ICT services affecting all out of hours services. This created a 1-week backlog of work for social care Out Of Hours (OOH) services and 12 ICT staff worked overtime to reinstate power.
- **Natural Environment:** chunks of chalk fell at Abbot's Cliff and over 1,300 metres of bank erosion and landslip were reported during storms and floods in early 2014.
- **Properties:** services reported 1,114 flooded properties and 1,375 damaged by storms and lightning.
- **Staff:** During the July heatwave, 190 Environment Agency (EA) staff worked across 23 hours to issue communications and deal with power outages.
- **Transport:** Over 6,000 metres of Public Rights of Ways in Kent was flood damaged. 13 bridges have been damaged or disappeared entirely. Loss of signalling and traction power caused considerable delay to the provision of peak services along the Maidstone East rail line. Closure of Dover Port and the enforcement of Operation Stack in February stranded motorists in queues for 4 hours.
- **Utilities:** lightning strikes during the July heatwave caused power outages across homes in Kent.

Fig.1: Annual statistics

Cost to services (£ million)	2.05
Cumulative impact on services (in days)¹	351
Properties/land affected	2,512
Calls received	9,739
Staff affected	285
Service users/residents affected	1,313
Services recording impacts through SWIMS¹	30

¹ Staff days based on the average working day of 7.5 hours, week as 5 days, and month as 20 days.

4. Key Costs (£)

The events throughout 2014 cost Kent services £2.05 million². KCC H&T bore the brunt of these costs, incurring £671,693 for tree clearance, road closures, flood remediation equipment and emergency pothole repairs.

Other services heavily affected during the year included KCC Regulatory Services who spent £500,000 to repair affected rights of way and remove wind thrown trees. The Canterbury City Council (CC) engineering team incurred costs of £160,000 for staffing, sandbag provision, pumps and other equipment as 1,000 homes and businesses flooded during the groundwater floods. Network Rail, Scotia Gas, Thanet District Council (DC) and Dover District Council were also heavily financially affected by the events throughout the year.

The financial costs of these events in 2014 are likely to be significantly underestimated. Of the 150ⁱⁱ services affected across the year, only 14 services recorded financial figures through SWIMSⁱⁱⁱ.

4.1 Investments

As a result of the five successive winter events which spanned from October 2013 to March 2014³, services secured funding for a number of longer-term investments. The environment agency invested £600,000 to improve the Leigh Barrier. KCC H&T is investing £10 million to deal with severe weather impacts long-term (£3 million from KCC funds and £7 million from the Department for Transport). KCC Regulatory services is also investing a further £500-600 to repair affected rights of way across Kent. In addition, KCC received a £982,000 grant from the Bellwin Scheme and £499,000 from the Department for Communities and Local Government's (DCLG) Severe Weather Recovery Fund.

4. Reputation impacts

- **The positives:** Canterbury CC, the EA, KCC IT and the Kent Support and Assistance Service (KSAS), Shepway DC and Swale BC received many compliments and good press coverages about their service provision and communications during the severe weather across the year.
- **The negatives:** despite the many positives, the extensive damage caused some negative press. KCC H&T received 47 complaints (alongside 18 compliments) during winter damage to the road network, whilst Gravesham BC received complaints during the unprecedented damage to council properties during the groundwater floods. The closure of farmers markets impacted on farmers and small businesses due to a loss of customer confidence in purchasing goods from the markets. The delays to commuter services in September also caused negative press for Network rail.

Figure 2: Total Event Costs (£)

Groundwater floods (25 January)	1.9 million
Stormy conditions (1 May)	0
Heatwave (18-21 July)	454
Hurricane Bertha (8-10 August)	1,000
Heavy rainfall (19-20 September)	120,000
Heavy rainfall (8-10 November)	1,500

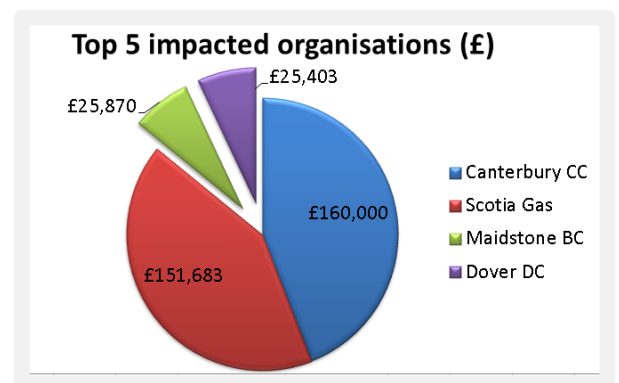


Fig. 3: Organisations most financially impacted

² This accounts for actual costs incurred so far, based on available data as of 27/02/2015.

³ For further details, please read our Winter 2013-14 summary report.

5. Key Responses

Over 200 staff spent 351 days dealing with the impacts of severe weather in 2014, including:

- **A prepared response:** Canterbury CC built contingency into its project timescales. This avoided any impact on project work during the groundwater floods.
- **Arboriculture:** services spent £5,792 on tree works.
- **Flood responses:** see Fig 4.
- **Repairs:** Gravesham BC made repairs to 1,370 council properties damaged by floods, whilst KCC Regulatory services and Dover DC made investments to repair damage in the long-term (see section 4.1 investments).
- **Service Suspensions:** at least five farmers' markets were cancelled across Kent due to stormy conditions flooding market areas for two months. This resulted in no income for 100 farmers and producers. In Swale alone, closure of the Faversham market resulted in a loss of takings of £7,600. KCC Regulatory services also cancelled woodland events during high winds.
- **Training:** Canterbury CC's Policy and Improvement Team attended training on the Council's emergency centre during the groundwater floods.
- **Transport:** Network Rail spent £120,000 to replace damaged signalling and traction equipment, run replacement buses, contract man power and on compensation for customers. KCC H&T spent £133,000 on additional staff and contractors to deal with the groundwater floods.
- **Utilities:** Scotia Gas spent £151,638 to deal with storm and flood issues to the gas network.
- **Waste:** the disposal of sandbags was required in response to the groundwater floods.
- **Warning and Informing:** KCC Trading Standards proactively warned residents of the dangers of rogue trading, whilst Tunbridge Wells BC and Thanet DC issued advice and used social media.

Fig. 4: Emergency flood responses

- Boughton Monchelsea Parish Council (PC) spent 89 days and £13, 877.87 to protect 100 homes from flooding.
- Canterbury CC spent £160,000 on staff costs and the provision of sandbags, pumps and other equipment.
- Dover DC spent £24,680 to install pumps, hire equipment, issue sandbags and protective clothing, and redeploy staff.
- KSAS provided 88 flood victims with essential cash, goods and services.

5.1 Preparing for the long term

Several services built on the learning from these events to prepare for future severe weather risks:

- **Asset reviews:** Following power cuts during the July heatwave, KCC FSC implemented a planned review of its response plans for IT failure and built risk assessments for information assets into these plans, along with the roles of asset owners.
- **Planning and Policy:** KCC H&T reviewed its Operational Status Alert. Changes as a result of this review have included the development of a Severe Weather Policy and plan. Development of an emergency response dashboard is also in progress to identify the major strategic, other strategic and locally important roads. This will make it easier to prioritise the enquiries which need to be attended to first.

6. Key considerations for the future, based on SWIMS

Key considerations detailed in the Winter 2013-14 report apply to the year as a whole, as considerations for how services could prepare their services for future severe weather. These include:

1. **Communications:** frequent, up-to-date communications are vital to maintain a good public service in these events and may reduce the time-burden on services in dealing with calls and call outs.
2. **Resource coordination:** opportunities to coordinate resources and assets (e.g. sandbags, staff, and vehicles) could be reviewed across services.
3. **Infrastructure and assets:** a review of the current resilience and management of assets to severe weather events may help to identify and protect assets at risk.
4. **Procurement and supply chains:** supply chains could be reviewed to ensure key supplies can be delivered and contractors are able to support during emergencies.
5. **Decision-making:** incorporating a review of the data captured through SWIMS into existing severe weather intelligence and review processes, could help officers and senior managers strengthen business cases for action; and help to inform contingency plans and budgets.

Recommended actions to improve SWIMS as a decision-support tool:

1. **Data gaps:** impacted services that did not enter data on SWIMS should do so to ensure a complete picture can be acquired. SWIMS should be reviewed and guidance updated to ensure the information captured can better support funding claims and reduce duplication of effort.
2. **Health:** services should capture impacts on the health and wellbeing of staff and residents.
3. **Excess heat:** services should capture impacts of heatwaves and excess heat on their services and staff.

Acknowledgements

Meteorological data has been provided by the Met Office.

Images have been provided by Kent Fire and Rescue Service (KF&RS).

Contact Us

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References

- i Services within the following organisations recorded their impacts and responses (or confirmed no impact on service) through SWIMS: Boughton Monchelsea PC (1 service); Canterbury CC (4 services); Dartford BC (1 service); Dover DC (1 service coordinating for several); EA (1 service); Gravesham BC (1 service); KCC (7 services); Kent Police (1 service); KFRS (1 service coordinating for several); Network Rail (1 service); NHS (1 service); Scotia Gas; Shepway DC (1 service); Swale BC (6 services); Thanet (1 service); Tunbridge Wells BC (1 service).
- ii Kent Resilience Team (KRT), retrieved between 1 November 2013 and 18 March 2014.
- iii Services within the following organisations recorded their financial costs, alongside their impacts and responses through SWIMS: Boughton Monchelsea PC (1 service); Canterbury CC (1 service); Dover DC (1 service coordinating for several); KCC (7 services); Network rail (1 service); Scotia Gas (1 service) Swale BC (1 service); Thanet (1 service).