



Monitoring the impacts of

# severe weather

SWIMS Event Summary Report for Kent & Medway  
*Winter 2013 -14*

## **Executive Summary**

Improvement and Efficiency  
South East



## Overview of the winter weather

Kent and Medway experienced five successive weather events over a period of five months over the winter of 2013-14. This unprecedented sequence of events comprised:

- The St. Jude's storm (28 October 2013)
- Fluvial (river) event (1 November 2013)
- East coast tidal surge (5 to 6 December 2013)
- Fluvial & surface water floods (20 December'13 to 28 March'14)
- Groundwater floods (25 January 2014)

### Key Costs (£)

Dealing with the impacts of storm damage and flooding from these events cost Kent and Medway services £4.4 million<sup>1</sup>. Many services are still awaiting further financial information meaning this figure is underestimating the true costs of the winter events. In addition, there are plans to invest £11.2 million<sup>i</sup> to deal with the impacts long-term, and plans to apply for further emergency funds to support this (e.g. Bellwin scheme).

It is important to note that at least 150 services were involved in the events over winter<sup>ii</sup>. Of these 30 services, from 15 organisations recorded impacts and responses through SWIMS<sup>iii</sup> and so we know current figures are an underestimate.

### Key Impacts

Staff and services spent the equivalent of 1,230 days<sup>2</sup> to deal with the immediate impacts and prepare for the long-term. Key impacts:

- **Staff and service disruptions:** 1,140 Kent Police staff were involved. 247 Environment Agency (EA) staff worked across three consecutive months.
- **Health and wellbeing:** One fatality. Kent County Council Families and Social Care arranged for emergency residential accommodation for two adults who were unable to continue living in their own home due to flooding. A multi-agency response prevented evacuation of a residential care home<sup>iv</sup>.
- **Transport:** 13 bridges and 6km of public rights of way were affected. A 15ft sinkhole closed the M2<sup>v</sup> and port, tunnel and bridge closures were enforced. KCC Highways and Transportation dealt with 3370 calls about potholes and 4,000 + flood enquiries.

Fig.1: Key statistics

Cost to services (£ million) <sup>1</sup>	4.4
Costs invested by services (£ million) <sup>i</sup>	11.2
Cumulative impact on services (in days)	> 1,230
Properties/land affected	> 3,102
Calls received	30,856
Staff affected	1,876
Service users/residents affected	>1,327
Fatalities	1
Services impacted <sup>ii</sup>	>150

Top 5 impacted organisations (£)

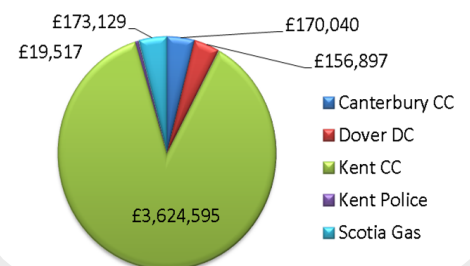


Fig. 2: Organisations most financially impacted (to date)

Total costs by category (£)

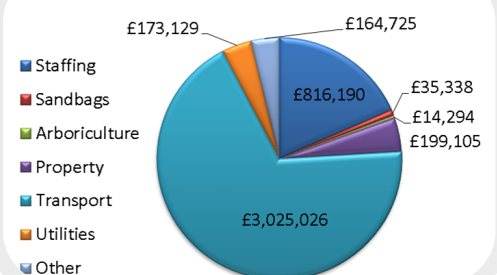


Fig. 3: Total financial costs by category

<sup>1</sup> This accounts for actual costs incurred so far, based on available data as of 20/08/2014.

<sup>2</sup> Staff days based on the average working day of 7.5 hours, week as 5 days, and month as 20 days.

- **Arboriculture:** services dealt with 1,500 trees<sup>viii</sup>.
- **Calls and call outs:** services dealt with 30,856 calls.
- **Properties:** 768 homes and businesses flooded.
- **Utilities:** 28,500 homes lost power<sup>viii</sup>.

### Reputation impacts

**The positives:** Kent Police, district councils, and the EA “went full steam ahead to protect life and property” (East Kent Mercury)<sup>ix</sup>.

**The negatives:** “Our road’s flooded again—when will it be sorted?” (KM Gravesend)<sup>x</sup>; and “we need a better warning system” (KM Malling)<sup>xi</sup>.

### Key Responses

- **Prepared Responses:** telephone conferences were held before events across agencies. Services checked floodgates and delivered over 22,000 sandbags<sup>xii</sup> to residents.
- **Proactive warning and informing:** services undertook door knocking to warn residents at flood risk and used social media to keep individuals abreast of service suspensions.
- **Service Suspensions:** 900 passengers were kept on a P&O ferry offshore for 14 hours, due to unsafe conditions<sup>xiii</sup>.
- **Repairs:** approximately £500,000<sup>xiv</sup> spent to repair rights of way. £80, 000 spent by Dover DC to repair structural damage to the Kingsdown promenade, with emergency funding from the EA requested.
- **Long-term responses:** the Port of Dover will amend its training schedule to incorporate surge conditions.
- **Funding:** £600,000 invested to improve the Leigh Barrier; KCC H&T are 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 will also apply for further funds including the Bellwin Scheme and Severe Weather Recovery fund.

### Key Areas for Improvement Reported

1. **Public messages:** high call volumes and levels of signposting indicated public confusion over the different roles and responsibilities of emergency services. Signs were at times ignored by the public suggesting a loss of customer confidence in warning and informing messages.
2. **Resource provision** of sandbags, staff and equipment was not optimised.
3. **Staff welfare:** staff were heavily relied upon with many working long hours.
4. **Assets:** some impacts at ground-level and sub-ground may have been prevented.
5. **Data gaps:** key gaps in data collected mean the true impacts of severe weather are being lost.

**Fig. 4: Evacuations**



- 1,000** homes in Sandwich, Seasalter, Faversham and Medway were evacuated<sup>vi</sup>.
- £887** cost to Dover DC for use of Sandwich Sports Centre as a rest centre.
- 3** areas in the county where KFRS formed part of multi-agency evacuation operations
- 55** NHS staff evacuated in Ashford.
- 80** People evacuated at Little Venice Caravan Site<sup>vii</sup>.

**Fig. 5: Good practice**

- The Kent Support and Assistance Service (KSAS) provided 88 flood victims with essential cash, goods and services.
- KCC FSC initiated its Severe Weather and Surge Capacity Plan, activated a Strategic Incident Response Team, and appointed local officers to manage the response in each area including shift changes<sup>iv</sup>.

**Fig.6: Number of properties affected (to date)**

<b>Flooded homes and businesses</b>	768
<b>Storm damage</b>	> 1,700
<b>Homes without power<sup>viii</sup></b>	28,500

Organisation	Description of Costs	Costs (£)
Canterbury City Council (CC)	Staffing and provision of sandbags and other equipment.	£170,040
Dartford Borough Council (BC)	Carrying out emergency planning related duties.	£1,500
Dover District Council (DC)	Providing one rest centre, staff and sand. Dealing with tree works and property repairs.	£156,897
Gravesham Borough Council (BC)	Staffing and preventative use of 200 sandbags.	£2,000
Maidstone Borough Council (BC)	Tankers and drain clearance.	£25,870
Kent County Council (KCC)	Providing staff, amenities and contractors to deal with tree, flood, property and highways issues. Providing emergency cash payments to residents, residential placements for disabled or elderly residents and support at Rest Centres.	£3,624,595
Kent Police	Activating Gold/Silver control centres, testing plans and evacuating residents.	£175,317
Sevenoaks District Council (DC)	Providing materials, transport and out of hours staffing.	£10,300
Swale Borough Council (BC)	Repairs to eight properties.	£5,800
Thanet District Council (DC)	Repairs to 25 properties.	£68,479
Scotia Gas	Dealing with storm and flood issues to the gas network.	£173,129
Boughton Monchelsea Parish Council (PC)	Production of a metal sluice gate, inundation maps and tanker hire.	£13,878
<b>Total</b>		<b>£4,427,805</b>

Fig. 7: Cost summary by organisation (known to date)

## Considerations for the future, based on SWIMS

- Communications:** Services could develop mechanisms to communicate their public roles and responsibilities more widely to the general public. This may reduce the time-burden on services in dealing with calls; and improve customer service for the general public.
- Staff:** a review of staff protocols or policies during emergencies could help to safeguard the welfare of staff. This could also include identifying opportunities to train staff in health and safety practices, as well as establishing volunteers across organisations.
- Resource coordination:** opportunities to coordinate resources and assets (e.g. sandbags, staff, and vehicles) could be reviewed across services.
- Infrastructure and assets:** a review of the current resilience and management of assets to severe weather events and related impacts (such as floods) may help to identify and protect assets at risk.
- Procurement and supply chains:** supply chains could be reviewed to ensure key supplies can be delivered and contractors are able to support during emergencies.
- 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:

- 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.
- Health:** services should capture impacts on the health and wellbeing of staff and residents.

## Acknowledgements

Meteorological data has been provided by the Met Office.

Images have been provided by the Kent Resilience Team (KRT).

## Contact Us

This report has been produced by the Kent SWIMS Administrative centre:

SWIMS (Kent)

Climate Change Team

Kent County Council

Invicta House

Maidstone

ME14 1XX

03000 413458

SWIMS@kent.gov.uk

## References

- 
- <sup>i</sup> Tonbridge Courier, 14/02/2014, p1: £600,000, retrieved 21 May 2014. KCC H&T: £7 million grant and £3 million planned spend. KCC Regulatory Services: £650 planned spend
  - <sup>ii</sup> Kent Resilience Team (KRT), retrieved between 1 November 2013 and 18 March 2014.
  - <sup>iii</sup> Services within the following organisations recorded their impacts (or confirmed no impact on service) and responses through SWIMS: Canterbury CC (4 services); Dartford BC (2 services); Dover DC (1 service coordinating for several); Dover Harbour Board (1 service coordinating for several); EA (1 service); Gravesham BC (1 service); KCC (10 services); KFRS (1 service coordinating for several); Kent Police (2 services); Sevenoaks DC (2 services); Shepway DC (1 service); Swale BC (2 services); Thanet (1 service); Tunbridge Wells BC (1 service).
  - <sup>iv</sup> Kent County Council Families and Social Care (KCC FSC), retrieved 7 August 2014.
  - <sup>v</sup> Kent Online, 12/02/2014: [15ft sinkhole on the M2](#), retrieved 21 May 2014
  - <sup>vi</sup> Kent Online, 7/12/2014: [hundreds of homes evacuated](#), retrieved 21 May 2014
  - <sup>vii</sup> KM Malling, 03/01/2014, p6-7: evacuate 80 people, retrieved 21 May 2014
  - <sup>viii</sup> Kent and Sussex Courier, 31/01/2014: [1,500 reports of fallen trees and 28, 500 properties across Kent lost power](#), retrieved 21 May 2014.
  - <sup>ix</sup> KM East Kent Mercury, 12/12/2013, p2-3: “went full steam ahead to protect life and property”, retrieved 21 May 2014.
  - <sup>x</sup> KM Gravesend, 09/01/2014, p6: “Our road’s flooded again—when will it be sorted?”, retrieved 21 May 2014.
  - <sup>xi</sup> KM Malling, 14/02/2014, p18: “we need a better warning system”, retrieved 21 May 2014.
  - <sup>xii</sup> KM Whitstable Gazette, 13/02/2013, p20: 15,000 sandbags, retrieved 21 May 2014; KM East Kent Mercury, 12/12/2013, p1-12: 7,000 sandbags, retrieved 21 May 2014.
  - <sup>xiii</sup> Sheerness Times Guardian, 1/01/2014, p5: service suspensions, retrieved 21 May 2014.
  - <sup>xiv</sup> KCC Regulatory services team, retrieved 9 May 2014.