



SWIMS Summary 2016/2017



Monitoring the Impacts of Severe Weather Full Report for 2016/2017

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Introduction

SWIMS is a decision-support tool that can be used by any public service provider in Kent and Medway to capture the impacts of severe weather events on their service and use the evidence base collected to better prepare their service for the future. This report summarises the impacts of severe weather on public service providers in Kent and Medway during 2016 and 2017, from data collected and recorded by services through the [Kent Severe Weather Impacts Monitoring System \(SWIMS\)](#).¹

Summary of 2016 & 2017 SWIMS Data			
	2016 Totals	2017 Totals	2016/17 Totals
Events logged	7	7	14
Costs to Services	£316,481	£54,519	£371,000
Impact in Days ²	355.37	64.60	419.97
Buildings Affected	199	40	239
Staff Affected	82	349	431
Calls Received	1,122	147	1,269
Residents Affected	2,903	228	3,131
Services Recording	26	19	

2016 SWIMS Events Overview

Throughout 2016, there were 7 severe weather events logged on SWIMS (6 Storms & Gales and 1 Heatwave). Kent experienced high wind speeds throughout the year; during Storm Katie (late March) maximum gusts of 70mph were recorded at Lydd and during Storm Angus (November) gusts of 81mph were recorded at Langdon Bay. Between the 7 – 26 June, 103.6mm of rain fell, more than double the 30-year average. During the 19 – 21 July heatwave, peak temperatures of

¹ All data and figures in this report are based on actual and available data collected and recorded through the swims System as of 1 April 2018.

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

30°C were recorded across the county. A summary of the events and costs recorded in 2016 is in the table below.

Summary of SWIMS Events logged and recorded costs in 2016		
Date	Event Type	Cost
3 – 4 January	Storms & Gales	£0
5 – January	Storms & Gales	£87,459
8 – 9 February	Storms & Gales	£152,665
27 – 29 March (Storm Katie)	Storms & Gales	£5,700
7 – 26 June	Storms & Gales	£4,616.87
19 – 21 July	Heatwave	£0
19 – 20 November (Storm Angus)	Storms & Gales	£66,040
		Total: £316,480.87

Key Impacts

- **Calls** – Kent Police received 597 calls as a result of the severe weather in the 2016 period. Kent County Council Highways and Transport department received 400 extra calls due to Storm Katie across the Bank Holiday Weekend in March. Kent County Council Emergency Planning received 50 calls responding to a range of damage caused by storms throughout June, allocating 2 staff members for dedicated response for 49 hours.
- **Environmental** – Storms of early 2016 caused a large amount of erosion along Deal Beach and Wellington Parade, resulting in cost implications of £150,000 for Dover District Council.
- **Properties** – During severe weather between 3 – 5 January, 20 properties across Dover District were affected by flooding, and 12 properties in the Paddock Wood area had water pumped away. During Storm Angus, 27 council owned properties suffered damage, resulting in an early estimate of £6,040 to Dover District Council and Kent Fire and Rescue services were called to White Cliffs Caravan Park to assist with the evacuation of static caravans after the properties were torn apart.
- **ICT Services** – Between 3 – 5 January, an intense rainfall event caused a roof leak at Sevenoaks Hospital, damaging ICT and phone equipment, impacting services and affecting outpatient clinics. 5 Kent Community Health Trust staff dedicated 10 hours to resolving the matter.
- **Transport** – Ferry services were suspended for 3 hours during February and November storms at the Port of Dover. The 60mph winds in February caused the Queen Elizabeth II Thames Crossing and the Sheppey Crossing to close, and Network Rail reduced the travelling speed of trains to reduce the impact of striking debris. Extra resource was required by Kent County Council Highways and Transport over the Easter Bank Holiday weekend to clear felled trees to maintain the highway network. Throughout the period of storms in June and November, the Highways Agency ensured that extra resources were on hand, working collaboratively with the Environment Agency to pump-out localised surface water flooding across the highway network.
- **Utilities** – Both Storm Katie and Storm Angus caused power outages across the county. During Storm Katie, across Easter Bank Holiday, thousands of houses were left without power. During Storm Angus, 2,200 residents were left without power overnight.

2017 SWIMS Events Overview

In 2017, there were 7 severe weather events logged on SWIMS (6 Storms & Gales and 1 Low Temperature event). Between 12 – 13 January, up to 31mm of snow fell across Kent. During February's storm the mean wind speed, recorded at Manston weather station, was 44.9mph with gusts of 58mph. 25mm of rain fell between 8 – 9 August, almost half of the monthly average (56.3mm). A summary of the events and costs recorded in 2017 is in the table below.

Summary of SWIMS Events logged and recorded costs in 2016		
Date	Event Type	Cost
12 January	Low Temperature	£17
13 January	Storms & Gales	£50,648
23 February	Storms & Gales	£2,755
5 – 7 June	Storms & Gales	£0
22 June	Storms & Gales	£0
18 – 19 July	Storms & Gales	£1,098.40
8 – 9 August	Storms & Gales	£0
		Total: £54,518.40

Key Impacts

- **Calls** – Kent police received 147 calls regarding surface flooding and the effects of the bad weather such as road traffic collisions and felled trees.
- **Disruption to Service** – During the snow in January 2017, Library Services experienced disruption to services as a result of having to send staff home early. Kent County Council's Community, Learning and Skills Service cancelled and rescheduled classes as students and tutors could not attend. The Community Wardens were redirected from their areas of work during the January flooding to assist the Environment Agency in delivering flood surge messages to residents in the Sandwich area.
- **Properties** – A total of 40 properties were impacted by severe weather events in 2017. Tidal surges in January damaged the sea wall in Broadstairs and Westgate, as well as damage to the Deal Pier. During the storms of 22 June an electrical storm caused damage to a small number of properties across the county after they were struck by lightning. Surface flooding in July caused a detrimental effect to Kent County Council's Community, Learning and Skills Service, and Coroner Services due to property flooding, causing negative feedback from the public as they were unable to carry out their services effectively.
- **Transport** – Train delays up to 60 minutes during February storms, but services were maintained across the county.
- **Wellbeing and health** – During the low temperature event in January staff were sent home early as a result of the snowy conditions causing an unknown cost to Kent County Council's Community Warden and Community, Learning and Skills Services.

Key Financial Costs

Severe weather events during 2016 and 2017 saw a financial impact on Kent services totalling £371,000 reported using SWIMS. Documented costs incurred by SWIMS users include:

- Dover District Council incurred £238,305.34 in 2016 alone for repairs to Dover Tennis Hall, resolving damage caused by erosion to the beach, providing sandbags and repairs Deal Pier.
- Kent County Council Highways, Transportation and Waste incurred £2,496 in additional staffing costs during June when bringing in 12 extra staff over night to cope with surface flooding.
- Dover Harbour Board incurred costs of up to £50,000 when responding to a collision between a barge and cargo ship off the coast of Dover during Storm Angus.
- Shepway Council lost an estimated £10,000 across the year through lost revenue, repairs to Hythe Swimming Pool and loss of public service as a result of staff not being able to get to work because of severe weather events.
- Thanet District Council incurred estimated costs of £50,000 for repairs to the sea wall after the effects of the storm in January 2017.

It is important to note that the financial costs of these events in 2016 & 2017 are likely to be significantly underestimated. Of the 150 services affected across the year, only 26 recorded financial impacts in 2016, and 19 in 2017 through SWIMS. All figures in this report are based on available data recorded on the SWIMS system as of 1 April 2018.

Reputation Impacts

Both positive and negative reputational impacts were recorded in 2016 and 2017. These are summarised below.

Positive Reputation Impacts

- The Environment Agency was praised for its flood alerts and cohesive working with partners during January 2016.
- The Kent Community Warden Service were praised for their work with the Environment Agency in delivering community messages during the weather event in January 2017.

Negative Reputation Impacts

- Kent County Council Community, Learning and Skills service had to cancel classes due to flooding in 2016.
- Kent County Council received some criticism via the media for their response to highway and surface water flooding events during June 2016.
- During storms in June 2017 the Coroner Service at Kent County Council were criticised for their reduced ability to report deaths and respond to family enquiries due to office flooding.

Key Responses

Along with their impacts, SWIMS users also recorded how they responded to the severe weather events. A summary of these responses is below.

A prepared response – The Environment Agency, Kent Community Warden Service and the Dover Harbour Board issued weather warnings to allow communities and organisations to appropriately prepare for the risk of flooding and high winds throughout both 2016 and 2017.

Repairs – In January 2016 the Kent Community Health and NHS Trust experienced a damaged roof to Sevenoaks Hospital resulting in £1,300 of repairs. Storms in February 2016 caused damage to Cruise Terminals 2 and 3 at Dover Harbour as well as damage to fences across the site. Shepway District Council spent £2,600 in March 2016 repairing the roof of Hythe Swimming Pool. In June 2016 KCC Education and Young People's Services were required to repair structural damage to schools across Swale and Thanet, as well as needing to carry out repairs to various Adult Education Centres across the county as a result of flooding in both June and November. Dover District Council made repairs to 27 council houses at an unknown cost as a result of November Storms 2016. Both Dover and Thanet District Council made repairs to the sea walls in their district costing in the region of £100,000 by damage caused in storms in January 2017. In July 2017 Swale Borough Council needed to repair electricity circuits at Swallows Leisure Centre.

Service Interruptions – Kent County Council Community, Learning and Skills had to cancel and suspend a number of classes due to flood damage to multiple buildings across the County in both 2016 and 2017. Kent County Council Coroners Service had to be suspended due to office flooding and staff were moved to a temporary office causing a disruption to services. Shepway District Council had to shut Hythe Swimming Pool for a number of days as repairs to the roof were made, costing a loss of takings of approximately £3,000 over Easter Weekend in 2016. Swale Borough Council also had to shut the pool at Swallows Leisure Centre after an electrical fault. Faversham farmers market was reduced in size and scale as a result of weather in February 2016.

Transport – Dover Harbour Board suspended ferry services in March & November 2016, due to Storms Katie and Angus. Network Rail ran trains at reduced speeds during February 2016 and February 2017 as part of their Business Continuity Plan. This caused delays of up to an hour but enabled services to keep running. Storm Katie also saw the closure of the Sheppey Crossing and the Queen Elizabeth II Thames Crossing due to the high winds.

Utilities – During Storm Katie in 2016, 2,200 residents were left without power over night, UK Power Networks resolved this issue at an unknown cost. During an electrical storm in June 2016, Goodnestone Polling Station was left with no electricity. Dover District Council officers delivered emergency lighting and battery powered lights until power was resumed.

Key considerations for the future based on SWIMS data

From the data collected and recorded in SWIMS from the events of 2016/2017, there are several considerations for SWIMS users to increase their resilience to severe weather.

Data gaps: Impacted services that did not enter data on SWIMS should do so to ensure a complete picture can be acquired. In particular, financial information should be captured by all services to improve the evidence base to support future planning and budgeting for severe weather, as well as supporting funding or reimbursement claims.

Critical Infrastructure: A need to review critical infrastructure (property) which, if left vulnerable, can affect a wide variety of services and service users for varying degrees of time. A review/audit by public sector estate managers or property managers may be a useful exercise for identifying any vulnerabilities and implementing low costs or no cost solutions to prepare properties for severe weather events e.g. more regular maintenance regimes of drains/guttering, replacing or strengthening property infrastructure.

Messaging: The public messaging highlighted by several services demonstrates the positive effects that proactive communications can have, in safeguarding residents and customers. Collaborative working between services should be increased to ensure messages are reaching the people who need it most.

Health: Services should capture impacts on the health and wellbeing of staff and residents.

Review SWIMS: SWIMS should be reviewed by the administrative team, carrying out stake holder and GAP analysis to ensure the data captured by members of public sector organisations is providing the evidence required to improve planning for future resilience.

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