

Agenda Item No. 4(c)

**DERBYSHIRE COUNTY COUNCIL**

**MEETING OF CABINET MEMBER – HIGHWAYS, TRANSPORT AND  
INFRASTRUCTURE**

**10 September 2020**

Report of the Director – Economy, Transport and Environment

**REPORT ON THE COMPLETION OF A FLOOD AND WATER  
MANAGEMENT ACT 2010 SECTION 19 FLOODING INVESTIGATION**

(1) **Purpose of Report** To update the Cabinet Member on the completion and outcomes of the Flood and Water Management Act 2010 Section 19 Flooding Investigation, following the November 2019 flooding events which affected large areas of the County.

(2) **Information and Analysis** The flooding event between 7 and 16 November 2019, which affected large areas of the County, triggered the requirement under Section 19 of the Flood and Water Management Act 2010 for the County Council, as the “Lead Local Flood Authority” (LLFA), to undertake a Section 19 Flooding Investigation.

A report on the delivery of the Section 19 Flooding Investigation was submitted to the Cabinet Member at the meeting on 16 March 2020 (Minute No. 20/20 refers) and stated that a draft would be expected to be completed by the end of March 2020. Unfortunately, the flooding events in February 2020 (Storms Ciara and Dennis) and the Coronavirus (COVID-19) Pandemic, have meant that the delivery of this, has unfortunately been slightly delayed.

Extensive investigations have been undertaken to obtain as much information on the flooding event as possible, including questionnaires to residents and businesses affected, site visits, numerous meetings with parish and town councils and liaising with all of the relevant authorities (Environment Agency, Water Authorities, District/Borough Councils etc.), all of which have been formally consulted as part of this investigation.

The statutory requirement for flooding investigation is relatively simple, namely one of investigation by the LLFA of a flood in its area to the extent it considers it to be necessary or appropriate:

- To identify which Risk Management Authorities have relevant Flood Risk Management functions.

- To establish if those functions have been exercised or are intended to be.

The flooding investigation provides the opportunity to identify and engage with communities who have been affected, ascertain if further support and advice can be offered in the immediate aftermath of the flooding event, and also identify opportunities to develop flood mitigation projects to reduce the risk of these properties flooding during future events.

This Section 19 Flooding Investigation has concluded that all Risk Management Authorities (Environment Agency, Water Authorities, Canals and Rivers Trust and District/Borough Councils) have exercised, or are proposing to exercise, their respective functions, in response to this flood event. A copy of the report with the results of the investigation, which is being published by the Council as LLFA, is attached to this report.

The LLFA will continue to work with all of the Risk Management Authorities, to try and reduce the flood risk to properties and infrastructure, together with trying to ensure that the community is even more resilient and prepared, should there be further events of this nature in future years. Some post-November 2019 flood event work, which has already begun, includes setting up of new flood warden schemes for affected communities and implementing the property flood resilience recovery support scheme. It should be noted that some districts/boroughs within the County unfortunately did not qualify for the property flood resilience recovery support scheme, as the threshold set by the Department for Environment, Food and Rural Affairs (DEFRA) was 25 or more flooded properties in any one district/borough. This was despite rigorous lobbying to DEFRA by Derbyshire County Council, to try and get them to amend this.

Derbyshire County Council, as the LLFA, will strive to implement and monitor the recommended actions within the report, to reduce the impacts of future flood events.

The Section 19 Flooding Investigation has concluded that all Risk Management Authorities have exercised, or are proposing to exercise, their respective functions, in response to this flood event (before, during and after).

(3) **Financial Considerations** The Section 19 Flooding Investigation has been undertaken by the County Council's Flood Risk Management Team, including a temporary additional resource referred to below. No further funding has been required to undertake this work.

(4) **Legal Considerations** Under Section 19 of the Flood and Water Management Act 2010, the County Council, as LLFA, on becoming aware of flooding in its area must, to the extent that it considers it necessary or appropriate, investigate which Risk Management Authorities have relevant

flood risk management functions and, whether each of those Risk Management Authorities have exercised, or are proposing to exercise, those functions in response to the flood.

The results of any investigations will be published on the Council's website and notified to any relevant Risk Management Authorities.

(5) **Human Resources Considerations** The Flood Risk Team has secured additional resource (a Flood Engineer) on a temporary basis to assist with the significant increase in workload, following the November 2019 and February 2020 flooding events.

(6) **Equality and Diversity Considerations** An Equality Impact Assessment (EqIA) was undertaken in support of the Local Flood Risk Management Strategy (LFRMS). The LFRMS does refer to the Section 19 requirement of Flooding Investigation and is therefore intrinsically linked to every Section 19 Flooding Investigation undertaken. The main concerns in the EqIA related to public health and the impacts of recurrent flooding on mental health and the effects of flooding on the elderly, infirm, pregnant and disabled, who may not be so able to adapt to, or be capable of making themselves resilient to the effects of flooding or deal with flooding should it enter, or confine them to, their properties. The LFRMS takes on board these issues and seeks to address them through strong emphasis on preparation and development of personal resilience.

(7) **Environmental Considerations** The flooding event would have had a significant environmental impact in terms of pollution and damage to flora and fauna. Through the delivery of the Section 19 Flooding Investigation there will be opportunities to identify areas where the environmental impact can be mitigated for future flooding events.

(8) **Social Value Considerations** The principal aim of the Flooding Investigation was to identify the Risk Management Authorities involved and determine whether they have exercised their required functions. It also included engaging with the flood affected communities to ascertain who was affected and if further support and advice could be offered in the immediate aftermath of the flooding event. All of these actions produce an intangible social value to health and well-being, simply by reducing fear of flooding, of loss of property and long term misery caused by the invasion of the home or business.

## **Other Considerations**

In preparing this report the relevance of the following factors has been considered: prevention of crime and disorder, health, property and transport considerations.

(9) **Key Decision** No.

(10) **Call-In** Is it required that call-in be waived in respect of the decisions proposed in the report? No.

(11) **Background Papers** Derbyshire Section 19 Flooding Investigation Report attached and Section 19 Guidance document on Section 19 Flood Investigations, held on file within the Economy Transport and Environment Department.

(12) **OFFICER'S RECOMMENDATION** That the Cabinet Member notes and welcomes the delivery of the completed Flood and Water Management Act 2010 Section 19 Flooding Investigation, including the outcomes and recommendations, following the November 2019 events.

**Tim Gregory**  
**Director – Economy, Transport and Environment**



# Flood Investigation Report

Investigative report into the flooding across  
Derbyshire between 7<sup>th</sup> and 20<sup>th</sup> November 2019

Final Report  
7<sup>th</sup> July 2020

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## Contents

Executive Summary .....	5
1. Introduction .....	5
1.1 Section 19 Investigations – Duty to Investigate.....	6
1.2 Derbyshire’s Locally Agreed Criteria for Formal Investigation.....	6
1.3 Purpose of this report.....	7
2. Background .....	7
2.1 Location .....	7
2.2 Local Drainage/River System.....	8
2.3 Historical Flood Information.....	10
3. Flooding between 7 <sup>th</sup> and 20 <sup>th</sup> November 2019.....	10
3.1 Information Prior to the Event.....	10
3.2 Description of the Events .....	16
3.21 7 <sup>th</sup> /8 <sup>th</sup> November 2019 .....	17
3.22 14 <sup>th</sup> November 2019 .....	26
3.3 Event Response.....	28
3.4 Post Event.....	30
4. Summary of Findings .....	30
5. Responsibilities and Future Actions .....	31
5.1 Derbyshire County Council the Lead Local Flood Authority for Derbyshire.	31
5.2 Derbyshire County Council Highways.....	31
5.3 Other Risk Management Authorities (RMA) .....	31
5.4 Recommended actions .....	32
6. Next steps .....	33
7. Conclusion .....	33
8. Sources of Information .....	34
9. Status of Report and Disclaimer Information.....	34
Appendix 1. Case Studies .....	36
1.1 Residential property, 7 <sup>th</sup> November 2019.....	36
1.2 Marks and Spencer, Simply Food, Matlock 14 <sup>th</sup> November 2019.....	37
Appendix 2: Derbyshire County Council’s Emergency Planning Response to the November Flood Events.....	40

## Figures

<b>Figure 1:</b> Location plan of flooding across Derbyshire between 7th and 20th November 2019.....	8
<b>Figure 2:</b> Map showing the main rivers of Derbyshire .....	9
<b>Figure 3:</b> Flood Warnings issued by the Environment Agency for Derbyshire during November 2019.....	11
<b>Figure 4:</b> Flood Forecasting Centre Flood Guidance Statements for Derbyshire November 2019.....	12
<b>Figure 5:</b> Met Office Weather Warnings for Derbyshire November 2019 .....	12
<b>Figure 6:</b> Rain-radar image at 1200 UTC 7 November 2019 (Met Office, 2020) .....	13
<b>Figure 7:</b> Rainfall total for 6th and 7th November 2019 (Met Office, 2020) .....	13
<b>Figure 8:</b> UK Rainfall, June 2019 (Black and blue is largest rainfall total) .....	14
<b>Figure 9:</b> Rainfall compared to long term average blue is above and red is below (EA, 2020) .....	15
<b>Figure 10:</b> Soil moisture deficit compared to long term average (Environment Agency 2020) .....	15
<b>Figure 11:</b> Flood Alerts and Warnings (EA, 2020).....	17
<b>Figure 12:</b> Rainfall at Environment Agency rain gauges across Derbyshire 6th to 9th November 2019 (mm per hour) .....	18
<b>Figure 13:</b> River flows across Derbyshire 7th to 11th November 2019.....	19
<b>Figure 14:</b> Matlock Park Flooded 8th November 2019 .....	20
<b>Figure 15:</b> Boris Johnson PM mops out Specsavers in Matlock November 2019 ...	20
<b>Figure 16:</b> Matlock shopping area flooded 8th November 2019 .....	20
<b>Figure 17:</b> Matlock flooded 8th November 2019.....	21
<b>Figure 18:</b> Swadlincote Flooded .....	21
<b>Figure 19:</b> Main Street Rosliston Flooded .....	22
<b>Figure 20:</b> Belper Town Football Club, Club House Flooded .....	22
<b>Figure 21:</b> Chisworth Flooded .....	23
<b>Figure 22:</b> All Saints Church South Wingfield.....	23
<b>Figure 23:</b> Ambergate Flooded.....	24
<b>Figure 24:</b> Eckington Road, Staveley Flooded .....	24
<b>Figure 25:</b> Derby Road, Chesterfield Flooded .....	25
<b>Figure 26:</b> Horns Bridge, Chesterfield Flooded .....	25
<b>Figure 27:</b> Matlock after the flood 9th November 2019.....	26
<b>Figure 28:</b> Rainfall at Environment Agency rain gauges across Derbyshire 13th to 15th November 2019 (mm per hour) .....	27
<b>Figure 29:</b> River flows across Derbyshire 13th to 15th November 2019.....	28



## Executive Summary

This Flood Investigation Report has been produced by Derbyshire County Council (the Council) fulfilling duties under the Flood and Water Management Act (FWMA, 2010) as the Lead Local Flood Authority (LLFA) for Derbyshire.

Section 19 of the FWMA states that on becoming aware of a flood within their local area the LLFA should investigate the flooding event to an extent considered necessary or appropriate.

The Council has produced a LLFA policy which stipulates locally agreed thresholds for undertaking a Section 19 flood investigation in Derbyshire. The LLFA has deemed it necessary to carry out a formal investigation into the flood incident which occurred across Derbyshire between 7<sup>th</sup> and 20<sup>th</sup> November 2019, as it met locally agreed criteria.

The flooding occurrences were predominately split into 2 major events between this period, namely the 8<sup>th</sup> November 2019 and the 14<sup>th</sup> November 2019.

The rainfall, during the first two weeks of November 2019, was very intense and the subsequent surface water and fluvial flooding overwhelmed the highway drainage systems, public sewers and river capacities, causing widespread flooding across the County, including flooding to numerous properties, businesses and critical infrastructure (both road and rail). Approximately 325 residential properties and 59 commercial properties all flooded internally during this period.

Following the event there are some actions that are outlined in the recommendations section for all the risk management authorities involved in flood risk management to potentially progress.

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## 1. Introduction

## **1.1 Section 19 Investigations – Duty to Investigate**

Section 19 of the FWMA states:

- (1) On becoming aware of a flood in its area, a LLFA must, to the extent that it considers it necessary or appropriate, investigate :
  - a. Which RMAs (Risk Management Authority) have relevant flood risk management functions, and
  - b. Whether each of those RMAs has exercised, or is proposing to exercise, those functions in response to a flood event.
- (2) Where an authority carries out an investigation under section 1 (above) it must:
  - a. Publish the results of its investigation, and
  - b. Notify any relevant RMAs.

## **1.2 Derbyshire’s Locally Agreed Criteria for Formal Investigation**

The Council identified local thresholds for formally investigating flood incidents across Derbyshire within LLFA policy. Within this policy each characteristic of flooding has had a threshold pre-determined as to when a formal flood investigation will be triggered within Derbyshire.

- **Number of properties internally flooded** - An event where records or anecdotal evidence shows that five or more residential properties, or two or more non-residential properties (industrial/commercial) affecting employment, have been internally flooded.
- **Critical infrastructure impacted by the flood** - An event which leads to a protracted impact on a key utility service (water, sewage treatment, electricity distribution, gas distribution, telecommunications, rail network, strategic road network) in excess of 12 hours before restoration of the service.

More information regarding the LLFA policy and local thresholds can be found online at <http://www.derbyshire.gov.uk/environment/flooding/default.asp>.

A formal investigation into the flood incident across Derbyshire between 7<sup>th</sup> and 20<sup>th</sup> November 2019 has been undertaken, because the event triggered the locally agreed flooding ‘characteristics’ as follows:

- According to anecdotal evidence, confirmed by flood investigation questionnaires, photographic records and other methods demonstrated the threshold for greater than two commercial properties internally flooded was exceeded.
- According to anecdotal evidence, confirmed by flood investigation questionnaires, photographic records and other methods demonstrated the threshold for greater than five residential properties internally flooded was exceeded.

Critical infrastructure was also impacted by the flood, there was widespread highway flooding across the county that disrupted travel by car, coach and bus across the whole area. The A6 was closed for long periods of time and the rail network was also closed near Draycott for a few days causing severe disruption and delays.

### ***1.3 Purpose of this report***

This report summaries the extent, flood mechanism and impact of the flooding across Derbyshire between 7<sup>th</sup> and 20<sup>th</sup> November 2019. It is not intended to identify which individual properties flooded, nor to provide an exhaustive hydraulic analysis of the event. The recommendations are there to help the RMA's learn lessons from the event and to move forward with management of the flood risk in the future.

A list of recommendations is included in the report which is intended to try and ensure that the flood management, warning and response to events are all continually improved going forward. All the RMAs will be involved in taking forward these recommendations.

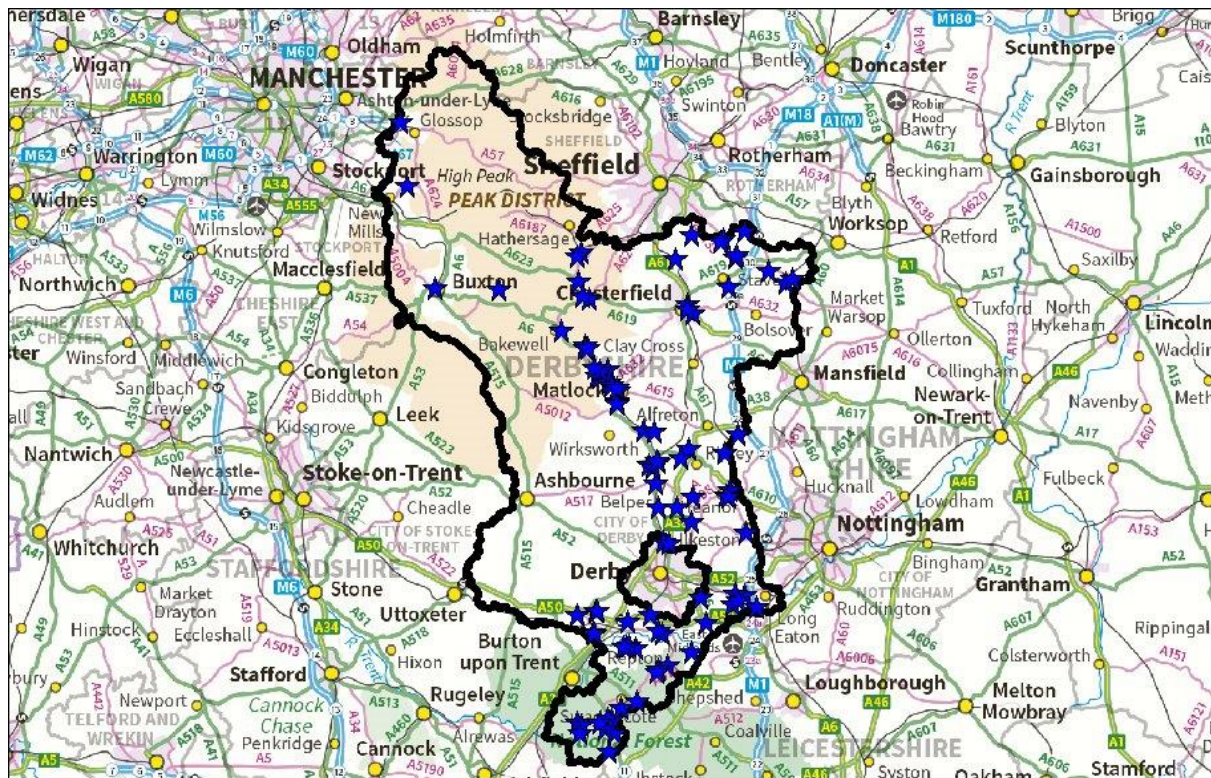
## **2. Background**

### ***2.1 Location***

Derbyshire has a very varied topography, geology and land characteristics, from the rural, rolling hills and uplands extending north of Derby throughout the Peak District, to the south and east of the county, which are much lower and flat, around the valley of the River Trent.

Although a good proportion of Derbyshire is predominately rural, it is also has a number of large towns (e.g. Chesterfield/Matlock/Belper etc.) smaller settlements and urban conurbations, and a good proportion of the flooding was centred around these areas. However it should also be noted, that large areas of rural and farmland were also flooded, which had a significant impact on landowners and farmers across the County.

Figure 1 indicates where the main areas of urban flooding were located, which confirms that the flooding was widespread throughout the County.

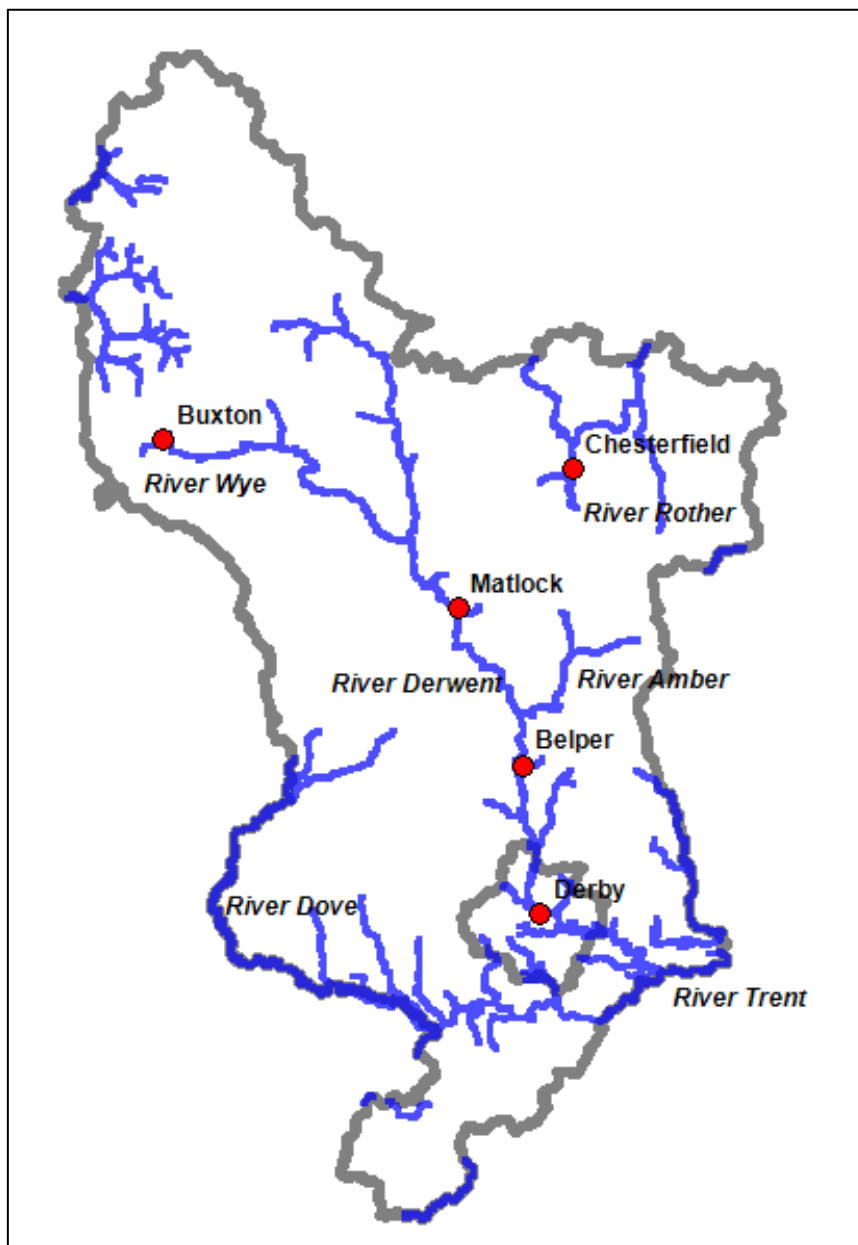


**Figure 1:** Location plan of flooding across Derbyshire between 7th and 20th November 2019

## 2.2 Local Drainage/River System

The river network in Derbyshire is made up of a number of different river catchments, with the Derwent and Rother catchments, which were predominantly affected by the flooding event in November 2019. The River Derwent flows from North to South, discharging into the River Trent, and the River Rother flows from South to North, discharging into the River Don.

Each of the main rivers indicated in Figure 2 also has several other minor tributaries and ordinary watercourses, all of which were affected by the flooding event as well.



**Figure 2:** Map showing the main rivers of Derbyshire

The public sewer network which carries both the foul and surface water flows across the county, is managed by 3 different water companies, namely Severn Trent Water, United Utilities and Yorkshire Water. Severn Trent Water covers the largest proportion of Derbyshire covering all central and southern parts, with Yorkshire Water covering North East Derbyshire and United Utilities covering a small part in the north-west of the county.

The remaining drainage networks which include highway drainage, private drainage (culverted watercourses, etc.) and underground soughs (to drain old mine-workings) are also present throughout the county, and again were all affected to varying degrees by the storm events in November 2019.

## 2.3 Historical Flood Information

Derbyshire has a long history of flooding across the whole of the County, and to list all of the previous individual occurrences would unduly lengthy. However, it is worth noting that events of this nature which affect large parts of the county remain fairly infrequent. The most recent notable flooding events, which did affect large parts of the county was back in 2007 and 2000. This is reflected in some of the highest recorded River levels on some of the Rivers during both of these flood events (River Derwent, River Trent, River Rother, River Amber, River Erewash).

## 3. Flooding between 7<sup>th</sup> and 20<sup>th</sup> November 2019

### 3.1 Information Prior to the Event

We received numerous Flood Warnings from the Environment Agency and these are shown in Figure 3 below.

FROM	SUBJECT	RECEIVED
<b>lder</b>		
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Catton, Barton under Needwood and Branston Water Park	Sat 16/11/2019 15:09
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Cavendish Bridge	Sat 16/11/2019 11:42
floodline@environment-agency.gov.uk	Flood Warning: River Dove and Egginton Brook at Egginton	Fri 15/11/2019 01:18
floodline@environment-agency.gov.uk	Flood Warning: River Amber at Ambergate	Thu 14/11/2019 22:06
floodline@environment-agency.gov.uk	Flood Warning: River Mease at Clifton Campville, Harlaston and Croxall	Thu 14/11/2019 21:40
floodline@environment-agency.gov.uk	Flood Warning: River Doe Lea at Bolsover Coking Works and Netherthorpe	Thu 14/11/2019 20:01
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Church Wilne and Wilne Lane	Thu 14/11/2019 19:49
floodline@environment-agency.gov.uk	Flood Warning: River Erewash at Langley Mill	Thu 14/11/2019 16:32
floodline@environment-agency.gov.uk	Flood Warning: River Erewash at Ilkeston	Thu 14/11/2019 16:28
floodline@environment-agency.gov.uk	Flood Warning: Bottle Brook at Lower Kilburn and Coxbench	Thu 14/11/2019 15:57
floodline@environment-agency.gov.uk	Flood Warning: River Mease at Measham and Netherseal	Thu 14/11/2019 14:43

FROM	SUBJECT	RECEIVED
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Cavendish Bridge	Wed 13/11/2019 03:46
floodline@environment-agency.gov.uk	Flood Warning: River Wye at Ashford in the Water, Church Street area	Tue 12/11/2019 12:58
floodline@environment-agency.gov.uk	Flood Warning: River Wye at Ashford in the Water	Mon 11/11/2019 21:17
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Swarkestone	Sun 10/11/2019 23:37
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Willington, Repton Road area	Sun 10/11/2019 23:36
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Barrow upon Trent	Sun 10/11/2019 23:32
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Twyford	Sat 09/11/2019 19:40
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Barrow upon Trent	Sat 09/11/2019 10:26
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Willington, Repton Road area	Sat 09/11/2019 10:25
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Swarkestone	Sat 09/11/2019 10:25
floodline@environment-agency.gov.uk	Flood Warning: River Trent at Cavendish Bridge	Sat 09/11/2019 07:59
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Little Chester, Eastgate and Cattle Market	Fri 08/11/2019 16:48
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Derby City Water Treatment Works	Fri 08/11/2019 16:33
floodline@environment-agency.gov.uk	Flood Warning: Rivers Trent and Derwent at Shardlow and Great Wilne	Fri 08/11/2019 16:14
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Draycott	Fri 08/11/2019 16:09
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Ambaston	Fri 08/11/2019 16:04
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Elvaston Castle Country Park	Fri 08/11/2019 14:08
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Duffield Church and Village Hall	Fri 08/11/2019 08:31
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Belper	Fri 08/11/2019 08:22
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Whatstandwell including Cromford and Lea Wood	Fri 08/11/2019 08:07
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Raynesway	Fri 08/11/2019 07:13
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Allestree Ford Lane Bridge and Darley Abbey Park	Fri 08/11/2019 06:47
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Ambaston Lane	Fri 08/11/2019 06:41
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Matlock Bath	Fri 08/11/2019 03:01
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Church Wilne and Wilne Lane	Fri 08/11/2019 02:05
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Ambergate	Fri 08/11/2019 01:09
floodline@environment-agency.gov.uk	Flood Warning: River Amber at Ambergate	Thu 07/11/2019 21:52
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Ambergate	Thu 07/11/2019 21:10
floodline@environment-agency.gov.uk	Flood Warning: River Wye at Wye Bank and Milford at Bakewell	Thu 07/11/2019 19:23
floodline@environment-agency.gov.uk	Flood Warning: River Wye at Ashford in the Water, Church Street area	Thu 07/11/2019 19:23
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Darley Bridge	Thu 07/11/2019 18:34
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Bamford including Mytham Bridge	Thu 07/11/2019 18:32
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Baslow and Bubnell	Thu 07/11/2019 17:04
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Hathersage	Thu 07/11/2019 16:58
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Churchtown and Northwood	Thu 07/11/2019 16:53
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Calver	Thu 07/11/2019 16:42
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Grindleford	Thu 07/11/2019 16:42
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Chatsworth	Thu 07/11/2019 16:42
floodline@environment-agency.gov.uk	Flood Warning: Rivers Wye and Derwent at Rowsley	Thu 07/11/2019 16:39
floodline@environment-agency.gov.uk	Flood Warning: River Derwent at Darley Dale	Thu 07/11/2019 16:19
floodline@environment-agency.gov.uk	Flood Warning: River Rother at Staveley Business Centre	Thu 07/11/2019 15:27
floodline@environment-agency.gov.uk	Flood Warning: River Rother at Renishaw	Thu 07/11/2019 15:24
floodline@environment-agency.gov.uk	Flood Warning: River Doe Lea at Bolsover Coking Works and Netherthorpe	Thu 07/11/2019 14:26
floodline@environment-agency.gov.uk	Flood Warning: River Rother at Tapton	Thu 07/11/2019 13:11

**Figure 3:** Flood Warnings issued by the Environment Agency for Derbyshire during November 2019

Weather warnings and Flood guidance statements prior to both events are shown below in Figures 4 and 5.

Unread		Search Flood Guidance Statements (Ctrl+E)	Current F
FROM	SUBJECT	RECEIVED	
Date: Older			
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - YELLOW: Surface Water, River - 10:30hrs Friday 22 November 2019		Fri 22/11/2019 12:13	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River - 15:00hrs Friday 15 November 2019		Fri 15/11/2019 15:15	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River - 10:30hrs Friday 15 November 2019		Fri 15/11/2019 10:58	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 14:00hrs Thursday 14 November 2019		Thu 14/11/2019 14:02	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 10:30hrs Thursday 14 November 2019		Thu 14/11/2019 12:06	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 15:00hrs Wednesday 13 November 2019		Wed 13/11/2019 15:06	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 14:00hrs Tuesday 12 November 2019		Tue 12/11/2019 15:25	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 10:30hrs Tuesday 12 November 2019		Tue 12/11/2019 10:54	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 15:30hrs Monday 11 November 2019		Mon 11/11/2019 16:22	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 10:30hrs Monday 11 November 2019		Mon 11/11/2019 13:28	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 15:30hrs Sunday 10 November 2019		Mon 11/11/2019 10:31	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 10:30hrs Saturday 09 November 2019		Sat 09/11/2019 11:00	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River. YELLOW: Surface Water - 15:30hrs Friday 08 November 2019		Fri 08/11/2019 15:39	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River - 10:30hrs Friday 08 November 2019		Fri 08/11/2019 10:42	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: River, Surface Water - 10:30hrs Thursday 07 November 2019		Thu 07/11/2019 16:14	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - AMBER: Surface Water. YELLOW: River - 00:30hrs Thursday 07 November 2019		Thu 07/11/2019 08:10	
Emergency Planning (Economy Tra... FW: Flood Guidance Statement - YELLOW: River, Surface Water - 10:30hrs Wednesday 06 November 2019		Wed 06/11/2019 16:27	
Emergency Planning (Economy Tra... FW: Flood Advisory Service teleconference minutes - 06 November at 1400h		Wed 06/11/2019 16:24	

**Figure 4:** Flood Forecasting Centre Flood Guidance Statements for Derbyshire November 2019

Unread		Search Weather Warnings (Ctrl+E)	Current F
FROM	SUBJECT	RECEIVED	
Date: Older			
Emergency Planning (Economy Transport and Environment) FW: Message From The Met Office Advisor - East Midlands		Fri 22/11/2019 12:12	
Emergency Planning (Economy Transport and Environment) FW: Updated Information from the Met Office Advisor - Medium Impacts Yellow Warni...		Thu 14/11/2019 12:04	
Met Office Met Office Yellow Rain Warning Updated		Thu 14/11/2019 10:37	
Met Office Met Office Yellow Rain Warning Updated		Thu 14/11/2019 10:28	
Met Office Met Office Yellow Rain Warning Updated		Wed 13/11/2019 21:52	
Emergency Planning (Economy Transport and Environment) FW: Updated Information from the Met Office Advisor - MEDIUM Impacts Possible Acro...		Wed 13/11/2019 13:12	
Met Office Met Office Yellow Rain Warning Updated		Wed 13/11/2019 10:55	
Emergency Planning (Economy Transport and Environment) FW: Updated Information from the Met Office Advisor - Yellow Warnings for Wet Weat...		Tue 12/11/2019 12:37	
Met Office Met Office Yellow Rain Warning Updated		Tue 12/11/2019 10:31	
Emergency Planning (Economy Transport and Environment) FW: Message from the Met Office Advisor - Updated Yellow Warning of Rain Today an...		Mon 11/11/2019 13:23	
Met Office Met Office Yellow Rain Warning Updated		Mon 11/11/2019 11:31	
Emergency Planning (Economy Transport and Environment) FW: Message from the Met Office Advisor (EAST MIDLANDS) - Renewed concerns regar...		Sun 10/11/2019 14:44	
Met Office Yellow warning of rain affecting East Midlands		Sun 10/11/2019 11:28	
Met Office Met Office Yellow Rain Warning Issued		Sun 10/11/2019 11:28	
Met Office Yellow warning of rain affecting East Midlands		Sat 09/11/2019 05:26	
Emergency Planning (Economy Transport and Environment) FW: Updated Information from the Met Office Advisor - Weather Outlook Over the We...		Fri 08/11/2019 11:24	
Met Office Met Office Amber Rain Warning Updated		Thu 07/11/2019 15:10	
Emergency Planning (Economy Transport and Environment) FW: Updated Information from the Met Office Advisor - Amber and Yellow Warnings A...		Thu 07/11/2019 11:48	
Met Office Met Office Amber Rain Warning Updated		Thu 07/11/2019 10:33	
Met Office Met Office Yellow Rain Warning Updated		Thu 07/11/2019 10:31	
Emergency Planning (Economy Transport and Environment) FW: Update from the Met Office Advisor (EAST MIDLANDS) - Escalation of the yellow w...		Thu 07/11/2019 08:02	

**Figure 5:** Met Office Weather Warnings for Derbyshire November 2019

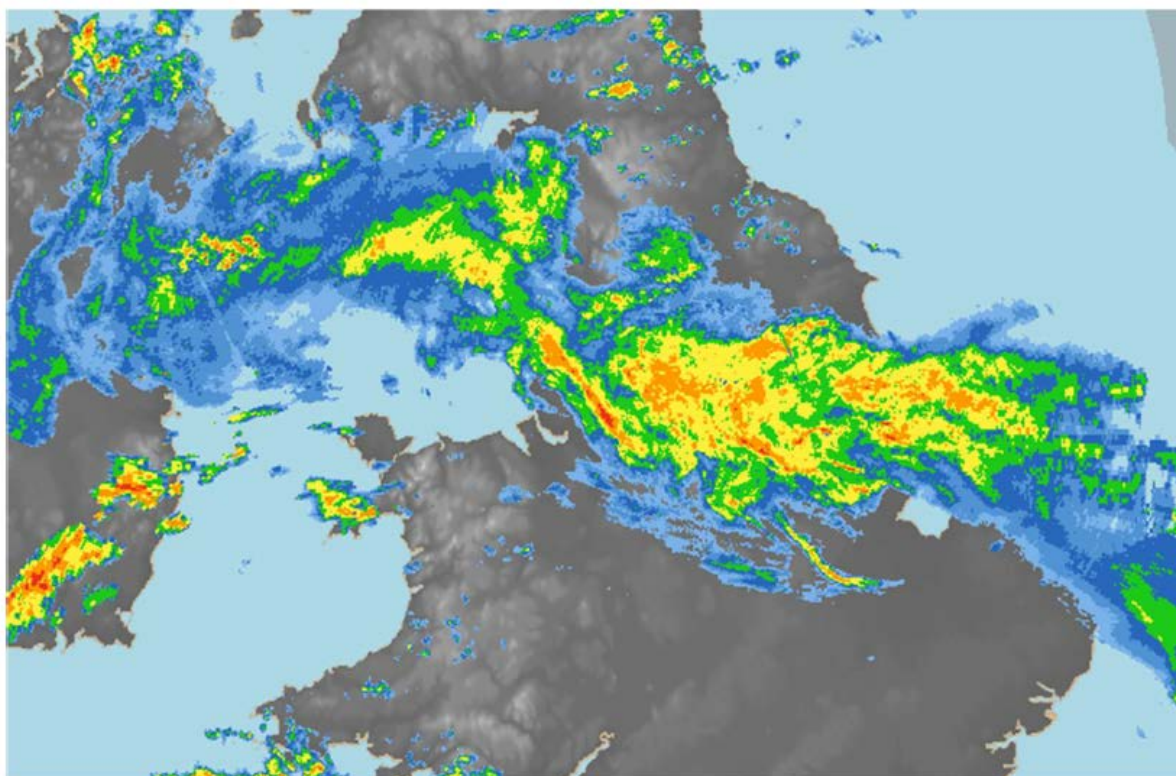
Details for the Flood Guidance Statement can be found at this website;  
<http://www.fcc-environment-agency.metoffice.gov.uk/services/guidance.html>

Details for Met Office Weather warnings can be found at this website;  
<https://www.metoffice.gov.uk/weather/warnings-and-advice/uk-warnings/#?date=2020-06-03>

Details for Environment Agency Flood Warnings can be found at this website;  
<https://flood-warning-information.service.gov.uk/warnings>

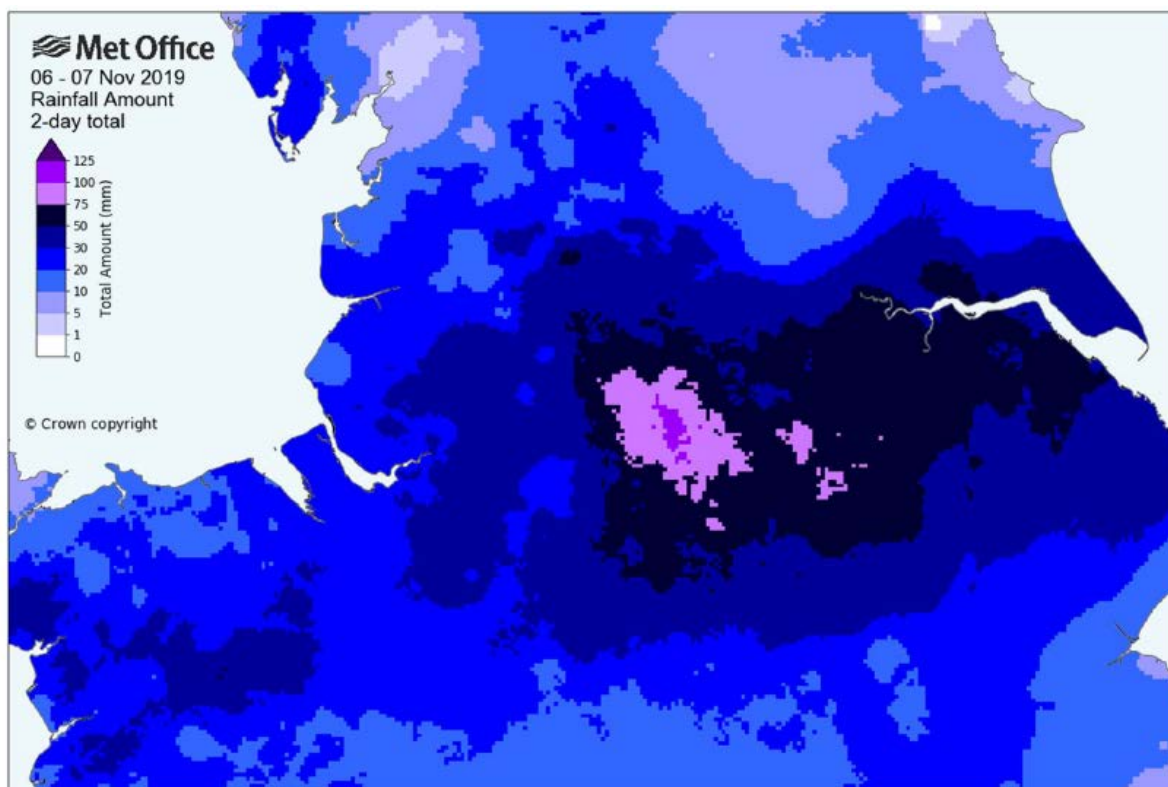
Figure 6 below shows the rain-radar image at 1200 UTC 7 November 2019 which depicts the persistent heavy rainfall across the midlands. The front remained largely stationary from around 0300 UTC 7th to 0300 UTC 8th November in this location.





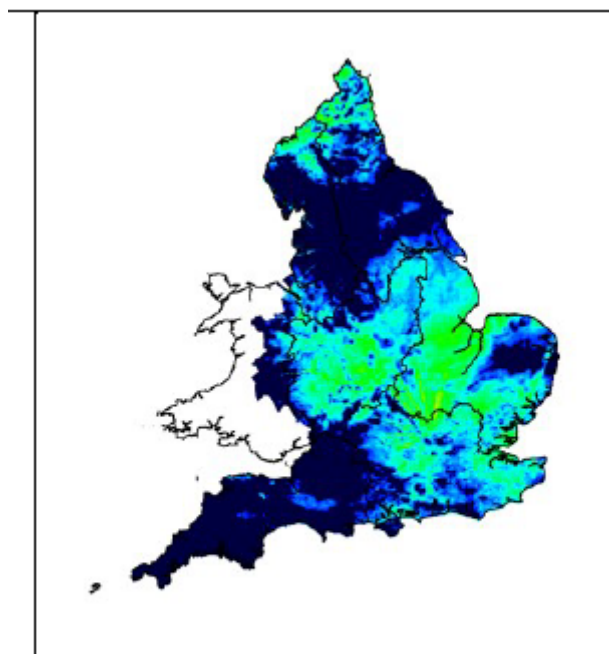
**Figure 6:** Rain-radar image at 1200 UTC 7 November 2019 (Met Office, 2020)

Below Figure 7 shows the two day total rainfall for 6<sup>th</sup> and 7<sup>th</sup> November before the first wave of flooding on 8<sup>th</sup> November 2019.



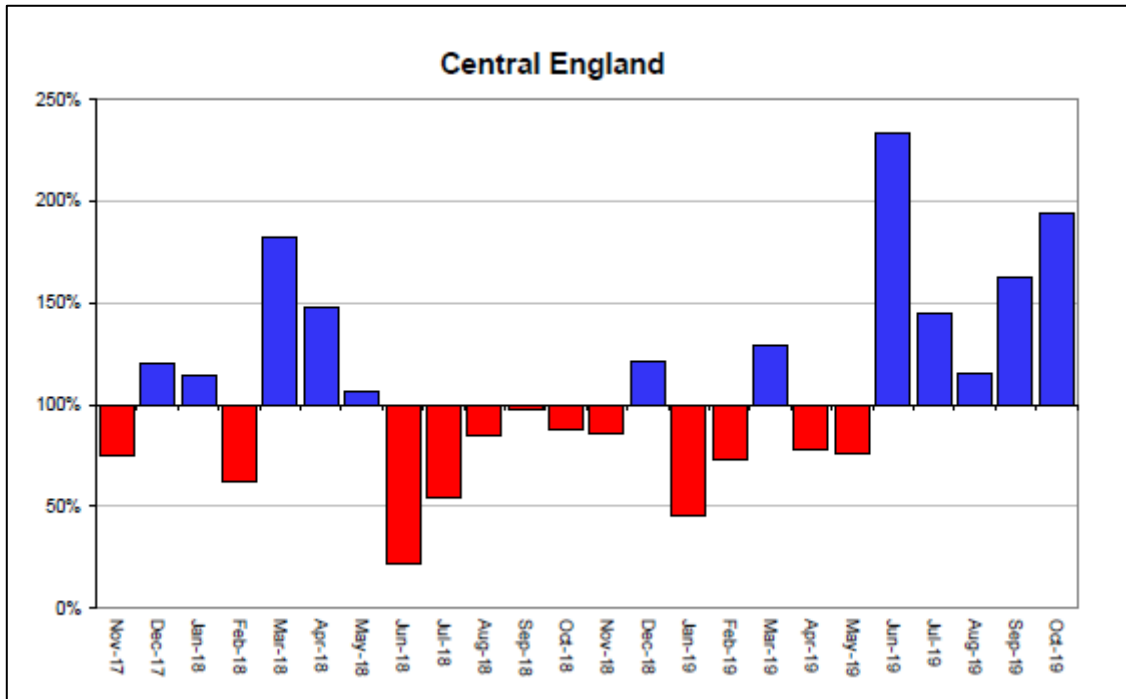
**Figure 7:** Rainfall total for 6th and 7th November 2019 (Met Office, 2020)

“The summer and autumn so far (June-September 2019) have been exceptionally wet in northern, central and eastern England, resulting in widespread and severe flooding. In the summer, localised but severe flooding occurred in the western Peak District from late July to early August. In October, the jet stream adopted an anomalous southern track propelling a series of cyclonic systems across the UK. The prolonged and persistent rainfall contributed to substantial rainfall totals in many regions and, in conjunction with saturated soils, many catchments were susceptible to flooding. Notable rainfall on 7th November prompted exceptionally high river flows in central and northern England, with a number of catchments in Derbyshire recording their highest ever peak flows.” (Centre for Ecology and Hydrology (CEH), December 2019)

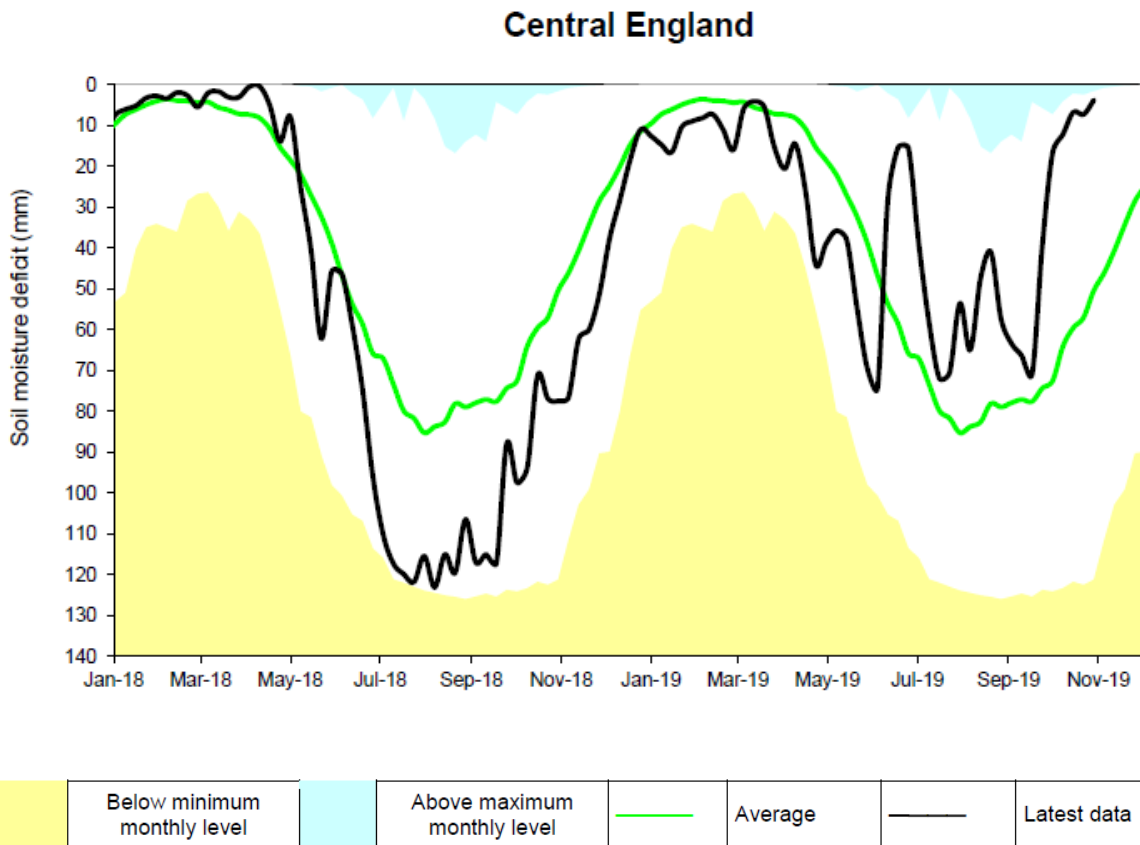


October 2019

**Figure 8:** UK Rainfall, June 2019 (Black and blue is largest rainfall total)



**Figure 9:** Rainfall compared to long term average blue is above and red is below (EA, 2020)



**Figure 10:** Soil moisture deficit compared to long term average (Environment Agency 2020)

Central England received 194% of long term average rainfall in October 2019. (EA Water Situation Report, October 2019) Autumn 2019 recorded as the 5<sup>th</sup> wettest on record in the UK. (EA, 2020)

From the above graphs and maps it can clearly be seen that the antecedent (prior to the main events in the weeks or months preceding it) conditions before November and including November itself were well above the long term average for both rainfall and soil moisture deficit. These figures especially the soil moisture deficit being 0mm in November 2019, explain the magnitude of the flooding that occurred across Derbyshire and the surrounding counties in November. The 0 mm of soil moisture deficit means that the soil was completely saturated with water in November 2019, which in turn means that it had no capacity to absorb any water, so any further rain that fell, would run straight off the surface of the soil and into watercourses or create surface water flooding in the locality.

### ***3.2 Description of the Events***

Between 7<sup>th</sup> and 20<sup>th</sup> November 2019 approximately 325 residential properties and 59 commercial properties all flooded internally.

The autumn of 2019 was the wettest since records began in England. This was then followed by rainfall throughout October which was above or close to average across the whole of Derbyshire, which meant that before the heavy rainfall events that fell during the first half of November arrived, most of the catchments in the county were close to fully saturated. This meant that when the rainfall fell in November, most of it, if not all of it, ran straight off the land surface and directly into the rivers and watercourses.

The two sub sections, that follow, describe the two separate flood events that caused wide spread flooding in Derbyshire on and around the 7<sup>th</sup> and 14<sup>th</sup> November 2019 with some locations being unfortunate to flood twice during November 2019.

To help communities and businesses prepare for flooding, the Environment Agency provides a robust nationally consistent Flood Warning Service. The Environment Agency monitor river levels 24 hours a days and issue flood alerts and warnings in line with detailed procedures for the areas forecasted to be effected, as well as undertaking operational activities to minimise the impact of heavy rainfall. From 7 to 16 November 2019, the Environment Agency issued 13 flood alerts and 43 warnings to areas within the Derbyshire County Council boundary (see Figure 9 below). During the period from 7-16 November 2019 approximately 1900 properties were protected by flood defences across Derbyshire.

<b>Table 3. Flood Alerts and Warnings issued within Derbyshire County Council boundary: 7-16 November 2019</b>	<b>Number or Percentage</b>
<b>Flood ALERTS Issued</b>	13
People Registered to Receive these Flood ALERTS	1822
People within these ALERTS Successfully Warned	1678
% Customers Successfully Warned within these ALERTS	92%
<b>Flood WARNINGS Issued</b>	43
People Registered to Receive these Flood WARNINGS	5810
People within these WARNINGS Successfully Warned	4431
% Customers Successfully Warned within these WARNINGS	76%

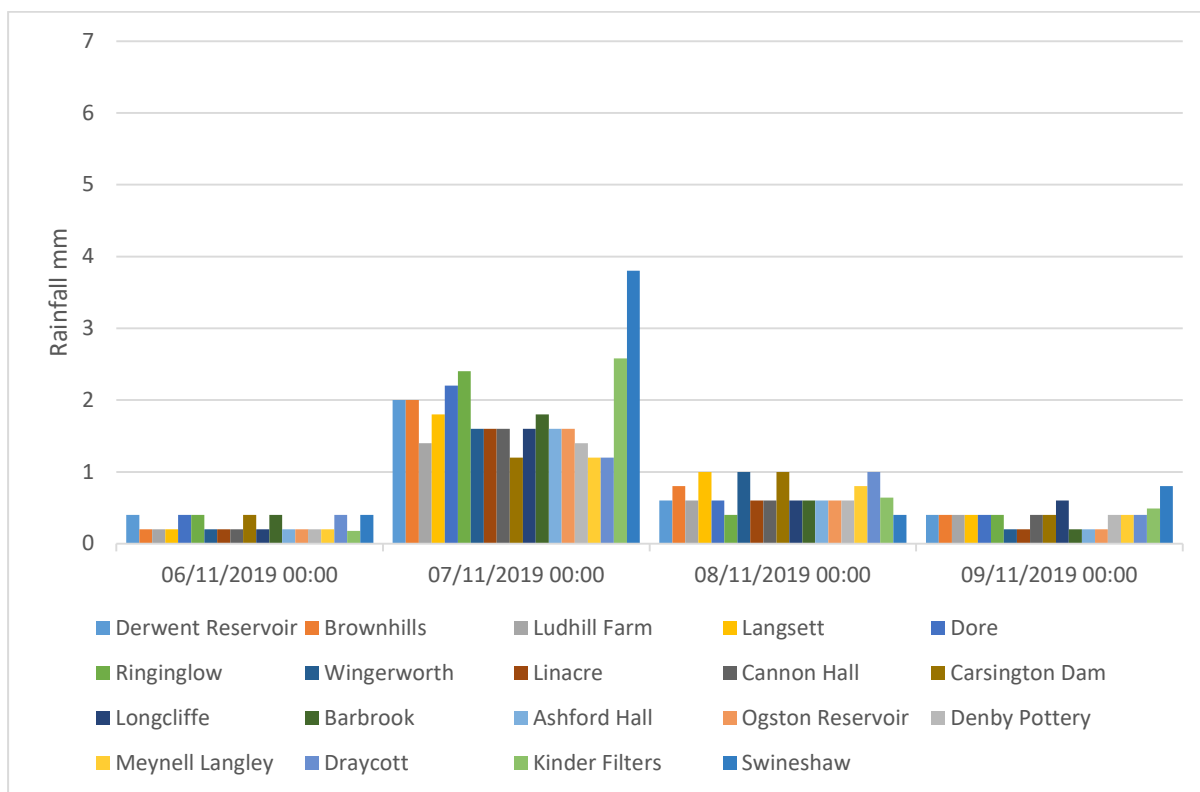
**Figure 11:** Flood Alerts and Warnings (EA, 2020)

The Environment Agency's flood defences along the River Derwent provide protection to 297 houses and businesses in Matlock and 1100 in Derby City. So if these were not in place and well managed and maintained this incident could have been much worse.

### 3.21 7<sup>th</sup>/8<sup>th</sup> November 2019

On 7 November 2019, a month's worth of rain fell over the upper Derwent catchment in Derbyshire. With the ground already saturated following one of the wettest autumns on record, this resulted in extensive flooding across the Derbyshire area. Consequently, Derbyshire Police declared a major incident at 05:25 hrs on 8 November 2019. In the following days, further intense rainfall caused additional surface water and fluvial (river) flooding.

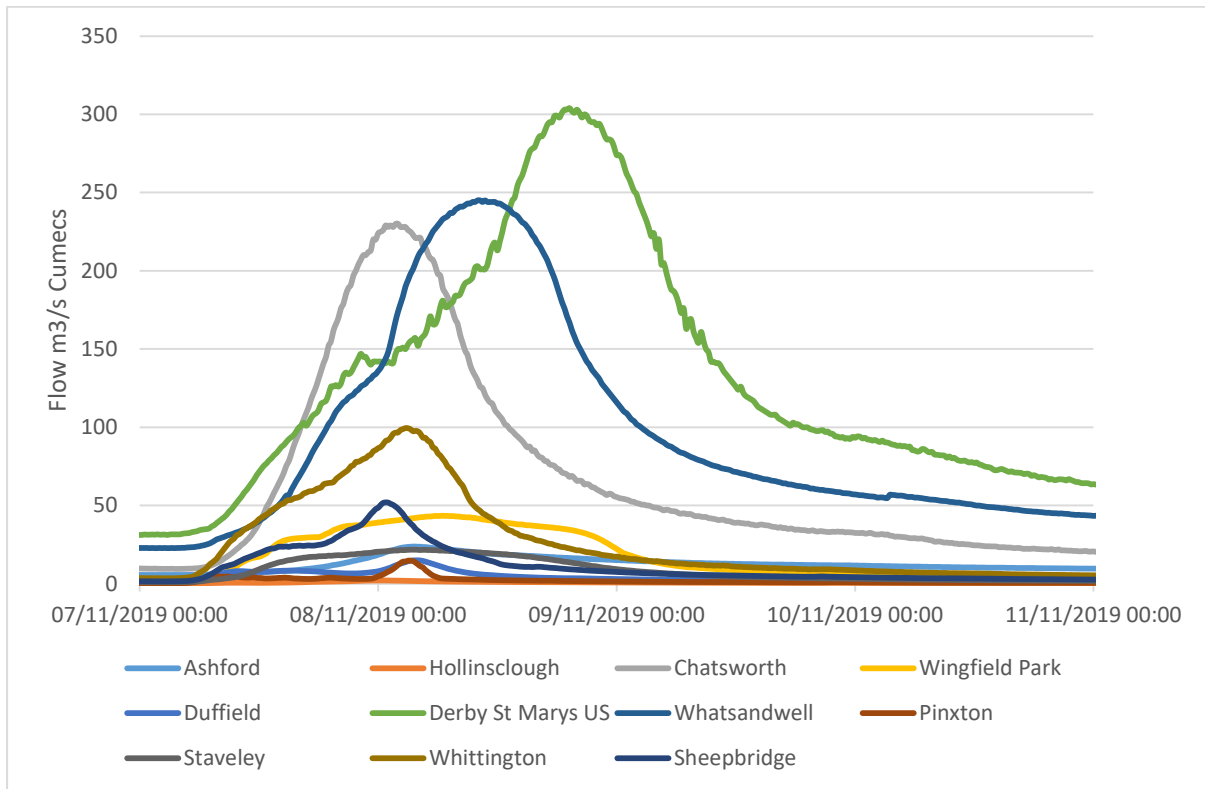
Figure 12 shows the rainfall recorded at all the Environment Agency rain gauges across Derbyshire from 6<sup>th</sup> to 9<sup>th</sup> November 2019.



**Figure 12:** Rainfall at Environment Agency rain gauges across Derbyshire 6th to 9th November 2019 (mm per hour)

The majority of the flooding on 7<sup>th</sup> and 8<sup>th</sup> was as a direct result of fluvial flooding. Fluvial flooding is where a watercourse floods as it cannot contain the water flowing along within its banks and so it floods the land around it.

The river gauged flows and levels across Derbyshire are shown in Figure 13 for 7<sup>th</sup> to 11<sup>th</sup> November.



**Figure 13:** River flows across Derbyshire 7th to 11th November 2019

The River Derwent was the largest river that caused the most flooding issues on 7<sup>th</sup> and 8<sup>th</sup> and below in Figures 14 to 27 are some photos of the flooding. The river levels across the county created new records, some of which were the highest for 60 years as a result of the exceptional rainfall.



**Figure 14:** Matlock Park Flooded 8th November 2019



**Figure 15:** Boris Johnson PM mops out Specsavers in Matlock November 2019



**Figure 16:** Matlock shopping area flooded 8th November 2019





**Figure 17:** Matlock flooded 8th November 2019



**Figure 18:** Swadlincote Flooded



**Figure 19:** Main Street Rosliston Flooded



**Figure 20:** Belper Town Football Club, Club House Flooded



**Figure 21:** Chisworth Flooded



**Figure 22:** All Saints Church South Wingfield



**Figure 23:** Ambergate Flooded



**Figure 24:** Eckington Road, Staveley Flooded



**Figure 25:** Derby Road, Chesterfield Flooded



**Figure 26:** Horns Bridge, Chesterfield Flooded



**Figure 27:** Matlock after the flood 9th November 2019

Summary of river level information from Environment Agency post flood event;

- 08/11/2019 @ Chatsworth river gauge saw 5.16m. This is the highest we have on record (dating back to 1969)
- 08/11/2019 @ Matlock river gauge reached 4.8m, slightly higher than what it reached in 2000. This is the highest since 1965 when it reached 5.18m (bearing in mind land use and presence of defences would have been different back then)
- 08/11/2019 @ Derby St Marys reached 3.35m, again slightly higher than 2000. This is the highest we have on record (dating back to 1983)
- 08/11/2019 @ Church Wilne reached 2.51m. Records go back to 1973 and only 2000 beat that level in this period – it reached 2.52m

The water levels in the main rivers throughout the county remained high for about a week, which is why when a second band of exceptionally heavy rain arrived on 14<sup>th</sup> November in the south of Derbyshire further flooding occurred.

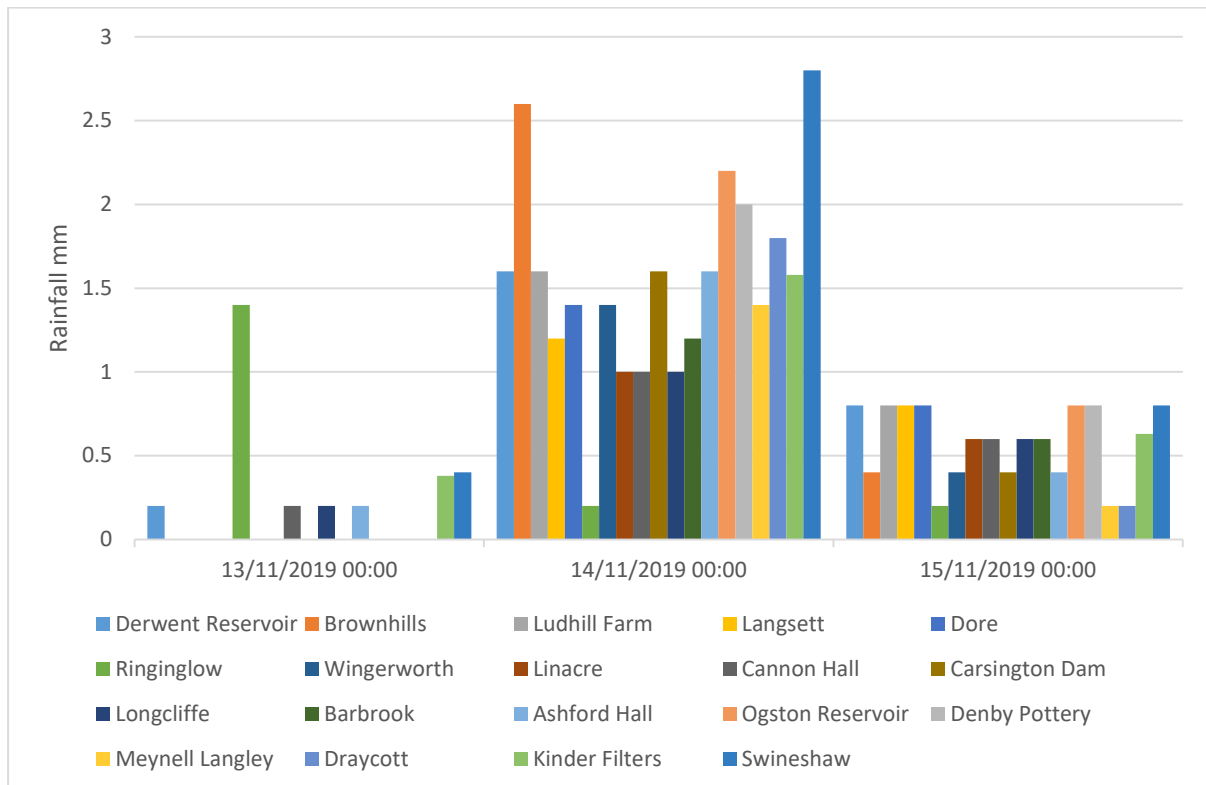
### **3.22 14<sup>th</sup> November 2019**

The flooding on 14<sup>th</sup> November mainly impacted the southern part of the county with surface water flooding as the rainfall was intense but the water levels in the main rivers had all receded (Figures 28 and 29).

## FLOOD INVESTIGATION REPORT – JULY 2020

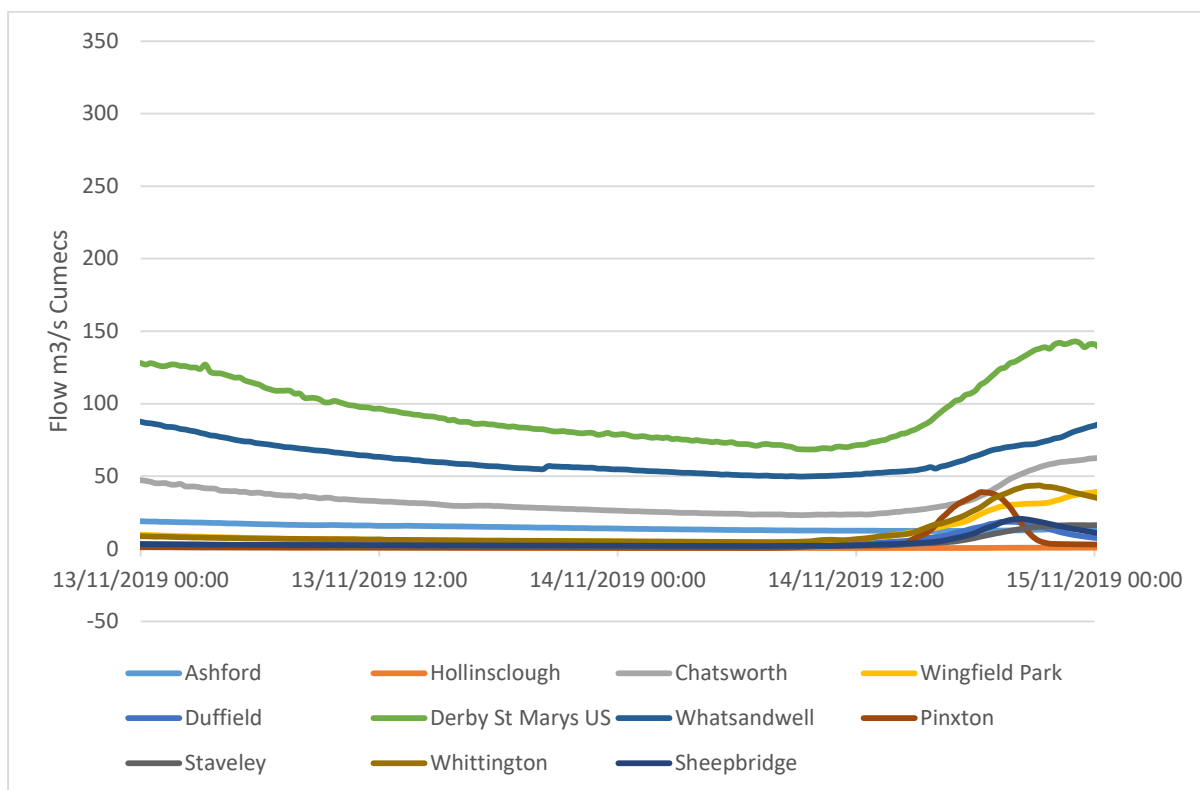
Other parts of the county including Matlock also flooded on the 14th November 2019, because the river levels were still very high, following the floods on 7<sup>th</sup> and 8<sup>th</sup>. The drainage outfalls were surcharged and therefore surface water could not get away and so water backed up the drainage systems and flooded the town centre. This was also exacerbated by the surface water run-off from the extensive impermeable areas in the town.

The water that caused the flooding on 14<sup>th</sup> flowed and drained away as soon as the rain stopped and therefore it was only around for a matter of hours rather than the week that the fluvial flooding was after the 7<sup>th</sup> November floods.



**Figure 28:** Rainfall at Environment Agency rain gauges across Derbyshire 13th to 15th November 2019 (mm per hour)

Figure 28 shows the rain fall recorded at all the Environment Agency rain gauges across Derbyshire from 13<sup>th</sup> to 15<sup>th</sup> November 2019.



**Figure 29:** River flows across Derbyshire 13th to 15th November 2019

Figure 29 shows the river flows gauged by the Environment Agency river gauges across Derbyshire from 13<sup>th</sup> to 15<sup>th</sup> November 2019.

### 3.3 Event Response

The emergency planning team at Derbyshire County Council have summarised the multi-agency response to the flood incident below with both the Tactical and Strategic groups. Details of the objectives of these groups and the key points and actions are included in Appendix 2.

#### Tactical Co-ordinating Group

Agencies represented;

- Derbyshire County Council
- Emergency Planning (Chair)
- Countryside Service
- Communications
- Finance
- Highways
- Flood Risk Team

- Derbyshire Fire and Rescue Service (DFRS)
- East Midlands Ambulance Service (EMAS)
- Derbyshire Constabulary



Amber Valley Borough Council  
Bolsover District Council  
Chesterfield Borough Council  
Derbyshire Dales District Council  
Derby City  
Erewash Borough Council  
High Peak Borough Council  
North East Derbyshire District Council  
South Derbyshire District Council

Chesterfield Royal Hospital  
Met Office  
Environment Agency  
Ministry of Housing Communities & Local Government (MHCLG)

First Tactical Co-ordinating Group called at 2100 on 07-11-2019 and continued to run until the end of the incident on the 15-11-2019

### **Strategic Co-ordinating Group**

Agencies represented;

Derbyshire Constabulary (Chair)  
Derbyshire Fire and Rescue Service (DFRS)  
East Midlands Ambulance Service (EMAS)

Amber Valley Borough Council  
Bolsover District Council  
Chesterfield Borough Council  
Derbyshire County Council  
Derbyshire Dales District Council  
Derby City  
Erewash Borough Council  
High Peak Borough Council  
North East Derbyshire District Council  
South Derbyshire District Council

Public Health England (East Midlands)  
NHS England (NHSE)  
University Hospitals of Derby and Burton NHS Foundation Trust (UHDB)  
Chesterfield Royal Hospital  
Derbyshire Clinical Commissioning Group  
Derbyshire Community Health (DCHS)  
Derbyshire Healthcare NHS Foundation Trust  
Met Office  
Environment Agency  
Highways England  
Ministry of Housing Communities & Local Government (MHCLG)

Ministry of Defence  
Western Power  
Severn Trent Water

First Strategic Co-ordinating Group called at 1230 on 8-11-2019 and continued to run until the end of the incident on the 14-11-2019

The District/Borough and County Council all delivered sandbags to residents and commercial premises that required them during the flood events. The fire service assisted in rescuing people in danger and also pumping out properties which were displaced from their property due to flooding.

### 3.4 Post Event

District and Borough councils provided alternative accommodation to local residents who were displaced due to their properties being flooded

Parish/Town Councils helped local businesses and residents with clean-up operations after the flood events.

The following grants were and are being made available to those who flooded during this flood event.

**Flood Recovery Grant** – up to £2,500 for businesses – in progress now – deadline 30<sup>th</sup> June – 3 Districts eligible – Derbyshire Dales, Amber Valley, South Derbyshire

**Flood Resilience Grants** – up to £5,000 for residential and business – To be opened to applications August 2020 – 4 Districts eligible – Derbyshire Dales Amber Valley, South Derbyshire and Chesterfield

**Emergency Flood Hardship Fund** – up to £300 per business – All affected businesses

Community Hardship Fund

## 4. Summary of Findings

The flooding that occurred across Derbyshire during November 2019 can be summarised as follows.

- The wettest autumn on record coupled with exceptional heavy rainfall in the first half of November, triggered some of the highest recorded river levels in recent times.
- The flooding to both land property and infrastructure was extensive across the whole of Derbyshire in November 2019.
- The main factors that lead to the flooding, was exceptional rainfall between the 7<sup>th</sup> and 20<sup>th</sup> November 2019, falling onto already saturated land across the county, which meant that rivers, watercourses and drainage systems were overwhelmed, beyond their capacity.

- Between 7<sup>th</sup> and 20<sup>th</sup> November 2019 approximately 354 residential properties and 74 commercial properties all flooded internally. This gives a combined total of 428 properties flooded in Derbyshire during this two week period in November 2019.
- Although numerous properties and businesses flooded, 100's more were protected by the Environment Agencies strategic flood defences along the main rivers in Derbyshire, along with other flood mitigation measures and emergency works undertaken by all of the Risk Management Authorities during this incident.

## 5. Responsibilities and Future Actions

There are different responsibilities for flood management depending on the type of flooding. Organisations responsible for flooding are known as Risk Management Authorities (RMAs) and their responsibilities are detailed below. Riparian landowners also have responsibilities for watercourses across their land.

### 5.1 *Derbyshire County Council the Lead Local Flood Authority for Derbyshire*

As an LLFA, the Council has the responsibility to coordinate the management of local flood risk from surface water, ground water and ordinary watercourses in the county.

As stated within the Introduction section, the Council as the LLFA has a duty to investigate flood incidents under Section 19 of the FWMA. Publication of this report is the conclusion of that process.

### 5.2 *Derbyshire County Council Highways*

The Highways department have a responsibility to maintain highways across Derbyshire, and for the installation, operation and maintenance of highway drainage infrastructure which falls within the adopted highway curtilage in Derbyshire.

### 5.3 *Other Risk Management Authorities (RMA)*

There are also other RMA's that have relevant flood risk management responsibilities and functions across Derbyshire as follows:

**Environment Agency** – Is responsible for taking a strategic overview of the management of all sources of flooding, and also has an operational responsibility for managing the risk of flooding from Main Rivers.

**Water Companies (Severn Trent Water, United Utilities and Yorkshire Water)** - Responsible for maintaining public sewers and managing the risk of flooding from the public sewer network.

**Canals and Rivers Trust** - Responsible for managing and maintaining navigable inland waterways (canals and rivers) along with other associated assets (eg reservoirs, locks etc)

**District and Borough Council's** - The district and borough councils have responsibilities to inspect and maintain watercourses on their land, respond to requests for assistance during flood events and have the power, if instructed by Derbyshire County Council, to carry out flood risk management work which will benefit management of surface runoff, groundwater and ordinary water courses.

#### 5.4 Recommended actions

These recommended actions have been written up to help all the risk management authorities to work together to reduce the likely impacts of future flood events. Derbyshire County Council as LLFA will monitor these actions and complete its own actions where resources allow in a timely manner.

Theme	Action By	Recommended Action	Timescale
Flood Mitigation Schemes	LLFA and Environment Agency	Continue to promote and implement flood mitigation schemes across the County. Derbyshire County Council have a number of Flood Mitigation Schemes which are being delivered at present, and also a number of pipeline schemes, which will be taken forward into the Environment Agencies next programme (2021- 2027)	Ongoing
Plans and Strategies	LLFA	Review and update the LLFA's Local Flood Risk Management Strategy	End of 2020
Resilience, Local Resilience Forum and Emergency Planning	LLFA, DCC and Environment Agency	Continue to support the community in the instigation and training of a community-based flood wardens.	Ongoing
Resilience, Local Resilience Forum and Emergency Planning	LLFA, DCC and Environment Agency	Continue to support the community in the production of a community flood plan and provide advice to residents on how to make their properties more resilient. DCC are currently managing the Property Flood Resilience recovery Support Scheme, which can provide grant funding up to £5k towards resilience measures for properties who were flooded in November 2019 and February 2020.	Ongoing
Riparian Owner Responsibilities	LLFA and Environment Agency	Continue to provide advice to owners of drainage systems and watercourses within the catchment area, of their legal	Ongoing

		responsibilities; and recommend appropriate maintenance regimes.	
Highway Maintenance	DCC Highways	Continued routine highway drainage inspection and cleansing of highway drainage assets, including targeting areas of high flood risk	Ongoing
Highway Capital Schemes	DCC Highways	Investigate the possibility of upgrading the highway drainage assets in the areas impacted by flooding by assessing the capacity of the drainage assets, identify any areas with insufficient capacity for draining runoff from the highway and, where this leads to flood risk to properties, consider improvement works.	Ongoing
Water Companies (Maintenance or Capital Schemes)	Severn Trent Water, Yorkshire Water and United Utilities	Continue to work with all RMA's to reduce the risk of flooding from water company	Ongoing
New Developments	Developers	Continue to work with all RMA's to ensure all development is completed in accordance with both Local and National Planning Policy and Technical standards, to ensure no development increases the flood risk.	Ongoing

## 6. Next steps

The recommendations outlined in Section 6 will be followed up by the Flood Management team at Derbyshire County Council on an annual basis and we will continue to work in partnership with all other Risk Management Authorities and Local Communities to try and manage and mitigate the ongoing flood risk across the County, to try and minimise the impact for any future events.

## 7. Conclusion

The Lead Local Flood Authority (Derbyshire County Council) is satisfied that all Risk Management Authorities have exercised, or are proposing to exercise, their respective functions, in response to this flood event (before, during and after).

The LLFA will continue to work with all of the Risk Management Authorities, to try and reduce the flood risk to properties and infrastructure, along with trying to ensure that the community is even more resilient and prepared, should there be further events of this nature in future years.

Communities should be prepared for more similar extreme weather events in the future, and although both the County Council and all other Risk Management Authorities will continue to support Communities and Business, it is also an opportunity for residents and Business, to look at how they can improve their own resilience to flooding in the future.

## 8. Sources of Information

The following documents, reports, records or sources of information have contributed to this report and are available on request:

- Flood Forecasting Centre and Met Office statements and warnings.
- Reports from affected residents.
- Environment Agency data for river levels, river flows and rain gauge data.
- The Met Office for county wide rainfall radar data.

### 8.1 Links to other information on flooding

#### Derbyshire County Council

Flooding Pages

<https://www.derbyshire.gov.uk/environment/flooding/flooding.aspx>

#### National Flood Forum

National Flood Forum website: <https://nationalfloodforum.org.uk/>

#### Gov UK Flood Warning Information Service

Website: <https://flood-warning-information.service.gov.uk/>

Sign up to flood warnings here: <https://www.gov.uk/sign-up-for-flood-warnings>

#### The Flood Hub

Website: <https://thefloodhub.co.uk/>

## 9. Status of Report and Disclaimer Information

This report has been prepared as part of the Council's responsibilities under the Flood and Water Management Act 2010.

The findings of the report are based on a subjective assessment of the information available by those undertaking the investigation and therefore may not include all relevant information. As such it should not be considered as a definitive assessment of all factors that may have triggered or contributed to the flood event.

The opinions, conclusions and any recommendations in this report are based on assumptions made by the Council when preparing this report, including, but not limited to those key assumptions noted in the report, including reliance on information provided by others.

The Council expressly disclaims responsibility for any error in, or omission from, this report arising from or in connection with any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the time of preparation and the Council expressly disclaims responsibility for any error in, or omission from, this report arising from or in connection with those opinions, conclusions and any recommendations.

The Council does not accept any liability for the use of this report or its contents by any third party.

## Appendix 1. Case Studies

### 1.1 Residential property, 7<sup>th</sup> November 2019

The young couple with a small child who had only recently moved in and were planning their wedding when the entire ground floor of their property flooded to a depth of 20cm. The flooding resulted from the intense rainfall and the over land flow that this generated across the neighbouring arable farm into the property through the side and back doors. The residents had to move into temporary accommodation whilst their home was gutted, allowed to dry out and then be refurbished. To date, beginning of May 2020, they are still in temporary accommodation, as the coronavirus has now meant that the contractors cannot complete the work on their property. The Derbyshire County Council Flood Team have been working with the neighbouring farmer to improve his land and water management hopefully reducing the risk of flooding to the cottage from future flood events. We are keeping in touch with the residents and we are always available to the residents of Derbyshire to help with flood related matters.



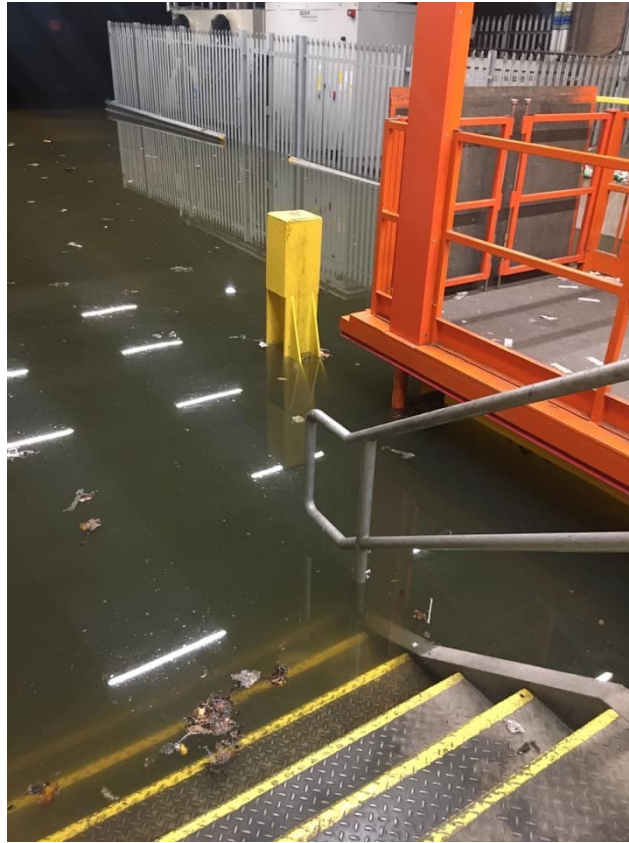




**1.2 Marks and Spencer, Simply Food, Matlock 14<sup>th</sup> November 2019**

The store was flooded from the stock entrance as a result of surface water flooding on 14<sup>th</sup> November 2020. The rainfall was so intense that it overwhelmed the surface water and highway drains and flooded the stores chilling equipment, in the loading area at the back of the store on the Friday morning. Western Power had to turn off the power to the store for safety as the chilling equipment was submerged. The store had to get rid of all of its stock in chillers and freezers as the flood destroyed all the chilling equipment which is located outside at the back of the store. The store closed on Friday lunchtime and did not open again until Sunday morning therefore losing 1 and half days trading. The costs to Marks and Spencer as a result of this flood incident are roughly £231,000 (this is the best estimate) although this will rise as they are currently investigating how best to protect the new chilling equipment from future flood incidents. Please see below a few photographs taken during the event by Marks and Spencer staff, first two are of the flooded chilling equipment and the last is taken from the roof of the store of the street. After the flood event the Derbyshire County Council Flood Team meet with the manager for this store to gather evidence for this report and also to advise on potential ideas for how to protect the cooling equipment from flooding again in the future. We will remain in touch and are always here to help advise businesses on flood related matters.





## Appendix 2: Derbyshire County Council's Emergency Planning Response to the November Flood Events

### **STRATEGIC AIMS AND OBJECTIVES** **Strategic Coordination Group**

#### **Derbyshire Flooding November 2019**

##### **OVERALL AIM:**

**To deliver a multi-agency approach which saves lives, minimises the risk of harm, provides relief and facilitates a new normality, maintaining public confidence in the LRF and partners.**

- To take all reasonable steps to save life, minimise damage to property, minimise risk of disruption to roads, transport and key national infrastructures
- Facilitate evacuation ahead of emergency where possible (NB especially relevant to Ambaston).
- To take all reasonable steps to maximise the safety of all emergency and first responder staff
- To minimise the impact that the flooding will present to Derbyshire (and beyond)
- To plan and prioritise all agencies' activities to enable Derbyshire to recover from the flooding and return to a new normality
- To minimise the potential environmental and health risk from the flooding
- Secure business continuity plans for emergency responders
- Inform the public and maintain confidence by developing shared situational awareness through a common recognised information picture and joint communications plans, which includes the provision of information, advice and, where necessary, warnings to the public
- Facilitate judicial public, technical and other enquiries by ensuring that the rationale for decisions and actions are recorded in line with JESIP (Joint Emergency Services Interoperability Principles)
- Evaluate response and identify lessons to be learned through a review of the strategy and tactical plans and through debrief post-recovery

#### **Summary of Key Points (redacted) taken from TCG meetings**

##### **7<sup>th</sup> November**

EA update 80mm already fallen today, further 10-20mm expected overnight.

Ladybower reservoir full and spilling.

Flood warnings to be issued along the River Derwent through Matlock into Derby.

Chatsworth may reach record levels.

## FLOOD INVESTIGATION REPORT – JULY 2020

Identified issues with road access/egress for all agencies. Comprehensive list to be drawn up. Also concerns for bridges safety, need checking.

Districts/boroughs including Derby City – operational responses including temporary flood barriers and sandbags deployed.

Rolls Royce in Derby carrying out controlled shutdown.

### **7<sup>th</sup> into 8<sup>th</sup> November**

Upper Derwent peaking higher than ever previously – off the scale  
9 flood warnings on Derwent and 3 on Wye

Police reporting 78 incidents so far.

Hady Hill closed, ambulances are still able to access Chesterfield Royal Hospital

Concerns for Grindleford Bridge (Closed)  
21 road closures currently in place

### **8<sup>th</sup> November 0300**

6 more flood warnings on the Derwent  
Square and Compass pub at Darley bridge flooded to window level  
Hady Hill, Chesterfield closed – not passable now. Ambulances can only access from Calow.

Derwent at Matlock Bath nearly overtopping

30 road closures in place

Matlock premises being sandbagged

Western Power may need assistance with sandbagging key assets

### **8<sup>th</sup> November 0900**

Expected peaks on Derwent at Matlock, Derby and Church Wilne between midday and evening.

Concern about Ambaston village being cut-off, surrounded and the defence bund being overtopped. Liaison took place with flood wardens in the village.

40 road closures now in place. Main A6 flooded in places all along Derwent Valley.  
Hady Hill route to hospital now accessible.  
Hornsbridge at Chesterfield flooded.

SCG to take place following this TCG. Request for a Warning and Informing Sub-Group to be set up to manage Communications.

DFRS very little motor boat capacity, requesting assistance from other agencies.

Evacuation taking place of caravan Home Park at Whatstandwell. DFRS involved with DCC emergency planning and social care re temporary accommodation, working with site owners. Some went to family/friends rest were put up in hotels overnight. Some stayed on site but with no power. One needed social care support.

EMAS road closures are causing issues with response times. Possibility may need to relocate ambulance station at Raynesway due to flooding.

Police dealing with incident at Darley Bridge where a body has been found.

Derbyshire Dales busy with sandbags along the Derwent corridor.

North East Derbyshire depot at Eckington flooded.

Rolls Royce have evacuated non-essential personnel.

### **8<sup>th</sup> November 1200**

Concerns on peak levels at Derby City and also at Ambaston.  
Potential for approx. 870 properties at risk.

Looking at specifics re vulnerable people in Ambaston. Liaising with SDDC and flood wardens.

Raynesway Derby, waste treatment centre being sandbagged.

Ambulance station being relocated.

5 bridges across Derwent all shut. Can the bridges be checked and opened to make sandbag distribution easier.

Highways England signage on Motorway advising of travel disruption in Derbyshire.

Babbington Hospital, Belper flooded.

Prime Minister due in Matlock this afternoon. DCC to coordinate with Police.

### **8<sup>th</sup> November 1800**

A52 closed westbound from M1. Derby city Pentagon closed, vehicles stranded.

Major concern re Derby City flooding, if levels rise to 3.5m then existing flood barriers will be overtopped. Need a clear picture of predictions as potentially 1900 properties at risk. Multi-agency teams on the ground to assess.

Flood barriers behind Derby City council house breached.

Need to evacuate Exeter Place.

Decision also needs to be made on evacuation of Ambaston. Would need mountain rescue / water rescue boats / Tractors/JCBs etc. Bund/defence needs monitoring through the evening. People in single storey premises could re locate to 2 storey houses in village. If evacuated could use Days Inn on standby.

### **8<sup>th</sup> November 2200**

No overtopping at Ambaston – 12-14 inches of freeboard.

Elvaston flooding. Shardlow and Draycott not expecting flooding.

Agreed City threat level has passed.

### **9<sup>th</sup> November 0830**

Ambaston cut off but ok. Potential further rain to come Sun/Mon  
Derbyshire Dales looking at Recovery  
Issues of debris in river, bridges, dead animals etc.

Flood warnings to be issued on River Trent now.

### **11<sup>th</sup> November 0900**

Return to business as usual.

### **14<sup>th</sup> November 1100**

Yellow rainfall warning for Derbyshire in place.

1 Flood Warning = Cavendish Bridge, River Derwent

EA forecast worst case scenario (based on rainfall) could be 10 Flood Warnings in place in Derbyshire.

Flood Guidance Statement is Amber for 15<sup>th</sup> November in Derbyshire

A623 at Stoney Middleton is closed due to rock fall.

Possibility of flooding in Pinxton noted.

Property flooding in Baslow and Grindleford has been reported.

### **14<sup>th</sup> November 1600**

Flood warning issued for Lower Kilburn, Duffield.

East Midlands Railway all three routes through Derbyshire will be suspended for at least 24 hours.

### **14<sup>th</sup> November 2000**

All river levels are still rising across the county.

Too many road closures now in place for Derbyshire County Council to list them on their website

### **15<sup>th</sup> November 1000**

All the rivers have now peaked and the levels are dropping.

Highways teams are clearing debris from flooded roads across the county.

Properties flooded in Lower Kilburn.

8 properties flooded in Erewash.

30 properties flooded in South Derbyshire.