

**KENT FLOOD RISK AND WATER MANAGEMENT
COMMITTEE**

Thursday, 14th March, 2024

10.00 am

Council Chamber, Sessions House,
County Hall, Maidstone





AGENDA

KENT FLOOD RISK AND WATER MANAGEMENT COMMITTEE

Thursday, 14th March, 2024, at 10.00 am

Ask for: **Matt Dentten**

**Council Chamber, Sessions House,
County Hall, Maidstone**

Telephone **03000 418381**

Membership (7)

Conservative (5): Mr A R Hills (Chairman), Mr D L Brazier, Mr D Crow-Brown,
Mr P Cole and Mrs M McArthur

Labour (1): Ms M Dawkins

Green and
Independent (1): Mr M A J Hood

UNRESTRICTED ITEMS

(During these items the meeting is likely to be open to the public)

1. Introduction/Webcast announcements
2. Membership
3. Apologies and Substitutes
4. Declarations of Interest
5. Minutes of the meeting held on 14 November 2023 (Pages 1 - 6)

6. Terms of Reference

To note the Committee's updated Terms of Reference, as approved by County Council on 16 November 2023.

Membership: 7 Members

1. *As an Overview and Scrutiny Committee, sections 17.47 and 17.48 apply to the membership.*
2. *In accordance with Section 9FH of the Local Government Act 2000, this committee is responsible for reviewing and scrutinising the exercise of flood risk management functions and coastal erosion risk management functions by risk management authorities which may affect the local authority's area.*
3. *The Committee may request information and a response to reports from the risk management authorities, to which the authorities must comply.*
4. *Risk management authorities, as defined by Part 1 of the Flood and Water Management Act 2010, are:*
 - a. *the Environment Agency;*
 - b. *the lead local flood authority (KCC);*
 - c. *district councils;*
 - d. *internal drainage boards;*
 - e. *water companies; and*
 - f. *highways authorities (KCC and National Highways)*
5. *The Committee is also responsible for:*
 - a. *investigating water resource management issues in Kent;*
 - b. *investigating water quality issues in Kent;*
 - c. *reporting annually (and more often if necessary) to the Scrutiny Committee and to the relevant Cabinet Member; and*
 - d. *receiving and reviewing reports related to climate, flood risk and coastal erosion risk management as appropriate.*
6. *The Committee may appoint or remove non-voting Co-opted Members (independent of the elected membership) who may participate in the business of the Committee in accordance with the rules set out in the Constitution.*
7. Southern Water - Clean Rivers and Seas Taskforce - Presentation
8. Environment Agency - Flood Wardens - Presentation
9. The Wildlife Trusts - Coastal nature-based solutions to flooding - Presentation
10. Environment Agency and Met Office Alerts and Warnings and KCC severe weather response activity (Pages 7 - 20)
11. Future meeting dates

To note that meetings of the Committee will take place at 10.00 am on the following dates:

26 June 2024

20 November 2024

5 February 2025

23 April 2025

2 July 2025

EXEMPT ITEMS

(At the time of preparing the agenda there were no exempt items. During any such items which may arise the meeting is likely NOT to be open to the public)

Benjamin Watts
General Counsel
03000 416814

Wednesday, 6 March 2024

KENT COUNTY COUNCIL

KENT FLOOD RISK MANAGEMENT COMMITTEE

MINUTES of a meeting of the Kent Flood Risk Management Committee held in the Council Chamber, Sessions House, County Hall, Maidstone on Tuesday, 14 November 2023.

PRESENT: Mr A R Hills (Chairman), Mr D Crow-Brown, Mr P Cole, Ms M Dawkins and Mr M A J Hood

ALSO PRESENT: Jenni Hawkins, Cllr Mrs J Blandford, Mr G Brooker, Cllr P Garten and Mr D Goff.

IN ATTENDANCE: Mr M Tant (Flood and Water Manager), Mr T Harwood (Resilience and Emergency Planning Manager) and Mr M Dentten (Democratic Services Officer)

UNRESTRICTED ITEMS

38. Declarations of Interest by Members in items on the Agenda
(Item 4)

No declarations were received.

39. Minutes of the meeting held on 12 July 2023
(Item 5)

RESOLVED that the minutes of the meeting held on 12 July 2023 were an accurate record and that they be signed by the Chairman.

40. Southern Water - Presentation
(Item 6)

This item was deferred to the next meeting of Kent Flood Risk Management Committee on 14 March 2024.

41. Environment Agency River Basin Management Plans - Presentation
(Item 7)

Laura Jones (Team Leader, Integrated Environment Planning, Environment Agency) and Jonathan Balkwill (Team Leader, Environment Programme, Environment Agency) were in attendance for this item.

1. Ms Jones and Mr Balkwill gave a presentation on River Basin Management Plans (RBMPs). The contents of the presentation included:

- a. Functions of RBMPs, to set the legally binding locally specific environmental objectives that underpin water regulation, including permitting and planning activities;
 - b. Investment programmes;
 - c. Aims of RBMPs to enhance nature, deliver the environmental objectives that contribute towards net zero, explain what can be funded in line with the government's current policy and funding and business cases for the investment needed;
 - d. An overview of the two catchments, South East and Thames, which cover Kent;
 - e. Waterbody classifications across Kent, with it noted that none were classified 'Good' due to a one out all out policy;
 - f. Catchment based approach and role of Catchment Coordinators;
 - g. A summary of fish flow schemes delivered in Kent; and
 - h. Partnership project delivery by default approach.
2. Following a question from a Member on the Environment Agency's responsibilities and funding of pumping stations in Minster-in-Thamet, Ms Jones agreed to confirm arrangements following the meeting.
 3. Mr Balkwill encouraged Members and partners to join Catchment Improvement Groups. He confirmed that each Catchment had a Management Plan.
 4. A Member asked whether the Environment Agency collaborated with farmer clusters. Mr Balkwill explained that whilst there was no current collaboration, it was being investigated in the Stour Catchment.
 5. The Chairman noted the importance of monitoring the work of and challenges experienced by the Environment Agency as well as exploring how partners could further assist it.
 6. The Chairman thanked Ms Jones and Mr Balkwill for their presentation and answers to the Committee's questions.

RESOVLED to note the content of the presentation.

42. Met Office - Presentation (Item 8)

Mark Rogers (Civil Contingencies Advisor, Met Office) was in virtual attendance for this item.

1. Mr Rogers gave a presentation. The contents of the presentation included:

- a. Review of weather in winter 2022/23, summer 2023 and autumn 2023 to September;
 - b. Storm Ciarán, with it noted that the highest UK wind speed (78mph) had been record in Kent at Langdon Bay and that in excess of 40mm of rain had been experienced in many areas;
 - c. Storm preparation;
 - d. Role of the Met Office in warning, informing and civil contingencies, including the National Severe Weather Warning Service (NSWWS);
 - e. Weather warning criteria;
 - f. Severe Weather Framework;
 - g. Flood Guidance Statement (FGS), as a 5-day outlook at whether any flooding is expected across England and Wales; and
 - h. November 2023 to January 2024 3-month weather outlook.
2. Mr Rogers explained following a question, that the UK's storm names were coordinated with Met Éireann and the Royal Netherlands Meteorological Institute. He noted that there were aspirations for other grouping in Europe to be merged to improve public recognition and coordination. He added that the names were chosen to reflect the names and cultures of each country's population.
 3. A Member asked whether climate change had impacted the frequency and severity of storms in the UK. Mr Rogers explained that there was no conclusive evidence that climate change had affected storm severity and that the position of the jet stream was a greater factor.
 4. In response to a question, Mr Rogers explained that the number of yellow weather warnings issued had been reduced but were still issued in line with the Weather Impact Matrix.
 5. A Member asked whether Storm Ciarán reflected a trend of storms earlier in the year. Mr Rogers confirmed that whilst summer had been longer over recent years, there was no trend of earlier storms. He noted that historic severe storms such as the great storm of 1987 had occurred in October.
 6. The Chairman asked if increased temperatures in the Atlantic Ocean had made it more likely that the UK could be affected by hurricanes. Mr Rogers reassured the Committee that whilst more significant storms were affecting the southern Atlantic and that as these travel north the UK may be effected by ex-hurricanes, it was unlikely that the UK would experience hurricanes. He noted the difficulty of forecasting ex-hurricanes.
 7. The Chairman thanked Mr Rogers for his presentation and answers to the Committee's questions.

RESOLVED to note the content of the presentation.

43. Environment Agency and Met Office Alerts and Warnings and KCC severe weather response activity
(Item 9)

1. Mr Harwood introduced the report which updated Members on water resources, weather statistics, Environment Agency and Met Office warnings, and flood response activity since the last meeting of the Committee. He provided the latest figures for alerts and warnings issued following the publication of the report, with 61 flood alerts, including 31 fluvial, and 43 yellow weather warnings, including 24 thunderstorms, issued for the period 12 July – 14 November 2023. He contrasted the alerts with the same period in 2022, which saw 9 flood alerts. He noted that Storm Ciarán had primarily impacted the south and east Kent coast. The emergency planning and response activities in Kent, including the operation of a severe weather advisory group were explained. The prevailing exceptional marine temperatures were brought to the Committee's attention, with it explained that average temperatures off the Dover coast at the start of November were 15°C, 2.2°C higher than the ten-year average. Regarding flood response, he informed the Committee that the Medway Confluence Plan was activated, though the threshold for evacuations was not met. It was noted that there had been evacuations following Storm Ciarán required for some properties on Romney Marsh, with intense localised rainfall and pumping station technical issues the main factors. He concluded by highlighting multi-agency flood response training delivered by Kent Fire and Rescue Service (KFRS) in October, with the importance of agencies training and responding together emphasised.
2. A Member asked whether there was an opportunity to enhance the county's network of Flood Wardens to support emergency responders and flood risk management authorities. Mr Harwood acknowledged that there was not universal Flood Warden coverage across Kent and that the Environment Agency, who were responsible for the scheme, continued to promote uptake for the role locally.
3. A Member asked that the Environment Agency report to the Committee on the role of Flood Wardens, including the ways to promote the role and improve volunteer retention.
4. Following a question from a Member, Mr Harwood confirmed that the decision to close schools during severe weather was ultimately the responsibility of individual schools and was not mandated by KCC.
5. Mr Harwood confirmed, following a question from a Member, that all local utility companies participated in the severe weather advisory group and were involved in response co-ordination through the Tactical Co-ordinating Group.

RESOLVED to note the alerts and warnings received since the last meeting of the Committee.

44. Local Flood Risk Management Strategy

(Item 10)

1. Mr Tant introduced the report which updated the Committee on the development of Kent's third Local Flood Risk Management Strategy and presented the draft Strategy prior to public consultation between 22 November 2023 and 30 January 2024. He explained that the draft Strategy addressed how local flooding would be managed over the next ten years, with the intention for it be reviewed annually following implementation in 2024. It was noted that the draft Strategy's objectives remained in line with the current 2017-23 Strategy, as there had been no evidence that the current priorities were outdated. He reminded Members that implementation of Schedule 3 of the Flood and Water Management Act 2010 was expected during the lifetime of the Strategy.
2. Regarding section 5.2.3 of the draft Strategy, a Member asked whether it could be used as a mechanism for requiring new developments to reduce their flood risk, irrespective of their impact on it. Mr Tant explained that that section was aspirational. He added that local planning authorities could adopt planning policies that require developers to mitigate off-site flood risk, as part of their local plan, which wasn't common, and KCC encouraged planning authorities to take this approach more often.
3. A Member asked whether a water cycle strategy would support the new Strategy in reducing surface water flooding. Mr Tant explained that whilst water cycle strategies were valuable, they were primarily focused on water supply and wastewater disposal rather than flood risk. He added that strategic flood risk assessments were the most effective vehicle for addressing the issue.

RESOLVED to:

- a) Note the report and draft Local Flood Risk Management Strategy; and
- b) Provide comments prior to public consultation.

This page is intentionally left blank

From: Rebecca Spore, Director of Infrastructure
To: Kent Flood Risk and Water Management Committee – 14th March 2024
Subject: Environment Agency and Met Office Alerts and Warnings and KCC severe weather response activity
Classification: Unrestricted

Summary: To update Kent Flood Risk and Water Management Committee on the current water situation, weather statistics, Environment Agency and Met Office Warnings, and flood response activity since the last meeting of the Committee on 14th November 2023.

Recommendation: The Committee is asked to note the warnings received since the last meeting of the Committee.

1. Background

- 1.1 This report is the latest of the regular updates to the Committee addressing the current water situation and recent severe weather and associated emergency response activity in Kent.
- 1.2 The KCC Resilience and Emergency Planning Service Duty Emergency Planning Officer (DEPO) and Contact Point receive Environment Agency (EA) and Met Office alerts and warnings regarding severe weather on a 24/7 basis. Any site-specific severe weather impacts are notified to the DEPO by the emergency services and other resilience partners, with reports from the public received by Contact Point and passed on to the DEPO and/or Kent Highways. DEPO further initiates multiagency reporting using the County Council's innovative Severe Weather Impacts System (SWIMS) to capture resources and costs arising from severe weather incidents.
- 1.3 Some 85,500 residential and commercial addresses across Kent are located within areas identified as at risk from fluvial (river) or tidal (coastal) flooding. Where possible, flood vulnerable properties are offered a Flood Warning Service by the EA. Early warning of flood risk to communities (including areas outside of floodplains) is delivered through Flood Guidance Statements, Severe Weather Warnings and mobilisation of the Kent Resilience Forum (KRF) Severe Weather Advisory Group (SWAG).

2. Kent water situation and weather statistics

- 2.1 November 2023 recorded rainfall 161% above the long-term average for Kent, with temperatures +0.1°C average. This trend extended into December, which saw 113% of average rainfall and mean temperatures +2.3°C above average. January was a drier month across the County, with 84% of long-term rainfall average recorded, with mean temperatures -0.1°C below average.

- 2.2 However, February was the standout month for extreme weather, with 242% of the long-term rainfall total falling in Kent and temperatures +3.2°C above the 1990-2020 long-term average. The beginning of March and arrival of meteorological spring has seen the onset of drier conditions, though remaining unseasonably mild.
- 2.3 The latest river flow data available from the Environment Agency, covering January, ranged from notably high in east Kent to normal and above normal in the rest of the Kent and South London region. The highest flows were seen in the River Dour at Crabble Mill, which saw 200% of the long-term average, influenced by the high groundwater levels in the area.
- 2.4 Groundwater levels in the chalk and lower greensand aquifers continued to rise throughout much of January and February, with an alert in place for groundwater flooding in East Kent, encompassing the Alkham and Petham Bournes, and Nailbourne.
- 2.5 Bewl Reservoir was below normal capacity in January, at 67%, which was related to ongoing operational works. Bough Beech is currently at normal level for the time of the year, at 99%.
- 2.6 130 flood alerts and eight warnings were issued by the EA since the last meeting of the Committee (107 fluvial and 31 coastal)¹. This contrasts with a total of just nine flood alerts across the corresponding period in 2023 (four fluvial and five coastal).
- 2.7 The Met Office issued 28 yellow and five amber weather warnings between November and February (14 for rain, 2 for thunderstorm, 12 for wind, one for snow and ice and four for ice)². This compares with 26 yellow weather warnings between November 2022 and March 2023 (seven for fog, five for snow and ice, five for ice, four for rain, two for wind and rain, two for snow and one for thunderstorm).
- 2.8 The Thames Barrier was closed on ten occasions since the last meeting (all for operational purposes)³. The figure for the corresponding period last year was five (two for operational and three for test purposes).

3. Recent Incident Response and Exercises

- 3.1 Named storms Elin and Fergus (9th – 10th December), Gerrit (27th – 28th December), Henk (2nd January), Isha and Jocelyn (21st – 24th January) all resulted in localised damage to property and critical infrastructure. This included a scaffolding collapse at Swanley on the evening of 27th December and hoardings blown onto parked cars in Maidstone on New Year's Day. Some

¹ Please see appendix 1

² Please see appendix 2

³ Please see appendix 3

localised disruption to electricity and water supplies also occurred during each of these storm events, most notably during Storm Isha around the 21st December. The initiation of multiagency command and control enabled effective co-operation across local planning and response. Latterly, a Severe Weather Advisory Group (SWAG) was mobilised for the heavy rainfall experienced overnight on 25th and 26th February.

- 3.2 In terms of recent operational flood-response activity, it was surface water and highway flooding that generated the most significant impacts for Kent residents, businesses and responders. For example, November 2023 saw the onset of widespread surface water flooding impacts across Romney Marsh, including at Lydd and New Romney. To ensure the most effective partnership response, KCC Emergency Planning initiated multiagency co-ordination meetings with participation from Southern Water, the Environment Agency, Folkestone and Hythe District Council, Romney Marsh Internal Drainage Board and key KCC services.
- 3.3 The exceptionally wet weather experienced through much of the winter⁴³ also resulted in localised sewage and contaminated run-off incidents, affecting homes, businesses and the natural environment. Notable multiagency pollution control responses were undertaken at locations in Dover, Maidstone and Swale.
- 3.4 In February, technical operations at the Wingham water works, that serves Aylesham and Adisham reservoirs, were impacted by heavy rainfall. As a consequence, Southern Water mobilised their contingency plan, resulting in around 5,000 properties being provided with bottled water, seven farms receiving water bowsers, while some 1,625 priority services customers and 21 care homes received bespoke support. Bottled water stations were also established at Aylesham and Canterbury. In addition, Howletts Wild Animal Park and Wingham Wildlife Park maintained their tapped supply through tankers injecting water into the local supply network.
- 3.5 Heavy rainfall also contributed to landslips, notably affecting a large irrigation pond at Bearsted on 11th January, which saw a Tactical Co-ordinating Group initiated and a multiagency team deployed to knock door-to-door to warn and inform residents living downstream. Cliff and railway embankment collapses have also been observed, likely exacerbated by the prevailing very wet conditions. These included collapses at The Leas in Folkestone during January and Newington in February, with the latter event resulting in some significant local disruption to rail services.
- 3.6 Exercise Dryad took place on 22nd November at Folkestone and Hythe District, with a scenario predicated on flooding from the Pent Stream, an urban rapid response catchment. A range of partners participated, including Kent Fire and Rescue Service, KCC, Ashford Borough Council and Dover District Council. A structured debrief for the exercise was facilitated by Kent Resilience Team on 30th January to capture learning from the exercise.

⁴ Please see appendix 4

4. Outlook

- 4.1 The Met Office three-month outlook summary indicates a 15% chance that March to May will be cooler than average (0.8 times the normal chance), a 60% chance that it will be near average (1.0 times the usual chance) and a 25% chance that it will be warmer than average (1.3 times the usual chance). In terms of rainfall, the summary indicates a 25% chance the season will be drier than average, 55% chance that it will be near average and a 20% chance it will be wetter than average. As regards likely wind speeds, the summary suggests a 25% chance that it will be calmer than average, a 60% chance that they will be near average and 15% chance of windier than average conditions.
- 4.2 The EA continuously runs surge forecasts, informed by astronomical tide calculations. If a risk of coastal flooding is forecast, then this information is communicated to partners. Indeed, we are currently in the midst of notably high equinoctial spring tides, with a corresponding elevated risk of coastal flooding, if in combination with high winds, until 14th March at Sheerness and 15th March at Rye. However, coastal flooding can still occur outside of high spring tides.
- 4.3 Kent Flood Risk and Water Management Committee will continue to receive regular updates on water resources, flood alerts, weather warnings and response.

5. Recommendations

- 5.1 The Committee is asked to note the warnings received since the last meeting of the Committee.

6. Contact Details

Report Author: Tony Harwood (Resilience and Emergency Planning Manager), Infrastructure, Deputy Chief Executive's Department, tel. 03000 413 386, e-mail tony.harwood@kent.gov.uk

Relevant Director: Rebecca Spore (Director of Infrastructure), Deputy Chief Executive's Department tel. 03000 412 064, email rebecca.spore@kent.gov.uk

Appendix 1: EA Flood Alerts and Warnings issued since 14th November 2023

No.	Date issued	Flood Zone	Status
1	14/11/2023	Upper River Medway Area	Flood Alert
2	14/11/2023	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
3	14/11/2023	Lower River Medway Area	Flood Alert
4	15/11/2023	Tidal Stour Area from Fordwich to Stonar Cut	Flood Alert
5	16/11/2023	Upper River Stour	Flood Alert
6	24/11/2023	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
7	24/11/2023	Coast from Whitstable to Margate	Flood Alert
8	24/11/2023	Coast from Dartford to Allhallows	Flood Alert
9	24/11/2023	Tidal Medway, Medway estuary and Isle of Grain	Flood Warning
10	24/11/2023	Coast from Ramsgate to Kingsdown	Flood Alert
11	24/11/2023	Coast from St Margaret's at Cliffe to Sandgate	Flood Alert
12	24/11/2023	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
13	24/11/2023	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
14	24/11/2023	Lower River Medway Area	Flood Alert
15	24/11/2023	Tidal Stour Area from Fordwich to Stonar Cut	Flood Warning
16	03/12/2023	Rivers Eden and Eden Brook Area	Flood Alert
17	03/12/2023	Upper River Medway Area	Flood Alert
18	03/12/2023	Upper River Stour	Flood Alert
19	03/12/2023	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
20	04/12/2024	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
21	04/12/2024	Lower River Medway Area	Flood Alert
22	09/12/2023	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
23	09/12/2023	Upper River Medway Area	Flood Alert
24	09/12/2023	Upper River Stour	Flood Alert
25	09/12/2023	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
26	12/12/2023	Tidal Stour Area from Fordwich to Stonar Cut	Flood Alert

27	12/12/2023	Rivers Eden and Eden Brook Area	Flood Alert
28	12/12/2023	River Darent from Westerham to Dartford	Flood Alert
29	12/12/2023	Plenty, Swalecliffe and West Brooks	Flood Alert
30	12/12/2023	Upper River Medway Area	Flood Alert
31	12/12/2023	Upper River Stour	Flood Alert
32	12/12/2023	River Teise area from Lamberhurst to Goudhurst	Flood Alert
33	12/12/2023	River Bourne from Hadlow to East Peckham	Flood Alert
34	12/12/2023	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
35	12/12/2023	Lower River Medway Area	Flood Alert
36	12/12/2023	Middle River Medway Area	Flood Alert
37	13/12/2023	Grove Ferry and Plucks Gutter	Flood Warning
38	19/12/2023	Groundwater flooding in East Kent	Flood Alert
39	20/12/2023	Upper River Stour	Flood Alert
40	21/12/2023	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
41	22/12/2023	Tidal Stour Area from Fordwich to Stonar Cut	Flood Alert
42	28/12/2023	Groundwater flooding in East Kent	Flood Alert
43	31/12/2023	Upper River Medway Area	Flood Alert
44	31/12/2023	Lower River Medway Area	Flood Alert
45	01/01/2024	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
46	01/01/2024	Rivers Eden and Eden Brook Area	Flood Alert
47	02/01/2024	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
48	02/01/2024	Upper River Stour	Flood Alert
49	02/01/2024	River Bourne from Hadlow to East Peckham	Flood Alert
50	02/01/2024	Middle River Medway Area	Flood Alert
51	02/01/2024	River Teise area from Lamberhurst to Goudhurst	Flood Alert
52	04/01/2024	River Darent from Westerham to Dartford	Flood Alert
53	04/01/2024	River Bourne from Hadlow to East Peckham	Flood Alert
54	04/01/2024	Rivers Eden and Eden Brook Area	Flood Alert
55	04/01/2024	Upper River Medway Area	Flood Alert
56	04/01/2024	Shuttle and Cray	Flood Alert

57	04/01/2024	River Teise area from Lamberhurst to Goudhurst	Flood Alert
58	04/01/2024	River Teise and Lesser Teise area from Horsmonden to Yalding	Flood Alert
59	04/01/2024	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
60	05/01/2024	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
61	05/01/2024	Nailbourne and Little Stour Area	Flood Alert
62	05/01/2024	Lower River Stour	Flood Alert
63	13/01/2024	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
64	14/01/2024	Coast from Ramsgate to Kingsdown	Flood Alert
65	14/01/2024	Coast from St Margaret's at Cliffe to Sandgate	Flood Alert
66	14/01/2024	Coast from Dartford to Allhallows	Flood Alert
67	14/01/2024	Coast from Whitstable to Margate	Flood Alert
68	14/01/2024	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
69	15/01/2024	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
70	15/01/2024	Coast from Dartford to Allhallows	Flood Alert
71	15/01/2024	Tidal Medway, Medway estuary and Isle of Grain	Flood Warning
72	25/01/2024	Groundwater flooding in East Kent	Flood Alert
73	31/01/2024	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
74	02/02/2024	Groundwater flooding in East Kent	Flood Alert
75	08/02/2024	Rivers Eden and Eden Brook Area	Flood Alert
76	08/02/2024	Upper River Medway Area	Flood Alert
77	08/02/2024	River Bourne from Hadlow to East Peckham	Flood Alert
78	08/02/2024	Upper River Stour	Flood Alert
79	08/02/2024	Lower River Stour	Flood Alert
80	08/02/2024	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
81	08/02/2024	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
82	08/02/2024	Middle River Medway Area	Flood Alert
83	08/02/2024	Tidal Stour Area from Fordwich to Stonar Cut	Flood Alert

84	09/02/2024	Nailbourne and Little Stour Area	Flood Alert
85	09/02/2024	Groundwater flooding in East Kent	Flood Alert
86	10/02/2024	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
87	11/02/2024	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
88	12/02/2024	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
89	13/02/2024	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
90	18/02/2024	River Bourne from Hadlow to East Peckham	Flood Alert
91	18/02/2024	Rivers Eden and Eden Brook Area	Flood Alert
92	18/02/2024	Upper River Medway Area	Flood Alert
93	18/02/2024	Upper River Stour	Flood Alert
94	18/02/2024	River Darent from Westerham to Dartford	Flood Alert
95	18/02/2024	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
96	18/02/2024	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
97	18/02/2024	Lower River Medway Area	Flood Alert
98	22/02/2024	Upper River Medway Area	Flood Alert
99	22/02/2024	Upper River Stour	Flood Alert
100	22/02/2024	Rivers Eden and Eden Brook Area	Flood Alert
101	22/02/2024	Plenty, Swalecliffe and West Brooks	Flood Alert
102	22/02/2024	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
103	22/02/2024	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
104	22/02/2024	Lower River Medway Area	Flood Alert
105	22/02/2024	River Bourne from Hadlow to East Peckham	Flood Alert
106	23/02/2024	Lower River Stour	Flood Alert
107	23/02/2024	Tidal Stour Area from Fordwich to Stonar Cut	Flood Alert
108	24/02/2024	Tidal Stour Area from Fordwich to Stonar Cut	Flood Alert
109	25/02/2024	Rivers on the Isle of Sheppey Area	Flood Alert

110	25/02/2024	River Darent from Westerham to Dartford	Flood Alert
111	25/02/2024	Upper River Medway Area	Flood Alert
112	25/02/2024	Rivers Eden and Eden Brook Area	Flood Alert
113	25/02/2024	Upper River Stour	Flood Alert
114	25/02/2024	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
115	25/02/2024	River Teise and Lesser Teise area from Horsmonden to Yalding	Flood Alert
116	25/02/2024	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
117	25/02/2024	Plenty, Swalecliffe and West Brooks	Flood Alert
118	25/02/2024	River Bourne from Hadlow to East Peckham	Flood Alert
119	25/02/2024	Middle River Medway Area	Flood Alert
120	25/02/2024	River Teise and Lesser Teise area from Horsmonden to Yalding	Flood Alert
121	25/02/2024	Middle River Medway Area	Flood Alert
122	25/02/2024	Lower River Stour	Flood Alert
123	25/02/2024	Hamstreet Arm Area	Flood Alert
124	26/02/2024	New Romney Sewage Arm Area	Flood Warning
125	26/02/2024	East Stour from Sellinge to East Ashford	Flood Warning
126	26/02/2024	New Romney Sewage Arm Area	Flood Alert
127	28/02/2024	Grove Ferry and Plucks Gutter	Flood Warning
128	28/02/2024	Tidal Stour Area from Fordwich to Stonar Cut	Flood Alert
129	29/02/2024	Tidal Stour Area from Fordwich to Stonar Cut	Flood Alert
130	29/02/2024	Grove Ferry and Plucks Gutter	Flood Warning
131	01/03/2024	Groundwater flooding in East Kent	Flood Alert
132	01/03/2024	Rivers Eden and Eden Brook Area	Flood Alert
133	01/03/2024	Upper River Medway Area	Flood Alert
134	01/03/2024	Upper River Stour	Flood Alert
135	01/03/2024	Lower River Medway	Flood Alert
136	01/03/2024	Lower River Stour	Flood Alert
137	02/03/2024	River Darent from Westerham to Dartford	Flood Alert
138	02/03/2024	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert

Appendix 2: Met Office Severe Weather Warnings – 1st June to 3rd November 2023

Weather Element	Number of Warnings	No of Different Events	Dates covered by Events
Rain	14	7	3rd December, 8th January, 8th – 9th January 17th – 18th January
Thunderstorm	2	1	14th November
Wind	12	5	27th December, 30th – 31st December, 2nd January, 21st – 22nd January, 22nd February
Snow and Ice	1	1	1st – 2nd December
Ice	4	4	3rd December, 8th January, 8th – 9th January, 17th – 18th January

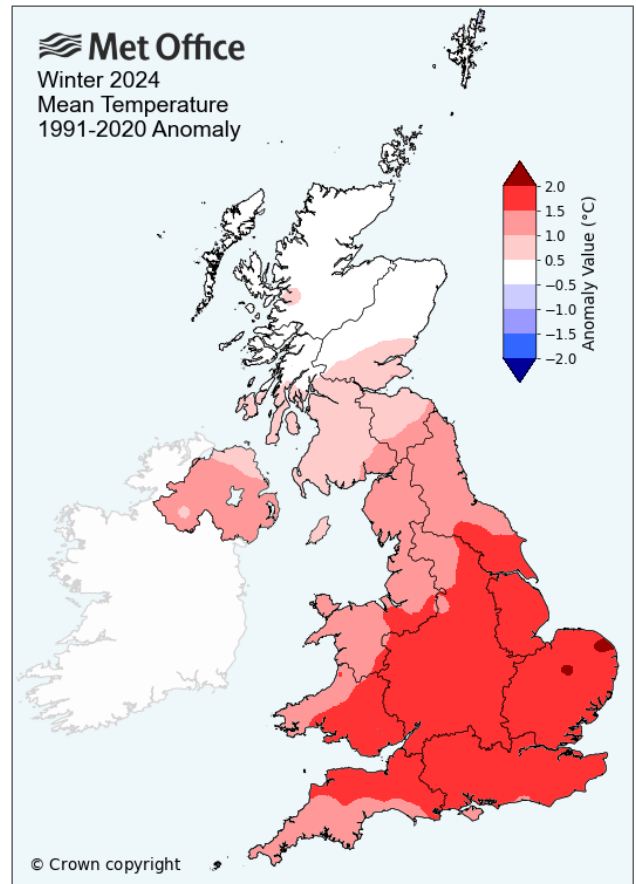
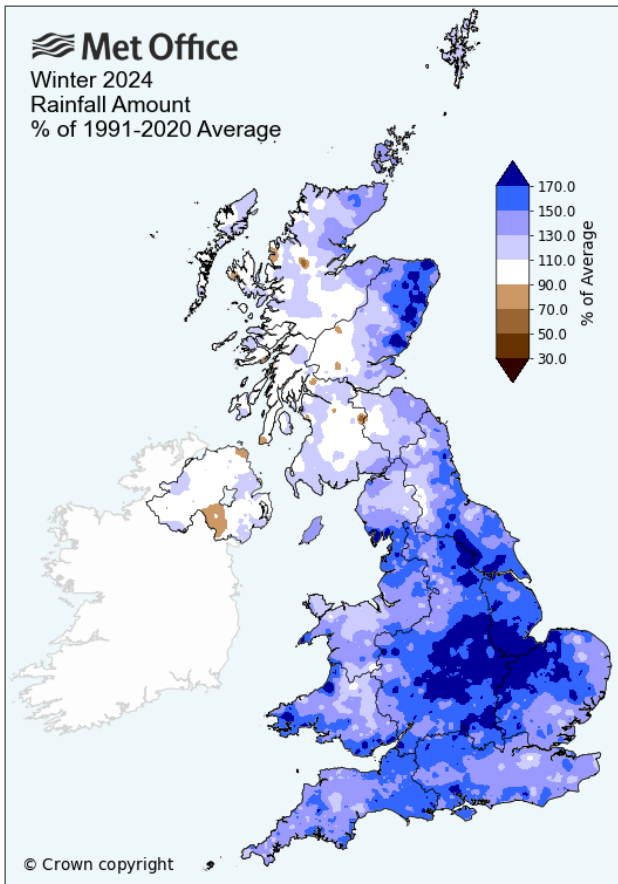
Appendix 3: Environment Agency Thames Barrier closures since 12th July 2023

No.	Thames Barrier closures	Date	Status
1	Thames Barrier closed	23/11/23	Operational
2	Thames Barrier closed	04/12/23	Operational
3	Thames Barrier closed	13/01/24	Operational
4	Thames Barrier closed	14/01/24	Operational
5	Thames Barrier closed	15/01/24	Operational
6	Thames Barrier closed	10/02/24	Operational
7	Thames Barrier closed	11/02/24	Operational
8	Thames Barrier closed	12/02/24	Operational
9	Thames Barrier closed	13/02/24	Operational
10	Thames Barrier closed	24/02/2024	Operational

Appendix 4: Met Office Winter Statistics

England Stats:

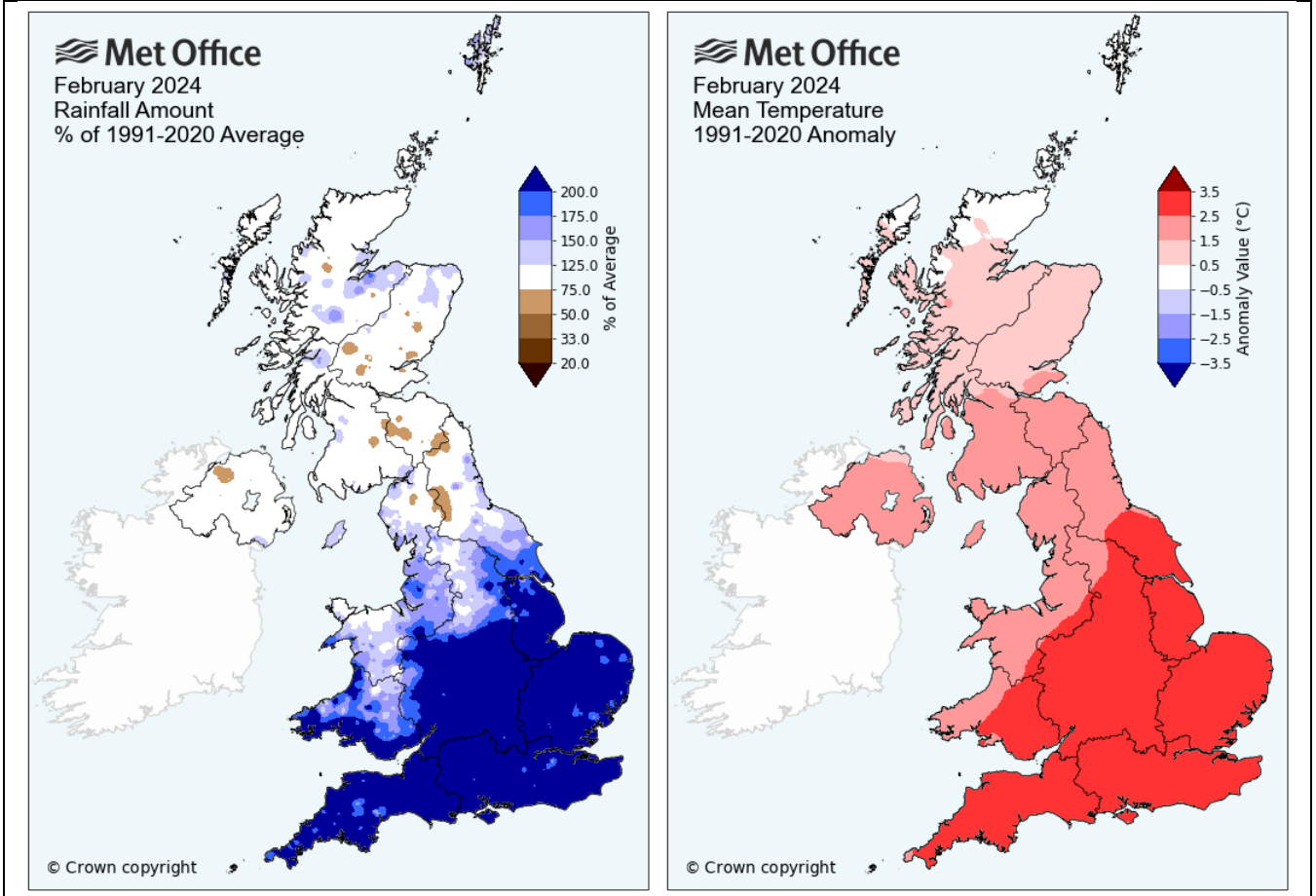
- Winter 2023/24 = Mild and Wet
- Rainfall = 149% of Long-Term Average
- Temperature = +1.7 Celsius



Appendix 4: Met Office February Statistics

England Stats:

- February 2024 = Mild and Wet
- Rainfall = 196% of Long-Term Average
- Temperature = +2.9 Celsius



Appendix 4: Met Office Kent Statistics – November to February

Compared to 1991-2020 Long-Term Average

Month	Rain ¹	Mean Temp ¹
November	161%	+0.1 C
December	113%	+2.3 C
January	84%	-0.1 C
February	242%	+3.2 C

