



Planning for flooding in Kent

Working in partnership across the Kent & Medway Resilience Forum

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Introduction

We'd like to take the opportunity today to outline how we plan our response to a range of incidents and emergencies that may affect Kent and Medway. We'll look how KCC works as a member of the Kent & Medway Resilience Forum, with a focus on how we plan for flooding, and give some case studies of flooding incidents that have affected the county.



Agenda



01. Why does Kent plan for emergencies?

What are the legal duties, what is the risk profile that we look to mitigate?

03. How do we respond?

How do we respond in partnership, how do individual agencies differ in their response and capabilities?

02. How do we plan?

What are Resilience Forums, why do we work in partnership, what are the benefits and challenges, what is the resilience life cycle?

04. How do we manage flooding?

What are the roles and responsibilities of agencies, how do we respond to flooding, and how does that differ to other responses?

05. Discussion

How does the Belgian approach to emergency planning differ to the UK's, are there examples of good practice we can share, are there any potential areas of joint working?

Why does Kent plan for emergencies?



Civil Contingencies Act (2004)

- Single framework for civil protection in the UK
- Defines an emergency as:

“An event or situation which threatens serious damage to human welfare in a place in the UK, the environment of a place in the UK, or war or terrorism which threatens serious damage to the security of the UK.”



Category 1



Category 2

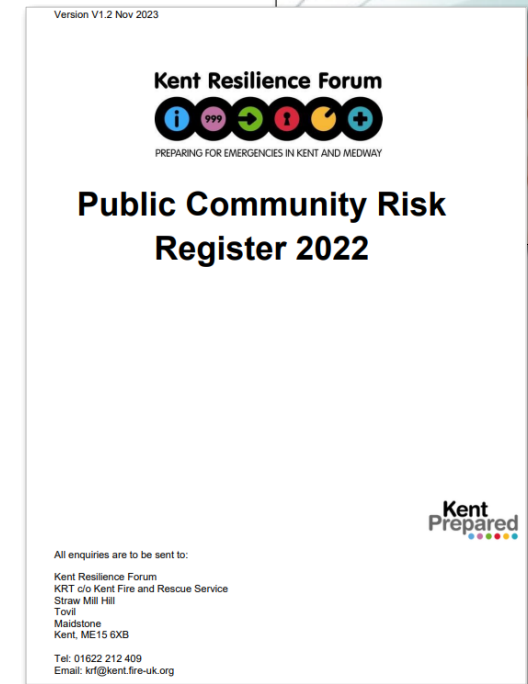
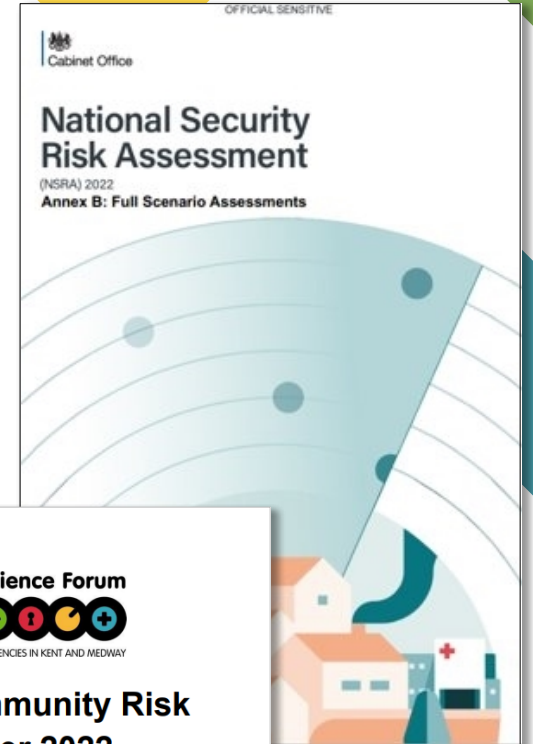


Other responders

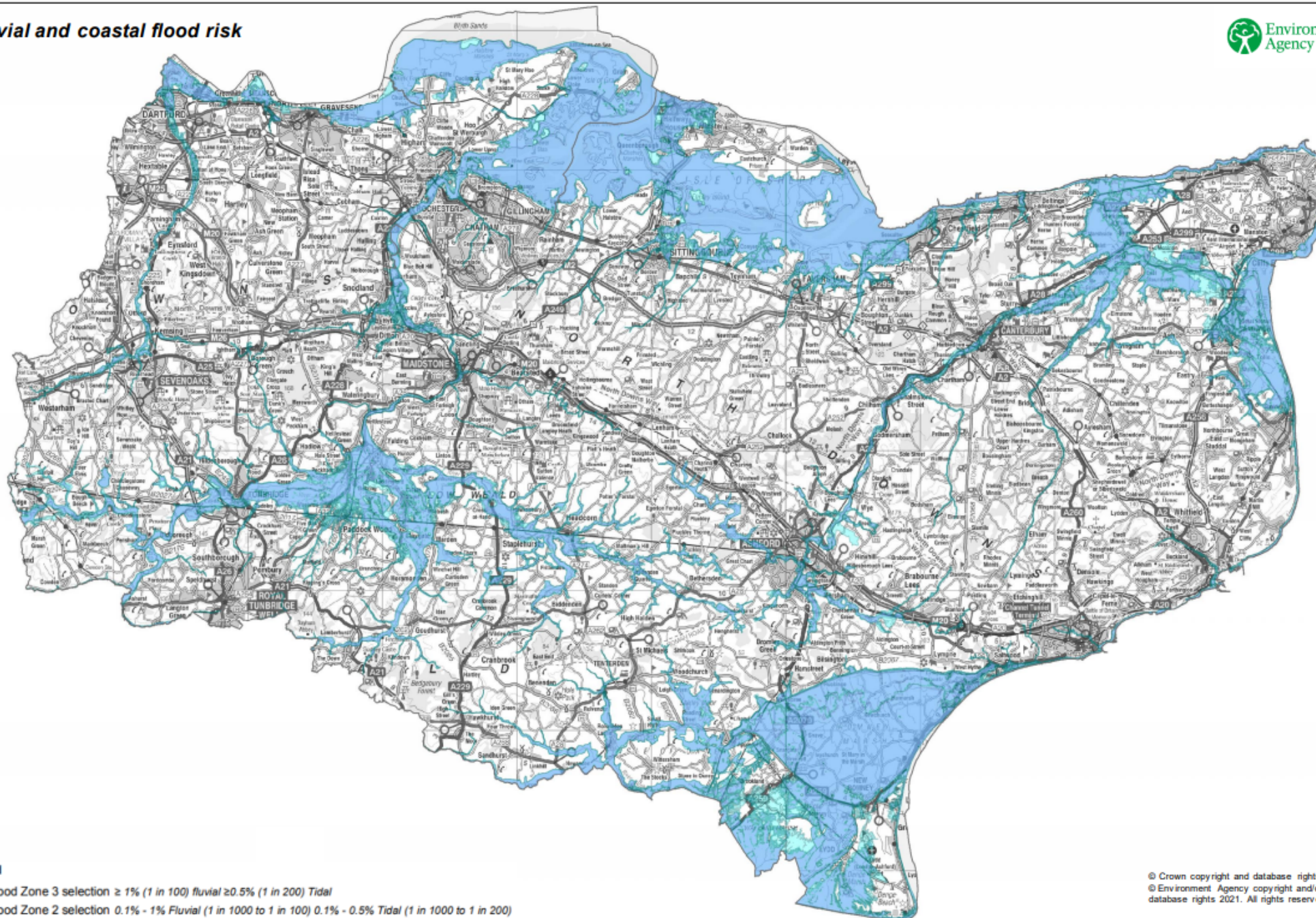


The Risk to Kent and Medway

- National Security Risk Assessment > KMRF Community Risk Register
- Nationally the highest risk is pandemic disease
- Locally in Kent and Medway the highest risk is from flooding
- Rated **Very High:**
 - *Coastal Flooding*
- Rated **High:**
 - Fluvial (River) and Pluvial (Surface water) flooding



Fluvial and coastal flood risk



Legend

- Flood Zone 3 selection $\geq 1\%$ (1 in 100) fluvial $\geq 0.5\%$ (1 in 200) Tidal
- Flood Zone 2 selection 0.1% - 1% Fluvial (1 in 1000 to 1 in 100) 0.1% - 0.5% Tidal (1 in 1000 to 1 in 200)

How do we plan?



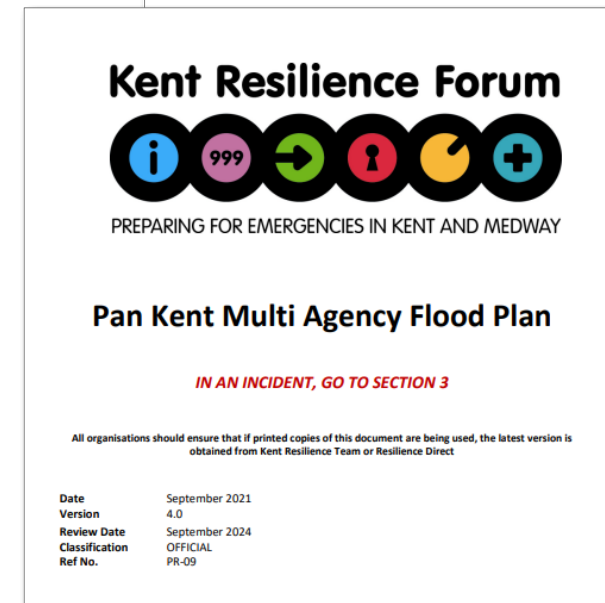
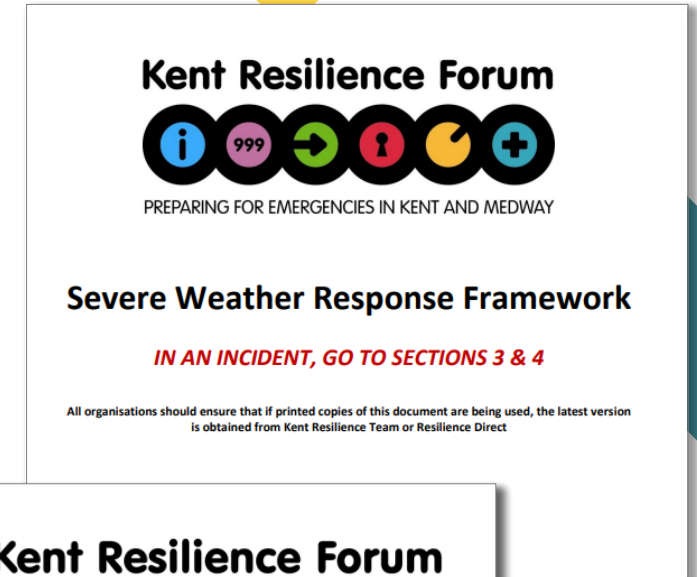
The Kent and Medway Resilience Forum

- Every county must have a Local Resilience Forum (LRF)
- The KMRF is chaired by Kent Police.
- Workstreams include Risk, Plans and Capabilities, Training and Exercising and Lessons Identified
- Working groups lead on specific elements of planning e.g. severe weather
- Cross-border working with neighbouring LRFs to share lessons, best practice, and resources
- Targeted engagement with counties across the UK with similar risks



KMRF Flood Response plans

- Both developed by the KMRF Severe Weather Group
- The Severe Weather Response Framework covers response structures for multiple impacts from storms, wind and flooding
- Both identify risk, triggers, roles of partners, resources and information to support decision making
- Borough and district councils have local versions of the flood plan to address individual area risk and response



Exercise Surge

- 3-day multi-site live exercise – command hubs, evacuation sites, wet rescue, airport incident
- Based on a 1:1,000-year tidal surge
- 900 participants
- 150 people were evacuated (1 person = 10 people in terms of the exercise)
- 3 debriefs to capture learning from each phase of the exercise



Community Resilience

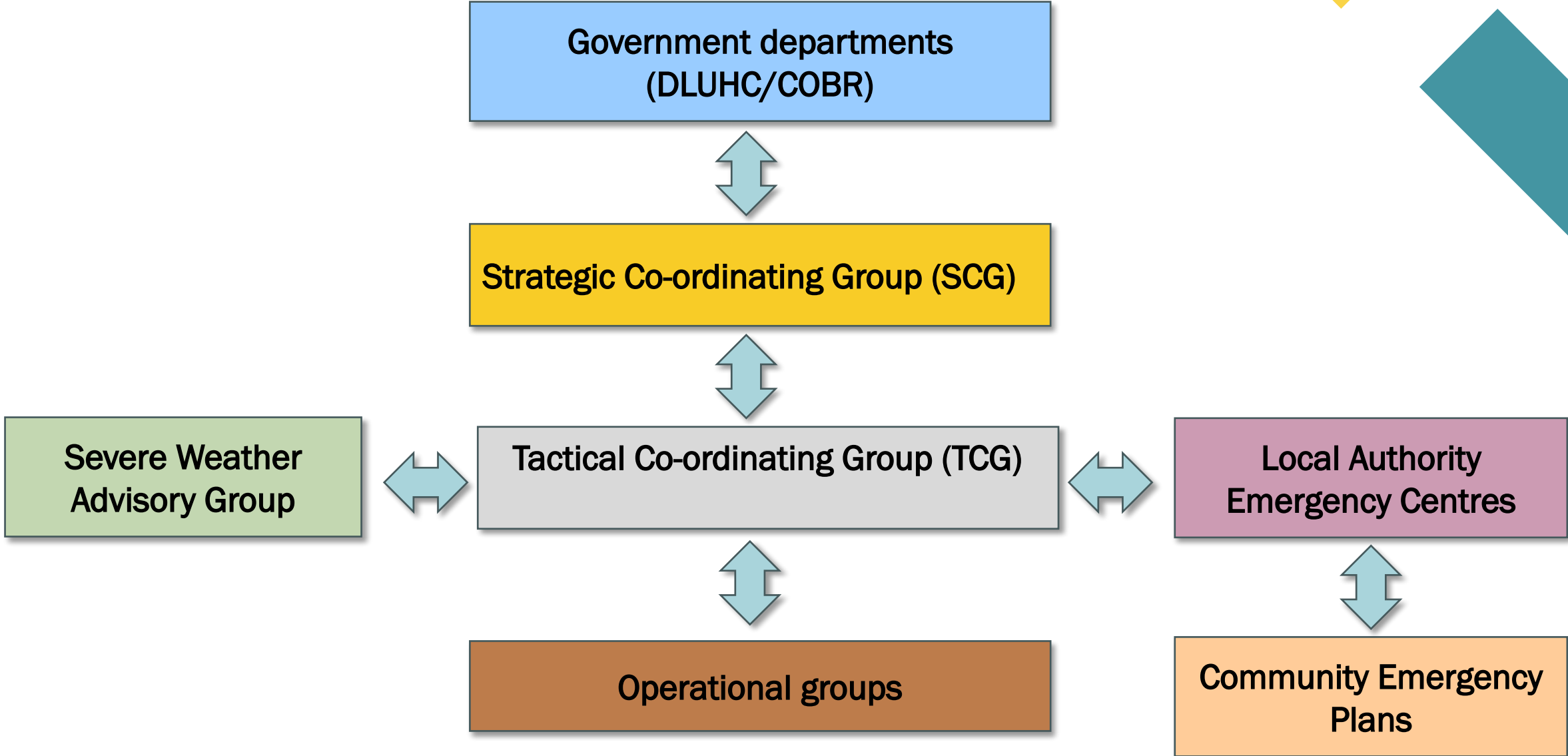
- Public facing website – www.kentprepared.org.uk
- Advice, resources and signposting
- Community Emergency plan template including a flood plan for those communities at risk
- Flood wardens – community volunteers trained by the Environment Agency
- KMRF Community Resilience Group
- KCC's Compliance & Community Resilience team

The screenshot shows the 'Kent and Medway prepared' website. The header includes navigation links: 'Protect yourself', 'Community Resilience', 'What if?', 'Protect your business', 'Kent Community Risk Register', 'About us', 'News', and 'More'. The main heading is 'Prepare for flooding' with the sub-heading 'Prepared communities are resilient communities'. Below this, there is a list of five links: 'Check your flood risk', 'Protect your home', 'Protect your business', 'Flood wardens', and 'Prepare your community flood plan'. A 'Floodline' section provides the phone number '0345 988 1188' and explains it is a dedicated phone information service. On the right, a 'Flood warnings' section shows a 'Flooding in Kent' status for Wednesday, 5 Jun 2024 at 11:33, with three levels of warning: 'Severe Flood Warning' (0), 'Flood Warning' (0), and 'Flood Alert' (0). A 'Sign up for flood warnings' button is also present. At the bottom right, there is a link to 'What are flood warnings?' with a sub-link to 'Find out more about flood warnings and what they are for by visiting the gov.uk'.

How do we respond?



Command and control



How do we manage flooding?



Roles & Responsibilities

Pluvial (surface water)

- **Local Authority**
- Main impact on the highway and adjacent properties

Groundwater

- **Local Authority** lead
- Main impacts along the courses of the winterbournes in East Kent.
- Due to the ephemeral nature of these watercourses, the riverbed includes roads as well as river channels through fields.

Fluvial (river)

- **Environment Agency** lead
- Impact across most of Kent & Medway, particularly River Medway, River Beult, River Teise in West Kent; River Stour in Mid / East Kent.
- Infrastructure includes the Leigh Flood Storage area on R.Medway, and Aldington / Hothfield reservoirs on R.Stour.

Coastal

- **Environment Agency** lead.
- Highest risk to Kent
- Longest coastline of any UK local authority
- 350 miles of cliffs, sand / shingle beaches, rock platforms, mudflats
- Significant areas of low-lying land at risk, including Romney Marsh, Graveney Marsh, Reculver, Pegwell / Sandwich Bays

EA Role In: Coastal, Tidal and Fluvial flooding



- Early discussions with KMRF partners, attending Command & Control meetings.
- Advising Central Government & national partners.
- Pumping floodwater where resources allow.
- Monitoring, inspection, operation of flood defences.
- Deploying staff and equipment.
- Post-incident data collection, community engagement, asset repair.

EA Role In: *Groundwater and Pluvial flooding*



- Groundwater and Surface Water flood risks managed by **Lead Local Flood Authorities** (LLFAs):
- Pluvial (surface water) flooding can occur when capacity of drainage systems exceeded.
- Groundwater flooding occurs when prolonged rainfall causes the water table to rise.

Operational Assets



- Field teams to respond to incidents
- Scots Float Regional Depot in Rye
- Duty officers to monitor and respond to incidents
- Mobile high-volume pumps and hoses
- Aerators, floating pollution booms, cushions and containment kits
- Demountable flood defence barriers and sandbags
- Mutual Aid arrangements with other EA regions and the military.
- Mobile command vehicle for on-site co-ordination

Warning and informing

Flood Guidance Statement 10:30hrs Thursday 12 October 2023

FLOOD FORECASTING CENTRE
A working partnership between Environment Agency and Met Office

Specific Areas of Concern Map 2 - Friday 13 October

RISK AREA B
Impact **MINOR**
Likelihood **MEDIUM**

Source: River Surface
Likely duration: 1 Day

Surface water and river flooding impacts probable following heavy rain.

RISK AREA C
Impact **MINOR**
Likelihood **MEDIUM**

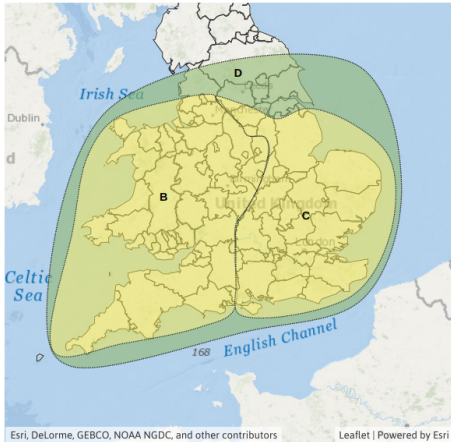
Source: River Surface
Likely duration: 1 Day

Surface water flooding probable and river flooding possible on Friday

RISK AREA D
Impact **MINOR**
Likelihood **LOW**

Source: River Surface
Likely duration: 1 Day

Widespread rain with some locally heavy downpours may lead to flooding impacts



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Flood risk matrix

LIKELIHOOD	HIGH	VERY LOW	LOW	MEDIUM	HIGH
	MEDIUM	VERY LOW	LOW	MEDIUM	HIGH
	LOW	VERY LOW	LOW	MEDIUM	HIGH
	VERY LOW	VERY LOW	LOW	MEDIUM	HIGH
		IMPACT			
		VERY LOW	LOW	MEDIUM	HIGH
		OVERALL FLOOD RISK			

Summary of potential impacts

MINIMAL
Isolated and minor flooding of low-lying land and roads
Isolated spray/wave on coastal promenades
Little or no disruption to travel, but wet road surfaces

MINOR
Localised flooding of land and roads
Flooding affecting individual properties
Disruption to travel and key sites in flood plans

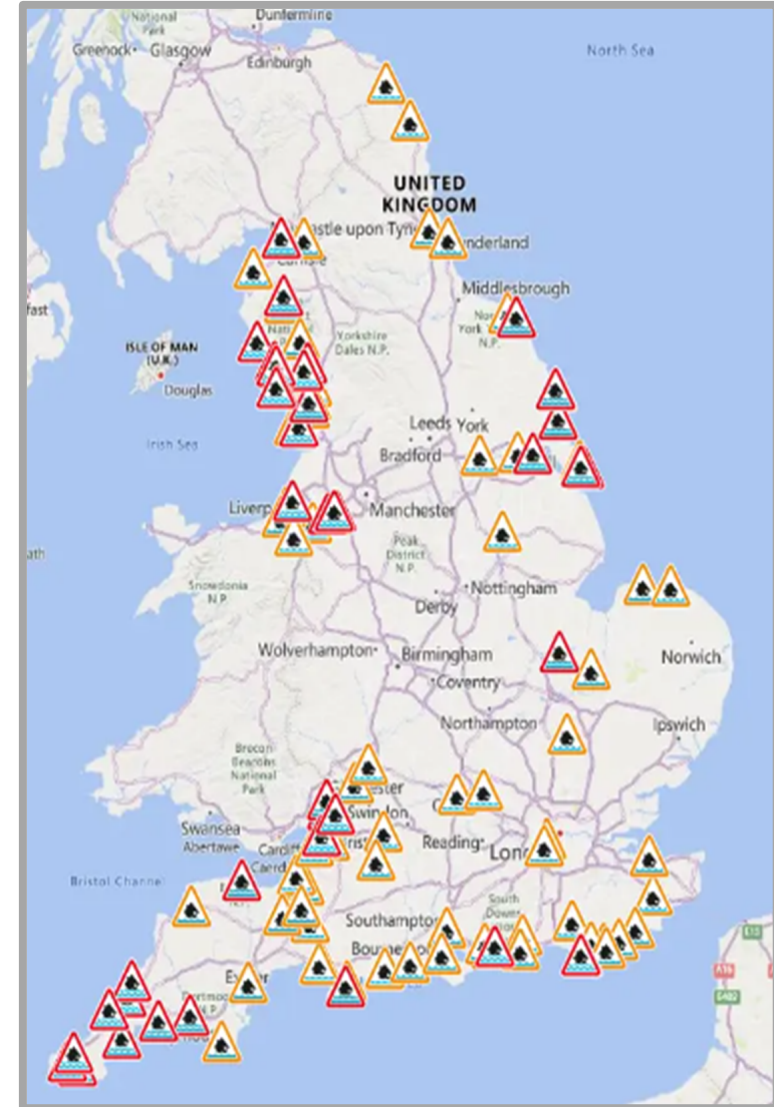
SIGNIFICANT
Flooding affecting parts of communities
Possible danger to life and damage to buildings/structures
Disruption to travel and key sites in flood plans

SEVERE
Danger to life, severe disruption to travel
Widespread flooding affecting whole communities
Widespread disruption or loss of infrastructure
Large scale evacuation of properties possible

Next statement due 10:30hrs Friday 13 October 2023 (all times are local)

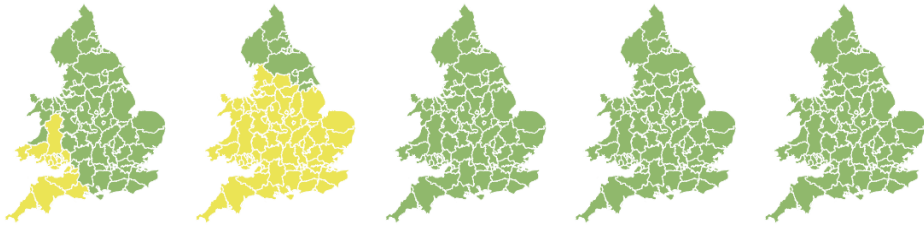
Contact details: Flood Forecasting Centre Duty Hydrometeorologist - 0330 135 4400

More information: <https://www.gov.uk/government/organisations/flood-forecasting-centre>



Flood Guidance Statement 10:30hrs Thursday 12 October 2023

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Thursday 12 Oct 2023 10:30-23:59 Trend since last FGS Steady →	Friday 13 Oct 2023 Increased ↑	Saturday 14 Oct 2023 Steady →	Sunday 15 Oct 2023 Steady →	Monday 16 Oct 2023 Steady →
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Response: Winter 2013 / 14

- 929 properties flooded
- 4.7m peak sea level (highest since 1905)
- 91 Flood Alerts, 73 Flood Warnings, 5 Severe Flood Warnings
- 50,000 sandbags deployed
- Main impacts at Yalding (R. Medway), Boughton Monchelsea (R. Beult), R. Nailbourne Valley
- £8.6m central government grant received by KCC under the 'Severe Weather Recovery Scheme' to help repair damaged highways infrastructure



Any questions?





Thank you

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