

# **New developments at the Flood Forecasting Centre: operational flood risk assessment and guidance**

**Presenter: Charlie Pilling**  
**Acknowledge FFC/NHP et al.**

Longer range: Flood Outlook  
Communication: Flood Guidance Statement  
Shorter lead time: Surface Water Flooding



## FLOODFORECASTINGCENTRE

Flood Outlook: 16 December 2016 – 16 January 2017

a working partnership between  Environment Agency  Met Office

**Headline:** The flood risk is medium with unsettled weather likely to coincide with the Christmas holiday period.

Issued: 16 December 2016 (Next issue date: 30 December 2016)

Day and date	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F											
Spring tide periods in purple	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Coastal / Tidal

## Rivers

Surface water

Groundwater

See Flood Guidance Statement for this period



Trend arrows (see page 3 for key)

Low

100%

Low

### Weather and Flood Risk

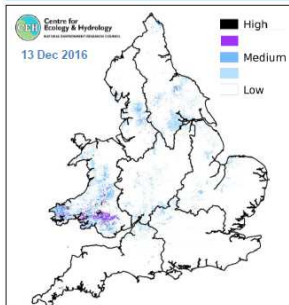
There is the potential for stormy weather from the 23 to the 27 of December. This is not unusual for the time of year, but as this signal coincides with the Christmas period the flood risk is assessed as medium for surface water and river flooding.

Strong westerly winds will bring rain eastwards, mainly affecting the north and west of England and Wales, with the highest totals likely across high ground here. Rainfall is likely to be lowest in the south and east of England. However, with rain bands moving quickly, there are no strong signals for disruptive rainfall amounts, although this cannot be ruled out. Towards the New Year, there is still the potential for unsettled conditions, but on balance the most likely trend is for high pressure to build across the UK leading to more settled conditions. However, confidence is currently very low.

River levels are widely normal or below normal for the time of year, but catchments remain generally wet in western areas. Occasional periods of rain are likely, especially over the Christmas period, which may raise the surface water and river flood risk at times, especially for smaller catchments. However, there is currently only a very low risk that rain will lead to significant impacts.

With the changeable conditions dominating over Christmas, deeper areas of low pressure bring the potential for strong winds, surge and large waves at times, especially in western areas which may lead to minor coastal flooding impacts. However, due to low (neap) tidal levels during this period there are no strong signals that these low pressure systems will lead to significant coastal flood impacts.

Groundwater levels are expected to remain steady with no raised groundwater flood risk



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## FLOODFORECASTINGCENTRE

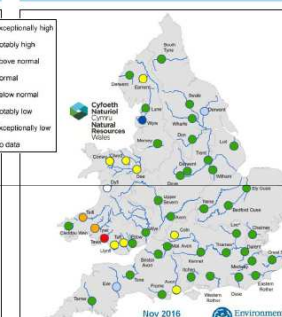
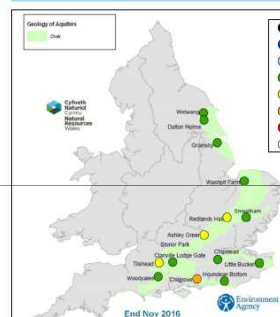
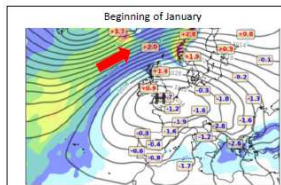
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### Flood Outlook: Current conditions and 3-month precipitation outlook

## Weather Patterns

Groundwater Level

### River Flows



- Groundwater levels were largely normal, with some sites below normal at the end of November.

- The monthly mean river flows for the end of Nov show that river flows were near normal or below for much of England and Wales. During the first part of December river levels have continued to fall.

- During late December, high pressure lies to the east with deep areas of low pressure passing close to Scotland. The UK is forecast to lie in-between with rain making occasional progress across England and Wales.
- There is a risk that stormy conditions could affect the UK around Christmas, especially in the north-west.
- Into early January, there is very low confidence for any particular weather regime. High pressure bringing more settled weather is slightly favoured to build across the UK.



Met Office

### Three month UK Precipitation Outlook

<http://www.metoffice.gov.uk/publicsector/contingency-planners>

During January the chance of below-average and above-average precipitation is evenly matched

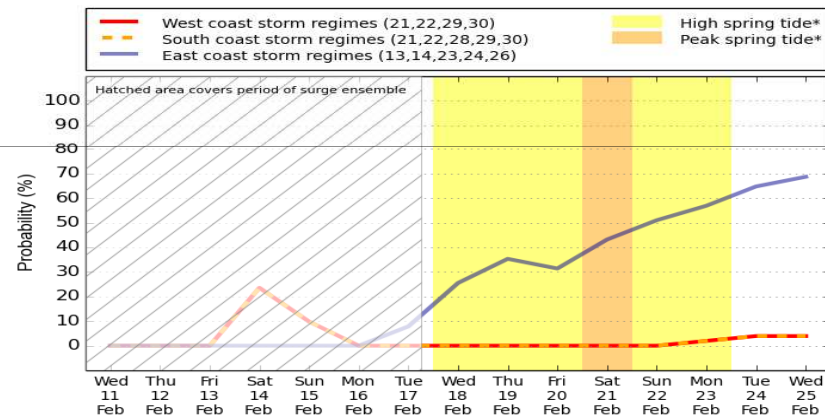
During January–February–March as a whole there is only a slight shift from the normal range of expected conditions, with above-average and below-average precipitation considered nearly equally probable. The probability that UK-average precipitation for January–February–March will fall into the driest of our five categories is between 15 and 20% and the probability that it will fall into the wettest of our five categories is between 15 and 20% (the 1981–2010 probability for each of these categories is 20%).

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## ‘Decider’ weather regimes



Probability of coastal flooding related regimes affecting England and Wales  
Based on the weather regime forecast tool  
ECMWF 00Z run on Wed 11 Feb 2015

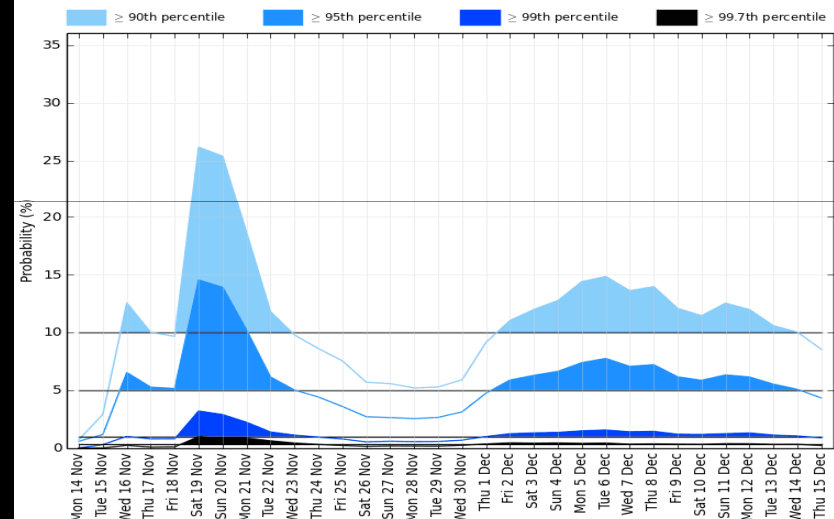


\* High tides defined as 'spring' tide when water levels reach 2.4m OD(N) or more at North Shields.

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Fluvial Decider for Southeast England  
Probability of rainfall exceeding a number of percentiles  
Based on 1931-2015 Oct-Mar climatology  
ECMWF monthly 00Z run on Mon 14 Nov 2016

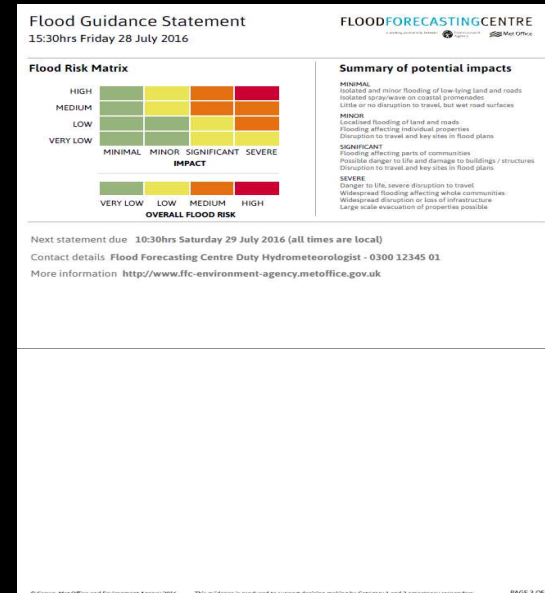
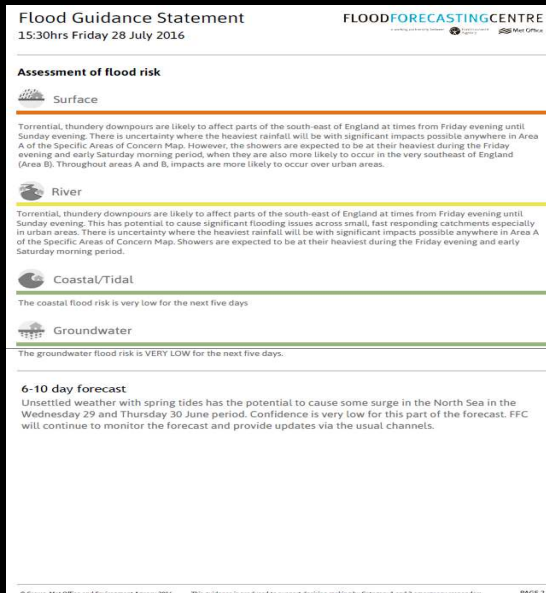
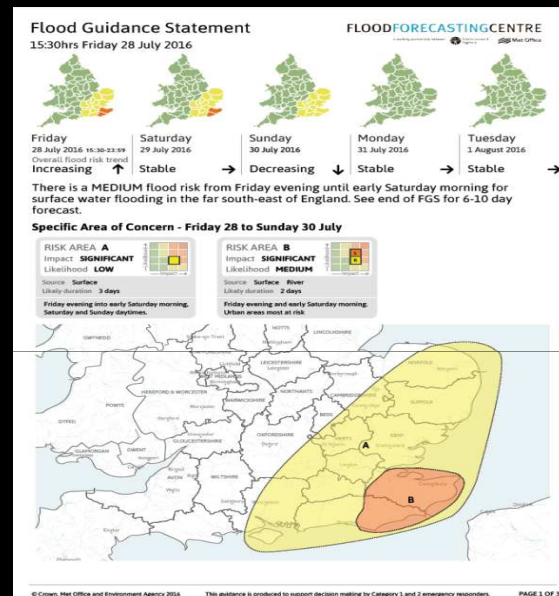


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## Flood Guidance Statement



Improved PDF style, but retains overall feel

Visual indicator of flood risk trend

More detail in covering email

User self-management of preferences



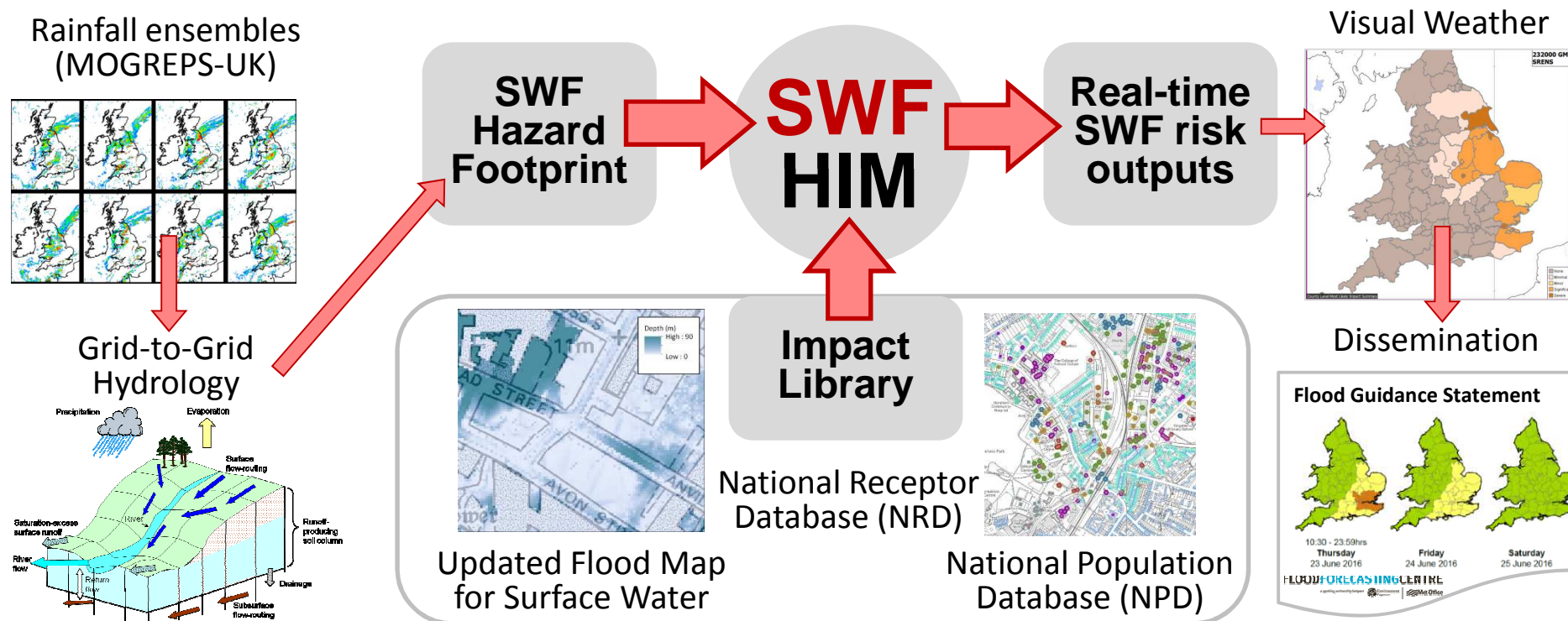
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KING'S  
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# Surface Water Flooding HIM

SWF HIM innovation **builds on existing** models, data and tools



*Providing trusted guidance  
to help protect lives and  
livelihoods from flooding*

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Environment  
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