In my talk today I will cover:

- Overview of the Flood Forecasting Centre (FFC)
- Who the FFC work with
- Our products / services
- Recent coastal event: 10th October 2013
- Coastal work area: FFC involvement
- Questions
UK government’s ‘Pitt Review’ key recommendation (6)

“The Environment Agency and the Met Office should work together, through a joint centre, to improve their technical capability to forecast, model and warn against all sources of flooding.”

“The Review understands that this is a significant change to current arrangements and we do not take the option lightly”
What is the FFC?

- Successful partnership between the Met Office and the Environment Agency, funded by Defra
- Operational since April 2009, delivering 24/7 services to government and emergency responders
- Aim to provide early warning of potential flood impacts
- Based in the Operations Centre, Exeter
- Forecasts for all 4 sources of flooding
- Combining expertise in meteorology and hydrology
FFC Structure Chart (November 2013)

Green = Environment Agency employees
Blue = Met Office employees
The FFC work closely with:

Met Office
- Guidance Unit
- National Severe Weather Warning Service (NSWWS) & Civil Contingencies Advisors
- BBC / ITV weather forecasters

Environment Agency (EA) & Natural Resources Wales (NRW)
- EA and NRW Regional Forecasting Teams
- EA and NRW Flood Incident Management
- National Flood Risk Systems
- Incident & Contingency Planning

The FFC also work with SEPA and DARDNI for coastal issues
Our Customers

Environment Agency and Natural Resources Wales

- Flood Risk and Coastal Management
- Incident & Contingency Planning

National Government

- Welsh Government
- Defra
- Cabinet Office
- Department for Communities & Local Government

Emergency Responders

- Blue Light Services
- Local Authorities
- Utility Companies
Our Services

For the Environment Agency and Natural Resources Wales
- Hydromet Services / Heavy Rainfall Alerts / FMD
- Consultancy

For Emergency Responders
- Flood Guidance Statement (FGS)
- Advice and guidance
- Training material / exercises
- NFAS (National Flood Advisory Service)

For the Public
- Three Day Flood Risk Forecast
- Outlooks, alerts and consultancy
- UK coast including Scotland & Northern Ireland
The Met Office models we look at…

MOGREPS-G

MOGREPS-UK

Global

Euro4

Storm Surge Ensemble

CS3x*

UKV

Wave Watch 3*

* Driven by NAE until this model retires in Spring 2013 then by Global
FGS: FFC primary product 4 Sources of Flooding

- **Fluvial (River)**
  - Grid 2 Grid

- **Pluvial (Surface Water)**
  - Surface Water Tool

- **Groundwater**

- **Coastal / Tidal**
  - UKCMF
UKCMF is a complex and vital service for providing **timely and accurate forecasts** of coastal flood risk conditions for flood warnings. The Environment Agency is responsible for managing the service but all the organisations involved have a vital part to play.” UKCMF Service – Strategy for 2009 to 2019
National Risk Register of Civil Emergencies – coastal flooding 2nd highest impact
Recent coastal event: 10\textsuperscript{th} October 2013

- Assessment of forecast pressure charts for an East Coast event on Thursday 10\textsuperscript{th}.
- Springs peaked Monday 7\textsuperscript{th}.

Surge ensemble output:
- Lowestoft: from 1800 Saturday 5\textsuperscript{th}.
- From 0600 Tuesday 8\textsuperscript{th}:
  - Cromer (just over Alert Level)
  - Lowestoft (well over Alert Level)
Recent coastal event: 10th October 2013

- NWP output – UKV and EURO4 winds and WWIII
Recent coastal event: 10th October 2013

- FGS (Read by PM daily in this event – potential for COBR if signal for AMBER)

Flood Guidance Statement 10:30hrs Tuesday 08 October 2013

Our assessment of daily flood risk for England and Wales, working with flood forecasting teams in the Environment Agency and Natural Resources Wales is below.

The highest overall flood risk for England and Wales over the next five days is LOW. There is a medium likelihood of minor impacts from coastal flooding on parts of the east coast of England during Thursday.

General overview of flood risk

On Thursday a positive surge will affect some parts of the North Sea coast, accompanied by gale force northerly winds, and large waves. However, this is occurring as we move away from spring tides, which will reduce the overall impact of the event. The overall flood risk is LOW for Thursday in coastal areas from Redcar to the Humber estuary, also for Lincolnshire, Norfolk, Suffolk and north Essex as highlighted yellow on the maps above in the Specific Area of Concern Map.

Otherwise the flood risk remains VERY LOW over the next five days for all sources of flooding. In some coastal areas, minor surface water flooding, but in the surge areas are uncertain.

Aside from the coastal flooding on Thursday, the flood risk remains VERY LOW over the next five days for all sources of flooding.
Recent coastal event: 10th October 2013

Hydromet Guidance from Sunday 6th October
Recent coastal event: 10th October 2013

- FFC participated in NFAS and NOIMT telecons
- High level interest in East coast flood events
- Also provided briefing documents
- Environment Agency Flood Warnings/Alerts
  - Minor Impacts was the appropriate warning level
Coastal Work Area: FFC Involvement

- **In House Work**
  - Visual Weather (production and visualisation)
  - Day to day service deliver and Requests For Change (RFC’s)

- **Links with EA & NRW**
  - Hydromet Service Review
  - Task & Finish Groups (eg 5 Day wind and Wave)
  - EA Coastal Modelling and Forecasting Group
  - East Coast Decision Support Tool (ECDST)

- **Links with NOC**
  - Case Study investigation work (better understanding of CS3X model)
  - CS3X (scoping for eventual replacement potentially by NEMO)
Coastal Work Area: FFC Involvement

Links with Met Office Research

Wave Ensemble
- 22 member time lagged ensemble
- My Wave (EU) funded
- Plan to be operational in Jan 2014

In time – a combined wind/wave/surge ensemble out to 5+ days would be good!
THANK YOU FOR LISTENING

Dave Cox - Senior Hydrometeorologist
QUESTIONS?

Contact the FFC

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