

# Preparing for an uncertain future

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Flood and Coastal Erosion Risk Management Research and Development

## **The Evidence**

The future will not reflect the past, so what should we prepare for, and how?

# What is the current situation?



**38%** of all roads



**18%** of roads: high or medium risk



# And the future?

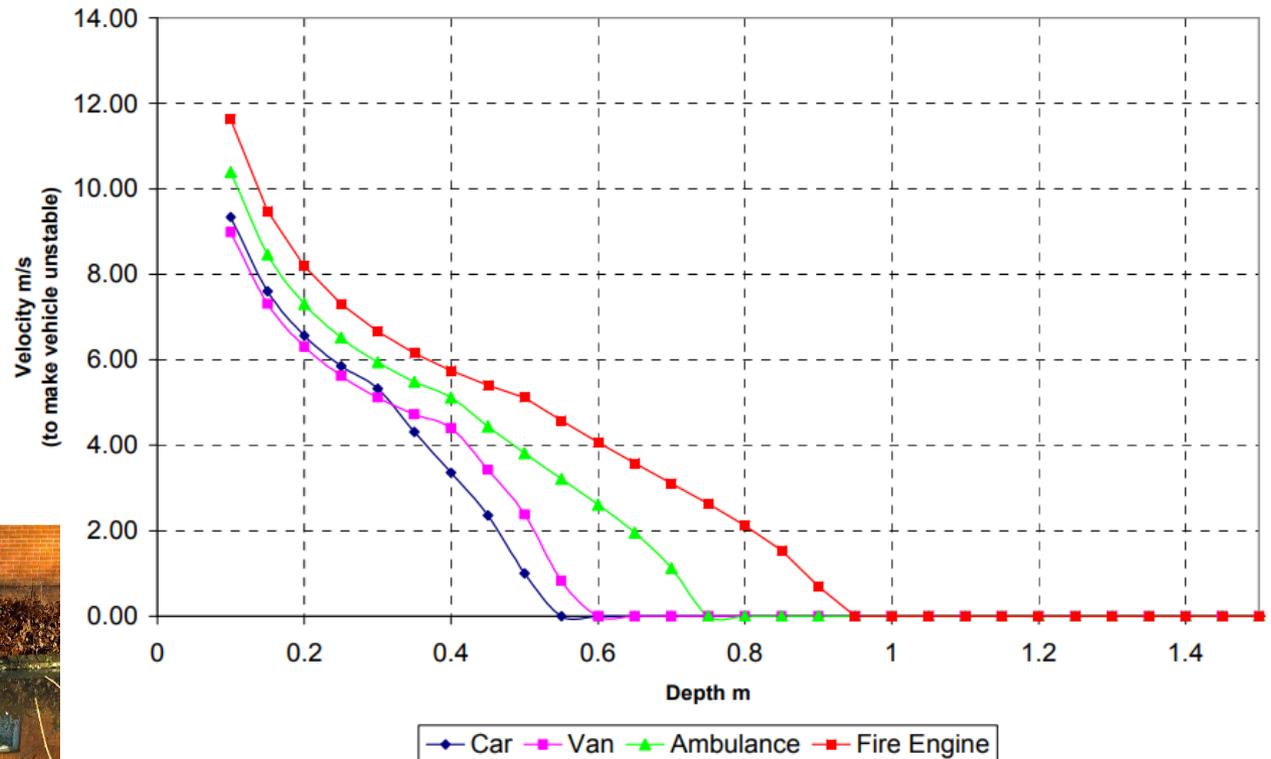


46% of all roads at flood risk



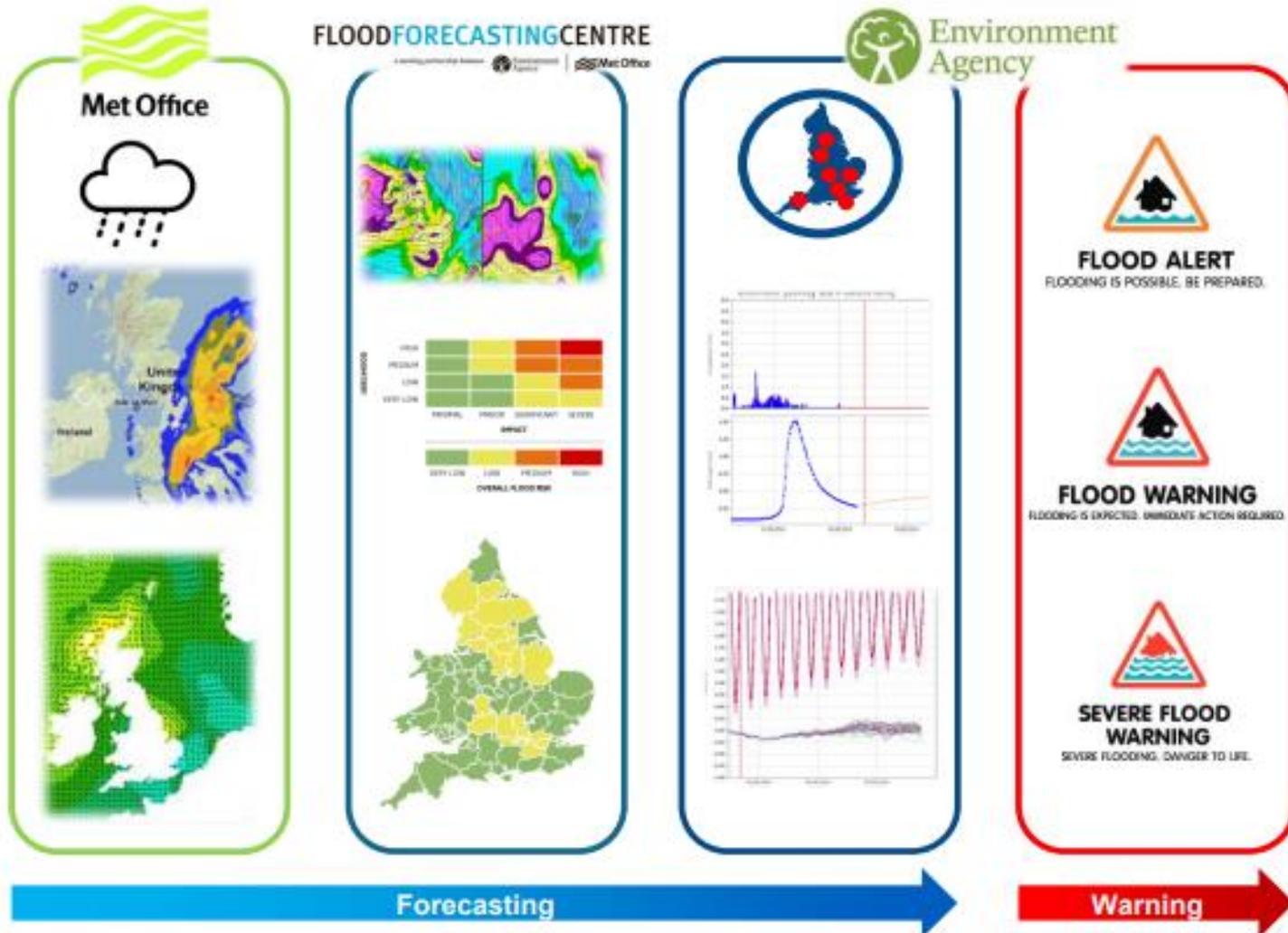
# Driving through flood water

74% would risk driving through flood water\*

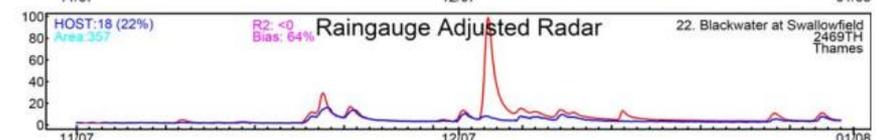
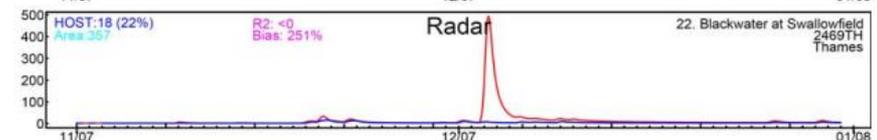
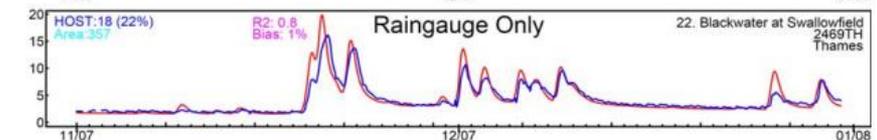
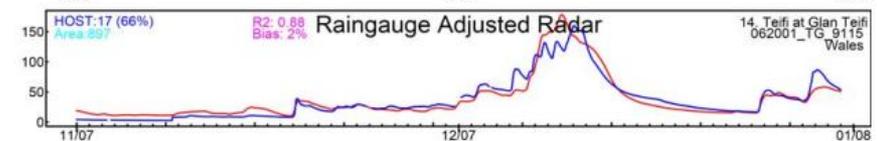
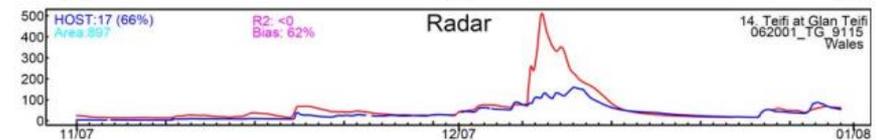
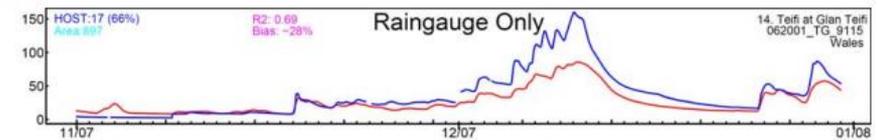
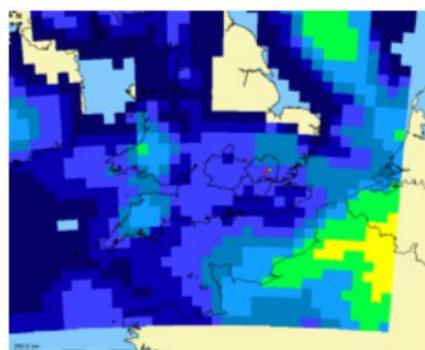
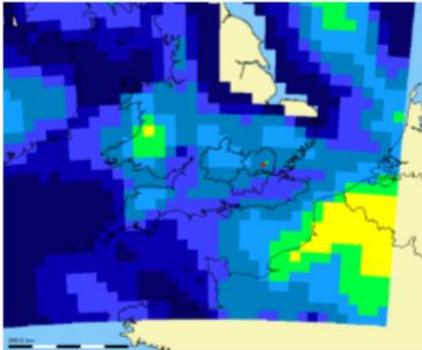
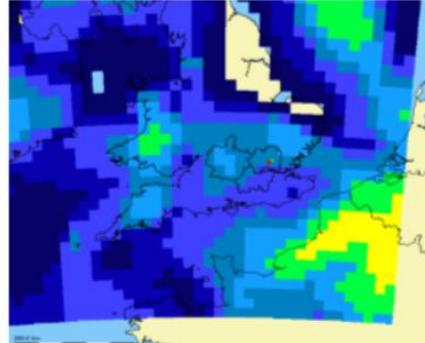
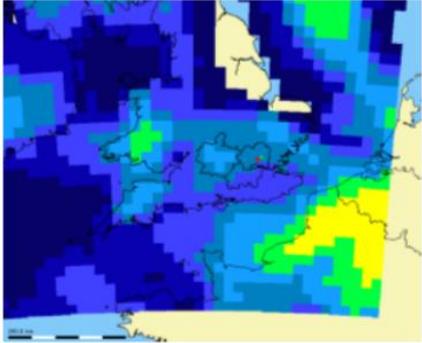


<https://www.gov.uk/flood-and-coastal-erosion-risk-management-research-reports/flood-risks-to-people-phase-1>

# When will a flood happen?

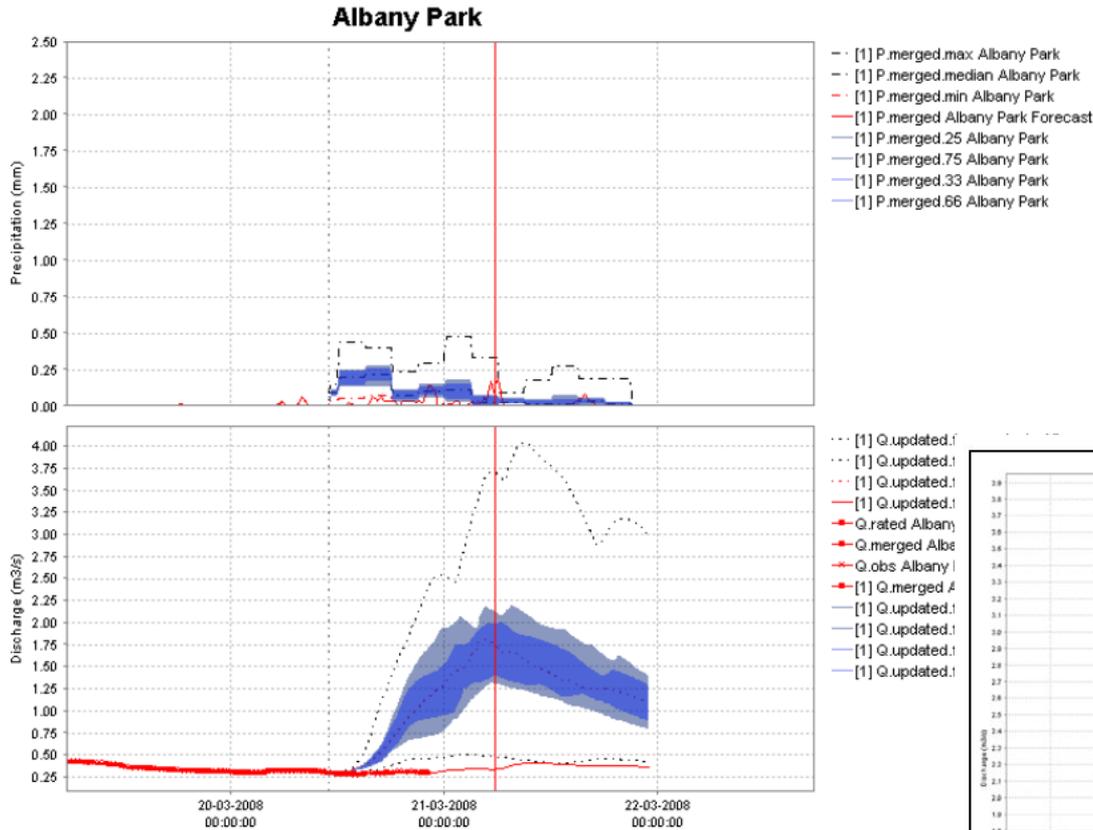


# Complexities of rainfall forecasting



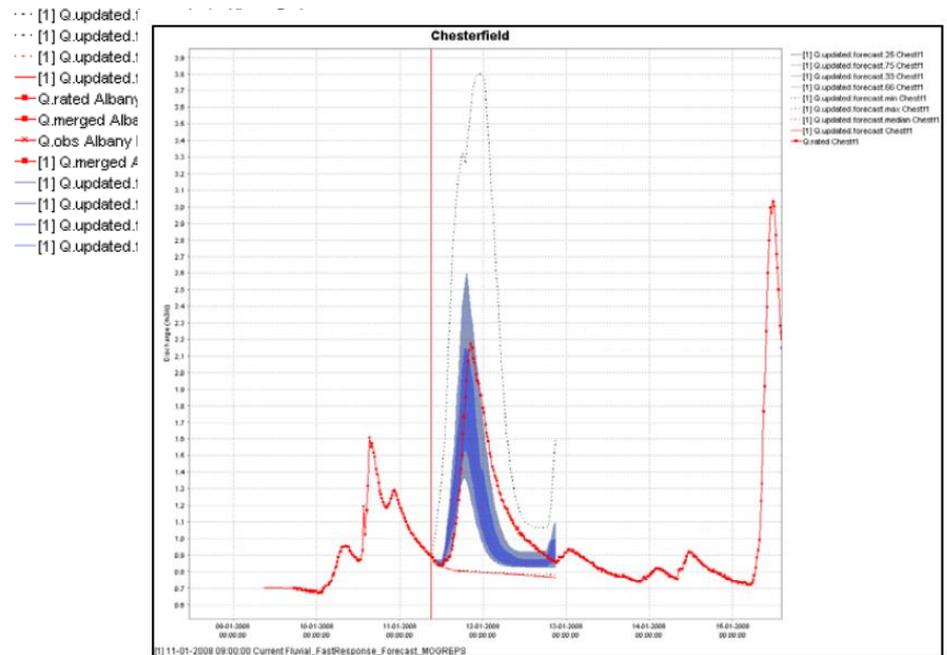
[Hydrological modelling using convective scale rainfall forecasts - GOV.UK](https://www.gov.uk/government/news/hydrological-modelling-using-convective-scale-rainfall-forecasts)

# Lead to complexities in forecasting a flood



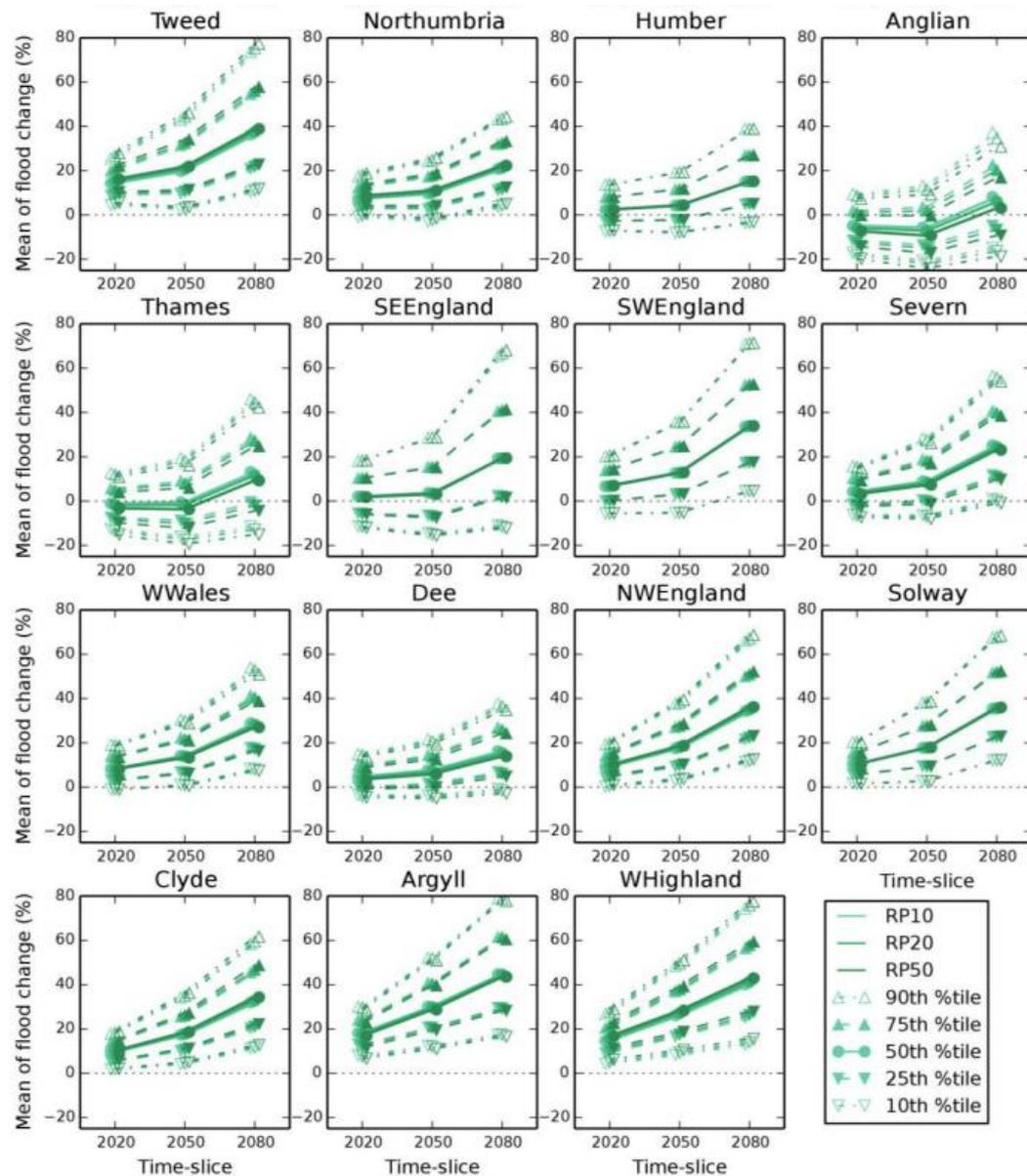
[1] 20-03-2008 11:00:00 Fast\_All\_MOGREPS

[Hydrological modelling using convective scale rainfall forecasts - GOV.UK](#)



[1] 11-01-2008 09:00:00 CurrentFinal\_FastResponse\_Forecast\_MOGREPS

# Are we prepared?



Regional means of changes in 20-year return period flood peaks using UKCP18 probabilistic projections  
[Climate change and fluvial flood peaks - GOV.UK](https://www.gov.uk/government/reports/publications/climate-change-and-fluvial-flood-peaks)

# What should we prepare for?

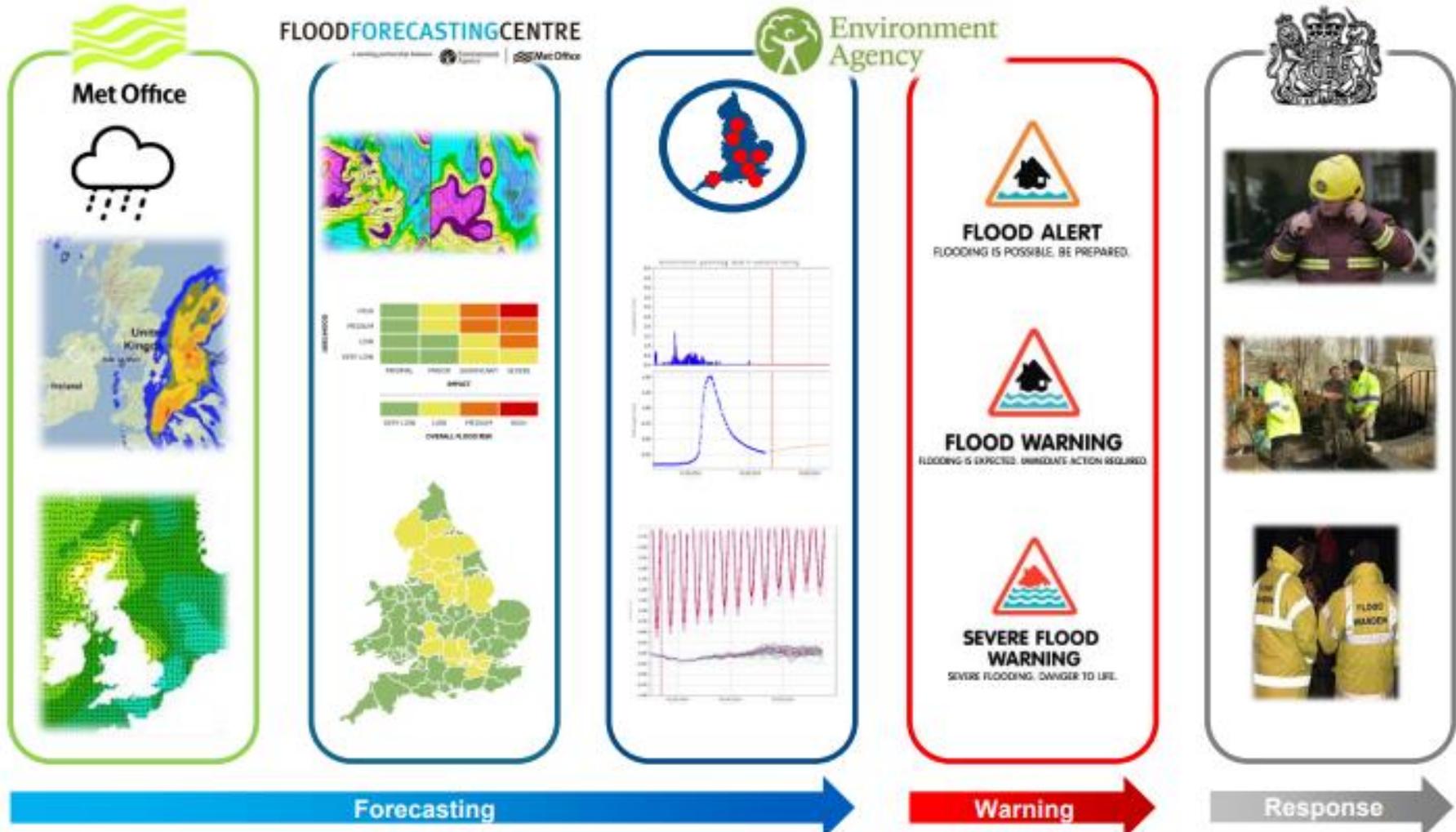
**Increased future  
rainfall extremes**

**Increased  
infrastructure at  
flood risk**

**Increased  
complexity in  
forecasting**

**Human  
behaviours**

# Incident response



# Working together

## Prepare

Increased future rainfall extremes

Increased infrastructure at flood risk

Increased uncertainty in forecasting

Human behaviours

## Respond

