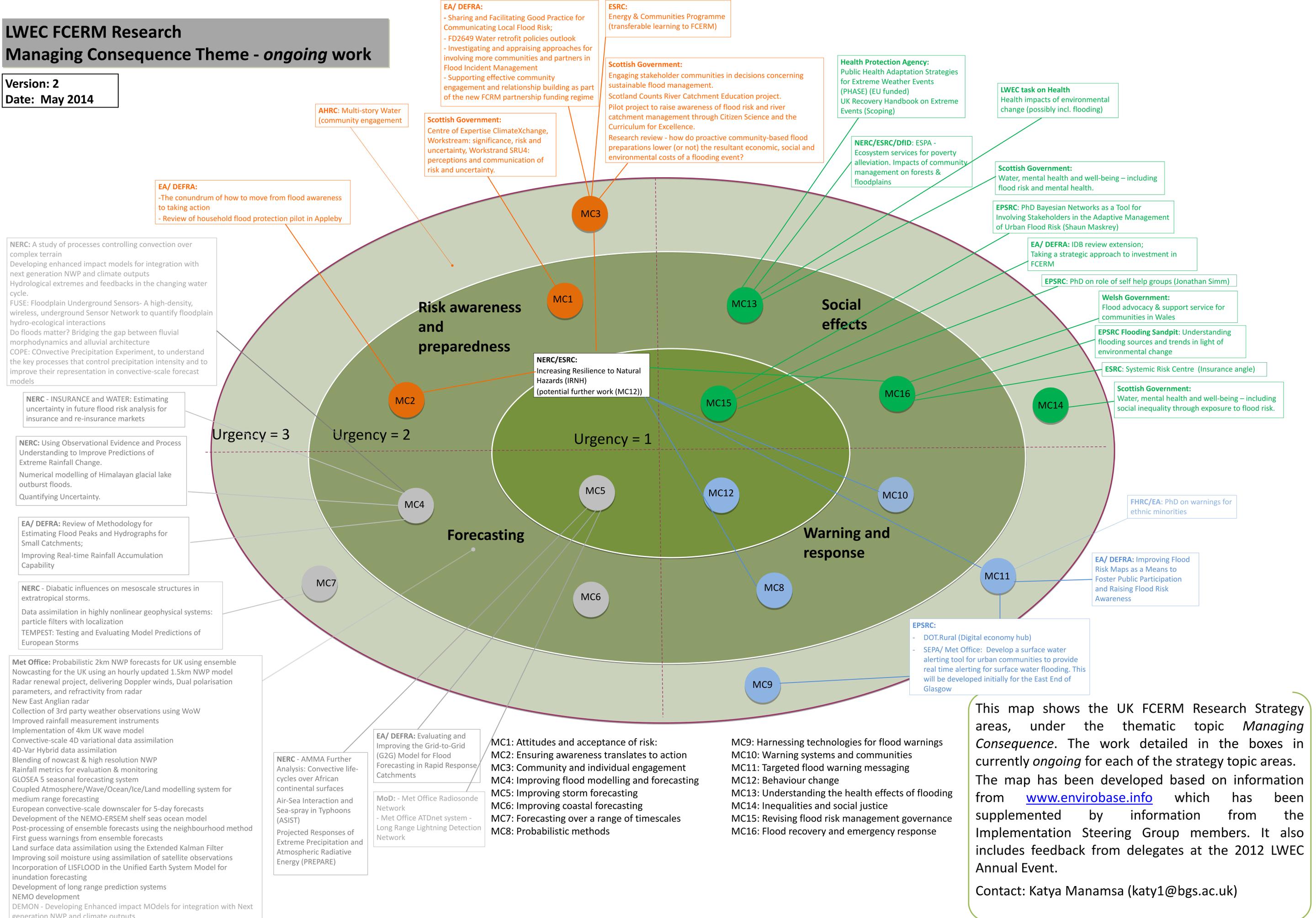


LWEC FCERM Research Managing Consequence Theme - *ongoing work*

Version: 2
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NERC: A study of processes controlling convection over complex terrain
Developing enhanced impact models for integration with next generation NWP and climate outputs
Hydrological extremes and feedbacks in the changing water cycle.
FUSE: Floodplain Underground Sensors- A high-density, wireless, underground Sensor Network to quantify floodplain hydro-ecological interactions
Do floods matter? Bridging the gap between fluvial morphodynamics and alluvial architecture
COPE: COncvective Precipitation Experiment, to understand the key processes that control precipitation intensity and to improve their representation in convective-scale forecast models

NERC - INSURANCE and WATER: Estimating uncertainty in future flood risk analysis for insurance and re-insurance markets

NERC: Using Observational Evidence and Process Understanding to Improve Predictions of Extreme Rainfall Change.
Numerical modelling of Himalayan glacial lake outburst floods.
Quantifying Uncertainty.

EA/ DEFRA: Review of Methodology for Estimating Flood Peaks and Hydrographs for Small Catchments;
Improving Real-time Rainfall Accumulation Capability

NERC - Diabatic influences on mesoscale structures in extratropical storms.
Data assimilation in highly nonlinear geophysical systems: particle filters with localization
TEMPEST: Testing and Evaluating Model Predictions of European Storms

Met Office: Probabilistic 2km NWP forecasts for UK using ensemble Nowcasting for the UK using an hourly updated 1.5km NWP model
Radar renewal project, delivering Doppler winds, Dual polarisation parameters, and refractivity from radar
New East Anglian radar
Collection of 3rd party weather observations using WoW
Improved rainfall measurement instruments
Implementation of 4km UK wave model
Convective-scale 4D variational data assimilation
4D-Var Hybrid data assimilation
Blending of nowcast & high resolution NWP
Rainfall metrics for evaluation & monitoring
GLOSEA 5 seasonal forecasting system
Coupled Atmosphere/Wave/Ocean/Ice/Land modelling system for medium range forecasting
European convective-scale downscaler for 5-day forecasts
Development of the NEMO-ERSEM shelf seas ocean model
Post-processing of ensemble forecasts using the neighbourhood method
First guess warnings from ensemble forecasts
Land surface data assimilation using the Extended Kalman Filter
Improving soil moisture using assimilation of satellite observations
Incorporation of LISFLOOD in the Unified Earth System Model for inundation forecasting
Development of long range prediction systems
NEMO development
DEMON - Developing Enhanced impact MOdels for integration with Next generation NWP and climate outputs

NERC - AMMA Further Analysis: Convective life-cycles over African continental surfaces
Air-Sea Interaction and Sea-spray in Typhoons (ASIST)
Projected Responses of Extreme Precipitation and Atmospheric Radiative Energy (PREPARE)

EA/ DEFRA: Evaluating and Improving the Grid-to-Grid (G2G) Model for Flood Forecasting in Rapid Response Catchments

MoD: - Met Office Radiosonde Network
- Met Office ATDnet system - Long Range Lightning Detection Network

MC1: Attitudes and acceptance of risk:
MC2: Ensuring awareness translates to action
MC3: Community and individual engagement
MC4: Improving flood modelling and forecasting
MC5: Improving storm forecasting
MC6: Improving coastal forecasting
MC7: Forecasting over a range of timescales
MC8: Probabilistic methods

MC9: Harnessing technologies for flood warnings
MC10: Warning systems and communities
MC11: Targeted flood warning messaging
MC12: Behaviour change
MC13: Understanding the health effects of flooding
MC14: Inequalities and social justice
MC15: Revising flood risk management governance
MC16: Flood recovery and emergency response

This map shows the UK FCERM Research Strategy areas, under the thematic topic *Managing Consequence*. The work detailed in the boxes in currently *ongoing* for each of the strategy topic areas. The map has been developed based on information from www.envirobase.info which has been supplemented by information from the Implementation Steering Group members. It also includes feedback from delegates at the 2012 LWEC Annual Event.

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