

West Yorkshire Flood Innovation Programme Accelerator Project

Work Package 4 – Develop and embed flood source (system)-based Flood Risk Management for climate ready planning

Start date: 1st September 2023 | End Date: 1st March 2025 | Location: Wyke Beck

1. Background and rationale

This work package will evaluate the current use of flood source mapping, identify strategic areas for future mapping, and create a new framework (pathway to decision making) for flood source (system)-based flood risk management. Flood frequency and magnitude is highly likely to increase as climate change progresses. Flood source maps identify areas within a catchment which contribute most towards flooding and assess flow pathways and areas within the catchment most at risk from flooding. These maps enable assessment of priority areas for catchment management and/or land use change which maintains or lowers flood risk.

Two examples of how these maps could be used are given below:

Example One: Potential locations for a new housing development may be considered based on the extent to which they contribute to downstream flooding. If the location is likely to increase downstream flood risk additional flood mitigations measures may be required and these should be accounted for at the planning stage. **Example Two:** Where locations have high contribution to flood risk downstream, flood mitigation measures may be concentrated on those areas and any flow pathways which stem from them.

2. Aim

The overall aim of this work package is to provide the evidence and associated framework to help make sure flood source management is considered within planning activities to maximise co-benefits across the West Yorkshire Combined Authority (WYCA) area.

3. Activities

We will undertake the following activities within this Work Package:

- A. Identify strategic areas for flood source (system) mapping across WYCA, and connect flood source maps to an estimation of the impact of flooding (e.g. properties & roads)
- B. Engage with work package (WP) 2, WP5 and WP6 on spatial data requirements and collection to support project opportunity identification
- C. Establish how existing Site Allocation Plans can be used to identify information for system-based flood risk management.
- D. Gather evidence through external engagement to establish useability & pathway to decision-making using flood source area techniques
- E. Collate and synthesise feedback to outline next stages and improvements suggested by project partners for the next stages of development.

We will deliver the following outputs within this Work Package:

1. Flood source maps for Wyke Beck case study including monetary evaluation associated with intervention zones.
2. Evidence of how to utilise flood source maps in generating economic evaluation in prioritisation of current and future investment plans
3. Synthesis report: recommendations/principles (e.g. data collection, activities, methods) for incorporating flood source mapping in climate ready planning (and site allocation plans).

4. Progress to January 2024 and next steps

Progress:

- A survey regarding current use of flood source maps in West Yorkshire has been shared with the West Yorkshire Flood Innovation Programme Board and Steering group. This group of people encompasses a wide range of organisations including Local Authorities, Yorkshire Water, Environment Agency, Environmental consultancies and third sector organisations. The results will enable an evaluation of current flood source mapping, be used in decision making processes, and identify any changes required to the current mapping progress.
- We are undertaking discussions with WP5&6 regarding flood source map inclusion in a 'spray can' activity to identify locations of partnership activities
- We are evaluating the possibility of including further map case studies for evaluation

Next steps:

- To collate and process survey results in full.
- To undertake GIS post-processing of the Wyke Beck flood source map to evaluate monetary impacts of the area affected by flooding, focussing on assets (number of buildings, green space, roads etc).

Contact information and useful links:

If you have questions about this project, iCASP or the WYFLIP, please contact us.



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