

FLOODS AND DROUGHTS RESEARCH INFRASTRUCTURE (FDRI)

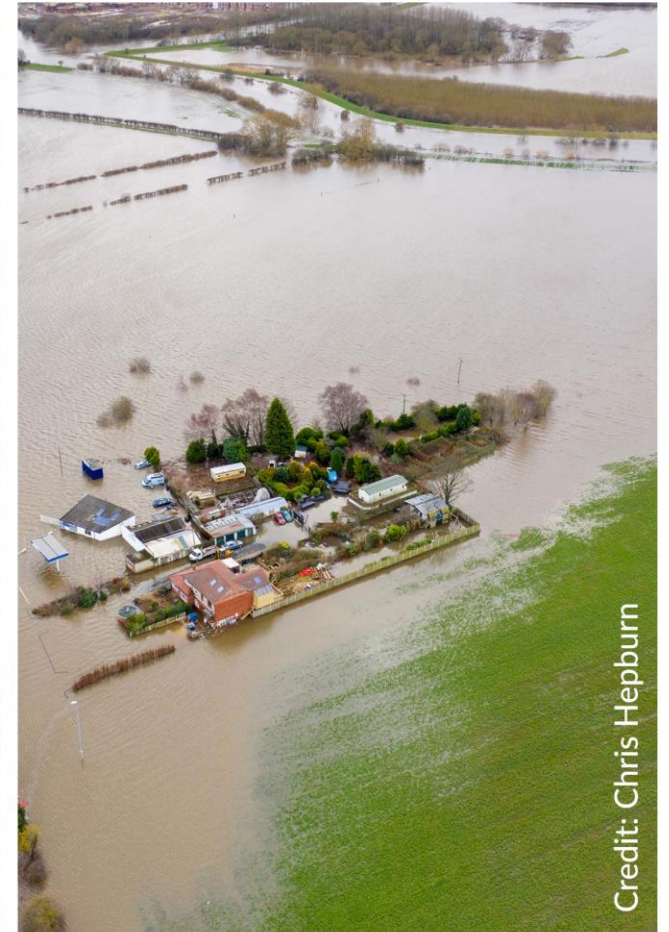
Enabling the hydrological
research community



Dr Gareth Old
FDRI Lead



Credit: Thaiapbphoto



Credit: Chris Hepburn

Nov 2021: FDRI application to UKRI Infrastructure Fund



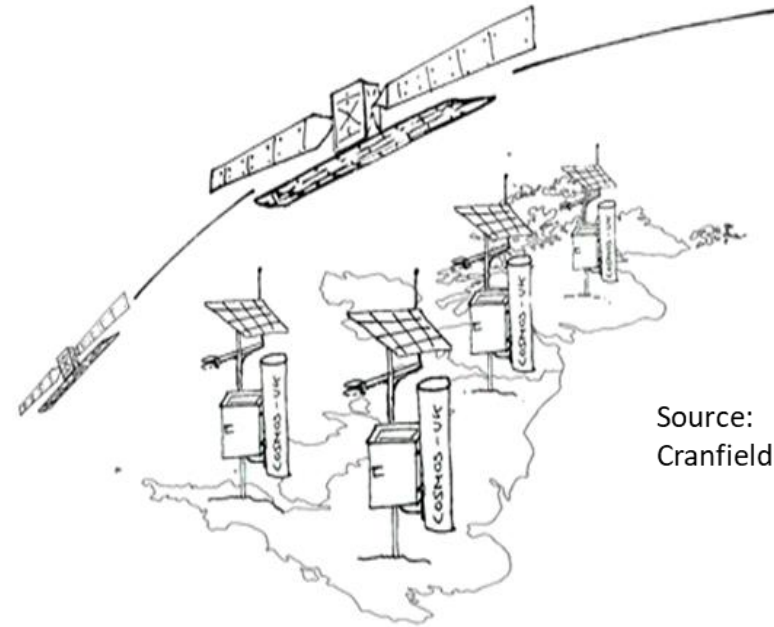
A screenshot of the UKRI website. At the top left is the UKRI logo and the text 'UK Research and Innovation'. To the right are navigation links: 'Apply for funding', 'Manage your award', 'What we offer', 'News and events', 'About us', and 'Our councils'. A search bar is in the top right corner. Below the navigation is a dark blue header with a red and white abstract image on the left. The header contains links for 'News', 'Blog', 'Events', 'COVID-19', 'Climate change', and '101 jobs that change the world'. Below the header is a breadcrumb trail: 'Home > News > £481m for UK's world-class research and innovation infrastructure'. The main headline reads '£481m for UK's world-class research and innovation infrastructure'.

15th June 2022: UKRI confirm £38M towards implementation of FDRI

The value of catchment science

- Hydrology built on **catchment science**
- **Systems approach** to observations
- **Knowledge gained** – methods and models
- **Innovative platforms**

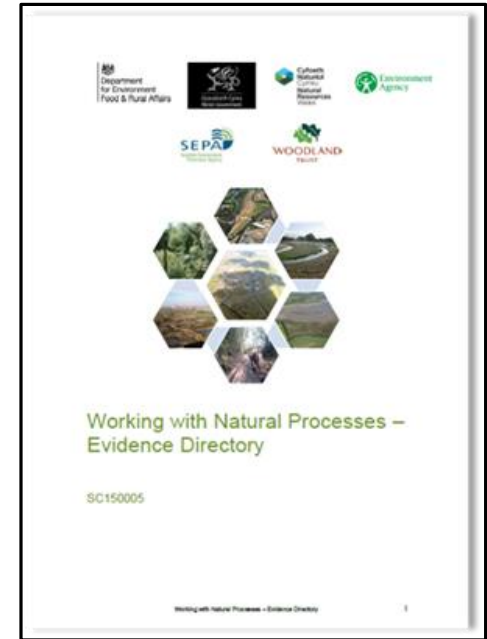
Limited investment in recent years



Source:
Cranfield University

Catchment management: Working With Natural Processes (WWNP)

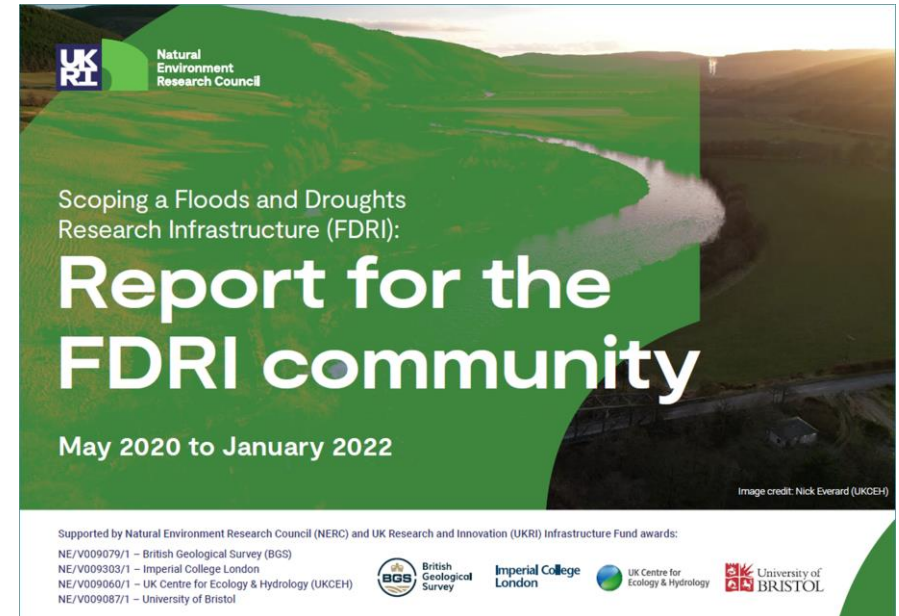
- **Limited evidence** on NFM: Extremes, combination, catchment scale, change over time, and benefits and trade offs
- **Constrains implementation**; modelling challenge
- **Observations urgently needed**;
innovative measurements with reduced uncertainty
over longer timescales – with **digital support**



FDRI Scoping study: May 2020 – Jan 2022



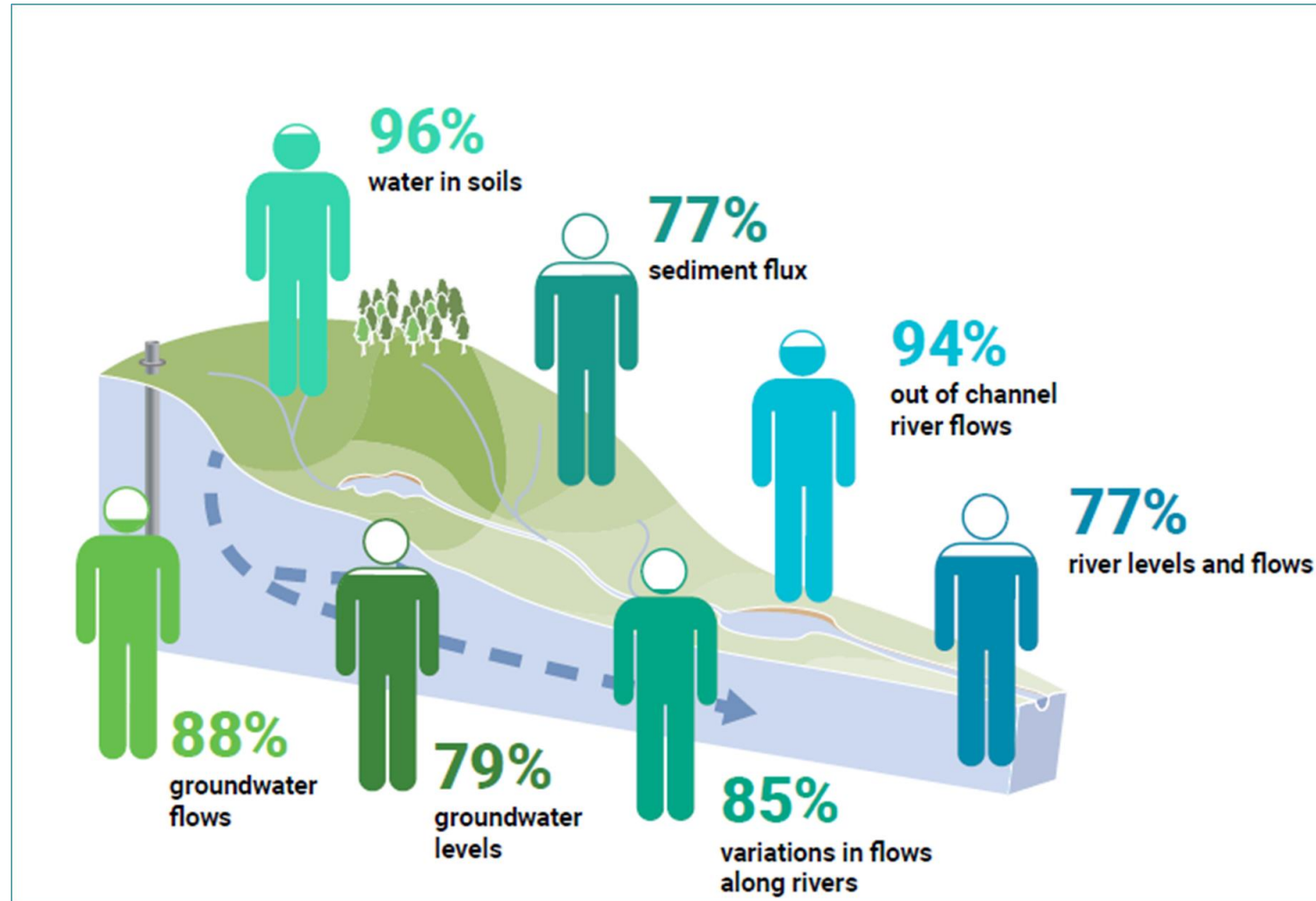
- Core delivery team with NERC
- Wider team (UKCEH and BGS)
- Comprehensive consultation



Community enthusiasm



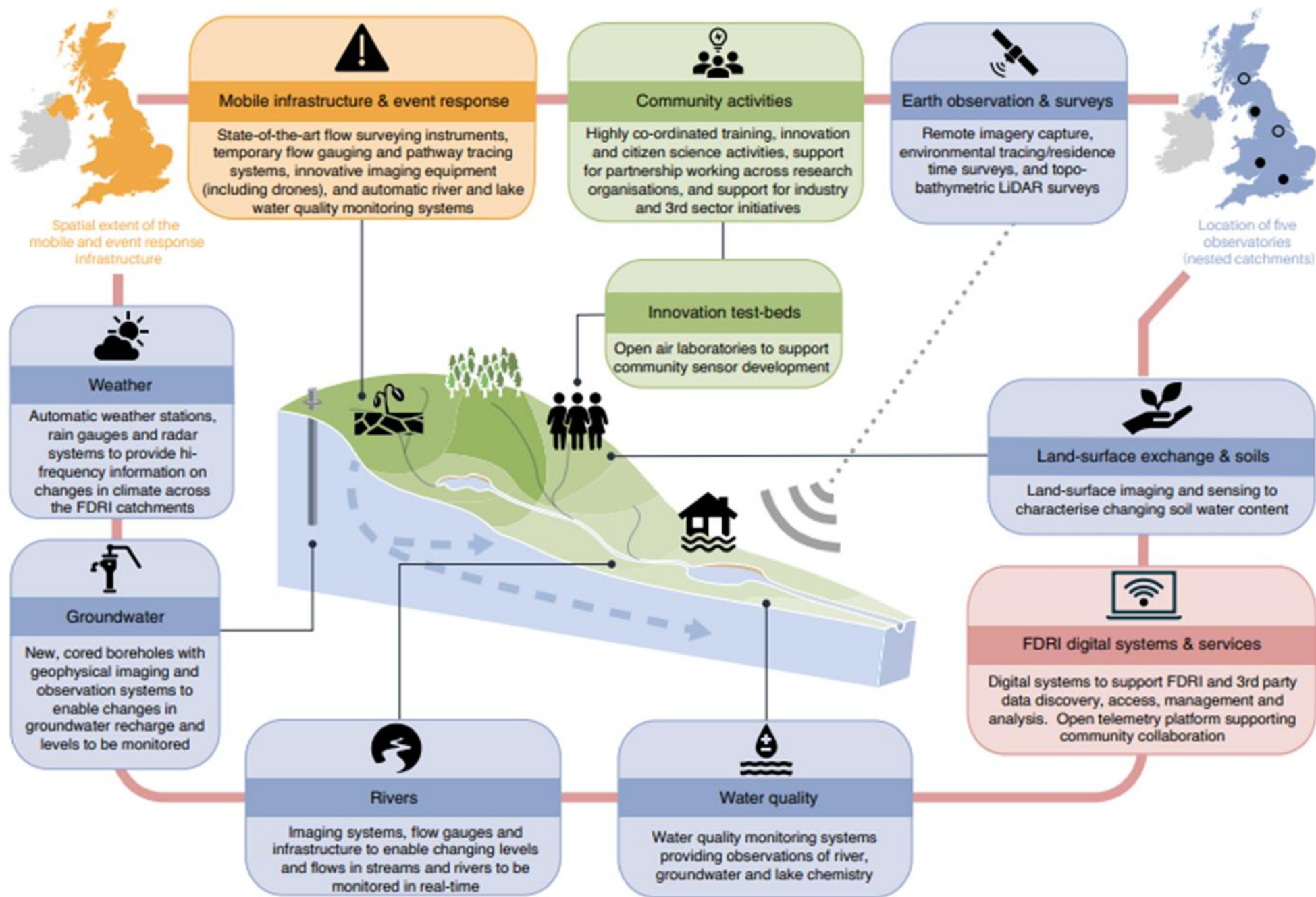
Community request for more observations



FDRI features:



- A **UK-wide community designed network of field sites**: fixed and mobile instrumentation.
- A **digital data capability** to provide a step-change in data discovery, access and integration (including third party data).
- A **capacity building programme** to instil a strong culture of community leadership and collaborative working.
- An **innovation programme**: the cornerstone of UK hydrological research and training.
- A **sustainable infrastructure** that is designed to meet net zero ambitions and has due consideration for minimising harm to the environment.



Five observatories: A hierarchical approach

Stage 1:

Regional screening

Science Q's

Hydrological extremes

Subject to pressures

Future change

Implementation & Sustainability

Existing infrastructure

Active research groups

Stakeholder engagement



Five regions confirmed

Stage 2:

Catchment selection
(autumn 2022)

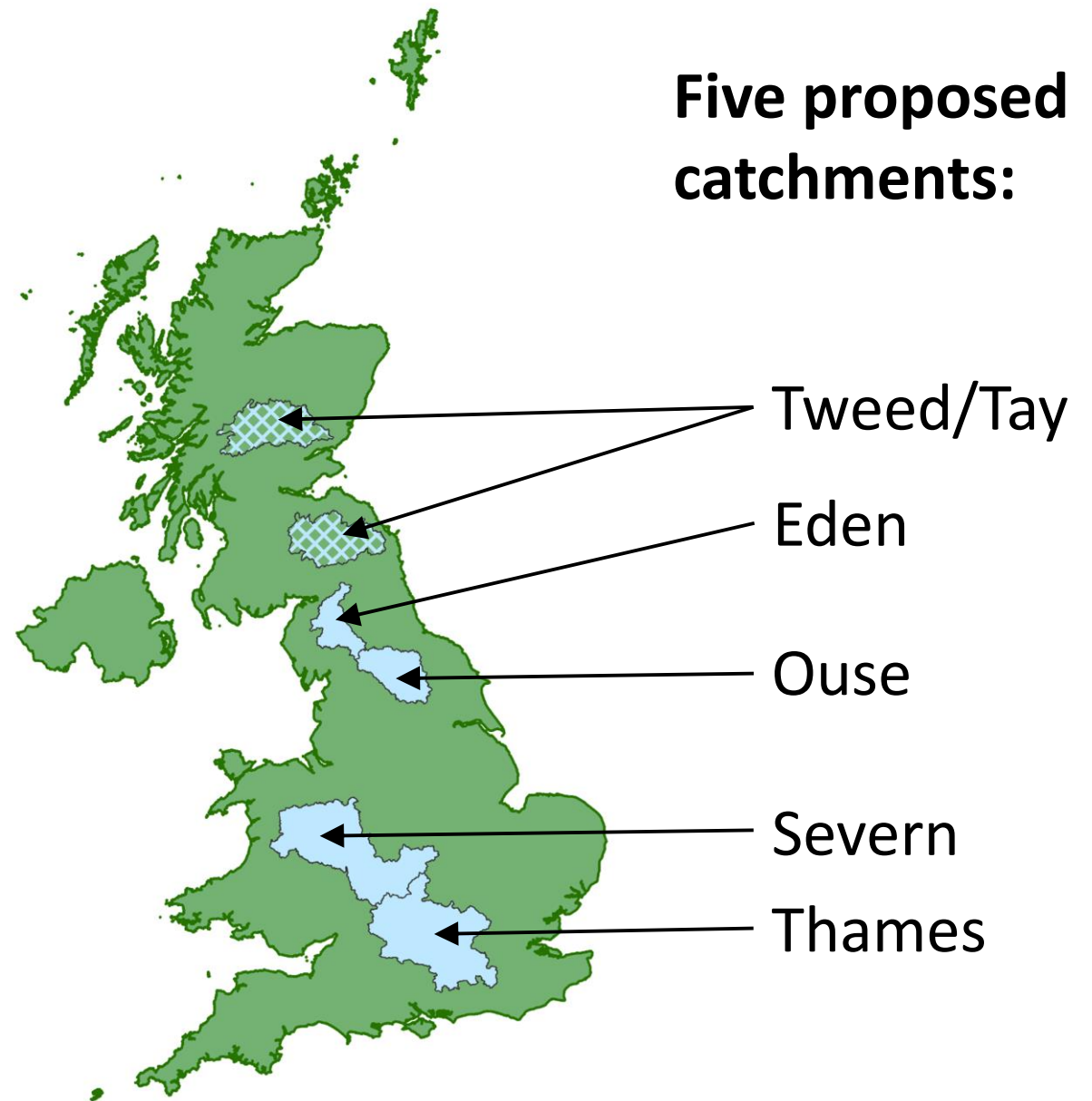
Stage 3:

Sub-catchment selection

Stage 4:

Select site- to plot scale

**Five proposed
catchments:**



What now and What next?

PHASE 1: Planning and initiation phase (Summer 2022 – autumn 2023)

PHASE 2: FDRI implementation (autumn 2023 – 2028)

PHASE 3: FDRI operation (autumn 2028 onwards).

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THANK YOU

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Credit: Nick Everard UKCEH