Natural Flood Management

Contacts: Nicole AL Archer (nicarc@bgs.ac.uk), Alan M MacDonald (amm@bgs.ac.uk) and Brighid É Ó Dochartaigh (beod@bgs.ac.uk)

- **Natural Flood Management (NFM)** works with natural processes to manage sources and pathways of flood waters.
- **NFM techniques** include restoration, enhancement and alteration of natural hydrological and morphological processes and features.
- **NFM** takes a catchment-wide approach to:
  - reduce runoff rates and/or amounts, slowing down peak river flows;
  - improve the ability of rivers and floodplains to manage flood water.
- **Integrated catchment research** is needed to better understand hydrological connectivity between surface water, soil and groundwater, and ensure the most effective land use and flood management measures.

![Figure 1](image1.jpg) – Combined surface water and groundwater flooding in the Tweed valley.

BGS is working with other researchers including Forest Research, the Universities of Dundee, Edinburgh and Abertay; and with SEPA and the Scottish Government. We are investigating how hydraulic characteristics of soil and aquifers vary across floodplains and wider catchments; how rainfall, surface water, soil water and groundwater interact; and how this influences flooding.

![Figure 2](image2.jpg) – Subsurface flows are important in transferring water through hillslopes and floodplains.

**References**