

Article

Investment in flood defences, UK: May 2023

Article discussing research into the state of investment in flood defences and alleviation across the UK.

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1 . Main points

- Central government is the largest source of flood and coastal erosion risk management (FCERM) funding in England, contributing 90% in the financial year ending 2022.
- Expenditure on FCERM in England increased from £777 million in 2018 to £1.063 billion in 2021, current prices.
- There is currently a lack of readily available data to create a consistent and coherent time series across the UK; this article presents the available data to help promote discussion on this important topic.

2 . Flood defences

In response to stakeholder engagement, we have started exploring areas of infrastructure beyond core economic infrastructure. One of the first identified for further research is investment in flood defences as a priority for environmental policy in the UK.

Flooding can occur on the coast, from rivers and streams, or from surface water. [The Environment Agency](#) states that flood risk management assets can be "any natural or man-made structure or feature, such as walls, buildings, earth embankments, shingle banks, or raised areas of land". Examples of natural flood defences are forestry or saltmarshes.

Early 2020 saw heavy flooding in many parts of the UK. The impacts of flooding and resulting damages (such as spoil heap landslides) can include:

- economic impacts
- fatalities
- the displacement of people
- public confidence levels
- environmental damage
- disruption of essential services
- electricity supply losses

Therefore, it is essential to understand the state of investment across the UK and suitable data should be made available for analysis.

Management of flood risk across the UK is a critical issue. Flood risk in each of the devolved nations is outlined by the respective responsible bodies (Natural Resources Wales, Scottish Environment Protection Agency, Northern Ireland Department for Infrastructure and the Environment Agency) in reports and online risk-check functions. The [Flood and coastal erosion risk management \(FCERM\) risk management report](#) estimates that the economic losses from flooding between November 2019 and March 2020 were about £333 million. However, it would have cost an extra £2.1 billion without flood defences.

Investment in flood defences can be undertaken by the public or the private sector. In the public sector, it is usually local authorities or government bodies that are responsible for investment in flood management. Privately, landowners are typically the investors in flood defences.

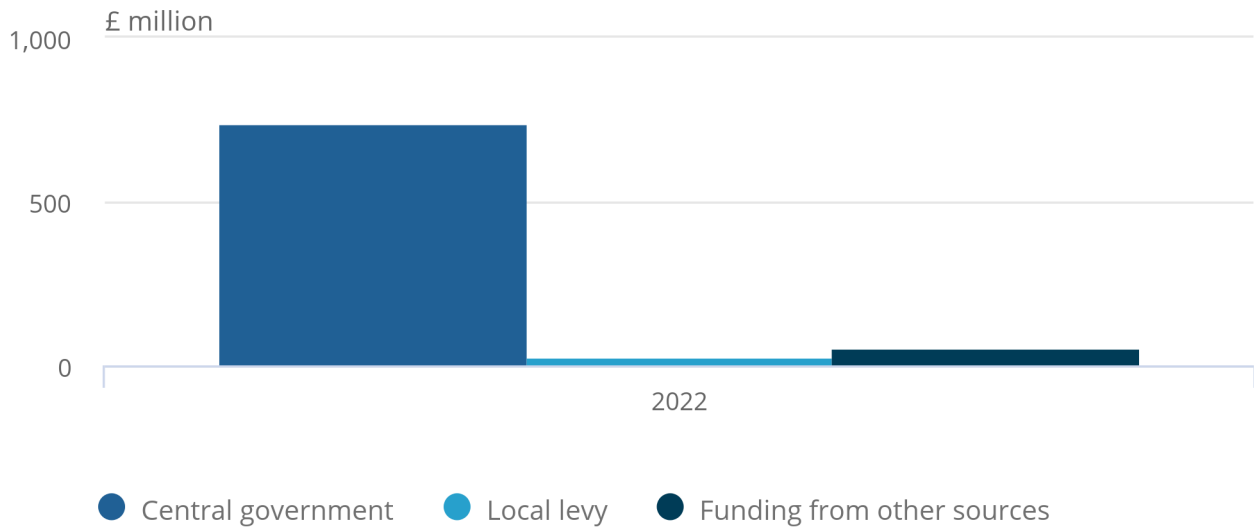
The Environment Agency's [Central Government Funding for Flood and Coastal Erosion Risk Management \(FCERM\) report](#) illustrates levels of investment by funding source in England. Central government is the largest source of funding, investing 90% of the total in the financial year ending 2022 and 87% of the total in the financial year ending 2021.

Figure 1: 90% of FCERM capital investment in England in 2022 came from central government

Capital investment of flood and coastal erosion risk management, £ million, England

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Capital investment of flood and coastal erosion risk management, £ million, England



Source: Department for Environment, Food and Rural Affairs

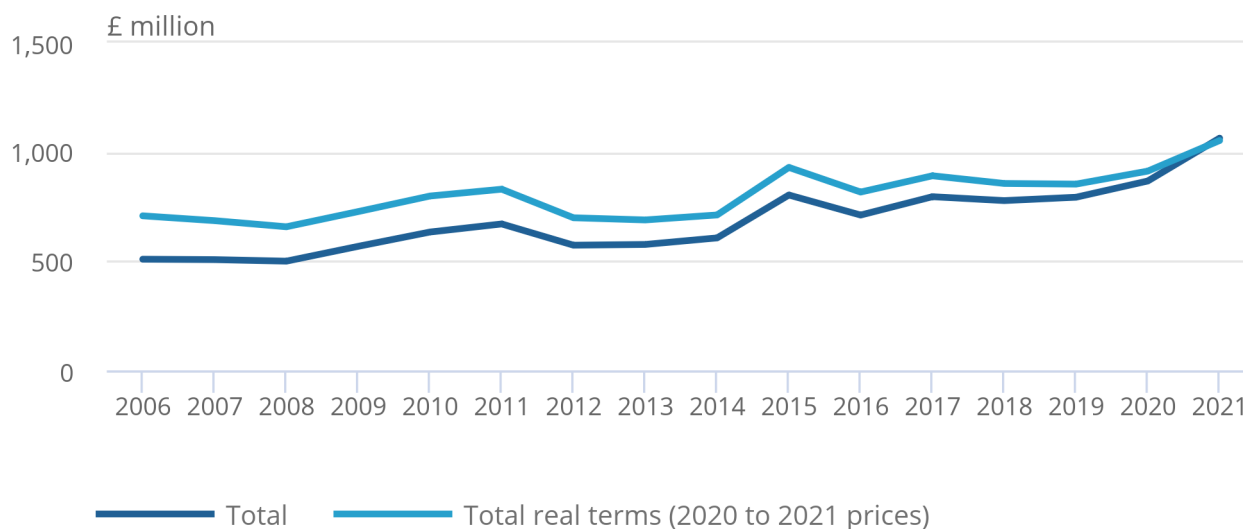
A historical expenditure time series for the FCERM project in England (2006 to 2021) is given in the UK government's [Flood and coastal erosion risk management report](#). Data is shown by funding body, resource or capital, and in real terms (adjusted using a gross domestic product (GDP) deflator). Figure 2 shows how FCERM expenditure in England has increased over the time period, with a peak in 2021 in real terms of £1.1 billion.

Figure 2: Expenditure on FCERM in England has been increasing since 2018

Expenditure on flood and coastal erosion risk management, England, financial years ending 2006 to 2021 (£ millions)

Figure 2: Expenditure on FCERM in England has been increasing since 2018

Expenditure on flood and coastal erosion risk management, England, financial years ending 2006 to 2021 (£ millions)



Source: The Environment Agency

Notes:

1. Real terms figures are shown in 2020 and 2021 prices, using HM Treasury's GDP deflator (June 2021 publication).

[Audit Wales's Flood Risk Management report](#) details funding of flood risk management by the Welsh government for capital and resource, in real terms, using Welsh government data. It shows that there has been more funding of capital than resource in each financial year from 2017 to 2022. The total has averaged at around £60 million across the same period. However, this data is incompatible with FCERM data for England and cannot be compared.

Beyond these sources, there is currently a lack of readily available data to create a consistent and coherent time series to illustrate the state of investment in flood defences or alleviation across the four nations of the UK. As a result, we will not be able to incorporate any statistics on the investment in flood defences in our experimental estimates on investment in infrastructure in the near future.

Flood defences are not included in the national accounts of any of the devolved governments, or in the annual accounts of any of the responsible bodies. Data published by each country's relevant department or body are currently not presented in formats that aid comparison across the UK, and investment data for Scotland and Northern Ireland was not sufficient to create time series. Robust data on privately owned flood defences could not be identified. Therefore, no analysis on investment in the private sector was undertaken.

To evaluate the extent of investment in flood defences in the UK, there must be more transparent and accessible information across the public and private sector for all countries of the UK. Data would be required on what is being invested in, and where, and should cover all types of flood defences, including natural forms of defence, such as saltmarsh or forestry.

User feedback is crucial in informing our work. Please send any questions or comments on the development of these statistics to us at nfa-development@ons.gov.uk.

3 . Investment in flood defences data

[Investment in flood defences in the UK](#)

Dataset | Released 17 May 2023

Flood management expenditure data taken from reports published by the Environment Agency and the Department for Environment, Food and Rural Affairs on gov.uk.

4 . Glossary

Flood and coastal erosion risk management (FCERM)

FCERM assets need to be managed so that they can work properly. This can include activities such as:

- maintaining the flow of water (vegetation and sediment management)
- repairing infrastructure
- monitoring river levels
- operating flood gates

Real terms

Real terms reflects current prices deflated using HM Treasury (HMT) gross domestic product (GDP) deflator. The HMT GDP deflator takes the Office for National Statistics (ONS) GDP deflator and references this to the latest financial year. The ONS also produce this same series in our [GDP - data tables dataset](#) in table O.

5 . Data sources and quality

Data used in this article was found through online research of investment in flood defences. Sources include corporate reports from the Environment Agency and the Department for Environment, Food and Rural Affairs on [GOV.UK](#), as well as an Audit Wales report found on [Audit Wales](#).

6 . Related links

[Infrastructure in the UK, investment and net stocks: May 2023](#)

Article | Released 17 May 2023

Update of existing estimates of investment and net stocks of infrastructure in the UK economy.

[Saltmarsh flood mitigation in England and Wales, natural capital: 2022](#)

Bulletin | Released 15 July 2022

This data estimates the impact saltmarsh has on reducing flood risk in coastal areas in England and Wales.

[Central Government Funding for Flood and Coastal Erosion Risk Management in England](#)

Report | Released March 2022

Department for Environment, Food and Rural Affairs Central Government FCERM report for England.

[Flood and coastal erosion risk management report: 1 April 2020 to 31 March 2021](#)

Report | Released 17 March 2023

Environment Agency corporate FCERM report for England.

[A Picture of Flood Risk Management](#)

Report | Released 15 December 2022 Audit Wales report on flood risk management in Wales.

7 . Cite this article

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