Coast-R Network

Coastal Change and Transition in the UK

A report prepared by the Coast-R Network team

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Contents

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Executive Summary

Our coastal, estuarine and marine spaces represent the front line of many of the UK's most significant resilience challenges.

They are threatened by multiple intersecting crises, from climate change, coastal erosion and increased flood hazards to biodiversity loss and pollution. These risks are further compounded by longstanding socio-economic and health inequalities, with knock-on effects for vital social infrastructure, community identity and wellbeing.

In response to these crises, the UKRI and Defra commissioned the Resilient UK Coastal Communities and Seas (ReCCS) programme in 2024. The programme addresses a range of complex and interconnected coastal and marine resilience challenges, including marine energy transitions, historic coastal landfill, habitat loss, increasing flood risk, transition planning in rapidly eroding coastlines, demographic shifts, health inequalities, poverty and infrastructure development.

It includes research and knowledge exchange in case study sites in all four UK nations and with partners across a range of sectors.

This report is the first of a regular series from the Coast-R Network team, who coordinate and champion the ReCCS programme. It focuses on coastal change and transition, and its impacts on coastal communities and the natural capital of our coastal zones. Other coastal and marine resilience topics will be considered in later briefs.

Here, we draw on our learnings in Year 1 of the programme to define key terms, provide a brief overview of coastal governance and policy, report against our three cross-cutting themes - Working Together at Interfaces; Living with Coastal (Un)certainties; and People, Places and Participation – and offer recommendations for action.

A note on versions

A draft version of this report was produced in October 2025 for discussion with our community of practice. This final version was published for onward sharing in February 2026.

1. The Challenge At Our Coasts

The UK's shorelines have long been dynamic places, but increased flood and coastal erosion risk is now a major climate adaptation challenge.[1] Coastal flooding is amongst the highest risks on the National Risk Register.[2] Increased fluvial and surface-water flood risk will also negatively impact low-lying coastal areas. 3,500 homes and businesses in England are at erosion risk in the period up to 2055 if Shoreline Management Plans (SMPs) are delivered. Failure to deliver SMPs and climate change together increase the total number of properties at risk to 44,500 by 2055, mostly on the East Coast.

In the worst-case scenario, the number may reach 100,000 by the end of the century.[3] East Riding of Yorkshire, North Norfolk, and Cornwall have the highest number of properties at risk in England. In Wales, 400 properties are at risk from coastal erosion, with the number expected to increase under UKCP18 scenarios.[4]

In Scotland, 3,800 km of coastline is increasingly vulnerable to erosion with the Forth and Tay regions, the Clyde coast, and parts of Aberdeenshire and the Highlands being major risk areas.[5]

These risks are further compounded by longstanding socio-economic and health inequalities in coastal communities with knock on effects for vital social infrastructure, community identity and wellbeing.

These include demographic challenges such as ageing populations and increased levels of poor physical and mental health; socioeconomic challenges such as low employment, rising house prices and concentrated/unequal landownership; and infrastructural challenges including poor transport links and reduced access to education.[6] We are in a critical era where tensions and conflicts arise as one challenge or opportunity intersects with others – and where poorly planned adaptation strategies can leave coastal places and people more, not less, vulnerable to coastal change and hazards.

We need to adapt at speed, and in ways that support equity and social justice. Yet conventional models of coastal management often fall badly short, rarely addressing communities other than as entities to whom, or for whom, things must be done.[7]

They frequently fail to adequately account for the fact that society's most vulnerable often have the least capacity to act – including in relation to the Third National Adaptation Plan [NAP3] and National Flood and Costal Erosion Risk Management Strategy for England (and aligned policy in the other UK nations).

As a result, existing approaches ignore local knowledge, needs, and embedded histories and experiences of coastal change.[8]

Public trust is crucial for building community resilience and increasing disaster preparedness, but is put at risk when communication about coastal risks is unclear, decision-making lacks transparency, and local action remains insufficient or poorly signalled.[9]

As we argued in our case for the Coast-R Network, we urgently need to develop place-sensitive approaches for community-led action to enhance resilience informed by relevant scientific and geographical expertise and legislative contexts, while recognising the legacy of low political trust and policy neglect in peripheral coastal places.

This is crucial if we are to better understand how we translate findings from one region to another, and to develop nationally and globally-applicable policy and implementation plans for effective place-based resilience building.

2. About the ReCCS Programme

The Resilient UK Coastal Communities and Seas programme is a £14.8 million investment consisting of the Coast-R Network, a Flexible Fund and 4 large research grants (see Appendix). The programme aims to:

- Build a transdisciplinary, whole systems understanding of UK coastal seas, coastal communities and coastal natural capital.
- Support collaboration with stakeholders to build understanding and enable transformative decision-making.
- Enhance community knowledge mobilisation and improve resilience in the management of UK coastal areas and seas.

The **Coast-R Network** is an inclusive and collaborative community of practice working to build knowledge, action and resilience for UK coastal communities and seas. We are working collectively to champion research and knowledge exchange across and beyond the ReCCS programme, direct the Flexible Fund, and scale and embed place-based interventions into policy and practice, thereby delivering a step-change in UK coastal resilience.

Crucially, our activities are **co-created** with community stakeholders, policymakers, and UK coastal and marine management sectors (wherever feasible), responding to their needs, existing knowledge assets and lived experiences to deliver robust policy impacts and toolkits with application to communities and places worldwide.

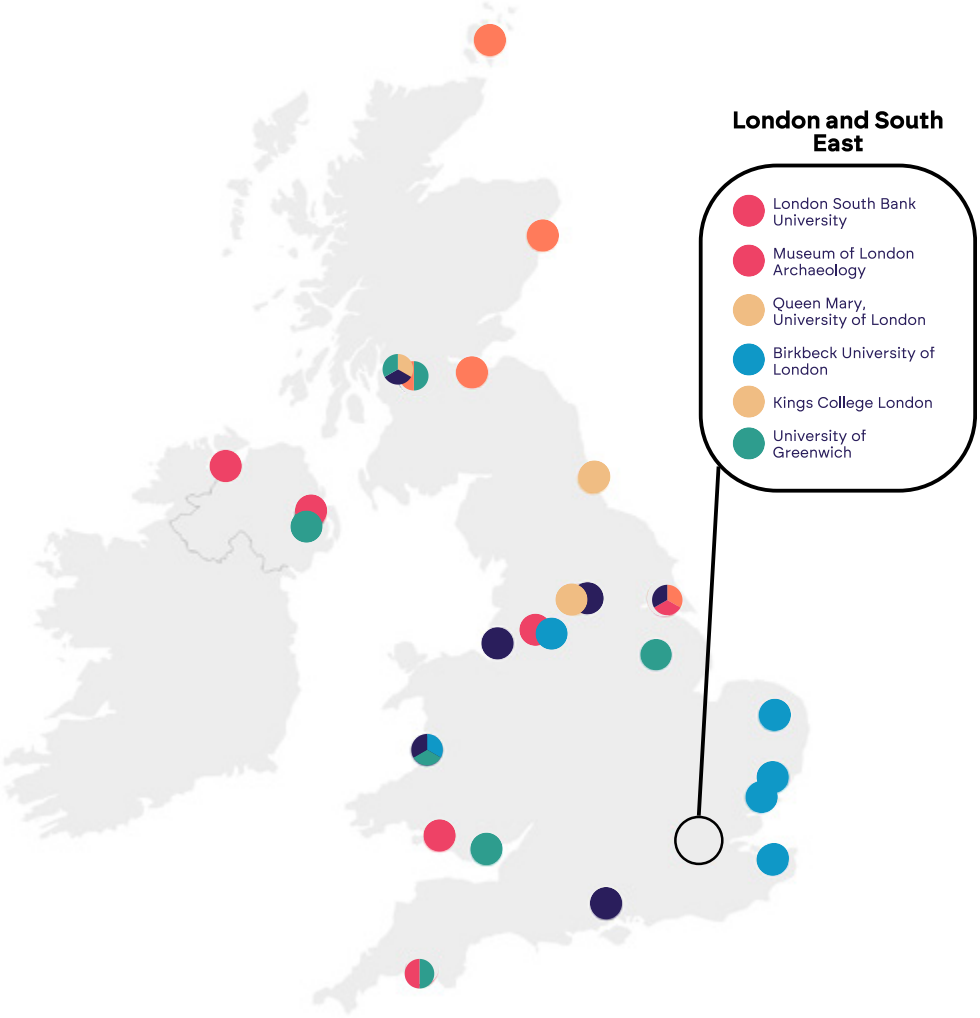
What do we mean by a Community of Practice?

A Community of Practice (CoP) is a form of collective learning intended to develop and share good practice, improve skills, build trust and connection, and foster innovation and solutions.

CoPs can be multiple and inclusive. The Coast-R Network provides specific support and networking for the ReCCS programme, aiming to build capacity and capability around coastal and marine resilience. It is underpinned by our core ethos of equitable engagement embedded throughout all our activities.

Our CoP is working alongside and contributing to CoPs on related themes and topics, including those generated on project-specific foci by some of the ReCCS teams.

The success (or otherwise) of our Community of Practice will be evaluated via our Monitoring, Evaluation and Learning work package (WP6) on an ongoing basis, with interim and final evaluation reports published.



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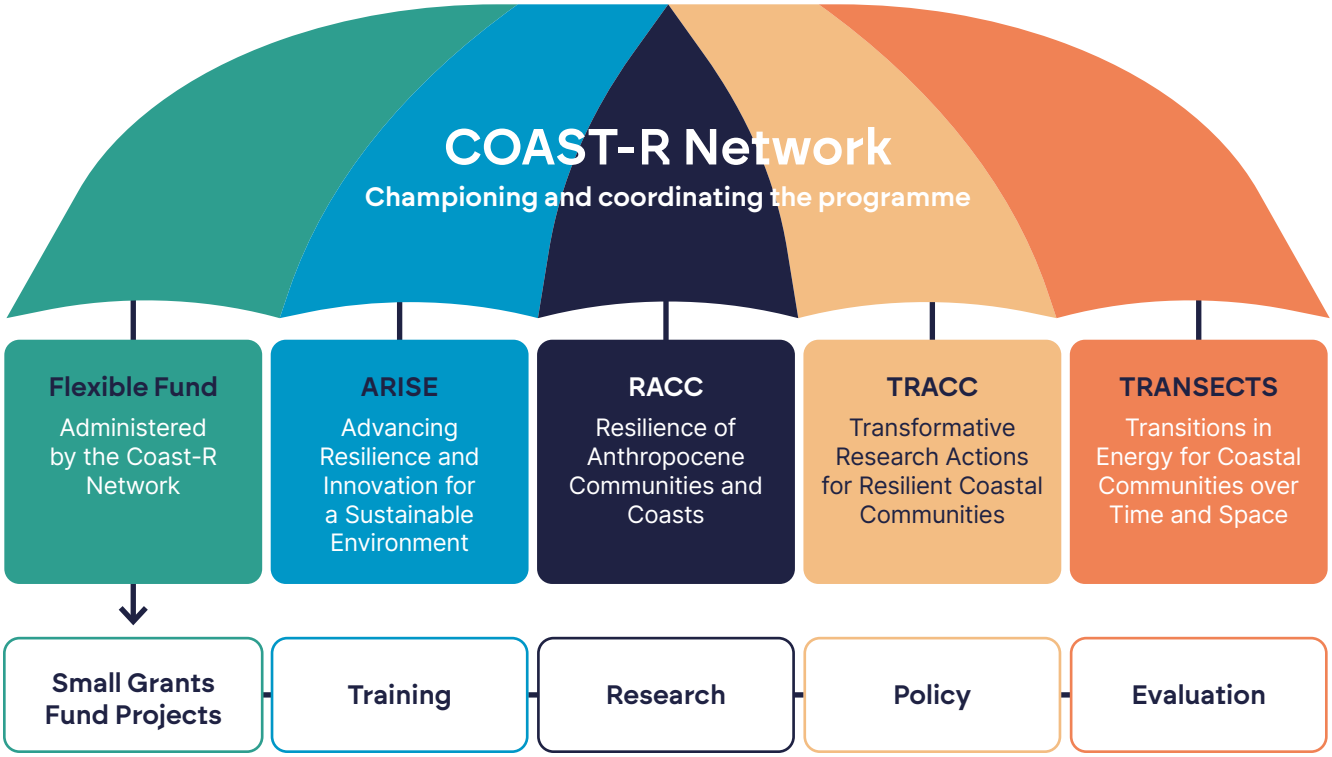
Resilient UK Coastal Communities and Seas Programme



The Coast-R Network has five key objectives:

1. **Share learning and good practice** across sectors and disciplines to build UK coastal and marine resilience
2. Co-design and host **events, training and mentoring** to improve partnership working and nurture the next generation of resilience champions
3. Work in partnership with coastal communities and other partners to identify and respond to priority needs using our **Flexible Fund**
4. **Collate key insights, case studies and resources** through our website, reports, conferences and practitioner events, and
5. Build ongoing **practitioner and community-led evaluation and reflection** to shape future learning, legacy and funding opportunities.

Coast-R is working to co-develop actions and support working across three cross-cutting themes:

- **People, Places and Participation** – Working together to develop best practice and training, as well as using creative and participatory methods to involve communities and stakeholders in building coastal resilience.
- **Living with Coastal (Un)certainties** – Exploring levels of uncertainty in coastal data and modelling, including those involving complex risks, and considering how communities live with shifting predictions and changing environments.
- **Working Together at Interfaces** – Developing skills for working across different disciplines and sectors, and sharing strategies, toolkits, and guidance.

Fig 1: Visual minutes from the Coast-R Launch at University of Hull, Nov 2024.
Credit: More Than Minutes.

Coast-R Network activities and outputs include:

- Annual forum and follow up workshops;
- Events and workshops;
- Training and mentoring;
- Small Grants Fund, and other strands of Flexible Fund activity;
- A digital engagement platform www.ukcoastalresilience.org;
- Toolkits and cases studies;
- Foresight documents and solution-focused reports;
- High-impact scholarly articles;
- And evaluation reports.

3. This Report

During 2024-25, the Coast-R Network team led more than 1,400 distinct engagements (mailing list sign-ups, attendance at annual forum, training sessions, meetings, webinars and workshops) with people from across the UK.

As part of our work, we:

- undertook a rapid review of relevant literature, reports and policies on coastal change;
- iterated and refined key definitions and programme scope;
- led the Coast-R Collaborative Coastal Enquiry. This ran across a series of five workshops in 2024 and 2025;
- worked with our community of practice to host events, meetings and training sessions with a broad range of coastal and marine stakeholders;
- and held participatory and creative workshops in communities experiencing rapid coastal change.

We report here on learnings from the Year 1 programme to define key terms, provide a brief overview of coastal governance and policy, and offer a short discussion of key policy gaps identified by participants in the Coast-R Collaborative Coastal Enquiry. We then report against our three cross-cutting themes – Working Together at Interfaces; Living with Coastal (Un) certainties; and People, Places and Participation. Finally, we offer recommendations for action.

Fig 2: Coast-R Network Year 1 activities (to July 2025)

4. Defining Coastal Change and Communities

4.1 What are coastal change and transition?

We use 'coastal change' to refer to physical change in the coastal zone caused by coastal erosion, landslip, permanent and temporary inundation, and accretion, and its impacts on people and nature. This includes shoreline change 'of such severity that the long-term sustainability and viability of coastal communities is threatened',[10]as well as increased risks associated with coastal, fluvial and surface-water flooding, storminess, pollution and water quality issues, and sea level rise.

'Coastal transition' or 'coastal transformation' refers to the strategic adaptation to coastal change, particularly in places that cannot be sustainably defended. A form of coastal management, transition typically involves relocating homes, businesses, and other assets (often called 'rolling back'), adapting infrastructure, and restoring and creating habitats[11]. Innovative financing and funding mechanisms, strategic planning, and meaningful community engagement are needed to foster successful adaptation to coastal change.

4.2 What are coastal communities?

While there is no single agreed definition of coastal communities (CoCos)[12], we use the term to include coastal and estuarine cities, seaside towns, ports and villages.

Overall, CoCos are home to roughly 17% of the UK's population.[13] There is, however, significant variation by UK nation. At the time of the 2021 census, 8.7 million people (or roughly 15% of the population) in England and Wales were ordinarily resident in coastal Built-Up Areas (BUAs). More than 2 million people lived in major coastal settlements, including Hull, Liverpool and Southampton. A further 5 million lived in large and medium-sized coastal towns, and 1.5 million in small coastal towns and villages.[14] More than 40% of the population of Scotland live in communities within 5km of the sea.[15] Equivalent data for Northern Ireland have not been published.

5. Coastal Change

Here we briefly summarise UK governance of coastal change and transition.

5.1 National emergency planning

Large-scale emergency planning is a central UK government responsibility. In terms of emergency planning around coastal hazards the National Risk Register (2023) sets out capability-based responses to a range of projected hazards including major coastal flooding, dovetailing with UKHSA's Adverse Weather and Health Plan (Cabinet Office 2023).

5.2 England

Since 2020, policy for coastal management in England has been anchored by the Defra Flood and Coastal Erosion Risk Management (FCERM) Policy Statement and the Environment Agency's National FCERM Strategy, operationalised via a Roadmap to 2026. The roadmap emphasises resilience, adaptive pathways and nature-based solutions to better protect and prepare communities from flooding and coastal change.[16] FCERM policy is underpinned by the Environment Agency's National Flood Risk Assessment (NaFRA) and National Coastal Erosion Risk Map (NCERM2) 2024 national exposure estimates (~6.3 million properties) for investment and planning.[17] Regional Coastal Monitoring programmes also generate data on the drivers, mechanisms and impact of coastal change around the English coast which has informed the iterative development of FCERM strategy.

Currently, the management of coastal and marine interfaces in England is outlined in 20 SMPs.[18] These plans are non-statutory but reinforced through 2024 supplementary guidance which attempted to deliver better integration with terrestrial planning processes. This guidance, which comprises the National Planning Policy Framework (NPPF) Dec 2024 and Planning Practice Guidance for Flood Risk and Coastal Change, requires the consideration of future risk and strengthens the tests within the planning permission process which determine where and whether new developments can be built.[19] In addition to seeking planning permission, landowners wishing to undertake coastal works may also need a marine licence from the Marine Management Organisation (MMO) or a Flood Risk Activity Permit from the Environment Agency.

5.3 Wales

In Wales, the primary responsibility for FCERM lies with Natural Resources Wales (NRW). The second National Strategy for FCERM in Wales was published by the Welsh Government in 2020.

It is underpinned by the 2015 Wellbeing of Future Generations Act (WFGA), which sets out seven wellbeing goals that all public bodies are expected to "act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs".

The FCERM strategy links to priority themes in *Prosperity for All: the national strategy* and to the national climate adaptation plan, *Prosperity for All: A Climate Conscious Wales*. Risk Management Authorities (RMAs) are encouraged to adopt the 5 ways of working in the WFGA, that is to consider long term climate change predictions to prevent further risks, to adopt collaborative approach to risk management that involves others, highlighting the importance of integration and regional working. The Wales Coastal Monitoring Centre supports RMAs through a national data platform and monitoring. The Welsh coastline is covered by four Shoreline Management Plans, two of which are shared with England. The first Welsh National Marine Plan was published in 2019. It was developed within the UK context but also incorporates the Sustainable Development principle and the goals of the WFGA.

5.4 Scotland

In Scotland, the primary risk management agency for flood risks is the Scottish Environment Protection Agency (SEPA), who are required to produce National Flood Risk Assessments – although they are not required to assess or manage coastal erosion; local authorities have responsibility for delivering flood protection actions as required by local-level plans. SEPA's risk management strategies prioritise sustainable approaches and working with natural processes. SMPs currently exist for only some regions of Scotland.

Public involvement in decision making and social-ecological system valuation are also important parts of Scotland's approach to FCERM.

5.5 Northern Ireland

In Northern Ireland, no single Government Department has overall responsibility for the managing coastal erosion risk. Instead, the longstanding 'Bateman Formula' gives primary responsibility to the department whose responsibilities most closely coincide with protecting the property at risk from erosion. Practitioners and researchers report a resulting lack of clarity of coastal erosion risk management. Unlike in England and Wales, SMPs are not used in Northern Ireland.

The Northern Ireland Coastal Forum is the agreed mechanism through which members work collaboratively in progressing coastal management issues. It consists of the Department for Infrastructure (DfI), the Department of Agriculture, Environment and Rural Affairs (DAERA), Chief Executives of Local Authorities with a coastal remit and the National Trust. The Forum is currently co-chaired by DAERA and DfI Ministers. There is a working group with a wider membership to help implement and shape the workplan. Coastal management is also addressed via broader frameworks including the Marine Plan for Northern Ireland, Local Development Plans, and Integrated Coastal Zone Management projects.

6. Policy Gaps and Interfaces

Policy and implementation are highly variable across the UK and risk management is governed by a patchwork of different institutions at different scales and with different priorities. As in the case of flood risk management more broadly, fragmented governance and policy, and inadequate funding hinder effective adaptation to coastal change.

Practitioners, policymakers and academic researchers contributing to the Coast-R Network felt this keenly, often expressing an urgent need to support better collaboration across nations, sectors and projects (an action that will be picked up in forthcoming activities under our **Working Together at Interfaces** cross-cutting theme).

Participants argued that strategic, consistent and more long-term policies are needed to support several areas of activity. These include:

Fig 3: The Coast-R Collaborative Enquiry, University of Hull, Nov 2024. Photo: Anete Sooda

6.1 Flooding and coastal erosion risk management

The majority of participants in the Coast-R Collaborative Coastal Enquiry felt that there were partial policy and plans in place for coastal flooding, but that they were often poorly integrated into fluvial flooding strategies. The latter were generally understood as being more credible than either coastal flooding or surface water flooding policy. Some participants suggested that coastal erosion risk management strategies were better implemented in Scotland and Wales than in England.

More generally, a change in the funding algorithm for FCERM is needed for proactive adaptation responses (including relocation) to be adequately funded.

6.2 Shoreline Management Plans

The single most repeated item for immediate action raised by Coast-R members was that SMPs must be made statutory and better integrated into NPPF and Local Plans. Coast-R leads McDonagh and Naylor strongly amplified this while giving oral evidence at the recent Flood Resilience in England Inquiry.[20]

6.3 Relocation (roll back)

Participants in the Coast-R Collaborative Coastal Inquiry consistently highlighted the insufficiency of the National Planning Policy Framework (NPPF) to support the relocation of affected communities, transport infrastructure and other assets.[21] Many felt that improved mechanisms were needed to support relocation in Coastal Change Management Areas (CCMAs) and that planning policies need to be strengthened to reduce the risk of land value appreciation for sites identified for relocation.

Similarly, participants generally felt there to be insufficient policy in place to support community resilience planning, or where they existed, that it was at only a very early stage. As one participant put it, the effectiveness of community resilience planning is "very dependent on where you live, how high the risk is, and are the communities engaged".[22]

The lack of national policy on coastal change and transition has left local authorities to develop their own approaches, typically delivered through Local Plans and non-statutory documents such as local adaptation plans. Some local authorities are very proactive, but report that a lack of effective funding mechanisms significantly constrain activity.

6.4 Marine-terrestrial integration

There is little consistency across the UK's devolved administrations regarding marine policy and activity. Responsibility rests with multiple organisations, with varying remits. There is inadequate integration across marine, coastal and terrestrial adaptation in both policy and research. This topic will be addressed in more detail in future Coast-R Network outputs.

Fig 4: The Coast-R Collaborative Enquiry, University of Hull, Nov 2024. Photo: Anete Sooda

7. Living with Coastal Change

Activities linked to our **Living with Coastal (Un) certainties** cross-cutting theme explore levels of uncertainty in coastal data and modelling, including complex compound and cascading risks, and consider how communities live with shifting predictions and in changing environments. Forecasting long-term coastal risk scenarios is constrained by uncertainty in climate projections, land-use change, local vulnerabilities and public behaviours, making predicting future conditions and their potential impacts highly challenging.[23] Yet we need to act now to support adaptation and build resilience at our coasts: understanding how coastal erosion risks impact communities both at and beyond the coast is therefore vital.

The recently updated National Coastal Erosion Risk Mapping (NCERM2) for England provides a national picture of coastal erosion risk for England under future climate change and management scenarios. It shows areas most likely to be at risk of coastal erosion by 2055 and 2105. NCERM2 does not, however, describe the impacts of erosion risk. The risks, benefits and opportunities of flooding and coastal change are described in high-level detail in CCRA3 (and usefully summarised in the Flooding and Coastal Change Briefing of 2021). These risks are multiple and are variously described in the grey literature, which typically addresses the physical, socio-economic, and health impacts of coastal change in isolation from each other. Few analyses explore the interconnectedness of the impacts or provide a detailed overview of impacts by sector.

In response, the Coast-R team sought to document the multi-faceted ways coastal erosion impacts communities (including their health, education, heritage, and social capital), economies, and the environment, paying attention to the direct and secondary impacts of erosion. These are usefully summarised in Table 1.

This provides a five-fold categorisation by sector, covering: homes, businesses and economies; health, wellbeing and education; amenities, identities, heritage and social capital; transport and infrastructure; and natural habitats. The categorisation was developed and the table prepared by McDonagh et al., drawing on relevant publications, grey literature and discussions with stakeholders and affected communities throughout the first year of the Coast-R Network programme, and submitted to the Environment, Food and Rural Affairs Committee's call for evidence on coastal erosion and landslips in October 2025.

It was further iterated and refined in the light of written evidence received and published by the Committee. It is reproduced here as a useful starting point for ongoing discussions and interventions within the subsequent years of the Coast-R programme.[24]

While coastal change may bring some opportunities and benefits (e.g. habitat creation or beach nourishment), most of our conversations with practitioners, policymakers and researchers recognise the significant negative impacts of coastal erosion on communities. As Table 1 powerfully underlines, the social, economic and health impacts on directly impacted householders and those losing property or businesses to coastal erosion are profound. Displacement is associated with sustained mental health harms, physical health impacts and loss of social connection.[25] The unequal capacity of individuals to relocate in the face of erosion risk poses significant equity challenges. Where people lose their only home – as is typically the case in the East Riding of Yorkshire where our first set of community workshops took place – they typically move into social housing, sometimes many miles away.[26] This has knock-on effects on children and young people's education, wellbeing and social connection.

Coastal erosion also negatively affects householders and businesses not at immediate risk of losing homes or businesses, including in adjacent communities with defended frontages where residents displaced by coastal erosion will (most likely) seek to relocate. Loss of beach access, coastal amenity and heritage impacts local quality of life, and may reduce visitor numbers and tourist revenue as well as impact health and wellbeing. One of the big things we heard in our community workshops on the Holderness coast was how erosion increasingly made beach access difficult or unsafe, thereby impacting people's wellbeing and opportunities for exercise, especially dog-walking. Historic coastal landfill sites are vulnerable to erosion and may release material harmful to people and the environment.[27] Coastal and marine cultural heritage, intangible heritage and sense of place are also vulnerable to climate change.[28] Visitors to and other users of the coast may also be negatively impacted, as the UK's coasts fulfil important roles in the lives of many people who live inland.

While not the primary focus on the work undertaken in Year 1, we also recognize that transport and infrastructure – especially roads and rail, power stations, gas terminals, chemical and oil refineries, and ports – are all at risk of damage or failure and increased maintenance costs, with knock-on effect on the regional or national economy. Coastal species and habitats are at risk due to coastal flooding, erosion and climate change, a topic much mentioned in our Coastal Collaborative Enquiry and to be picked up further in Year 2 of the programme.[29] Saltwater intrusion associated with sea level rise may impact both aquifers and agricultural land.[30] Ongoing coastal development – including rapid development of energy infrastructure in the coastal zone – may further increase risks to populations and assets.[31]

Table 1: Direct and secondary impacts of coastal erosion and landslips in England

1. Homes, businesses and economies	
Direct impacts	**Secondary impacts**
Residential properties demolished and residents displaced	Communities inland or in defended frontages must house displaced residents, often in social housing
'At-risk' properties have higher insurance costs or are uninsurable	Reduced property values, contributing to reduced local tax revenue
Quality of housing stock declines in the face of imminent or future risk, and access to utilities and critical infrastructure may be reduced	Property owners often struggle to sell, reducing their ability to move away from risk; conversely, low house prices may encourage people to coastal areas, thereby increasing exposure
Businesses (e.g. hotels, cafes, shops) closed or relocated	Loss or damage to natural barriers increases flood risk, with negative impacts on communities further inland
Agricultural land lost or degraded by saltwater intrusion and loss of livelihoods in fishing and coastal industries	Conflicts over land use or adaptation priorities
Reduced visitor numbers and tourist revenue due to degraded beaches, loss of beach access, caravan pitches and heritage sites	Increased travel times via disrupted networks and reduced public transport options affect visitor numbers and inward investment
Increased maintenance costs of coastal defences due to sea level rise, increased storminess, and land loss elsewhere	Responding to the social and health dimensions of coastal erosion increases costs to service providers including local authorities

2. Health, wellbeing and education	
Direct impacts	**Secondary impacts**
Landslips, cliff collapse, and coastal flooding can endanger lives or cause life-changing injuries	Reduced access to healthcare providers and increased emergency service response times in places where roads are lost
Living on an eroding coast has significant negative impacts on mental health (e.g. stress, anxiety, and depression)	Unsafe cliffs and/or loss of beach access reduce opportunities for exercise and 'blue prescribing,' affecting health and wellbeing
Erosion of historic coastal landfills may release materials harmful to humans and environments. In parts of Eastern England, erosion is also exposing unexploded munitions	Displacement may impact children's learning and educational outcomes, and increased travel times via re-routed roads make access to schools and colleges more difficult
Saltwater intrusion may negatively impact aquifers and drinking water. Erosion and storms damage sewer systems	Out-migration of young people from coastal communities may contribute to reduced educational/training provision

3. Amenity, heritage, identities and social capital	
Direct impacts	**Secondary impacts**
Loss of coastal amenity and recreation spaces impacts local quality of life	Negative impacts on coastal identities and sense of belonging, affecting residents and visitors. People may experience grief or anxiety about coastal loss
Damage to built heritage, archaeological sites and historical landscapes	Loss of intangible heritage (e.g. oral histories and vernacular knowledges) due to displacement or out-migration
Churches, burial sites, and sacred spaces damaged or lost	Reduced social capital and civic engagement linked to the loss of community venues (e.g. churches, village halls)
Community fragmentation due to displacement and out-migration, impacting social networks and increasing isolation	Perceptions of abandonment and unfairness, contributing to decreased public trust in Government

4. Transport and infrastructure	
Direct impacts	**Secondary impacts**
Damage to roads and rail lines, requiring costly protection or reinforcement	Increased sediment may affect docks and harbours, and block navigation channels, potentially impacting supply chains
Damage to power stations, oil/chemical refineries, and marine infrastructure at shoreline (e.g. power cables and pipelines)	Greater costs for offshore wind development

5. Natural habitats (marine and terrestrial)	
Direct impacts	**Secondary impacts**
'Coastal squeeze' and loss of coastal habitats and species	Increased sediment may affect marine biodiversity and water quality
Saltwater intrusion into coastal habitats and freshwater systems resulting in habitat and species loss	Saltwater intrusion may facilitate the expansion of salt-tolerant plants, and change biogeochemical processes in soils, altering habitat structure and composition
Protected areas including Sites of Special Scientific Interest damaged, degraded or lost	Increased flood risk may negatively affect coastal species and habitats

8. People, Places and Participation

As the previous section makes clear, a whole-systems and place-based approach which prioritises active community involvement and participatory decision-making is needed. It is crucial that we ensure the voices of those most impacted by coastal change are amplified in decision-making around coastal adaptation. This commitment is central to research and knowledge exchange activities undertaken in the Coast-R Network and is strongly underlined in our cross-cutting theme on **People, Places and Participation.**

During Year 1, we have worked to map existing community and stakeholder knowledge assets, identify needs, and co-design place-based actions for better understanding coastal change and transition. During creative workshops in Hull, Hornsea, Mappleton, Cowden and Skipsea (East Riding of Yorkshire) in 2023 (as part of Risky Cities project) and 2024 (as part of the Coast-R Network), residents narrated a range of concerns and negative impacts associated with coastal erosion. These included: lack of support for affected households; a perceived lack of property information outlining risk; loss of coastal amenity and beach access, including for dog-walking; threats to coastal identities and heritage; impacts on education and employment, including coastal tourism; and changes to coastal ecosystems.

First hand testimony speaks to the scale of the challenges communities are facing:

> "We had a bungalow further to the coast ... There was a road up there [beyond the fish and chip shop] but it's gone in the sea now and our bungalow has gone"

> "We owned these two fields and when the road went, we didn't have any access .... We also lost the land on this side of the field as well – so once the road went that was just the farm knackered"

> "There used to be ... a set of solid wooden steps down to the beach ... and everyone used to go down there. Now out of all the caravan sites, only Far Grange has access... the reason we came was because we want to be by the sea, we wanted access"

> "We had the air ambulance out [last year] because somebody ... tried to go down the road and had found a ledge halfway down stepped into the ledge so it's suddenly soil and loose clay, they'd actually gone down to their waist"

Fig 5: Community workshop, Hornsea Museum, Oct 2024. Photo: Petra Codato.

Overwhelmingly, the people we spoke to accepted that coastal erosion was inevitable but wanted better communication and dialogue with relevant decision makers/stakeholders, and to increase access to skills, knowledge and data for coastal adaptation. Crucially, people wanted their stories and experiences to be communicated as part of a process of seeking solutions and building community resilience.

Similarly hard-hitting stories are heard in coastal communities along the east and south coasts of the UK, where aligned government- and university-led projects are underway.

These include the ARISE project (working on the Norfolk-to-Kent coast as part of the ReCCS programme) and Changing Coasts East Riding and North Norfolk's Coastwise (both in the Coastal Transition Acceleration Programme funded by Defra as part of the Flood and Coastal Innovation Programme managed by the Environment Agency).

Further Coast-R workshops in affected coastal communities will also take place in years 2-4 of the Coast-R Network programme, with learnings and outcomes reported in due course.

9. Recommendations for Action

Drawing on our collective learning, we offer strategic recommendations for action by **policymakers, practitioners, funders and researchers.**

REC1

Urgent action is needed to strengthen and broaden collaboration between UK nations, and to address significant research and policy gaps between land-based, coastal, and marine systems. Integration would be further assisted by the creation of a coastal minister and the development and adoption of 'resilience standards'.

REC2

An improved planning framework must be developed and adopted to support a shift from coastal risk management (by RMAs) to land-based coastal adaptation (by planners, land managers and others). SMPs must be made statutory and more fully integrated into local planning. Planning policies need to be strengthened to reduce the risk of land value appreciation for sites identified for relocation. Adaptation plans (also called transition plans) must be developed for Coastal Change Management Areas and supported with adequate funding for proactive land-based adaptation. This requires a change in the funding algorithm for Flood and Coastal Erosion Risk Management, which should be remodelled to include wider benefits (e.g. health and wellbeing, ecosystems, amenity and heritage, avoided costs).

REC3

Equitable, early engagements with those most impacted by coastal change are vital. Participatory and creative approaches can support enhanced awareness of coastal risk, build participation in transition planning, and develop capacity and resources for coastal adaptation. In short, they provide a valuable route to mobilising long-term public engagement with adaptation. This must go beyond tokenistic 'consultation' and instead recognise knowledge assets and support transformational decision making at community-level. Engagement should include those not at immediate risk e.g. in coastal towns likely to receive future displaced residents.

REC4

Funding and support to facilitate residents and businesses to proactively rollback from at-risk coastal areas is urgently needed. This is most effectively delivered via local authorities. Government should explore the feasibility of coastal erosion insurance, review eligibility criteria for Coastal Erosion Assistance Grant and/or mainstream Residents Support Packages, as well as align public-health planning with adaptation, recognising unequal impacts and capacity to act.

REC5

Enhanced cooperation for transdisciplinary and cross-sector working, supported by funding and reporting arrangements that foster rather than inhibit collaboration, ongoing commitment on behalf of researchers and government-funded projects to collaborate to minimise 'engagement fatigue' in communities, and longer-term funding that supports equitable research practices. Funding councils and government must continue to support the development of an enhanced evidence base for place-based resilience interventions, including at scale, and robust evaluation of 'what works'. Researchers must undertake to make findings accessible to policymakers and practitioners, and to feed data and learnings back to the communities that informed the research.

Footnotes

[1]Climate Change Committee [hereafter CCC] (2018) *Managing the Coast in a Changing Climate*; UK Parliament Parliamentary Office of Science and Technology [hereafter POST] (2021) *Coastal Management*, POSTnote 647, p. 1; Intergovernmental Panel on Climate Change (2022) *Summary for Policy Makers*, in Pörtner, H. et al. (eds), Climate Change 2022; HM Government (2022) *UK Climate Change Risk Assessment* [hereafter CCRA3].

[2]HM Government (2025) *National Risk Register 2025*.

[3]Environment Agency (2025) *National Assessment of Flood and Coastal Erosion Risk in England 2024* [hereafter NAFRA].

[4]Natural Resources Wales (2020) *National Strategy for Flood and Coastal Erosion Risk Management in Wales.*

[5]Hanson, J.D. et al. (2017) *Dynamic Coast - National Coastal Change Assessment: National Overview, CRW2014/2.*

[6]Martin, R. et al. (2021) *Levelling Up Left Behind Places*; Williamson, T. et al. (2013) Making a Place for Community; Chief Medical Officer's Annual Report (2021) *Health in Coastal Communities.*

[7]House of Commons Library (2022) The Future of Coastal Communities Debate Pack CDP2022/0153; Depledge et al. (2017) *Future of the Sea: Health and Wellbeing of Coastal Communities*, Government Office for Science; Brisley, R. et al. (2023) *Public Dialogue on Climate Adaptation*; CCC (2023) *Adaptation and Social Justice.*

[8]Milne, A. and Rankine, D. (2013) *Reality, Resources, Resilience*, Joseph Rowntree Foundation. See too: McEwen, L. et al. (2017) Sustainable flood memories, lay knowledges and development of community resilience to future flood risk, *Transactions of the Institute of British Geographers* 42, pp. 14-28; Scott. C. et al. (2020). *Lessons in applying adaptive management on a dynamic coastline: a case study at the inlet to Pagham Harbour, UK. Anthropocene Coasts* 3, pp. 86-115.

[9]On this, see Costas, S. et al. (2015) 'Why do we decide to live with risk at the coast?', *Ocean and Coastal Management* 118, pp. 1–11; Buck, M. (2025) 'Living on the edge: how do perceptions of coastal erosion risk affect residential mobility decisions?', *Local Environment* 30.10, pp. 1279-93; British Red Cross (2022) *Every Time in Rains*; written evidence submitted to the Coastal Erosion inquiry, Environment Agency (2025) (CWR0041), Local Government Association Coastal Special Interest Group (2025) (CWR0062), and ARISE Initiative (2025) (CWR0049), In: Environment, Food and Rural Affairs Select Committee. Climate and Weather Resilience (Coastal Erosion and Landslips).

[10]UK Climate Risk (2021) *Flooding and Coastal Change Briefing: Findings from the third UK Climate Change Risk Assessment (CCRA3) Evidence Report 2021*, p.11.

[11]Department for Environment, Food and Rural Affairs (2015) *Adapting to Coast Erosion: Evaluation of rollback and leaseback schemes in Coastal Change Pathfinder projects and (2018) Adapting to Coastal Change: Quick Scoping Review.*

[12]For example, the Coastal Communities Alliance defines CoCos as any coastal settlement whose boundaries comprise foreshore including estuarine foreshore, while the Welsh government defines coastal communities as Lower-layer Super Output Areas with at least 15% of their geographical areas lying within 10km of the low water mark or defined estuary (Welsh Government / Llywodraeth Cymru (2016) *Development of a Coastal Community Typology for Wales Final Report*, p. 3).

[13]Zsamboky, M. et al. (2011) *Impacts of Climate Change on Disadvantaged UK Coastal Communities.* Joseph Rowntree Trust.

[14]Office for National Statistic (2021) *Census 2021: Coastal communities, characteristics of coastal BUA, England and Wales.*

[15]James Hutton Institute (n.d.) *Scotland's Coastal Assets.*

[16]Department for Environment, Food and Rural Affairs (2020) *Flood and Coastal Erosion Risk Management: Policy Statement*; Environment Agency (2020) *National Flood and Coastal Erosion Risk Management Strategy for England* and (2022) *Flood and Coastal Erosion Risk Management Strategy Roadmap to 2026.*

[17]Environment Agency (2025) *NAFRA.*

[18]Environment Agency (2024) *Shoreline Management Plans Guidance.*

[19]Department for Levelling Up, Housing and Communities (2024) *Planning Practice Guidance: Flood Risk and Coastal Change.*

[20]McDonagh, B. and Naylor, L. (2025) Oral evidence, 22 January 2025. In: Environmental Audit Committee, Flood Resilience in England Environment. Available at: https://committees.parliament.uk/oralevidence/15286/pdf/. See: QQ 41 and 72.

[21]Coast-R Network Collaborative Coastal Enquiry, 2024/5.

[22]Coast-R Network Collaborative Coastal Enquiry session at Flood and Coast, Telford, June 2025.

[23]POST (2017) *Rising Sea Levels*, POSTnote 555; POST (2021) *Coastal Management*, POSTnote 647.

[24]B. McDonagh/University of Hull (2025) Written evidence (CWR0026). In: Environment, Food and Rural Affairs Select Committee. Climate and Weather Resilience (Coastal Erosion and Landslips).

[25]UK Health Security Agency (2023) *Health Effects of Climate Change in the UK*; Depledge *et al.* (2017) *Future of the Sea: Health and Wellbeing of Coastal Communities*; Tubridy, F. et al. (2022) 'Managed retreat and coastal climate change adaptation: The environmental justice implications and value of a coproduction approach', *Land Use Policy* 114, p.105960.

[26]East Riding of Yorkshire Council (2025) Written evidence (CWR0039). In: Environment, Food and Rural Affairs Select Committee. Climate and Weather Resilience (Coastal Erosion and Landslips).

[27]For more on this topic, readers may like to look at the work being done by the RACC project as part of the ReCCS programme.

[28]National Trust (2015) *Shifting Shores*; Deru, J. *et al.* (2022) *Mapping Climate-Related Hazards to Historic Sites*, Historic England Research Series 27-2022.

[29]Coast-R Network Collaborative Coastal Enquiry, 2024/5.

[30]UK Climate Risk (2021) *Third UK Climate Change Risk Assessment Technical Report: Summary for England*, p. 14.

[31]Department for Energy Security and Net Zero (2025) New industry bonus opens to support good jobs and low carbon manufacturing factories.

Appendix

The four ReCCS programme large research projects are:

Advancing Resilience and Innovation for a Sustainable Environment (ARISE)

PI: Gina Yannitell Reinhardt, University of Essex

ARISE is developing and evaluating interventions to practically address complex coastal challenges including climate change, demographic shifts, inequality, poverty and infrastructure development.

With a particular focus on the Norfolk-to-Kent coastlines, the project is designing, delivering and evaluating twelve place-based interventions including education campaigns, enforcement initiatives, and community engagement events. Before, during, and after each intervention, the research team will monitor and evaluate local impacts of interventions accounting for dynamic relations between people, their communities, and their natural environment.

This research will inform a toolkit of best practice to achieve transferable and scalable interventions that work across different communities and places while encouraging more balanced approaches to strengthen resilience and relations in coastal communities. As an inclusive collaboration, the development of the ARISE framework, methods and toolkit follows participatory and interdisciplinary principles, with continuous opportunity for co-production and refinement by the ARISE Coastal Resilience Community of Practice.

Resilience of Anthropocene Communities and Coasts (RACC)

PI: Kate Spencer, Queen Mary University of London

Our past industrialisation has left a pollution legacy of over 1,700 historic coastal landfills and 3,000 hectares of contaminated land at risk from coastal flooding and/or erosion. Many sites are already eroding, releasing pollution, plastics, asbestos and/or medical waste into our coastal environments with limited understanding of risks to people or the marine environment.

Working in 3 ‘at-risk’ UK geographic areas, RACC will:

- Investigate the risk of waste and pollution release under more severe flooding and coastal erosion scenarios, and assess resulting harm to coastal environments and communities
- Increase collaboration between stakeholders and facilitate inclusive debate on future efforts to manage these risks
- Work with communities and policy makers to explore and co-develop policy options and practical actions, and identify potential co-benefits for people and places
- Ensure the project’s approach, methods and key findings for coastal resilience measures can be scaled across the UK.

Transformative Research Actions for Resilient Coastal Communities (TRACC)

PI: Tim Acott, University of Greenwich and Jasper Kenter, Aberystwyth University

Coastal communities in the UK are faced with many pressing social, economic, and environmental resilience challenges. Addressing these in an inclusive, holistic, and sustainable way requires a transformation of the way research and governance work and interact.

TRACC is bringing together different forms of knowledge from diverse social groups and movements, decision-makers, researchers, and other stakeholders to co-design new approaches to tackle coastal challenges and help positively shift values, goals, and paradigms towards sustainability and resilience.

TRACC will work across the UK, in Mid-North Wales, the Humber Estuary, Lough Foyle, and the Firth of Clyde, and lessons learned will be shared nationally through a new UK Resilience Assembly.

Transitions in Energy for Coastal Communities over Time and Space (TRANSECTS)

PI: Karen Alexander, Heriot-Watt University

TRANSECTS assesses marine energy transitions (METs) in three different UK regions: the Humber Estuary, the Orkney Islands, and the East Coast of Scotland. Each region has hosted and shaped lucrative marine energy resources, from whale oil in the 18th/19th centuries, to oil and gas in the 20th/21st centuries, and future UK marine renewable energies. Yet these transitions have seldom been smooth, with structural shifts generated fluctuating fortunes and regions left with economic challenges, marginalisation and (often hidden) deprivation when energy production moved elsewhere.

TRANSECTS takes a natural capital approach, seeks to 're-people the past' by integrating arts and humanities methods, and employs a 'just transition' lens to investigate the equity (or not) of decisions made during energy production shifts. In doing so, the project will assist communities to develop strategies to enable future METs that can strengthen coastal community resilience whilst also being just and equitable.


Coast-R
Network
Find out more and join the Coast-R Network:
www.ukcoastalresilience.org