

## Climate Resilience

Flooding, coastal erosion and heatwaves can have significant impacts on society, the economy and the natural environment. In the East Riding, this has been demonstrated by the devastating economic and human impacts of the June 2007 and December 2013 floods, the complete loss of homes and businesses due to ongoing coastal erosion and the public health impacts of heatwaves in 2018 and 2019.

Climate change is likely to result in an increase in the frequency and intensity of these weather events, therefore their impact is likely to also increase significantly. To limit these impacts we must ensure that the East Riding is resilient to climate change. While in some cases this may mean negating the impacts of climate change (for example through flood and coastal defence schemes), in most cases it will involve adapting our buildings, infrastructure and behaviour to reduce the inevitable impacts of future extreme weather events.

The scale of adaptation required will be dependent on the level of future greenhouse gas emissions, however the 'baked in' impacts of past emissions will require significant action to take place to make the East Riding a climate resilient county.

### What we have done

- Delivered major flood alleviation schemes in the region. Since 2014/15, the Council has delivered more than £100m of flood and coastal risk management capital investment, reducing the risk of flooding and coastal erosion to approximately 24,000 residential and more than 1000 commercial properties. Notable projects include:
  - Anlaby and East Ella Alleviation Scheme
  - Cottingham and Orchard Park Flood Alleviation Scheme
  - Paull Wall
  - Hessle Foreshore Tidal Defence Scheme
  - Pocklington Flood Alleviation Scheme.

The Council has recently been successful in funding bids for a further 4 flood alleviation schemes in Thorngumbald, Hedon, Preston and Burton Pidsea, totalling £11m. A further project that reduces flood risk to homes and businesses, and improves water quality on the Hornsea Mere has been approved for £2.7m of funding. The five projects will be constructed over the next 4 years, subject to further detail design and planning approval.

- Managed and promoted a natural and adaptive approach to coastal change management through the development and delivery of local policies, strategies and plans, including the Flamborough Head to Gibraltar Point Shoreline Management Plan (SMP) and the East Riding Local Plan. Our approach has been recognised as an example of best practice nationally. A key part of delivery has been working with communities and businesses to support them to adapt to, or relocate away from, coastal erosion risk. We have been able to do this through:

- delivering a comprehensive coastal erosion monitoring programme, including aerial surveys of the coastline.
  - informing residents and stakeholders of the risk to their assets from coastal erosion.
  - providing advice and support to residents to help them proactively plan for their relocation away from risk, including into Council accommodation.
  - offering limited financial assistance to residents affected by coastal erosion to support them to adapt to, or relocate away from, risk.
- Delivered coastal defence projects, such as the South Withernsea Coastal Defence Scheme, completed in 2020, reducing the risk of coastal erosion to approximately 70 residential properties, 250 chalets and caravans, utilities infrastructure and locally important transport links.
  - Lead on the Humber Emergency Planning Service to minimise the impact of extreme weather events across the region. Climate and weather-related risks are measured in the two-year forward-looking risk assessment undertaken by the service. Examples of what the service leads on are:
    - the development of emergency plans for responding to flooding.
    - to encourage and provide advice for communities to prepare contingency plans for emergencies.
    - to promote business continuity to small businesses and the voluntary sector.
    - to work with partners to promote heatwave readiness.
  - Worked in partnership across the region to manage climate risks. Some of the key partnerships we have been involved in or have actively supported are:
    - **Hull and East Riding Living with Water** – aims to build understanding across Hull and East Riding about the threats and opportunities water brings.
    - **Humber 2100+** - a partnership between the Environment Agency and 12 local authorities which looks to build on the existing Humber Flood Risk Management Strategy to redefine the strategic approach to managing tidal risk from the Humber.
    - **Yorkshire Regional Flood and Coastal Committee (RFCC)** – builds understanding, sets coherent plans and encourages targeted investment in flood and coastal erosion risk management.
    - **Flood Innovation Centre, University of Hull** – the centre provides support to small and medium-sized businesses to develop new products and services to help with flood resilience.
    - **Humber Local Resilience Forum** – leads on multi-agency emergency planning in the Humber with representatives including the emergency services, local authorities and the NHS.
    - **North-East Coastal Group** – a forum for coastal practitioners to discuss issues, problems, solutions and to share best practice on coastal management in the North-East of England.

- **Local Government Association Coastal Special Interest Group** – aims to share good practice on coastal change management and represent the issues and ideas of local authorities to national Government.

## Key Challenges & Opportunities

### Challenges to Delivery

- **Knowledge** – There is often a lack of understanding and recognition of the impacts of climate change beyond flood risk. We need to better understand the wider impacts of climate change in the East Riding and the range of potential solutions required and available.
- **Engagement** - One of the biggest challenges to becoming a more resilient region is engaging with as many communities, businesses and stakeholders as possible to promote cultural and behavioural change. This will require large scale and prolonged participation across the region, targeting multiple sectors including residents, businesses and educational institutions.
- **‘Defend-first’ approach** - Much of the national budget for flood and coastal erosion risk management continues to be used on defences meaning there is less financial support for adaptation and transition. It has been proved in this area that this can be successful and cost effective, particularly in areas where it is not sustainable to install or maintain hard defences.
- **Risks to transport assets** - The flat topography to the south of East Riding increases the risk of flooding to key rail and road transport networks, the rapidly eroding Holderness coastline poses unique challenges for transport systems towards the east of the region and the chalk Wolds to the north presents risks of groundwater flooding.
- **No one-size-fits-all solution** – As climate change brings different pressures across areas of the East Riding we recognise that an area-wide single adaptation plan will not be effective.
- **Older population** – East Riding has a higher proportion of older adults (65+) compared to the England average. Older populations are more likely to be vulnerable to extreme heat, poor air quality and extreme events. As an authority we aim to ensure homes are suitable for this population across the East Riding, taking into account future climatic change.
- **Resilience of energy infrastructure** - Flood events, high-winds and lightning are all examples of weather events that have the potential to disrupt energy generation, transmission and distribution. Planning for and monitoring these risks is essential to ensure our energy infrastructure can be climate resilient, so we can avoid future losses of power.

### Opportunities

- **Coastal Adaptation and Transition** – The Council has recently secured funding to deliver an East Riding Coastal Transition Accelerator Programme, in partnership with the Environment Agency. The programme aims to deliver effective coastal change management, transitioning away from a reactive approach (prioritising those

at imminent risk) to a planned long-term transition based on the projected impacts of climate driven coastal change.

- **Co-benefits** – The designing of areas to be more resilient to flooding and heatwaves often results in multiple benefits such as better access to green space, improved air quality and health benefits. This is especially the case where multiple uses of space is factored into the design of open spaces. For instance, a flood storage area which acts as sports pitches in the summer.
- **Education** –Working with the Hull and East Riding Living with Water partnership, our flood risk strategy team have visited schools to engage with young people on the water cycle, flood risk and water management, increasing awareness of the impacts of climate change and to learn more about their role in reducing flood risk.
- **Local Resilience Forums** – The Government has committed to strengthening the role of Local Resilience Forums so they are able to support delivery of more climate resilience initiatives and further minimise the impacts of potential emergency events.
- **Mental Health** – The threat from flooding and coastal change have been shown to cause significant physical and mental health issues. Any actions which can be taken to make communities more resilient to flooding and coastal change will have benefits for health and wellbeing.

## Areas of Action

*Please note that until the final Climate Change Strategy has been approved, we have chosen to use the wording ‘East Riding of Yorkshire Council can.’ Once the Strategy has been fully consulted on internally and with the public we will commit to ‘East Riding of Yorkshire Council will.’*

East Riding of Yorkshire Council can...

- Explore sustainable funding mechanisms and new funding opportunities to develop and deliver local schemes to limit the impacts of flooding, coastal erosion and heatwaves.
- Continue to work with communities, businesses and partners to enable them to proactively plan their transition away from coastal change risk.
- Work with partners and utilise scientific models and the latest technology (such as aerial surveys, water level sensors and cameras) to effectively monitor and manage the risk of flooding and coastal change within East Riding.
- Ensure that the East Riding Local Plan continues to consider the impacts of climate change in future design and developments, including limiting inappropriate development in certain areas at risk from flooding and coastal erosion.
- Through the Council’s updated Environmental Policy, look to improve the resilience of Council assets and ensure climate change remains a key consideration for the design and delivery of infrastructure projects.
- Provide advice to communities and businesses on building resilience to climate change through East Riding of Yorkshire Council communications and social media.
- Work with residents and partners to find the best solutions for changing behaviours to become a more resilient East Riding.
- Work with schools and colleges to share knowledge on the solutions for reducing the risks of climate change, linking this to their curriculum learning.

- Work closely with partners, such as the Environment Agency and DEFRA, to deliver flooding and coastal erosion risk management schemes.
- Design developments to maximise the wider sustainable benefits of climate risk management, prioritising nature-based solutions and those that provide more socio-economic benefits.
- Explore with partners, such as the University of Hull, the impacts of climate change on health to influence future decision making.
- Provide advice and information on flood insurance, directing residents to information on Flood RE.
- Feed into national guidance and policy on flood and coastal erosion risk management, making sure it remains appropriate for local resilience action in East Riding.
- Work with partners to increase climate change resilience across the region's built assets, including our transport network and energy infrastructure, to protect communities and businesses.

Working with partners, we want to build on the following actions set by the Yorkshire and Humber Climate Commission Action Plan in relation to emergency preparedness and response. These are:

- Build climate readiness through improved emergency and recovery planning by promoting regional climate risk assessment, multi-agency collaborations, provision of climate response training for emergency responders and support for local resilience forums.
- Develop a whole of society approach to emergency response raising awareness of new risks to the region and the available hazard warning systems, followed by clear communications and training as to what individuals, communities and businesses should do during differing emergency scenarios.

### **How might you build climate resilience?**

- You can sign up to receive personal flood alerts or warnings by phone, text or email here:  
<https://www.gov.uk/sign-up-for-flood-warnings>
- In hot temperatures, trees can offer effective ways of keeping cool. If possible, consider planting trees in your garden as they can provide shade for you and your home.
- Exterior shutters or blinds can reduce overheating exposure in homes.
- Refrain from opening windows when the outside temperature is higher than indoors.
- Check out the Met Office's guidance for protecting your property from flooding:  
<https://www.metoffice.gov.uk/weather/warnings-and-advice/seasonal-advice/your-home/protecting-your-property-from-flooding>