

FUTURE FENS: INTEGRATED ADAPTATION



Tyndall°Centre[®]
for Climate Change Research

New climate report finds time running out to save the Fens

Research conducted by the Tyndall Centre for Climate Change Research at the University of East Anglia highlighted future flooding, drought and biodiversity loss.

The UK's Fens, a vital lowland coastal plain known for its productive agriculture and unique ecosystems, faces unprecedented threats due to climate change. A groundbreaking risk assessment conducted by the Tyndall Centre for Climate Change Research at the University of East Anglia provides a stark and place-specific view of the complex and escalating challenges posed to the region.

The Fens Climate Change Risk Assessment (CCRA) shows that rising temperatures will bring intensified flooding, severe droughts, biodiversity loss, and drastic disruptions to agriculture. We need urgent coordinated action now to respond to impacts of climate change that are already affecting everyone living and working in the Fens.

Key findings from the report include:

2°C Warming: Expected to occur between the **2030s and 2050s** if high CO₂ emissions continue as predicted. This would lead to heightened flood risks, more extreme weather events, changes in agricultural productivity due to limited water availability, and accelerating biodiversity loss.

2.2-3.4°C Warming: By the **2050s to 2070s**, major flooding events, severe droughts, and rising sea levels could critically threaten infrastructure and communities. Water scarcity will jeopardise the agricultural sector, while biodiversity losses may become irreversible.

4°C Warming: Without aggressive emission reductions, a 4°C rise by **2100** will see a profound increase in the severity and frequency of flood events, large-scale ecosystem collapse, and rendering parts of the Fens uninhabitable and becoming unviable for businesses, including food production.

Dr. Katie Jenkins, Lead Researcher on the Fens Climate Change Risk Assessment, stressed:

“This assessment shows that the Fens cannot face the climate crisis with isolated measures. The challenges are interconnected, and the solutions must be as well. This report lays the foundation for coordinated, meaningful action.”

A Place-Based Solution for a Regional Crisis

The Fens, encompassing some of the UK’s most valuable agricultural land, critical biodiversity, and a growing population, require a holistic, integrated approach. The Future Fens Integrated Adaptation (FFIA) programme embodies this, bringing together key partners such as the Environment Agency, Water Resources East, the Peterborough and Cambridge Combined Authority, Lincolnshire County Council, and Norfolk County Council. This collaboration is essential for adapting to the mounting challenges detailed in the assessment.

As the report underscores, climate action in the Fens cannot wait. Sea levels will continue to rise for decades and centuries, regardless of mitigation efforts. Now is the window of opportunity to establish a resilient and adaptive future for the Fens—a future driven by coordinated strategies and robust investments.

This place-based assessment serves not only as a critical call to action but as a guiding roadmap for stakeholders and decision-makers to safeguard the region’s future.

Dr Robin Price, Director of Quality and Environment for Anglian Water, said:

"We’ve long been preparing for climate change impacts, particularly in the Fens, which hosts some of the UK’s most vital agricultural land. At Anglian Water, we’ve proposed over £218 million in investment for the Fens as part of our 2025-30 business plan, currently under Ofwat’s review. This includes work on a strategic pipeline to move water from wetter to drier areas, like the Fens, and plans for a new reservoir near Chatteris to supply drinking water to 250,000 homes.

Securing climate resilience in the Fens demands collaboration across local authorities, businesses, community groups, and regulators—highlighting the importance of the Future Fens: Integrated Adaptation partnership. We hope this report serves as a rallying call to unite partners and ensure a thriving future for the region."

Unlike national assessments, this location-specific CCRA provides targeted analysis and tailored solutions unique to the Fens. Doing so offers a critical foundation for adaptive strategies that can be refined and implemented at both local and regional levels, driving forward the vision of a resilient, sustainable Fens for generations to come.

Amy Shaw, Fens Flood Risk Manager at the Environment Agency, said:

The Fens Climate Change Risk Assessment’s comprehensive findings underscore the urgent need

to address the challenges posed by climate change in the Fens – a landscape largely below sea level and exposed to flood risk from the sea, rivers, groundwater, and surface water.

Our Fens 2100+ programme is our response to this challenge. This partnership brings together flood risk management authorities and representatives from agricultural communities to develop a fens-wide flood resilience investment strategy, enabling this unique landscape to adapt to the impacts of climate change now and into the future.

This press release coincides with COP29 - the annual UN climate summit of governments and leaders, focus on food and farming, reinforcing the global importance of local adaptation strategies in regions like the Fens, where food production, water management, and biodiversity intersect in uniquely challenging ways.

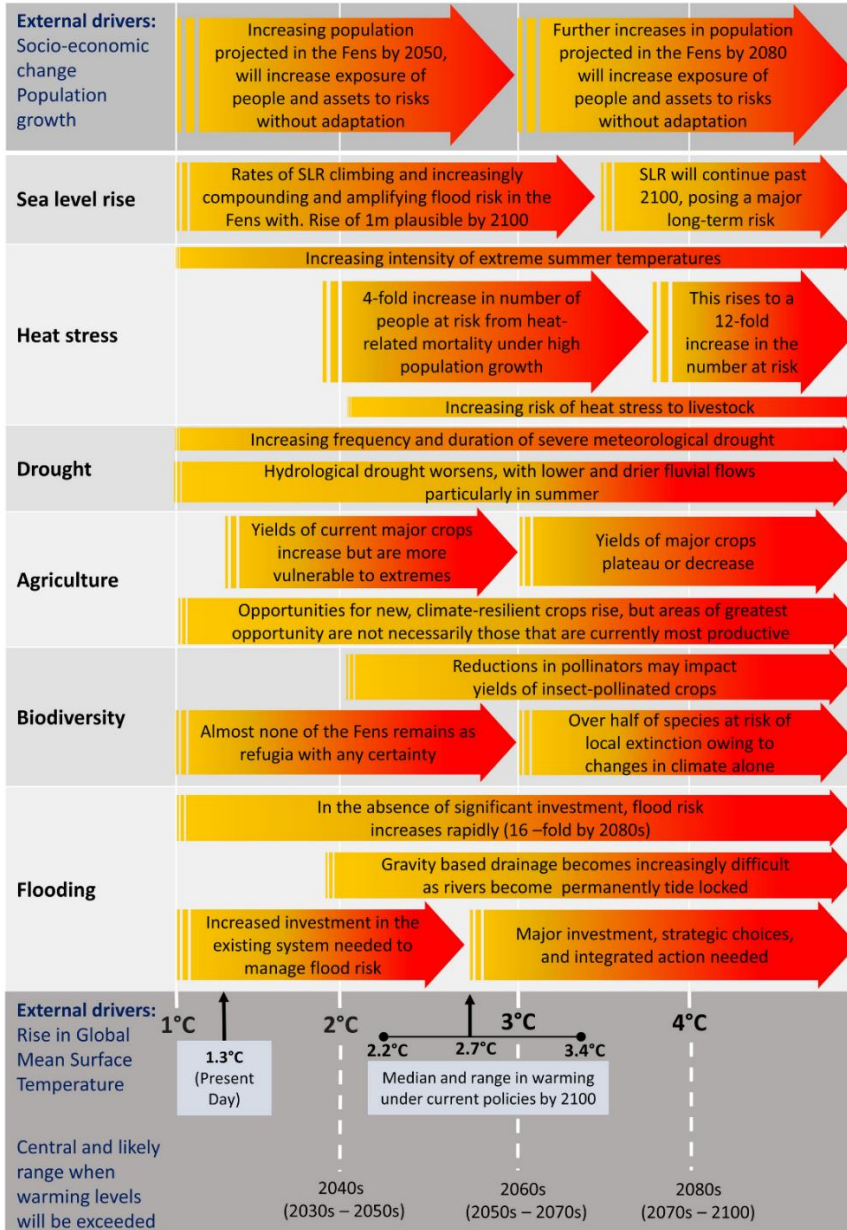
Cambridgeshire and Peterborough Combined Authority Mayor, Dr Nik Johnson, said:

I am committed to ensuring the Fens thrive in the face of climate change. The findings outlined today will help us take decisive action, delivering on our promise to build resilient communities and ensure a fair and prosperous future for all.

Daniel Johns, Water Resources East Managing Director, said:

Given how clear this report is about what the future might be, no one is going to thank us in 20 years if nothing is done in response. That's why the Future Fens Integrated Adaptation is really important for us to come together to ensure that we can secure a vibrant future for the Fens despite the challenges of climate change.

The myriad of climate related risks, including sea level rise, that could impact the Fens when warming levels of 2°C, 3°C and 4°C are reached



The arrows highlight when risks may be faced based on warming levels of 2°C, 3°C and 4°C, reported by the Carbon Brief (2020) and IPCC (2023) and assuming a high emission future. Even if current levels of government action are considered, temperatures rise beyond 2°C and potentially 3°C by the end of the century (Climate Action Tracker, 2023).

For further details see: Jenkins, K., Nicholls, R.J., Sayers, P.B., Redhead, J., Price, J., Pywell, R., He, Y., Tozer, N., Carr, S (2024) The UK Fens Climate Change Risk Assessment: Big challenges and strategic solutions. <https://tyndall.ac.uk/publications/>

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About Future Fens: Integrated Adaptation

The Future Fens Integrated Adaptation (FFIA) initiative is a strategic partnership focused on enhancing the resilience and sustainability of the Fens region in the UK. Launched at COP26 in 2021, FFIA brings together stakeholders from various sectors to collaboratively address climate change challenges threatening the Fens, such as rising sea levels, flooding, and drought. The initiative aims to implement transformative water management strategies to protect the environment, ensure food security, develop new water resources, mitigate flood and drought risks, sequester carbon in natural systems, and stimulate investment in the region. Key projects under FFIA include the Fens Climate Change Risk Assessment, a 3D Data Visualisation Tool, and the Fens Transition Laboratory, all designed to foster a coordinated and innovative approach to climate adaptation in the Fens.

About the Tyndall Centre

The Tyndall Centre for Climate Change Research is a partnership of five UK universities bringing together researchers from the social sciences and natural sciences and engineering and other disciplines to develop sustainable responses to climate change. We research implications and solutions alongside leaders from the public and private sectors for evidence-based decisions for mitigating and adapting to climate change. www.tyndall.ac.uk