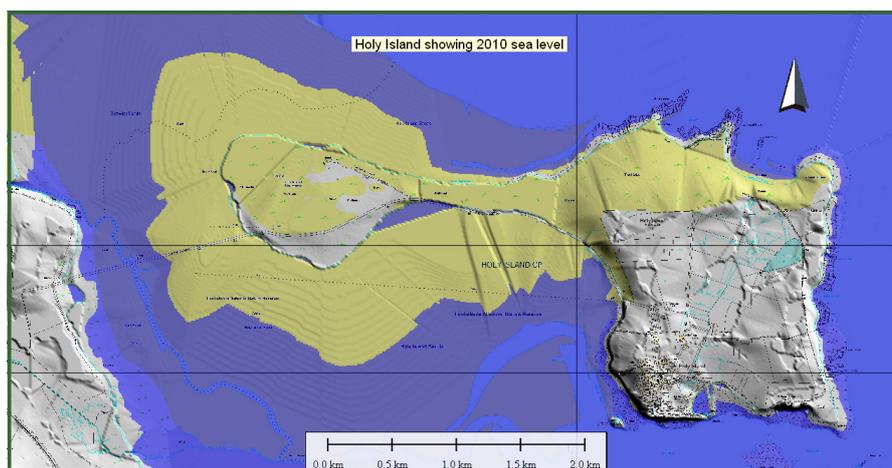


## Natural Environment

### Impacts of climate change on tourism and the natural environment



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#### The Issue

On average 65,000 tourists visit the Holy Island of Lindisfarne each year. This figure is set to increase in the changing climate as the summers become warmer and winters become milder. Lindisfarne is linked to the mainland by a causeway that is covered twice a day from the tides. Encroaching tides due to rising sea levels will have a large impact to suitable access of this island.

#### Background

Lindisfarne Island off the North East coast of England has a considerable historical past. Renowned for its natural beauty, religious and cultural characteristics large numbers of tourists visit the island each year. The uniqueness in culture and shape of the island means it is vulnerable to climate change. The impacts of climate change on the area such as increased summer and winter temperatures, sea level rise and extreme events puts extra pressure on the island's already squeeze resources. The narrow causeway and relatively modest size of the island are unique but constraining features.

#### Current Status

Sea levels are predicted to rise by 0.1m by 2100 (under a high emissions scenario) in the North East of the UK. This has been predicted taking into account the vertical land movements from glacial rebound. As part of the causeway is currently covered twice a day this prediction may cause the causeway to be permanently covered if no action is taken. Already the small island endures a large number of tourists throughout the summer and winter.

This is creating pressures on amenities such as parking and transport in addition to pressures on appropriate infrastructure and public facilities. There is a 90% chance of the summer temperature at Lindisfarne will increase by at least 2°C by 2100 and a 50% chance that figure will be 3.5°C. This will create an amiable temperature respite from the elevated temperatures of southern England drawing more tourists and holiday makers to the island. There is a 90% chance of the winter temperature at Lindisfarne will increase by at least 1.5°C by 2100 and a 50% chance that figure will be 2.5°C. This coupled with the prediction of milder winters (less frost and snow days) will make the island more appealing during the winter months which currently are relatively quiet.

## Information Gathering

Links with the island were made through Northumberland County Council and Northumberland Coast AONB. Through this ForeSea became linked with the Holy Island Partnership (HIP) which have members from the community, statutory organisations and NGOs. Using links such as these were considered the best method for gaining access to the local community of the island. As it is such a small island some residents are wary of the number of new projects being brought to the island. The most viable option for leading workshops was to work with consultants that were developing a bid to put forward for the Heritage Lottery Fund.

Although a lot of work has been done on the island the information necessary for this work was sparse such as the coastal and marine sediment transport of the area (dune erosion, beach accretion), pressures of tourism etc were sparse or absent. Information gathered from a climate change project in the south west of England (Climate South West—Tourism sector) was to be used as a starting point of gathering data for this project.

## Key Considerations

The summer months on Lindisfarne are extremely busy due to the high levels of tourists visiting. Due to this it was decided to postpone consultations until after the summer months. Coupled with the high sensitivity of carrying out work on the island the actions taken by ForeSea were not productive and time barriers lead to workshops and consultations not being carried out.

## Next Steps

New relations made with the HIP and the consultants working on the HLF bid in addition to existing ones with Northumberland Council will be maintained. ForeSea will continue to support the ongoing work on the island and all contacts will be kept informed on the outputs of IMCORE. The opportunity for future developments on the island to be fed into the North East Coastal Network (instigated by ForeSea) will be available.

**IMCORE** (Innovative Management for Europe's Changing Coastal Resource) is a **trans-national, innovative and sustainable approach** to reducing the Ecological, Social and Economic impacts of climate change on the coastal resources of North West Europe. 17 partners from universities, research centres and local authorities from 9 North West European counties working together to produce capacity for good practice in the climate change adaptation process.

More information on the project, the partners and the outputs to date are available online at

[www.imcore.eu](http://www.imcore.eu)