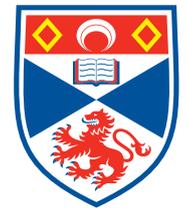


# ASSESSING CURRENT AND FUTURE CLIMATE THREATS AND OPPORTUNITIES



University of  
St Andrews

## Case study: University of St Andrews

Situated on the east coast of Scotland, the University of St Andrews is tasked with the challenge of both the maintenance of historic buildings and improving the resilience of its historic and modern buildings to the impacts of a changing climate. This case study explains how the University has undertaken a climate impact assessment workshop with staff and senior managers from the Estates department.

### Where does this fit in the adaptation process?

The adaptation process consists of 5 stages to help you get started with adaptation, understand and assess the impacts of current and future climate change, identify your significant climate risks and prioritise your adaptation options. It will also help you to implement your adaptation actions, evaluate them, and continuously monitor and review your work. This case study sits within stage 2 of the process. The University of St Andrews are assessing the impacts of climate change in the Estates department and intend to use this process with other departments across the University.



View the adaptation process on our website and access tools such as the Five steps to managing your climate risks. [www.adaptationscotland.org.uk](http://www.adaptationscotland.org.uk)

**Adaptation  
Scotland**  
supporting climate change resilience

### What is a climate impact assessment?

A climate impact assessment is a process that allows an organisation to assess their current and future climate threats and opportunities for their critical functions, and to respond by identifying strengths and weaknesses to managing the threats. The exercise is based on a SWOT analysis.

### What are the benefits?

Working through a climate impact assessment raises awareness of the impacts of severe weather events facing each department, or service of an organisation. By involving Service Managers, you will be able to use their operational knowledge to inform the

process and increase their understanding of the climate threats and opportunities. The approach allows others within the organisation to identify and implement actions that increase climate resilience, which encourages climate resilience to be embedded across the organisation and reduces the time pressures on one member of staff.

### The process

A climate impact assessment workshop was run with the Estates department at the University of St Andrews. The exercise involved working through the following questions:

1. What are the **current climate**-related threats to the department?
2. What are the **future climate**-related threats to the department?



Waves over-topping a car park between East Sands beach and the Estates department during a storm in 2010.

The University of St Andrews is taking action on climate change as part of the Adaptation Learning Exchange (ALE). The ALE was set up by Adaptation Scotland to help organisations plan for the impacts of a changing climate.

East Sands beach and the Estates department on a sunny day in summer 2016.



3. What are the departments' **strengths** - what are you already doing well to manage the threats?
4. What are the departments' **weaknesses** – what are the barriers to managing the threats?
5. What **opportunities** does a changing climate present for the department?
6. What **more could be done** to manage the threats?

## The Findings

### 1. Current climate threats

The Estates department identified a number of climate threats based on severe weather events that had occurred in recent years. This included high wind speeds which caused damage to the cladding of roofs, heavy rainfall resulting in surface water flooding, a storm surge that ran alongside the Estates' building and coastal erosion to cliffs that house University buildings.

### 2. Future climate threats

Staff noted that an increase in heavy rainfall could cause: blocked or over-topping drains as they reach full capacity; flooding of

ground floors, and the deterioration of traditional stone buildings, internally and externally, as they become saturated with water. In addition, they noted that increased temperatures could cause staff discomfort on warmer days.

### 3. Strengths

Building maintenance is currently being managed using condition surveys, Computer Aided Facilities Management (CAFM) software and site knowledge. Staff referred to having a crisis management plan that details what to do in the case of a flood event. They also noted the use of back up generators in the event of power failure.

### 4. Weaknesses

Staff are investigating prevention of the deterioration of traditional stone buildings in a changing climate and felt more guidance was needed to better understand this element. In addition, more clarity was needed over the responsibility for the drains in town which affect University buildings.

### 5. Opportunities

Identifying increased heavy rainfall as a climate threat is useful for the department to be able to make improvements to, for example, the material of ground floor doors and the width of gutters, as and when funding allows. Design teams for new projects now report on how they have considered adaptation to climate change in their processes.

### 6. What more could be done?

Staff felt that there were preventative measures for increased heavy rainfall. This included filling and storing sandbags before a flood event occurs, preventing grease from entering and blocking drains, and clearing gutters more often. Other

actions included implementing a data recording system for weather event information, embedding climate change in business continuity plans, and opening a dialogue on climate change through the introduction of a newsletter.

## Next steps

Our next steps are to have a follow-up discussion about climate change thresholds and to develop an adaptation action plan for the department and later expand this to include all services and departments across the University.

## Recommendations

1. Work with departments that are either engaged already first and/or those that you believe to be most affected from climate impacts now and in the future;
2. Don't be scared by the prospect of undertaking a climate impact assessment – it is a way of having a structured conversation and doesn't require in depth knowledge of climate projections;
3. Follow up your workshop by discussing how to implement those quick wins, and develop a plan for implementing the remaining adaptation actions as soon as possible. Once people are engaged, it's important to keep the momentum going.

### Further information

To find out more about this project, please contact:

**David Stutchfield**  
University of St. Andrews

**E:** [ds51@st-andrews.ac.uk](mailto:ds51@st-andrews.ac.uk)

## Adaptation support

Adapting to climate change takes time and Adaptation Scotland are here to provide support and advice with all your adaptation queries and projects. Get in touch to discuss how we can help you with your climate change adaptation work.

[www.adaptationscotland.org.uk](http://www.adaptationscotland.org.uk)

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## Contact Adaptation Scotland

Email: [adaptationscotland@sniffer.org.uk](mailto:adaptationscotland@sniffer.org.uk)  
Telephone: 0131 557 2140

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