Scotland's historic sites at high risk from climate change, report says

Exclusive: Many of the country’s most famous ancient sites, from Holyrood Park to the Neolithic village of Skara Brae, need urgent protection, say experts

By Severin Carrell / Mon 15 Jan 2018 / theguardian.com

Dozens of Scotland’s most famous historic sites are at very high risk of being badly damaged by climate change and need urgent protection, an expert survey has found.

Historic Environment Scotland (HES), the agency which oversees nearly 340 of the country’s most important castles, abbeys, Neolithic sites and ruins, has for the first time issued red warnings for nearly a fifth of its sites and put amber, high risk warnings against another 70%.

Of those, 28 sites are identified as at the greatest risk because they are not yet properly protected. Those include Fort George, a vast fortress built near Inverness after the battle of Culloden, 800-year-old Inchcolm abbey and Inchcolm island on the Firth of Forth, and the Brough of Birsay, a Pictish and Viking-settled island in Orkney’s world heritage site, threatened by sea level rises and storms.
The agency says those 28 places, already made fragile by their age and weathering, are at an “unacceptable level of risk exposure that requires immediate mitigating action”.

Among the 70% of its sites given an amber warning is Holyrood Park in Edinburgh which includes Arthur’s Seat and Salisbury Crags, and borders the Queen’s official home in Scotland, Holyrood Palace, as well as the Scottish parliament.

The park is at very high risk of being damaged by landslides and flooding, which justify red warnings in four categories, but those threats are reduced because the park is maintained by HES’s ranger service, so under the new risk register published on Monday it gets an amber.

Edinburgh Castle has red warnings for the risk of landslide and groundwater flooding, but as it too is under constant supervision by HES, it also gets an amber rating.

Three other world famous sites, Glasgow cathedral, the Neolithic village of Skara Brae and the Maeshowe chambered cairn on Orkney, and the Viking village of Jarlshof on the southern most tip of mainland Shetland, are also given red risk ratings.

They too are under constant supervision, lowering the threat level to amber, but HES officials warn that even so, protected sites could still be damaged by the far more severe weather events now being forecast.
Edinburgh Castle has been given a high risk amber warning of damage from landslides and flooding. Photograph: Murdo Macleod for the Guardian

The study, the first of its kind, has combined climatic data from the Scottish Environment Protection Agency, geological information from the British Geological Survey, and the agency’s own site surveys to draw up a detailed assessment of every site.

Combined into a single database, the surveys have confirmed evidence from numerous places that already fragile or exposed historic sites are at even greater risk from heavier flooding, coastal erosion driven by stronger storms and rising sea levels, increased winter rainfall or much drier summers. Its publication will increase pressure on other conservation bodies such as the National Trust of Scotland, which owns numerous sites at risk of extreme climate events, to step up their research.

The database will be constantly updated and refined, said Ewan Hyslop, the agency’s head of technical research and science, particularly after far more detailed and updated UK-wide projections of climate risks are published in several months.

HES has increased the priority it gives to climate mitigation under legislation driven through by Nicola Sturgeon, Scotland’s first minister, which requires public bodies to factor climate change into their activities. But even so, HES faces an 8% cut in its grant under the Scottish government’s draft budget. The budget of Sepa, the Scottish agency responsible for monitoring climate change, will also be cut again.
The research draws on forecasts from Sepa that sea levels around Scotland will increase by between 16.5 and 28 centimetres by 2050, threatening coastal sites such as Skara Brae.

Average temperatures will rise by 2.8°C in summer and 2.2°C in winter, while average rainfall will jump by 16% in winter and fall by 13% in summer, increasing the risks of grassland and forest fires at historic sites.

The report notes: “Water is the most destructive agent of decay. On a large scale, heavy and intense rainfall can directly lead to flooding in a short timeframe, which has the potential to cause catastrophic damage to all elements of the historic environment within reach of these potential flood zones.”