

Coastal Flood Management In Scotland

A photograph of a lighthouse on a rocky island, with large waves crashing against the shore and the lighthouse. The lighthouse is white with a red band. The sky is overcast and grey.

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Pascal Lardet, Flood Unit Manager

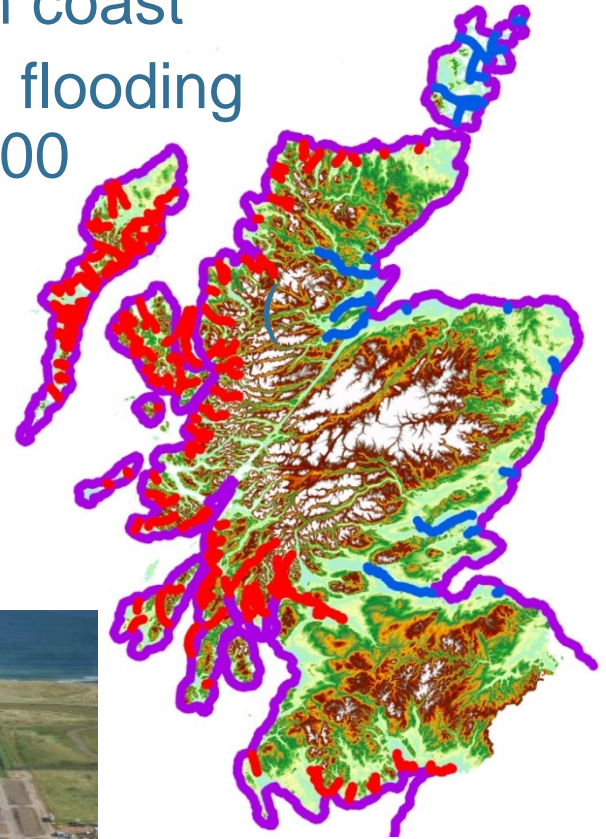
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Background

- Scotland has 12% of the European coast
- 16,000 properties at risk of coastal flooding (out of 108,000) increasing to 32,000 with climate change (2080)
- 20% of Scottish population live within 1km of the coast
- High value assets



Legislation & Roles

- Flood Risk Management (Scotland) Act 2009
- Scottish Planning Policy
- Environmental Impact Assessment 1999 and Marine Works (EIA) Regulation 2007
- Water Environment and Water Services (Scotland) Act 2003
- Coastal Protection Act 1949
- Bathing Water Directive

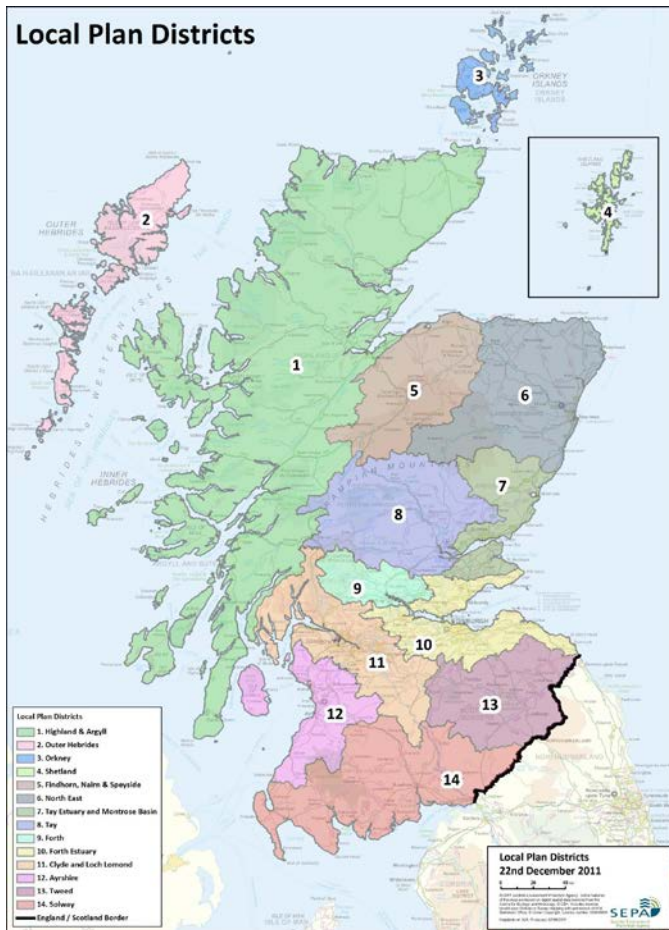


marine scotland



Many organisations have a statutory obligation to consider flooding and coastal erosion in their advice and duties

Flood Risk Management Planning



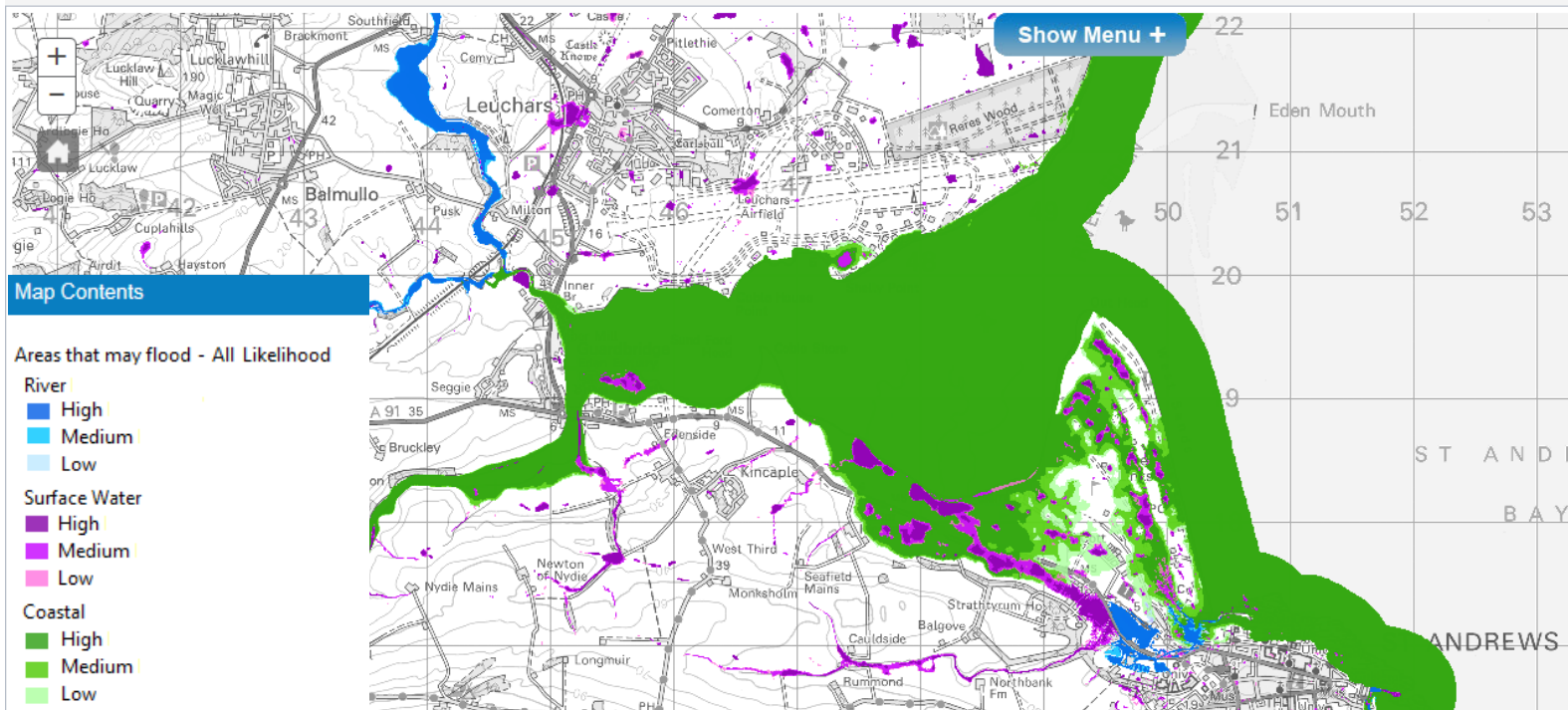
- Flood Risk Management (Scotland) Act 2009 introduces new plan-lead risk-based and collaborative approach
- 243 Potential Vulnerable Areas
- 14 Strategies published by SEPA in December 2015
- Plans to be published by Lead Local Authorities in June 2016
- 6 year cycle
- Partnership approach

Flood Map

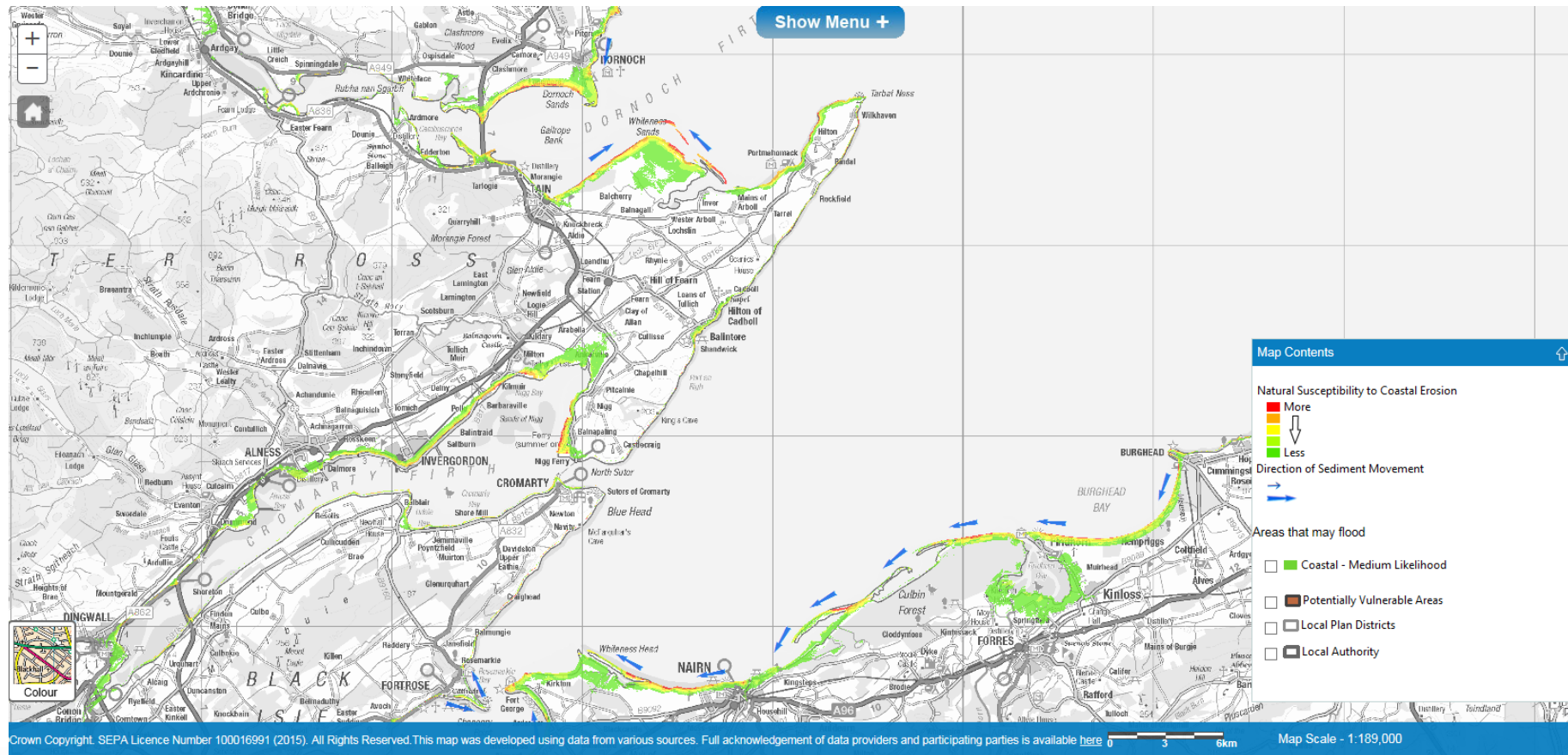


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Natural susceptibility to coastal erosion



Natural Flood Management Handbook

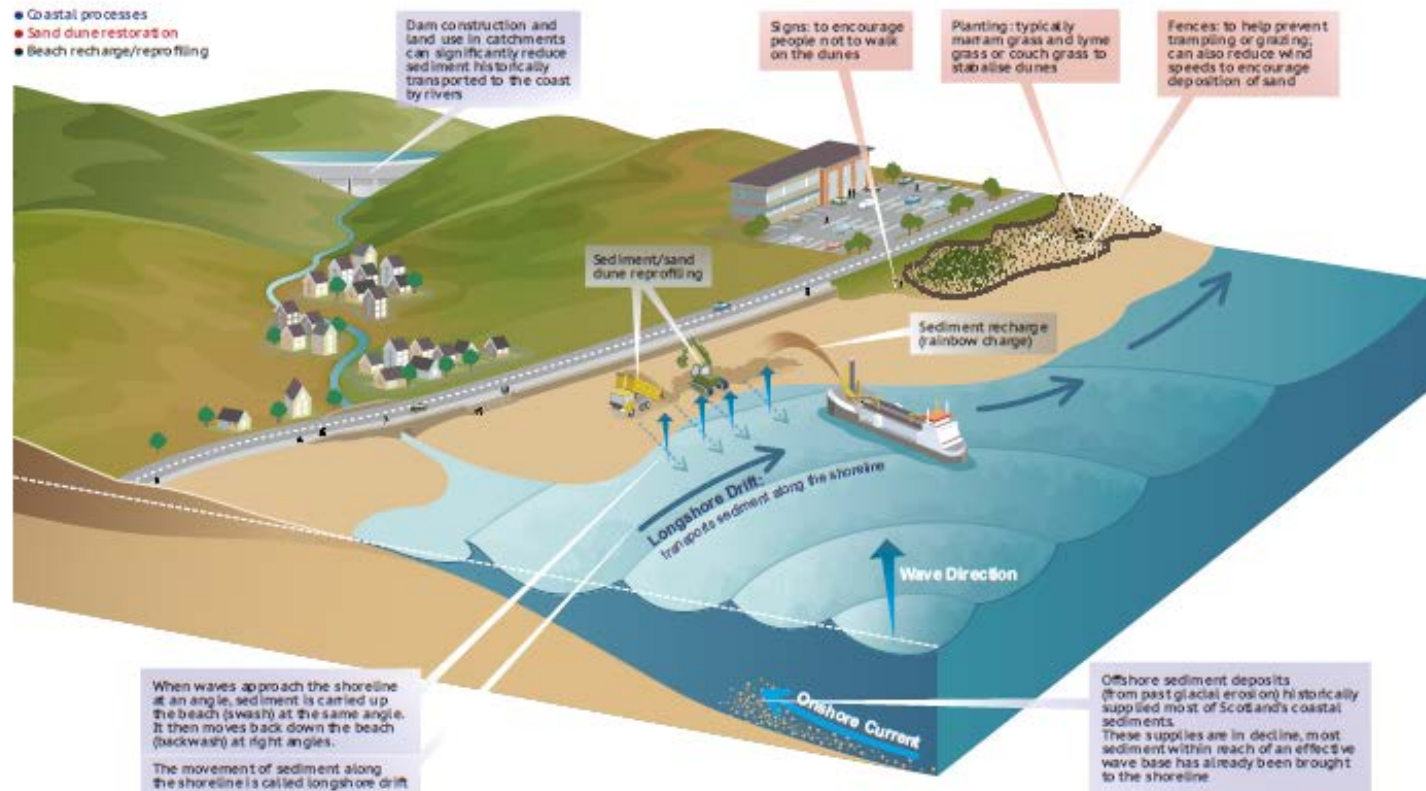
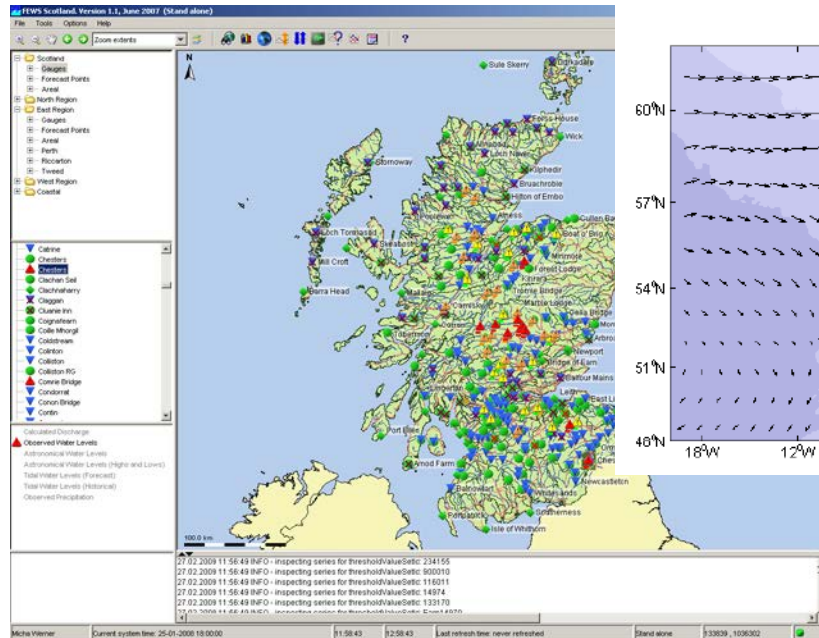
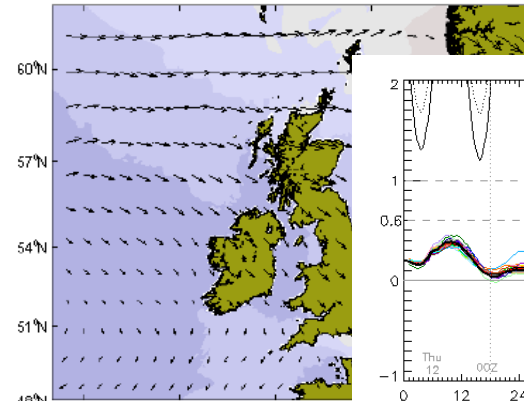


Figure 3.15. Natural flood management techniques along the shoreline: Beach management.

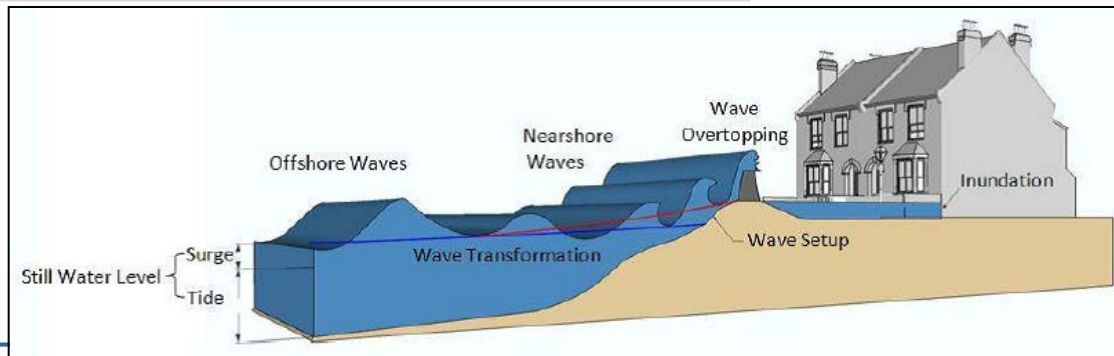
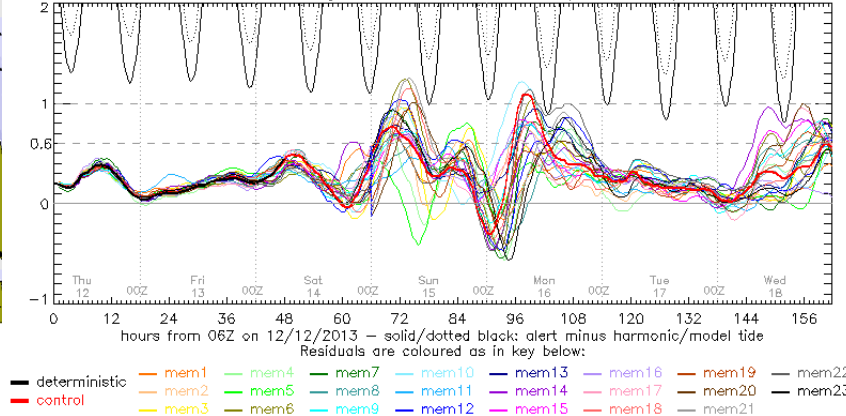
Flood Forecasting and Warning



Storm Surge



Ensemble surge elevation for Aberdeen (ABDN 0038)



Coastal Warning Schemes

2009: Firth of Clyde

2012: Firths of Forth and Tay (FoFaT)

2013: Loch Linnhe

2014: Moray Firth

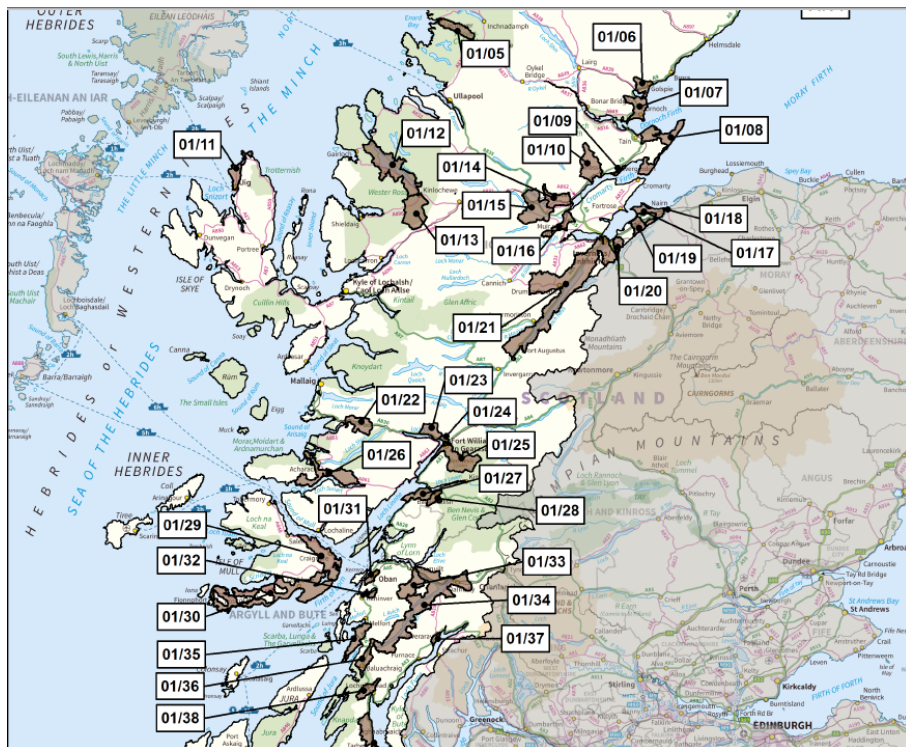
2015: Solway Firth

2016: Orkney

2017: Aberdeenshire Coast

2020: Western Isles

Planned actions



- 9 coastal Flood Protection Schemes (out of 42)
- 2 NFM works
- 50 studies (out of 134)
- 4 coastal Flood Warning Schemes (out of 14)
- Shoreline Management Plans

<http://apps.sepa.org.uk/FRMStrategies/>

National Coastal Change Assessment



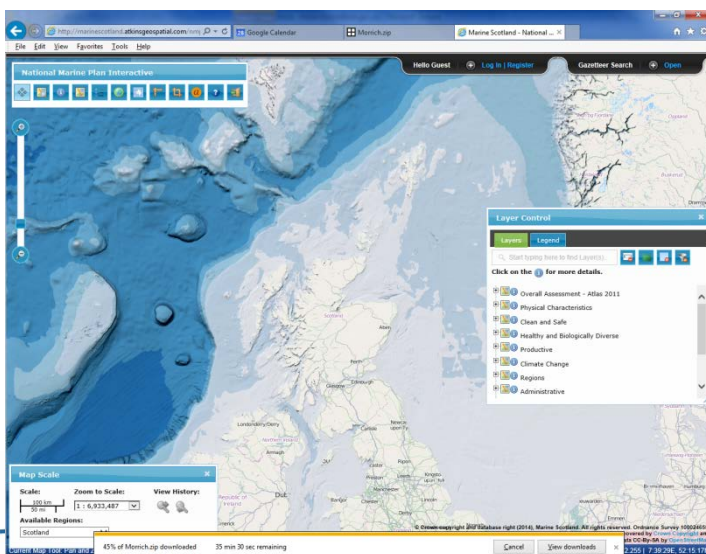
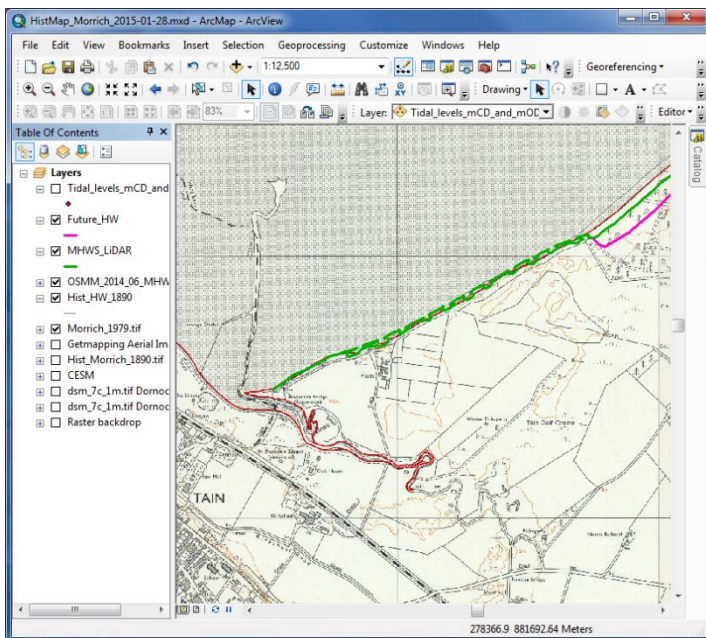
- Policy-driven inter agency research project collating information on coastal change, resilience and susceptibility to future coastal erosion
- Support numerous policy areas: UK CCRA, SG CCAP, Flood Risk Assessments, Marine Planning, Terrestrial Planning etc
- December 2014 - July 2016
- www.dynamiccoast.com



Scotland's centre of expertise for waters

www.sepa.org.uk/flooding





Benefits

- Analysis of historical change of shoreline (1890s, 1970s, 2000s, 2010s)
- Results available on web map at www.dynamiccoast.com/
- Understanding of vulnerability of the coastline and where changes are happening
- Data and tools for all agencies (eg mapping data shared with Ordnance Survey)

Conclusions



- Coastal flood risk will increase
- Importance to understand better the current and future changes
- For the first time we have a plan of prioritised flood management actions based on a risk based and partnership approach
- Challenges include: better consideration of wave actions, integration of erosion and flood, co-ordination of various plans and legislations