

Overview and Scrutiny Committee 22 September 2020

Sea Level Rise and Shoreline Management Plan review – introduction

Graeme Smith – Coastal Officer

House of Commons EFRA Committee – November '19

UK Government's National Risk Register of Civil Emergencies

## Coastal Risk is second only to pandemic flu

Adaptation is Key – National and Local leadership, funding, delivery mechanisms

Integration between SMP / CCMA's and Land Use Policies



House of Commons  
Environment, Food and Rural  
Affairs Committee

### **Coastal flooding and erosion, and adaptation to climate change: Interim Report**

**First Report of Session 2019**

*Report, together with formal minutes relating  
to the report*

*Ordered by the House of Commons  
to be printed 30 October 2019*

# Coastal Local Authorities

District and Unitary Councils have a multitude of roles/duties/established expectations

Planning (to MLW)

Economic development

Harbour Authorities

Significant Coastal Asset owners / Landowners

Licensing and consenting a wide range of activities

Public Health and wellbeing

Inshore Byelaws

Tourism

Transport

Emergency planning and response

Heritage

Refuse and Litter / plastic free initiatives

Resort and Beach Management

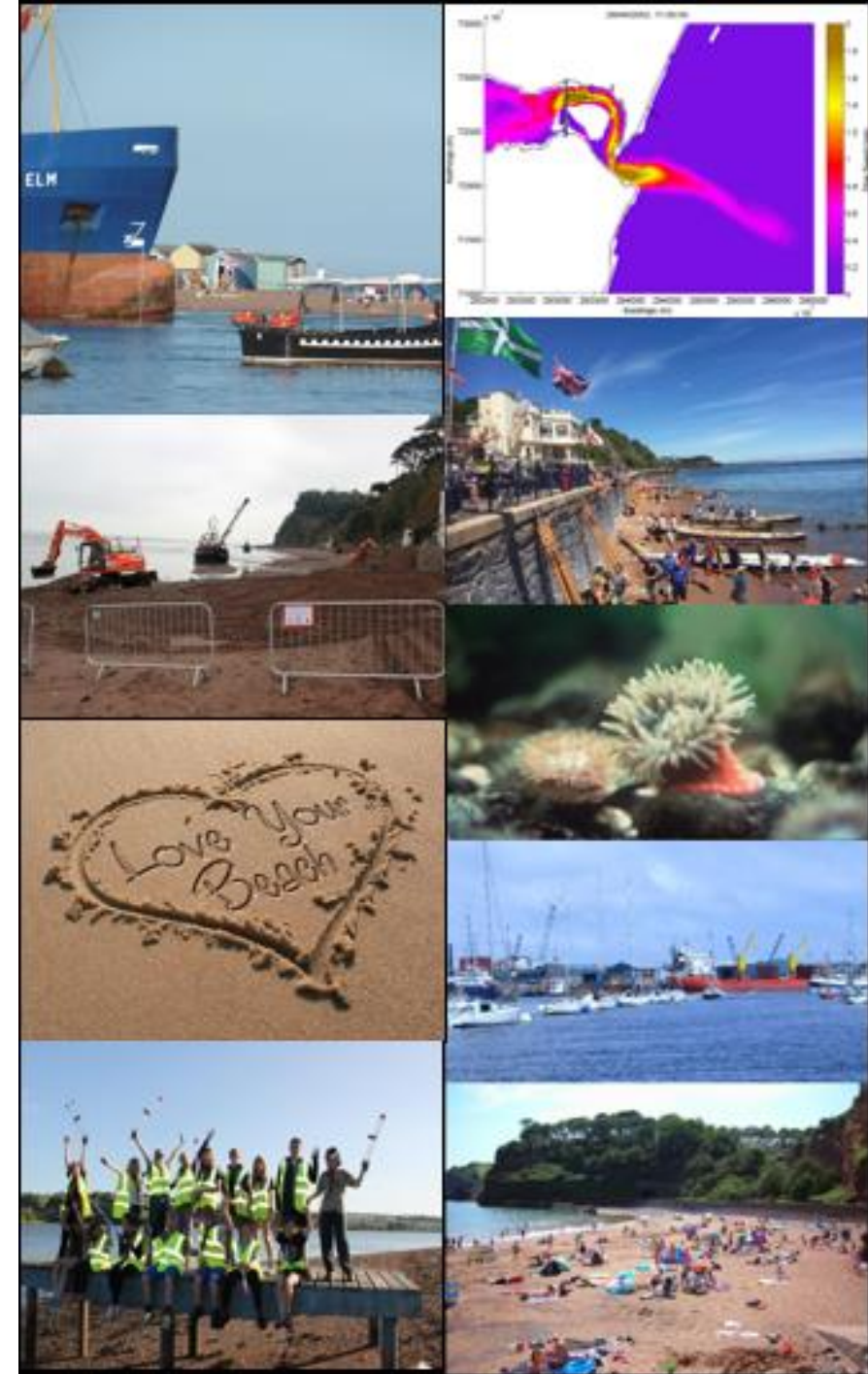
Water quality – Bathing waters and Shellfisheries

Access and Leisure

Consultees on Statutory processes – Marine Licenses

‘Climate emergency’

Public expectation - first point of contact either as Local Authority or Coastal Partnership



One of the many Local Authority roles is managing Coastal Erosion

Coast Protection Act – gives powers to Districts or Unitary Councils regarding eroding coasts.



Planning for change is directed through the Shoreline Management Plan (SMP)

TDC leads the South Devon and Dorset SMP through SDADCAG

To plan and manage - you need to measure or predict dynamic change / risk

TDC hosts and manages the South West Regional Coastal Monitoring Programme (branded as PCO)

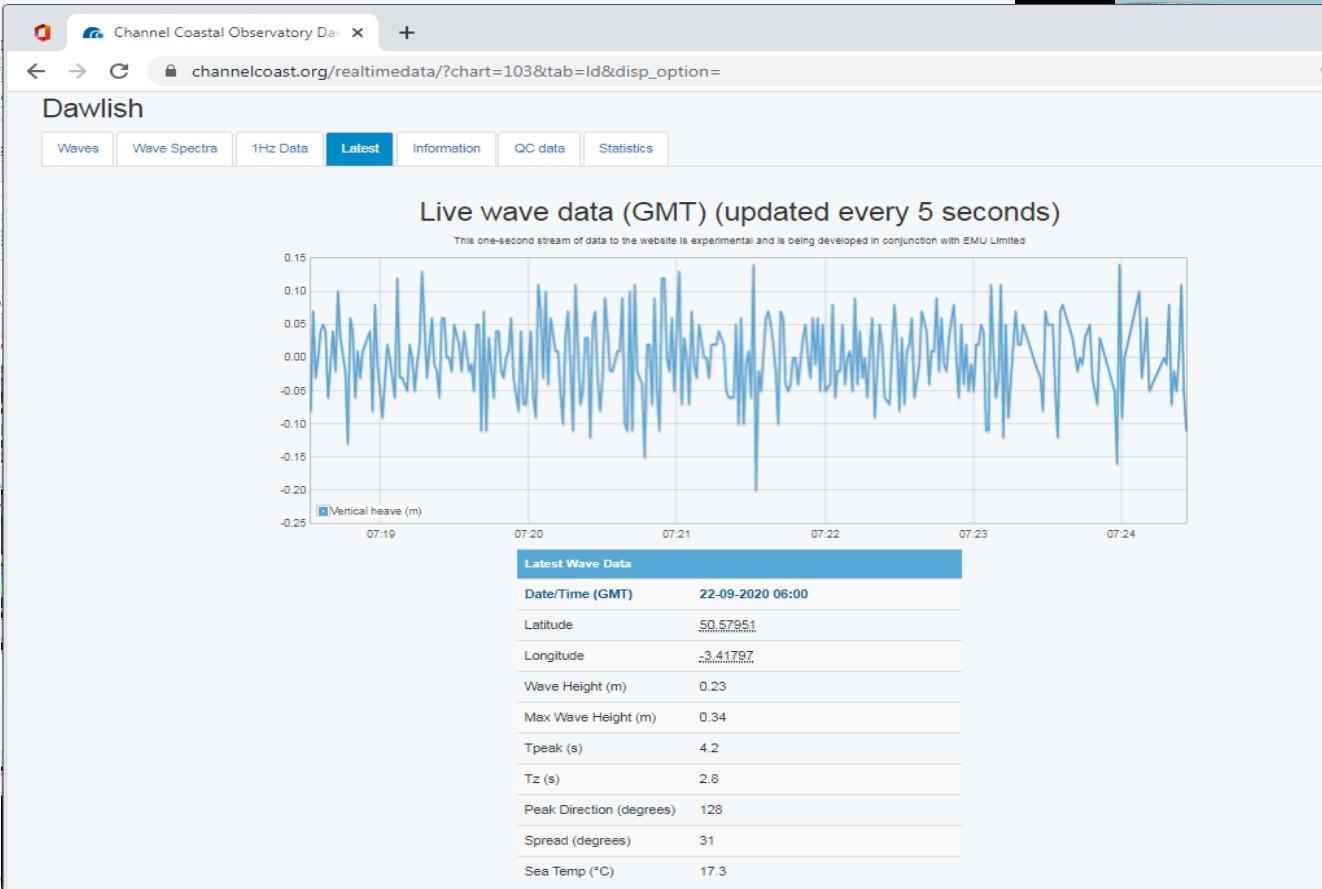
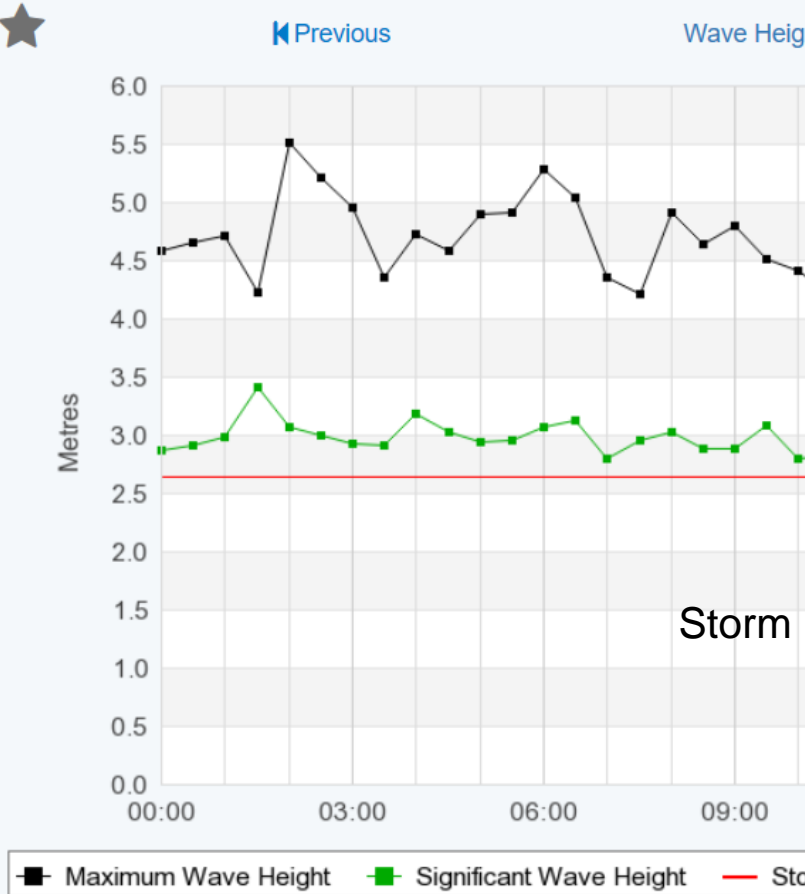
South Devon and Dorset  
Coastal Authorities Group



*PL* **PLYMOUTH**  
**COASTAL**  
**OBSERVATORY**



# Data - Wave buoys and Wave radars / Step Gauges

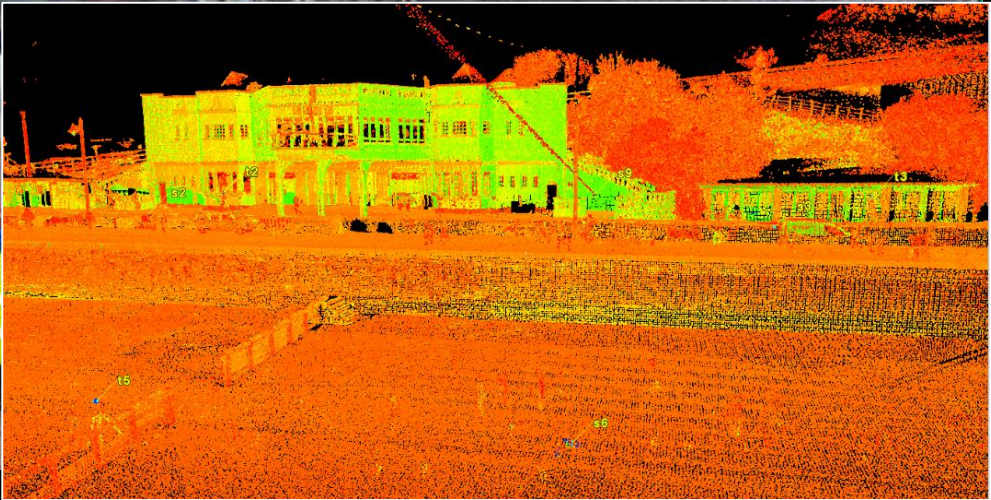
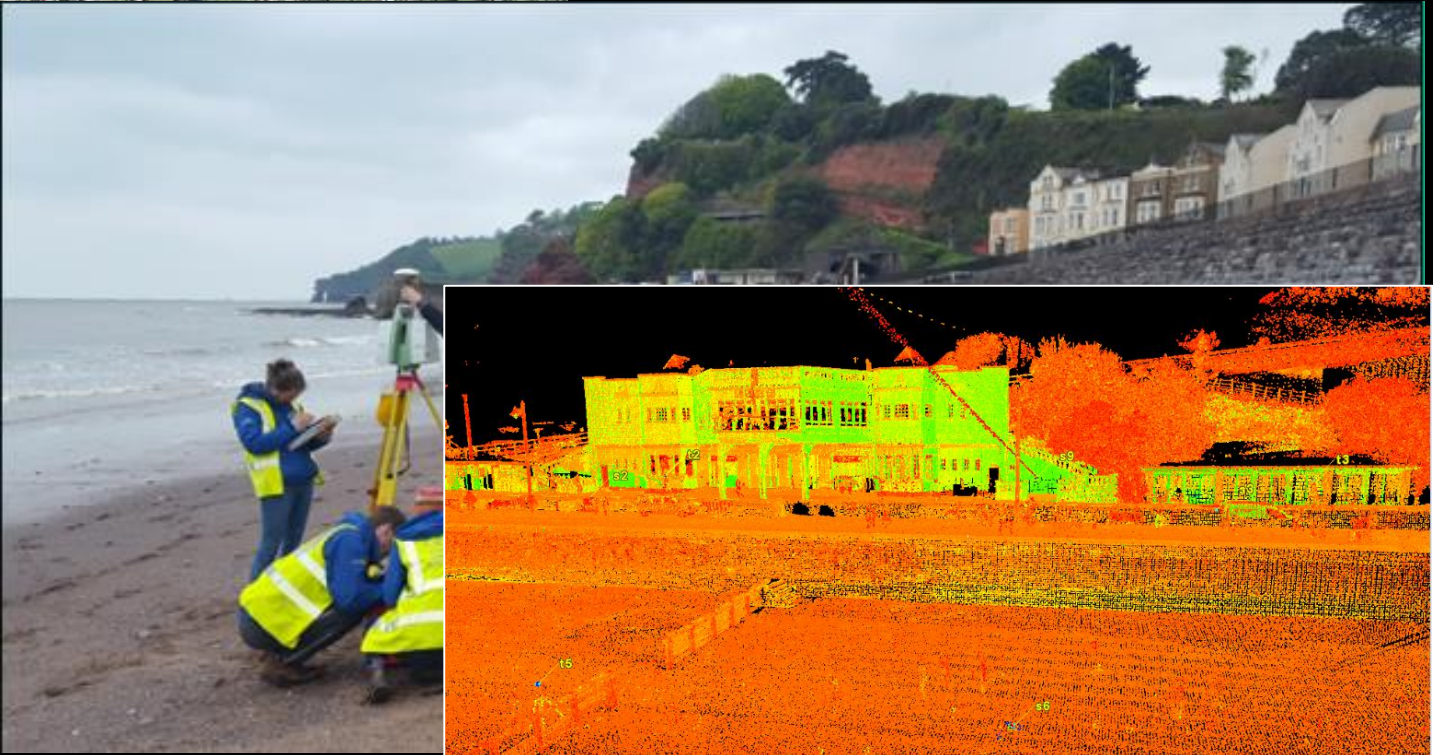


Lidar, Aerial Photography, Topographic Survey (inc Laser scanning)

Lidar



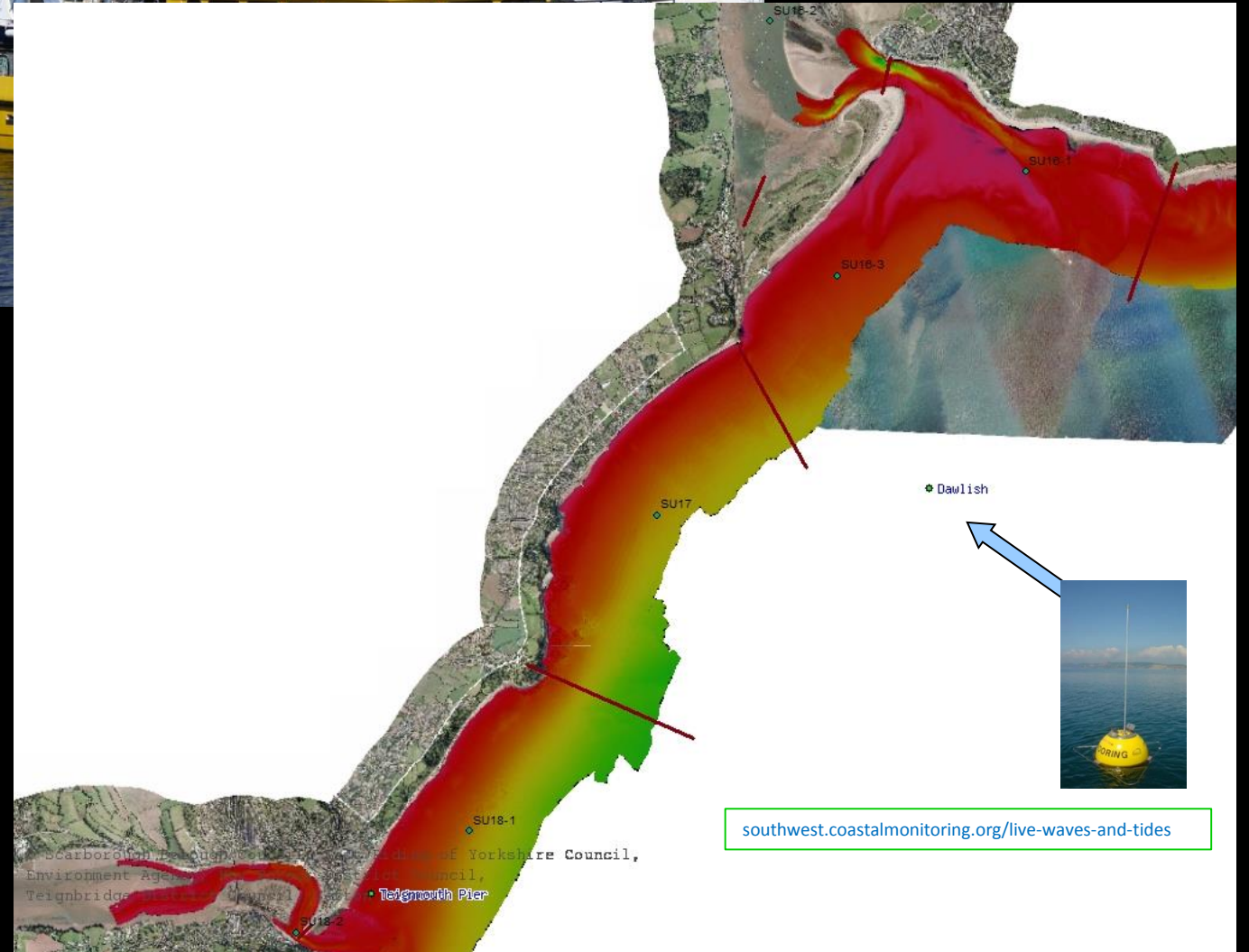
Topographic surveys



Aerial photography





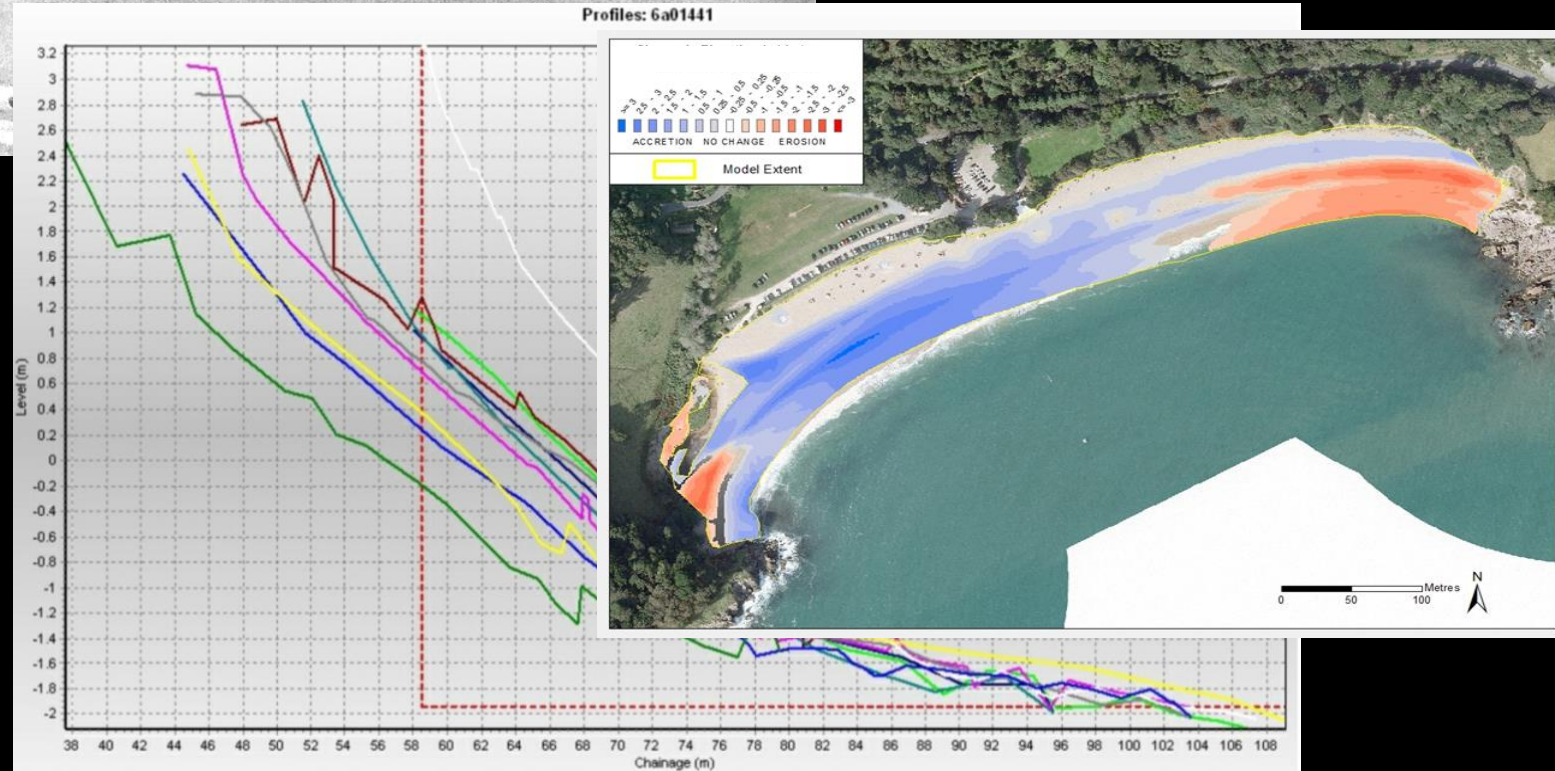




ICM uses contemporary data (i.e. SWRCMP)  
alongside other sources (i.e. historical information)



Repeated data collection (varying temporal scales)  
enables analysis and trends – cliff regression,  
beach changes, sediment bars

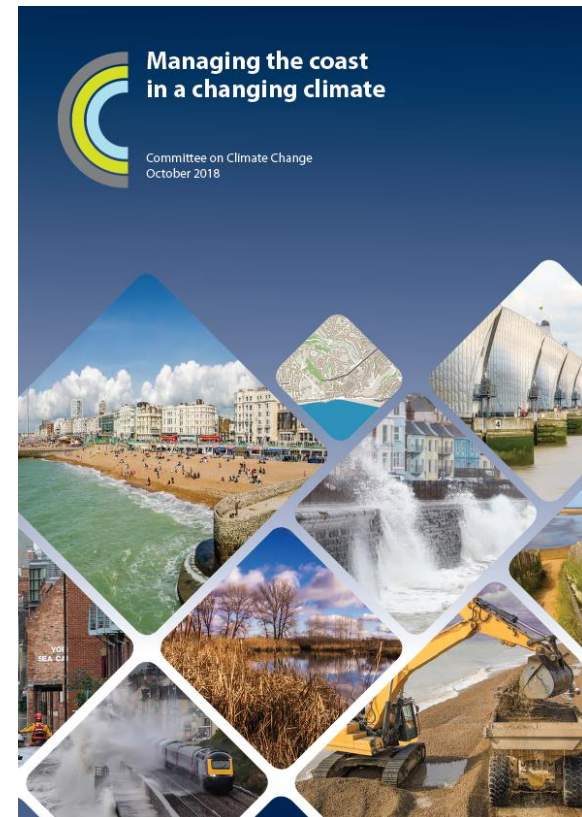






The Committee on Climate Change (the CCC) is an independent, statutory body established under the Climate Change Act 2008.

Purpose is to advise the UK Government and Devolved Administrations on emissions targets and report to Parliament on progress made in reducing greenhouse gas emissions and preparing for climate change.





Climate change will exacerbate the already significant exposure of the English coast to flooding and erosion:

The current approach to coastal management in England is unsustainable in the face of climate change:

- Coastal communities, infrastructure and landscapes already face threats from flooding and coastal erosion. These threats will increase in the future.
- In the future, some coastal communities and infrastructure are likely to be unviable in their current form. This problem is not being confronted with the required urgency or openness.
- Sustainable coastal adaptation is possible and could deliver multiple benefits. However, it requires a long term commitment and proactive steps to inform and facilitate change in social attitudes.





- In England, 520,000 properties (including 370,000 homes) are located in areas with a 0.5% or greater annual risk from coastal flooding and 8,900 properties are located in areas at risk from coastal erosion, not taking into account coastal defences.
- By the 2080s, up to 1.5 million properties (including 1.2 million homes) may be in areas with a 0.5% or greater annual level of flood risk and over 100,000 properties may be at risk from coastal erosion.
- Today, coastal management is covered by a complex patchwork of legislation and is carried out by a variety of organisations with different responsibilities.



- It is almost certain that England will have to adapt to at least 1m of sea level rise at some point in the future.
- The public do not have clear and accurate information about the coastal erosion risk to which they are exposed, nor how it will change in future.
- Coastal communities, infrastructure and landscapes already face threats from flooding and coastal erosion. These threats will increase in the future.
- In the future, some coastal communities and infrastructure are likely to be unviable in their current form. This problem is not being confronted with the required urgency or openness.
- Sustainable coastal adaptation is possible and could deliver multiple benefits. However, it requires a long term commitment and proactive steps to inform and facilitate change in social attitudes.
- Calculated that implementing the current Shoreline Management Plans to protect the coast would cost £18 - 30 billion, depending on the rate of climate change.





## How do we plan for change and coastal adaptation

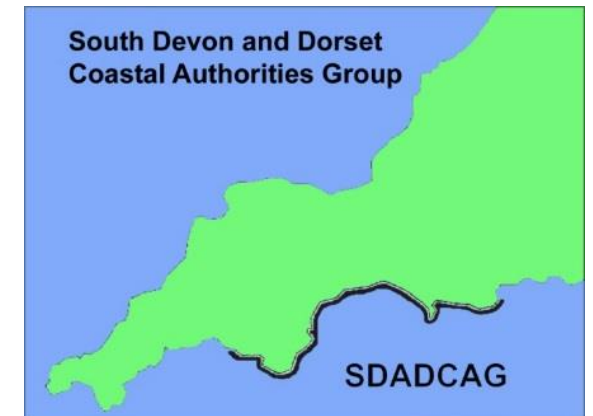
### Shoreline Management Plan (SMP)

Delivered through

### South Devon and Dorset Coastal Authorities Group (SDADCAG)

TDC host both SDADCAG and South West Coastal Group

SMP is adopted by Local Authorities to lead development of Coastal Change Management Areas (CCMA's) within Local Plan





## Diverse area

- 400+km
- 22 estuaries, inlets, lagoon features
- Regionally important infrastructure – Railway
- Locally important infrastructure – roads, gas pipes, schools, businesses and of course homes
- Local, National, European designated habitats – inc areas of IROPI aspects
- Amenity beaches, ports and harbours, breakwaters, promenades, slipways, piers, cliffs, dunes, urbanised / developed areas and natural coastline
- Legacy features – from nationally treasured historic buildings through to eroding landfill sites
- Some significant lengths are owned by large organisations – i.e. Local Councils, Network Rail, National Trust or Military
- Some areas – esp in estuaries – the shoreline is owned by individual farmers or even individual businesses or householders – the bottom of the garden is an eroding cliff which is getting closer
- Huge variety of existing defences – design lives and costs  
wave return walls, vertical walls, groynes, steps, managed dune systems, shingle banks, marram grass, breakwaters and more recently foreshore recharge and sand/shingle engines





England has 20 SMPs covering all 10,000km of coastline

Internationally regarded as model strategic planning for the coast , however

Most were completed 6-12years ago and have had varying levels of retest/update to maintain intended 'living' document status

SDADCAG SMP adopted 2011

National desktop review indicated a significant proportion of Policy Units warrant further analysis since SMP production

20% Hold the line – recommended for scrutiny, around a third of these due to funding criteria

12% No Active Intervention – largely due to the likelihood of challenge and difficulties around adaptation to change

42% Managed realignment – largely through evidence of coastal evolution and/or funding

A review of SMPs has also been recommended by

- The National Infrastructure Assessment 2018
- The Government's 25 Year Environment Plan 2018
- The Government's National Adaptation Programme 2018

Additional relevant initiatives

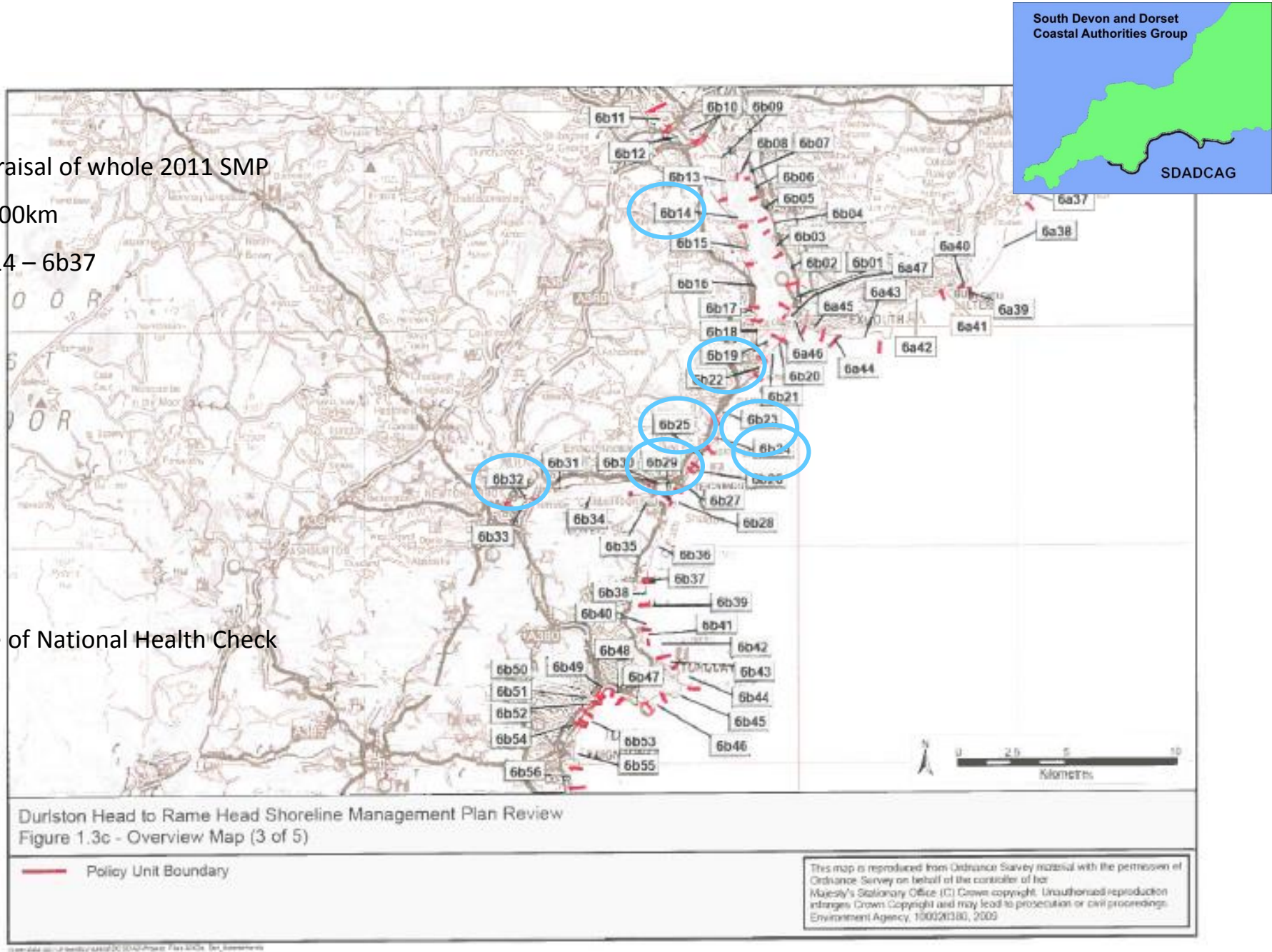
Defra –National Policy Statement for FCRM

EA –FCRM Strategy for England and future capital investment programme



SDADCAG internal appraisal of whole 2011 SMP  
200 Policy Units over 400km  
TDC area – Policies 6b14 – 6b37

Undertaken in advance of National Health Check  
and SMP-R processes



## What is the SMP Refresh?

**The SMP-R Project**, is being led by the Environment Agency undertaken by Jacobs and RHDHV on behalf of Coastal Groups. It will provide the following:

1. A review of what has changed since SMP2 (new legislation, climate change predictions, planning guidance etc) and how that might be accounted for in SMPs going forward.
2. Look specifically at where any of the above might need to be considered in your SMP.
3. Supplementary guidance for helping to manage the implementation of SMP policies, including a consistent template for SMP action plans.
4. Develop a prototype map based data and information web platform, which will both signpost and host (where appropriate) SMPs and coastal data (undertaken by Swirrl on behalf of the EA/CGN)

**This is not SMP3 and it will not update SMP action plans, change policies, short cut the SMP policy change process or take away any local ownership or decisions on SMPs.**

SMP-R national programme has been slightly delayed by Covid

Currently completing national Health Check on existing SMP2's inc SDADCAG

Health Check - Expected to deliver end Sept

Some expected provision of national funding potentially augmented by Local Levy

Expectation of new Policy definitions and splitting of existing policy prescriptions

Local Coastal Authorities Groups - SDADCAG - to develop further and instigate change

Feeds directly into definition of CCMA's

Revised Target methodologies to drive adaptation or remedial/risk mitigation works

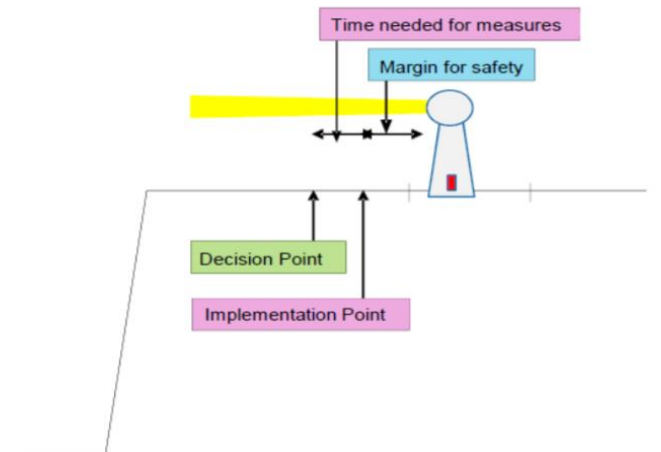
'live' action plan and reporting processes

May require re-adoption by all Local Authorities



## SMP Epochs + Management Tools and Triggers

- There are two broad types of triggers:
  - 1) Triggers that lead to implementing a change in SMP policy / management approach (i.e. timing of when transition policy).
  - 2) Triggers that lead to a fundamental re-think of SMP policy and/or change in SMP policy direction.
- Within both types, there are then a range of factors driving policy change (some of which can be monitored), broadly grouped as:
  - Physical processes (e.g. erosion rate/extent; flood frequency; asset condition).
  - Enabling activities or impacts (e.g. injection of funding; land-use adaptation completed; changes in policy/regulations)



## National Planning Policy Framework (2018)

Overarching presumption in favour of sustainable development

Coastal Change s. 166-169

Encourages Integrated Coastal Zone Management (ICZM)  
typically through Coastal Partnerships

Identification of **Coastal Change Management Areas (CCMA's)**  
for any area likely to be affected by physical changes to the coast  
directed by SMP policy units

Provision to relocate development and infrastructure away from CCMA's



Ministry of Housing,  
Communities &  
Local Government

National Planning Policy Framework

## Adaptation isn't straightforward – difficult choices ahead

South Devon example used as case study

Slapton – gravel barrier beach between sea and freshwater habitat

NNR / SSSI designated - Carries A379 (Dartmouth to Torcross)

Does not directly defend houses – the lead criteria for FCRM funding

250m damaged in Jan 2001

Alternate road route 7km / 25km for heavy vehicles – whilst road re-built

High profile local engagement project to develop adaptive strategy

However – March 2018 Storm Emma 400m damaged

8mth diversion whilst road rebuilt and reopened

'The re-built road will, however, almost certainly be washed away again in the future'

Demonstrates understandable societal / political pressures for short term fix (and seven figure resourcing) compared with long term sustainable approaches

The re-built road will, however, almost certainly be washed away again in the future. This questions the wisdom of the new investment and the decision making process related to 'responsive' investments. If a long-term and objective decision making process had been applied it is unlikely that this same decision would have been made as the cost-benefit relationship for re-building in the current location is marginal at best.

This case highlights that even when significant time and money has been invested in engaging the local community and developing a forward-looking, adaptive strategy, it is still difficult to implement plans that have taken long-term issues into account. Such plans can be overlooked and a reactive and potentially unsustainable solution can be implemented instead, particularly where authorities are under pressure to respond rapidly to events.



Source: Photograph included with kind permission from Ian Coomber (2018).

Notes: Slapton Sands Beach Management Plan (2018) available at

<http://www.slaptonline.org/news/news.php?id=145>; news stories from: <https://www.devonlive.com>; Devon County Council: <https://new.devon.gov.uk/roadsandtransport/traffic-information/roadworks/a379-slapton-line-realignment/> and communication with other local stakeholders.



## Adaptation isn't quick or easy

### 1. GIS based assessment of coastal risks

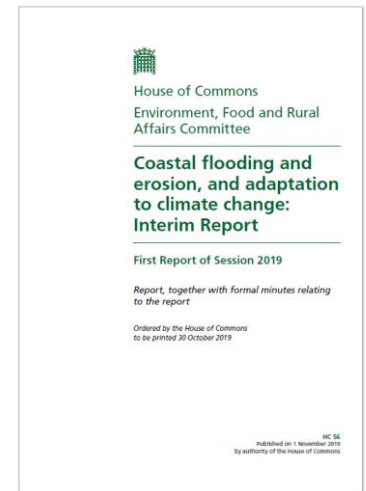
Sayers and Partners LLP – part of evidence for Committee on Climate Change

The analysis indicates that approximately 1,400km of England's coastline will not be economically viable to manage as proposed through the SMPs based on the number of properties being protected alone (defined as achieving a Benefit Cost Ratio – BCR - of less than 2).

2. £5.2bn funding settlement announced for 2021-27 (fluvial and coastal). Outcome measure 3 (coastal erosion) is under review by Treasury and is anticipated to improve, and a new measure introduced for properties at risk to 2040

3. The National Trust explained that at Studland Bay in Dorset, it had

“taken three years and an awful lot of money to persuade that community just to relocate a café”.



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