Strategic Plans – Shoreline Management Plans evidence needs and filled evidence gaps

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Shoreline Management Plans

- A Shoreline Management Plan provides a large-scale assessment of the risks associated with coastal processes and presents a policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner.

Decades				
Years				
Seasons				
Days				
Hours				
Real-time				
	10-100's metres	**Kilometres**	**10's Km**	**100's Km**

National overview

Coastal Strategy

Shoreline Management Plans

Engineering schemes
Beach Management Plans
Scheme performance

Storm Events

Flood Forecasting
Emergency/Incident Response
Operational Planning

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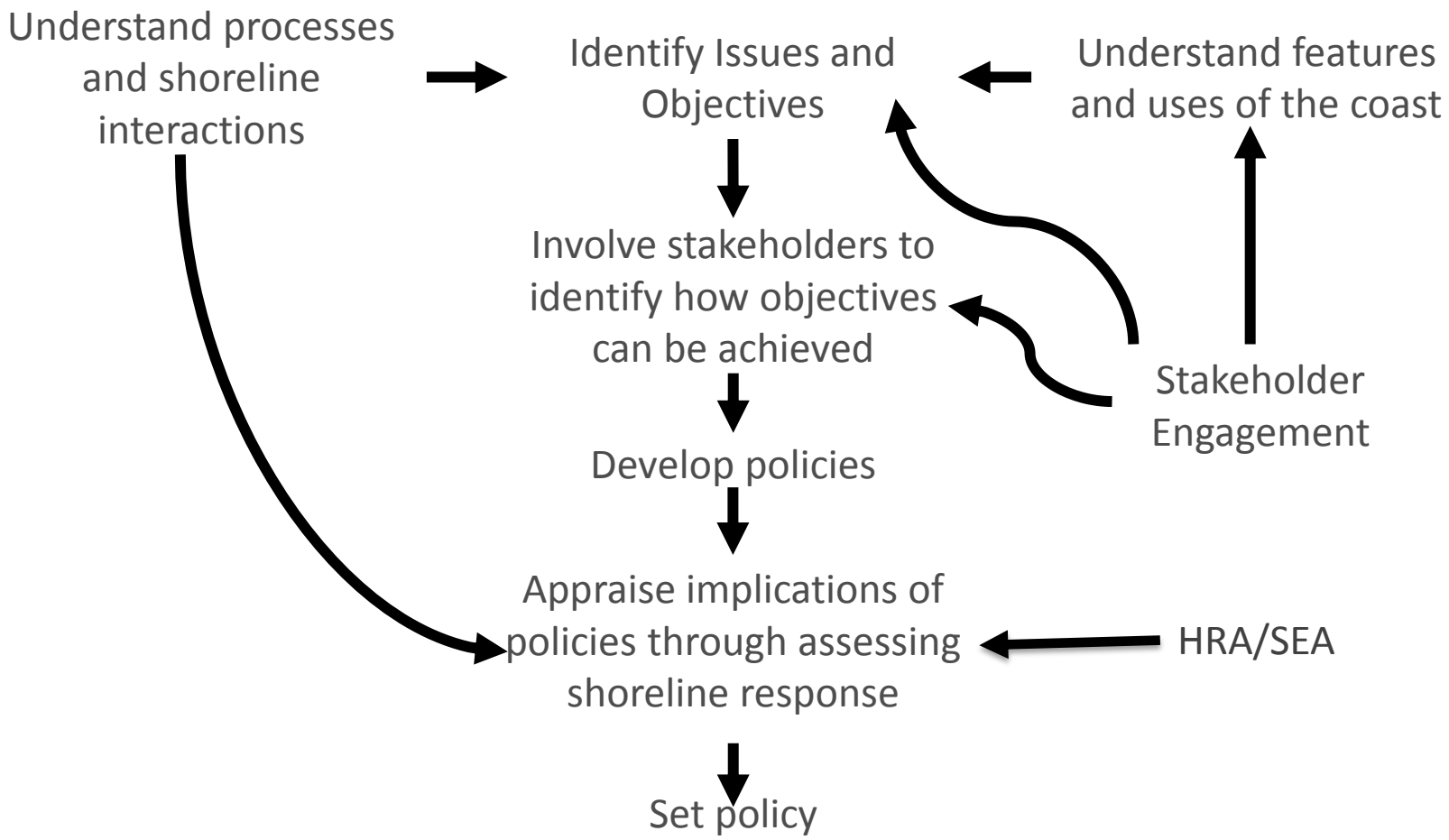
SMP development



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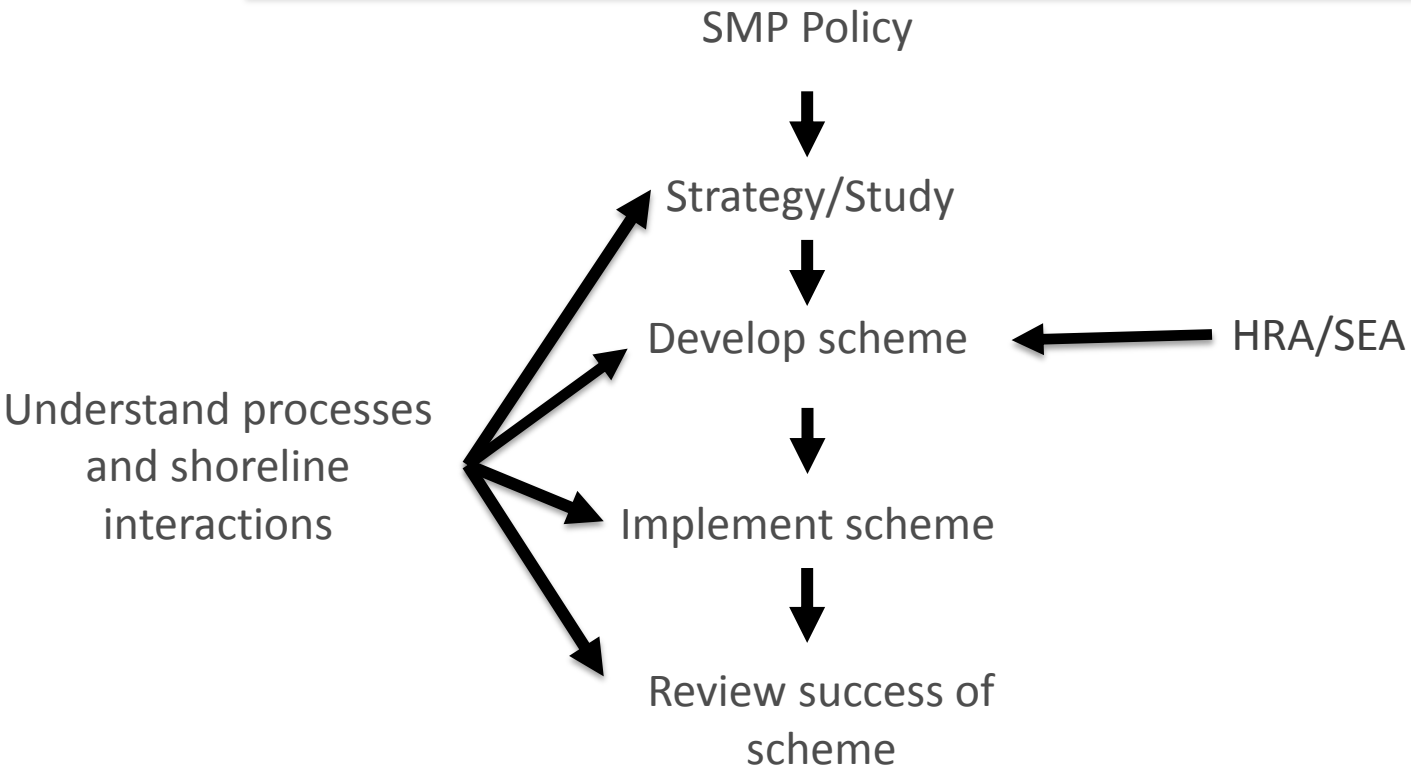
SMP delivery



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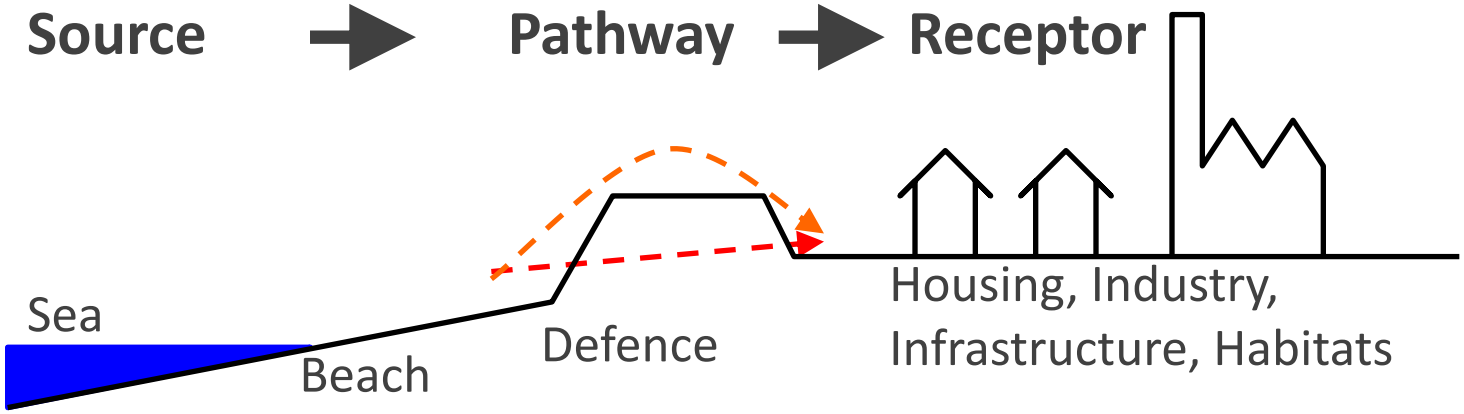
Risk



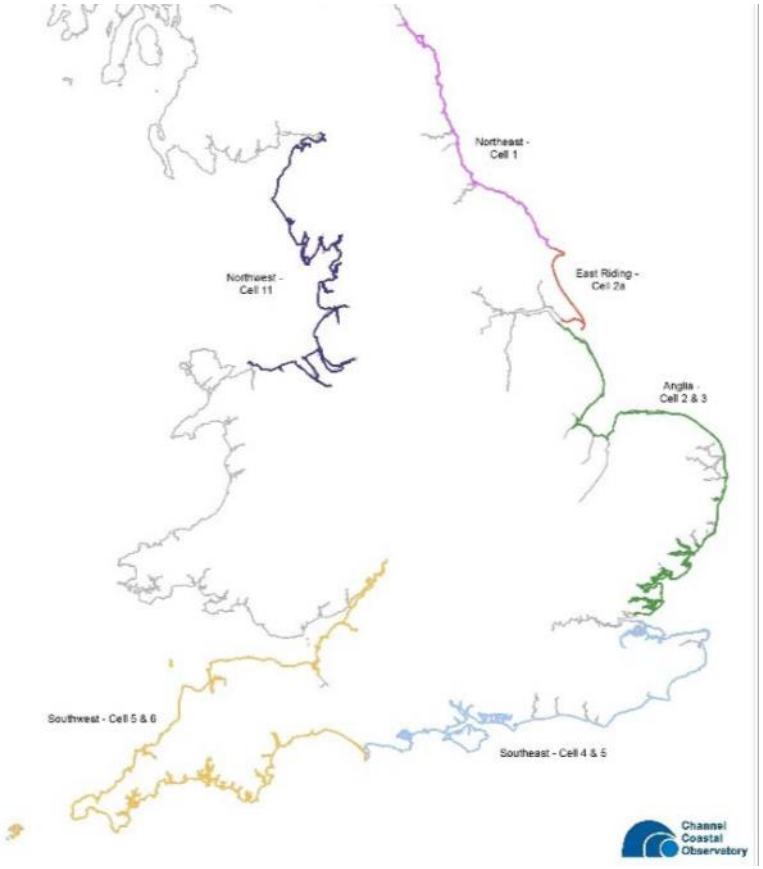
Forcing factors
- Wind
- Waves
- Tides
- Currents
- Water level
- Barometric pressure

Coastal response
- Defence condition
- Physical change
- Coastline position

Consequence
- Flooding
- Damage
- Disruption

National Network of Strategic Coastal Monitoring Programmes

- 6 regional programmes
- 5 year Funding Programme
- National network



Network of Monitoring Programmes

National Network of Strategic Coastal Monitoring Programmes

- Consistent
- Repeatable
- Risk-based
- Cost effective
- Freely available

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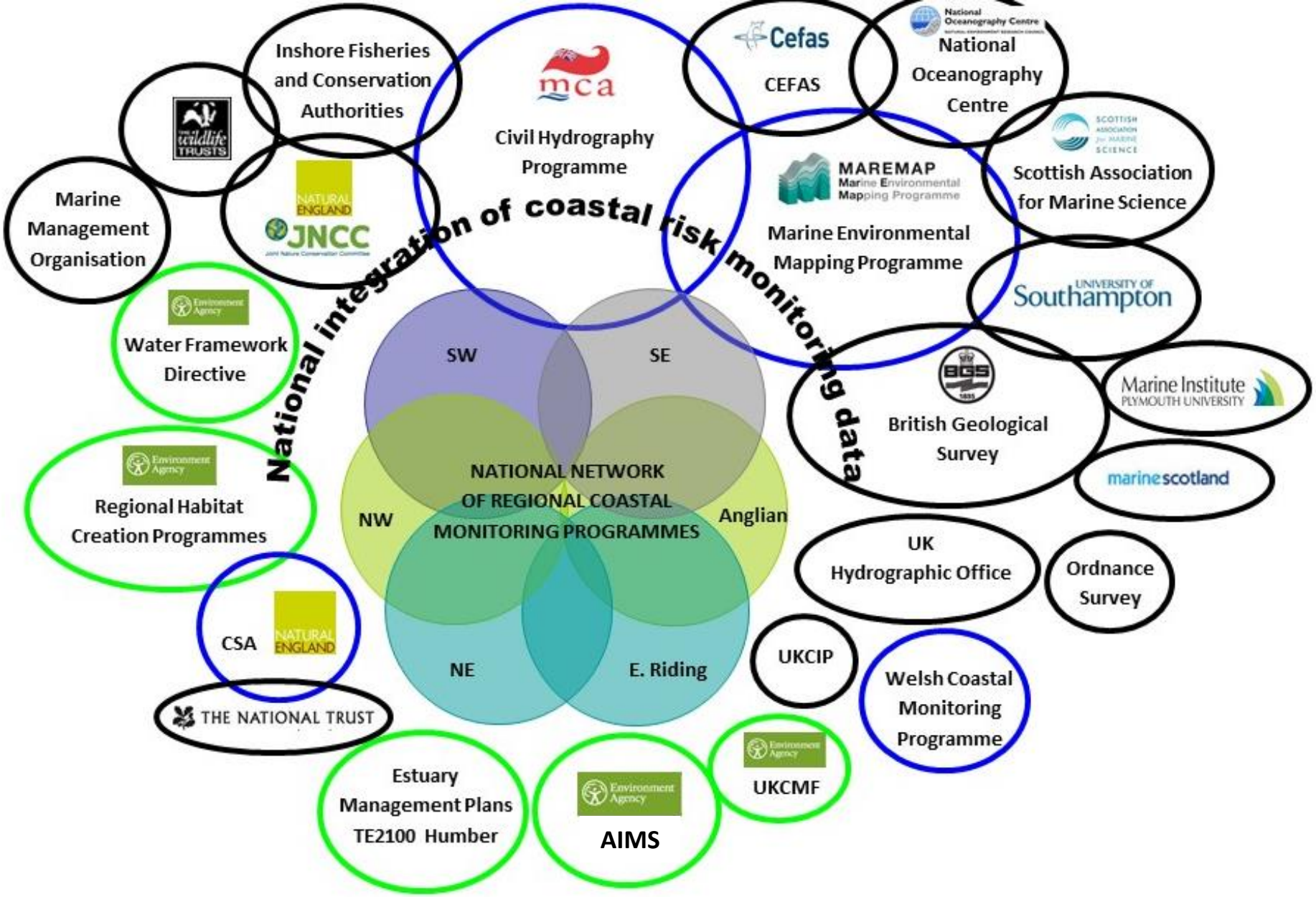

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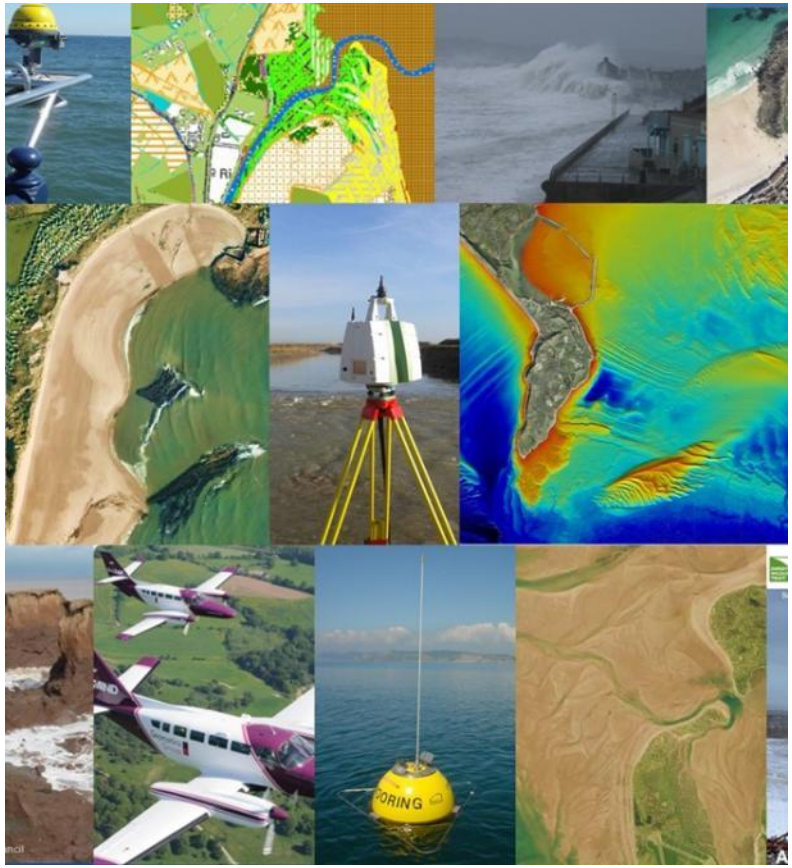
Data Collection

- Topographic
- Bathymetric
- Hydrodynamics (waves, currents and tides)
- Aerial ortho-photography and photogrametry
- LiDAR
- Terrestrial ecological mapping
- Data Management
- Data Analysis, Interpretation and Dissemination

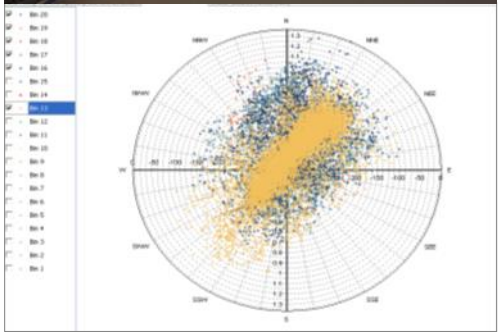


Data Collection

Data Collection

Data Collection Challenges

- Environmental conditions
- Repeatability
- Processing
- Cost
- Technological advances
- Communication



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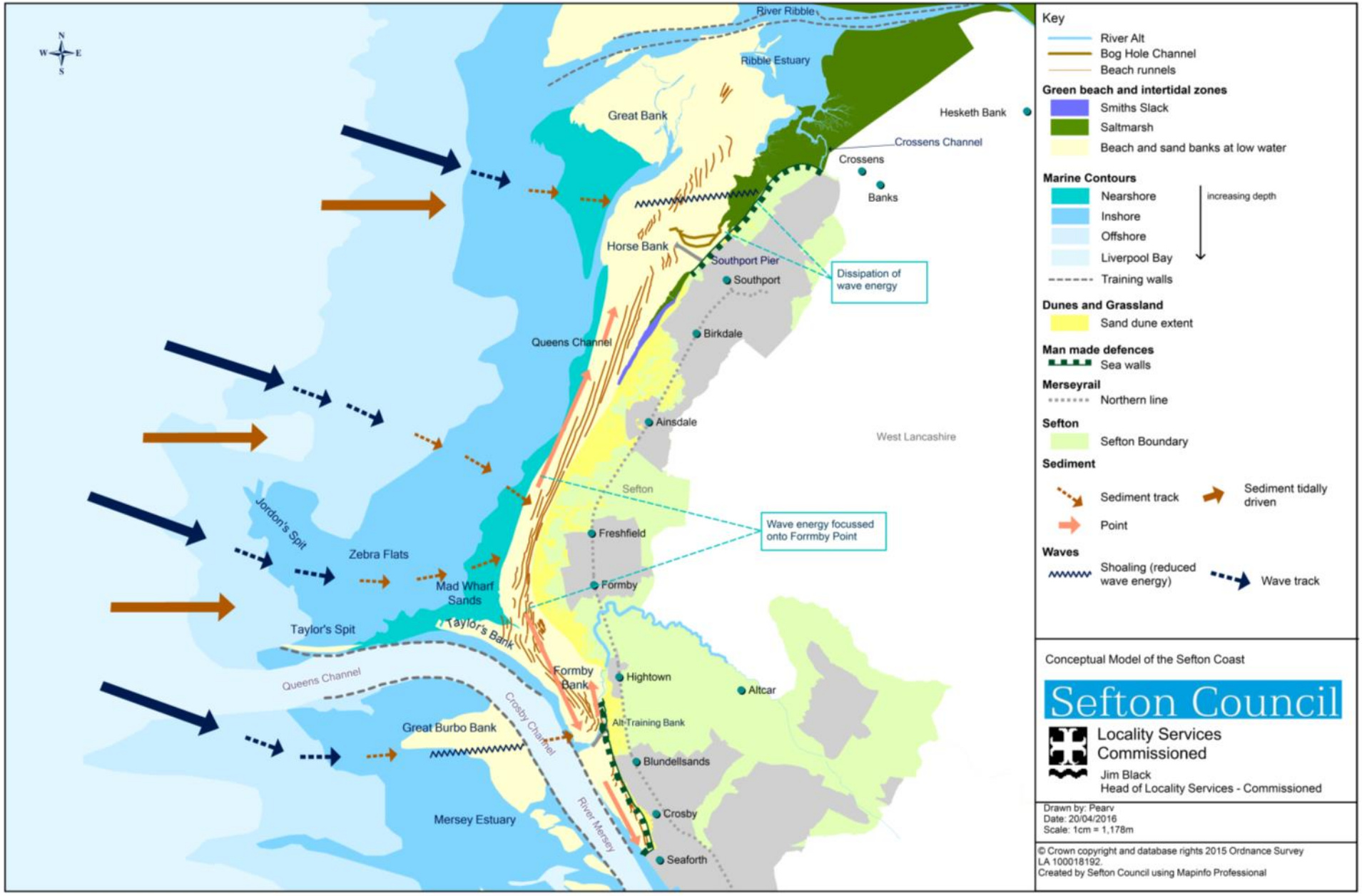
N
W
E
S
River Ribble
Ribble Estuary
Great Bank
Hesketh Bank
Crossens Channel
Crossens
Banks
Horse Bank
Southport Pier
Southport
Dissipation of wave energy
Birkdale
Queens Channel
Ainsdale
West Lancashire
Sefton
Jordon's Spit
Zebra Flats
Freshfield
Wave energy focussed onto Formby Point
Mad Wharf Sands
Formby
Taylor's Spit
Taylor's Bank
Formby Bank
Hightown
Altcar
Queens Channel
Crosby Channel
Alt Training Bank
Great Burbo Bank
Blundellsands
Mersey Estuary
River Mersey
Crosby
Seaforth
Key
River Alt
Bog Hole Channel
Beach runnels
Green beach and intertidal zones
Smiths Slack
Saltmarsh
Beach and sand banks at low water
Marine Contours
Nearshore
Inshore
Offshore
Liverpool Bay
Training walls
increasing depth
Dunes and Grassland
Sand dune extent
Man made defences
Sea walls
Merseyrail
Northern line
Sefton
Sefton Boundary
Sediment
Sediment track
Sediment tidally driven
Point
Waves
Shoaling (reduced wave energy)
Wave track
Conceptual Model of the Sefton Coast
Sefton Council
Locality Services Commissioned
Jim Black
Head of Locality Services - Commissioned
Drawn by: Pearv
Date: 20/04/2016
Scale: 1cm = 1,178m
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Created by Sefton Council using Mapinfo Professional

Gaps

- Sediment dynamics
- Estuary processes
- Climate change

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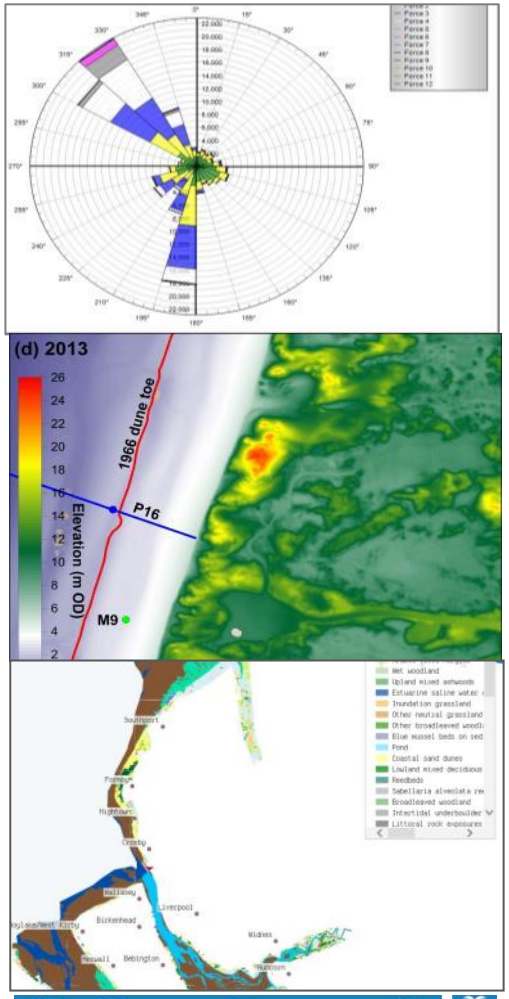
Challenges

- Maximising the use of data
- Collaboration



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Thank You

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