The first update of the National Coastal Erosion Risk Map (NCERM)

Flood & Coast 2017

28th March 2017

Presenters: Alan Frampton (CH2M) and Nick Hardiman (Environment Agency)
Contents

• NCERM – a brief history
• The first updates:
  – What are they seeking to achieve
  – How are we going about them
  – Lessons learnt for future updates
• The future of NCERM
NCERM – A Brief History
NCERM – A Brief History

Development of NCERM:

– 2006 to 2012: Development of Inaugural Maps
– 2011 to 2012: Publication of data: 80% of England and Wales
– 2012: NCERM Updating Strategy
– 2015 to present: NCERM Updates.
NCERM – A Brief History: *initial driver*


“...we will *identify appropriate means to develop our coverage in order to model and map the risks from coastal erosion...”

“...identify appropriate means of making this information publicly available.”

*Source: www.defra.gov.uk*
NCERM – A Brief History: Environment Agency Strategic Overview

Comprehensive flood and erosion risk mapping:

- Flood risk from the sea is mapped by the Environment Agency.
- NCERM covered the coast not at risk from flooding from the sea.
- Together the two maps illustrate the scale of risk from the primary hazard affecting a stretch of coast.
NCERM – A Brief History: *Risk Assessment of Coastal Erosion*
NCERM – A Brief History: Erosion Risk Bands

Future position

Present day position  Best case  Most likely  Worse case

Erosion risk band
NCERM – A Brief History: *Erosion risk bands*
NCERM – A Brief History: *Products*

- **NCERM Output Data**
- **SMP Policy Scenario only**
- **Public-Facing Website**
- **SMP Policy and No Active Intervention Scenarios**
- **Professional Partner Output Products**
- **Output Data Product**
- **Comparison Note**
- **High Level Stats**
- **Further information contained in SMP2**

Links to SMP2

Further information contained in SMP2
NCERM – A Brief History: *Updates Strategy*

Produced after first NCERM publication;
Identified potential **improvements** to input data and science;
Identified **activities and triggers for updating** the underlying NCERM dataset;
Identified potential further developments and applications for NCERM outputs.
The First Updates
The First Updates: *Process*

Environment Agency request data from Local Authorities via Coastal Groups

Environment Agency collate data from Local Authorities

Environment Agency pass data to CH2M

Process data and do update run of NCERM and produce/issue Initial Draft Products for validation

Validation meetings/calls with Local Authorities

Final amendments and undertake final run of NCERM and produce/issue Final Products

**KEY:**

- Environment Agency Led Tasks
- CH2M Led Tasks
- Engagement with LAs (EA and CH2M joint-led)
The First Updates: web-based data validation

Base mapping for you to orientate yourself

The imagery is from Google, which is not what we used for the validation exercise so should only be used for information.

The layers box switches on the baseline for the various regions. The regions have been arbitrarily divided an you can turn on more than one at a time.

The baseline is in blue
The First Updates: *Transfer to Environment Agency*

Engaging with Environment Agency IT teams to scope software and hardware requirements to enable the NCERM system to be incorporated on Environment Agency servers.

User Guide documenting NCERM update process, to aid transition to ‘Business as Usual’.
The First Updates: *Lessons for the future*

- Early engagement with local authorities and keeping to schedule;
- Allowing controlled flexibility within the programme;
- Clarity about procedures and priorities;
- Being inclusive;
- Being proportionate on data validation.

Local authorities are provided with their updated Output Data Product after an update.
The Future of NCERM
The Future of NCERM: value to Risk Management Authorities

Informing:
- coastal forecasting and strategic management;
- coastal project business cases;
- the development of Coastal Change Management Areas.
- Coastal incident management and recovery

Providing:
- an accessible, national repository for local authority and (relevant) Environment Agency coast protection asset information;
- a repository for recording changes to SMP policies as they occur over time.
The Future of NCERM: value to Risk Management Authorities

East Coast FCRM Assets

Map shows proportional number of total length of assets in each of Areas along East Coast. Labels also show total number of assets in those Areas.

Map Compiled: 14 January 2017

<table>
<thead>
<tr>
<th>Maintainer</th>
<th>No. of assets</th>
<th>Total assets length (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Agency</td>
<td>8,602</td>
<td>2,347,540</td>
</tr>
<tr>
<td>Internal Drainage Board</td>
<td>167</td>
<td>822</td>
</tr>
<tr>
<td>Local Authority</td>
<td>1,189</td>
<td>193,359</td>
</tr>
<tr>
<td>Private</td>
<td>4,488</td>
<td>842,522</td>
</tr>
<tr>
<td>Total</td>
<td>14,888</td>
<td>3,605,994</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protection Type</th>
<th>No. of assets</th>
<th>Total assets length (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal</td>
<td>4,042</td>
<td>1,002,950</td>
</tr>
<tr>
<td>Fluvial/Tidal</td>
<td>2,743</td>
<td>886,637</td>
</tr>
<tr>
<td>Tidal</td>
<td>8,103</td>
<td>1,716,407</td>
</tr>
<tr>
<td>Total</td>
<td>14,888</td>
<td>3,605,994</td>
</tr>
</tbody>
</table>

- Northumberland Durham and Tees
  - No. of Assets: 532
  - Total length of assets (m): 249,712
- Yorkshire
  - No. of Assets: 1,787
  - Total length of assets (m): 572,992
- Lincolnshire and Northamptonshire
  - No. of Assets: 1,337
  - Total length of assets (m): 414,351
- Essex Norfolk and Suffolk
  - No. of Assets: 5,952
  - Total length of assets (m): 1,445,298
- Cambridgeshire and Bedfordshire
  - No. of Assets: 508
  - Total length of assets (m): 183,864
- Kent & South London
  - No. of Assets: 4,772
  - Total length of assets (m): 739,779
The Future of NCERM: Challenge and opportunity

The Environment Agency’s *What’s In Your Backyard* web area is being decommissioned in 2017: **an opportunity to re-assess how NCERM might be displayed online.**

Shoreline Management Plans require ongoing maintenance to ensure they are up-to-date and fit for purpose: **an opportunity to streamline SMP and NCERM updates.**

The National Network of Regional Coastal Monitoring Programmes is beginning to incorporate asset monitoring as a national initiative: **an opportunity to better link NCERM with monitoring data to reduce data requests to local authorities.**
The Future of NCERM: towards ‘one stop’ coastal risk information

Modernised online presentation;
Easy data and visual interrogation;
Enables Shoreline management Plans and underlying information to be updated dynamically;
Links to Coastal Groups, coastal monitoring and other key information.

Environment Agency Catchment Data Explorer: a potential model
Thank You