BLAST

Bringing Land and Sea Together

Bringing Land and Sea Together

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BSH, Germany

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Background

- Technological development
- New user groups
- 2008 – Danish National Survey and Cadastre
  - Improve cooperation between hydrographic offices in the North Sea region
- Other organisations included
- Land and climate change aspects added
- Project approved summer 2009 by Interreg IVB
  - Norwegian Hydrographic Service lead partner

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What is BLAST?

- A regional project under the Interreg IVB North Sea Region Programme
- Project period: 2009-2012
- Total budget: 6.3 million €
- 16 main partners, one sub-partner and six associated partners from seven countries around the North Sea:
    - Governmental organisations
    - Private companies
    - Universities

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Overall Aim:

- Provide new and innovative solutions for the harmonisation and integration of marine and terrestrial geographical data.
- Improve maritime safety and integrated coastal zone management and planning – in the context of climate change.

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Network of Organisations

- Mapping Agencies
- Hydrographic Offices
- Coastal administrations
- Geological surveys
- Universities
- Local communities
- Private companies

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WP3 Land and Sea Model

WP4 Navigating the North Sea

WP5 Maritime Traffic Harmonisation

WP6 Climate Change in the Coastal Zone

Four BLAST work packages

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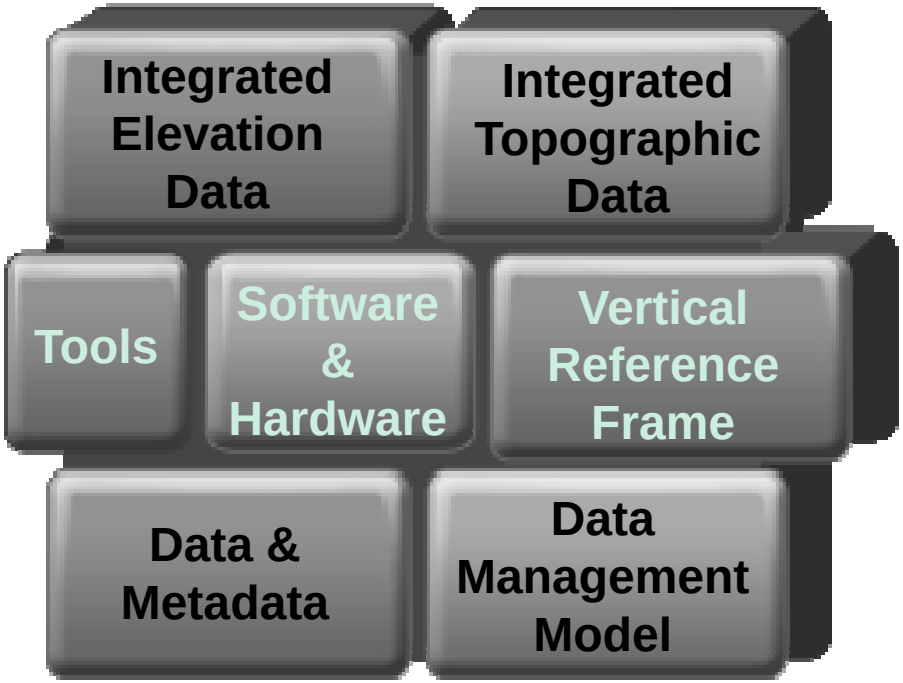
WP3 Contents

What are the building blocks for an Integrated Land-Sea Base Reference Map?



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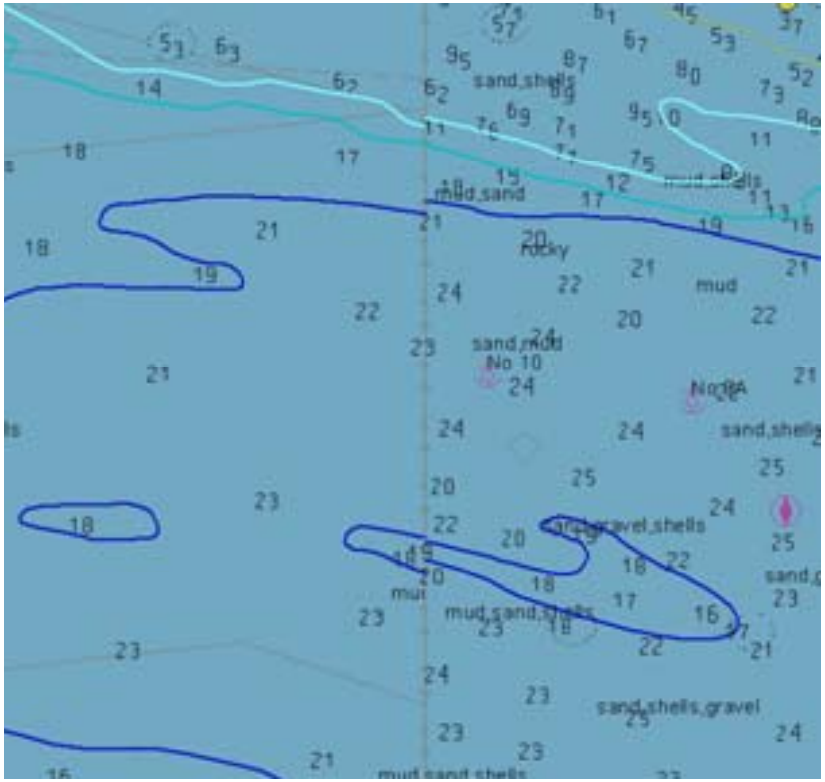
Edge matching features across boundaries

Matching geometries from equivalent features across ENC boundaries



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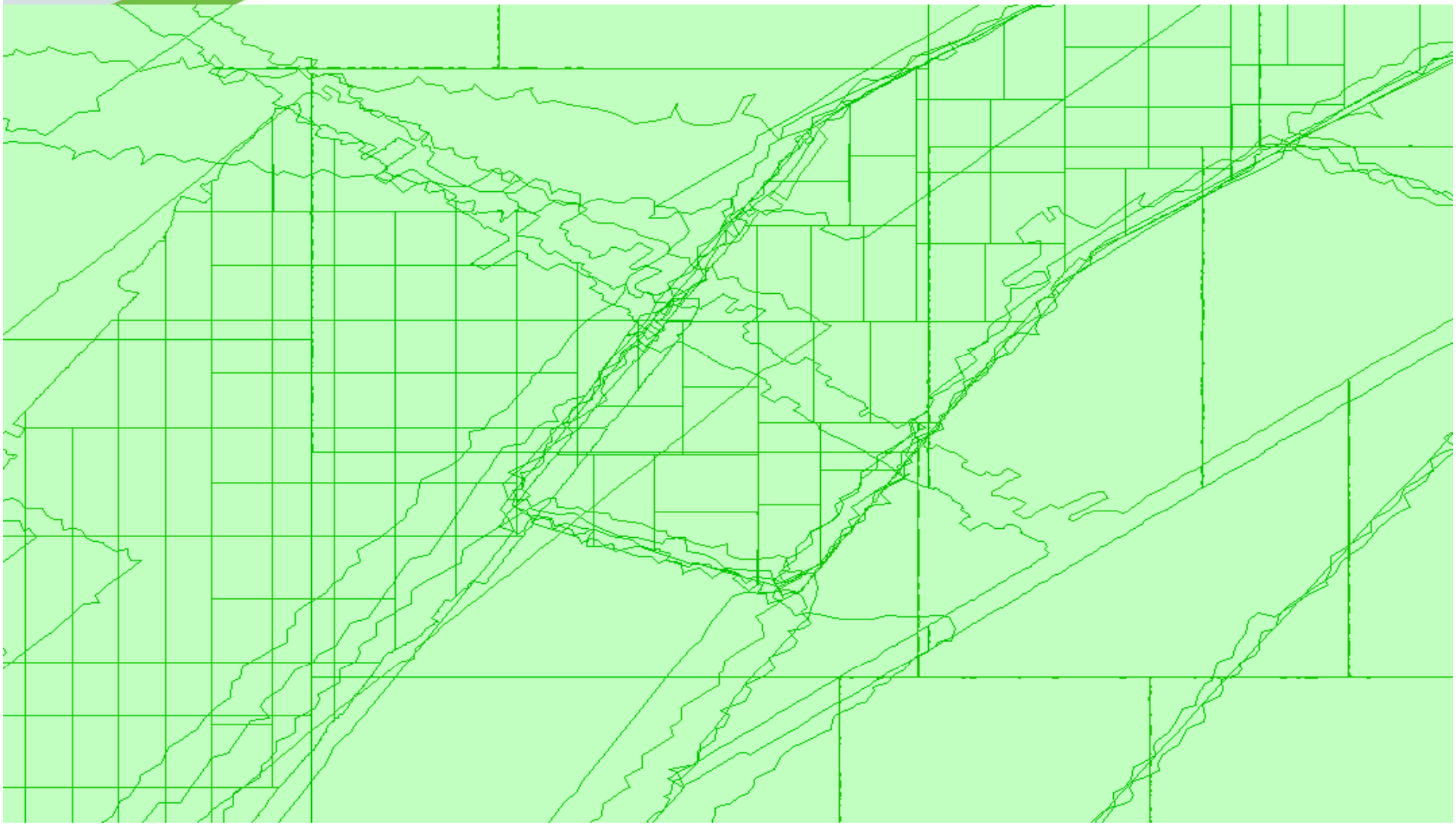
Survey deconfliction - *before*



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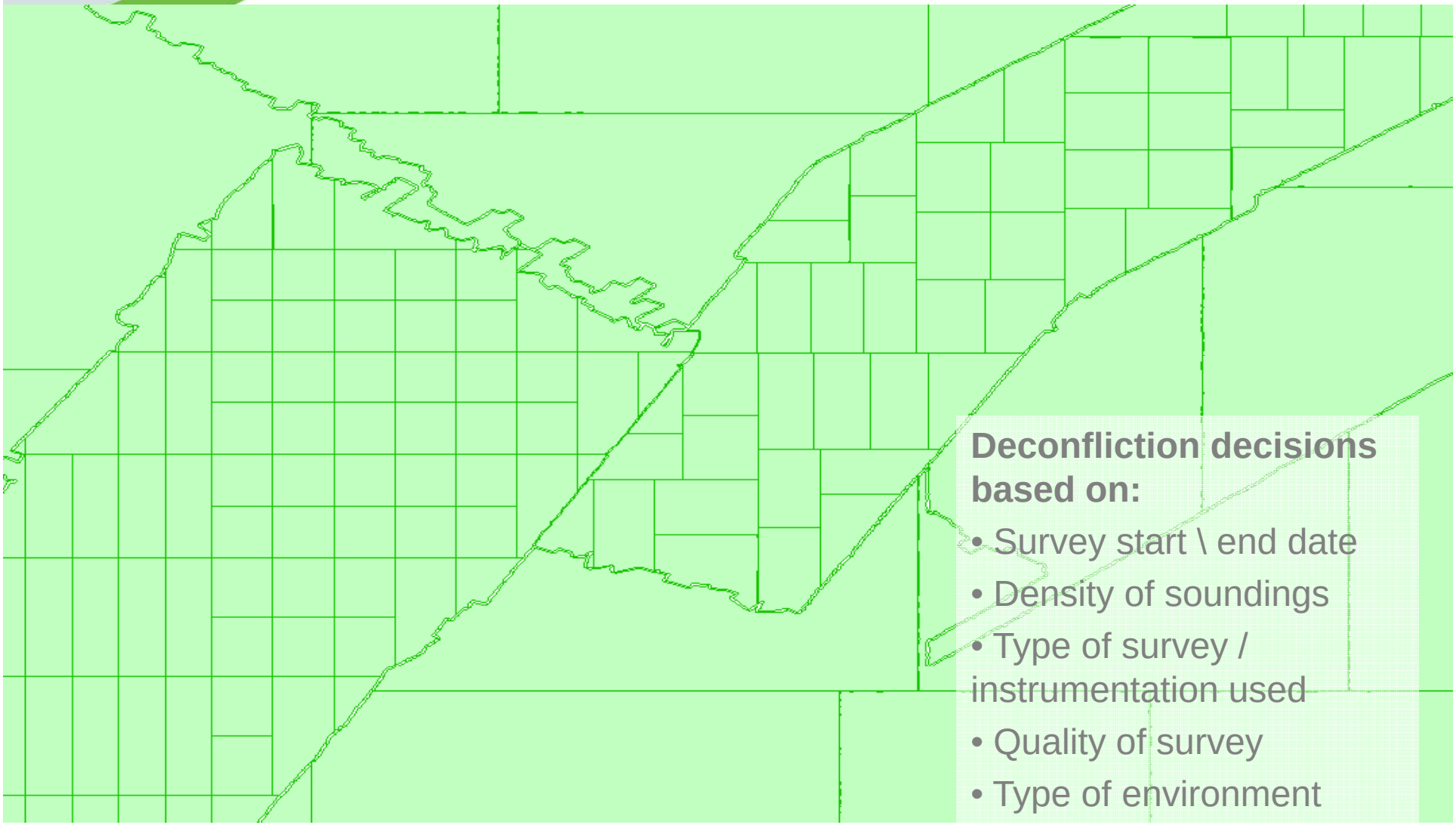
Survey deconfliction - *after*



Deconfliction decisions based on:

- Survey start \ end date
- Density of soundings
- Type of survey / instrumentation used
- Quality of survey
- Type of environment

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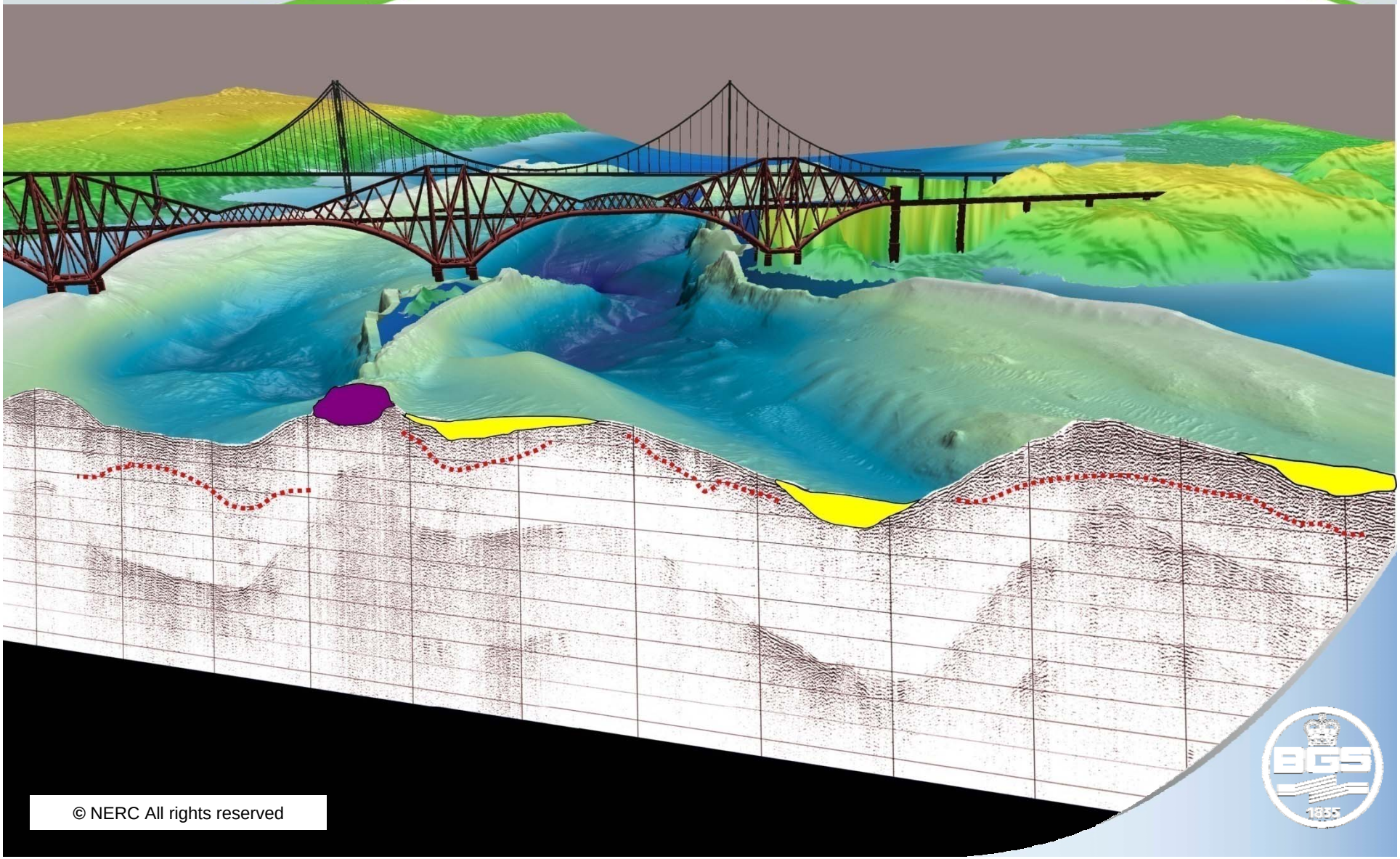
Building Block: *Integrated Geology Layer*



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WP4 – Main objectives

- Develop a regional basis for harmonisation of maritime information products, give input to IHO
- Demonstrate and evaluate the use of satellite data and 3D visualization/models in navigational aid displays
- Automatic change detection of topographic ENC features in harbours
- Demonstrate a web-based maritime data collection system
- Demonstrate digital Mariners' Routeing Guide for the North Sea

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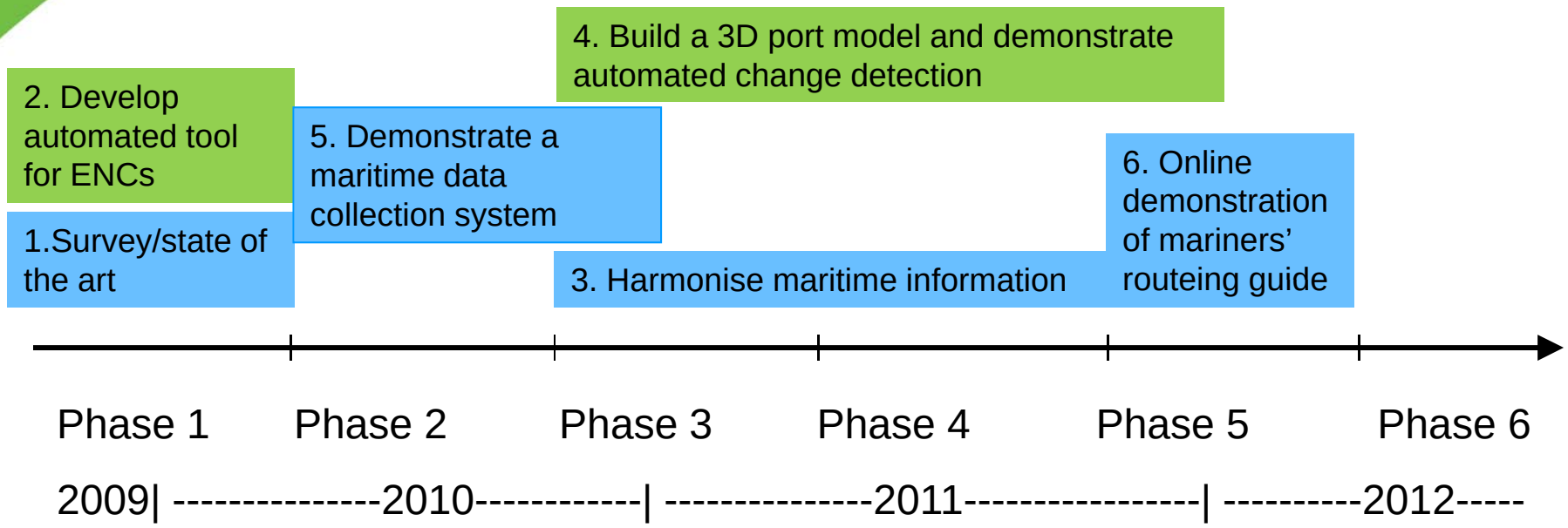
WP4 time line and activities



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WP4/Act 2 – Develop an automated tool for ENCs checks

- HOs produce valid ENCs according to S57 Product Specification
- Inconsistencies in the encoding practices for ENCs exist between Hydrographic Offices
- This leads to differences in displayed information when used in ECDIS
    - This happens particularly where ENCs from different producers are adjacent in the display.
- Inconsistent display makes the mariner mistrust the data.

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Inconsistent ENC Coding

- PRIMAR Stavanger and IC-ENC Expert working group recommendations has been included in IHO S65
- Baltic Sea Hydrographic Commission working group (BSHEWG) presented a report in June 2008 on the findings of an analysis of the situation in the Baltic Sea
- BSHEWG recommendations has contributed to the recent revision of S65

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SOME EXAMPLES

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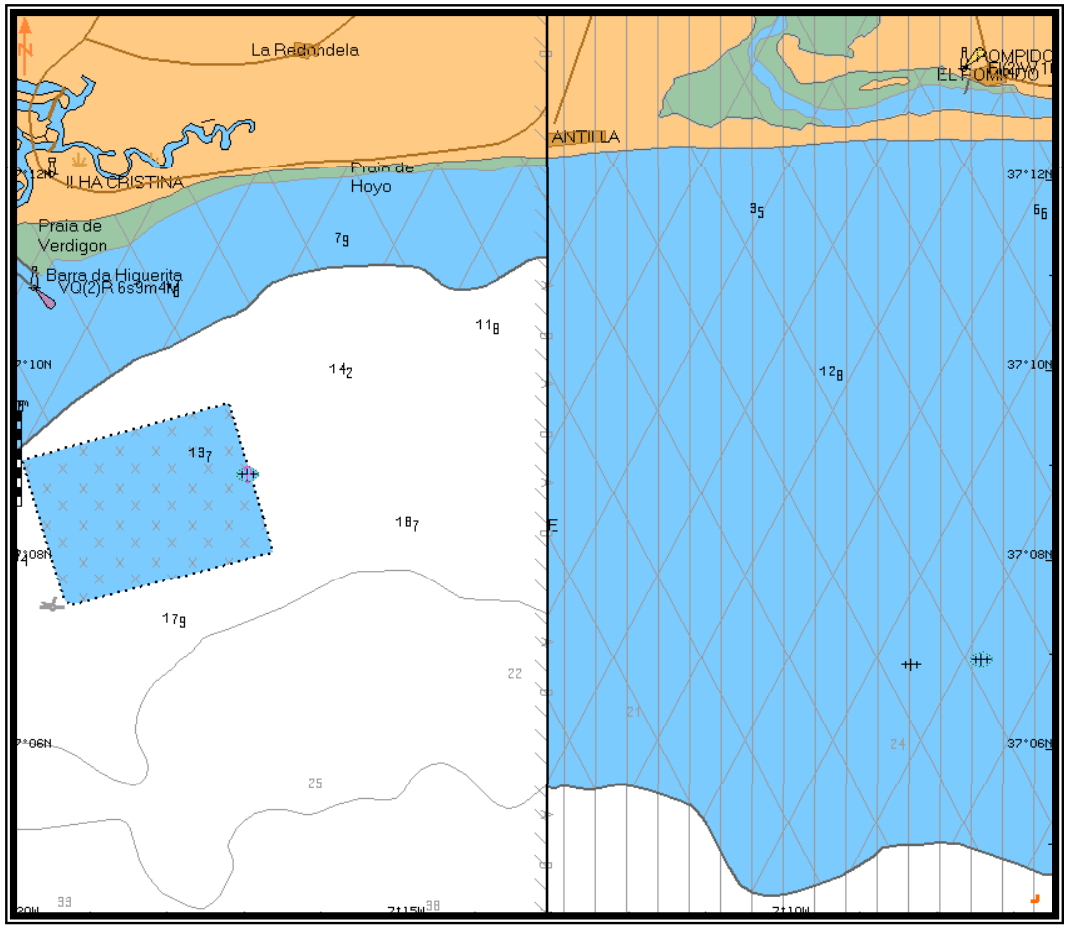
Contour Intervals



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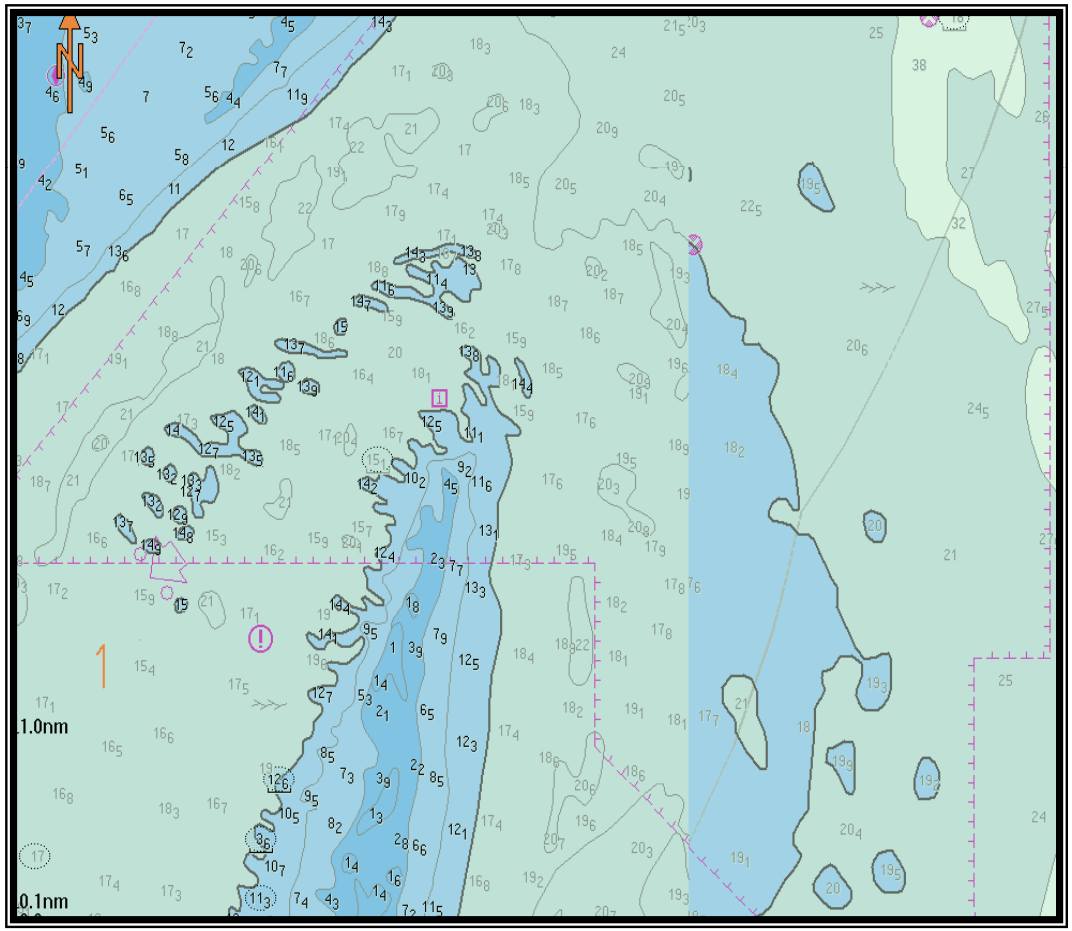
Contour Intervals



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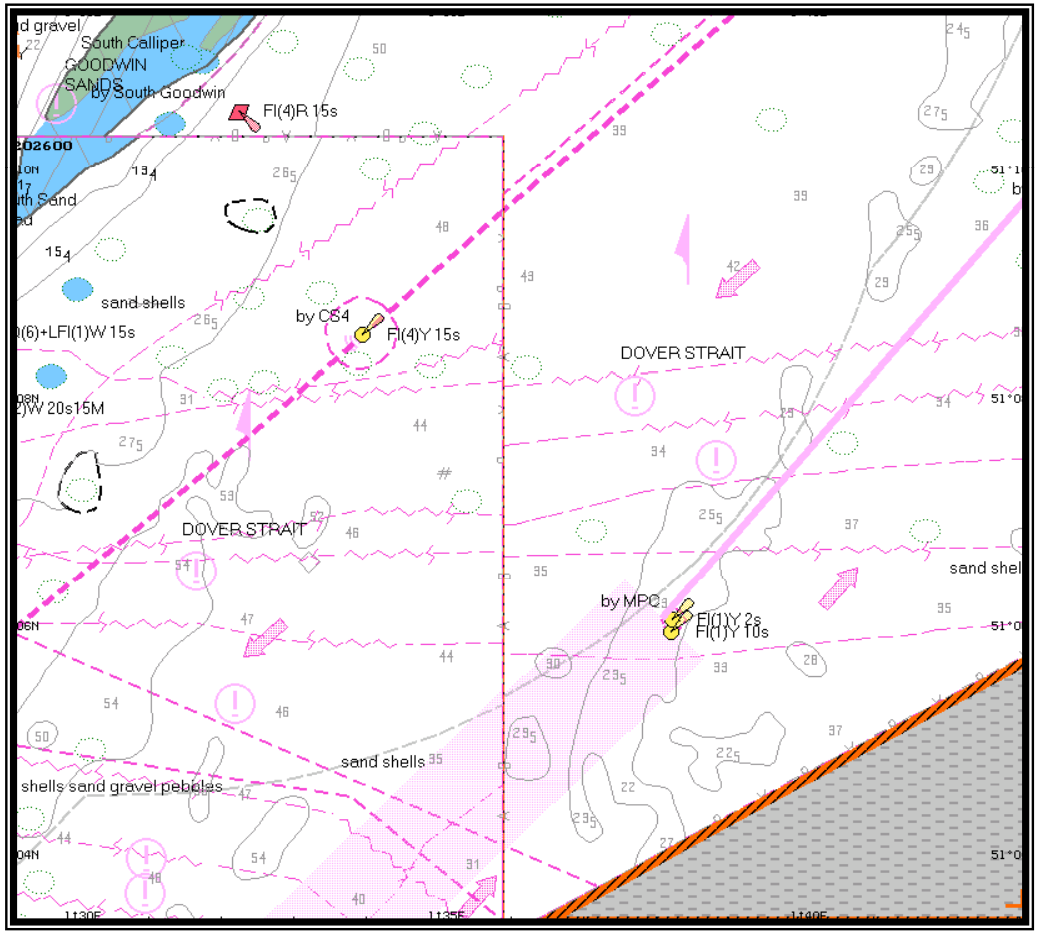
Inconsistencies at Cell Boundaries



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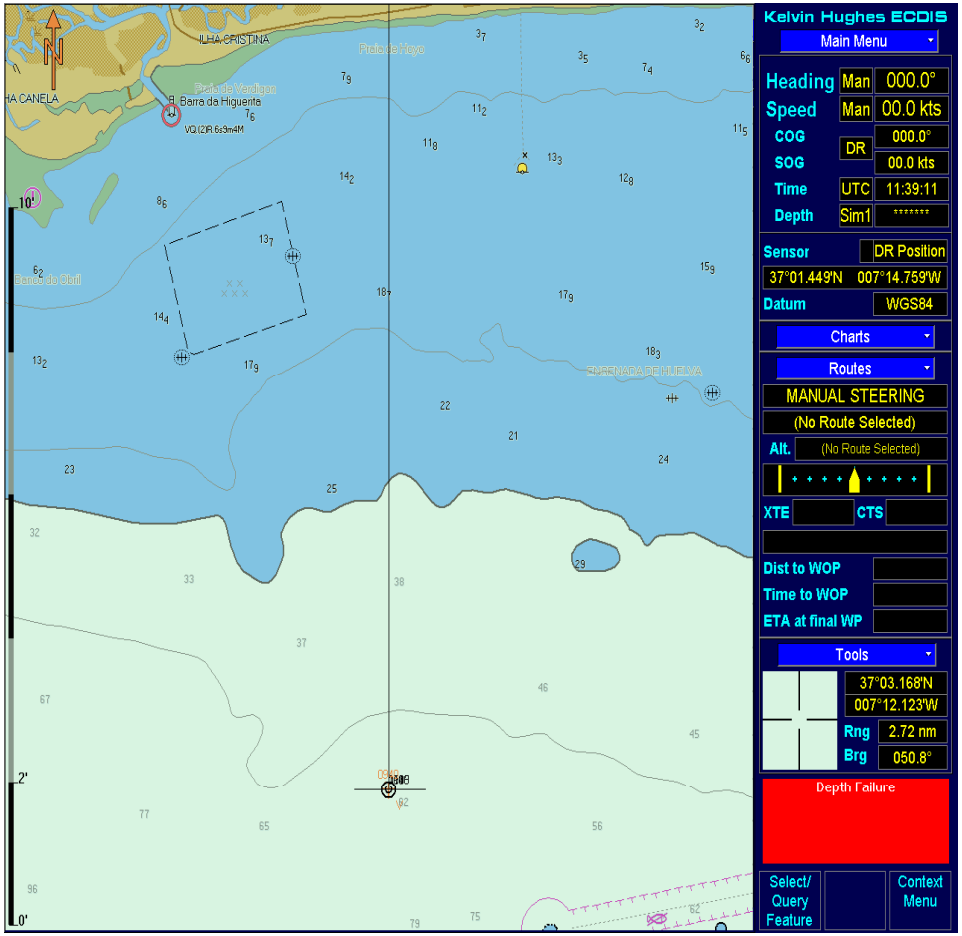
1: 150 000



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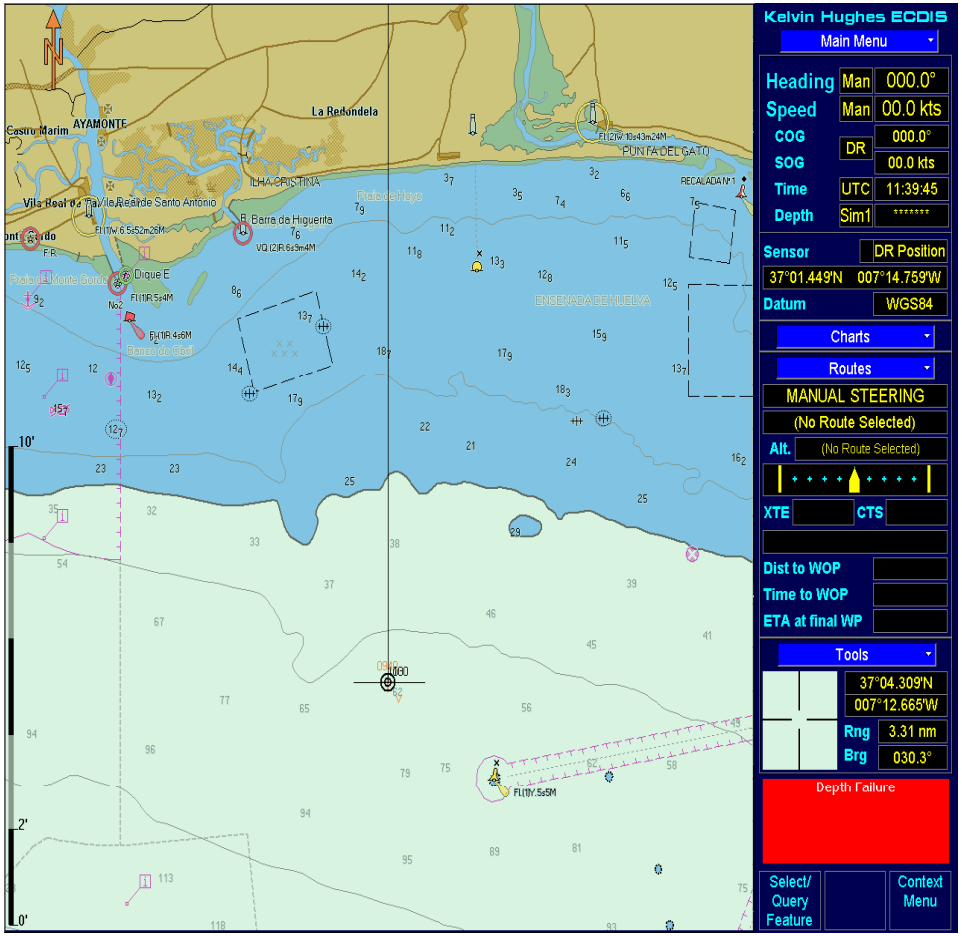

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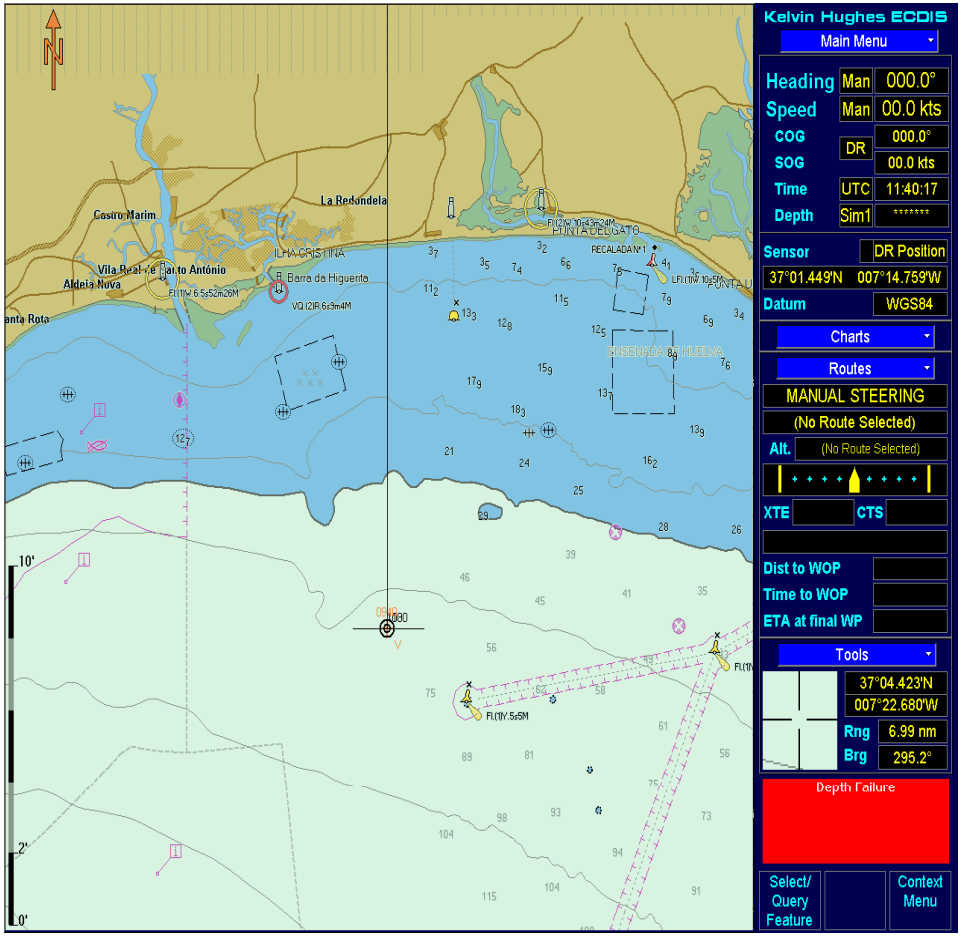

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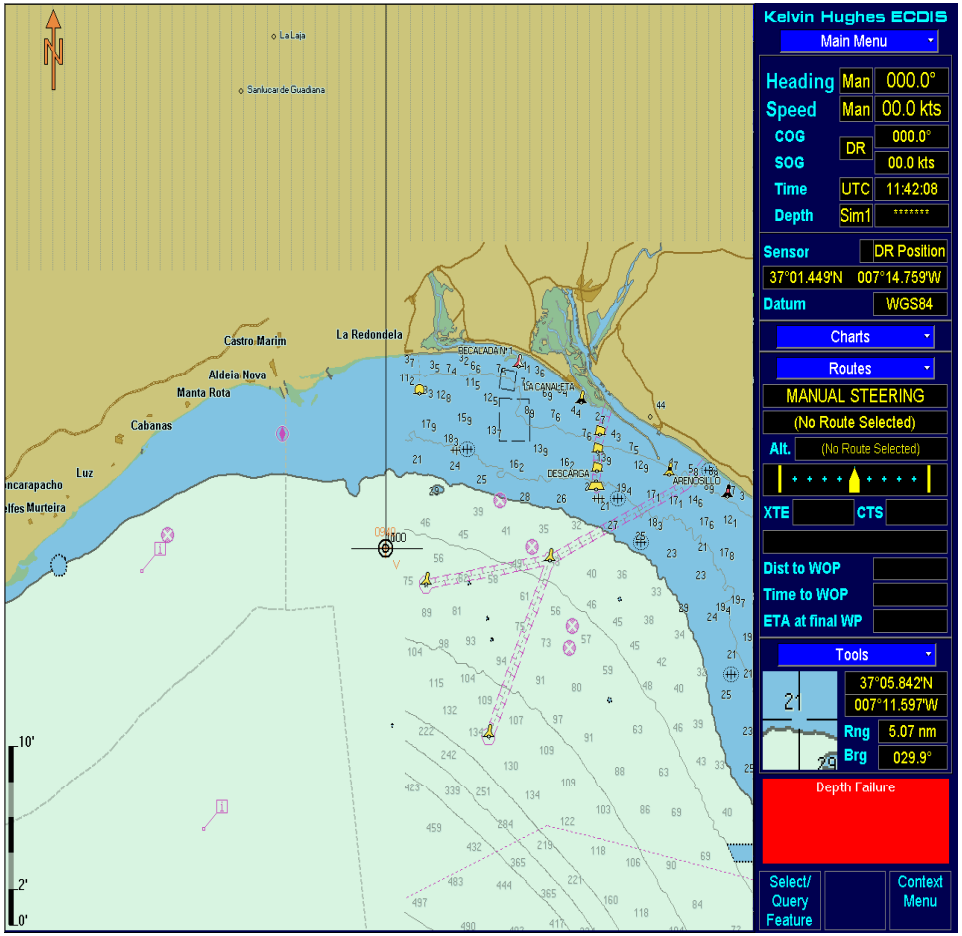
1: 500 000



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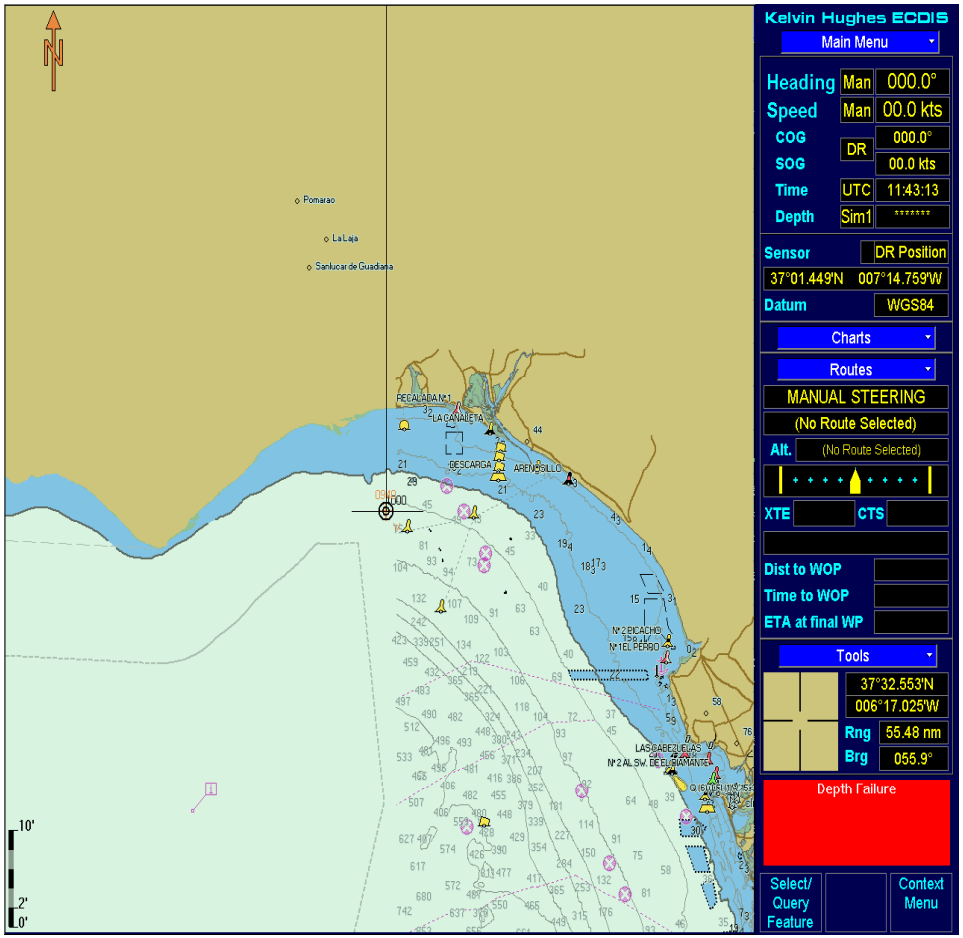

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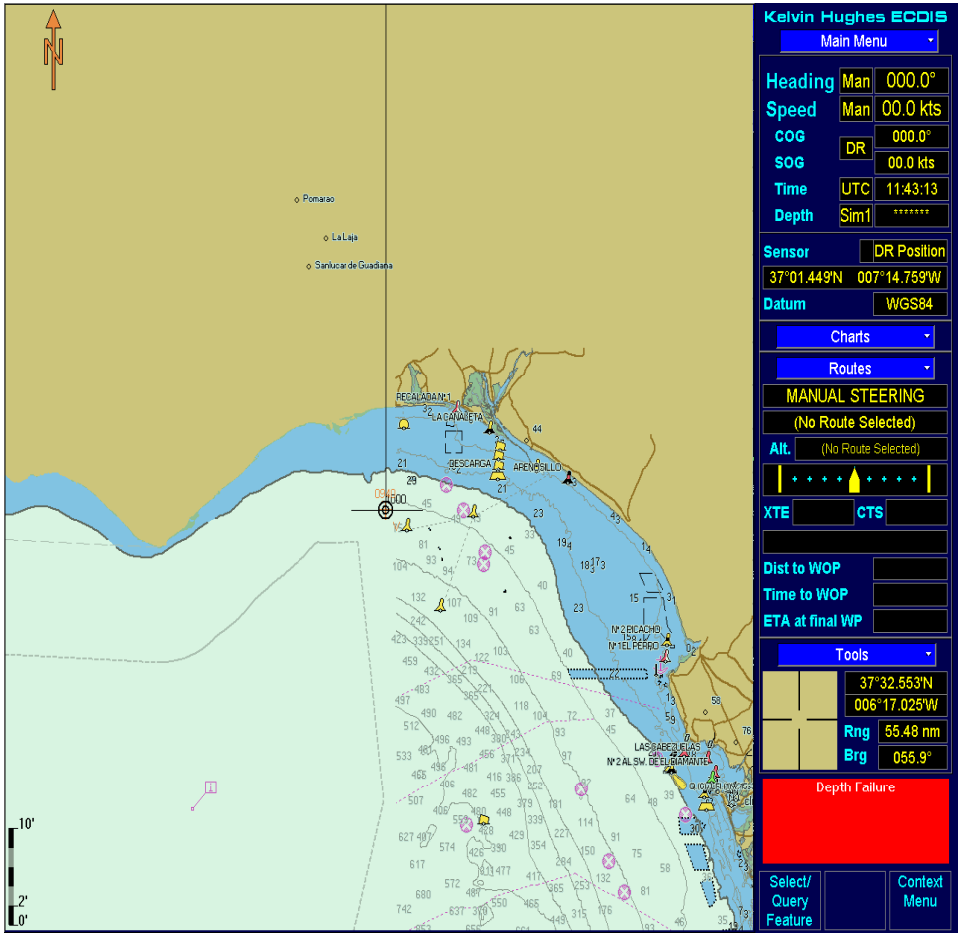
1: 1 000 000



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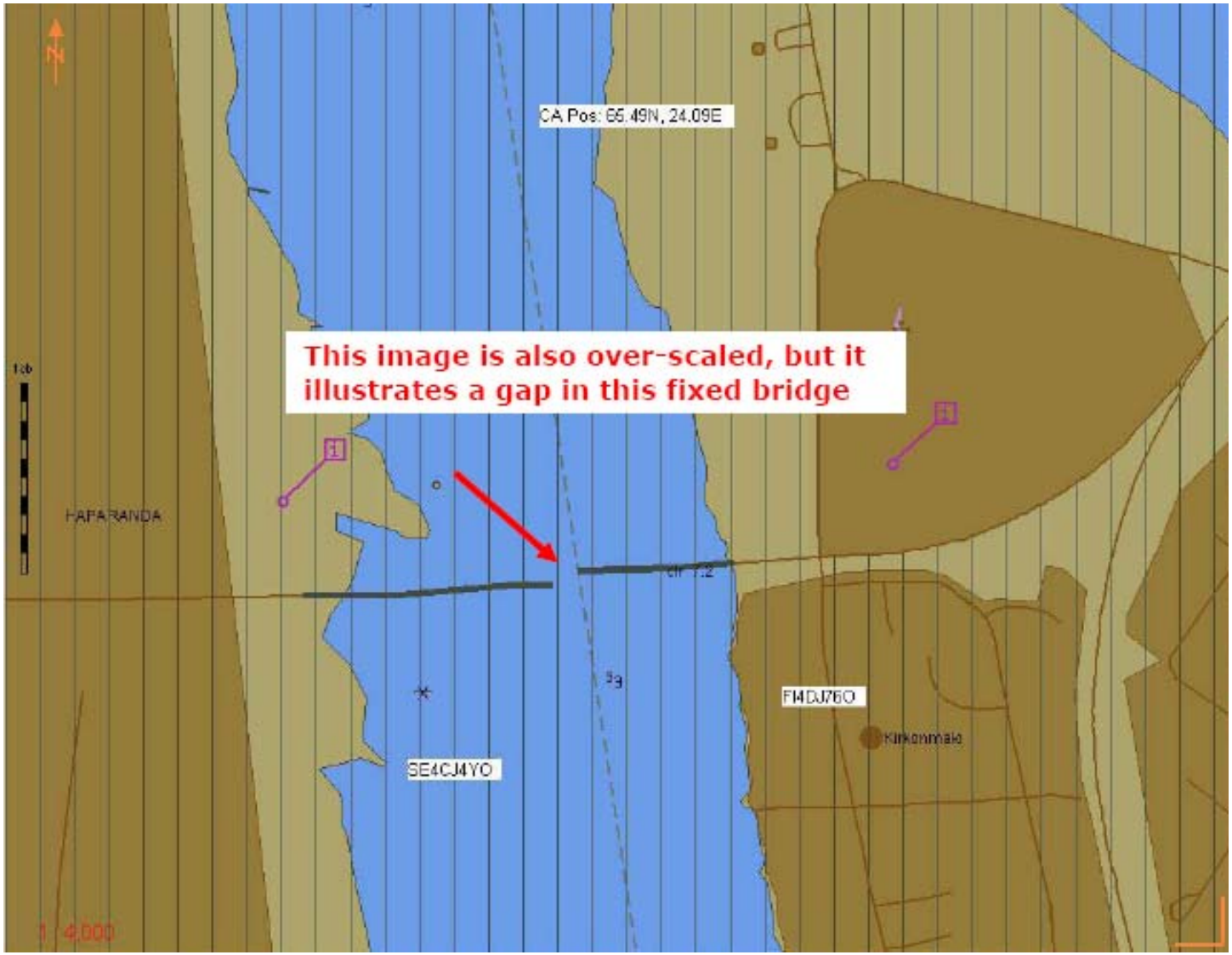

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- Determine the object classes – work shop
- T-Kartor developed a tool to check adjacent ENCs
- Tested at hydrographic offices:
  - Norway
  - Denmark
  - UK
  - Belgium
- Completed within time and on budget
- Will be extended to vertical checks

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WP4/Act 5 :

Demonstrate a Maritime Data Collection System

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WP4/Act 5 – Demonstrate Maritime Data Collection System

Objectives:

”Demonstration of a secure online system for North Sea governments to collect maritime information”

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Goals identified in market research

Harmonize forms used to collect information

Improved web user interfaces to help people report effectively

- Make it easier to report to the right agency
- Make it easier to specify what's being reported

Better feedback to reporters

Better information flow between groups

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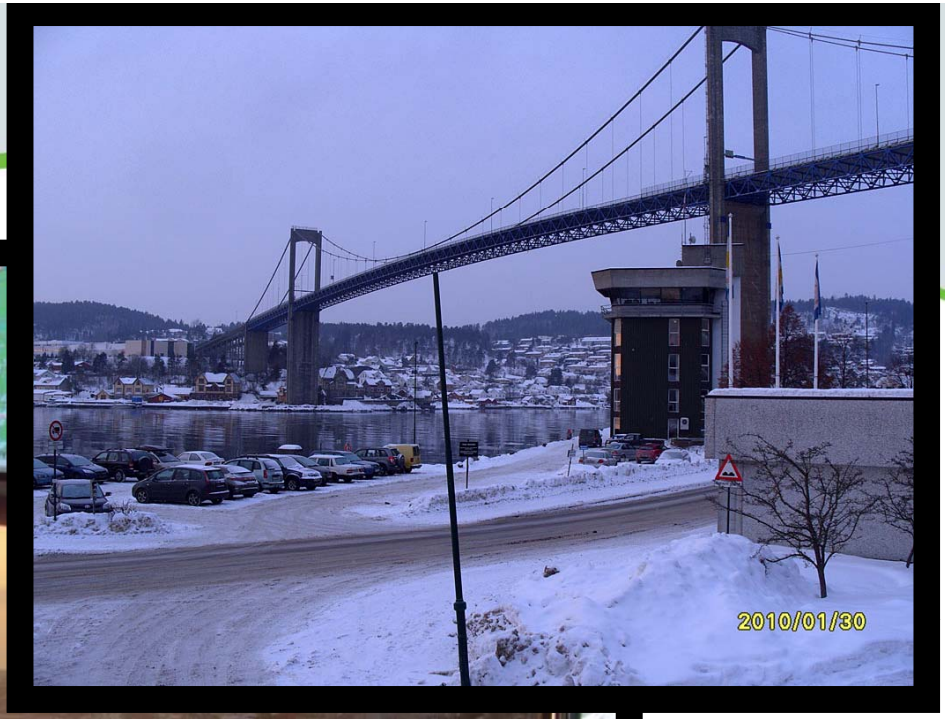

IVB
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y working together
competitive region

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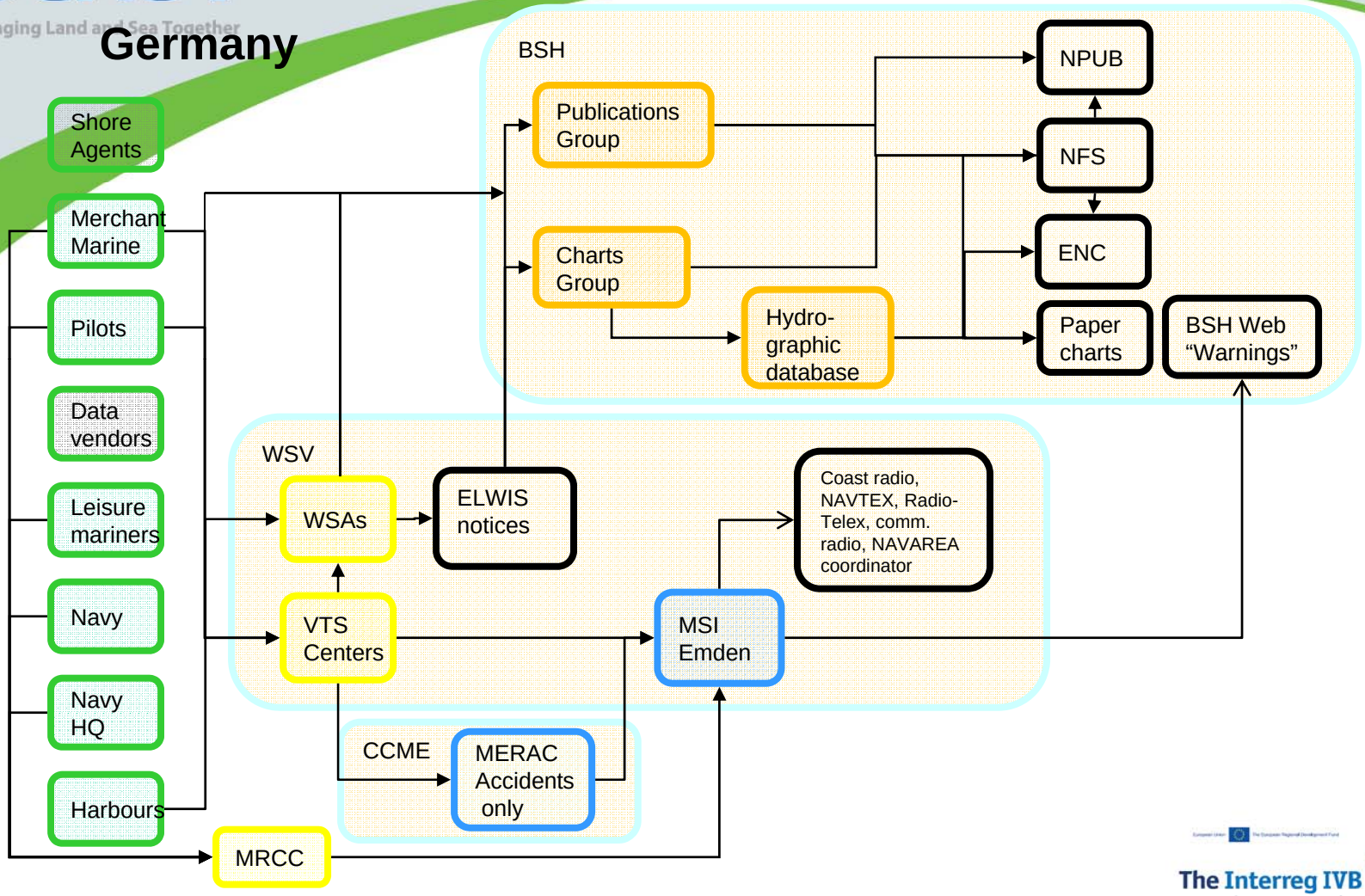
Germany



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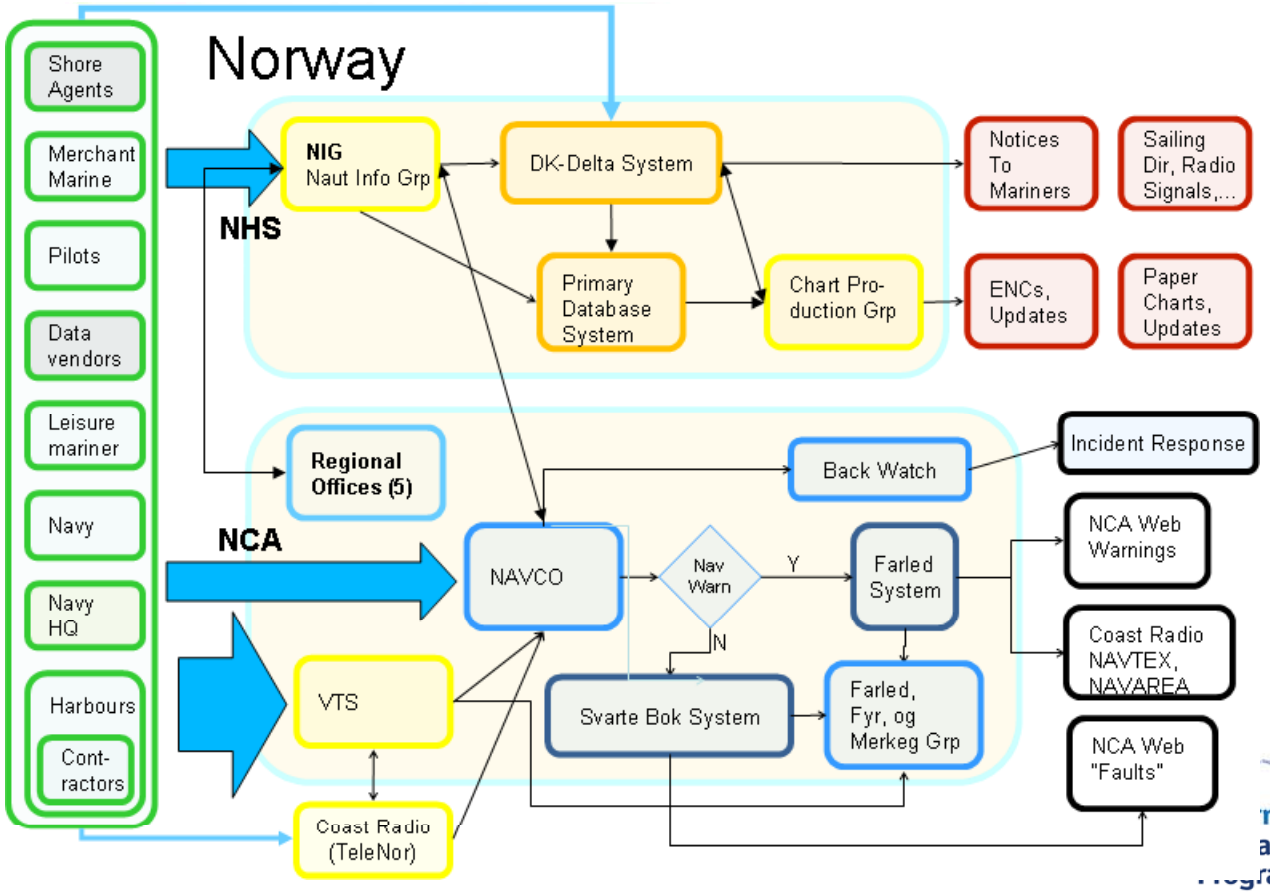
Current state of the art



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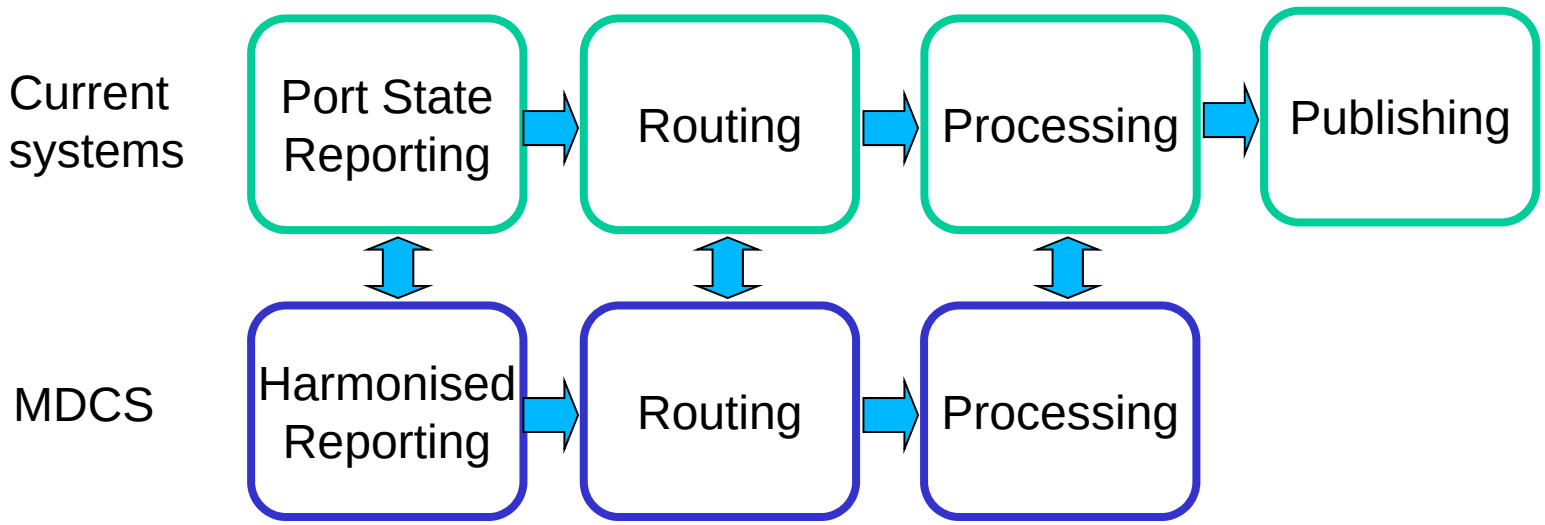
MDCS demo parallels existing systems



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Scope

- Display of transnational maritime data
  - Nautical publications
  - Nautical charts
  - Planned event notifications
- Reference information in MDCS:
  - ENCs and nautical publications for the 3 test areas
- Information collected by MDCS:
  - Chart Defects
  - Publications Defects
  - Notice of Planned Activities
  - Safety Information

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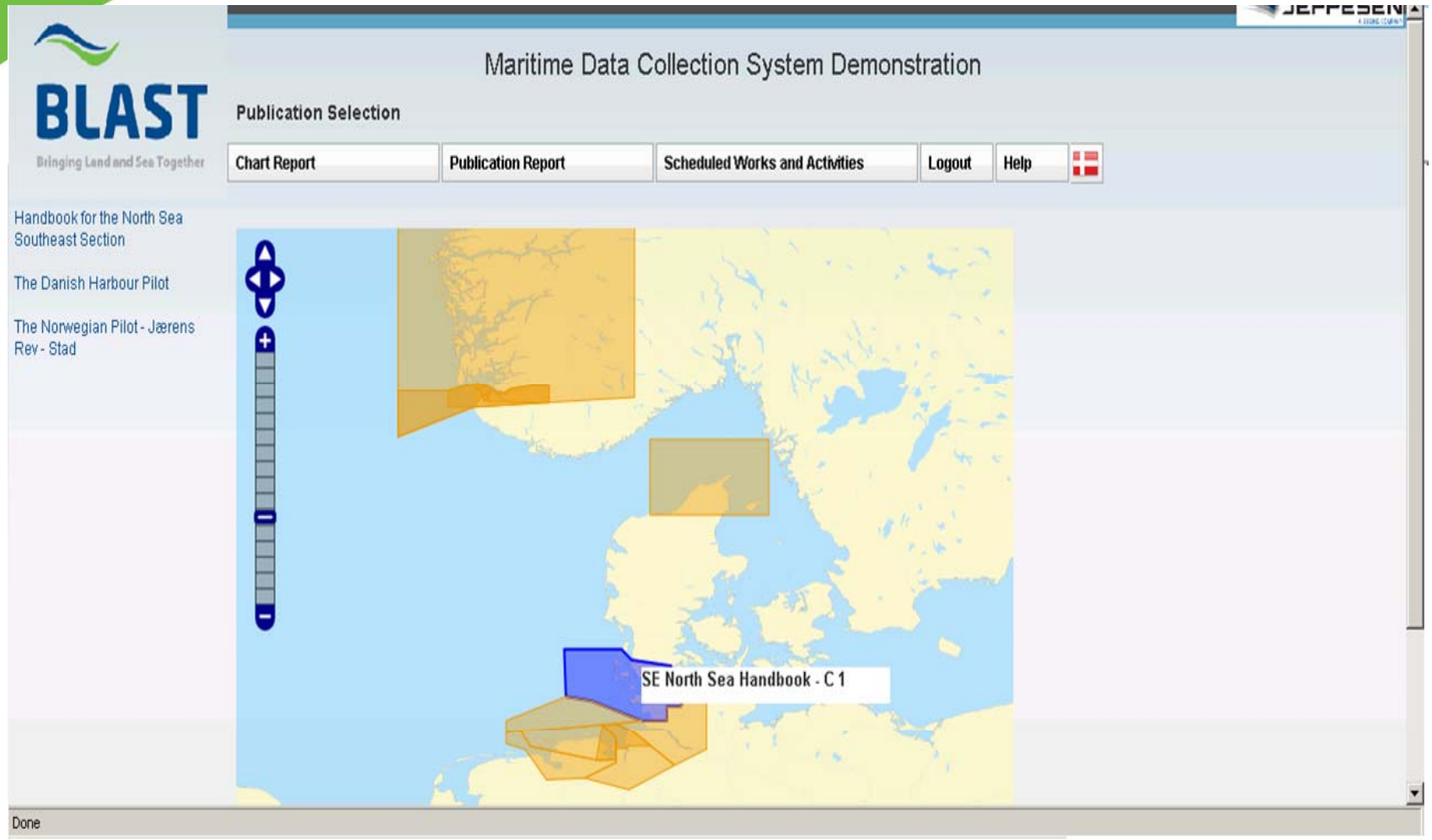
Nautical Publications



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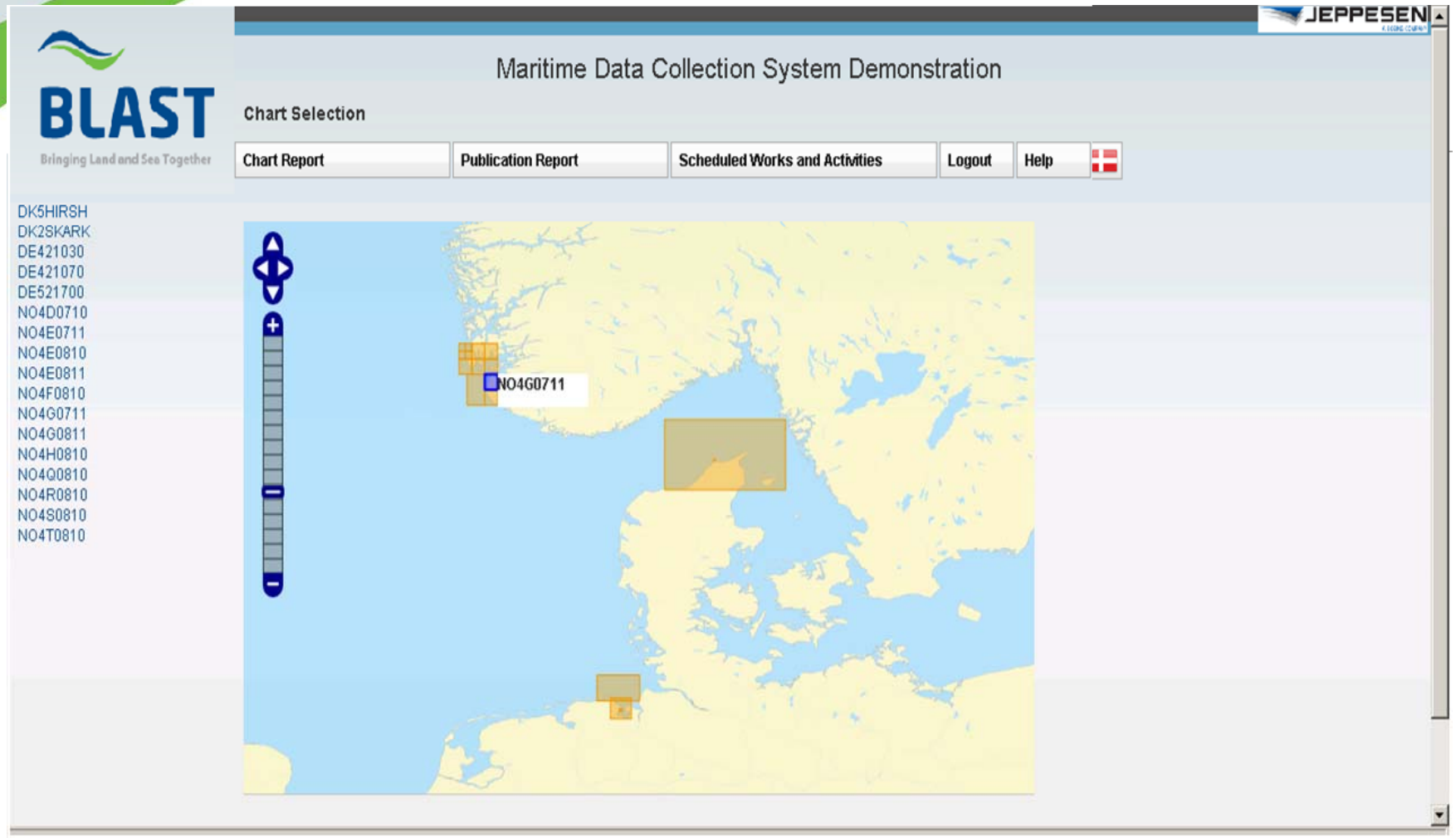
Nautical Charts



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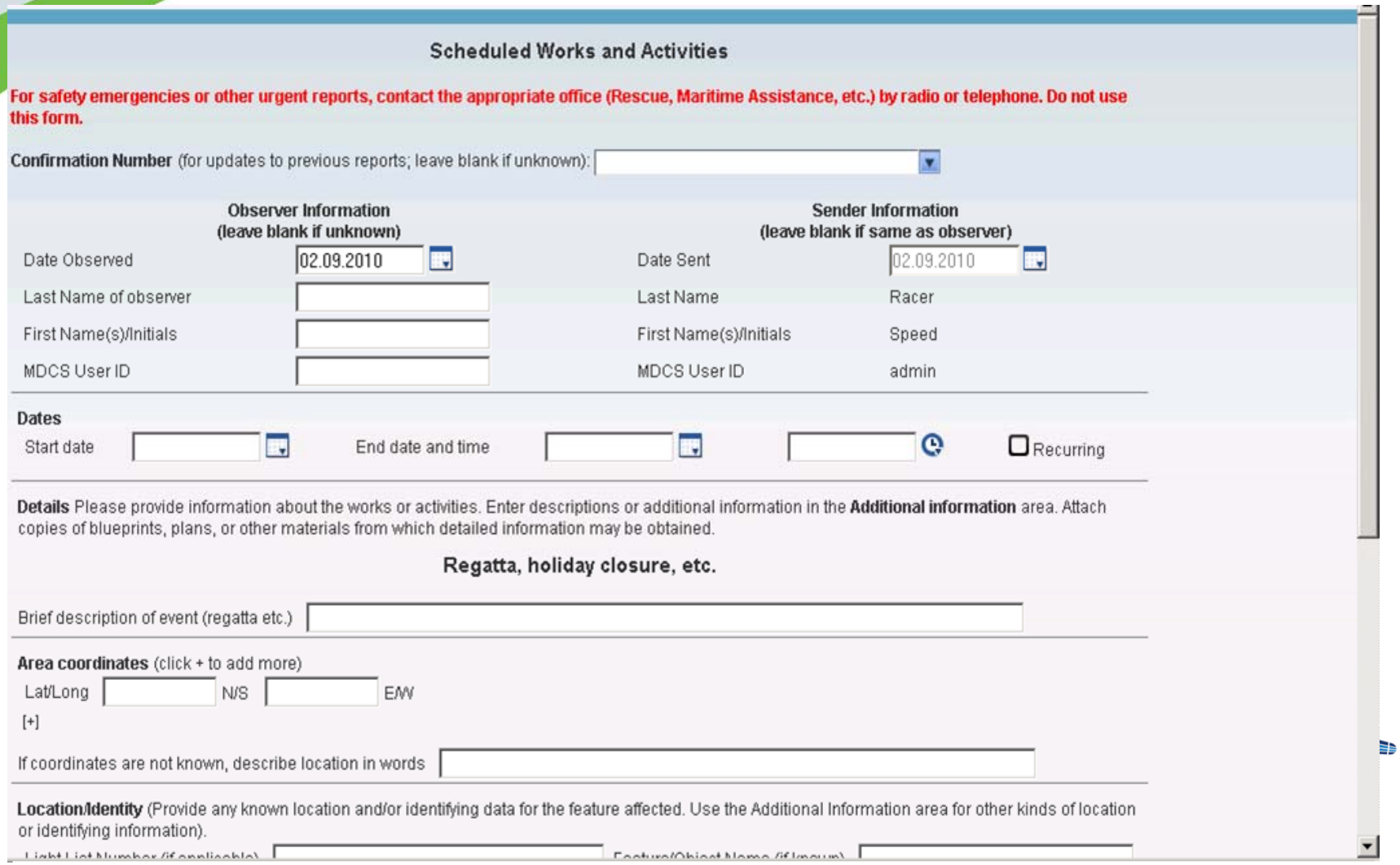
Planned Event Notifications



Scheduled Works and Activities

For safety emergencies or other urgent reports, contact the appropriate office (Rescue, Maritime Assistance, etc.) by radio or telephone. Do not use this form.

Confirmation Number (for updates to previous reports; leave blank if unknown):

	Observer Information (leave blank if unknown)		**Sender Information (leave blank if same as observer)**
Date Observed	02.09.2010	Date Sent	02.09.2010
Last Name of observer		Last Name	Racer
First Name(s)/Initials		First Name(s)/Initials	Speed
MDCS User ID		MDCS User ID	admin

Dates

Start date | End date and time | Recurring

Details Please provide information about the works or activities. Enter descriptions or additional information in the **Additional information** area. Attach copies of blueprints, plans, or other materials from which detailed information may be obtained.

Regatta, holiday closure, etc.

Brief description of event (regatta etc.)

Area coordinates (click + to add more)

Lat/Long N/S E/W

[+]

If coordinates are not known, describe location in words

Location/Identity (Provide any known location and/or identifying data for the feature affected. Use the Additional Information area for other kinds of location or identifying information).

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Chart Defect Selection

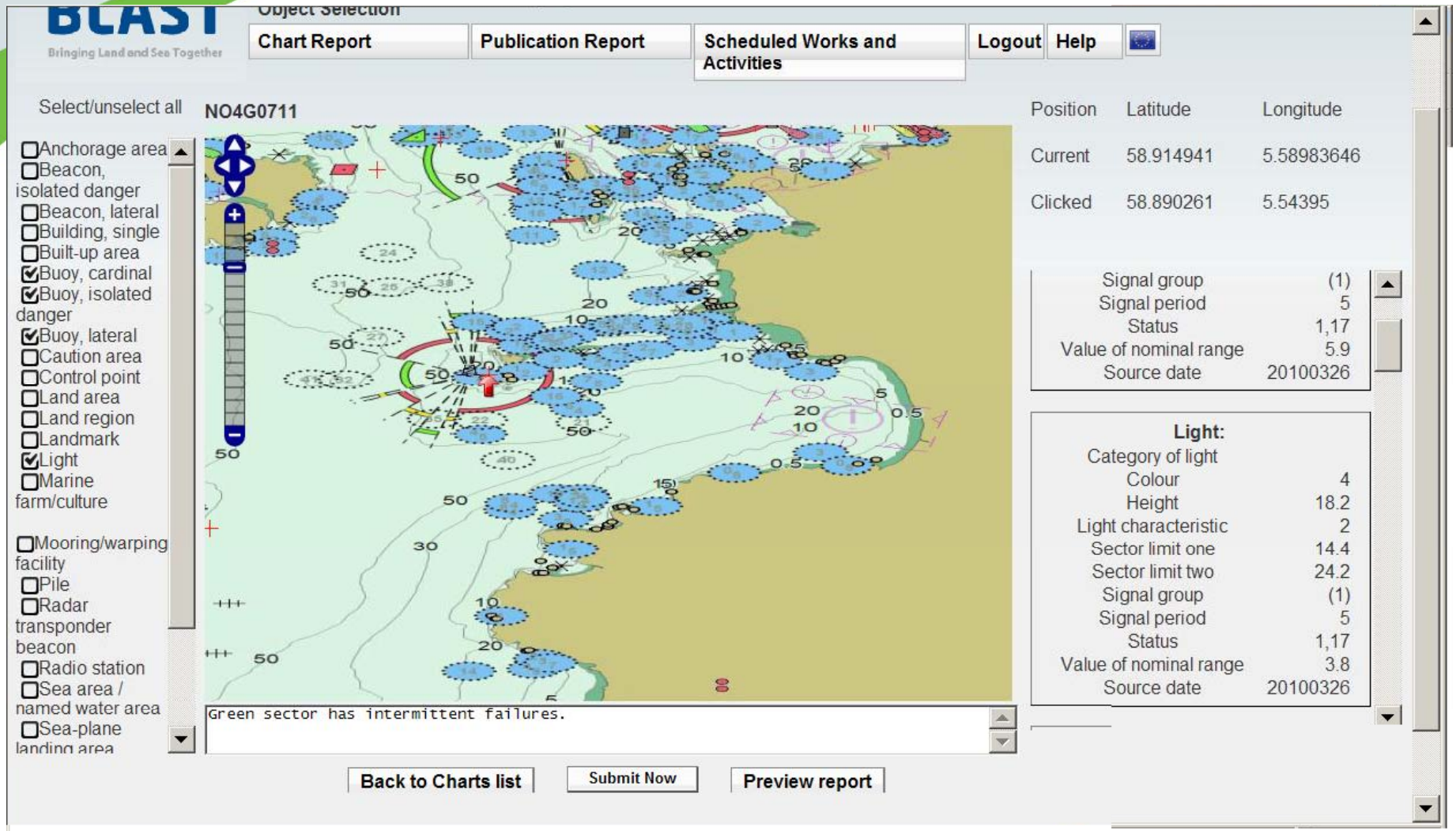

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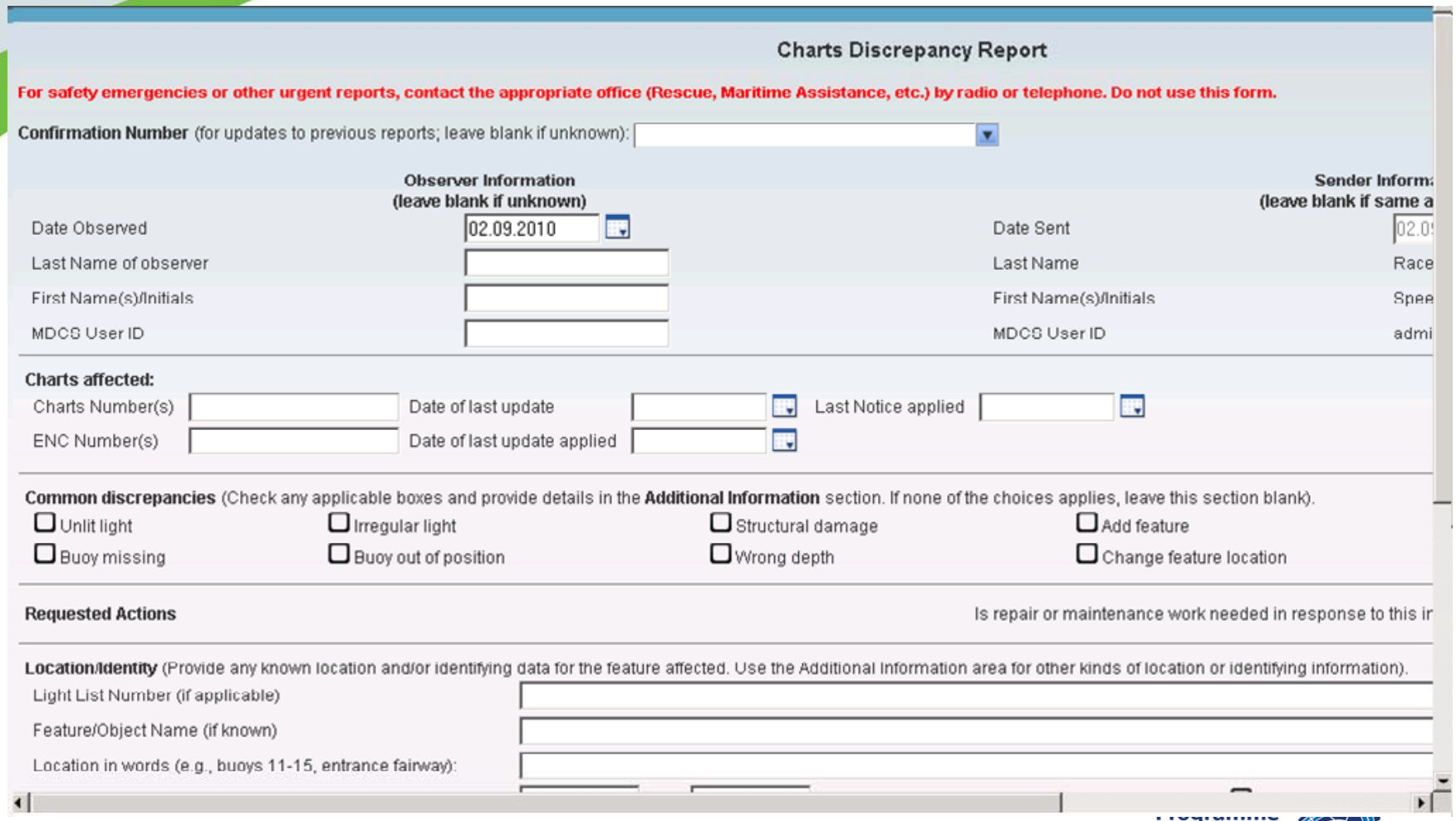
Chart Defect Report



Charts Discrepancy Report

For safety emergencies or other urgent reports, contact the appropriate office (Rescue, Maritime Assistance, etc.) by radio or telephone. Do not use this form.

Confirmation Number (for updates to previous reports; leave blank if unknown):

	Observer Information (leave blank if unknown)		**Sender Inform (leave blank if same a**
Date Observed	02.09.2010	Date Sent	02.0
Last Name of observer		Last Name	Race
First Name(s)/Initials		First Name(s)/Initials	Spee
MDCS User ID		MDCS User ID	admi

Charts affected:

Charts Number(s) | Date of last update | Last Notice applied

ENC Number(s) | Date of last update applied

Common discrepancies (Check any applicable boxes and provide details in the **Additional Information** section. If none of the choices applies, leave this section blank).

- ☐ Unlit light
- ☐ Irregular light
- ☐ Structural damage
- ☐ Add feature
- ☐ Buoy missing
- ☐ Buoy out of position
- ☐ Wrong depth
- ☐ Change feature location

Requested Actions — Is repair or maintenance work needed in response to this ir

Location/Identity (Provide any known location and/or identifying data for the feature affected. Use the Additional Information area for other kinds of location or identifying information).

Light List Number (if applicable)

Feature/Object Name (if known)

Location in words (e.g., buoys 11-15, entrance fairway):

Scrolling down will display sections for attaching Information and for submitting form via web

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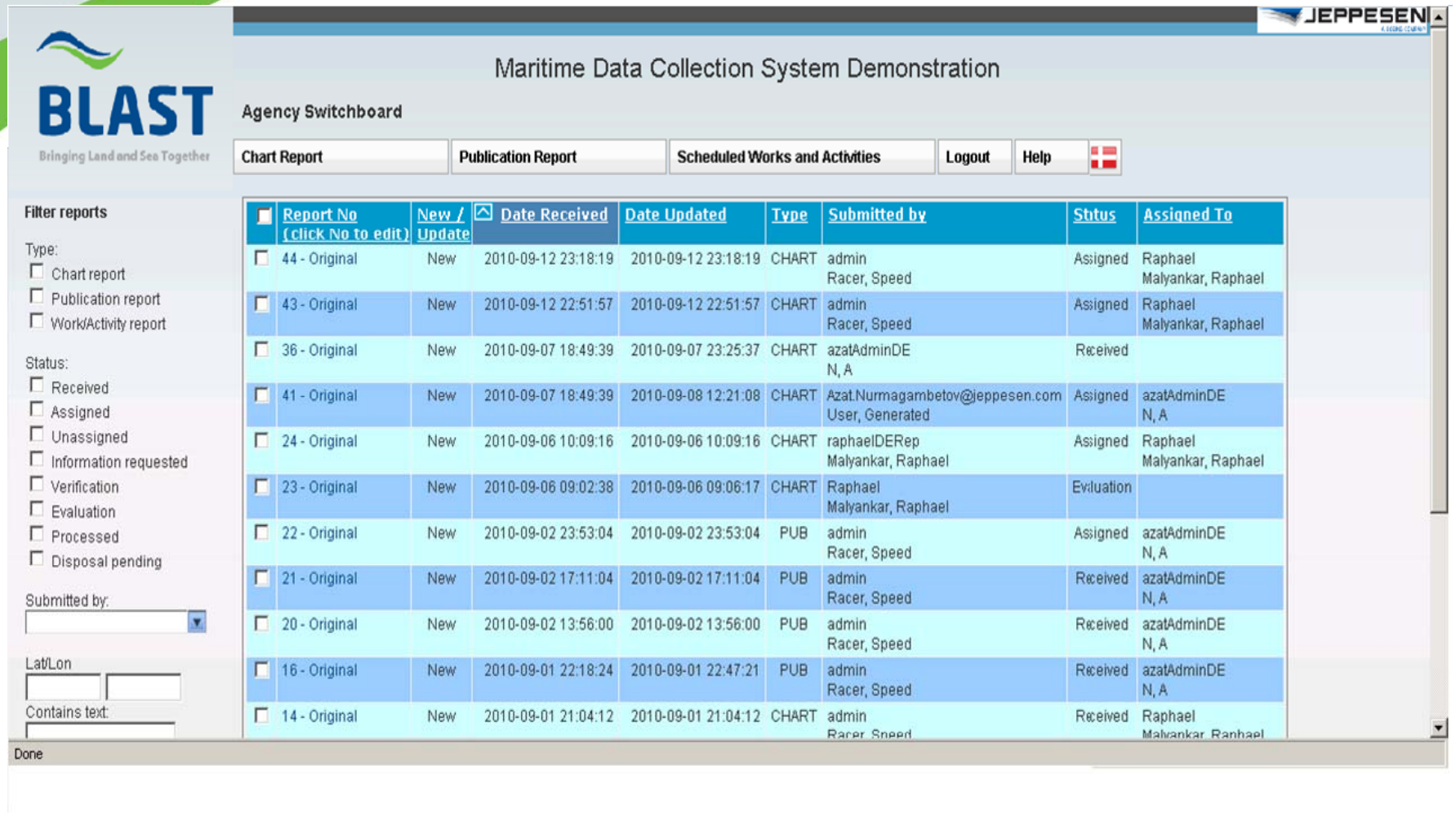
Switchboard



Every report is routed to someone – an administrator as last resort.
MDCS is not intended to replace workflow systems used by partners

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Visit of IHMA representative during BLAST conference at Hirtshals /DK

Last Update	
Fairway / Basin / Berth	
Terminal	
ISPS	
Berth name	
Berth number	
Position (lat / lon)	
Depth in meters	See chart
Chart datum	See chart
Minimum density	
Manoeuvre	**Arrival**
UKC policy	
Size restriction	
Tidal restriction	
Wind restriction	
Visibility restriction	
Speed restriction	
Tug requirements	
Operational Issues	
Mooring requirements	
Free text option	
Manoeuvre	**Departure**
UKC policy	
Size restriction	
Tidal restriction	
Wind restriction	
Visibility restriction	
Speed restriction	
Tug requirements	
Operational Issues	
Mooring requirements	
Free text option	

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Port Sections Guide	
	ANCH 1
	Read user guidelines first. Always check all adjoining sections
Port	Rotterdam
Section	Cloudy Berth
Date	01.11.2010
Position (lat /	
Minimum control led water depth	
Chart datum	
Range of water densities	
Tidal range	
UKC policy alongside	
Bottom type	
Dredging regime	
Distance pilot station to berth	
ISPS	
Loading / unloading requirements	
Free text	
Manoeuvre	**Arrival**
UKC policy	T	00,00 < 17,40 m: UKC = 0,50 m T	17,40 < 22,01 m: UKC = 1,00 m under the most unfavourable circumstances (normally more), calculated in accordance with a prbabilistic method. T	22,01	22,55 m: UKC = 1,50 m under the most unfavourable circumstances (normally more), calculated in accordance with a probabilistic method.
Size restriction	T max 22,55 meter.
Tidal restriction	
Wind restriction	
Visibility restriction	
Speed restriction	
Passing requirements	
Tug use	If for vessels with more than 20,00 m draught 4 tugs have been ordered, at least 3 tugs should have	45 T BP. If for vessels with a draught of 17.40 m up to 20,00 m draught 3 or 4 tugs have been ordered, at least 2 tugs should have	45 T B. For shifting vessels the same conditions apply as for vessels on arrival.
Berthing requirements	
Free text option	
Manoeuvre	**Departure**
UKC policy	T	00,00 < 17,40 m: UKC = 0,50 m T	17,40 < 21,20 m: UKC	0,50 m
Size restriction	T max 20,75 m (vessel is sailing against incoming tide). Only in special conditions and after contacting Traffic Control draught on departure can be increased up to 21,20 m.
Tidal restriction	
Wind restriction	
Visibility restriction	
Speed restriction	
Passing requirements	

NAUTICAL PORT INFORMATION
INTERNATIONAL HARBOUR MASTERS ASSOCIATION
IHMA

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Visit of IHMA representative during BLAST conference at Hirtshals /DK

Result

SNPWG to develop the data model
IHMA representative have been invited to next SNPWG meeting
Harbour Master to implement and maintain the information

New product - similarities to Port ENC

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WP4/Act 4 – Build a 3D port model and demonstrate automated change detection

Demonstrate and evaluate the use of satellite data and 3D visualization/models in navigational aid displays

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WP5 Contents

Design and develop a regional maritime traffic monitoring platform beneficial for all Member States in the North Sea region.

Harmonise maritime traffic information formats in the North Sea region and add new formats where needed.

Harmonise regional maritime traffic information flow with SafeSeaNet and propose new functionality.

Develop a network and server platform for development and demonstration.

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WP6 Contents

Climate change

Integrated Coastal Zone management

Decision Support Systems

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Coastal strategy Furreby ?

Year 0-20	Year 20-50	Year 50-100
Coastal protection can be done. Hard protection can be alowed where houses are endangered in year 0.	Hard protection are removed and only sand nourishment can be allowed. Herby can newer houses in year 0 still reach their lifetime.	No permit for coastal protectin because the lifetime of houses are passed.

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Land-use and Climate Change Adaptation

A spatial planning case study

The first (baseline) scenario is just a projection of current trends in land-use development

Scenario A and B simulates an urban development as presumed in story lines A2 and B1, which – regarding climate change - represent the most pessimistic and optimistic of the SRES scenarios.

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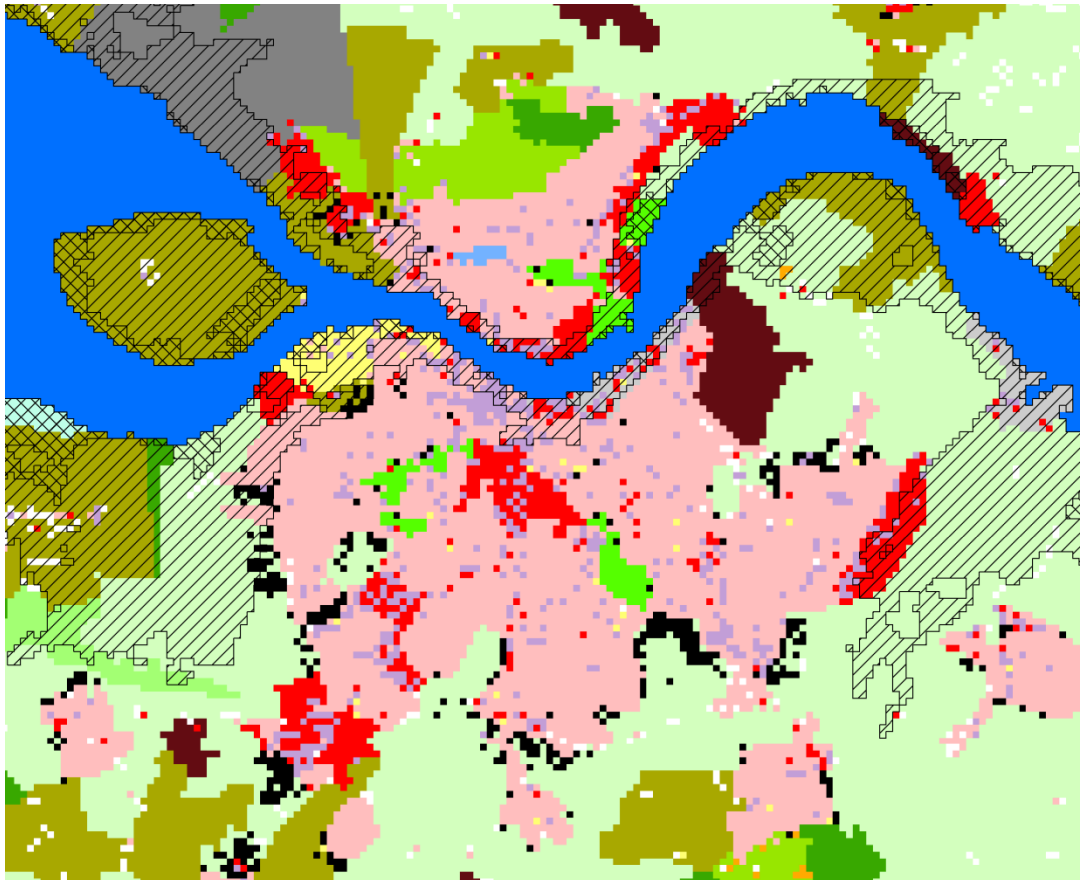
Flood risk and land-use - 1



Land-use in 2040 according to Policy scenario A. Black cells represent new urban areas.

The cross-hatched and hatched areas represent the 80 cm and 280 cm flooding zones respectively

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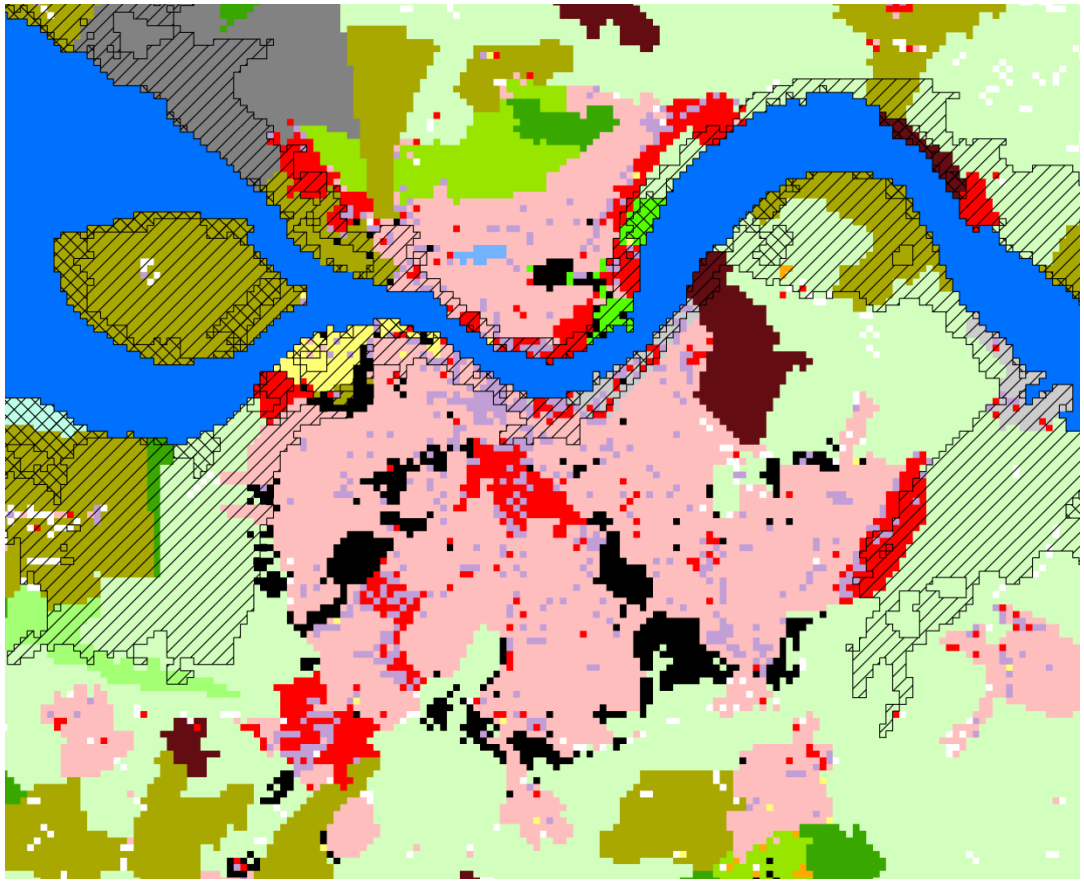
Flood risk and land-use - 2



Land-use in 2040 according to Policy scenario B. Black cells represent new urban areas.

The cross-hatched and hatched areas represent the 80 cm and 280 cm flooding zones respectively

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Danke! Tak! Thank you! Aligato!

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