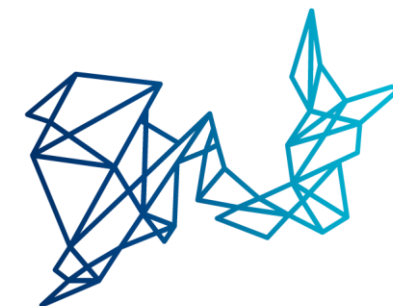


Connecting — Seas —

***NorthSEE – Baltic LINes
MSP conference***

Data session





**Connecting
— Seas —**

*NorthSEE – Baltic LINes
MSP conference*

National data services in Germany

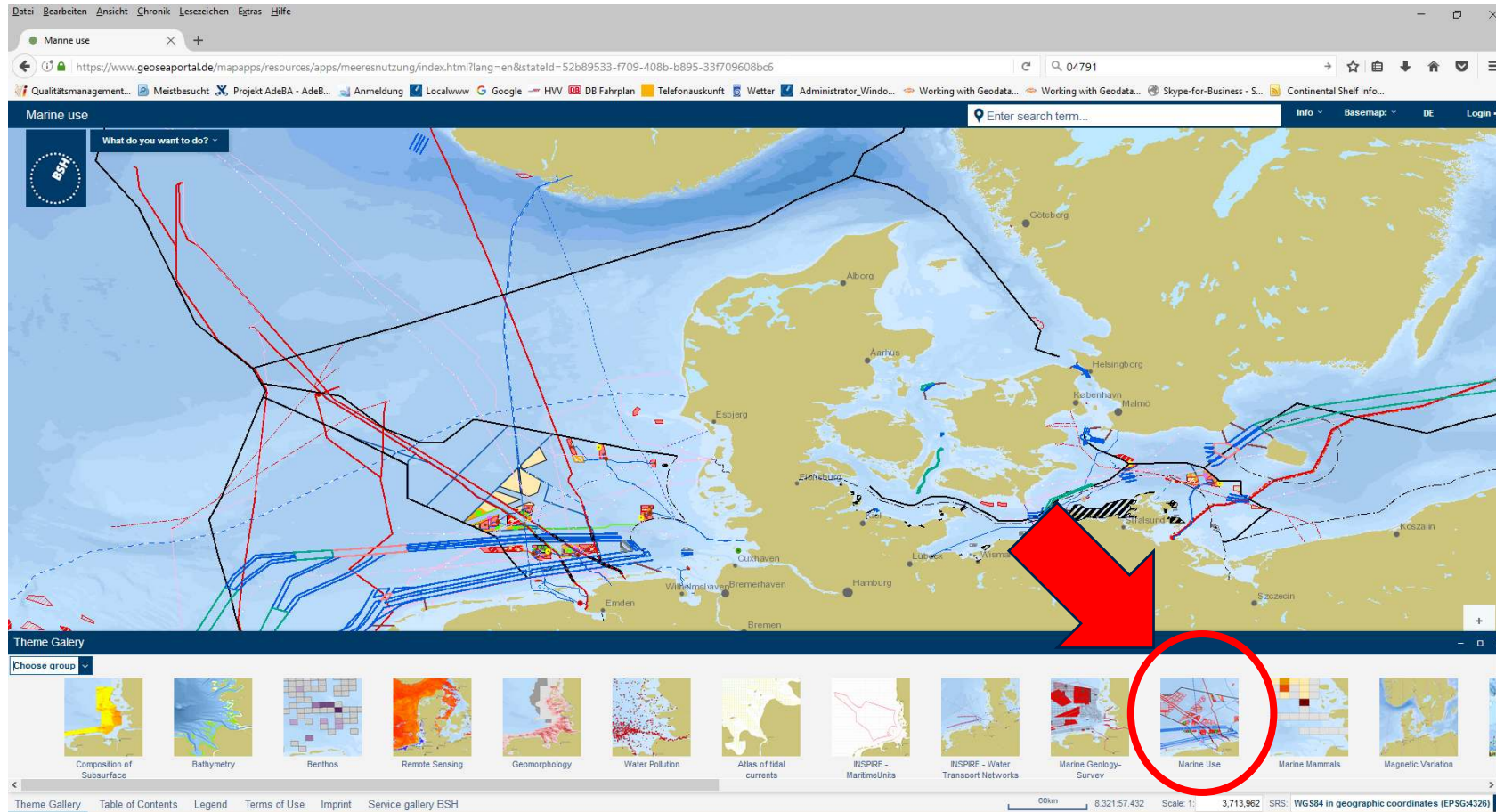
Olaf Gottensträter, German Federal Maritime and Hydrographic Agency (BSH)



Agenda

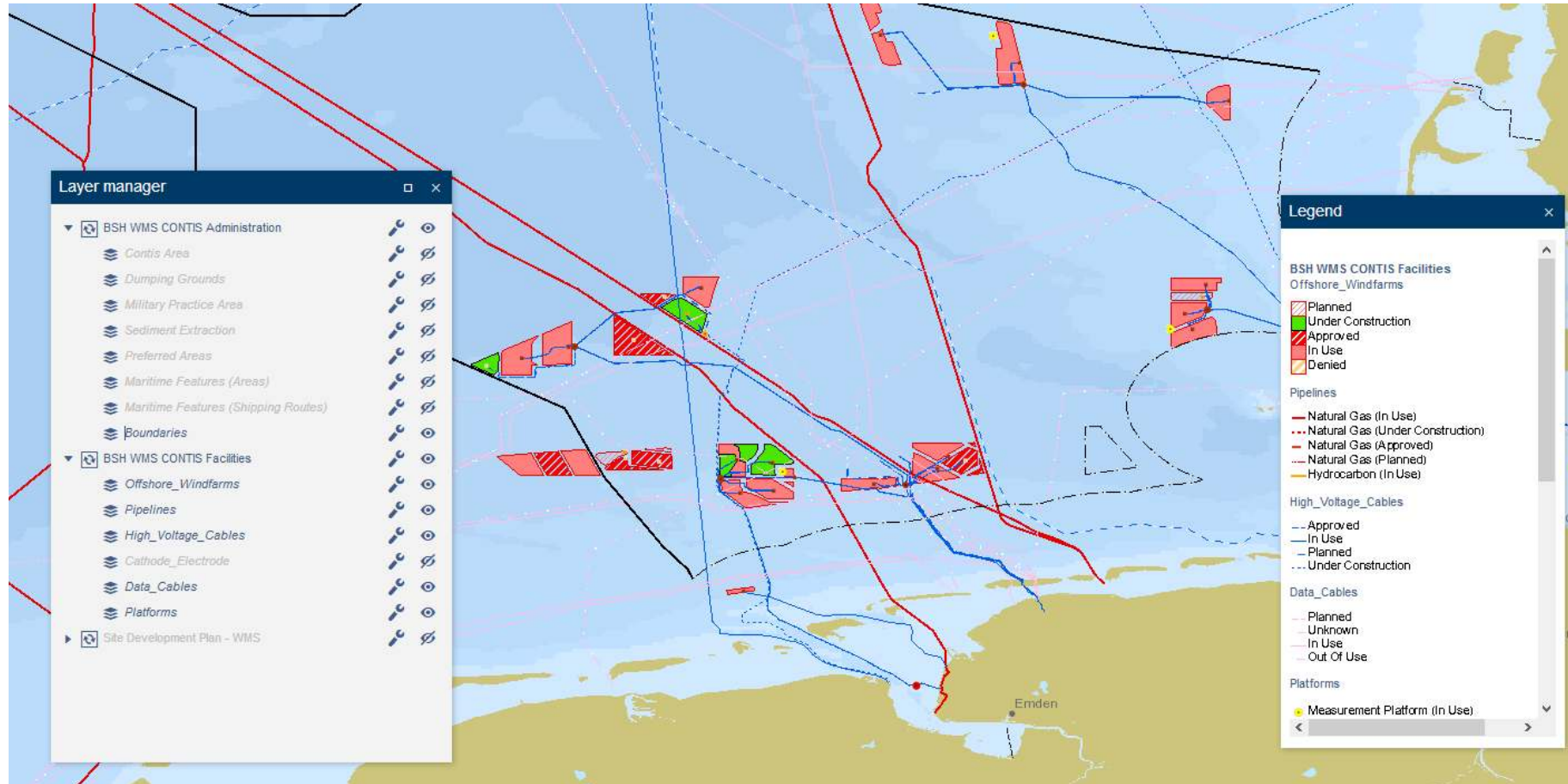
- Marine use in www.geoseaportal.de
- National Data Services: Data Input for MSP
 - CONTIS facilities
 - CONTIS Administration
- Draft of the Site Development Plan
- Download data with Web Feature Services
- The current MSP 2009
- The next steps

Marine use in www.geoseaportal.de



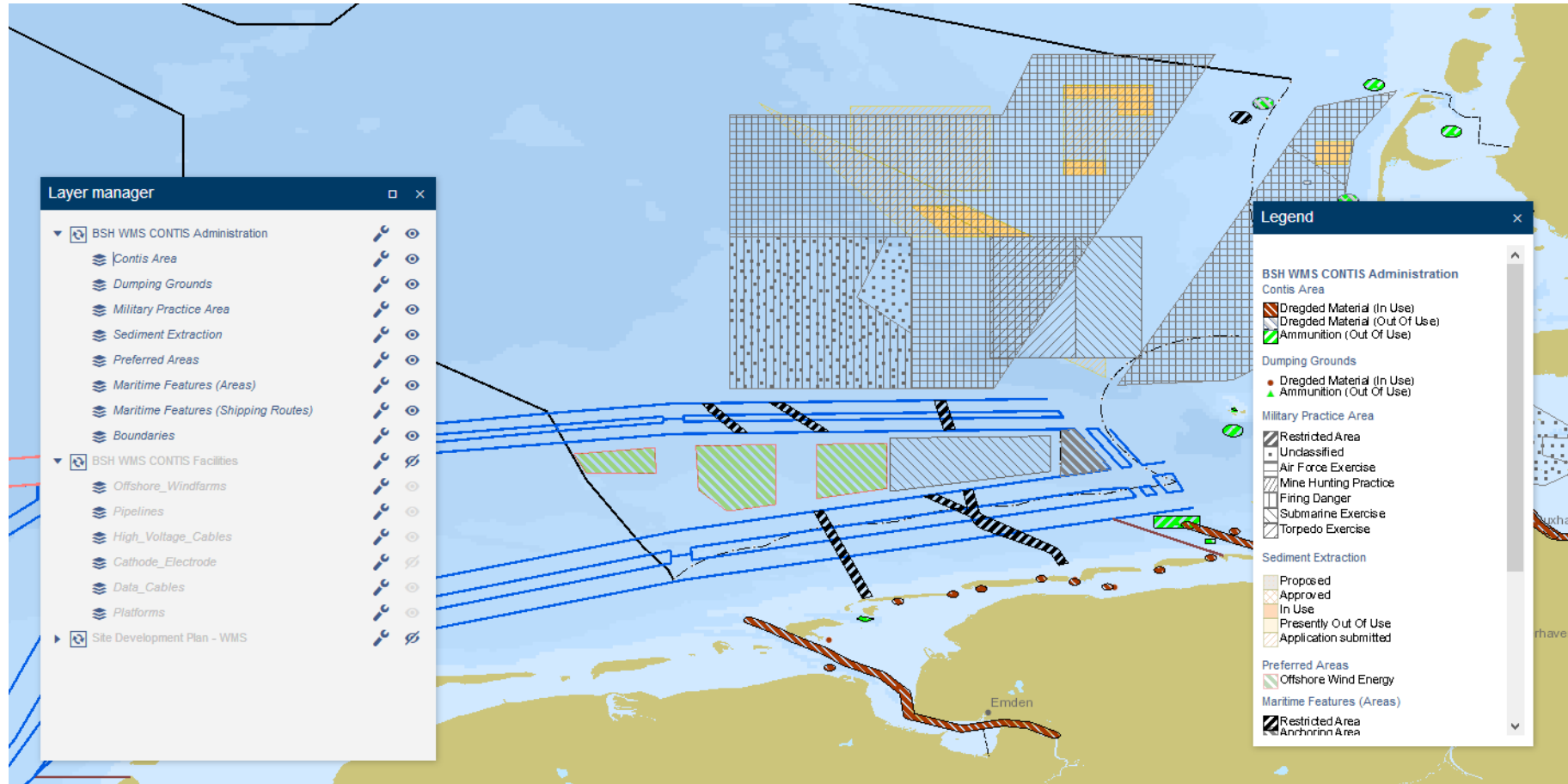
National Data Services: Data Input for MSP

CONTIS facilities

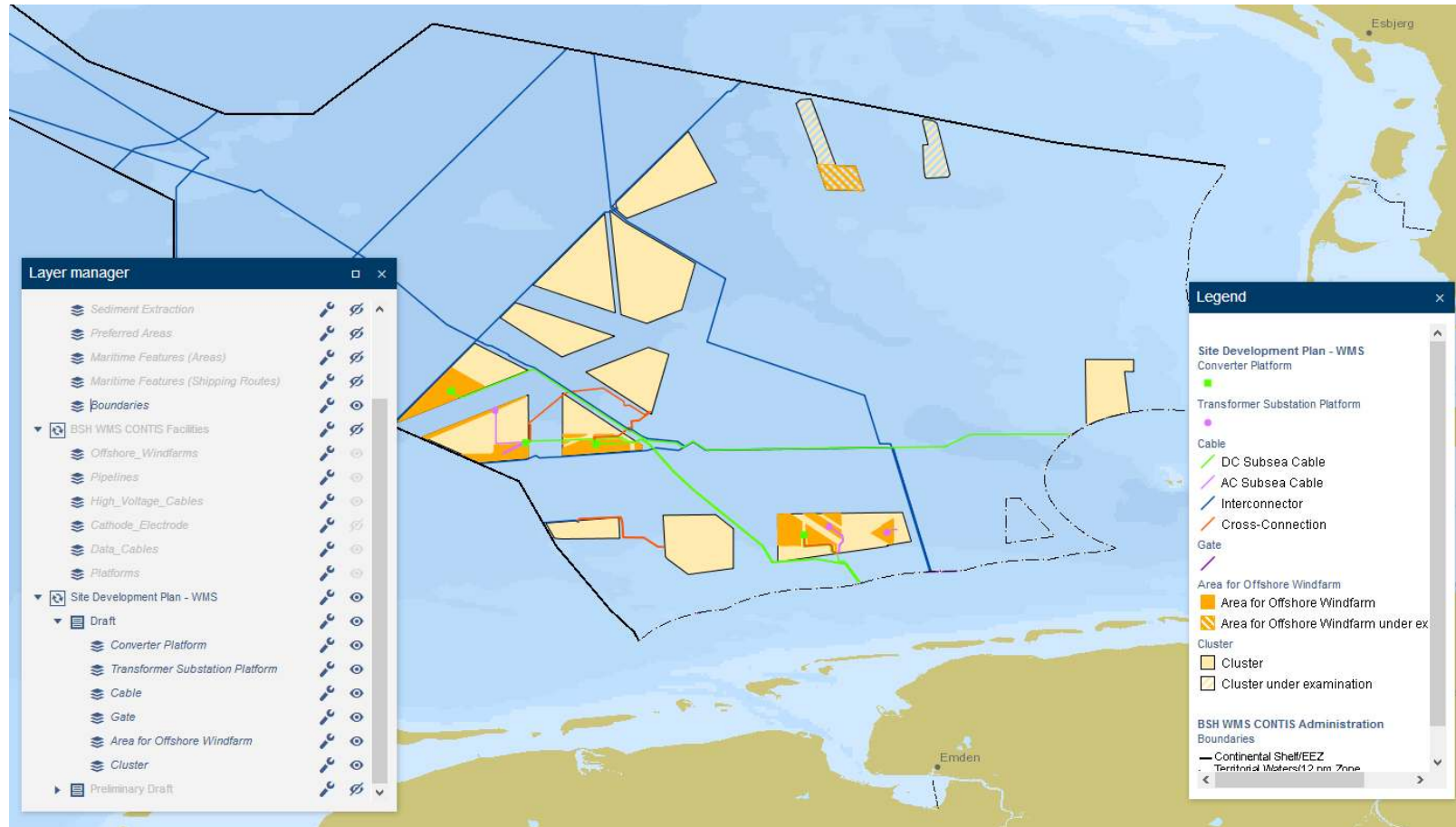


National Data Services: Data Input for MSP

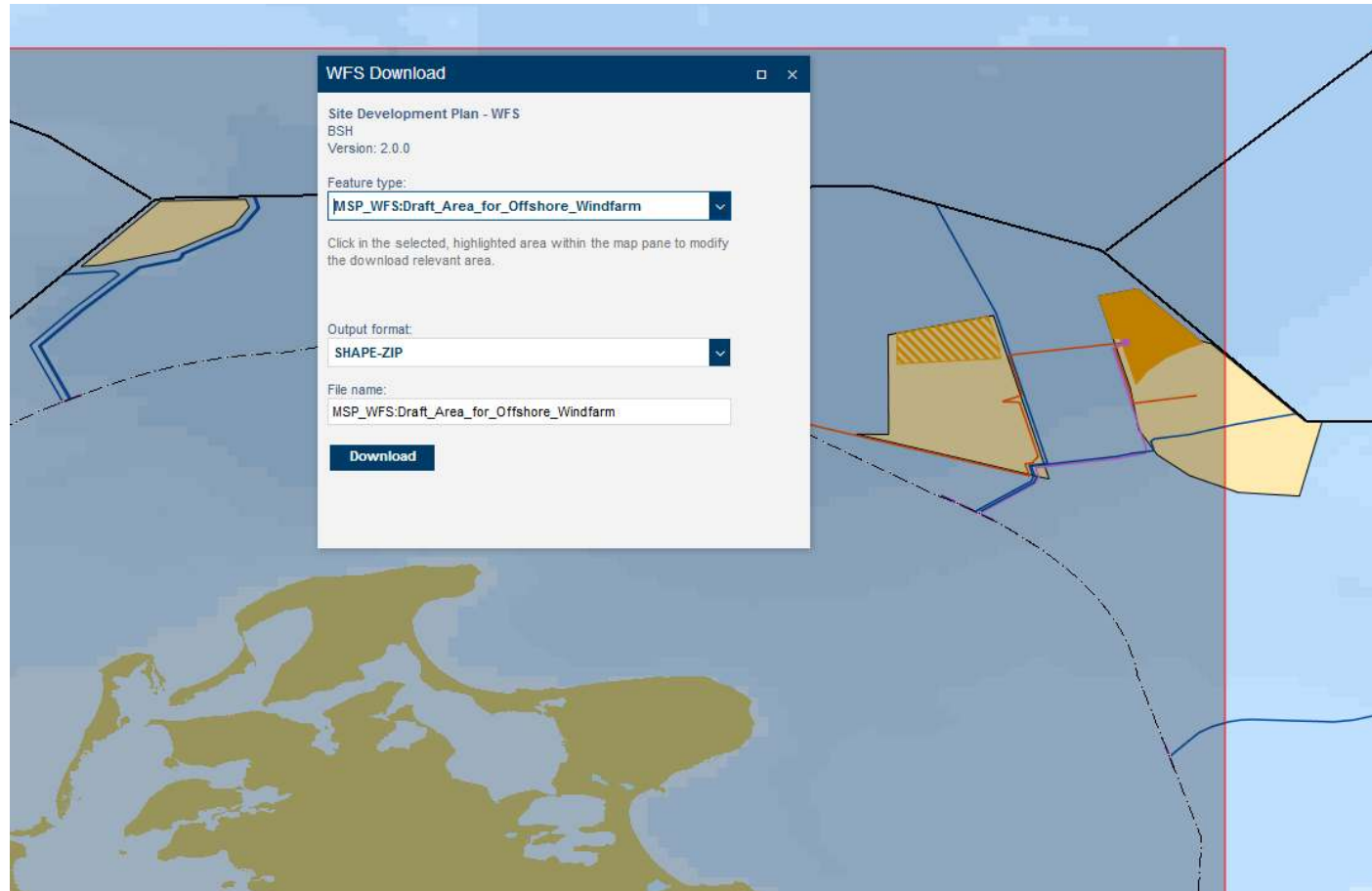
CONTIS Administration



Draft of the Site Development Plan

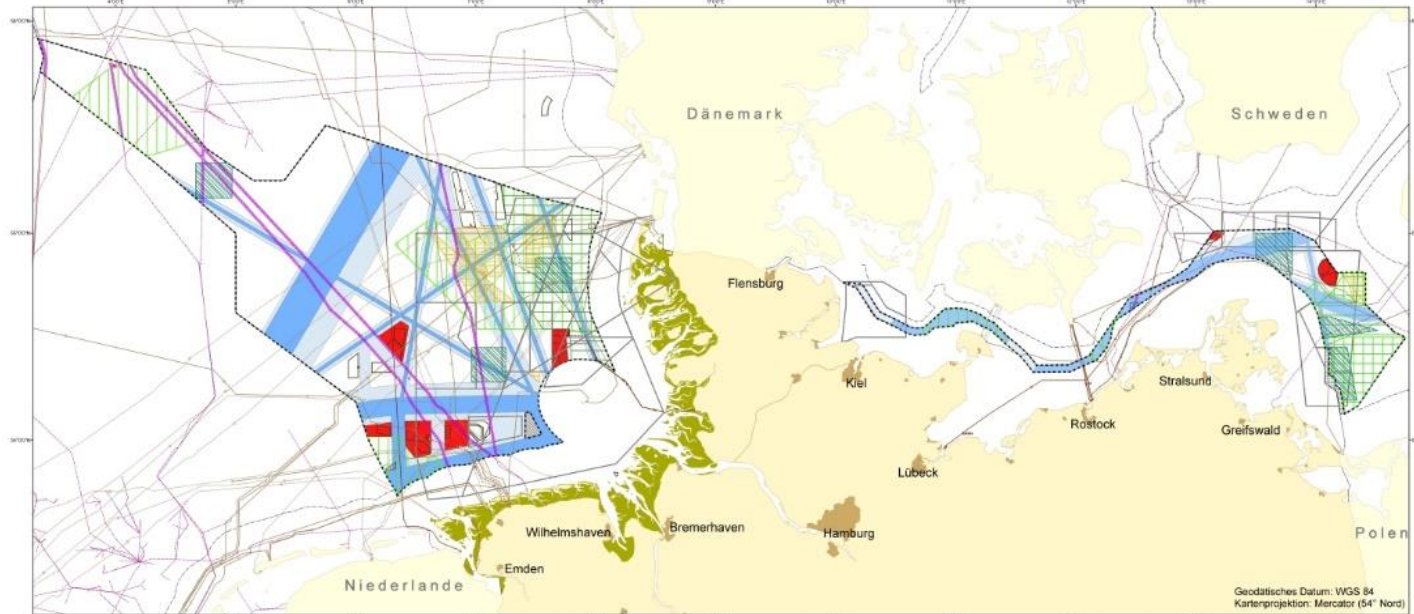


Download data with Web Feature Services



The current MSP 2009

Raumordnungspläne für die deutsche AWZ



Raumordnungsplan für die deutsche ausschließliche Wirtschaftszone der Nordsee (21.09.2009) und der Ostsee (10.12.2009)
Festlegungen

<ul style="list-style-type: none"> Vorranggebiet Schifffahrt Vorbehaltsgebiet Schifffahrt Vorranggebiet Rohrleitungen Vorbehaltsgebiet Rohrleitungen Zielkorridor Vorbehaltsgebiet Forschung Vorranggebiet Windenergie 	<p>Nachrichtliche Darstellung</p> <ul style="list-style-type: none"> Verkehrstrennungsgebiet Tiefwasserweg Vorsichtsgebiet Reede Ankerplatz Rohstoffgewinnung Sand & Kies - Planfeststellung Rohstoffgewinnung Sand & Kies - Planfeststellungsverfahren Rohstoffgewinnung Sand & Kies - Bewilligung Rohstoffgewinnung Gas - Bewilligung 	<ul style="list-style-type: none"> Gasrohrleitung (in Betrieb) Erdgasleitungen (geplant) Energiekabel (in Betrieb) Energiekabel (genehmigt) Datenkabel (in Betrieb) Datenkabel (außer Betrieb) Windparks genehmigt Referenzgebiet Windenergie Natura 2000 - FFH-Gebiet Natura 2000 - EU-Vogelschutzgebiet 	<ul style="list-style-type: none"> Militärische Übungsgebiete ehem. Munitionsversenkungsgebiet Plattform / Messmast / Umspannstation Bereich möglicher Fehmarnbeltquerung Grenze Küstenmeer Grenze Festlandssockel / AWZ Internationale Grenze Plangebietsgrenze Nordansteuerung bzw. Außenreede der Häfen Stettin und Swinemünde *
---	--	---	--

The next steps

- Publishing the current MSP 2009 as WMS and WFS
- International harmonisation of MSP data, e.g. recommendation of MSP output data of the HELCOM/VASAB data expert group
- Update the national MSP for the German EEZ (until 2021)
- Integration of services in other portals, e.g.

BASEMAPS: Dreams will be reality





Marine Spatial Magement tool

Gerhard Heggebo





**Connecting
— Seas —**

*NorthSEE – Baltic LINES
MSP conference*

The story of how we built BASEMAPS



MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)



<https://basemaps.helcom.fi/>

- ☐ Administrative borders
- ☐ Aquaculture
- ☐ Fishing areas
- ☐ Installations and infrastructures
- ☐ Maritime transport
- ☐ Nature protection
- ☐ Military training
- ☐ Raw material extraction
- ☐ Scientific research
- ☐ Cables and pipelines
- ☐ Tourism and recreation
- ☐ Underwater cultural heritage



1 : 13,866,974



How did we do it



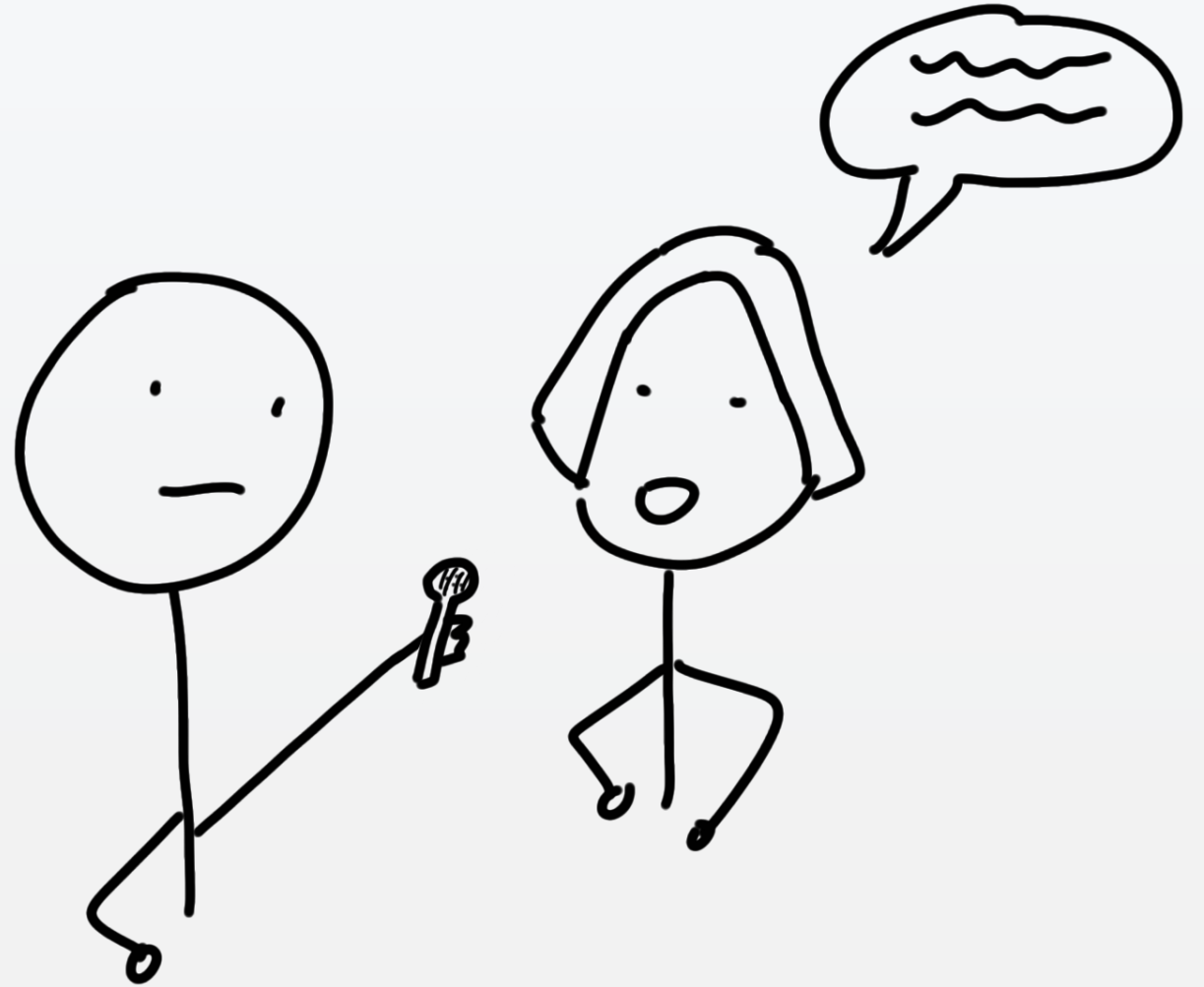
3 steps

1 Data gathering

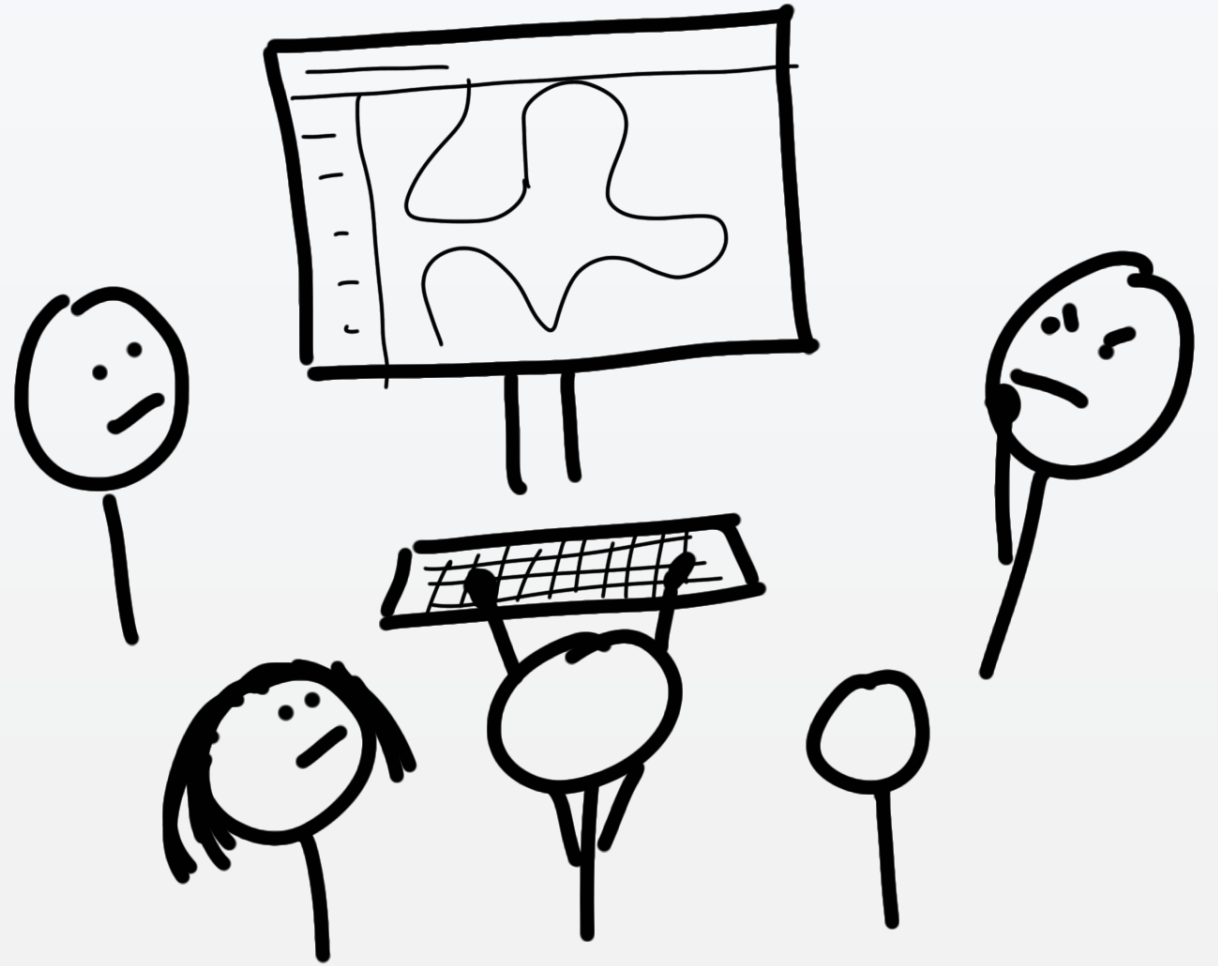


2

Study and interviews



3 Develop





The challenges





A name!





Lack of data

Data available
WMS

0%

Data available
WFS

0%



Lack of common language

MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

☒ Estonia

☒ Finland

☐ Johdot ja putkilinjat

WFS

☒ Johdot ja putkilinjat

WMS

— Sähkö - matalajännite

— Sähkö - korkeajännite

— Tietoliikenne

— Kaasu

— Vesi

— Viemäri

— Tuntematon johto

— Tuntematon putki

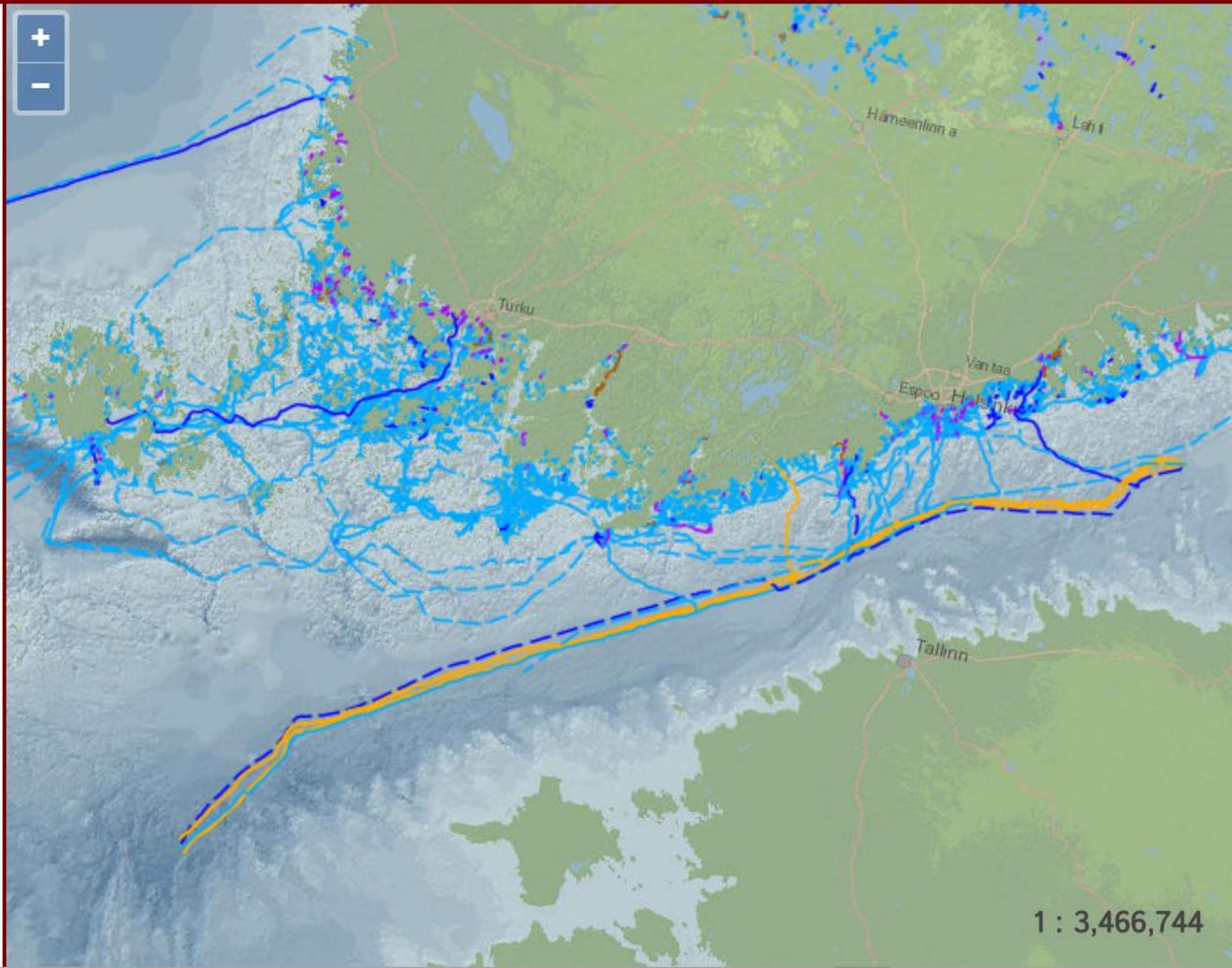
— Öljy

— Köysirata

☐ Germany

☐ Latvia

☐ Sweden



MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

Raw material extraction

Scientific research

Measuring stations / networks

Germany

Poland

INSPIRE Urządzenia - PMŚ -
Monitoring środowiska
morskiego Bałtyku 2008
(urządzenia)

WMS

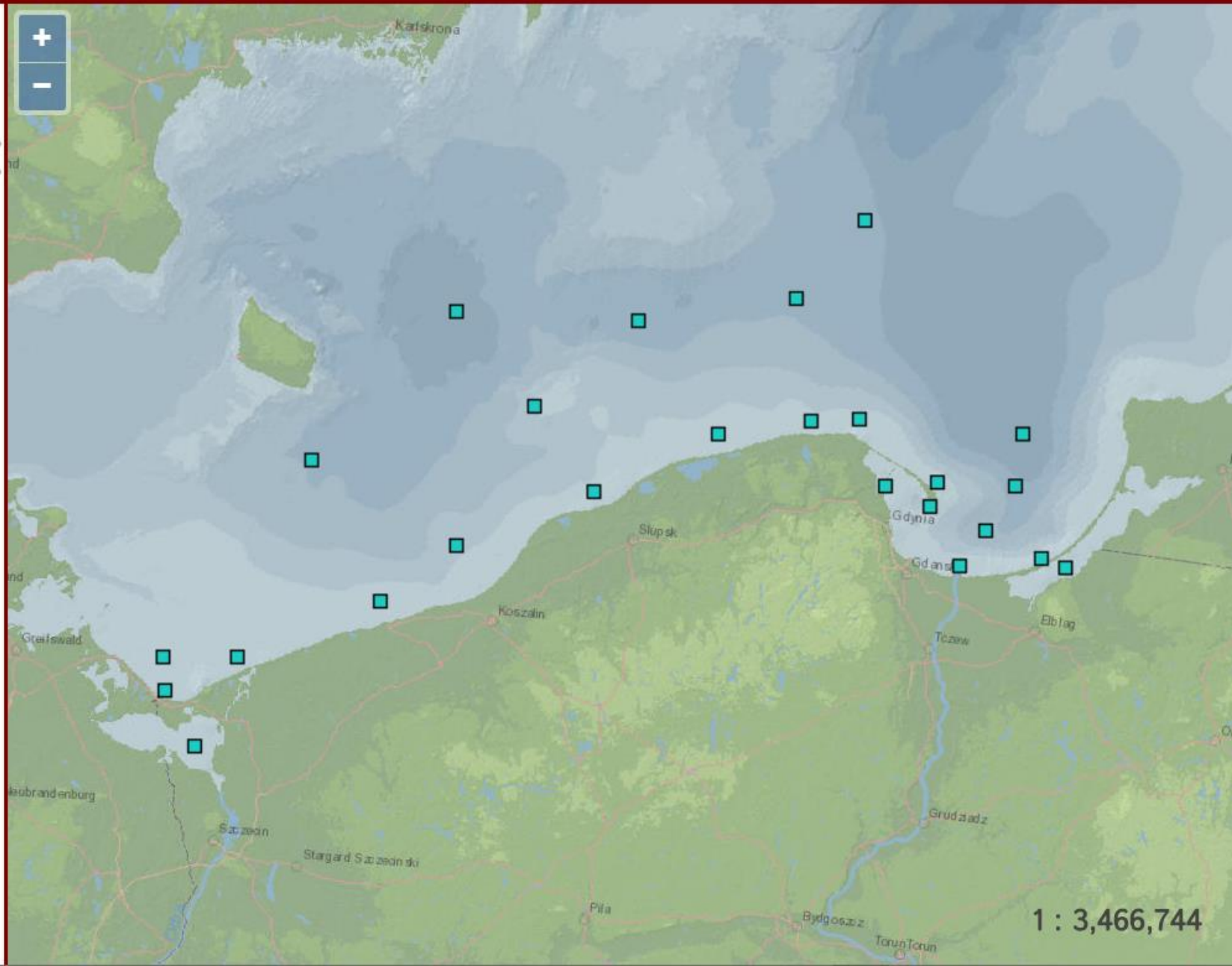
INSPIRE Urządzenia - PMŚ -
Monitoring środowiska
morskiego Bałtyku 2009
(sieć)

WMS

INSPIRE Urządzenia - PMŚ -
Monitoring środowiska
morskiego Bałtyku 2009
(program)

WMS

INSPIRE Urządzenia - PMŚ -





Lack of common symbology



Example: IMO routes

MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

☒ Estonia

☒ Finland

☐ Traffic Separation Scheme Crossing [WFS](#)

☐ Traffic Separation Scheme Lane [WMS](#)

☐ Traffic Separation Scheme Separator [WMS](#)

☐ Traffic Separation Scheme Roundabout [WMS](#)

☐ Traffic Separation Scheme Crossing [WMS](#)

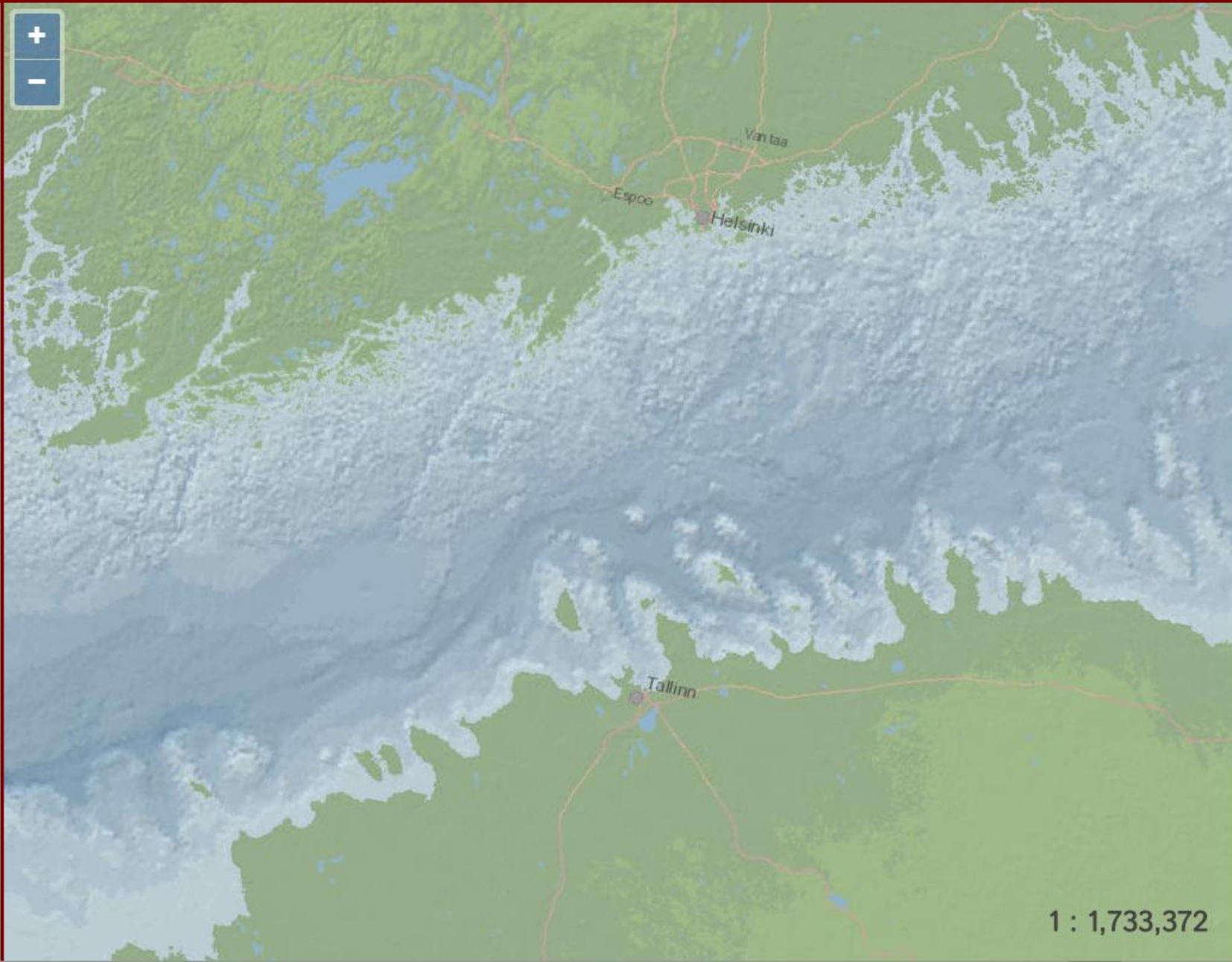
☒ Germany

☒ HELCOM data

☒ Restricted areas for shipping

☒ Ports

☒ Fairways



MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

ESTONIA

Finland

☐ Traffic Separation Scheme Crossing [WFS](#)

☒ Traffic Separation Scheme Lane [WMS](#)

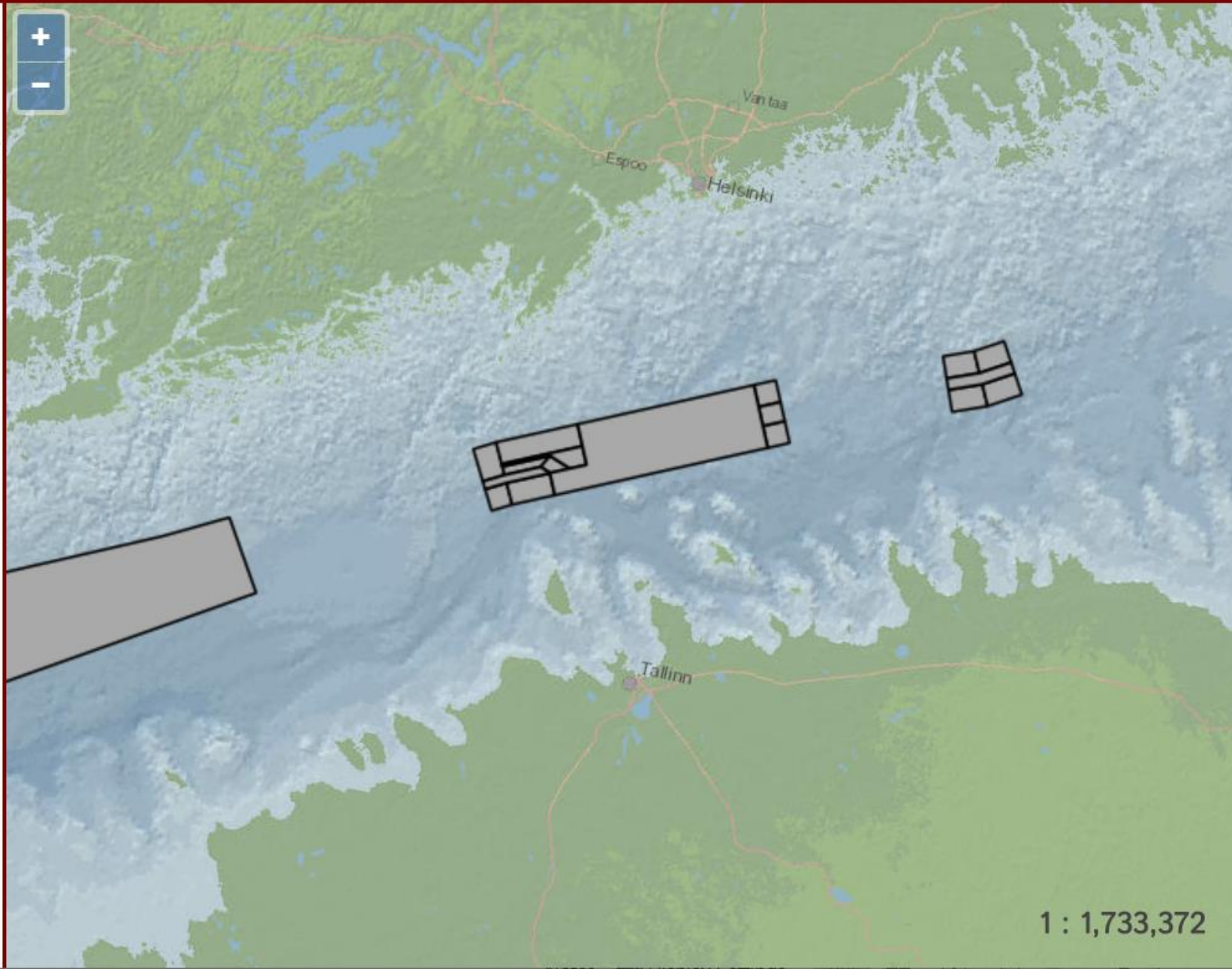
☒ Traffic Separation Scheme Separator [WMS](#)

☒ Traffic Separation Scheme Roundabout [WMS](#)

☒ Traffic Separation Scheme Crossing [WMS](#)

Germany

HELCOM data



MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

☒ Separator

☐

☒ Traffic Separation Scheme Roundabout

☐

WMS

☒ Traffic Separation Scheme Crossing

☐

WMS

☐ Germany

☒ Maritime Features (Shipping Routes)

Traffic Separation Scheme

Deep-Water Route

Precautionary Area

Inshore Traffic Zone

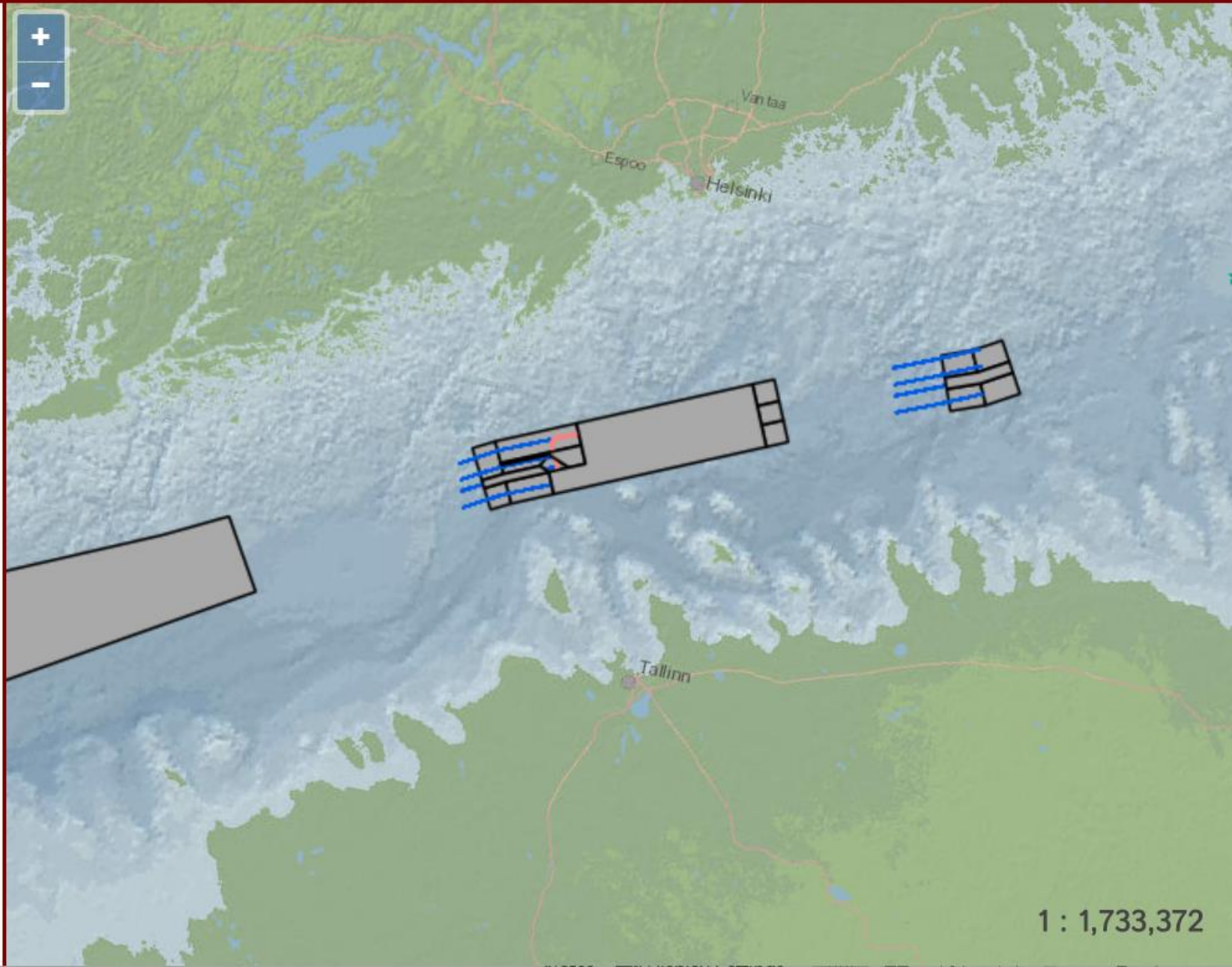
Shipping Route, Recommended

Shipping Route, Unclassified

WMS

☒ HELCOM data

☒ Restricted areas for shipping





Example: fairways

MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

☐ Shipping traffic density

☐ IMO routes

☐ Restricted areas for shipping

☐ Ports

☐ Fairways

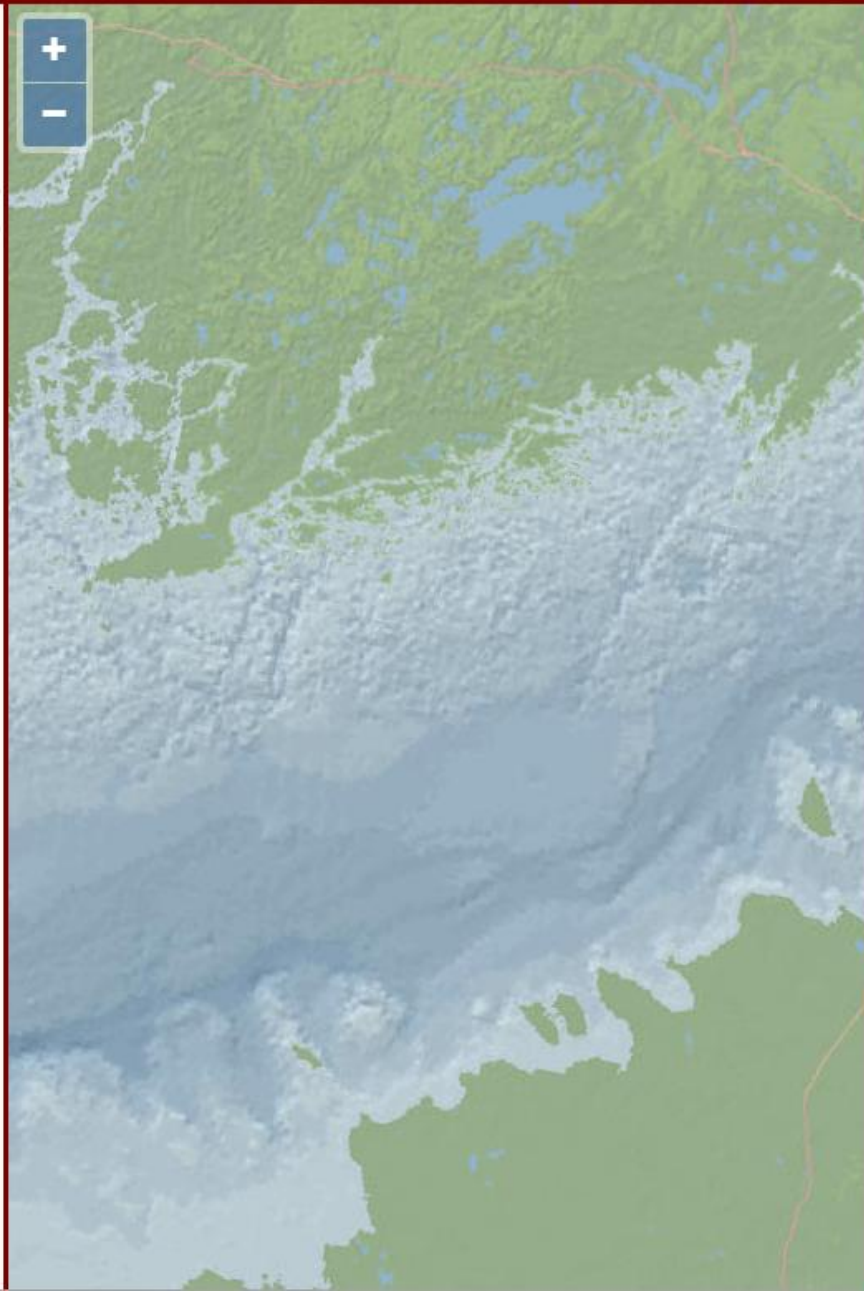
☐ Estonia

☒ Transport Link

WMS

- <all other values>
- hynWatercourseLink
- tnaAirRouteLink
- tnaInstrumentApproachProcedure
- tnaProcedureLink
- tnaStandardInstrumentArrival
- tnaStandardInstrumentDeparture
- tncCablewayLink
- tnaRailwayLink
- tnoRoadLink
- trwWaterwayLink

☐ Finland



Maritime transport -> Fairways ->
Estonia -> Transport Link



data originates from Estonian Topographic Database and from Estonian Civil Aviation Administration and from Estonian Maritime Administration.

Language support: est,eng

Identification support: true

Max display scale: 47247.02381

Min display scale: No min display scale limit or information about it is not provided

Metadata:

Metadata format: XML

URL: <https://inspire>

MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

- ☐ Shipping traffic density
- ☐ IMO routes
- ☐ Restricted areas for shipping
- ☐ Ports

☐ Fairways

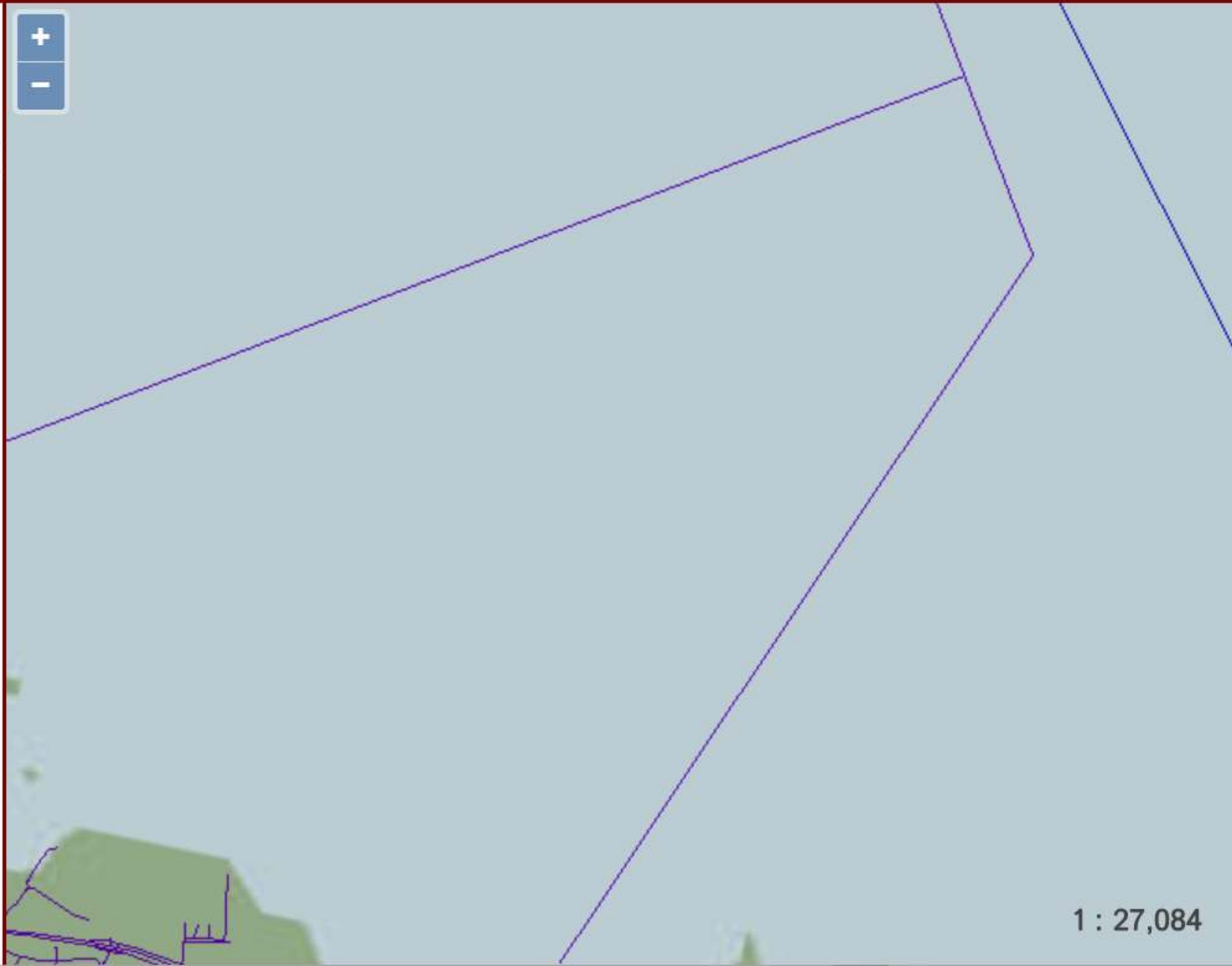
☐ Estonia

☒ Transport Link

WMS

- ☐ <all other values>
- ☐ hynWatercourseLink
- ☐ tnaAirRouteLink
- ☐ tnaInstrumentApproachProcedure
- ☐ tnaProcedureLink
- ☐ tnaStandardInstrumentArrival
- ☐ tnaStandardInstrumentDeparture
- ☐ tncCablewayLink
- ☐ tnaRailwayLink
- ☐ tnoRoadLink
- ☐ trwWaterwayLink

☐ Finland



1 : 27,084

MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

☒ Fairways

☒ Estonia

☐ Transport Link

WMS

☒ Finland

☒ Fairway Area

WMS



Ferry lines / routes / Motorways of the seas

☒ Roadsteads / port raid protection zones

☒ Anchorages

☒ Dredging

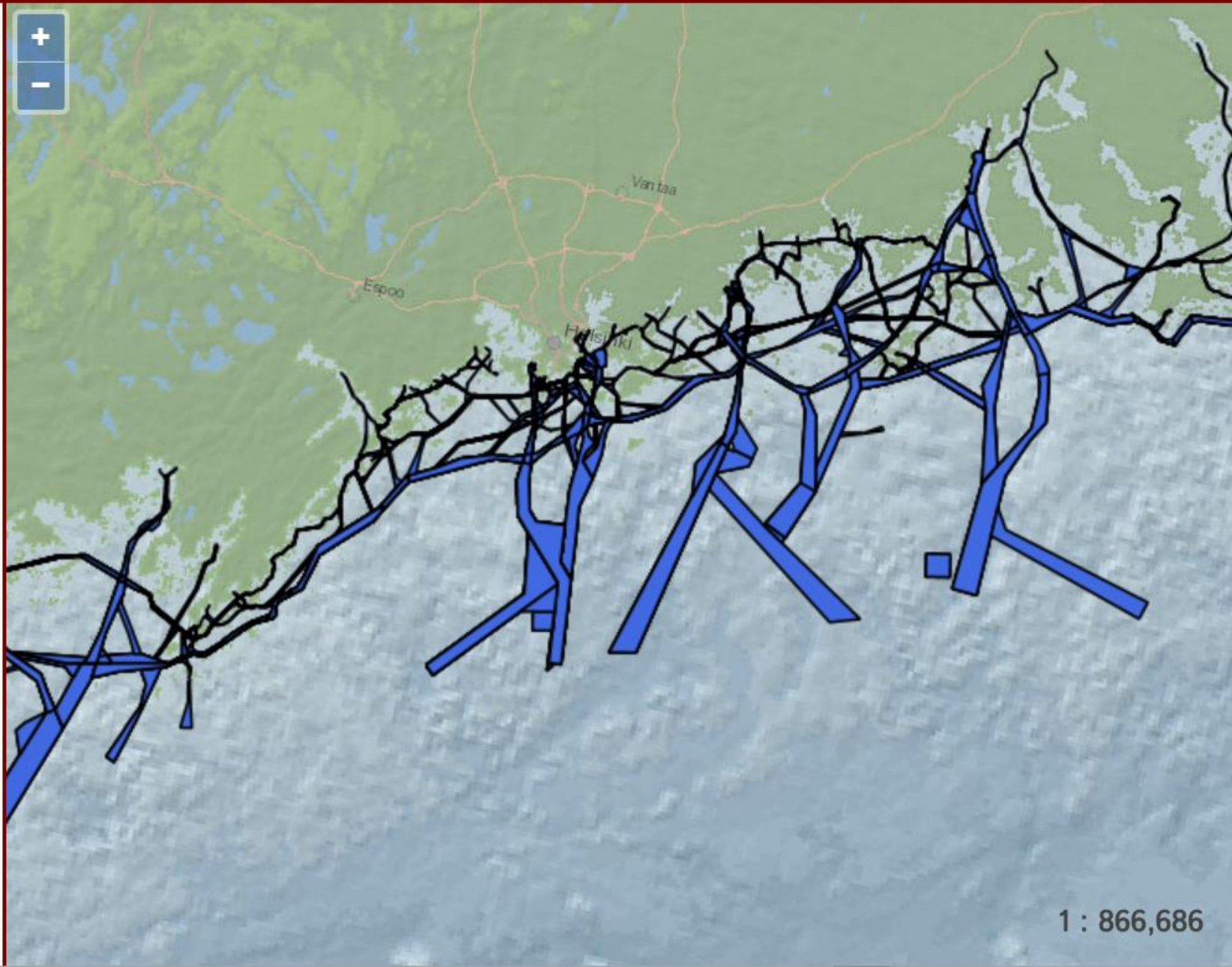
☒ Dumping

☒ Nature protection

☒ Military training

☒ Raw material extraction

☒ Scientific research





The future

Board member
at OGC

WFS 3.0 — Get Excited? Yes!



Chris Holmes Following

Dec 8, 2017 · 6 min read

Well, get excited if you're deep in to geospatial and open standards—I'm pretty sure a majority of the world would find this booooring.

But that's ok. In this post I want to bring attention to the great work being done on WFS 3.0 specification from the Open Geospatial Consortium (OGC). The first awesome thing you'll notice is that link goes to a GitHub repo, where the specification is being actively worked on, and anyone can join in and contribute. In general the core standard so far gets a whole lot right, and I believe has potential to bring much more interoperability to the geospatial



GitHub

MSP input data

MSP output data

[Collapse layer list](#)

[Hide all layers](#)

- ☐ Administrative borders
- ☐ Aquaculture
- ☐ Fishing areas
- ☐ Installations and infrastructures
- ☐ Maritime transport
- ☐ Nature protection
- ☐ Military training
- ☐ Raw material extraction
- ☐ Scientific research
- ☐ Cables and pipelines
- ☐ Tourism and recreation
- ☐ Underwater cultural heritage





DEMO





Exercise 1

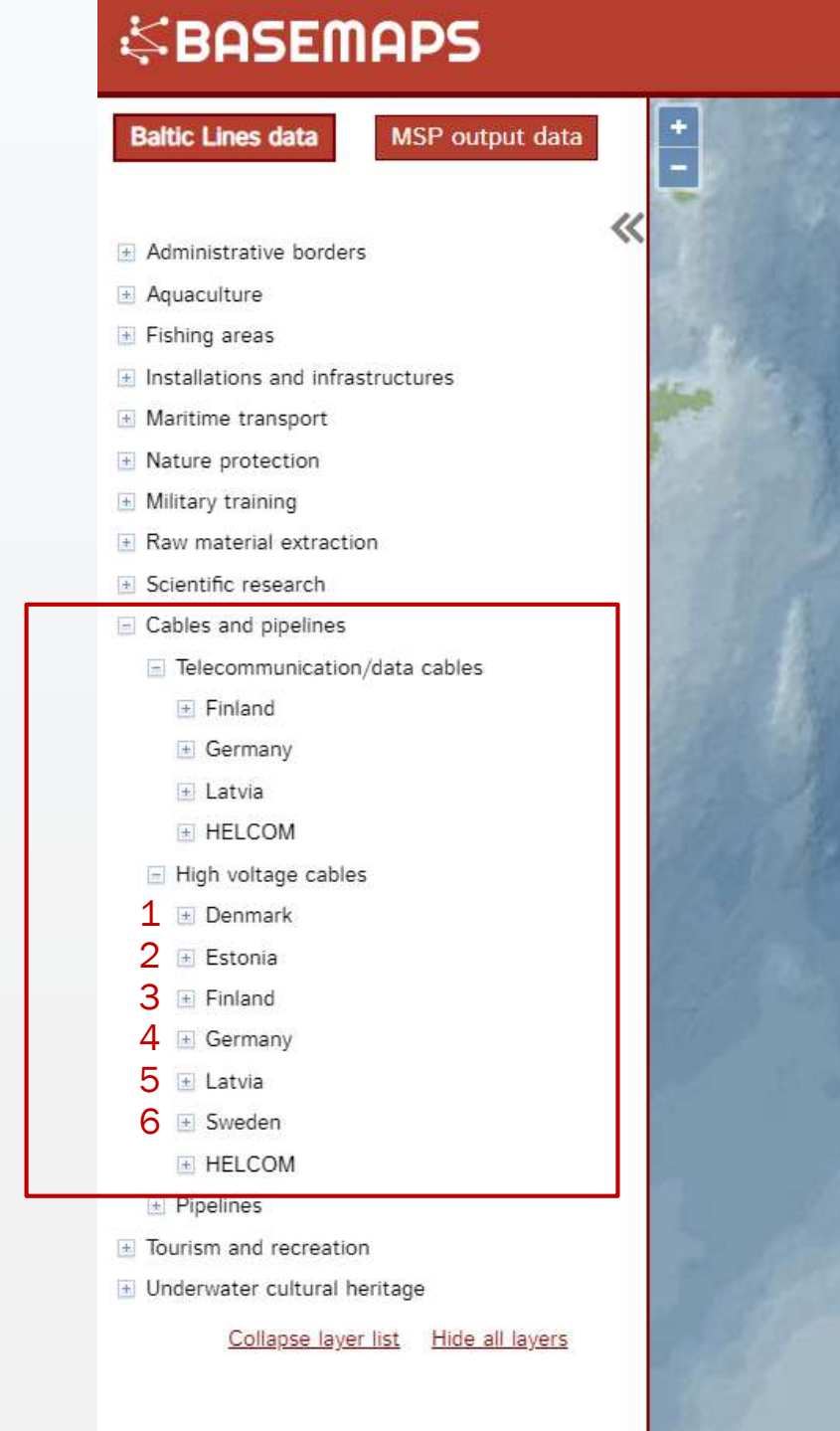
- 1** How many countries have cables datasets of any kind available in BASEMAPS?
- 2** Show Swedish and Danish Natura2000 data and zoom in around Copenhagen; notice the differences in symbology and language
- 3** Is there any aquaculture data available in BASEMAPS in the Gulf of Finland area?
- 4** Is there any data set available in BASEMAPS in Germany about sediment extraction?
- 5** What's the OBJECTID of Natura2000 east of Copenhagen?
- 6** Download the Estonian Territorial Waters dataset from the WFS (Web Feature Service)
- 7** Is there a link to metadata in the wrecks dataset under Underwater culture heritage in Latvia?
- 8** What's the data host organization of the Lithuanian national border dataset?
- 9** What's your general impression of BASEMAPS?



Answers

1 How many countries have cables datasets available in BASEMAPS?

Answer: 6



BASEMAPS

Baltic Lines data **MSP output data**

Administrative borders

Aquaculture

Fishing areas

Installations and infrastructures

Maritime transport

Nature protection

Military training

Raw material extraction

Scientific research

Cables and pipelines

- Telecommunication/data cables
 - Finland
 - Germany
 - Latvia
 - HELCOM
- High voltage cables
 - 1 Denmark
 - 2 Estonia
 - 3 Finland
 - 4 Germany
 - 5 Latvia
 - 6 Sweden
 - HELCOM

Pipelines

Tourism and recreation

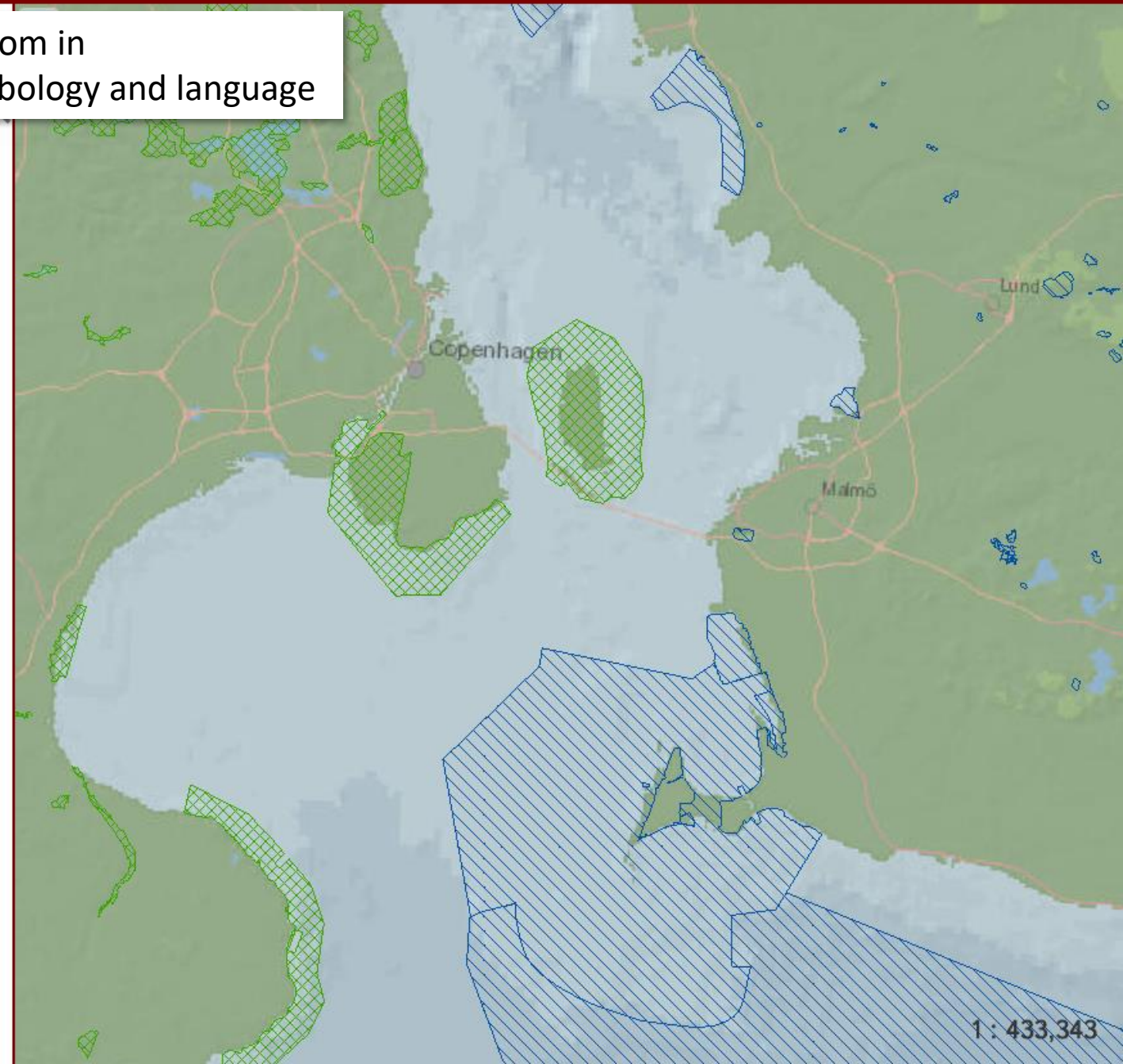
Underwater cultural heritage

[Collapse layer list](#) [Hide all layers](#)

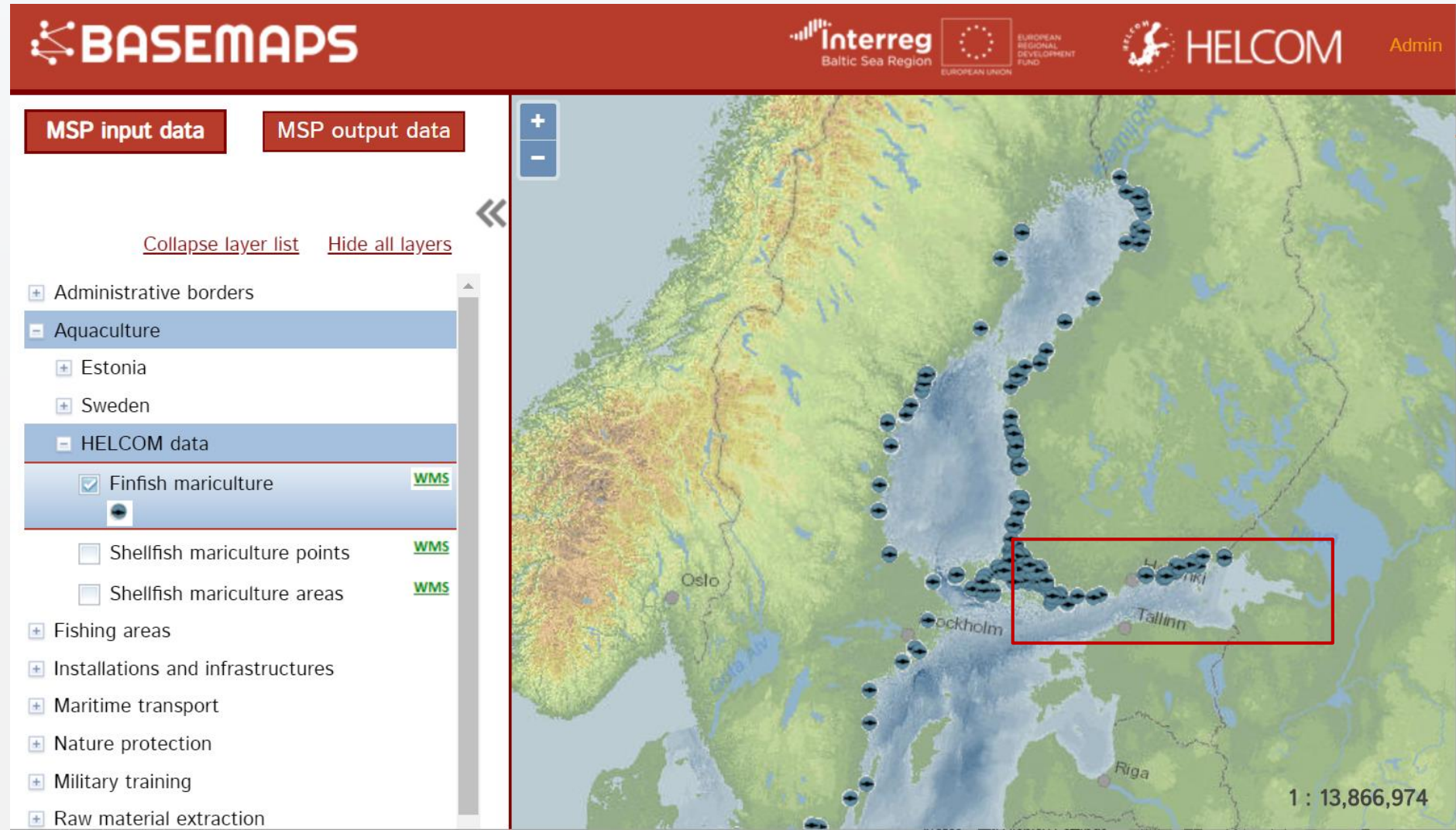
2 Show Swedish and Danish Natura2000 data and zoom in around Copenhagen; notice the differences in symbology and language

- ☐ Administrative borders
- ☐ Aquaculture
- ☐ Fishing areas
- ☐ Installations and infrastructures
- ☐ Maritime transport
- ☒ Nature protection
 - ☒ Natura 2000
 - ☐ Denmark
 - ☐ FUGLE_BES_OMR [WMS](#)
 - ☒ HABITAT_OMR [WMS](#)
 - ☐ Finland
 - ☐ Latvia
 - ☐ Poland
 - ☒ Sweden
 - ☐ PS N2K Fageldirektivet [WMS](#)
 - ☒ PS N2K Habitatdirektivet [WMS](#)
 - ☐ HELCOM
 - ☐ European Environment Agency
 - ☐ Marine protected areas (MPA)
 - ☐ Ramsar sites
 - ☐ UNESCO biosphere reserve
 - ☐ Marine national parks
 - ☐ Important bird areas (IBA)
 - ☐ Harbour porpoise habitats

[Collapse layer list](#) [Hide all layers](#)



3 Is there any aquaculture data available in BASEMAPS in the Gulf of Finland area?



4 Is there any data set available in BASEMAPS in Germany about sediment extraction?

Answer: Yes

BASEMAPS

Baltic Lines data MSP output data


- ☐ Administrative borders
- ☐ Aquaculture
- ☐ Fishing areas
- ☐ Installations and infrastructures
- ☐ Maritime transport
- ☐ Nature protection
- ☐ Military training
- ☒ Raw material extraction
 - ☒ Sand and gravel
 - ☐ Denmark
 - ☐ Estonia
 - ☐ Finland
 - ☒ Germany
 - ☒ Sediment Extraction **WMS**
 - Proposed
 - Approved
 - In Use
 - Presently Out Of Use
 - Application submitted


- ☐ HELCOM
- ☐ Natural gas
- ☐ CO2 storage
- ☐ Oil
- ☐ Fracking
- ☐ Scientific research

6 Download the Estonian Territorial Waters dataset from the WFS (Web Feature Service)

BASEMAPS

Interreg
Baltic Sea Region

EUROPEAN
REGIONAL
DEVELOPMENT
FUND

HELCOM

Admin

MSP input data

MSP output data

Collapse layer list

Hide all layers

Administrative borders

National

Regional

Local

Territorial waters

Estonia

☒ mu:MaritimeBoundary

WFS

Territorial Sea

WMS

Finland

Germany

Sweden

HELCOM data


EEZ

Aquaculture

Fishing areas

+

-



Administrative borders -> Territorial waters -> Estonia -> mu:MaritimeBoundary

Get features of WFS feature type

Resource type:

WFS feature type

Host organization:

Estonian Land Board

Access constraints:

None

Fees:

None

WFS url:

http://inspire.maaamet.ee/arcgis/rest/services/public/au/MapServer/extends/InspireFeatureDownload/service

WFS feature type name:

mu:MaritimeBoundary

WFS feature type title:

mu:MaritimeBoundary

WFS feature type description:

Estonian Land Board INSPIRE Download Service

7 Is there a link to metadata in the wrecks dataset under Underwater culture heritage in Latvia?

MSP input data **MSP output data**

[Collapse layer list](#) [Hide all layers](#)

- ☐ Administrative borders
- ☐ Aquaculture
- ☐ Fishing areas
- ☐ Installations and infrastructures
- ☐ Maritime transport
- ☐ Nature protection
- ☐ Military training
- ☐ Raw material extraction
- ☐ Scientific research
- ☐ Cables and pipelines
- ☐ Tourism and recreation
- ☐ Denmark
- ☒ Underwater cultural heritage
 - ☐ Estonia
 - ☐ Finland
 - ☒ Latvia
 - ☒ Wrecks

Underwater cultural heritage -> Latvia -> Wrecks


WMS layer name:	7
WMS layer title:	Wrecks
Language support:	No information
Identification support:	true
Max display scale:	472470.238095
Min display scale:	No min display scale limit or information about it is not provided

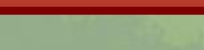



Metadata:

Metadata format: XML

URL: <https://geome.tadati.viss.gov.lv/geoportal/csw?getxml=%7B411A14F6-0987-4ED8-A3A4-C850EC80076F%7D>

8 What's the data host organization of the Lithuanian national border dataset?







Admin

MSP input data

MSP output data

[Collapse layer list](#)
[Hide all layers](#)

⏪

Administrative borders

National

Estonia

Finland

Germany

Lithuania

☒
Administrative unit

WMS

Regional

Local

Territorial waters

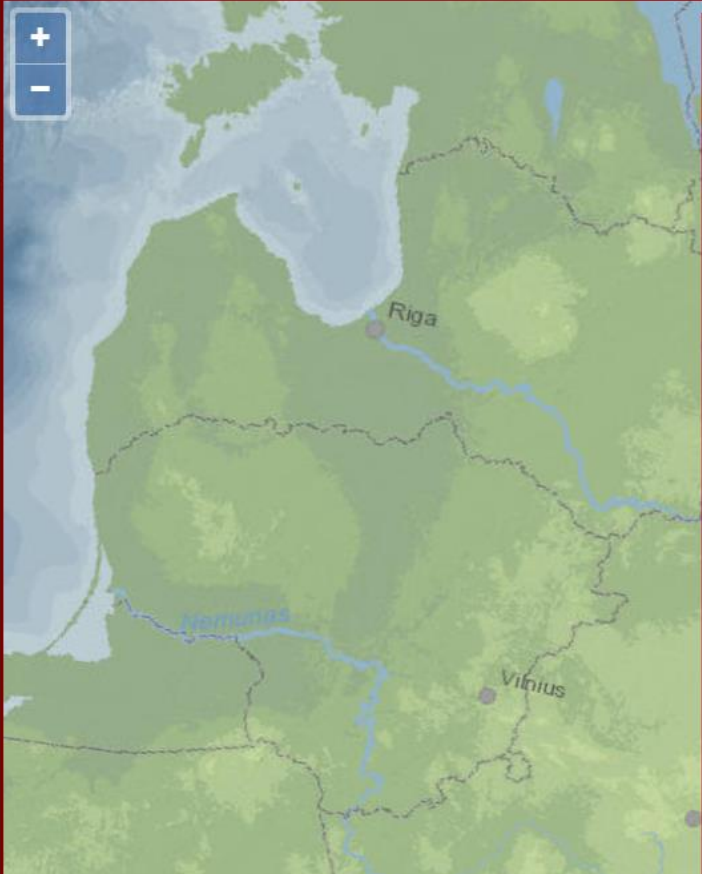
EEZ

Aquaculture

Fishing areas

Installations and infrastructures

+
−



1 : 6,933,487

Administrative borders -> National -> Lithuania -> Administrative unit ✕

Resource type:	WMS layer
Host organization:	No information
WMS url:	http://www.geoportals.lt/inspire-services/services/INSPIRE/Administrative_units/MapServer/WMSServer
WMS layer name:	2
WMS layer title:	Administrative unit 2nd Order
Language support:	No information
Identification support:	true
Max display scale:	2834820.483631
Min display scale:	944940.47619
Metadata:	No metadata provided

9 What's your general impression of BASEMAPS?



Exercise 2



<https://bit.ly/2SMU68Q>