



Kartverket

# The Norwegian Pilot Guide – Sailing Directions

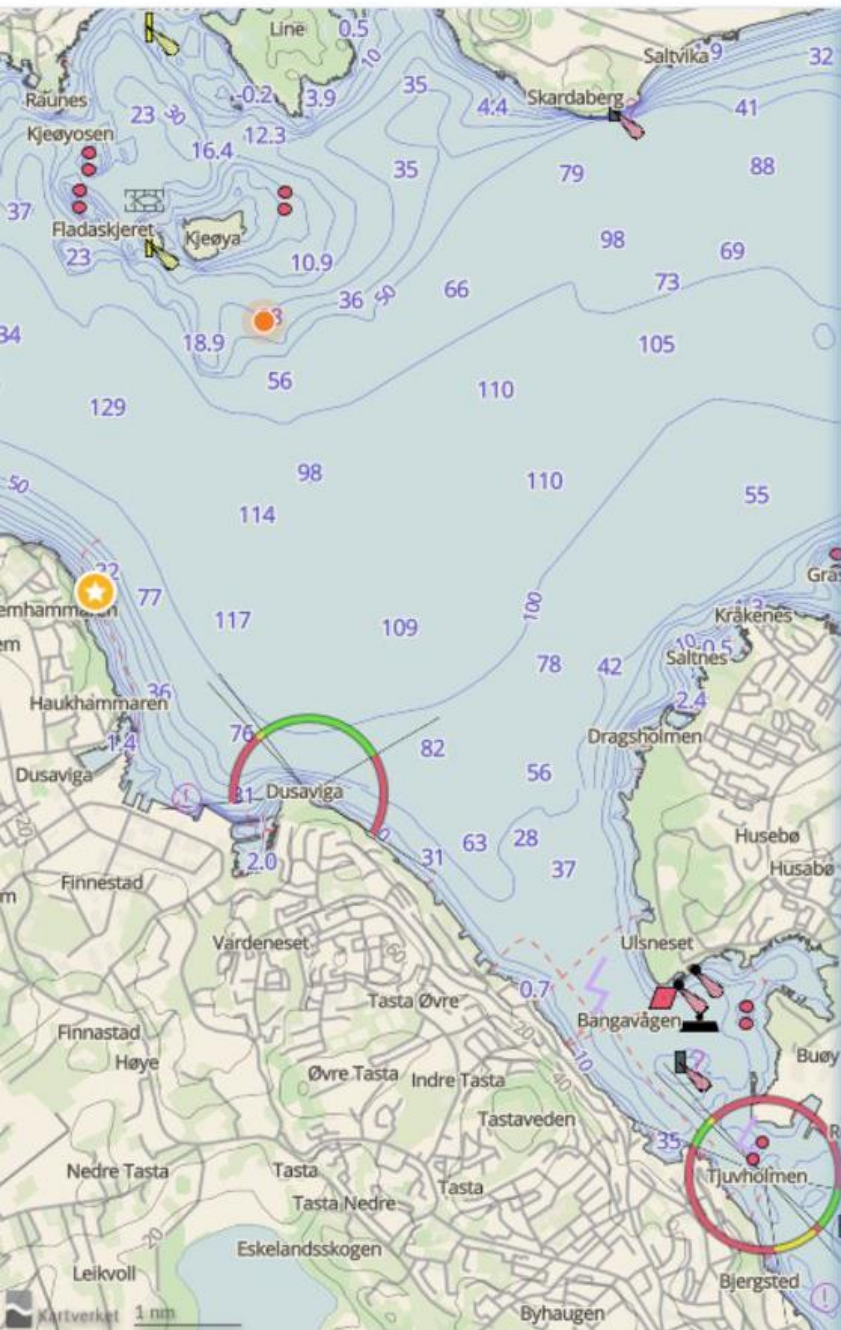
*Anniken Puntervold*

*The Norwegian Mapping Authority Hydrographic Service*

*New Hampshire, May 2017*



PHOTO: PORT OF STAVANGER



Farvannsbeskrivelsen

# Den norske los



**BETA** Version 2.23

## New Release: Beta version 2.23

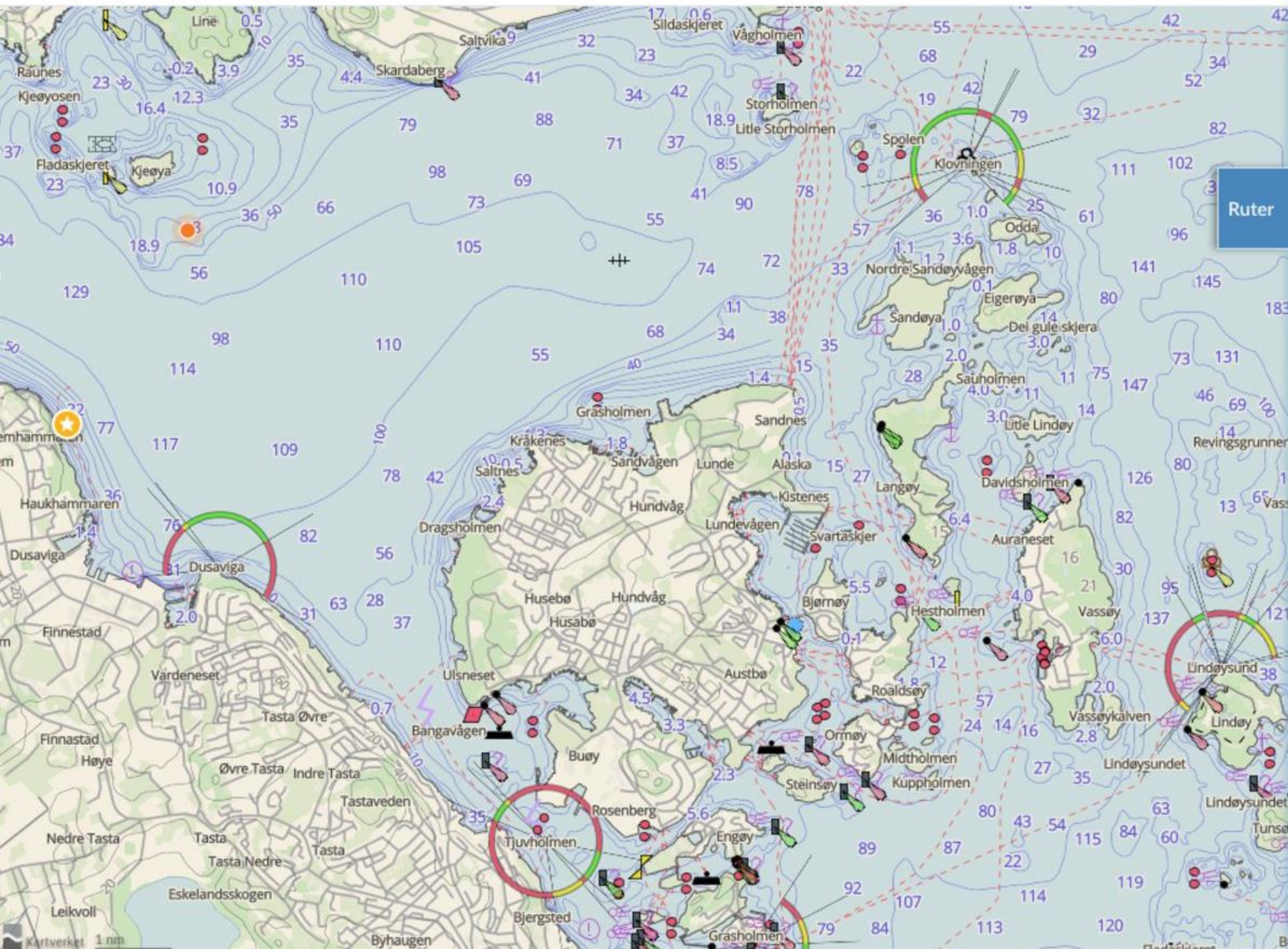
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque eget dolor vitae mi ornare pretium. Morbi erat metus, sollicitudin eu dui in, malesuada tempor mauris. Corem ipsum dolor sit amet, consectetur.

[GI TILBAKEMELDING](#)

## Tips and tricks for use

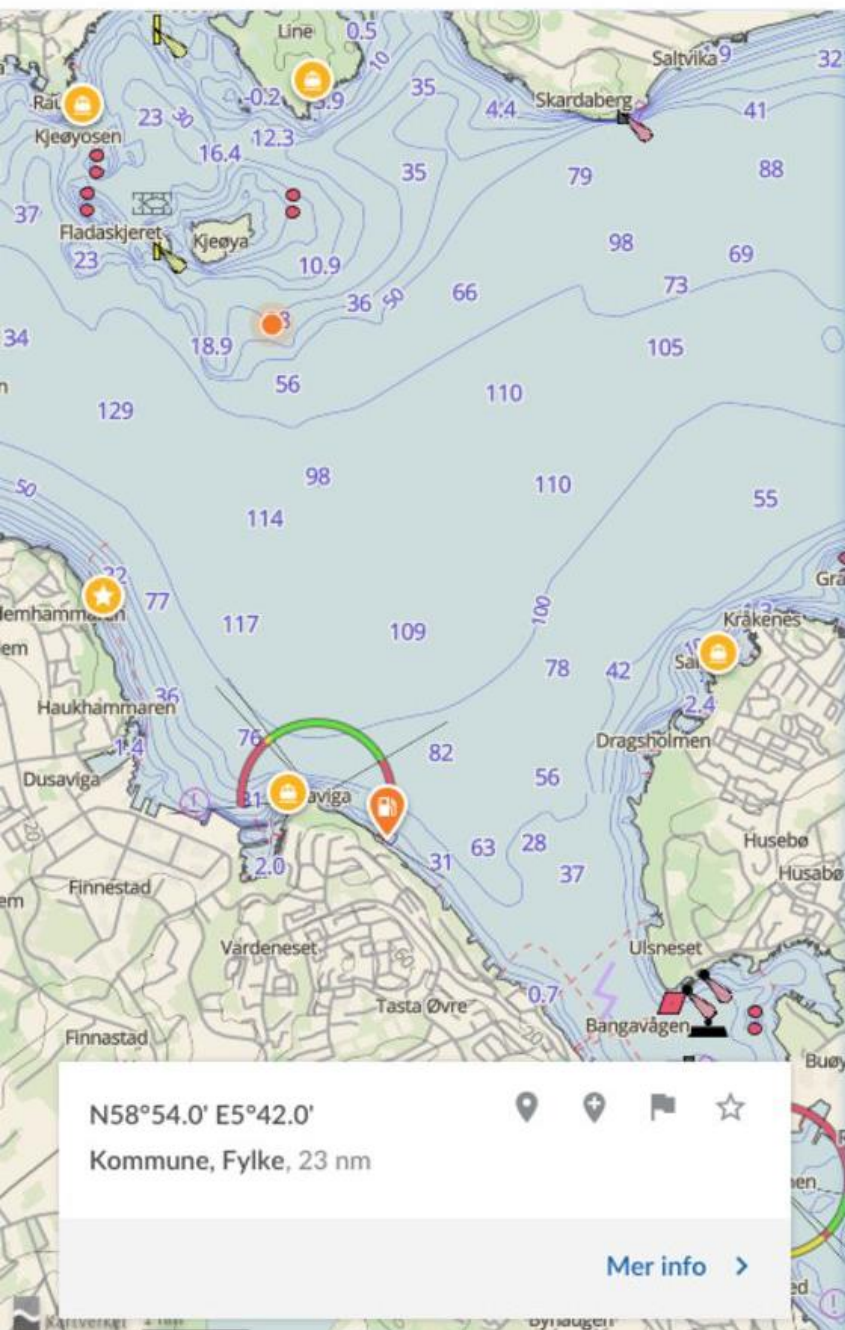
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque eget dolor vitae mi ornare pretium. Morbi erat metus, sollicitudin eu dui in, malesuada tempor mauris. Corem ipsum dolor sit amet, consectetur.





Ruter





Farvannsbeskrivelsen

# Den norske los



**BETA** Version 2.23

## New Release: Beta version 2.23

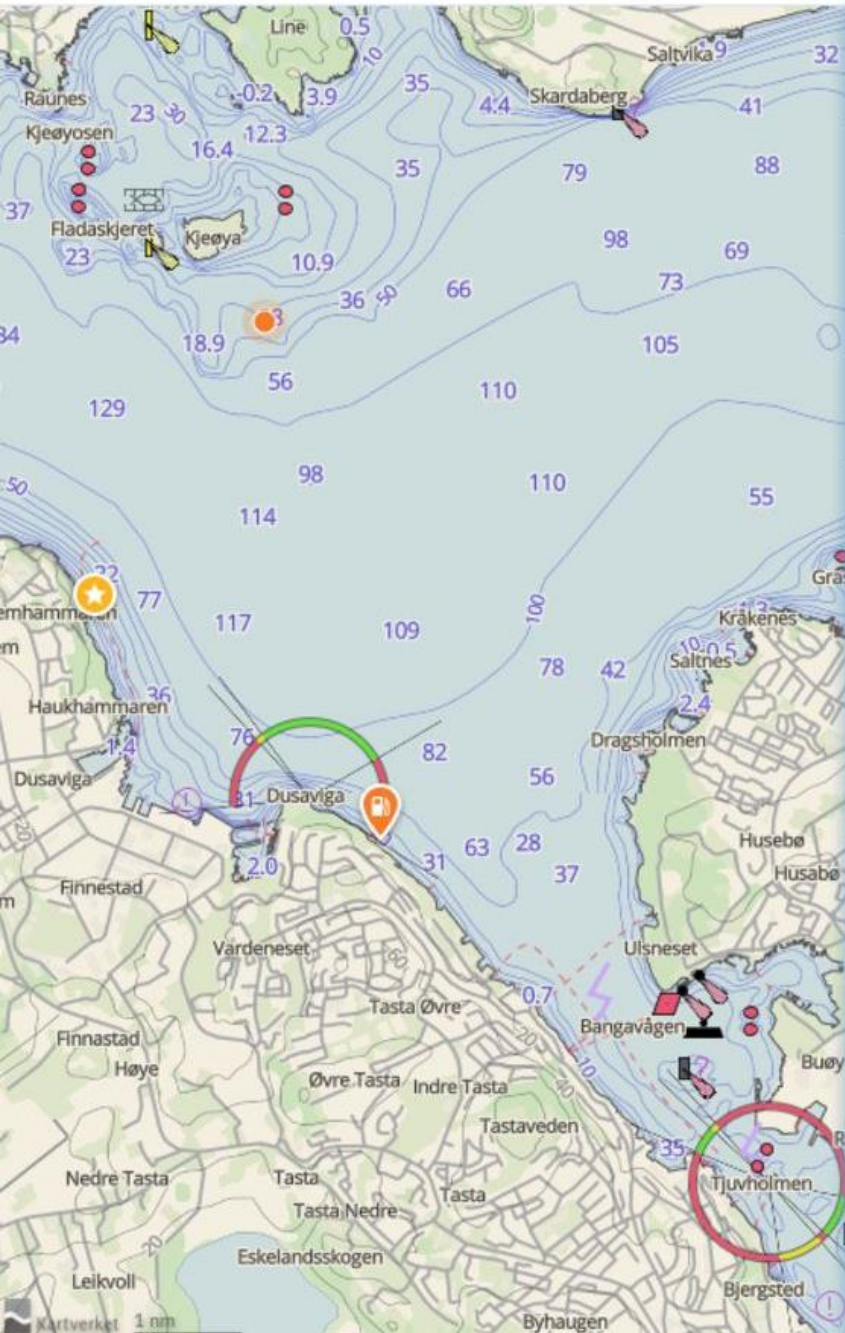
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque eget dolor vitae mi ornare pretium. Morbi erat metus, sollicitudin eu dui in, malesuada tempor mauris. Corem ipsum dolor sit amet, consectetur.

[GI TILBAKEMELDING](#)

## Tips and tricks for use

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque eget dolor vitae mi ornare pretium. Morbi erat metus, sollicitudin eu dui in, malesuada tempor mauris. Corem ipsum dolor sit amet, consectetur.





Sted > Havn

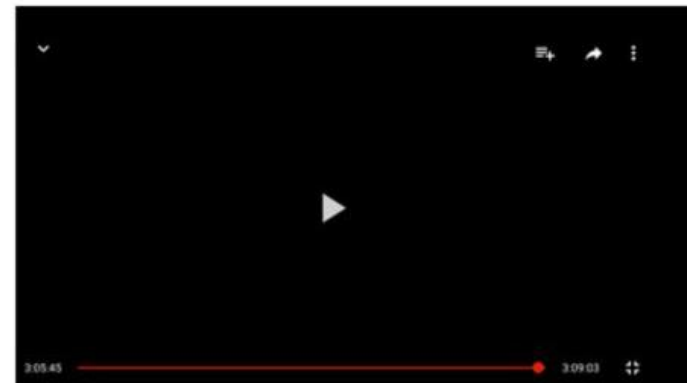
# SSR navn ☆

N58°54.0' E5°42.0'  
Kommune, Fylke

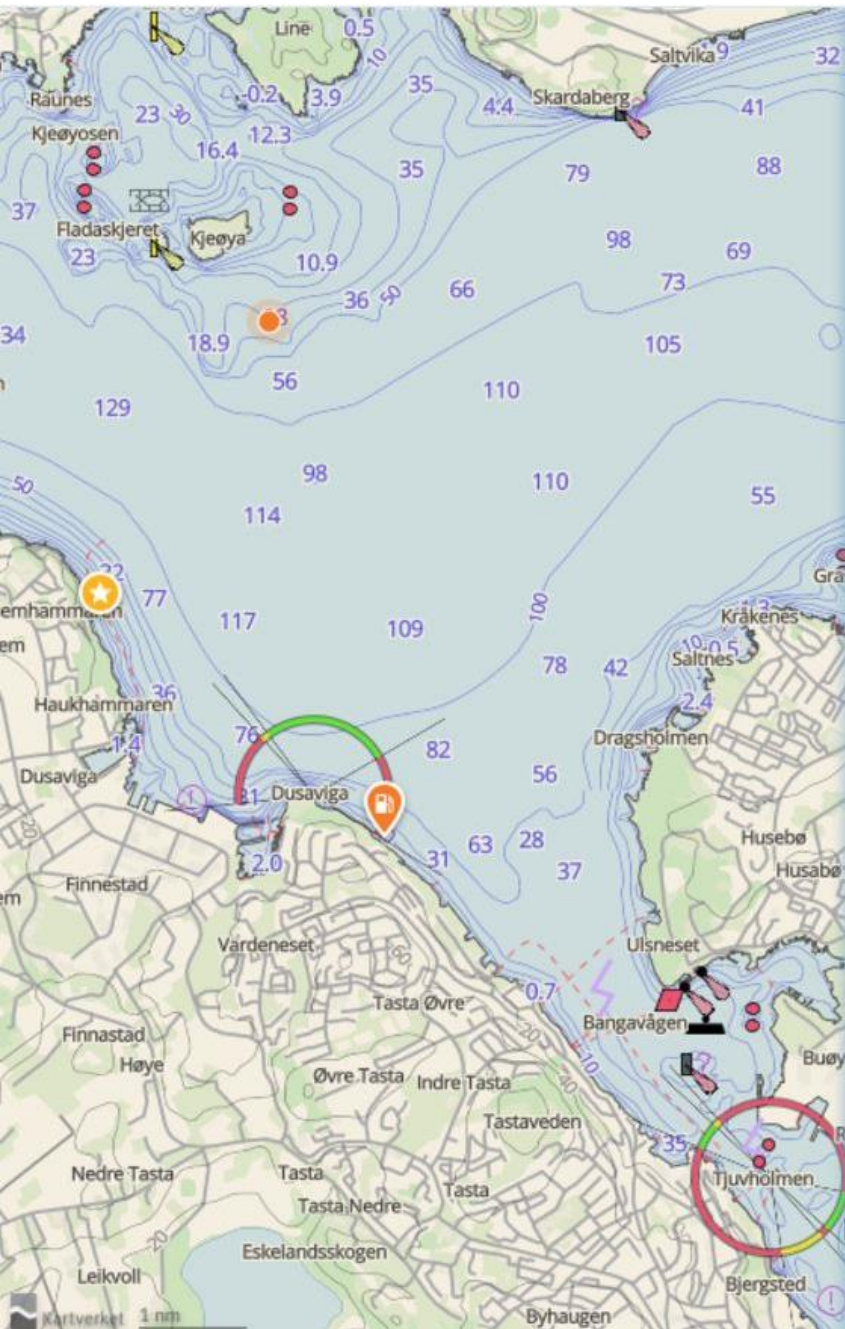
< GENERELT KAI KONTAKT LOVDATA ANKRING SERVI >

## Beskrivelse

Ingress. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.



Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim



Sted > Havn



SSR navn ☆



N58°54.0' E5°42.0'  
Kommune, Fylke



< KAI >



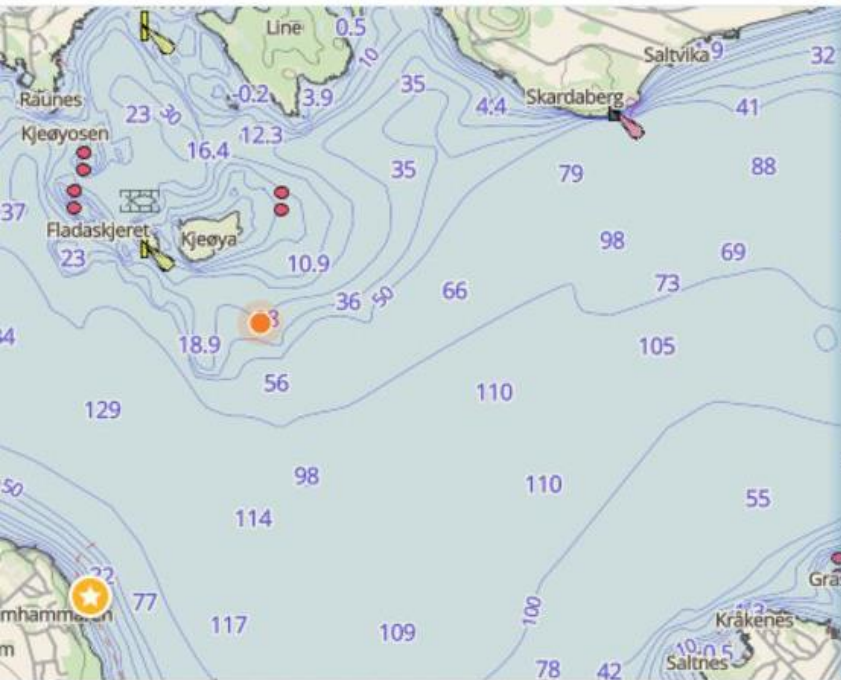
### Kai

Vågen >

Fiskepiren >

Rosenberg >

Norgesmøllene / Havnesiloen >



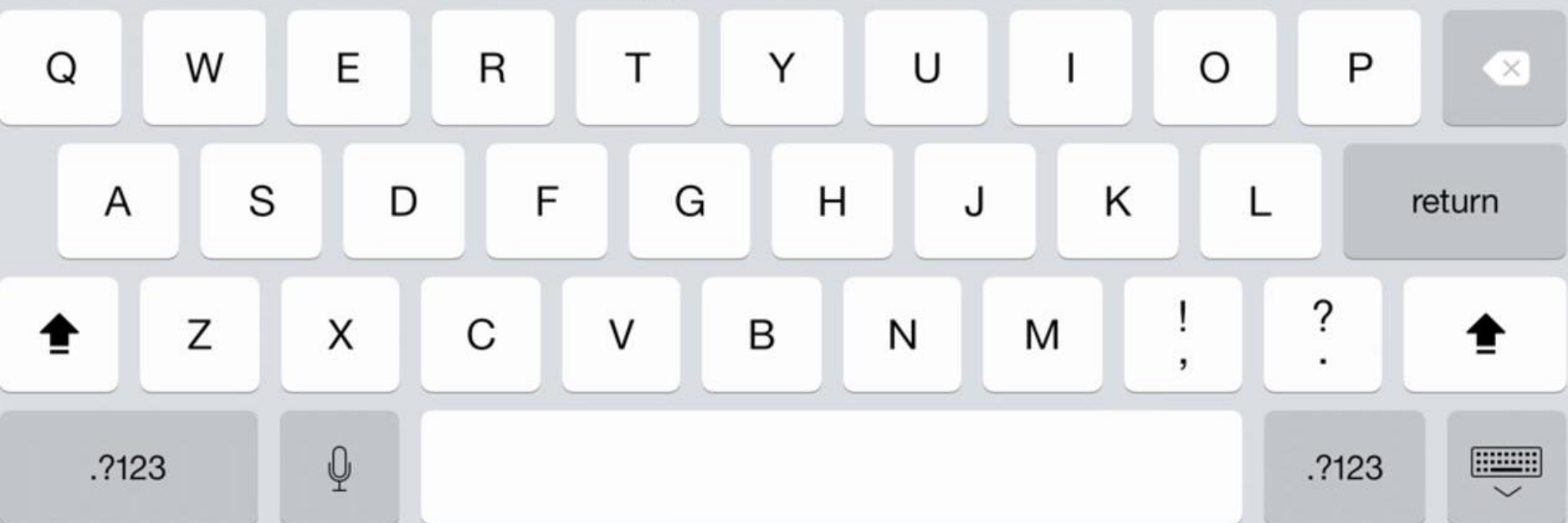
Stavanger forslag

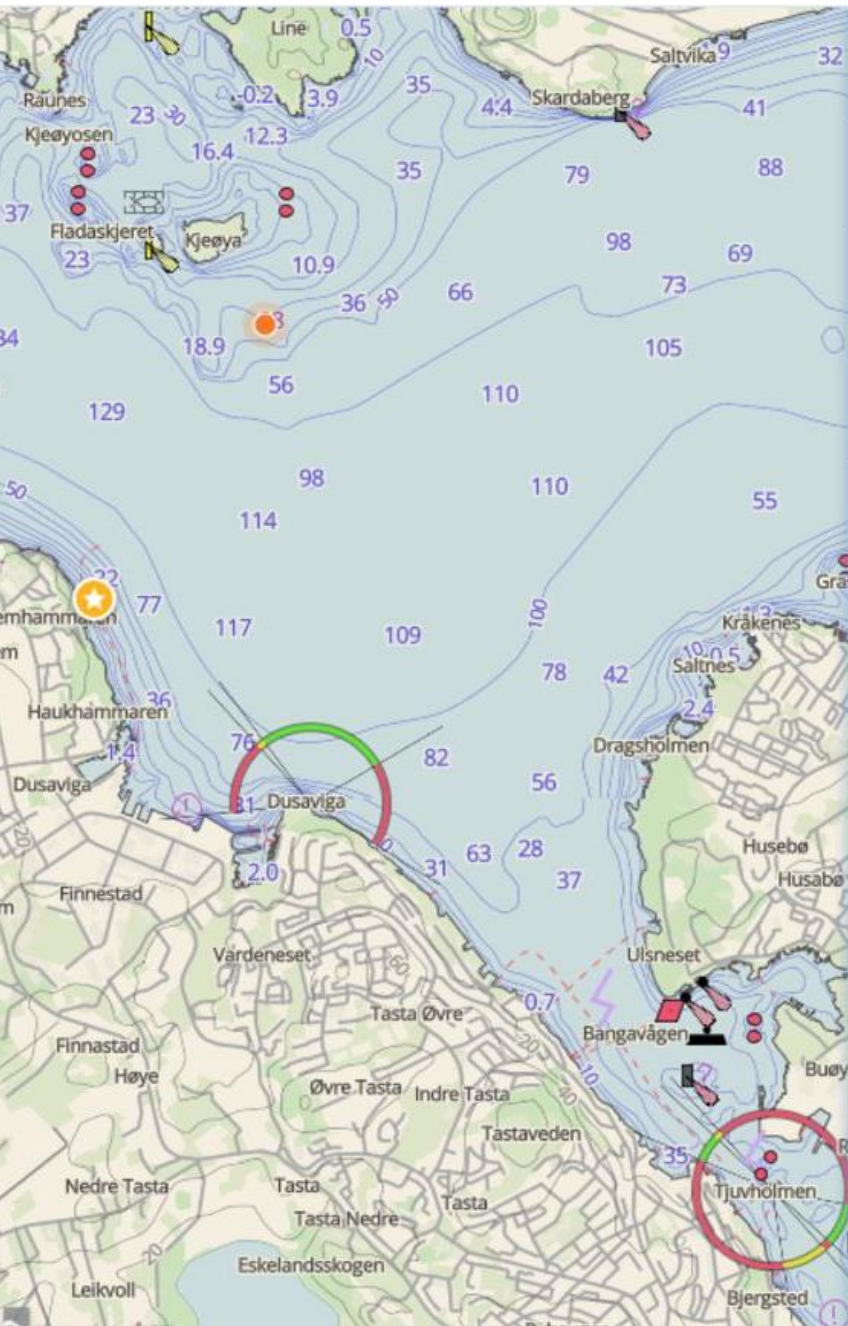
Stavanger forslag

Stavanger forslag

Stavanger forslag

Stavanger forslag





# Søk: Stavanger

< **ALLE** HAVN/STED KAI ANKERPLASS SEILINGSBESKRIV >

## Term

Definition of the term goes here. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris.

## Søkeresultat tittel



Kategori

## Søkeresultat tittel

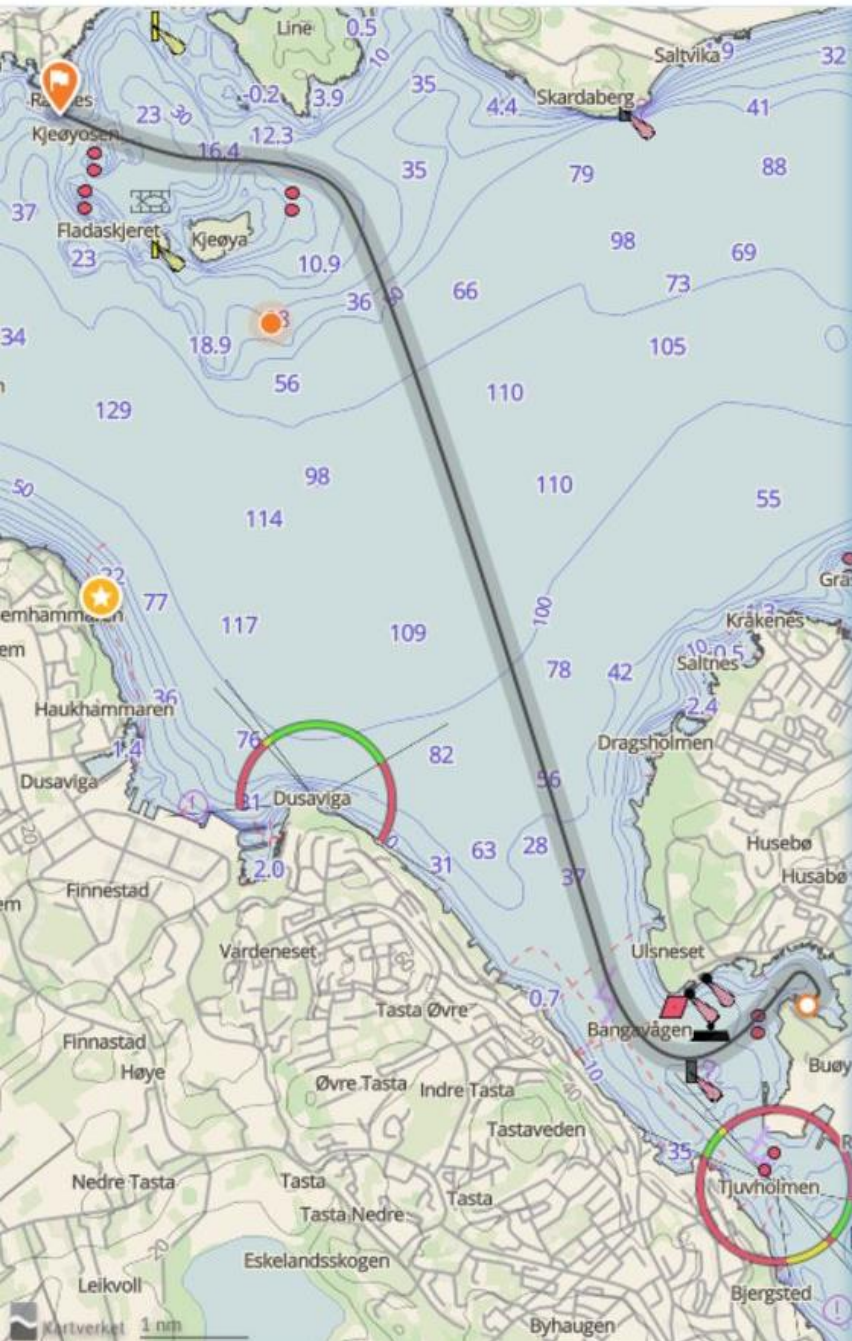


Kategori

## Søkeresultat tittel

Kategori





Ruter > Rutenavn



# Rutenavn

15 timer, 2,654 nm



ETD [Sted]: 3/3/2017 kl. 16:00

ETA [Sted]: 3/3/2017 kl. 21:00

Gjennomsnittshastighet: 20 knop

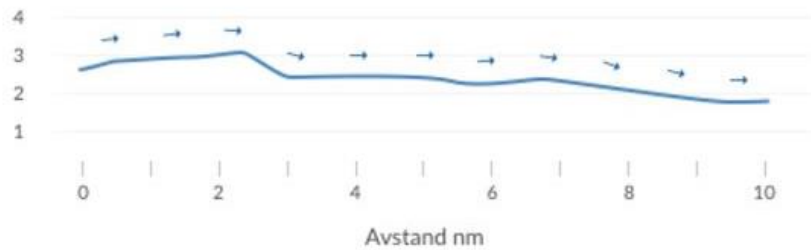


< [VÆROVERSIKT](#) [LOVDATA](#) [MELDEPUNKTER](#) [VERNEOMR](#) >



## Væroversikt

BØLGDEHØYEDE m



Stavanger havn

0 nm

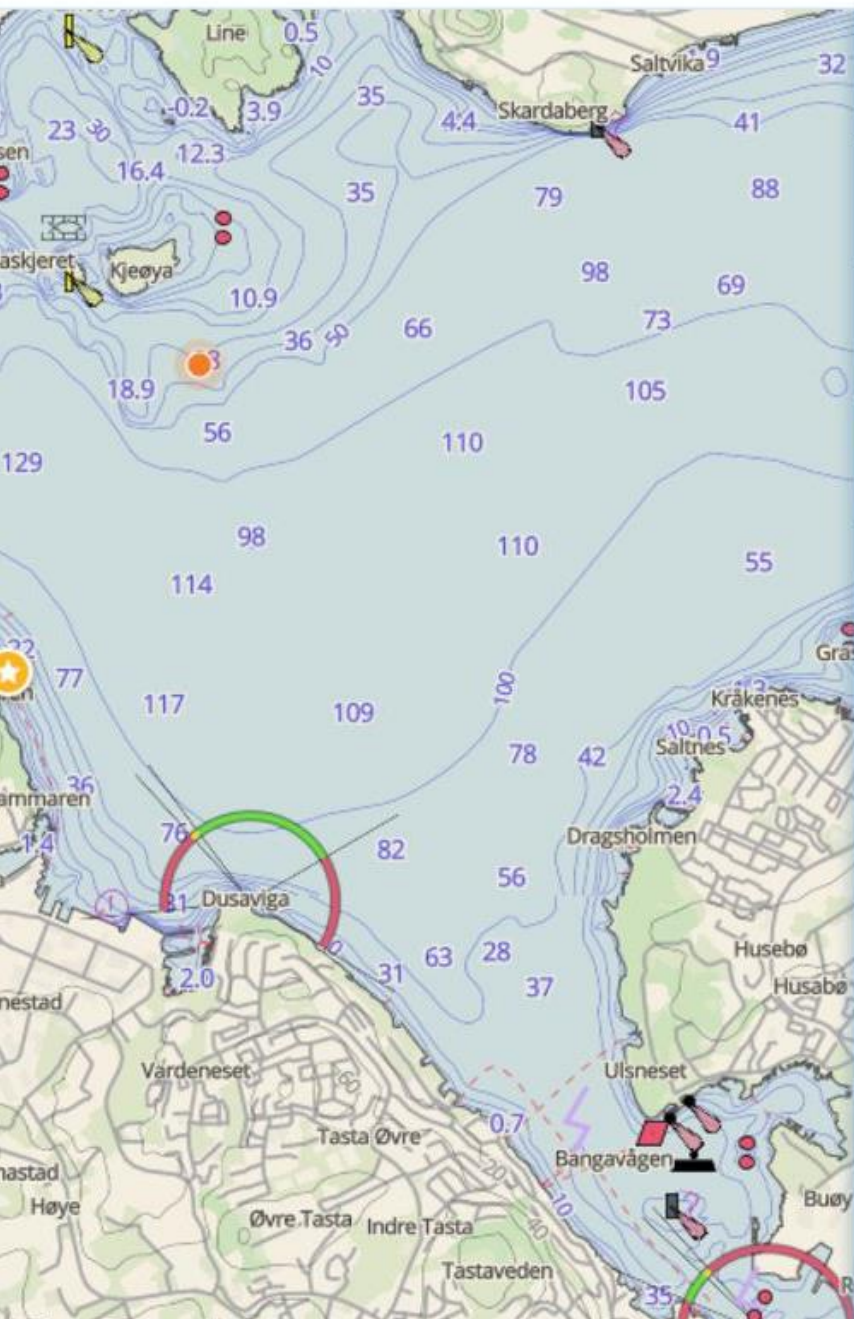
☀ 23°

✓ 12 kn

⚓ 29 cm · 237°

🌀 3 m · 13 s

MORE



- 
- 
- 
- 
- 

## Aliminnelige opplysninger

Om å navigere til sjøs

Sikkerhet og krisehåndtering

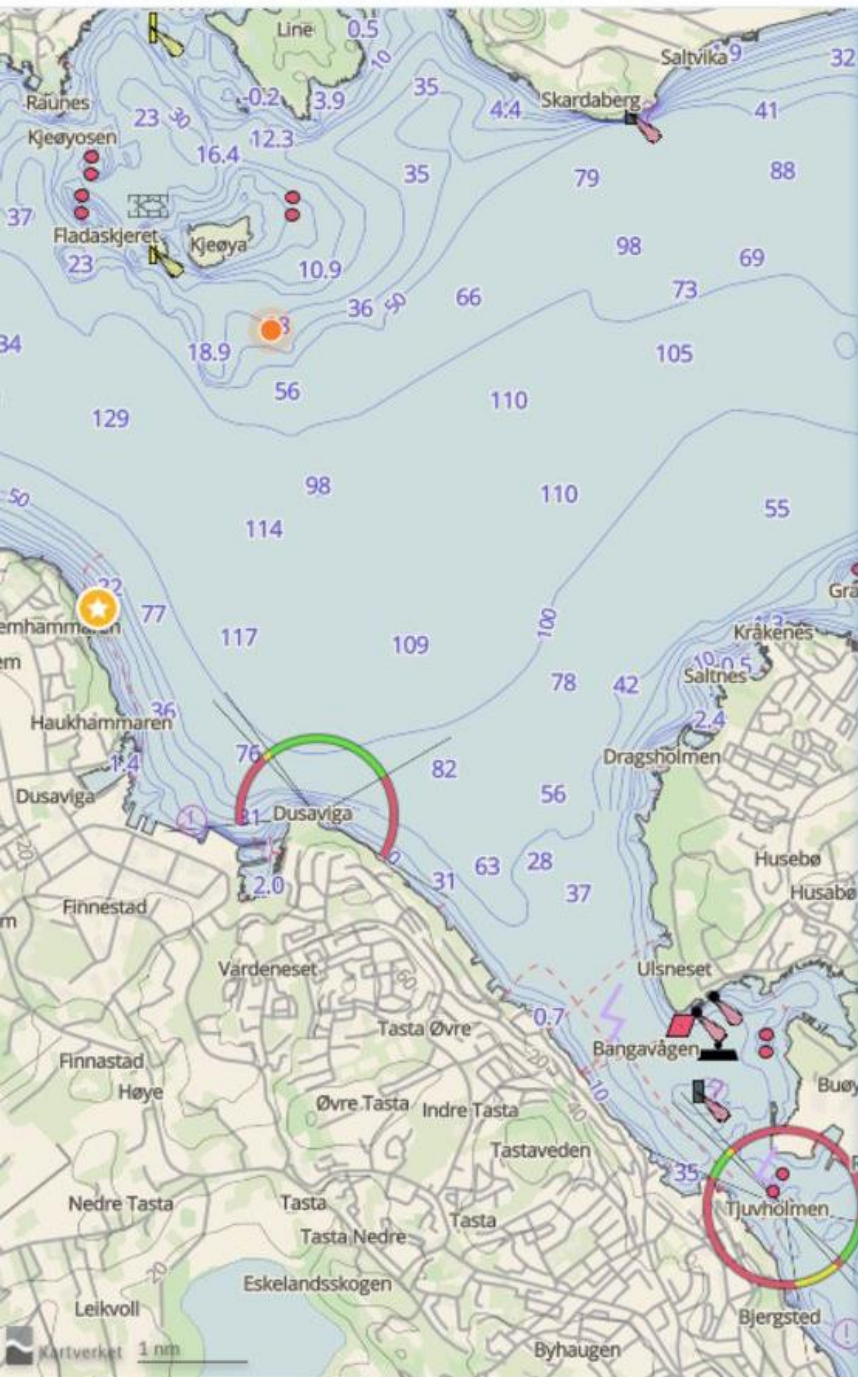
Lover og forskrifter

Teori

Sentrale sjøfartsenheter

Tema

Tema



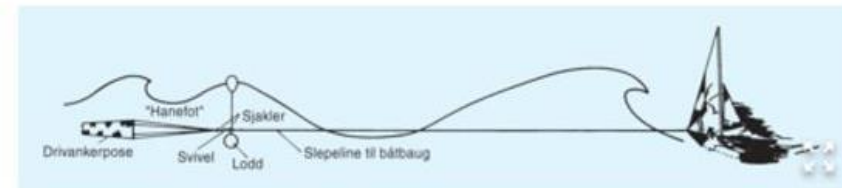
## Innholdstittel

### Finibus Bonorum et Malorum

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

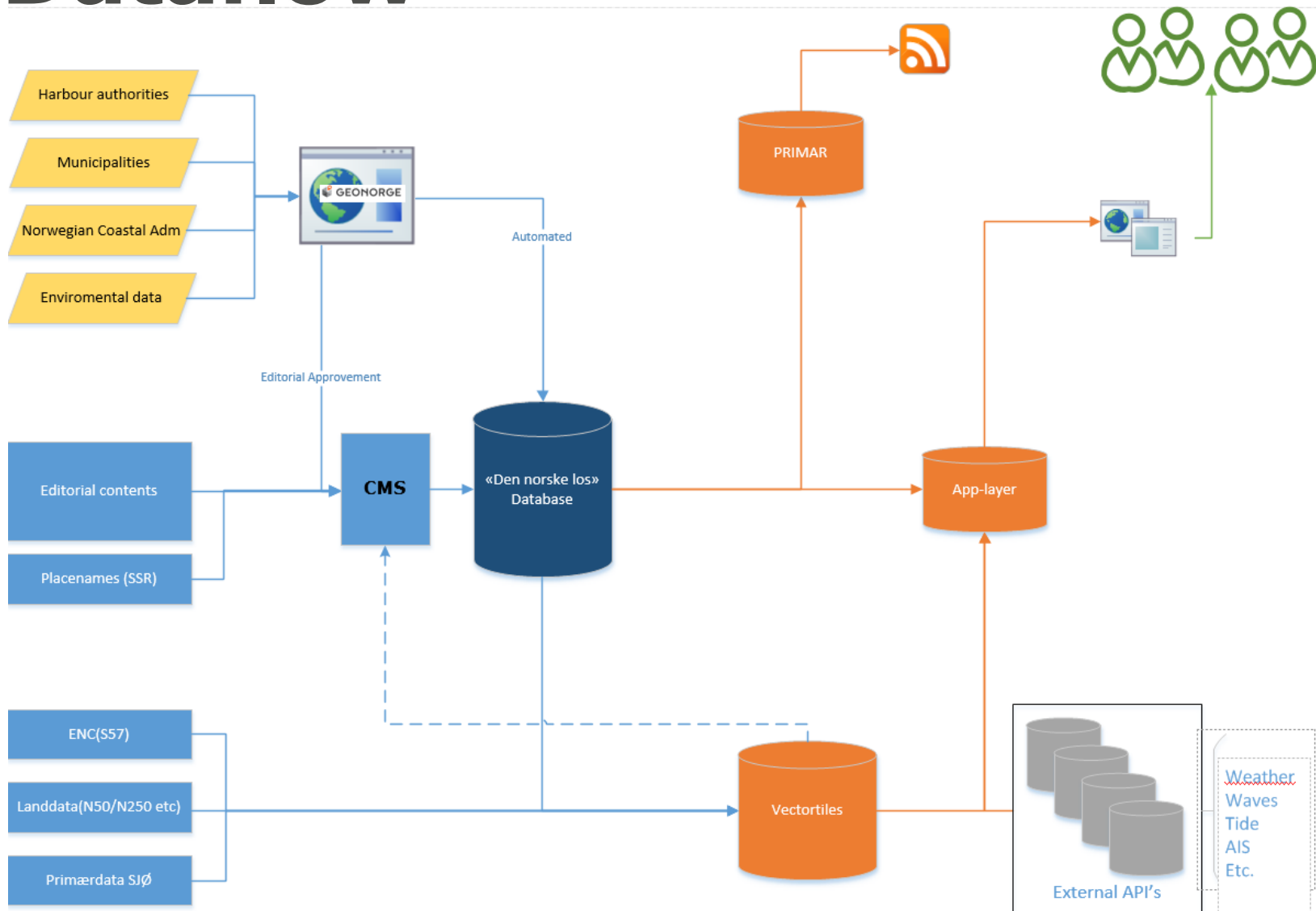
### Duis aute irure dolor

Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat.

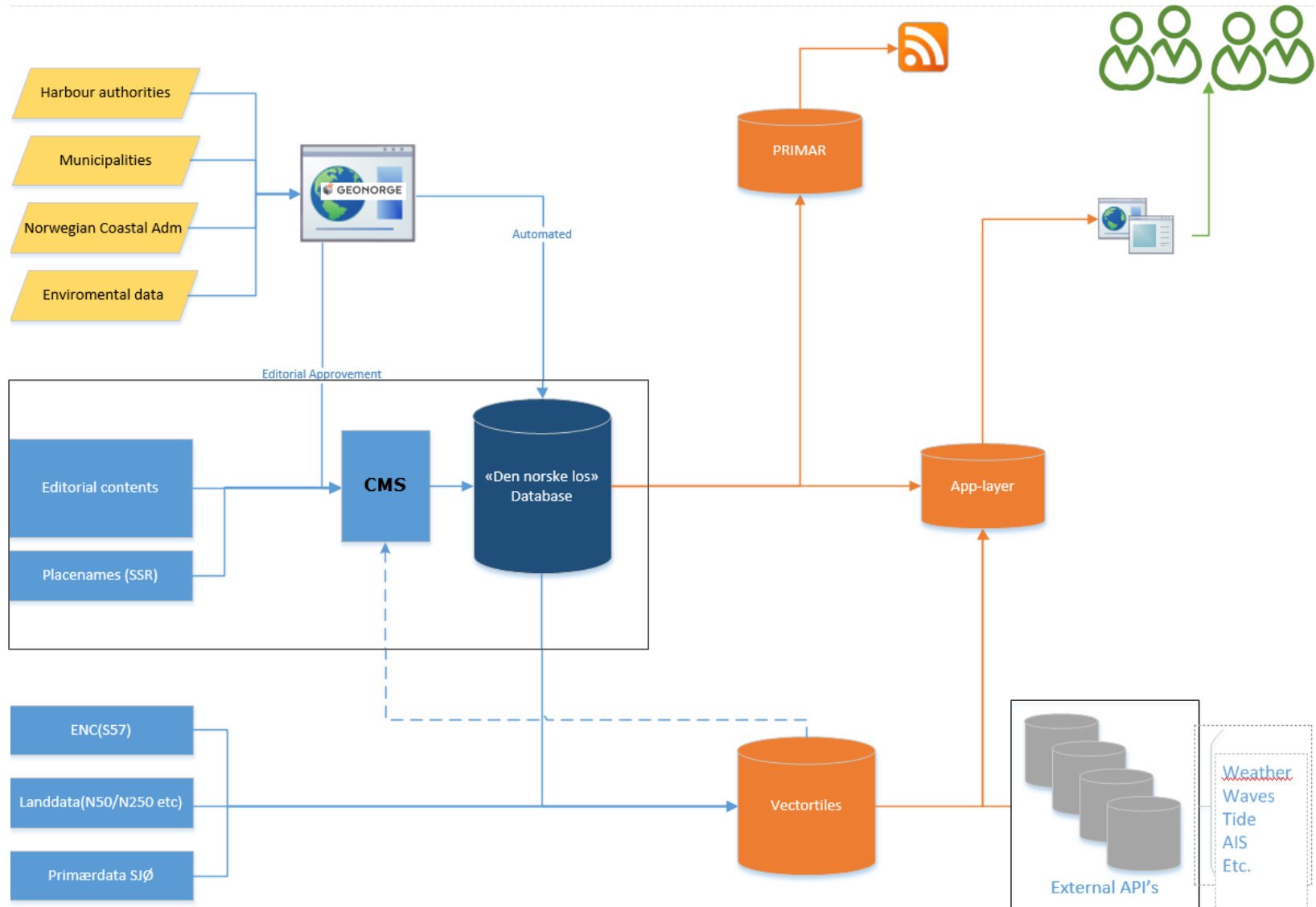


*Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur*

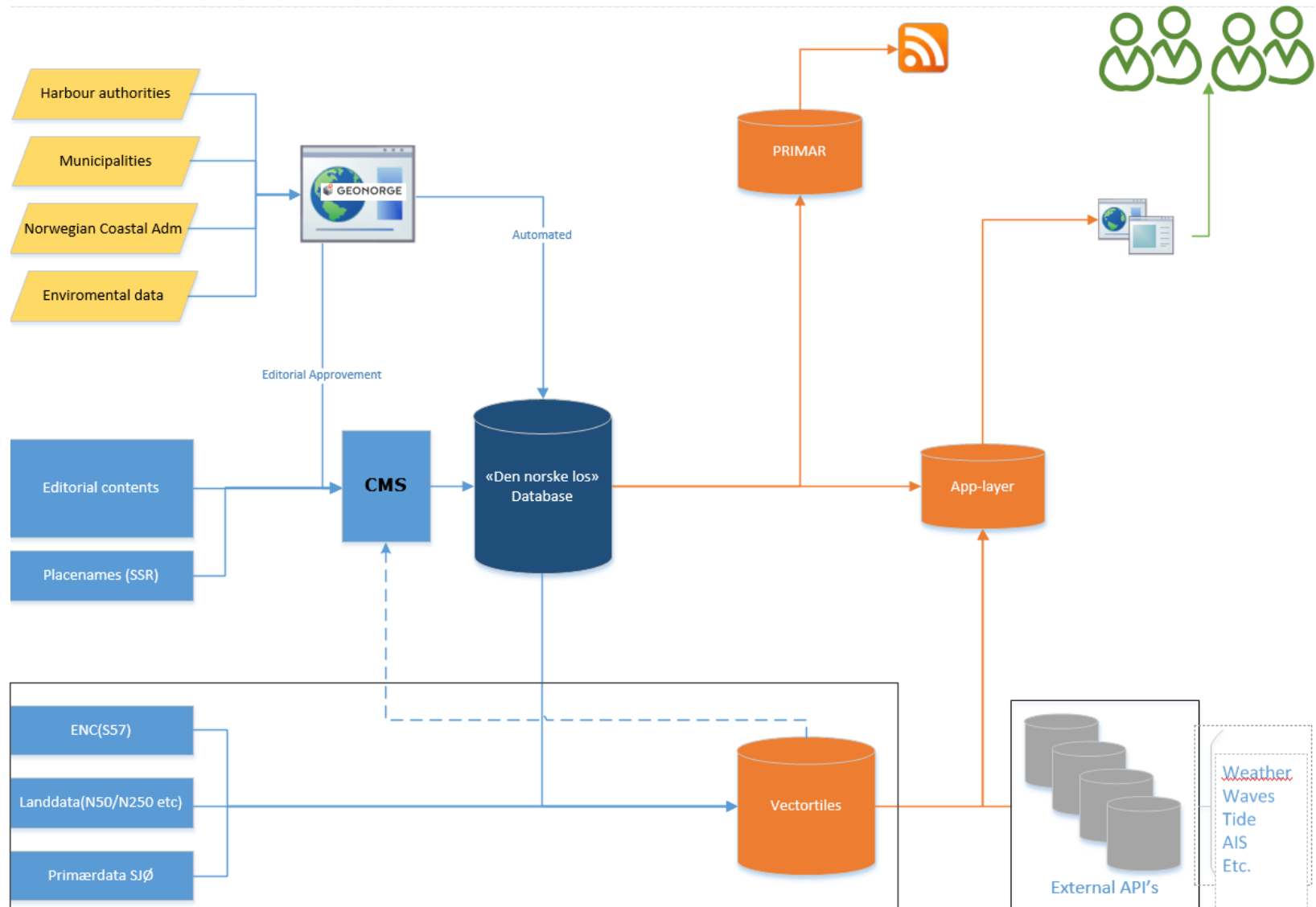
# Dataflow



# Place Names

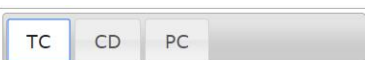
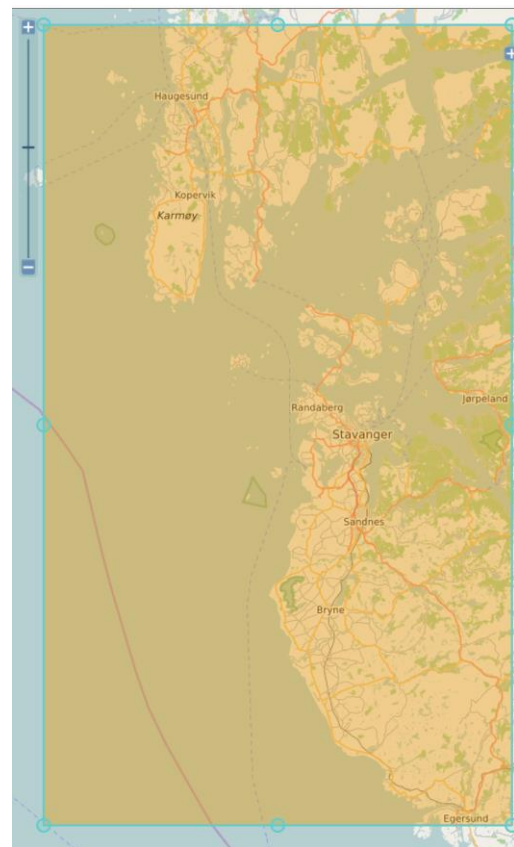


# Chart Sources



# Chart Sources

- The main challenge is to limit the total amount of data due to the need of an offline mode
- <http://tools.geofabrik.de/calc/>
- The higher resolution on the different sources, the more storage they demand
- Find a balance between what to display and store



## Tile size and number of tiles in given bounding box:

Zoom	Size	Total Size	#tiles	Total #tiles
6	57 kB	57 kB	4	4
7	65 kB	122 kB	4	8
8	128 kB	250 kB	4	12
9	192 kB	443 kB	12	24
10	458 kB	900 kB	35	59
11	867 kB	1.7 MB	104	163
12	2.2 MB	3.9 MB	375	538
13	6.2 MB	10 MB	1392	1930
14	17 MB	27 MB	5320	7250
15	88 MB	114 MB	21 k	28 k
16	215 MB	329 MB	84 k	112 k
17	666 MB	995 MB	334 k	446 k
18	1.3 GB	2.3 GB	1.3 M	1.8 M

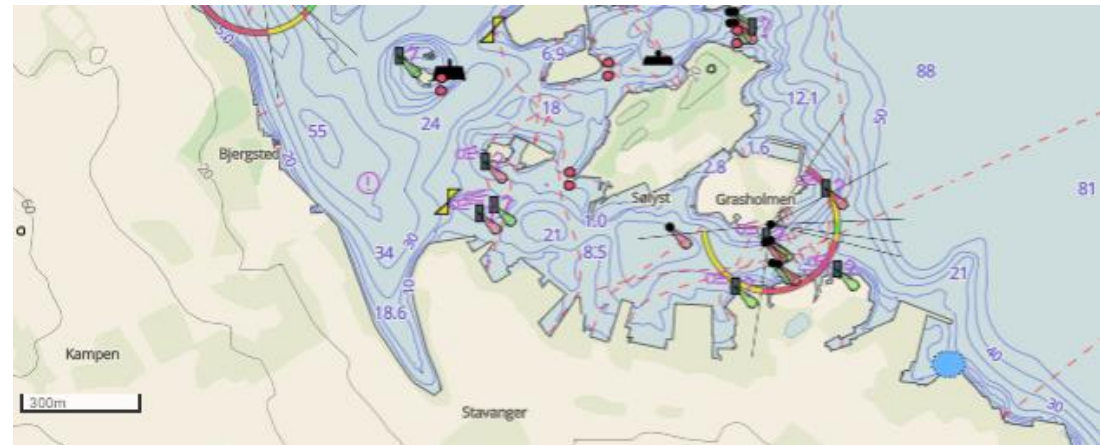
This table approximates the tile sizes of the given bounding box. The calculation is based on all rendered tiles on the server. Be aware that these values may be biased by spots on the map which have been viewed more often.

Click on "+" to choose other maps.

Hold "Ctrl" to draw a new rectangle.

# Chart Sources

- Current data and detailing shown
- The first screenshot shows bathymetry used in usage band 4, approach
- On the second screenshot it is zoomed further in and usage band 5/6, harbor/berthing, appear





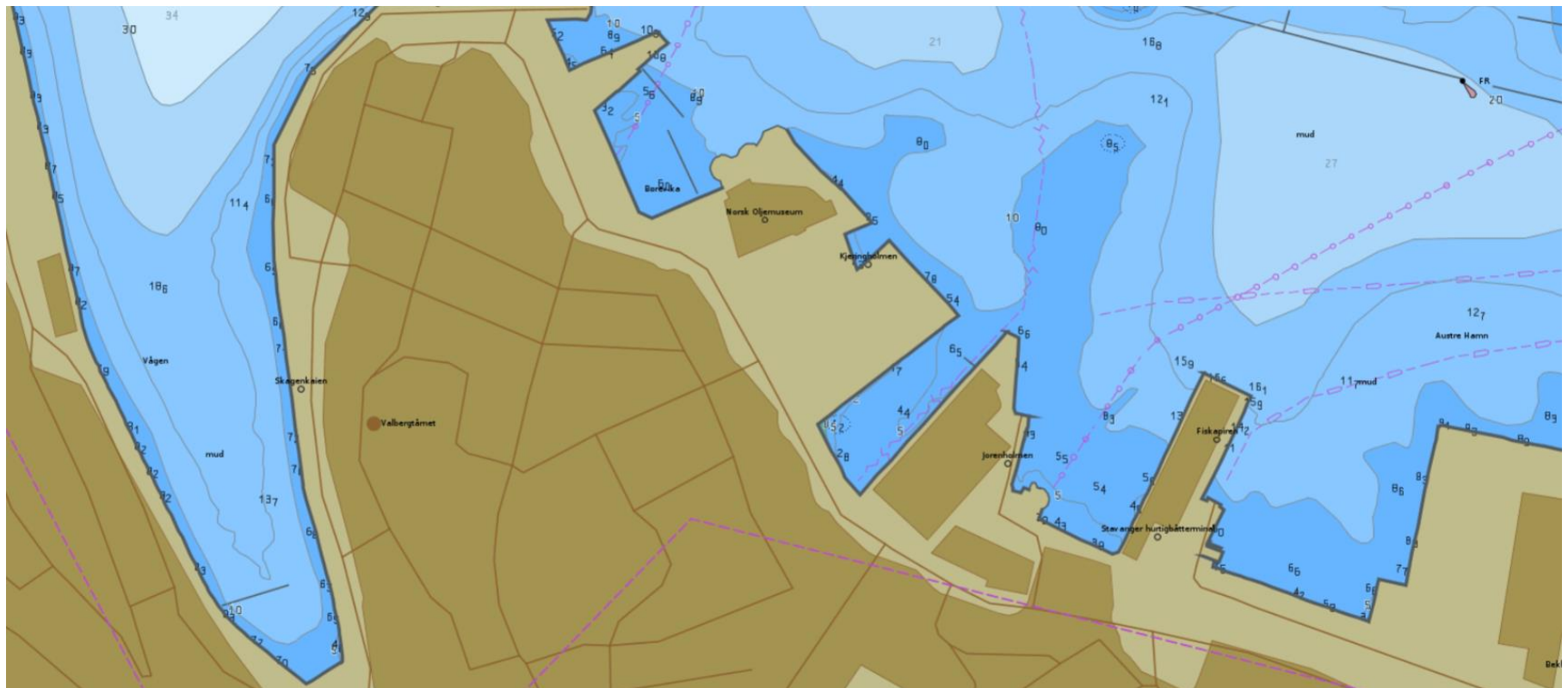
# Chart Sources

- Pure S-57 presentation – usage band NO4



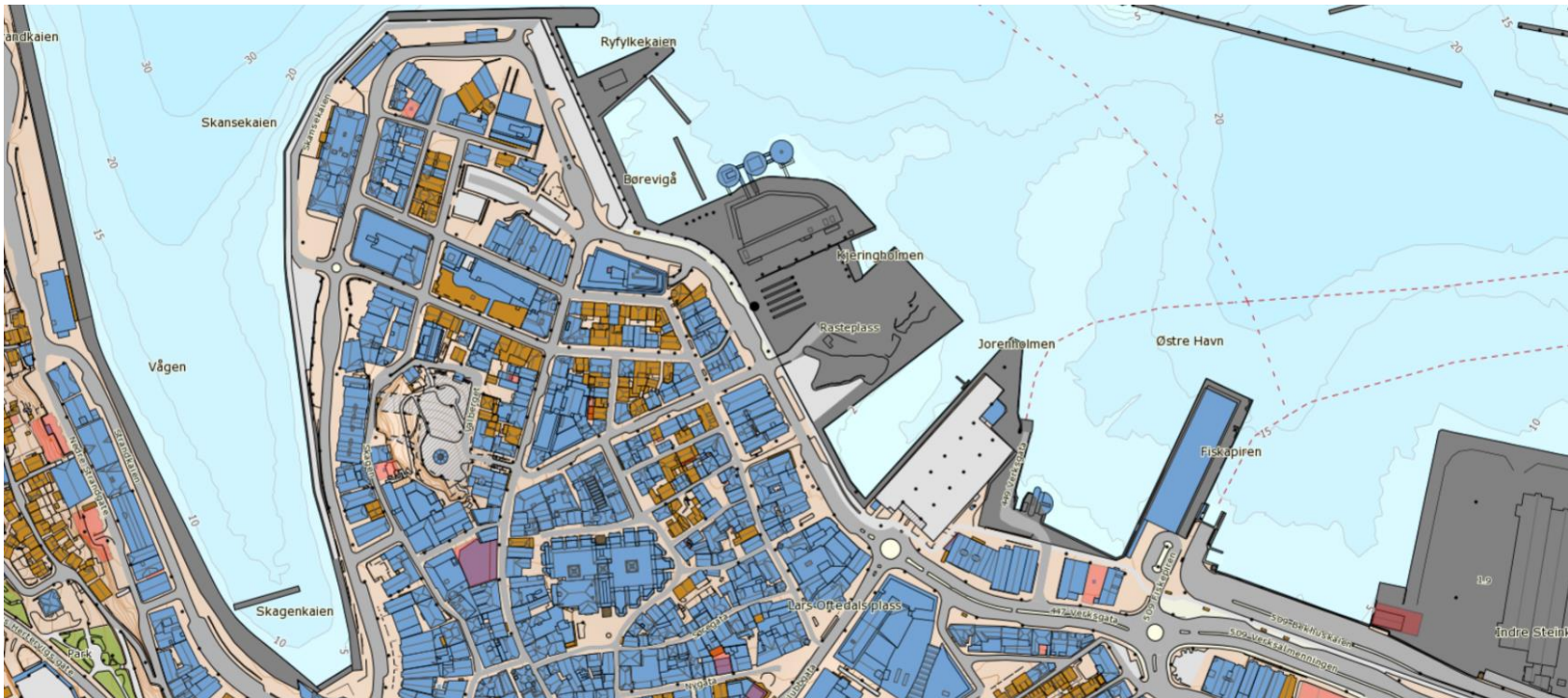
# Chart Sources

- Pure S-57 presentation – zoomed in to usage band NO5



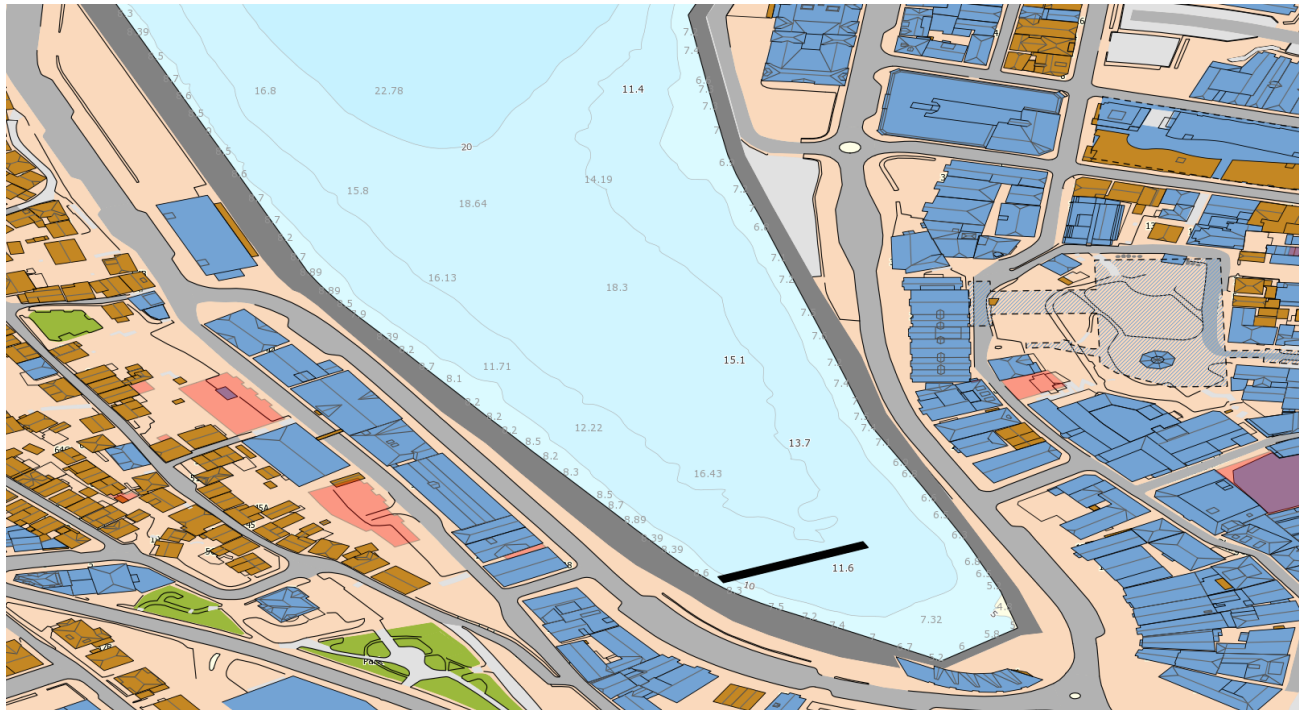
# Chart Sources

- Looking into the possibilities to implement even higher resolution land data (scale 1:5000) and NHS primary data, which is the source for all S-57 products, also approx. scale 1:5000.
- This screenshot shows land data with scale 1:5000, and NHS primary data without soundings and underwater rocks:



# Chart Sources

- Same area as the previous screenshot, zoomed in making soundings and underwater rocks appear.
- Equal detailed information as in usage band 5/6.
- Makes it possible to have the same details in areas where usage bands 5/6 not have been published.

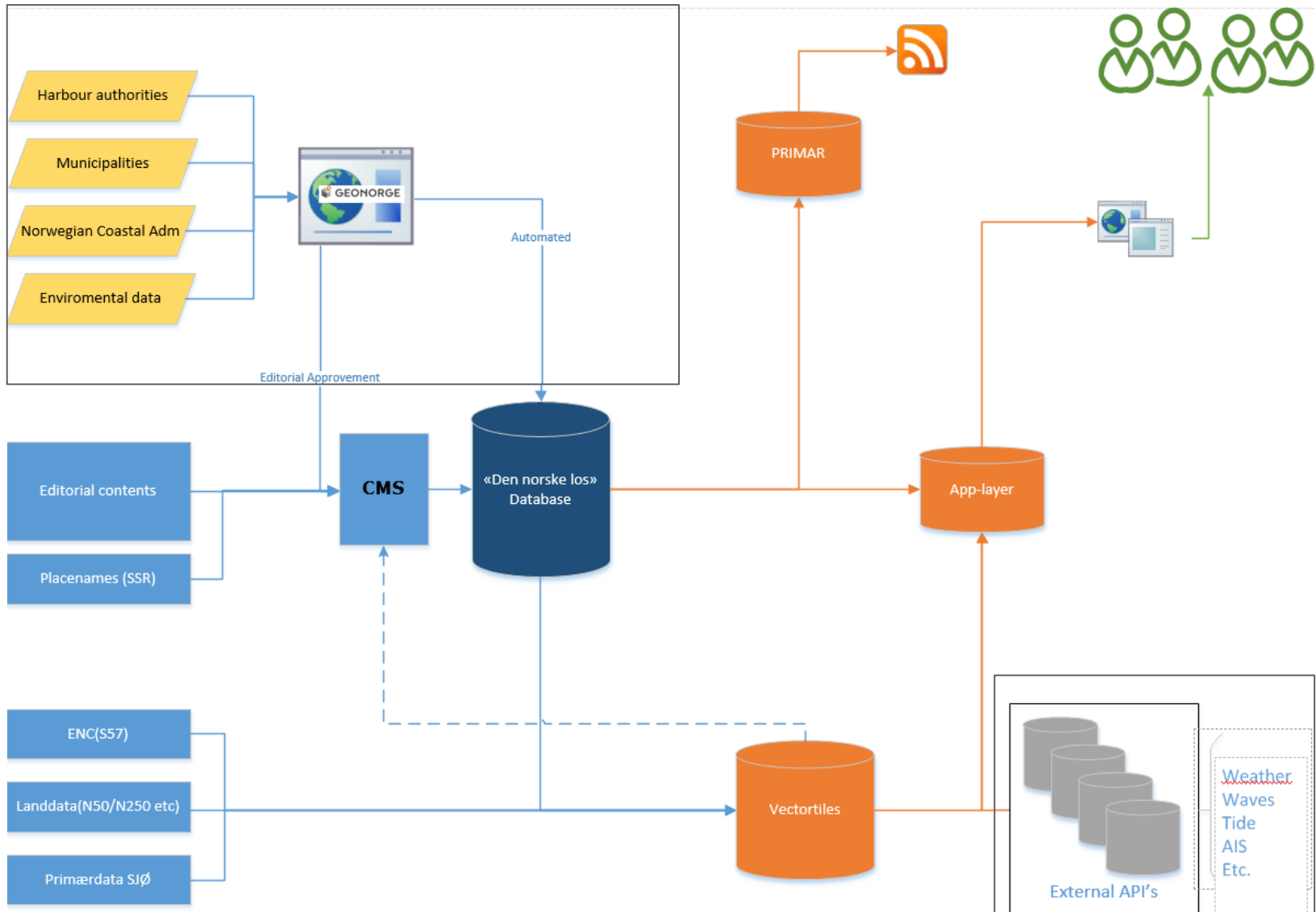


# Geonorge – geonorge.no

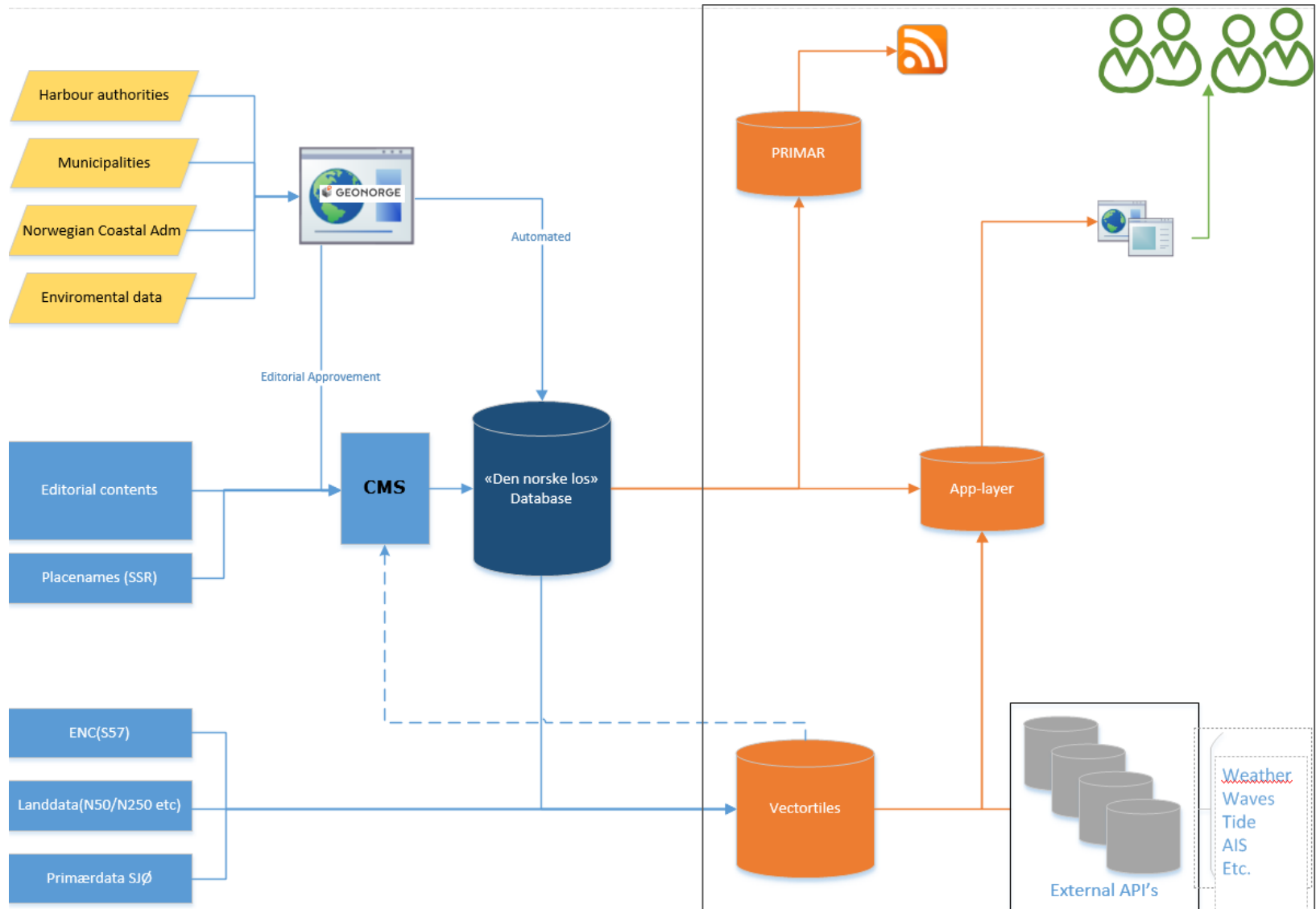


- A governmental co-op for overview and access of public geodata and services
- All partners must make their data available according to specified models
- Each data owner administers their data and services
- Data could be:
  - Official chart data from the Norwegian Mapping Authority, including the NHS
  - Statistics Norway, [www.ssb.no](http://www.ssb.no)
  - Governmental departments etc.
- Data is offered as services(i.e. WMS, WFS) or complete datasets


# External Sources



# Distribution



# CMS



TABLES  
1 Fag  
2 Tema  
3 Innhold  
Ankerplass  
Bunker  
Kai  
Søllingsbeskrivelse  
Sted  
Verksted

BOOKMARKS  
No Bookmarks

SYSTEM  
Files  
Messages  
Users

Tables > Sted > Editing Item SAVE ITEM

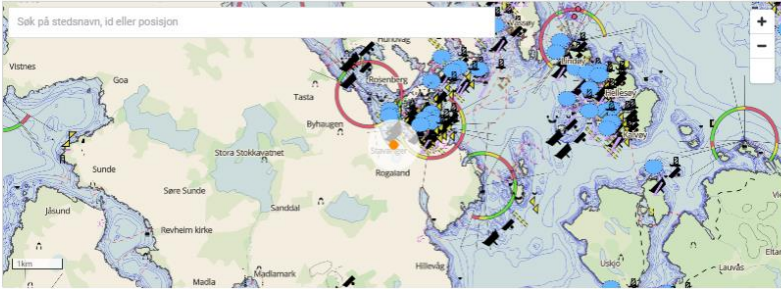
Active  Active  Draft  Delete

Kilde\*

Stedsnavn\*

Valgt Posisjon


Søk på stedsnavn, id eller posisjon



Lagret posisjon: 58.9708,5.7316

Generell Info

Illustrasjoner



Drop file here or click to choose

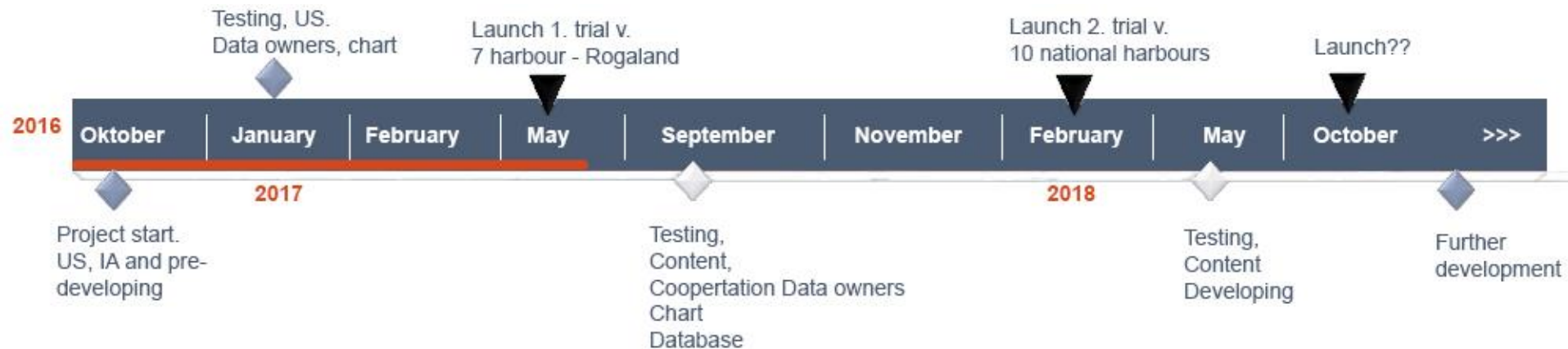
UPLOAD DIRECTUS FILES



# Approval – the Norwegian Mapping Authority



# Tentative Timeline



# Some Threat Scenarios



Terrorists



Pirates



Fraud



Hackers

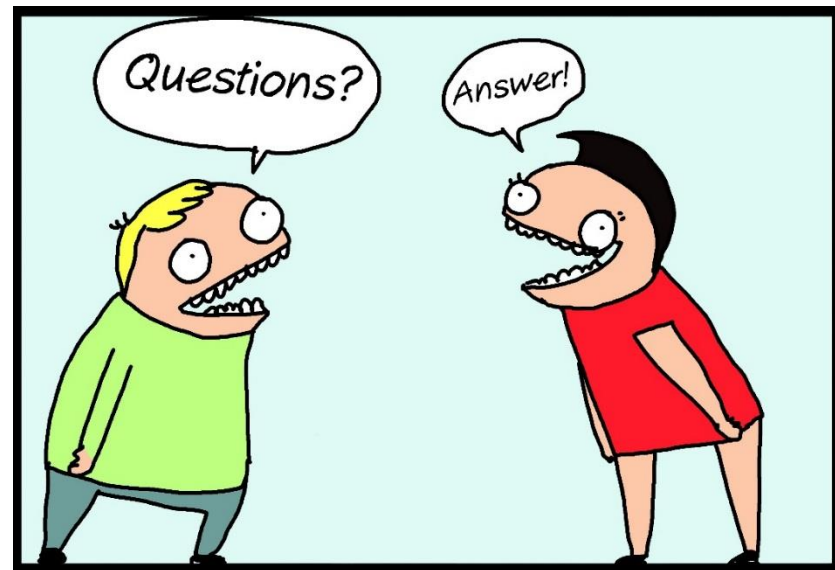


Economic espionage/attacks

# Question to NIPWG and IHO

When we are digitizing the Norwegian pilot guide, we follow the guidelines from the IHO.

- Do you know if there are any rules for digital presentation of data and textual content?
- Are there any concerns about using an application as one of the medias?



# Thank you for your attention

[kveann@kartverket.no](mailto:kveann@kartverket.no)

[www.kartverket.no](http://www.kartverket.no)

