



# The Norwegian Pilot Guide – Sailing Directions

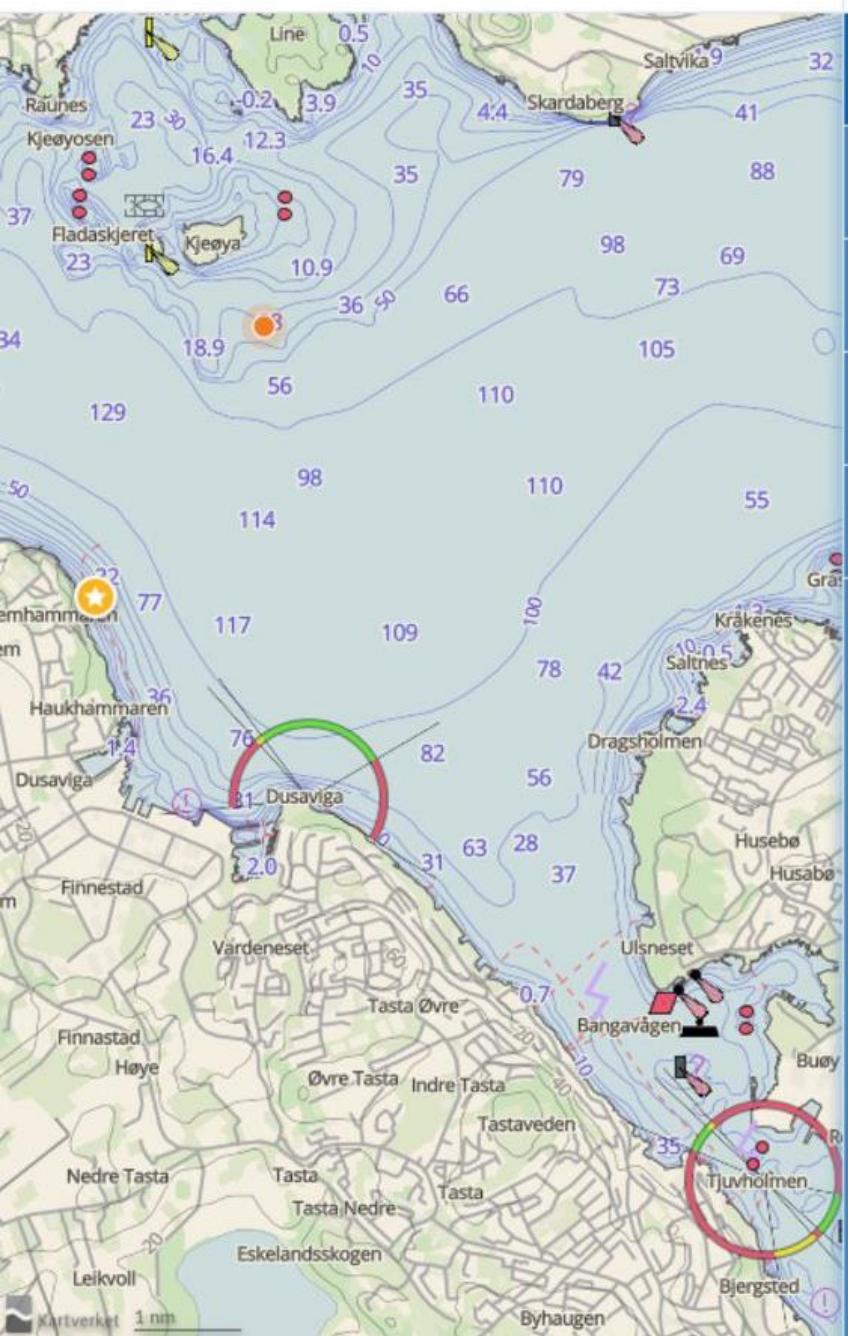
Kartverket

Anniken Puntervold

*The Norwegian Mapping Authority Hydrographic Service  
New Hampshire, May 2017*



PHOTO: PORT OF STAVANGER



BETA Version 2.23

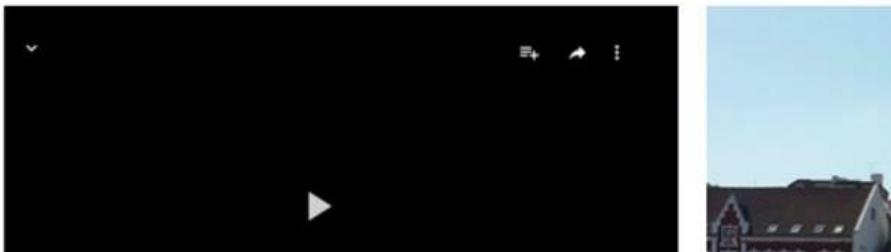
New Release: Beta version 2.23

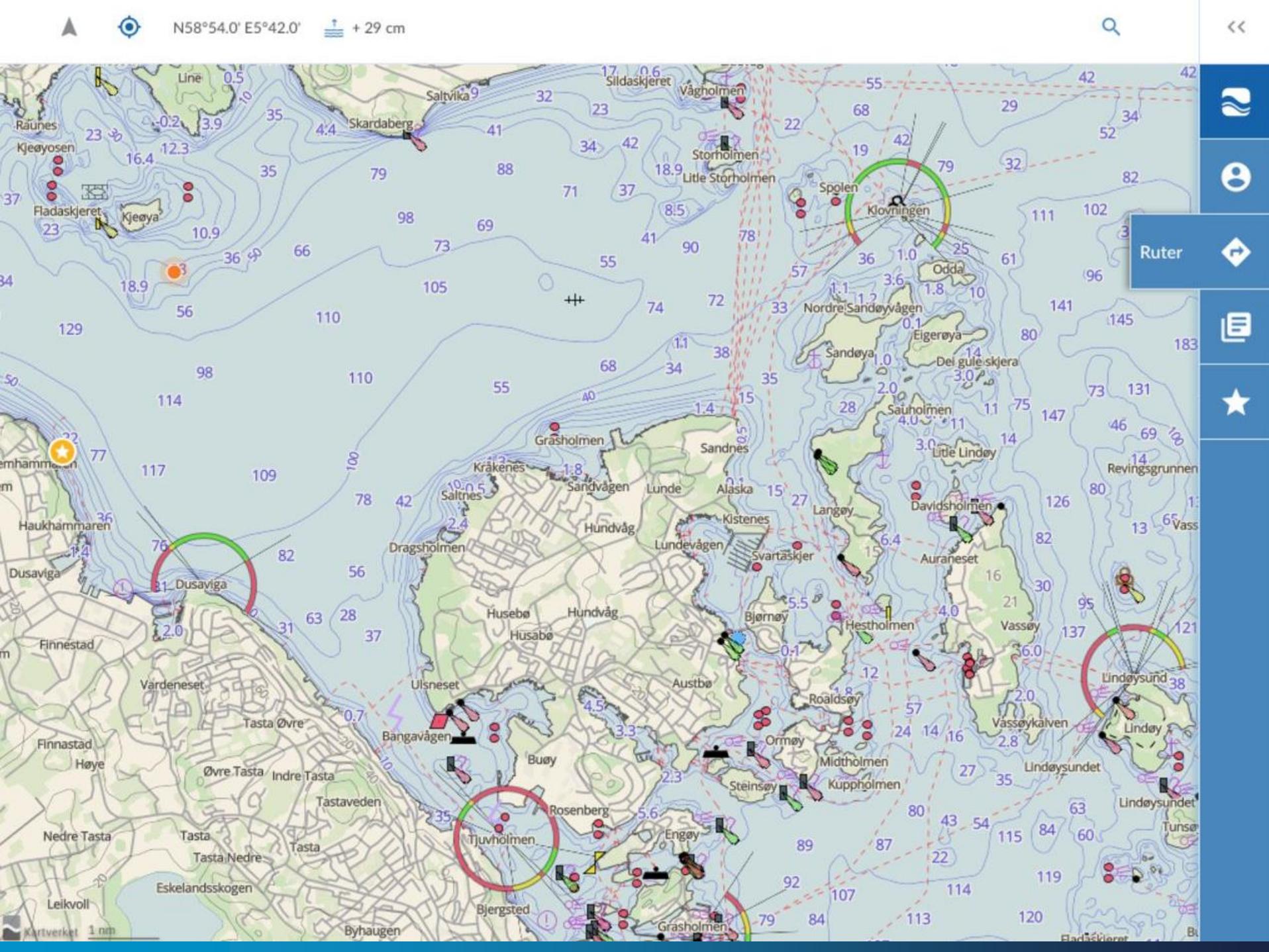
**Quisque** eget dolor vitae mi ornare pretium. Morbi erat metus, sollicitudin eu dui in, malesuada tempor mauris. Corem ipsum dolor sit amet, consectetur.

## GI TILBAKEMELDING

## Tips and tricks for use

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





N58°54.0' E5°42.0' + 29 cm

N58°54.0' E5°42.0'  
Kommune, Fylke, 23 nm

Mer info >

>> <

Farvannsbeskrivelsen  
**Den norske los**

Kartverket

BETA Version 2.23

New Release: Beta version 2.23  
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GI TILBAKEMELDING

Tips and tricks for use  
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## Beskrivelse

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**LOREM IPSUM**  
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N58°54.0' E5°42.0' + 29 cm

Sted > Havn

SSR navn ★

N58°54.0' E5°42.0'  
Kommune, Fylke

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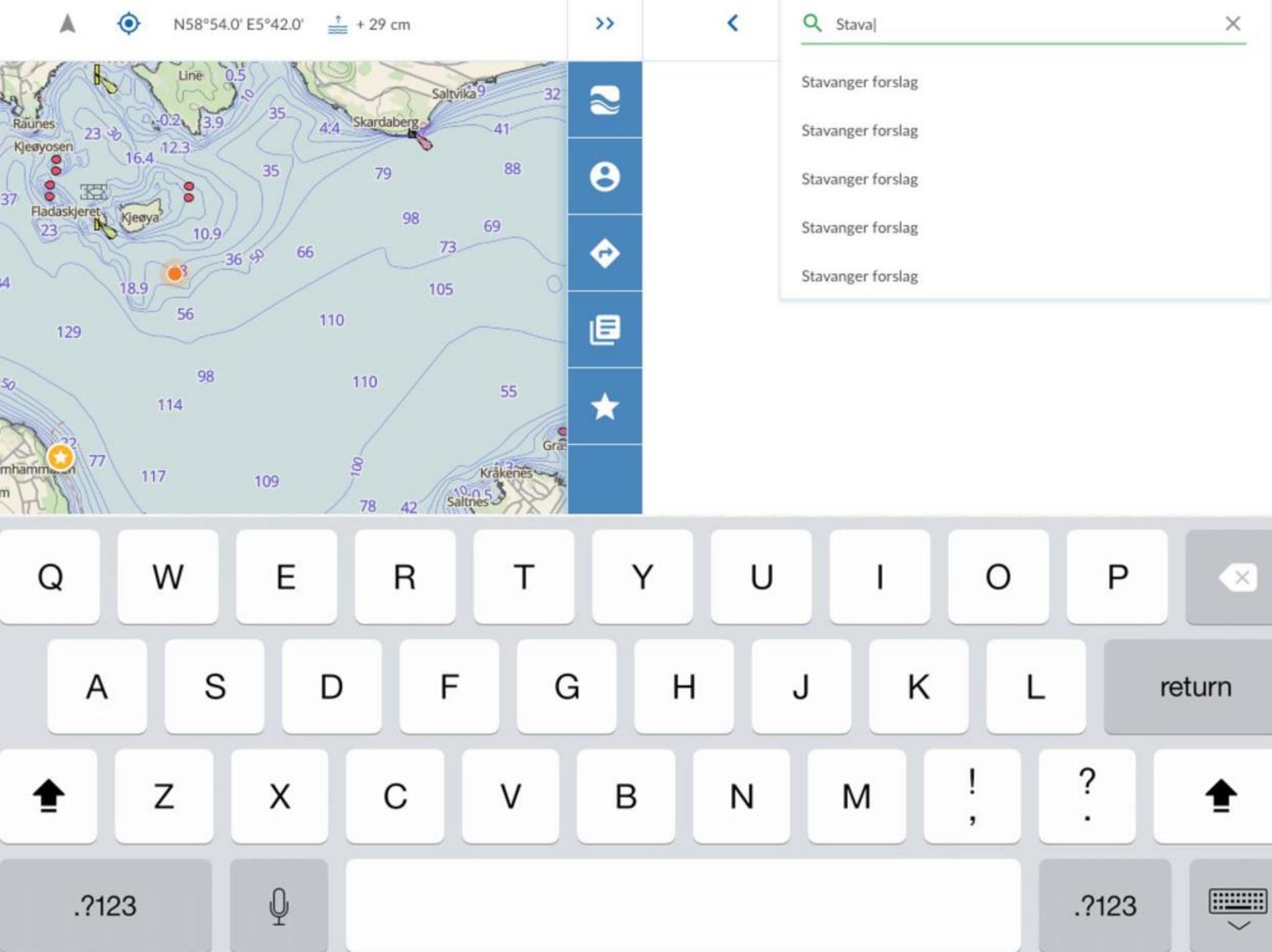
Vågen

Fiskepiren

Rosenberg

Norgesmøllene / Havnesiloen

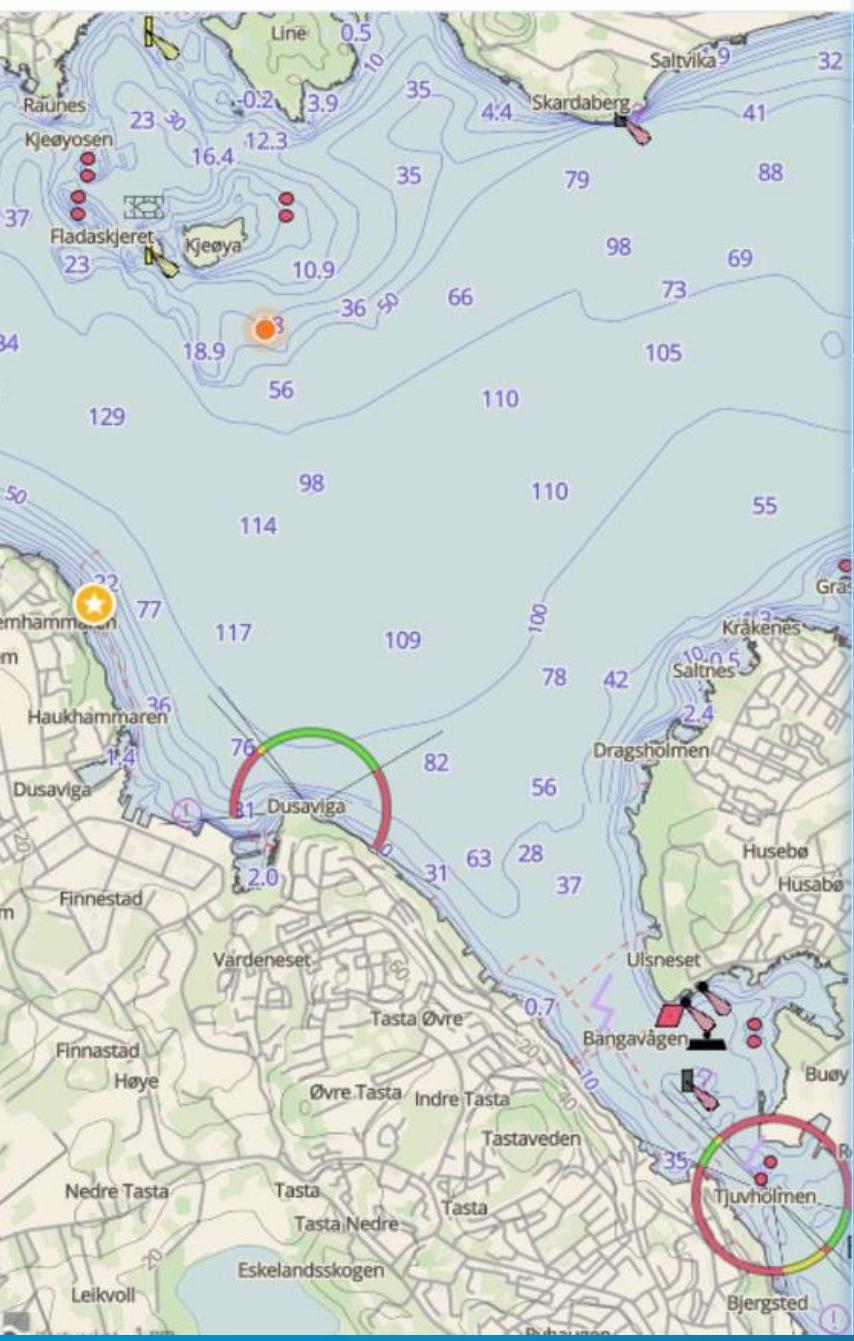
The image shows a nautical chart application interface. On the left is a map of a coastal area with depth contours (isobaths) labeled with values like 0.5, 1.0, 3.9, 10.9, 18.9, 23, 34, 56, 66, 73, 88, 98, 105, 110, 114, 117, 129, 134, 141, 148, 155, 162, 169, 176, 183, 190, 197, 204, 211, 218, 225, 232, 239, 246, 253, 260, 267, 274, 281, 288, 295, 302, 309, 316, 323, 330, 337, 344, 351, 358, 365, 372, 379, 386, 393, 400, 407, 414, 421, 428, 435, 442, 449, 456, 463, 470, 477, 484, 491, 498, 505, 512, 519, 526, 533, 540, 547, 554, 561, 568, 575, 582, 589, 596, 603, 610, 617, 624, 631, 638, 645, 652, 659, 666, 673, 680, 687, 694, 697, 704, 711, 718, 725, 732, 739, 746, 753, 760, 767, 774, 781, 788, 795, 802, 809, 816, 823, 830, 837, 844, 851, 858, 865, 872, 879, 886, 893, 897, 904, 911, 918, 925, 932, 939, 946, 953, 960, 967, 974, 981, 988, 995, 1002, 1009, 1016, 1023, 1030, 1037, 1044, 1051, 1058, 1065, 1072, 1079, 1086, 1093, 1097, 1104, 1111, 1118, 1125, 1132, 1139, 1146, 1153, 1160, 1167, 1174, 1181, 1188, 1195, 1202, 1209, 1216, 1223, 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12960, 12967, 12974, 12981, 12988, 12995, 12997, 13004, 13011, 13018, 13025, 13032, 13039, 13046, 13053, 13060, 13067, 13074, 13





N58°54.0' E5°42.0'

+ 29 cm



Stavanger



## Søk: Stavanger



< ALLE HAVN/STED KAI ANKERPlass SEILINGSBESKRIVI >

### 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



N58°54.0' E5°42.0' + 29 cm

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 VERNEOMRØ

## Væroversikt

BØLGDEHØYEDE m

The graph displays wave height in meters on the y-axis (1 to 4) against distance in nautical miles on the x-axis (0 to 10). The data shows a general increase in wave height from approximately 2.5m at 0nm to about 3.2m at 2nm, followed by a slight dip and then a steady rise to around 3.5m at 10nm. Arrows indicate the direction of wave propagation.

Avstand nm

### Stavanger havn

0 nm

- 23°
- 12 kn
- 29 cm · 237°
- 3 m · 13 s

MORE

This marine chart displays a coastal area with various locations labeled: Røvæs, Kjøyosen, Fladaskjeret, Kjøya, Saltvika, Skardaberg, Line, 0.5, 10, 35, 41, 32, 37, 23, 16.4, 12.3, 10.9, 18.9, 56, 36, 66, 98, 79, 88, 105, 110, 114, 129, 50, 34, 22, 77, 117, 109, 82, 76, 31, 1.2, 0.7, 20, 10, 37, 28, 96, 42, 78, Krakenes, Saltnes, Dragsholmen, Haukhammaren, Dusaviga, Finnstad, Vardeneset, Tasta Øvre, Øvre Tasta, Indre Tasta, Tastaveden, Tasta, Nedre Tasta, Eskelandsskogen, Leikvoll, Byhaugen, Tjuvhøimlen, Bangvågen, Buøy, Husebø, Husabø, Grå, and Bjersted. A red circle highlights a specific area near Tjuvhøimlen.

Kartverket 1 nm

N58°54.0' E5°42.0'

$\frac{1}{2}$  + 29 cm

2

4



## Alminnelige opplysninger



## Om å navigere til sjøs

Sikkerhet og krisehåndtering

Lover og forskrifter

Teori

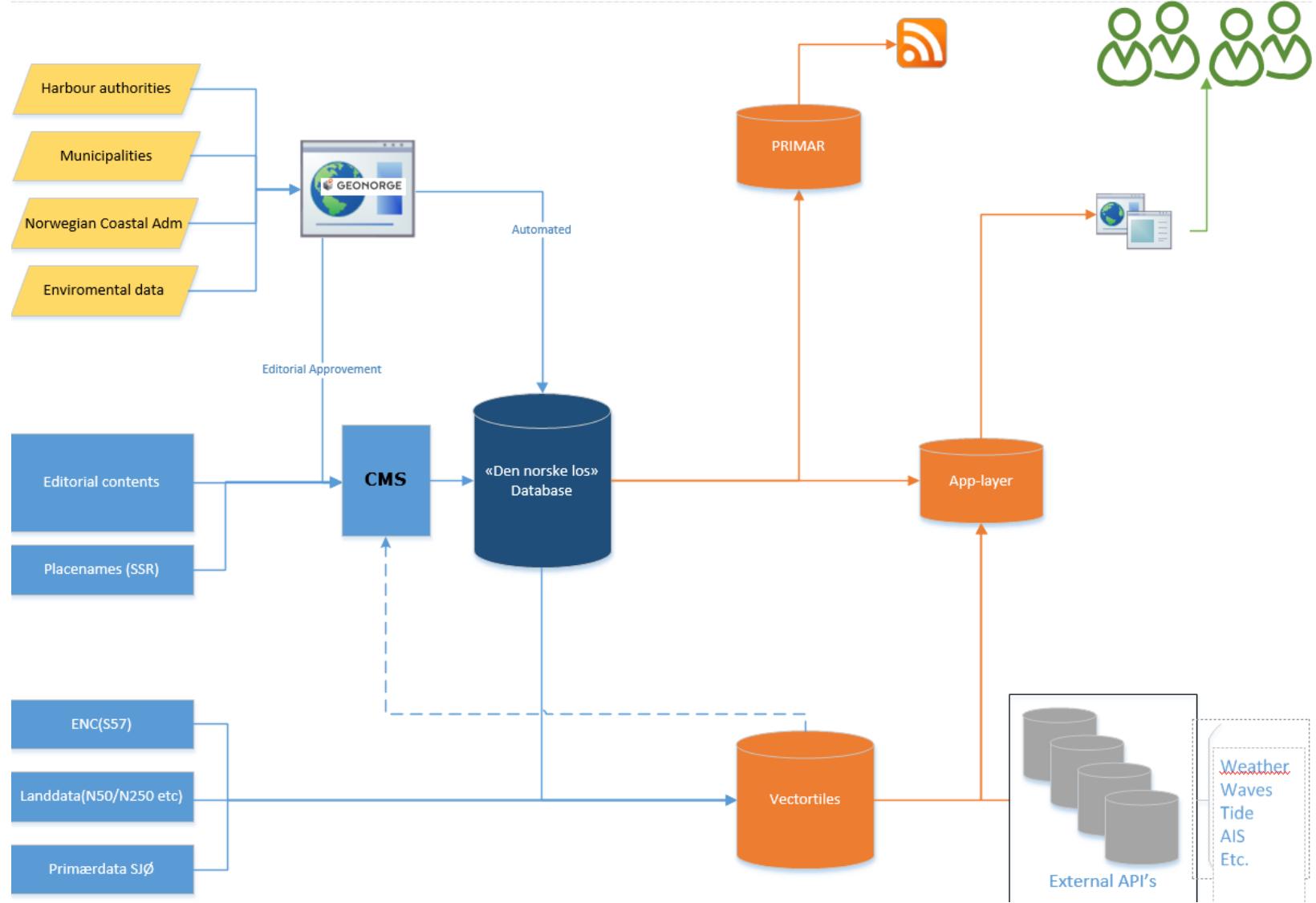
## Sentrale sjøfartsenheter

Tema

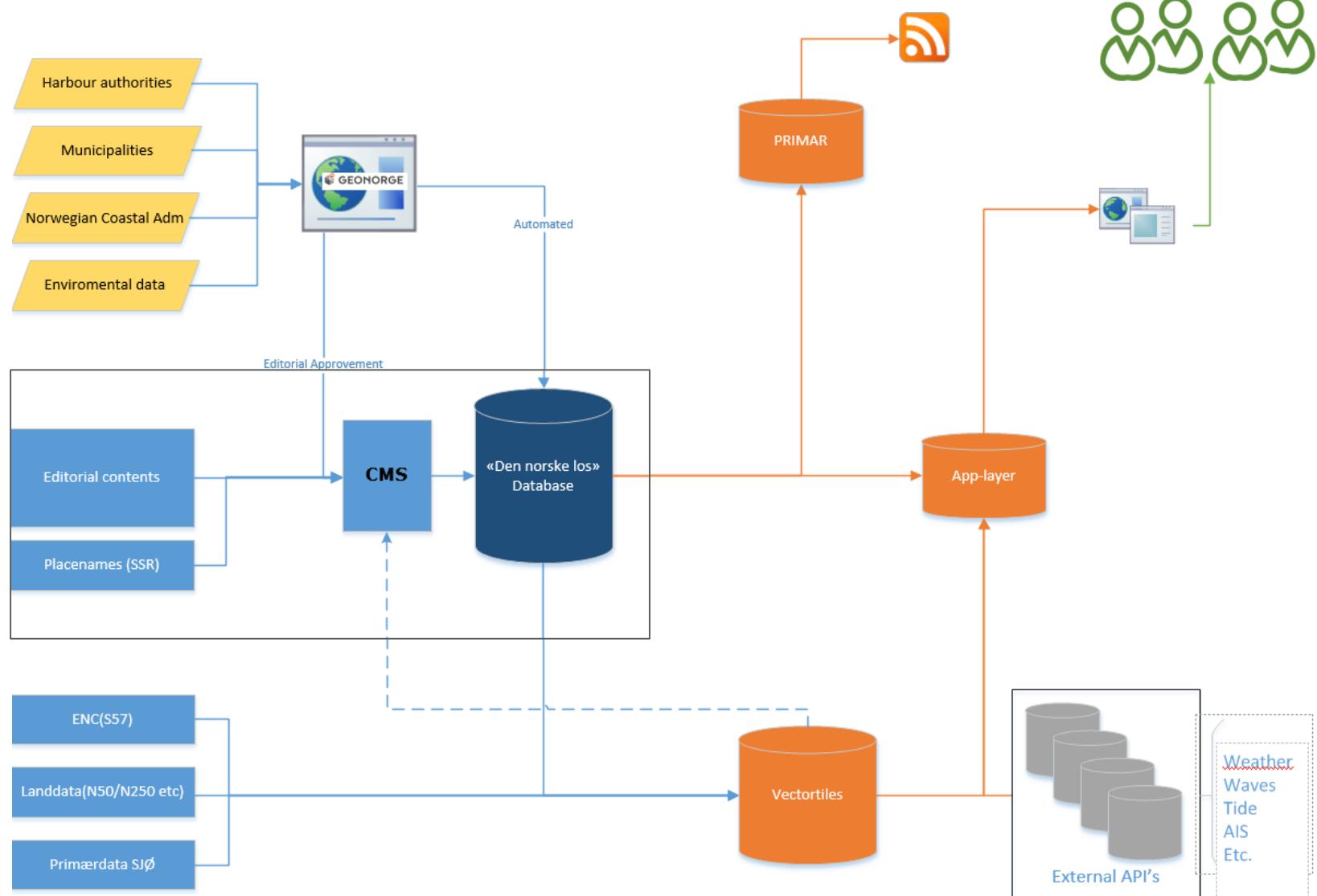
Tema



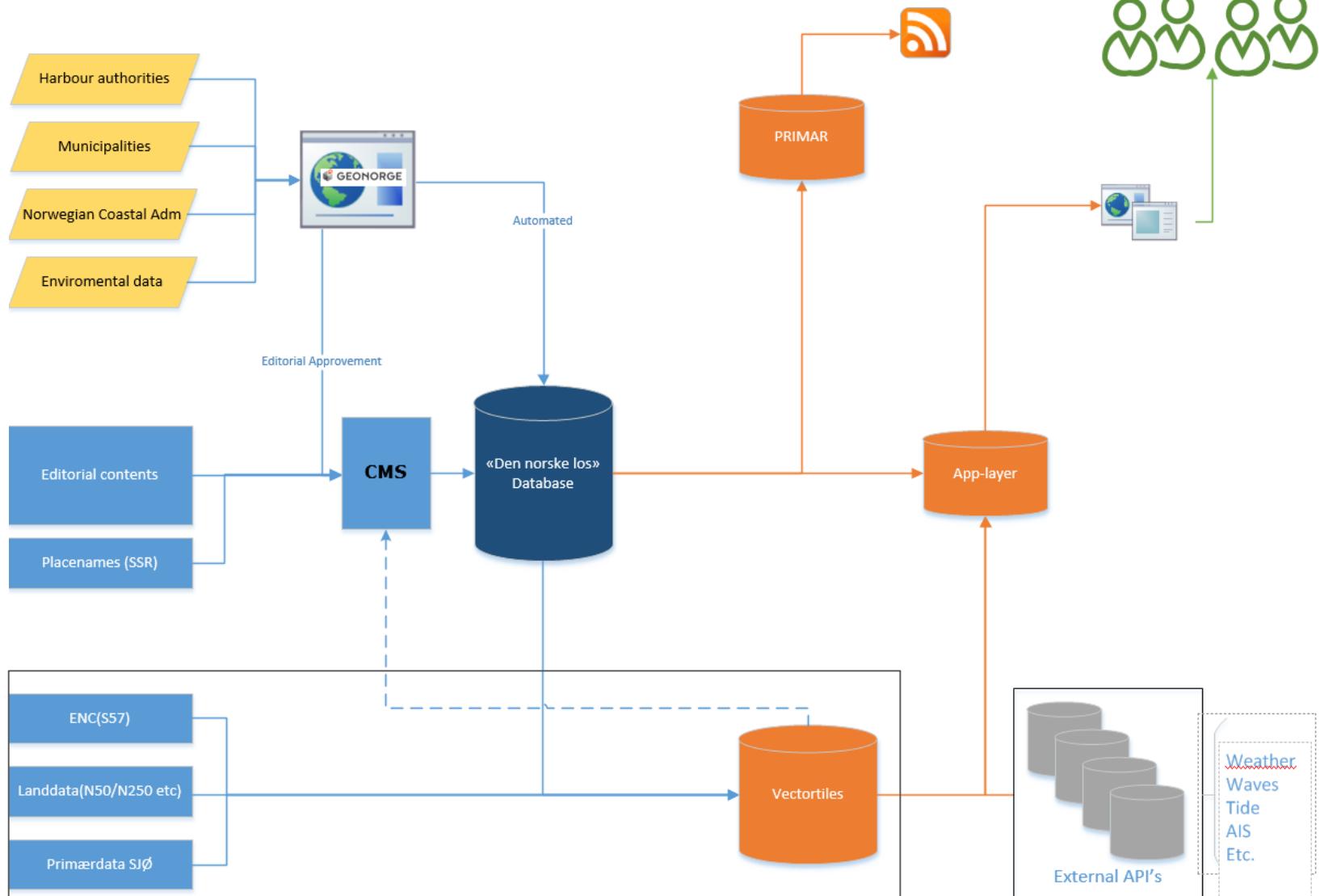
# Dataflow



# Place Names

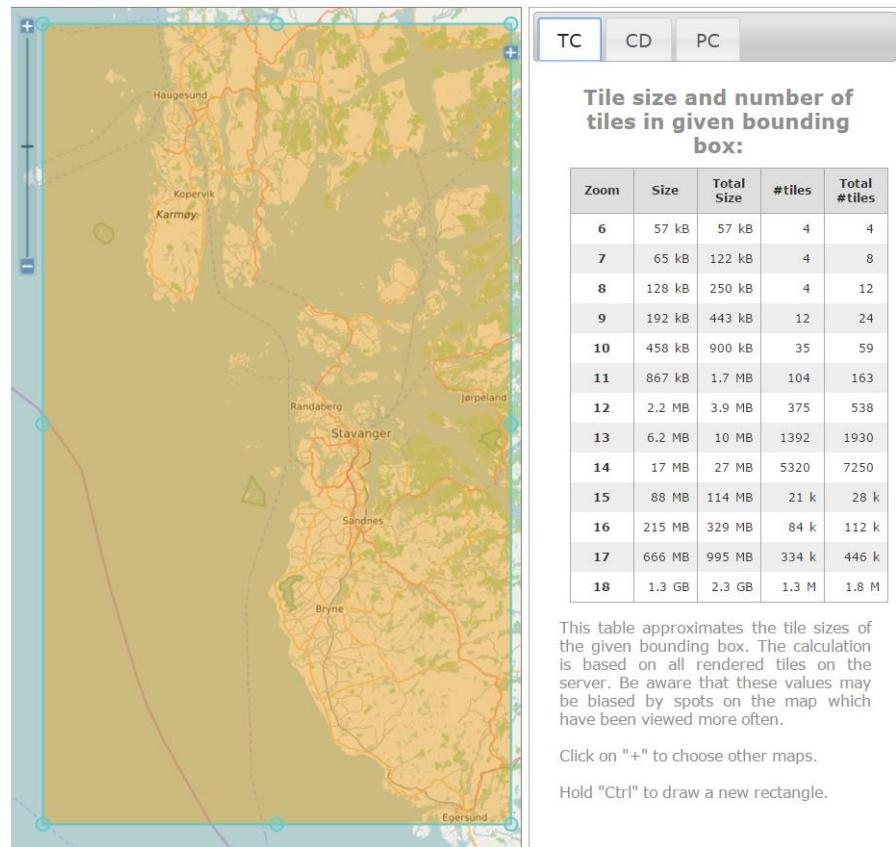


# Chart Sources



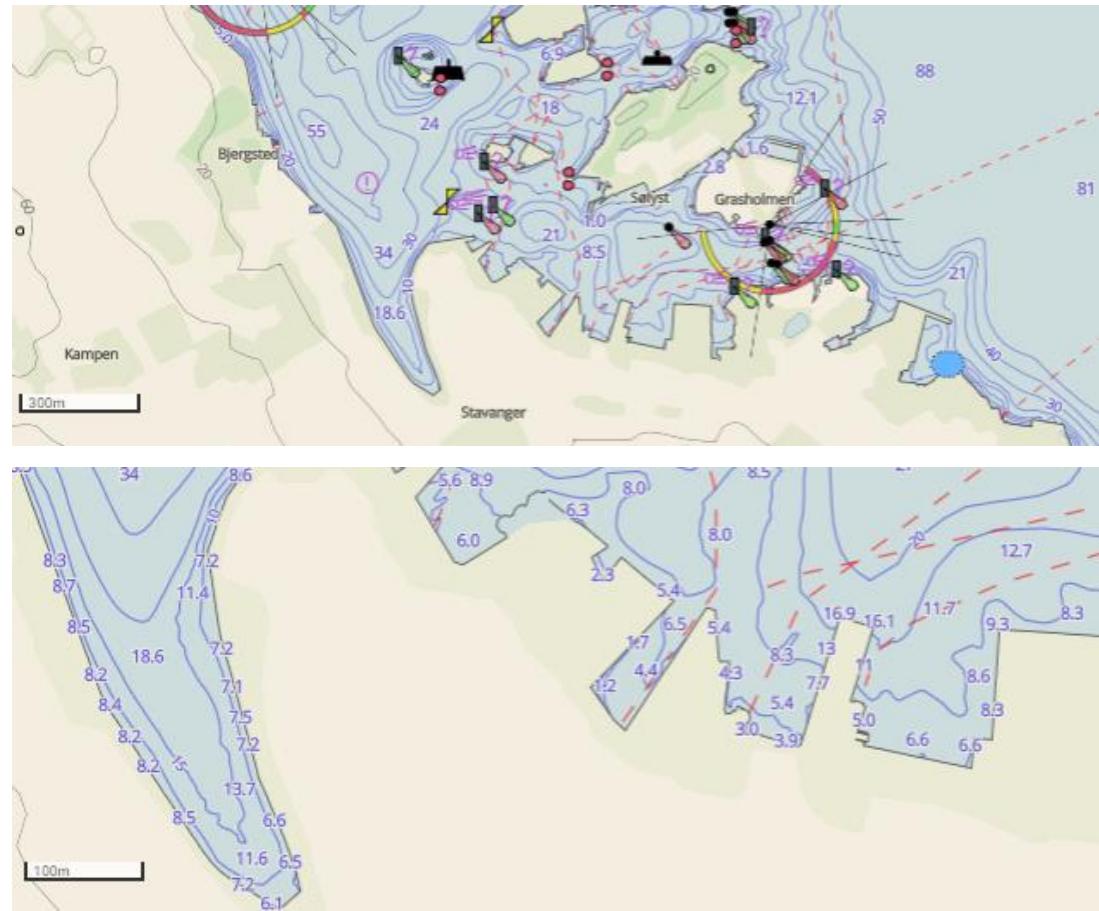
# Chart Sources

- 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



# 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



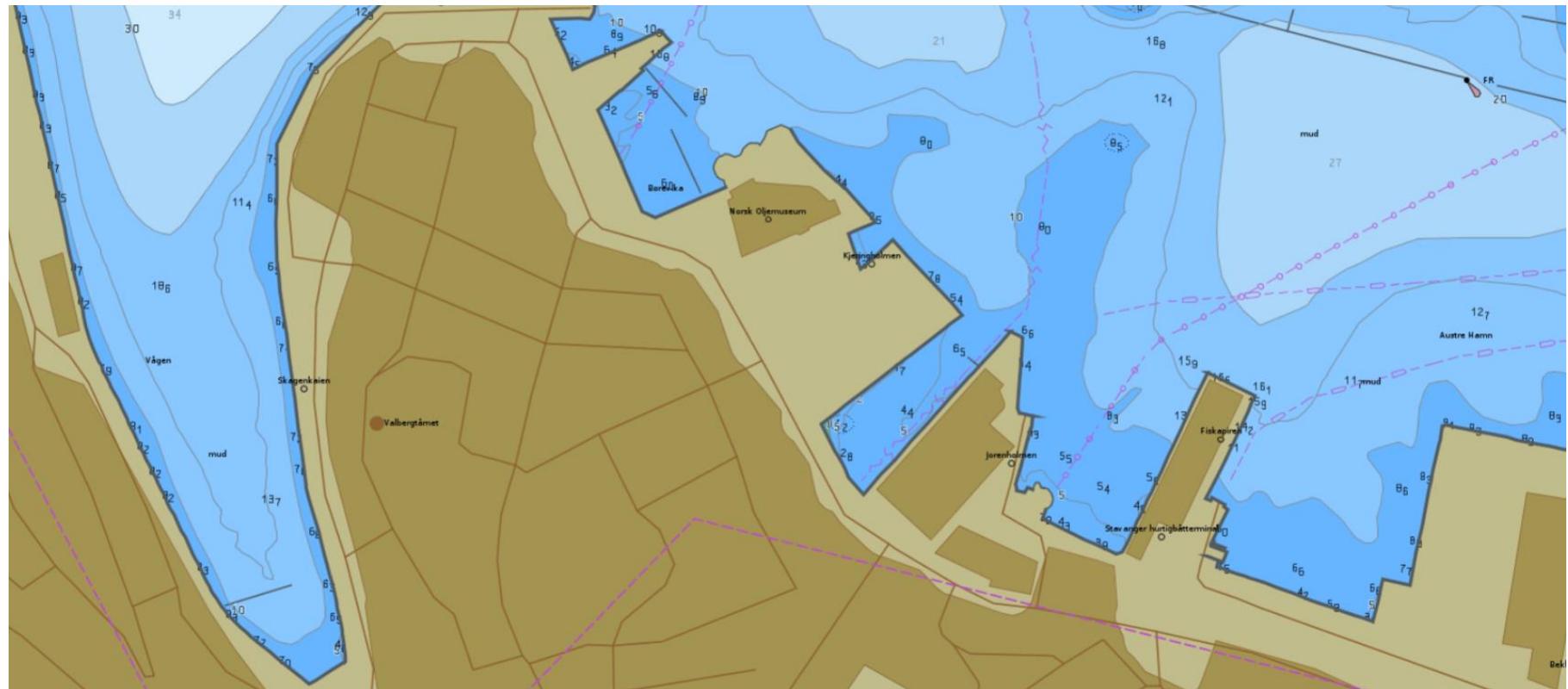
# Chart Sources

- Pure S-57 presentation – usage band NO4



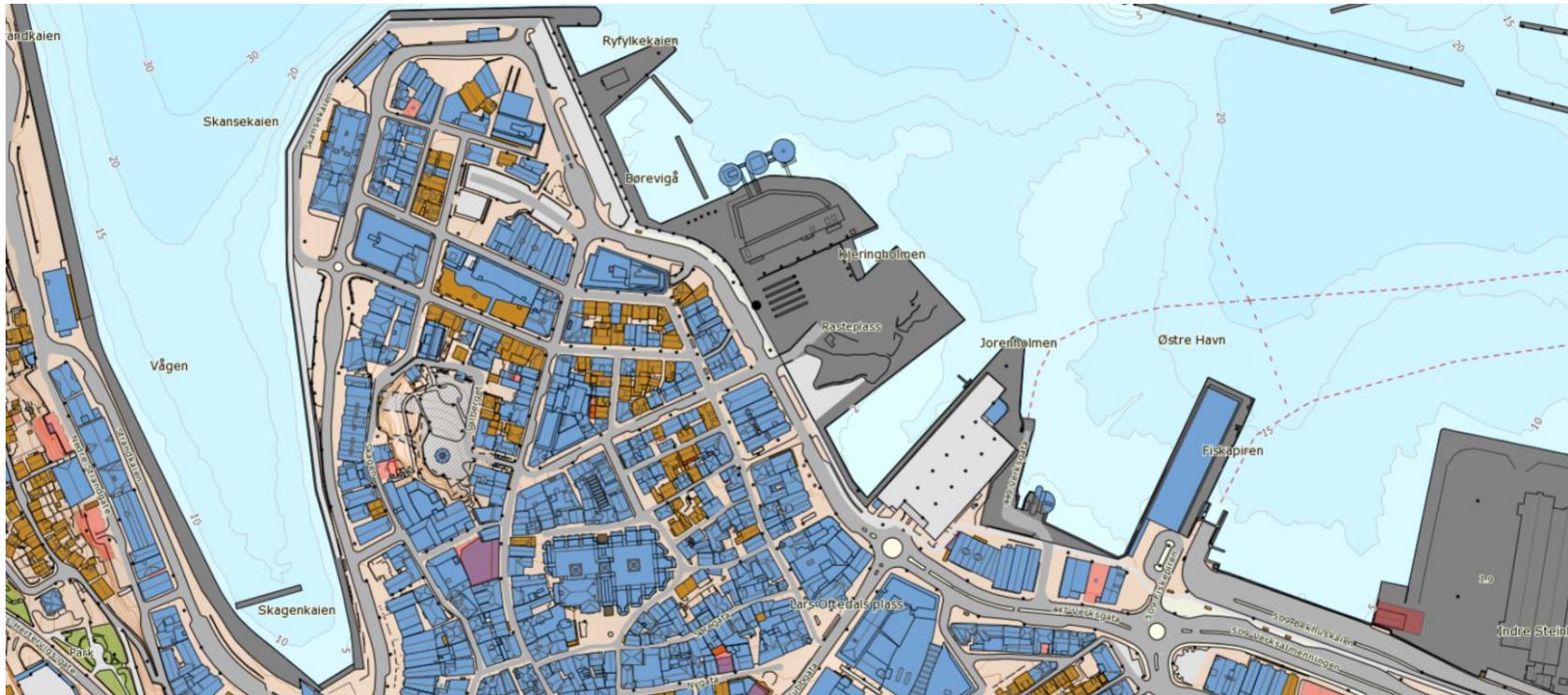
# Chart Sources

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



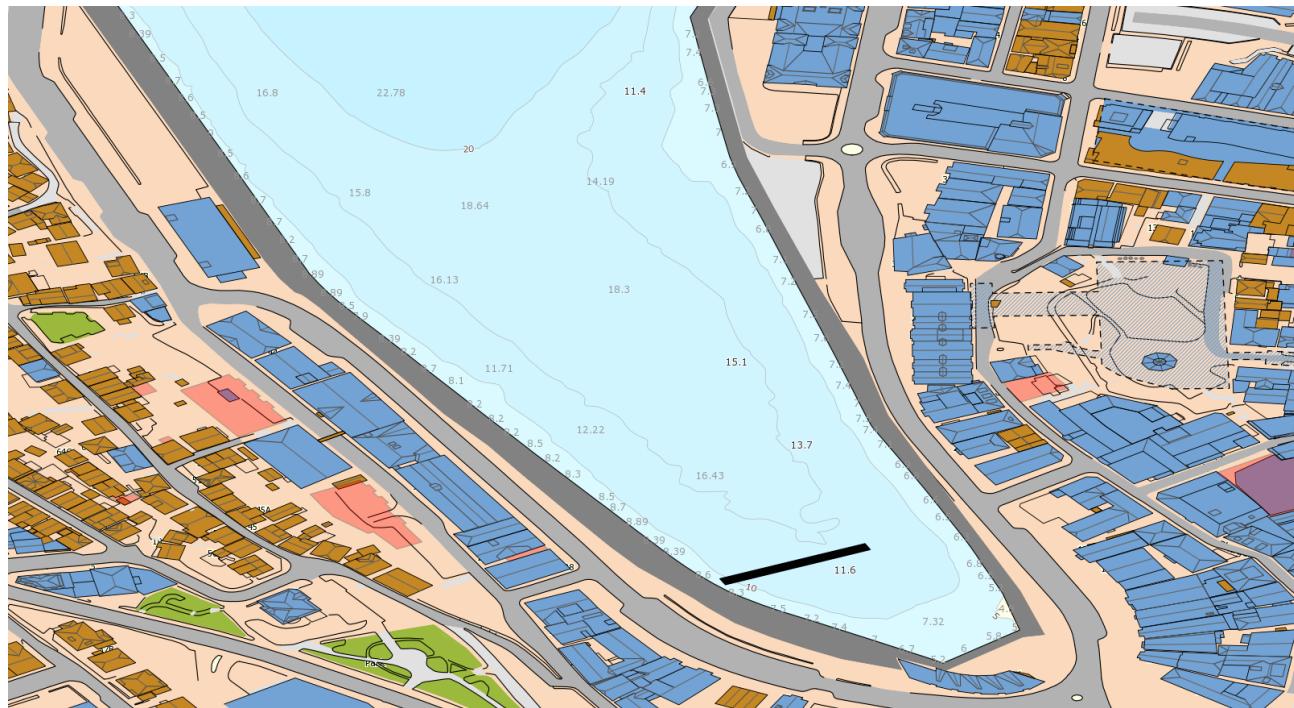
# Chart Sources

- 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.

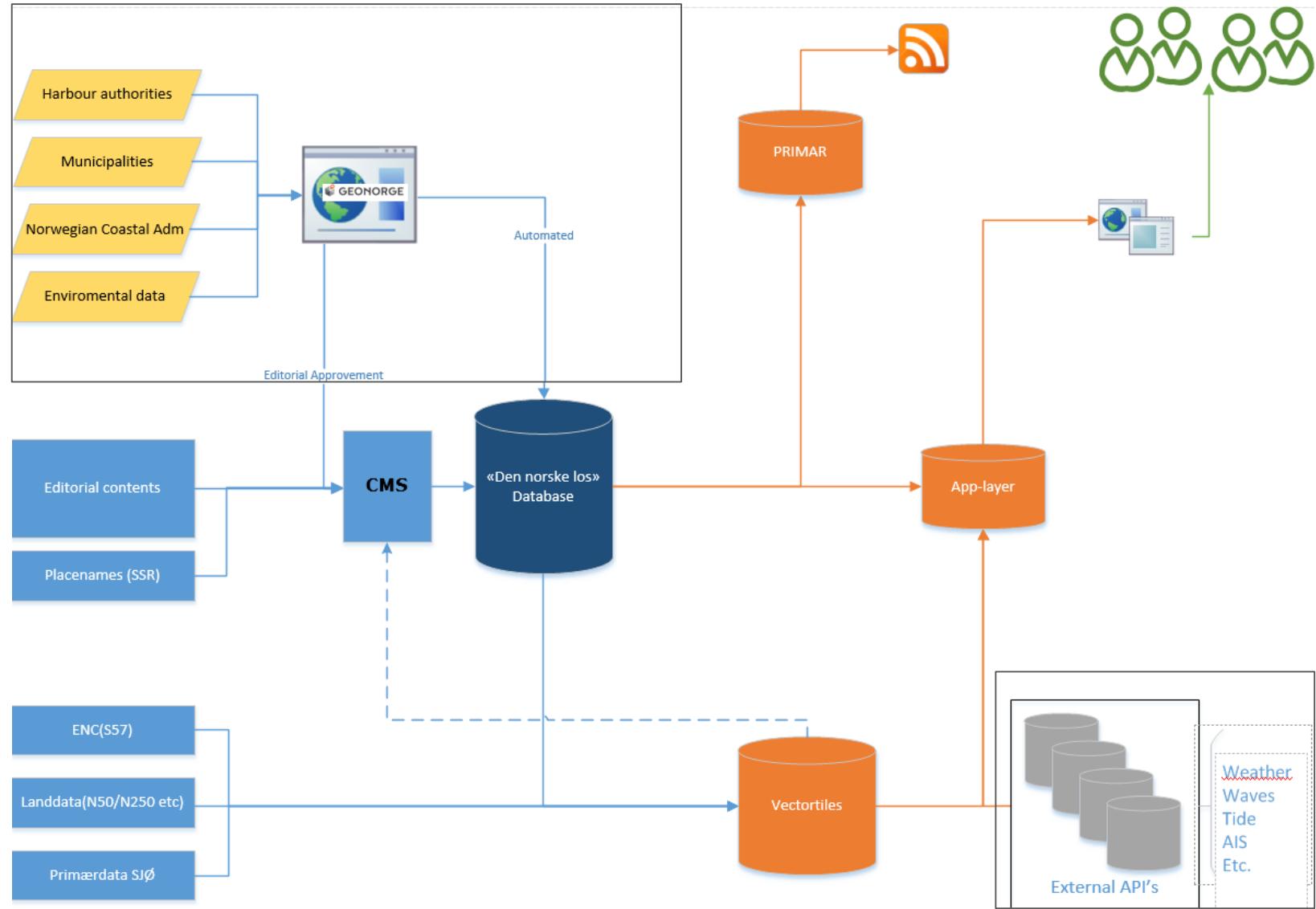


# Geonorge - geonorge.no

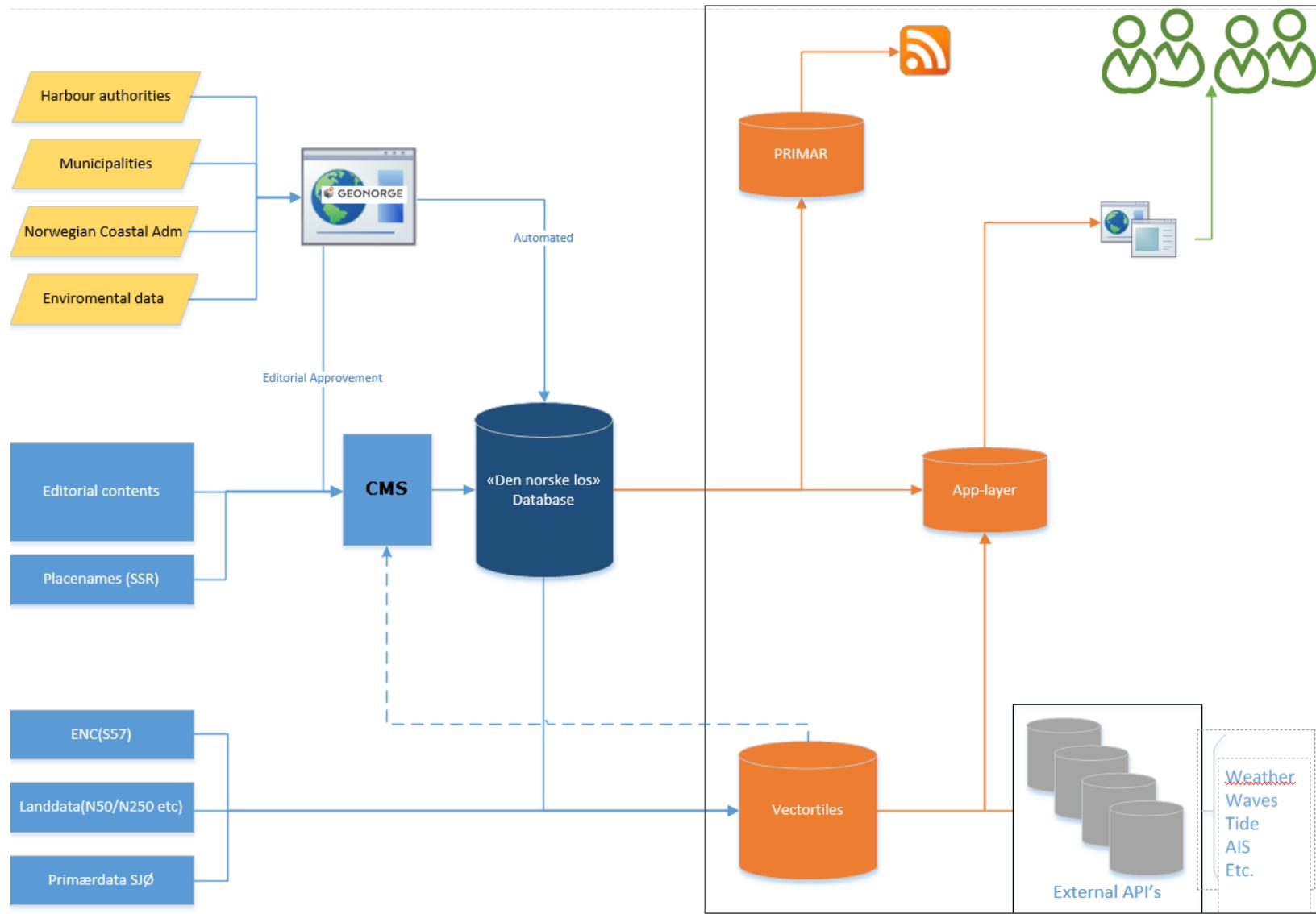


- A governmental co-op for overview and access of public geodata and services
- All partners must make their data available according to specified models
- Each data owner administers their data and services
- Data could be:
  - Official chart data from the Norwegian Mapping Authority, including the 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

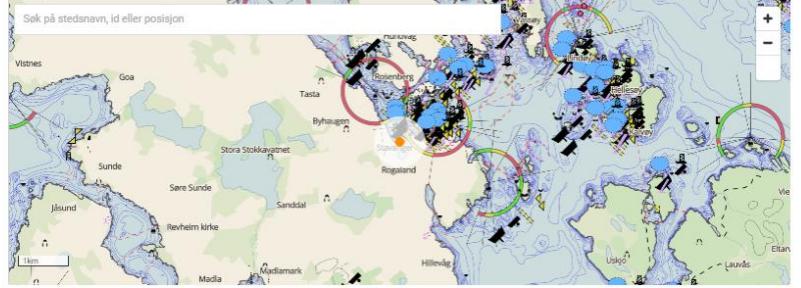
Tables > Sted > Editing Item ✓ SAVE ITEM ▾

Active       Active       Draft       Delete

Kilde\*      import intern ▾

Stedsnavn\*      Stavanger, Stavanger, Rogaland - By - 58.9653, 5.7180 - 15136

Valgt Posisjon



Lagret posisjon: 58.9708,5.7316

Generell Info

  
bla bla bla

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

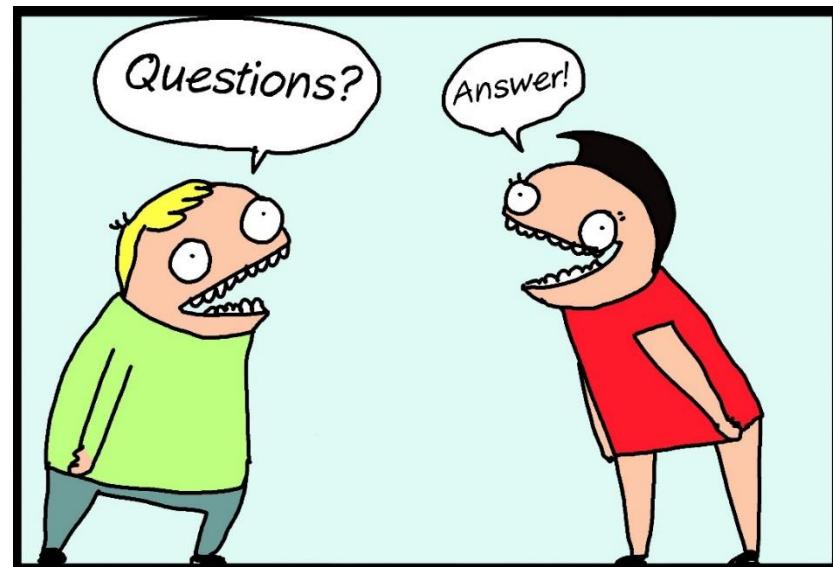


Economic espionage/attacks

# 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

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

