

Development of GIS system for planning and execution of seismic surveys

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Challenges

1. Fisheries and seismic co-existence
2. Time sharing between seismic vessels



Escalating conflict between Fisheries and Oil and Gas/Seismic Industry

Må slå i bordet !!

Ingen sameksistens

Reidar planlegger aksjon



Arkivfoto: Fiskeriet.

Ressurs-gambling

Havet koker av makrell. Fiskerne koker over av sinne. Seismikken smeller og fiskeri- og kystministeren ferierer.

Historien gjentar seg, og alt er fremdeles ikke som de burde være i fiskeri- og oljenorge.

Blir aksjoner

- Et stort politisk problem

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- 2012 skulle være året som viste at sameksistens fungerte i praksis. Hvis det ikke skjer i år, har vi et stort politisk problem.



Vet du mer om saken? **TIPS OSS!**
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Det sier leder i Møre og Romsdal Fiskarlag, Per Jan Kvalsvik.

- Er ikke så militante

Kvalsvik er usikker på om en aksjon er siste utvei for å få løst forholdet mellom seismikk og fiskeri.
- Jeg vet ikke, vi er ikke så militante. Jeg tror på at dialog er veien å gå, men det er klart at hvis du ikke får gehør, så føles det meningsløst etter hvert. Vi får håpe på at myndighetene snur i denne saken og at dersom det blir en konflikt, så vil de gripe inn og løse det.

Må bli hørt

Kvalsvik peker på at dorgeflåten har vært skadelidende de tre siste årene på grunn av seismikk. Nå er det nå tide at de blir hørt, mener han.

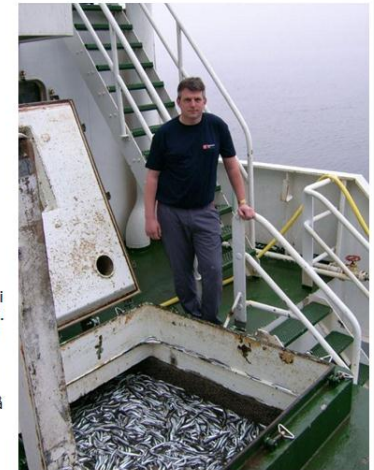
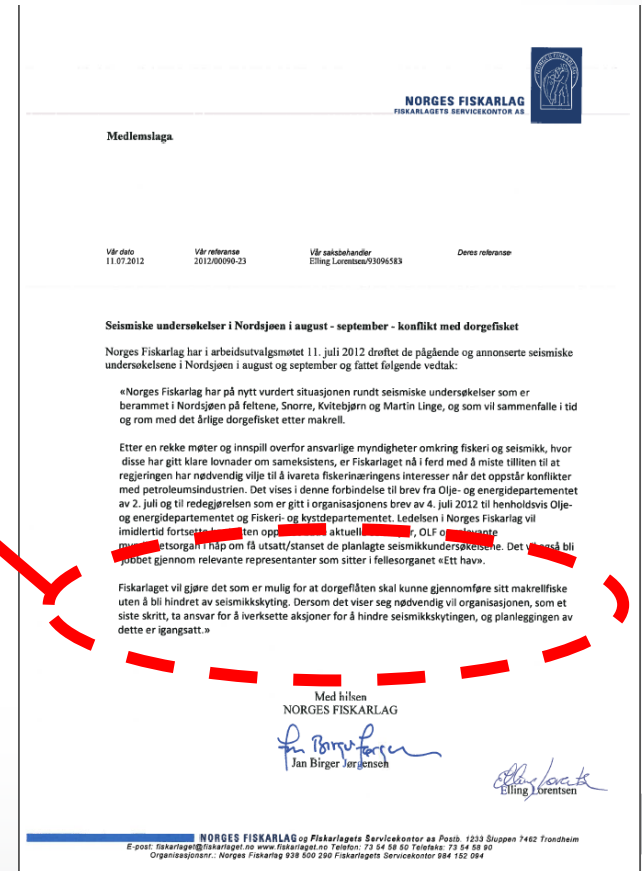


Foto: privat.

High level of conflict - low level of trust

“The Norwegian Fishermen's Association will do what is possible in order to enable the trolling fleet to carry out their mackerel fisheries without being hampered by seismic acquisition. If needed, the association, as a final step, will be responsible for triggering campaigns in order to obstruct the seismic acquisition, and our planning of this has commenced.”



Mitigations

- Prior to the 2012 season the Oil and Gas industry and the Fisheries were challenged by the authorities (at minister level) to define and implement actions in order to eliminate/reduce the conflict between Fisheries and Seismic Acquisition.
- This resulted in three new initiatives from OLF:
 1. Guidelines for co-existence with the Fisheries
 2. Annual IAGC/OLF coordination meeting late April exchanging plans in order to reduce time sharing and conflict with Fisheries
 3. A GIS/Map solution

Time sharing and need for efficient operations

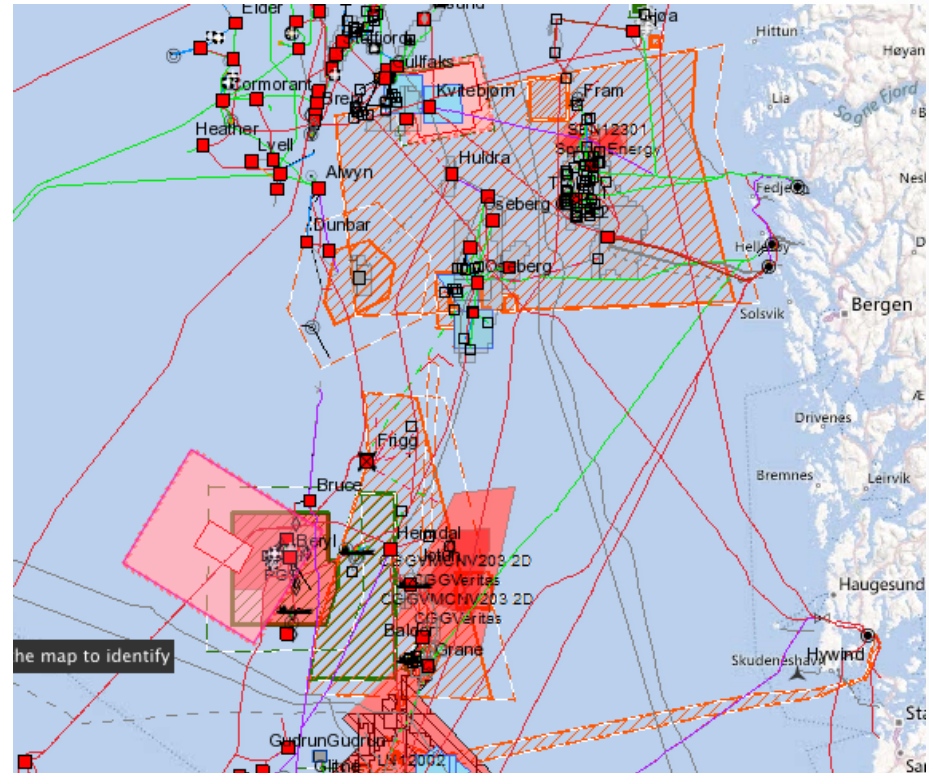
- Increased seismic activity, especially during summer, has led to area conflicts between seismic vessels
- Time sharing necessary to avoid seismic interference between Multi Client projects or Exclusive projects for the Oil and Gas companies
- Good planning is therefore very important
- IAGC has established an annual coordination meeting where information about planned surveys are shared
- IAGC and OLF will arrange a joint annual meeting, typically late April, exchanging plans for seismic operation

Mitigation

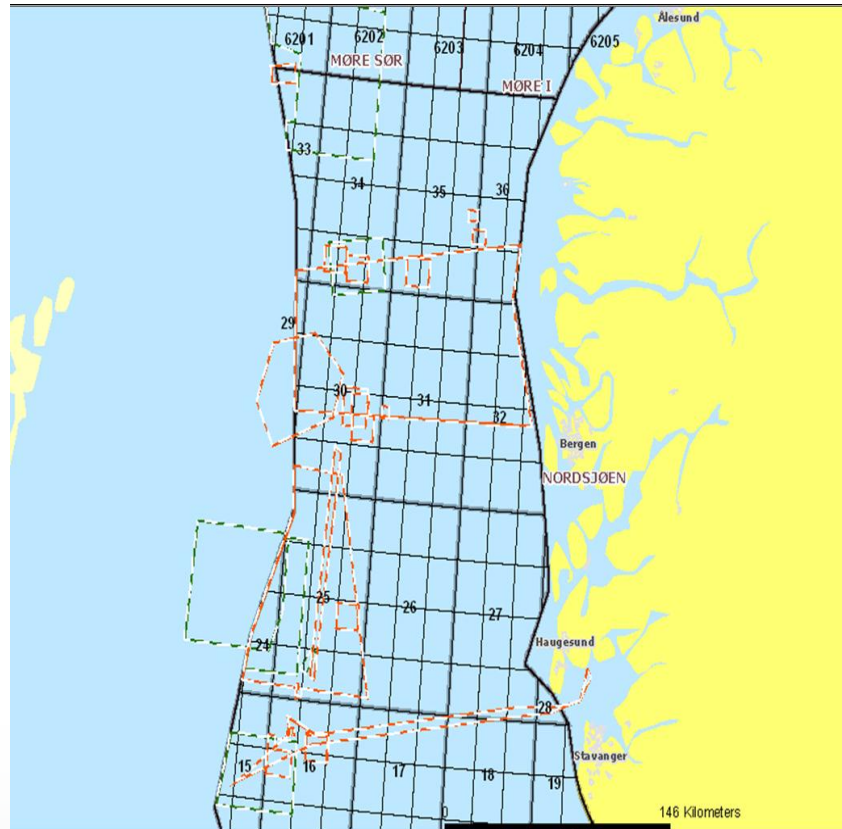
- Arranged as workshop where all parties bring information about own survey plans
- Must include **location**, **start-up time** and **duration**
- Final maps distributed to participants and also to the **GIS center** as discussed below
- In case of conflict the parties will discuss solutions between themselves
- Can also involve others based on outcome of the meeting

Statoil WebMap

- This view shows layers covering
 - Planned and on-going operations
 - NPD notification polygons (hatched)
 - Infrastructure
- Accessible via Statoil network
- “Time line” is a planned functionality in order to get relevant information for actual periods/dates presented.



NPD WebMap



WebGIS

More efficient data acquisition?

- AN “AS COMPLETE AS POSSIBLE” OVERVIEW WILL LEAD TO MORE OPTIMAL DECISIONS:
- Conflicting activities become more visible
- Time line will add value to this information
- A conventional map will indicate WHERE
- GIS with timeline will tell us WHERE and WHEN
- LAYERS covering “all” plans will give a better overview at an earlier stage than the “sequentially published” surveys from the formal NPD notification system.

Proposed WebGIS concept Part 1

- A GIS/Map tool for the Oil and Gas Industry covering:
 - Planned activity on the NCS
 - polygon and time range input from operators and seismic vendors, partly based on yearly industry coordination meeting
 - Geo-information from NPD notification system
 - On-going operations to be highlighted with reliable and updated time schedule
 - AIS information to be included
 - Survey monitoring tools to be evaluated

Proposed WebGIS concept Part 2

- Fishery activity theme:
 - Info on historic, expected and on-going fishery activity
- Environmental theme:
 - Polygons and time ranges for spawning periods
- Infrastructure theme:
 - Existing infrastructure
 - Planned infrastructure with time range for operations

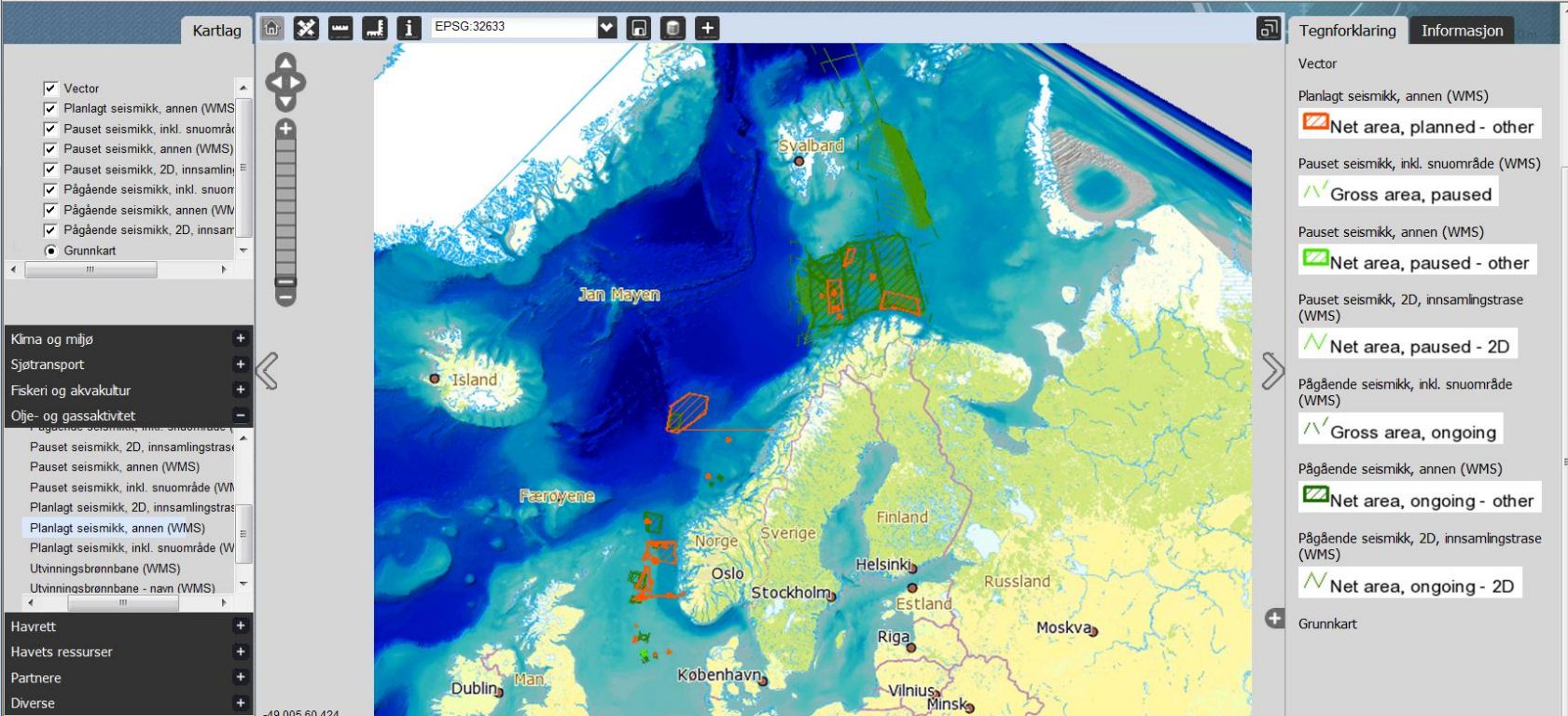
Proposed WebGIS concept Part 3

- Other marine activity theme:
 - Plans
 - On-going operations
- Coast Guard Geo-Information
 - Reported fishing gear

This WebGIS solution implies

- Willingness to share information
- Honest and realistic information from operators and seismic companies regarding extent and time schedules
- Availability of data from existing data sources

Other systems - BarentsWatch



The screenshot shows the BarentsWatch web application interface. The main map displays the Barents Sea region, including Svalbard, Jan Mayen, and parts of Norway, Sweden, Finland, and Russia. The map is overlaid with various seismic activity data, including planned, paused, and ongoing seismic areas. The interface includes a top navigation bar with 'Kartlag' and 'EPSG:32633', a left sidebar with a legend and navigation controls, and a right sidebar with a legend and information panel. The legend on the right lists various seismic activity types and their corresponding symbols and colors.

Legend (Tegnforklaring):

- Vector
- Planlagt seismikk, annen (WMS)
- Pauset seismikk, inkl. snuområde (WMS)
- Net area, planned - other
- Gross area, paused
- Pauset seismikk, annen (WMS)
- Net area, paused - other
- Pauset seismikk, 2D, innsamlingsstrase (WMS)
- Net area, paused - 2D
- Pågående seismikk, inkl. snuområde (WMS)
- Gross area, ongoing
- Pågående seismikk, annen (WMS)
- Net area, ongoing - other
- Pågående seismikk, 2D, innsamlingsstrase (WMS)
- Net area, ongoing - 2D
- Grunnkart

Kontakt BarentsWatch

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Besøksadresse:
Framsteret
Hjalmar Johansensgate 14

Informasjon

NBI Kartene som foreligger på BarentsWatch må ikke brukes til navigasjon.

BarentsWatch

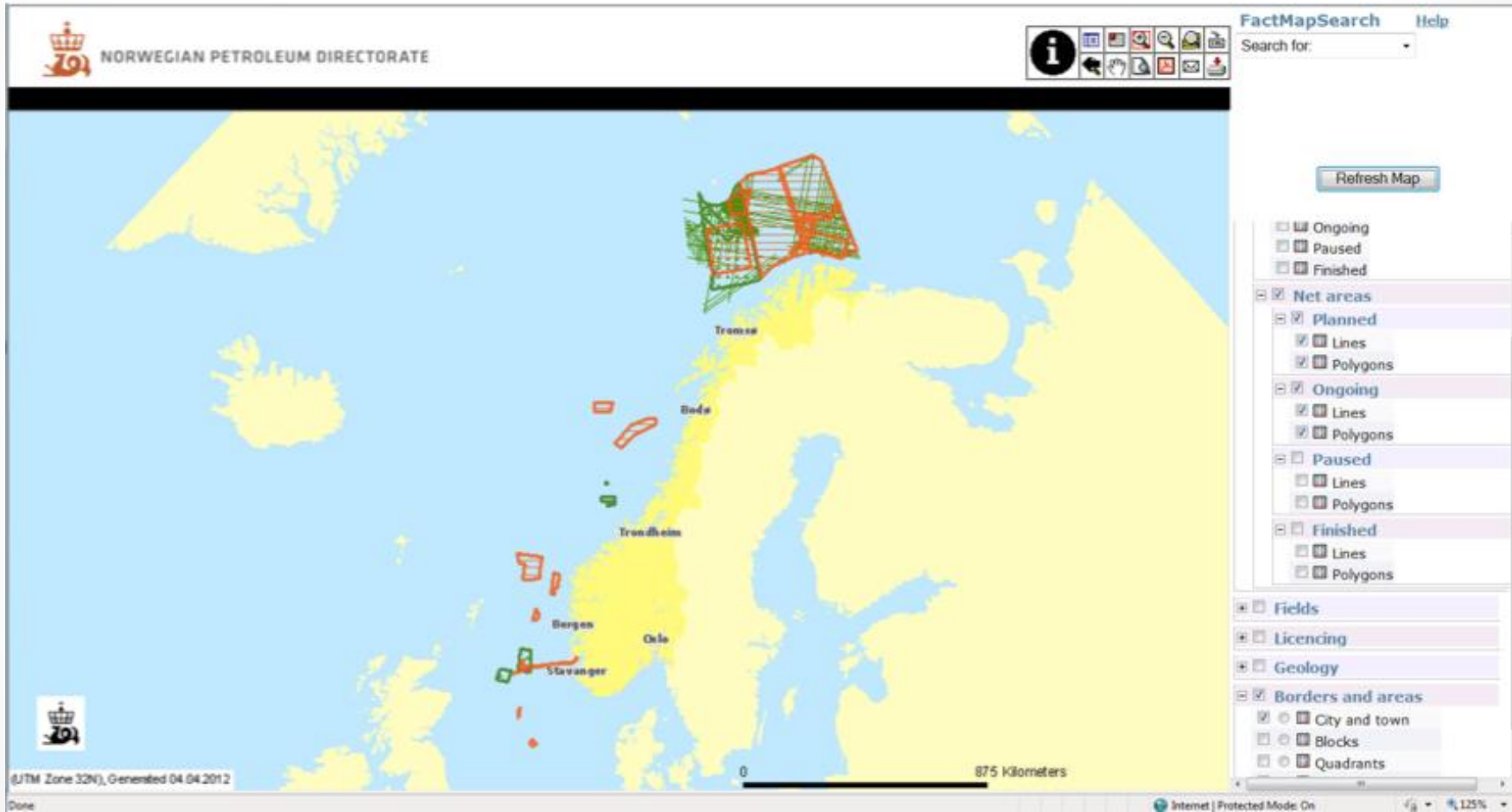
Velkommen til den nye portalen!
Dette er BarentsWatch ved lansering



Samarbeidspartnere

8 departementer og 29 samarbeidende partnere, alle sentrale forvaltningsetater og forskningsinstitutter står bak
Se alle våre samarbeidspartnere

NPD fact map, planned and on-going surveys



Proposed operational model

- Funded by Oil and Gas Companies and Seismic Industry, with possible Governmental contribution
 - Development funding
 - Operation funding
- Steering committee with representatives from OLF, Seismic Industry and Authorities
- Development and Operation of the WebGIS on ordinary commercial terms

Way forward

- OLF approval
- Establish funding
- Identify stakeholders
- Review existing systems
- Establish Steering committee
- Define Scope Of Work
- Invite to tender
- Tender award
- Develop tool
- Implement tool