



PFA
PELAGIC FREEZER-
TRAWLER ASSOCIATION

Marine Big Data and Data Governance

Martin Pastoors (PFA Chief Science Officer)





I hope that by now I have figured out
what big data is...

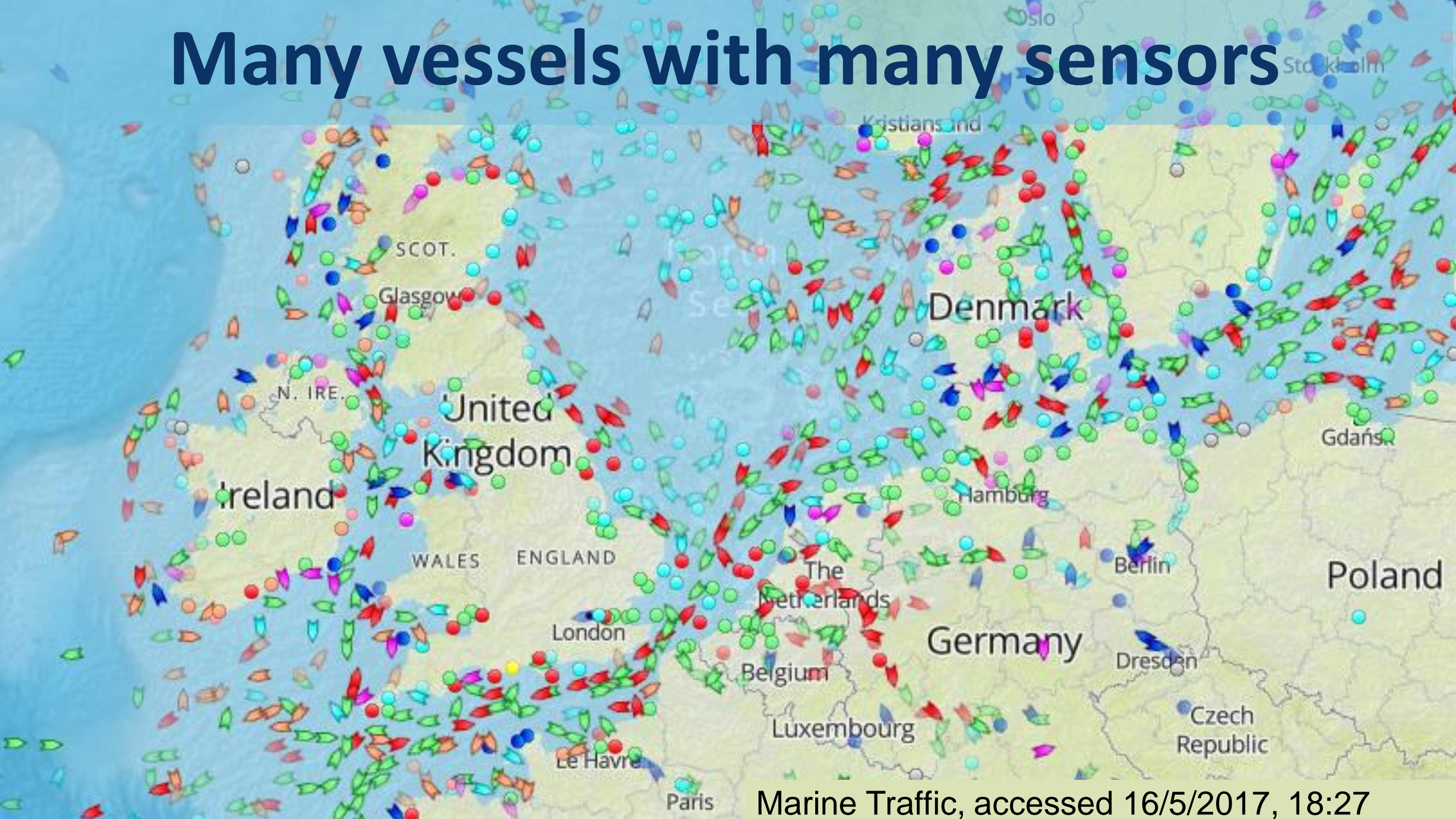




Big data for me: clever use of multiple sources and sensors



Many vessels with many sensors



Marine Traffic, accessed 16/5/2017, 18:27

Research vessels

Fishing vessels

Freight vessels

Oil carriers

Recreational vessels

Passenger vessels

Tugs

Navigation aids

Platforms at sea

...

Big data governance questions

- Is the data easy to collect?
- Who has access to what types of data?
- On what legal claim? (voluntary, obligatory,...)
- What happens with the data?
- Where are the data stored / accessible?
- What happens with the information that is produced?
- (How) Does the data-provider profit?
- How are sensitivities in the data handled?

Big data does not come by itself
It requires work
... and social investment

Examples of (big?) data collection in fisheries

PelAcoustic II: collecting acoustic data from pelagic freezer-trawlers 2013-2015

Sascha Fässler



IMARES
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Pelagic Freezer-trawler Association

PelAcoustics

Olex Marine charting and navigation

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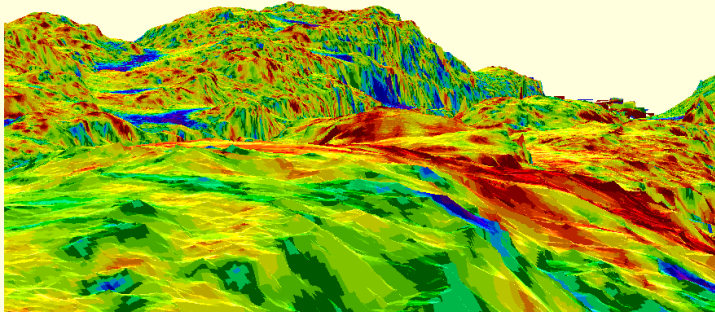
[ChartWorld](#)

facebook
Olex
20 Years

Olex version 9.2
Supports Scientific Linux 6.9. Fixes a bug in Olex 9.1 whereas loading of compressed files could fail.
[Complete version history](#)

Atec version 4.4.147
Latest firmware for Atec.


- [About Olex software](#)
- [About ROV-positioning integration with Olex](#)
- [Atec 400, multibeam sonar](#)
- [M3 - Olex processing unit](#)
- [Latest Seafloor database: May 2017](#)



OLEX

ICES
CIEM

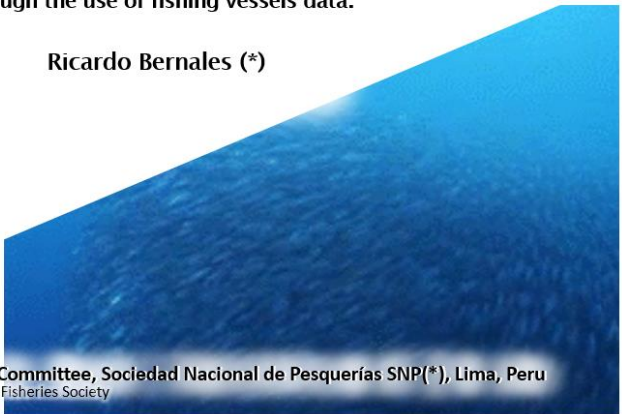
WORKING GROUP ON FISHERIES, ACOUSTICS, SCIENCE AND TECHNOLOGY (WGFAST)
Vigo, April 19-22 2016


Sociedad Nacional de Pesquería

FISHERIES AND FISHERS' ACOUSTIC DATA

Establishment of fishery and acoustic information system through the use of fishing vessels data.

Ricardo Bernales (*)

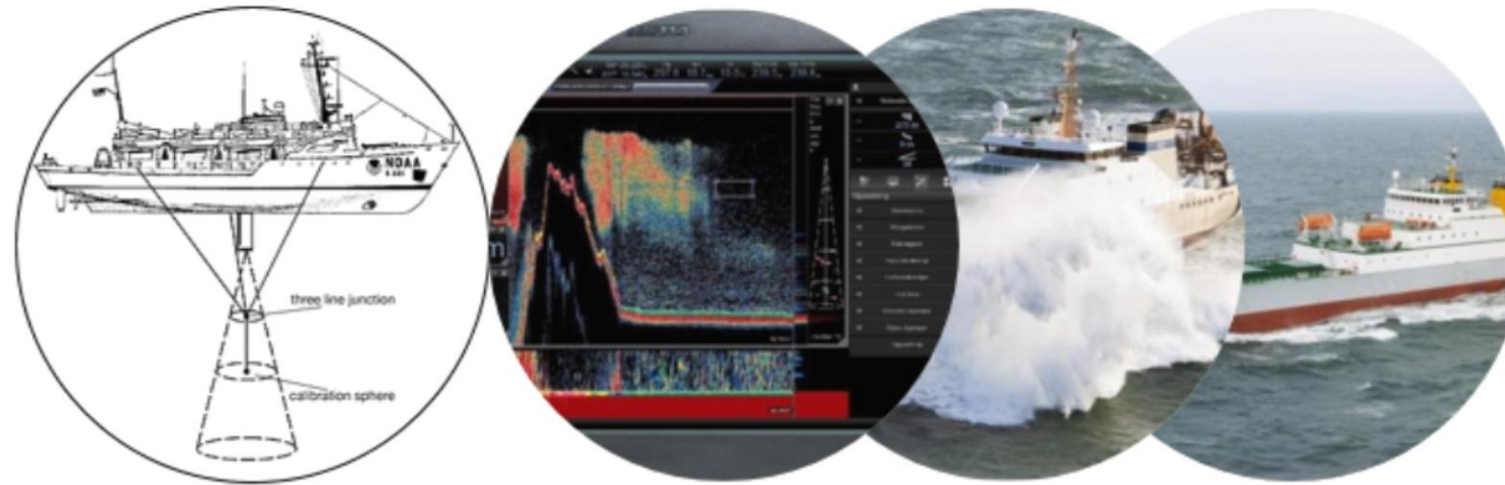


Scientific Committee, Sociedad Nacional de Pesquerías SNP(*), Lima, Peru
(*) National Fisheries Society

Peru Acoustics

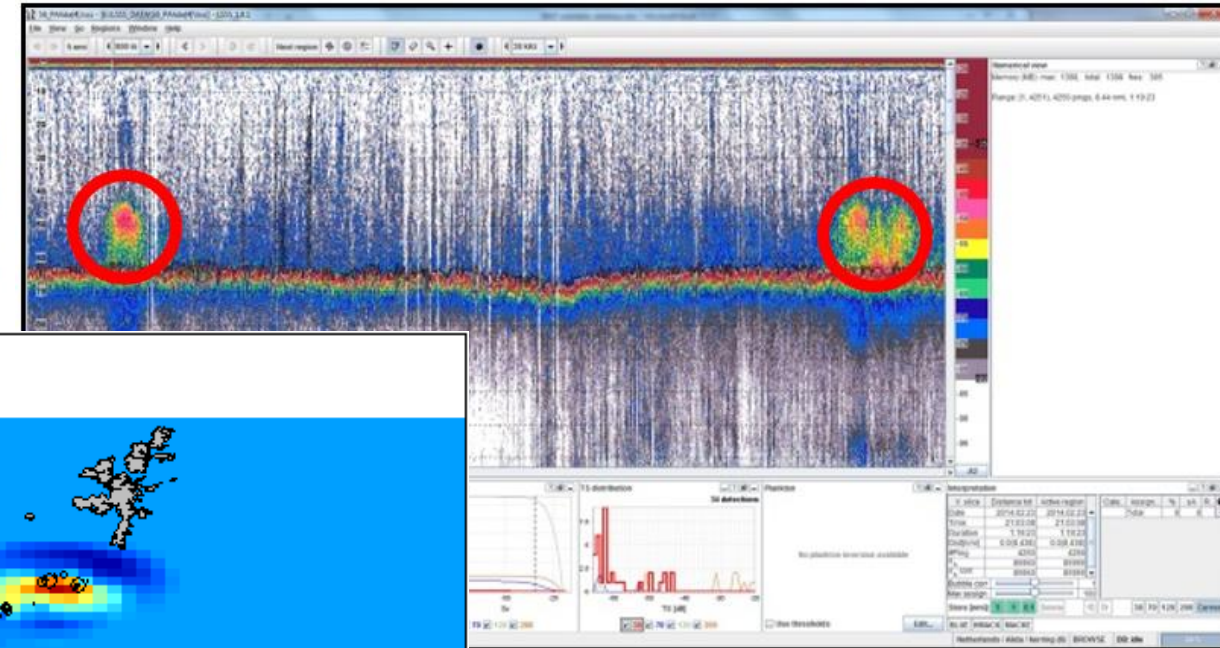
PelAcoustic II: collecting acoustic data from pelagic freezer-trawlers 2013-2015

Sascha Fässler



Ambition

- Explore how acoustic information from commercial fisheries could be used for scientific assessments





ELSEVIER

Contents lists available at ScienceDirect

Fisheries Research

journal homepage: www.elsevier.com/locate/fishres



Full length article

Acoustic data collected on pelagic fishing vessels throughout an annual cycle: Operational framework, interpretation of observations, and future perspectives

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Acknowledgements

We would like to acknowledge the cooperation of the operators and owners of the fishing vessels involved in the research.

PelAcoustics: Big Data Governance Scorecard

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[Olex version 9.2](#)

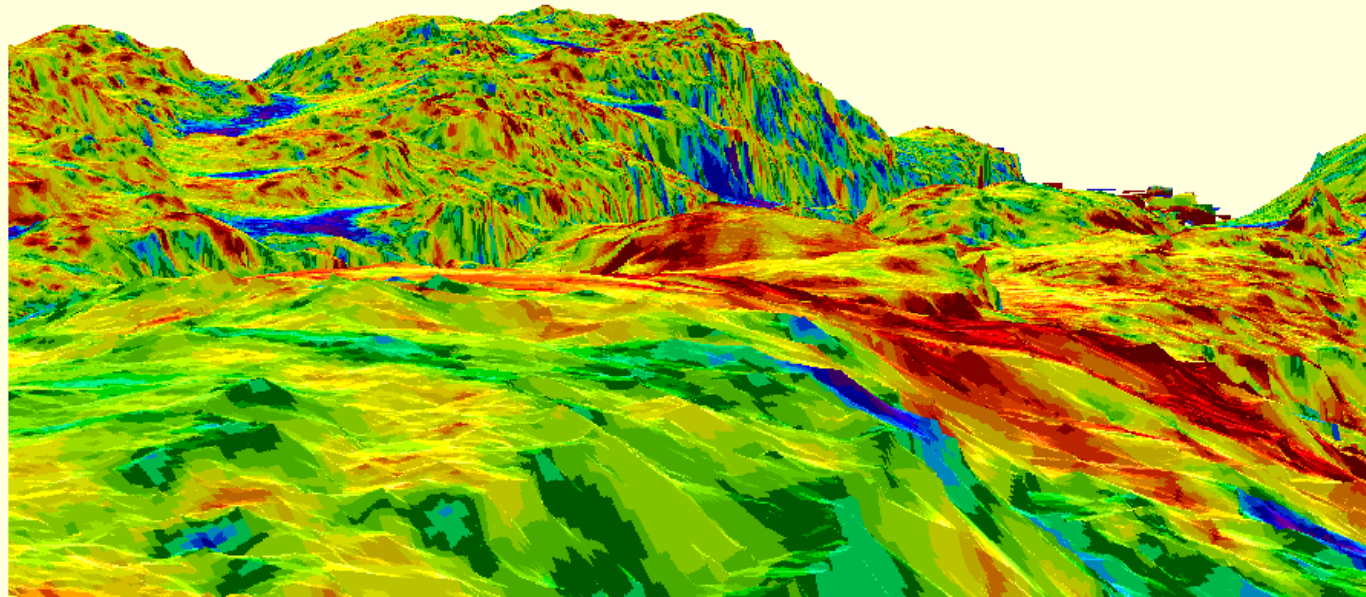
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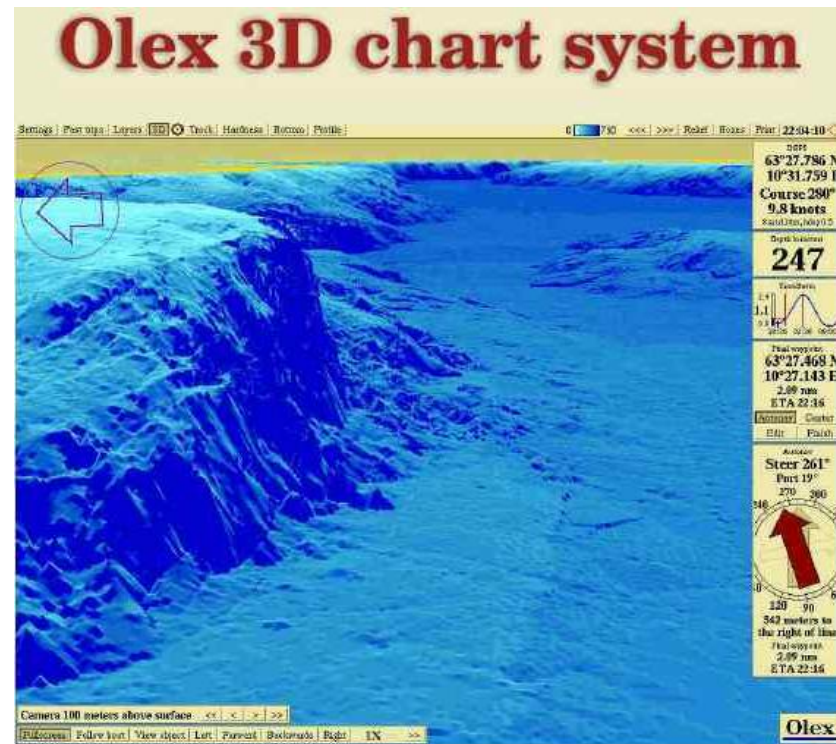
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Ambition

- Collect detailed depth maps from commercial fishing vessels (using their acoustic sounder) and share with everyone participating.



OLEX: Big Data Governance Scorecard

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AND TECHNOLOGY (WGFAST)
Vigo, April 19-22 2016



FISHERIES AND FISHERS' ACOUSTIC DATA

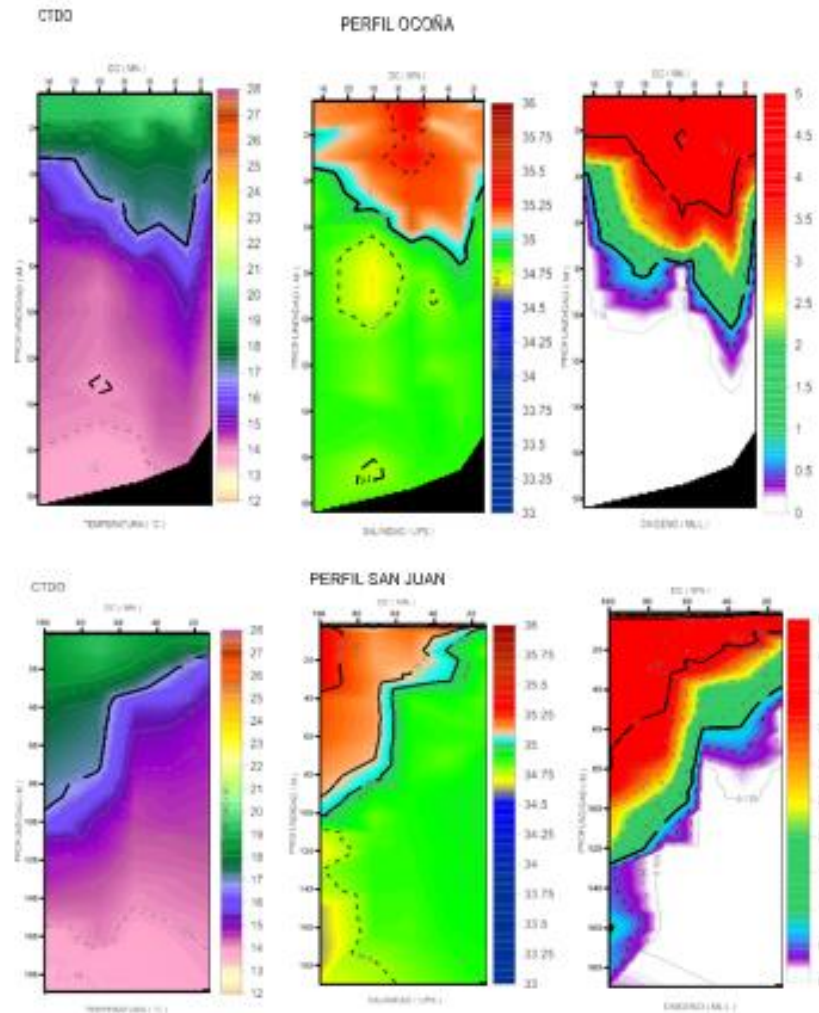
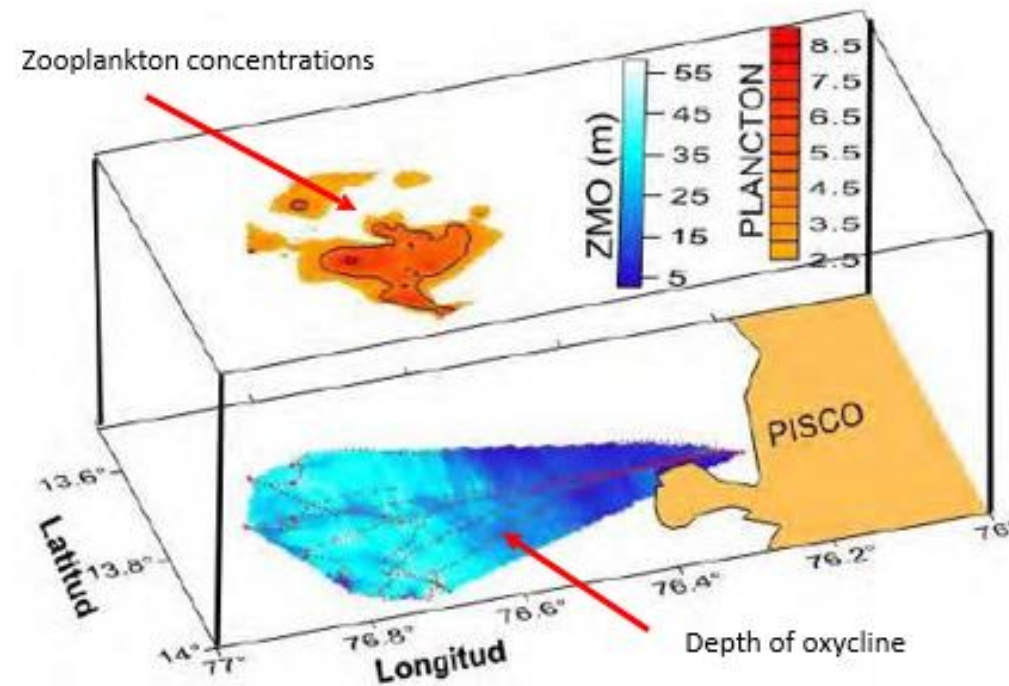
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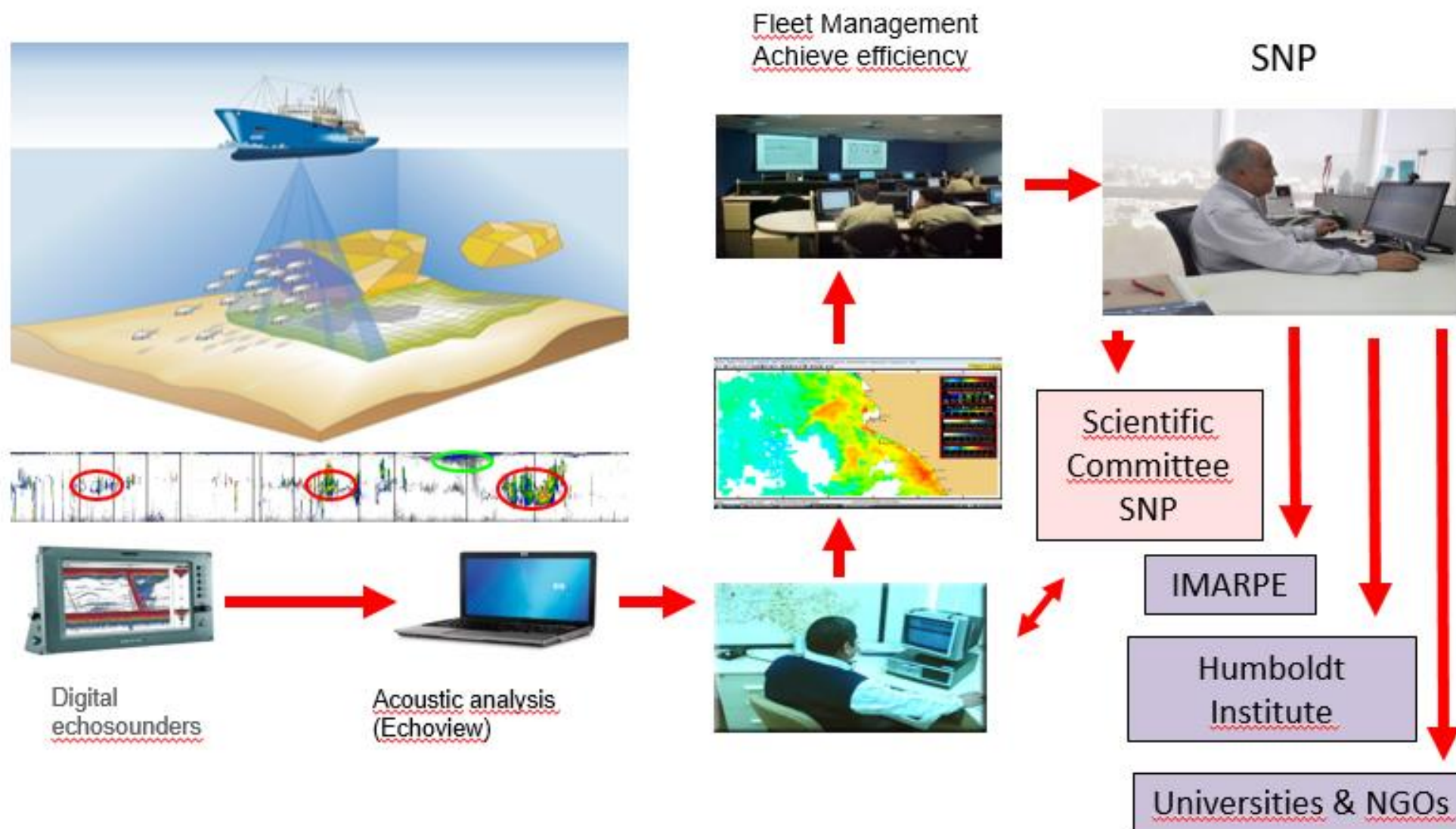
EXPLOITING THE DATA DIRECTLY BY THE FISHING COMPANIES FOR MANAGING THEIR OWN ACTIVITIES

Oxycline depth and zooplankton concentration, using acoustic information (single fishing trip)

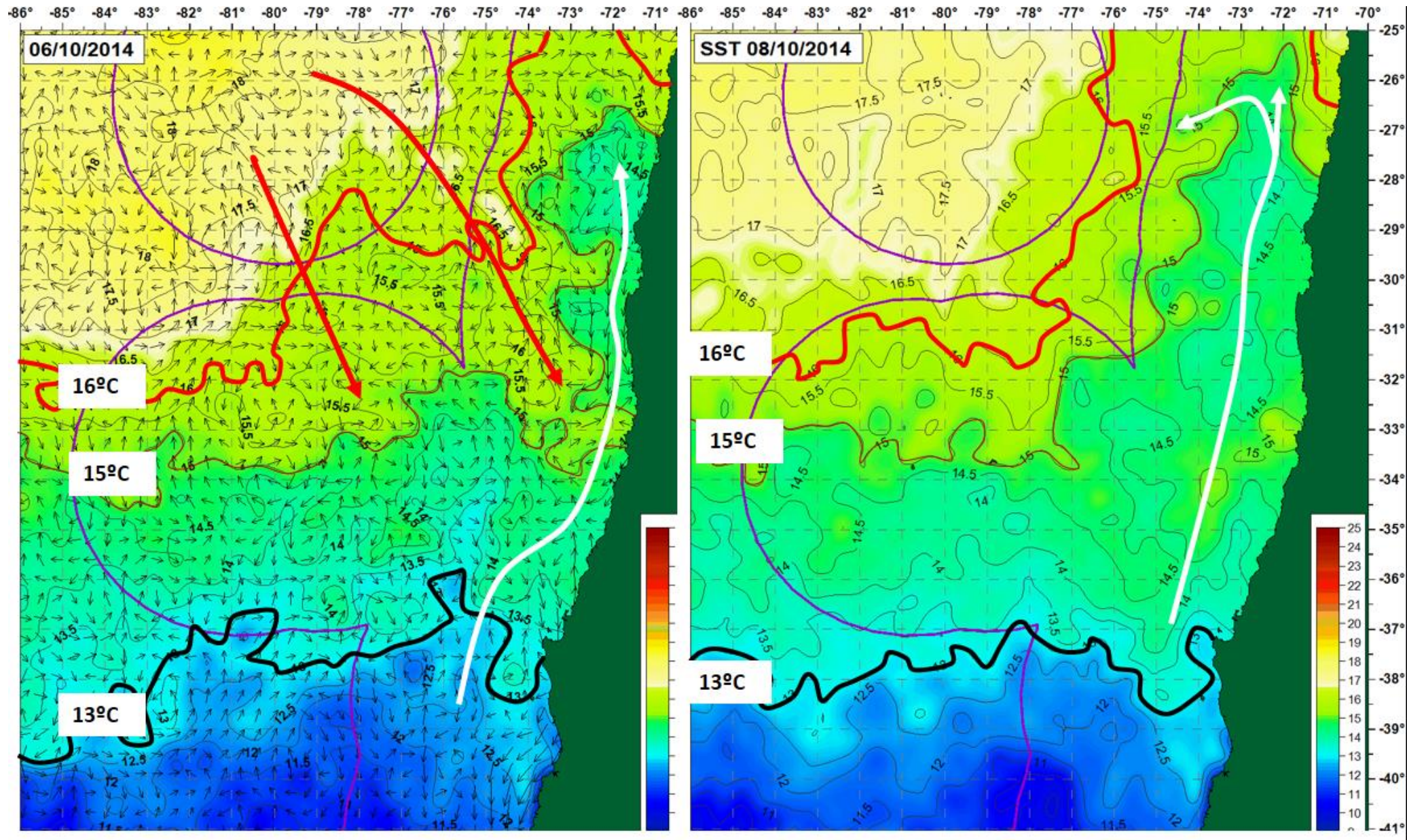


Temperature, salinity and oxygen profiles registered by CTD

Oceanographic and biological Information System



Using environmental aggregated data for science and fisheries



Gretchina, forecast 1/10/2014

PERU Acoustics: Big Data Governance Scorecard

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On what legal claim? (voluntary, obligatory,...)



What happens with the data?



Where are the data stored / accessible?



What happens with the information that is produced?



(How) Does the data-provider profit?



How are sensitivities in the data handled?



So ...

There is great potential in collecting
Big Data from vessels of opportunity

But Big data does not come by itself
It requires work
... and social investment

Big Data Governance Scorecard

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What is in it for 'them'?





PFA

PELAGIC FREEZER-
TRAWLER ASSOCIATION

Working with industry to improve science and management



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