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Interoperability in the context of Marine Geosensor Networks

Background

Sustainable mitigation strategies are essential to minimise the risk posed by geohazards for people living in close vicinity to coastlines. Existing observing systems already provide substantial information to judge about potential risks but the information flow management is still in its infancy. This is due to the fact that rules to make data interoperable do not exist, yet. This is the major task that has to be fulfilled in the very next future.
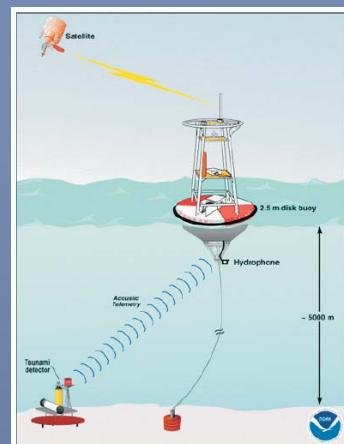
Successful operational Tsunami Early Warning System DART
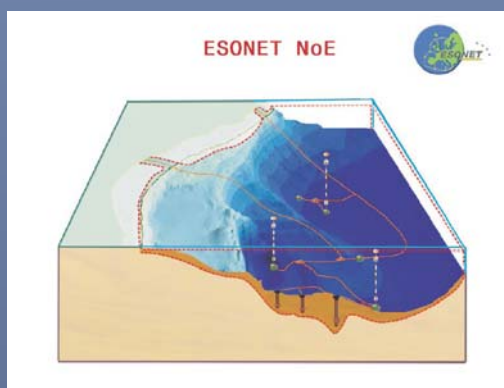
**Future cabled regional observatories
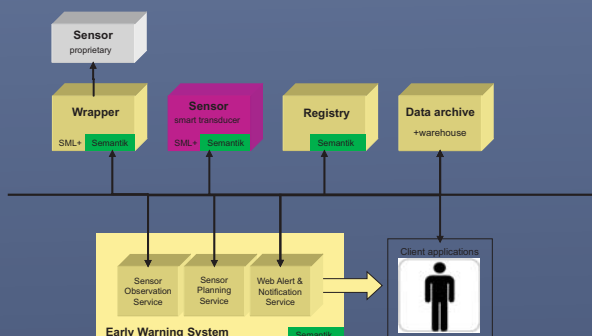(EU- Project ESONET)**

Current Observing Systems

In the context of TSUNAMI early warning systems ground based measurements are essential for reliable assessment of potential flooding risks. The amount and reliability of data throughput is determining the value of the installation. The subsequent data distribution is still relying on a centralised processing system.

Plug'n'Play intelligent sensor network - concept

Future Observing Systems

With cabled observatory systems web based architectures for data access, processing and distribution is made possible. Interoperability will be made possible by standardising interfaces starting at the sensor level. New architectures likePlug'n Play functionality and Web Services will allow for simple integration into existing early warning systems.

Future Work

At the University of Bremen a group of experts from different disciplines has formed to test and implement new strategies for seamless integration of the data flow of existing and future observing systems. New standardised data concepts like SensorML and on the the sensor side concepts that are based on IEEE 1451 will be tried out. Shallow water platforms like FINO and deepwater test sites like ANTARES in the Mediterranean Sea will be employed.

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