



3rd MarinERA Infrastructure Workshop



Ile des Embiez 12-13/02/08

**Session 2 – *How to best implement
and manage future coastal
observatory networks?***

**2.2 Coordination of data quality
and programming**

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→ **Global data chain : from acquisition to data storage**

At which level the quality procedure is involved ?

Data - Sensors – **Quality sensors** – Raw-data transmission – **Automatic data quality control** – Raw-data storage – **a posteriori data quality control** – final data storage – **statistics long term dataset** (near real-time alert)



First step:

- *Which data? Depend on scientific issues*
- *Define a list of core parameters*
 - Survey (pollution, harmful species, ...)
 - Observation in the global change context (long term variability)
 - Modelling and forecasting (climate, ocean circulation, biogeochemistry)



Second step:

- *Inventories of sensors, precision needs for each coastal area*
- *Type of data: real-time and delayed data; importance of metadata. Establish a data policy*



• **Sensors quality** : how can we get quality and inter-operate data in a good timing? (real-time and discrete sampling) :

- *Improve precision of sensors, battery, ...*
- *Minimize biofouling (higher in coastal area)*
- *calibration procedures*
- *Improve sensor protection*
- *Develop sensors with automatic calibration procedures*
- *Set up intercalibration exercises for sensors: promote common protocols and interoperability, compare with in situ samples*
- *intercalibration with satellites*



- **Others procedures** that can be integrated in the data transmission chain to improve the data quality suitable for a long term observation system?

Sensors:

- *Life cycle of instrument: each instrument needs to be tested and qualified before its deployment in an observatory (generic tests)*
- *Identify power consumption, bandwidth utilization, endurance testing*
- *Standardization of interfaces*



Data:



Statistics tools to monitor long-term coastal water change (researchers, politics, public):

- A posteriori stats*
- Tracking long-term changes at near real-time scale*
- provide data uncertainties*
- Compare same data measured with different tools*
- record the environmental changes around the site where data have been measured*
- data assimilation system provides a quality control*



→ **Programmation**

- Share a pool of equipments at the EU level?
Which equipments? How to manage this pool?
How to program their using?
- Instrument portability across observatories:
simplify the preparation, deployment, and support
- List of instruments that we want to share: gliders, AUV, others platforms (buoy, profilers ?), ...
- Time distribution or synchronization of instruments



Notes:

- Sharing technicians, experiences
- use labs facilities to calibrate sensors ? Which calibration ? Which precision level ?
- Identify reference labs for sensors, gliders, ...?