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The Marine Seismology Standards Action Group, initiated after the 2023 FDSN Working Group V: Portable Instrumentation meeting, prepares standards and collates software needed to make marine seismology data more available and useable. The group will propose these standards at the IASPEI meeting in September 2025.

This poster summarizes the major topics that we have identified.

**Details of our proposals are in two files on our Github page (QR code below):**

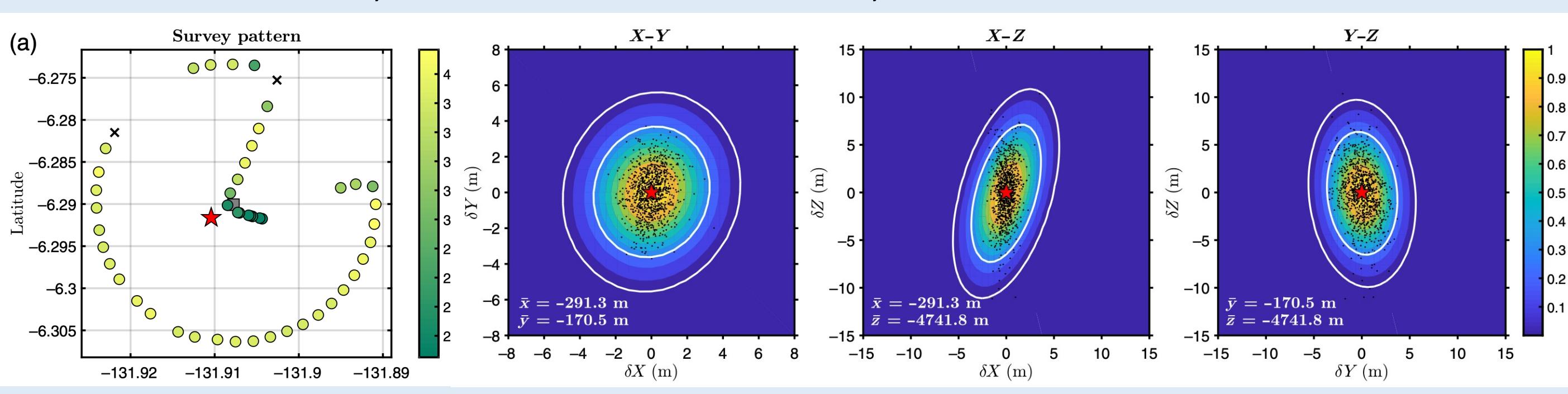
- standards.pdf: Proposed metadata and data standards.
- software.pdf: Existing and needed software.

For each topic, we summarize the issues, then list the needed elements **in bold**.

## LOCALIZATION

OBSs are generally deployed in free fall and can drift several hundred meters from their deployment location:

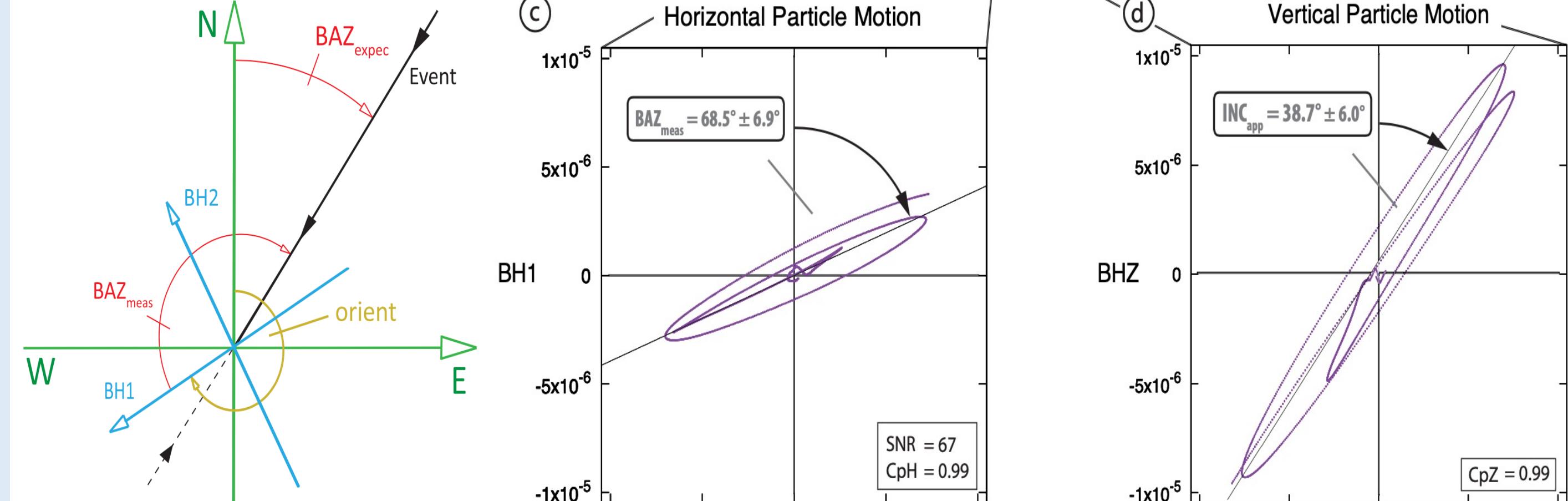
**Localization methods, software recommendations, metadata standards.**



## ORIENTATION

OBSs land in an unknown orientation and magnetic compasses are biased by OBS electronics:

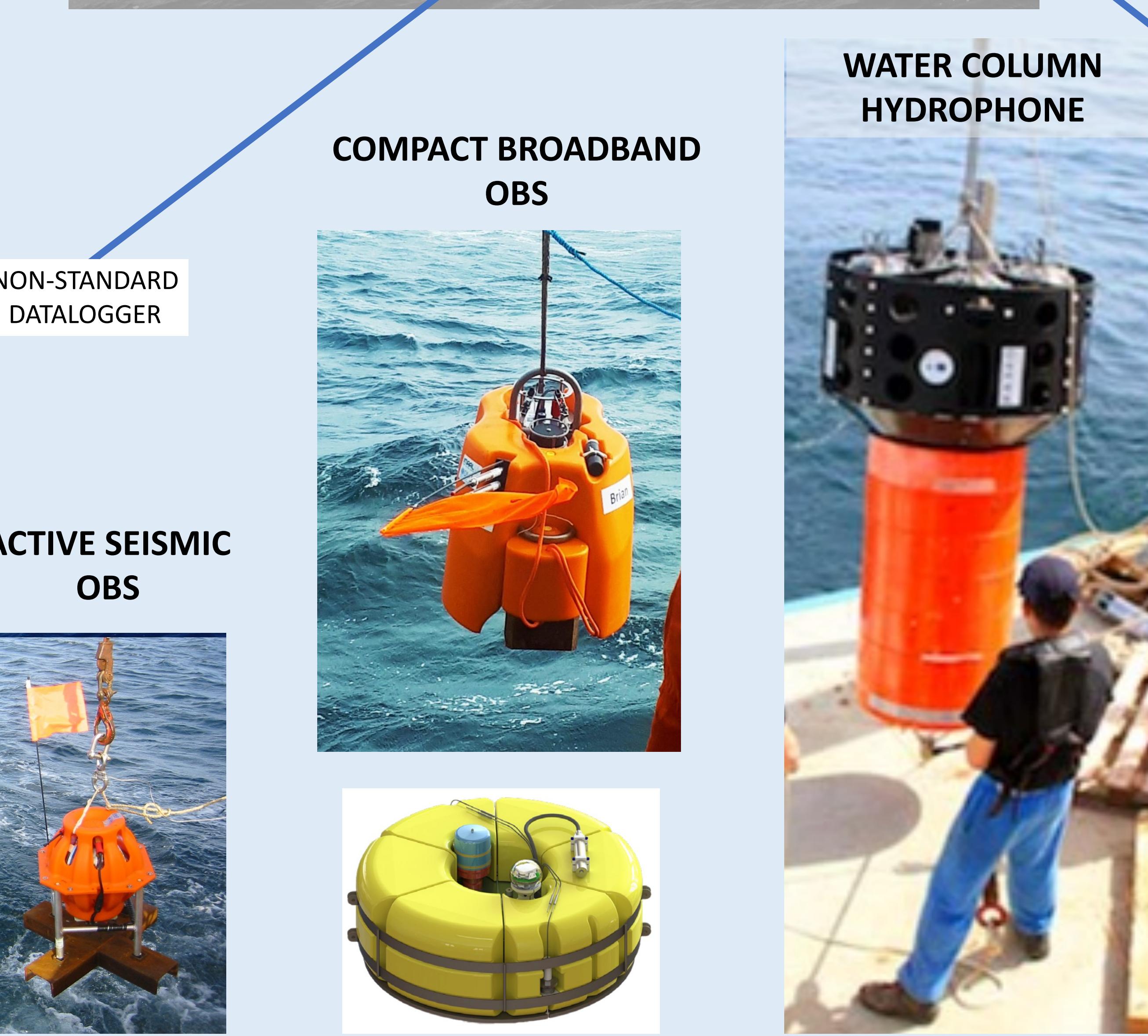
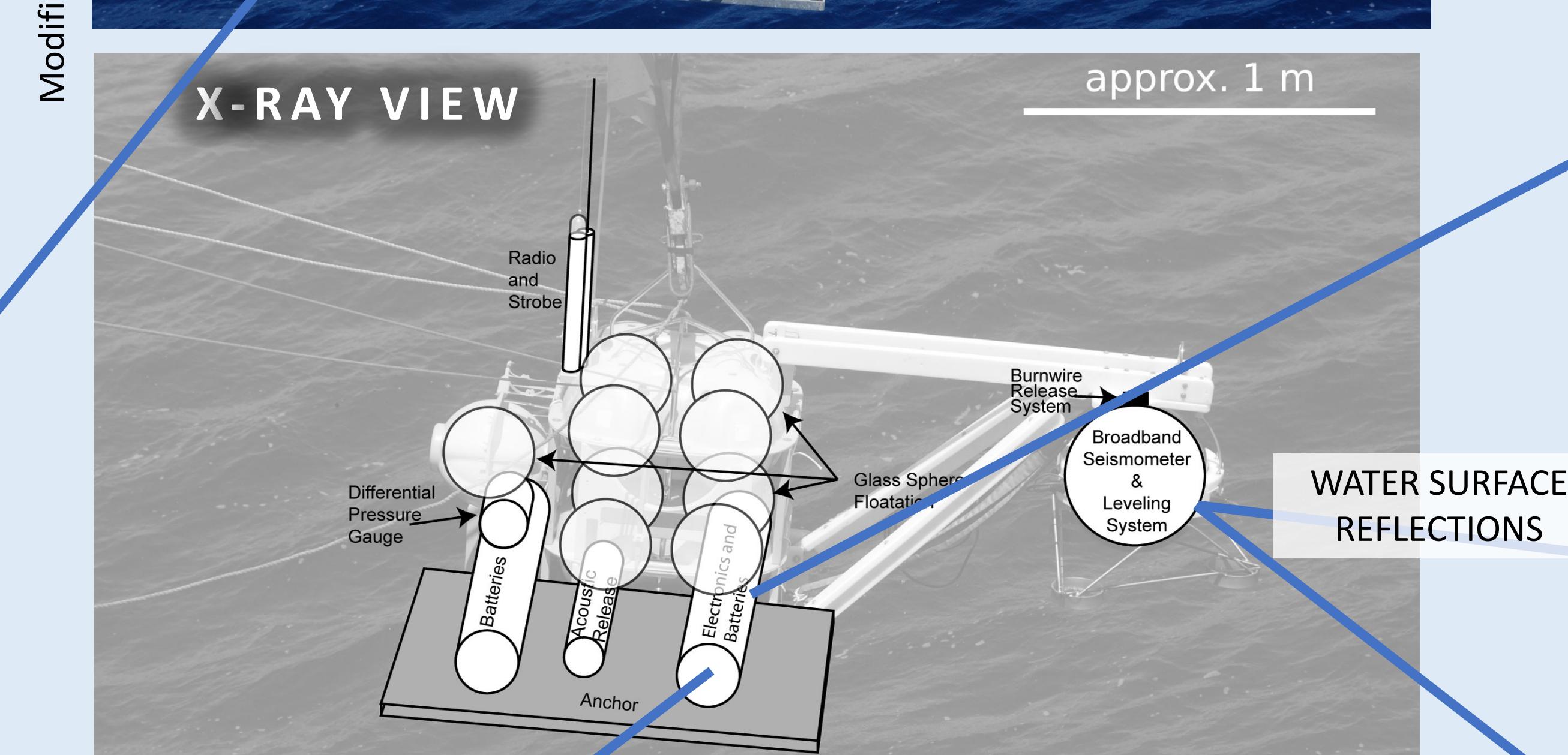
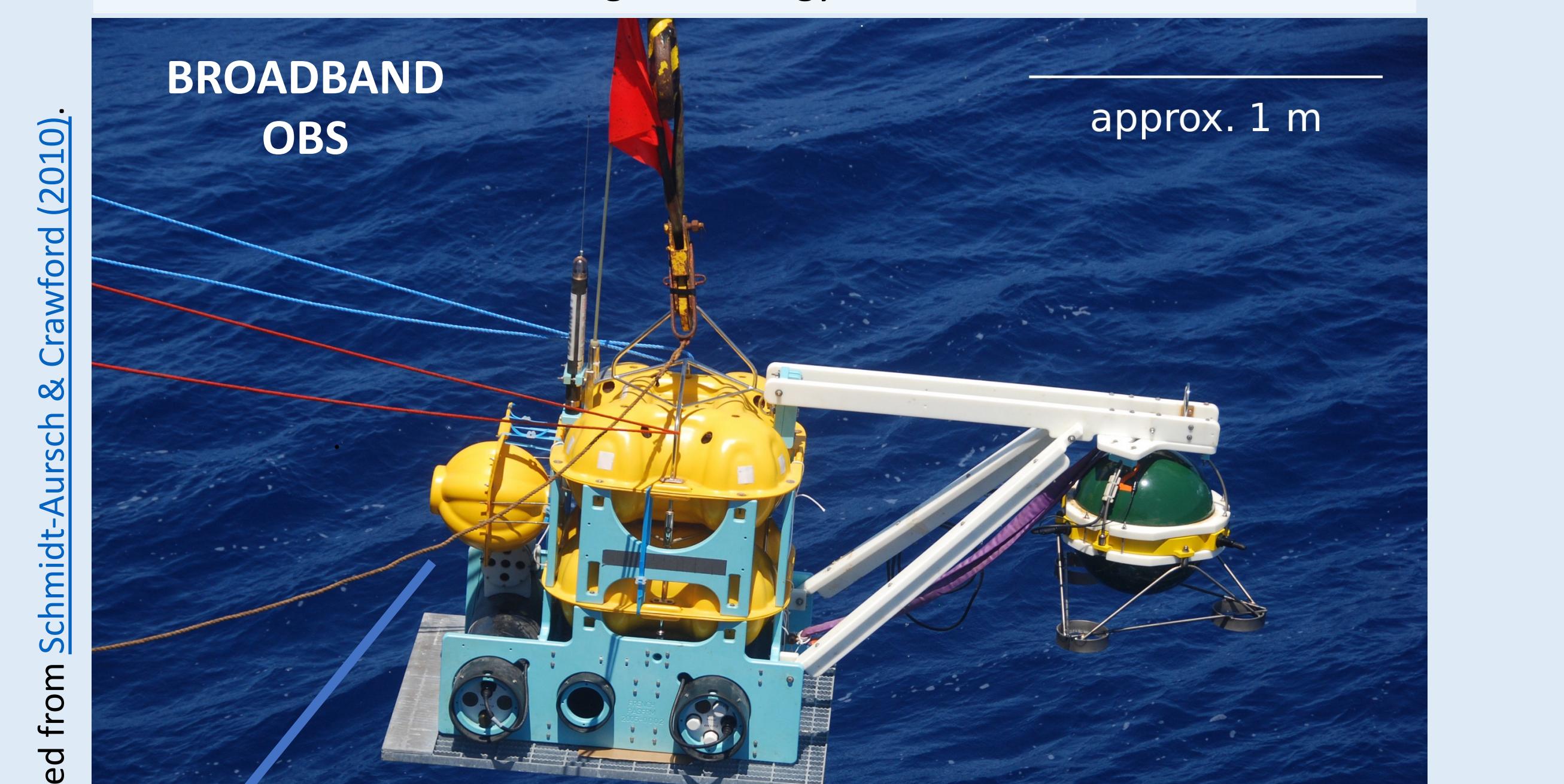
**Orientation methods, metadata standards, software recommendations.**



**DATA AND METADATA CONVERSION**  
Most OBSs use non-standard data loggers that do not output miniSEED or StationXML files:  
**Metadata standards, software recommendations.**

## A Marine Seismology Zoo

Marine seismology instrumentation comes in a variety of sizes and shapes, but they share several characteristics that are not accounted for in existing seismology data/metadata.

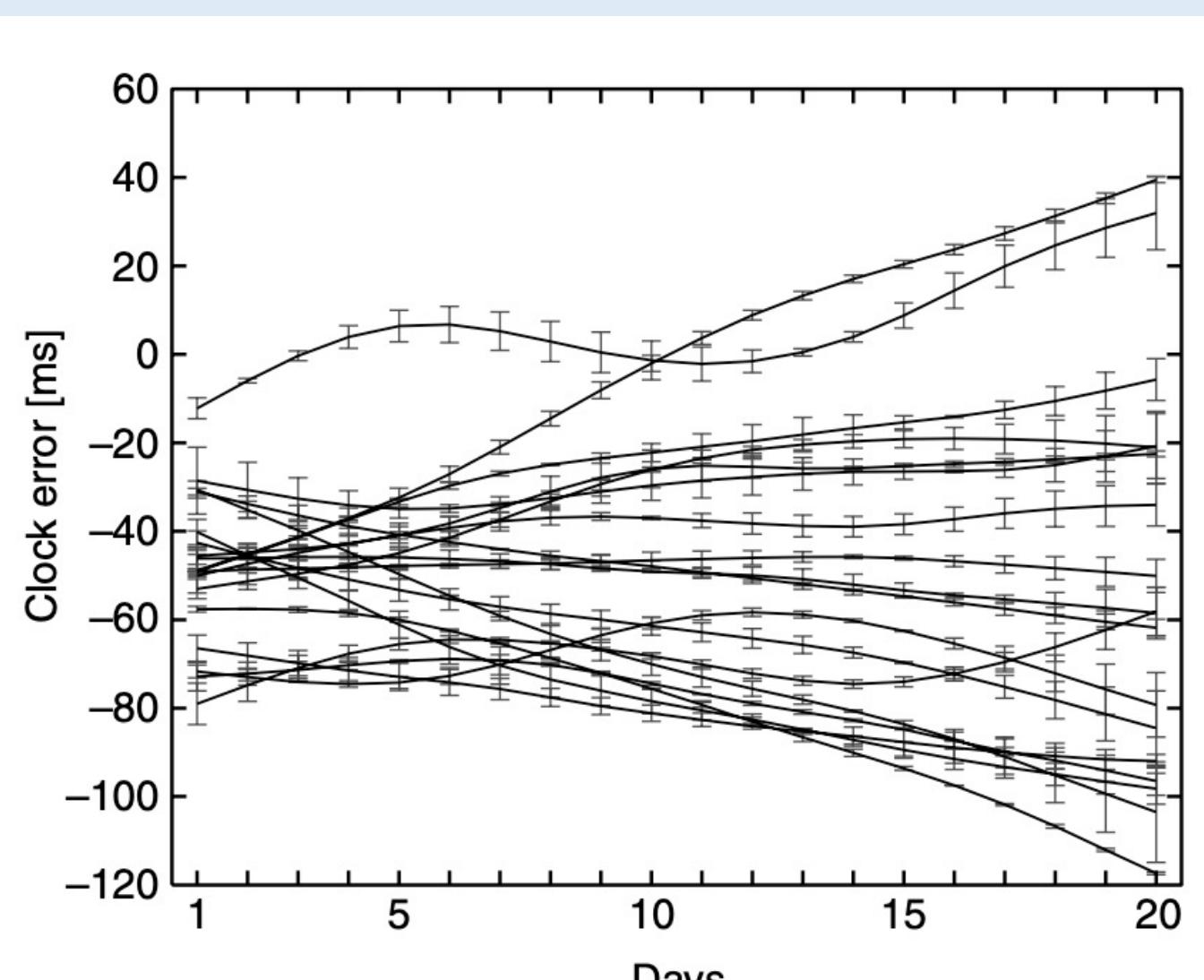
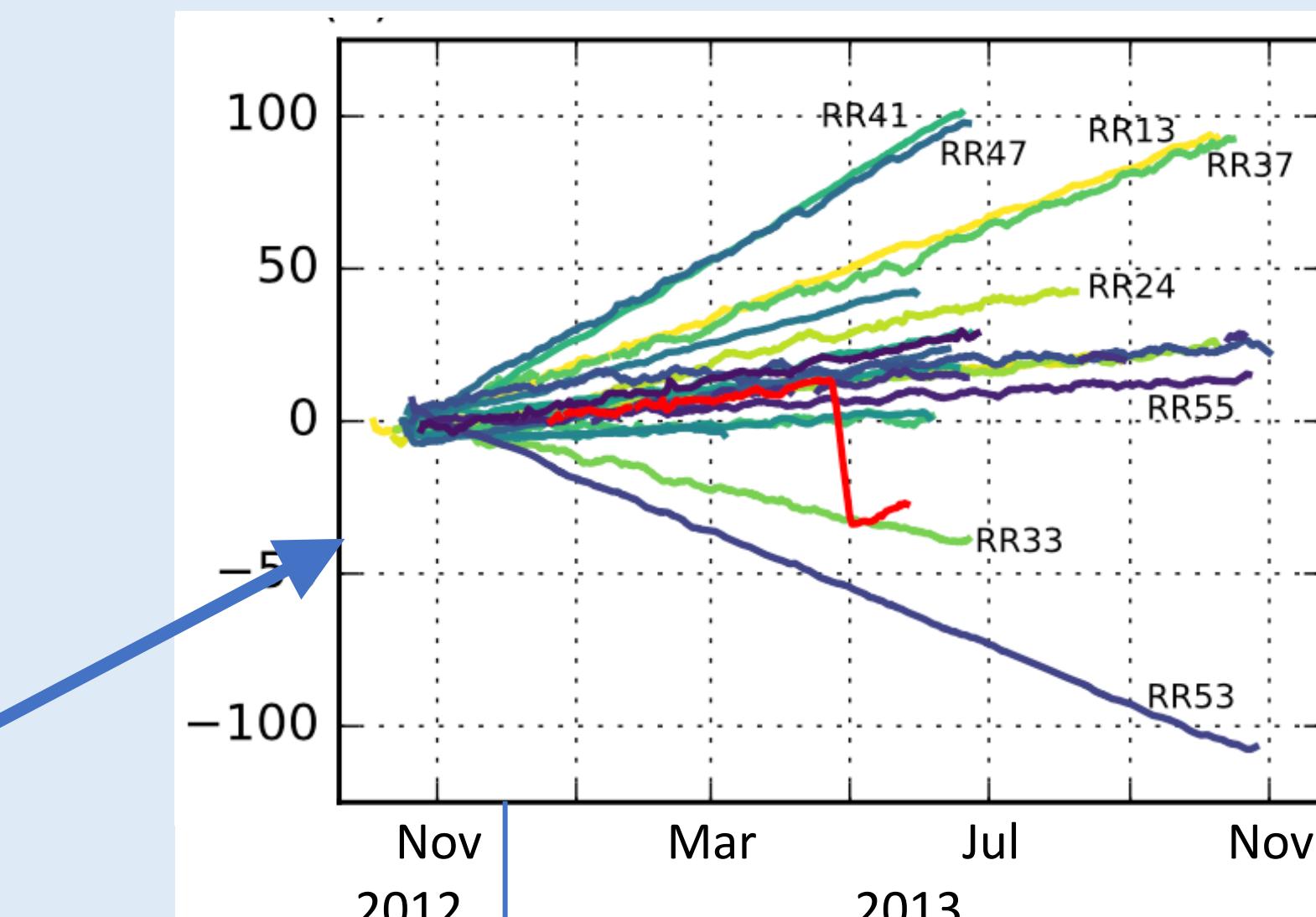


**INTERNAL TIME BASE**

## CLOCK DRIFT AND LEAPSECONDS

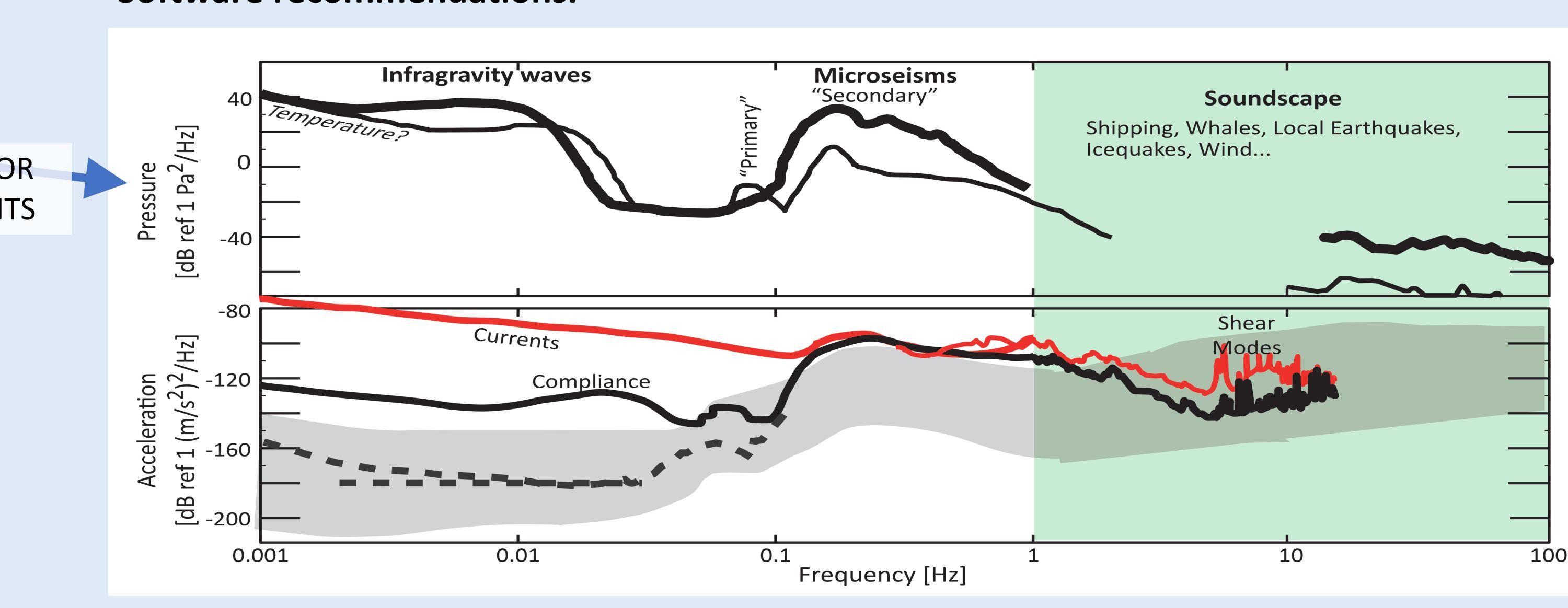
OBSs use an internal time base, whose drift must be calculated and corrected. Leap seconds, a one-second adjustment to match UTC to observed solar time, must be inserted into the data:

**Drift calculation methods, metadata standards, software recommendations.**



## SIGNAL SEPARATION

There are many sources of signal on OBSs, extracting the one that interests you is crucial:  
**Software recommendations.**



## INSTRUMENT COMPONENT SPECIFICATIONS

Instrument component characteristics such as the leveler's precision affect data quality:  
**Metadata standards.**



- WHAT CAN YOU DO?**
- Read the proposed standards.
  - Suggest other standards.

- HOW CAN YOU DO IT?**
- Talk to the nice presenter!
  - Write about it on the Issues page

