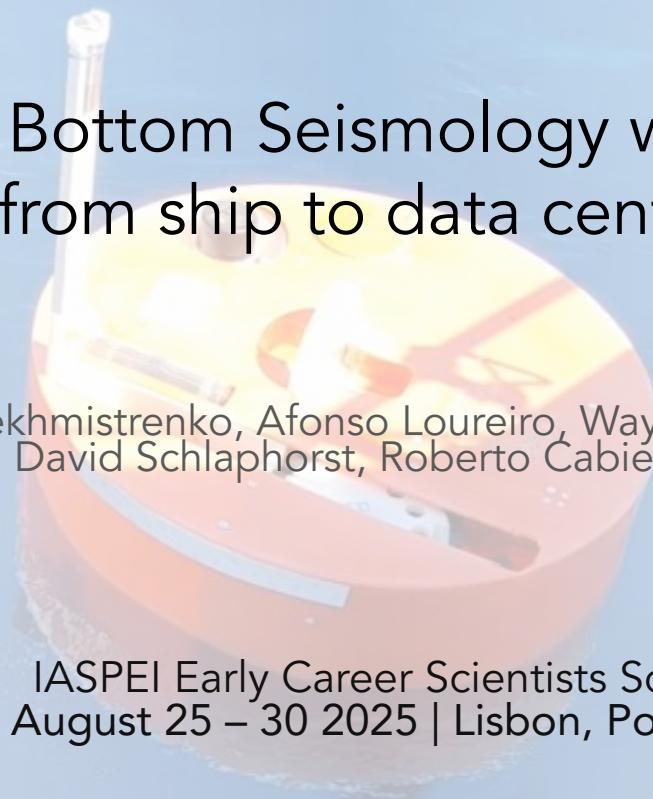


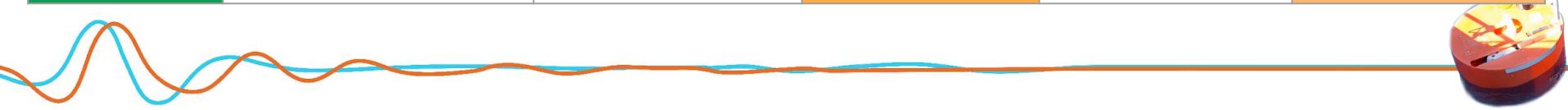
# Ocean Bottom Seismology workshop: from ship to data centre



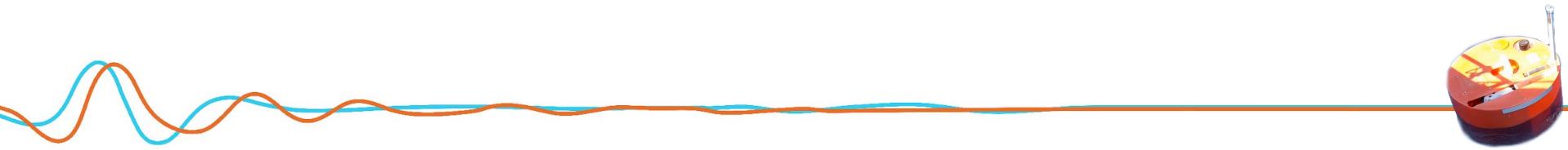
Maria Tsekhmistrenko, Afonso Loureiro, Wayne Crawford,  
David Schlaphorst, Roberto Cabieces

IASPEI Early Career Scientists School  
August 25 – 30 2025 | Lisbon, Portugal

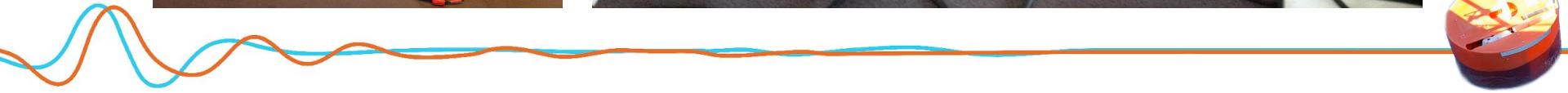
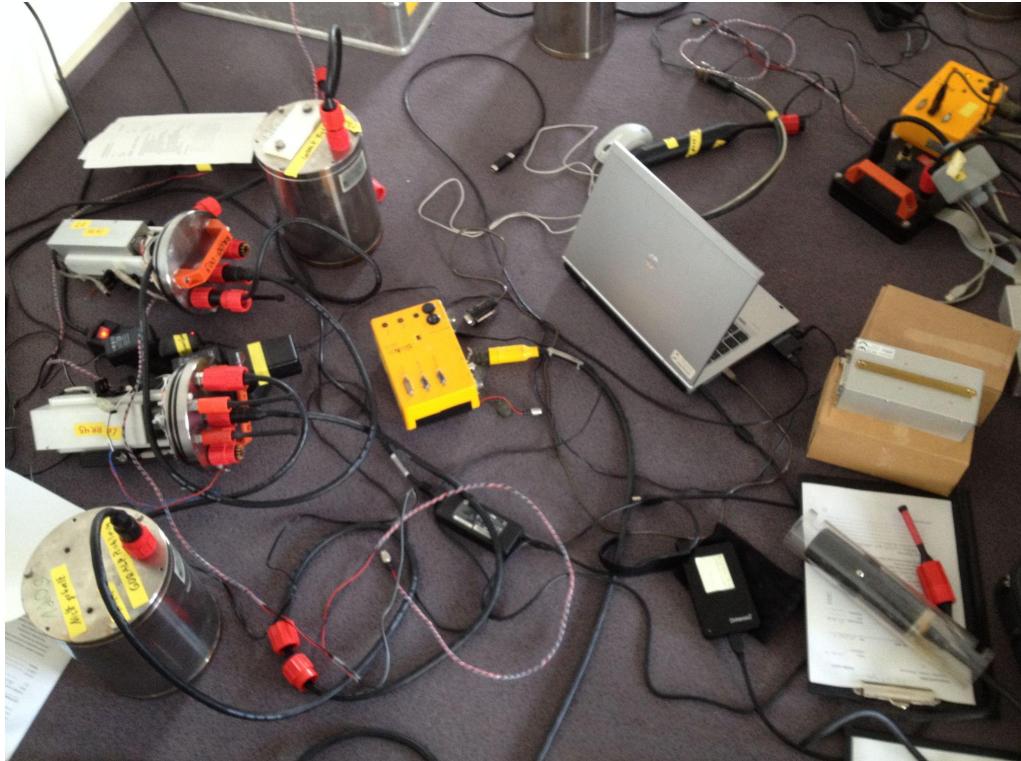
	Monday	Tuesday	Wednesday	Thursday	Friday
Morning I	Kickoff; Life Cycle of OBS; Software setup	Skew correction	Data Legacy	OBS and DAS: Instrumentation Showcase	DAS & SOP
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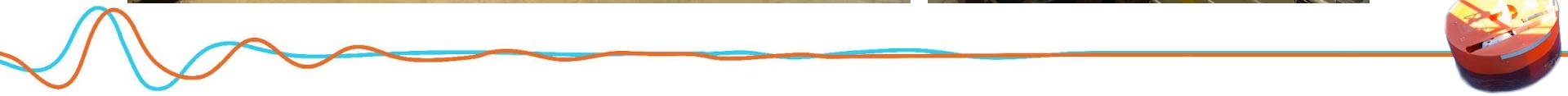
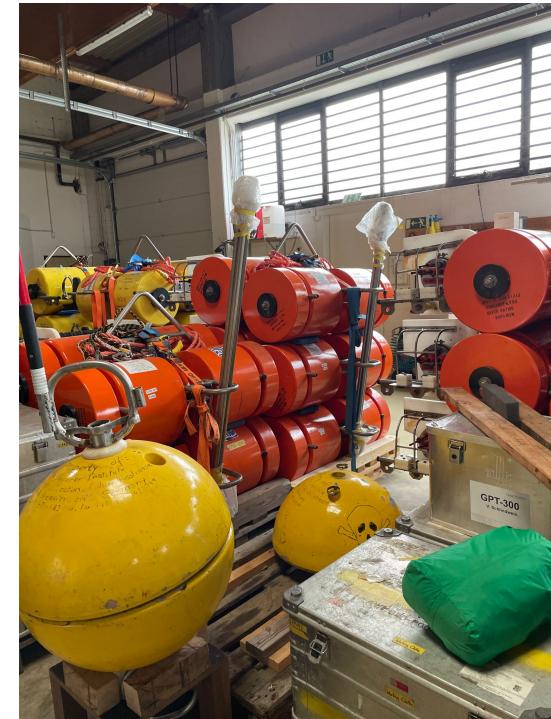
# Life Cycle of an OBS and it's data



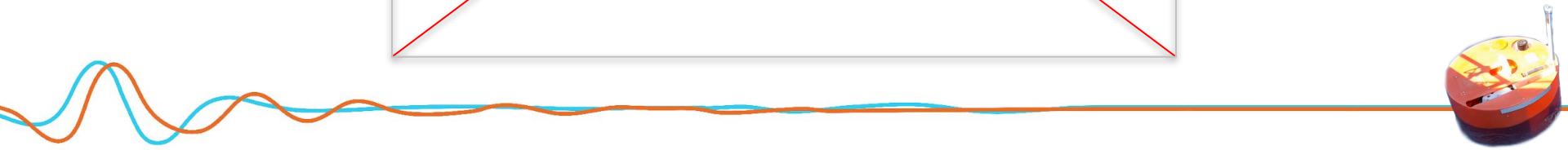
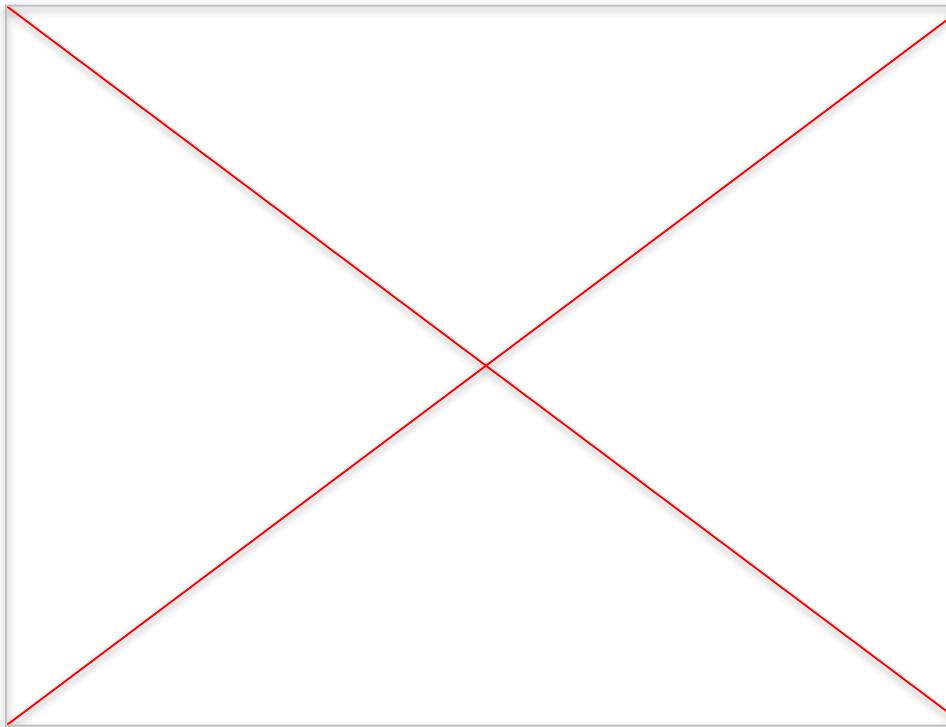
# In the workshop: maintenance and preparation



# Packing the container: transport to the boat



# Preparation before deployment



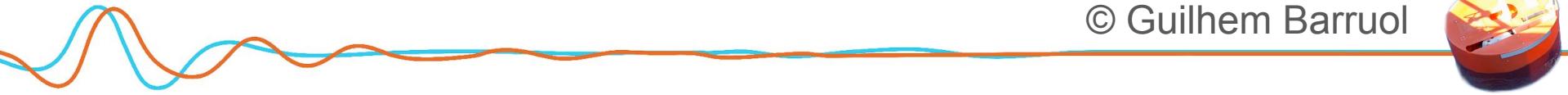
# Last checks and don't forget the station protocol

Check out for more videos:

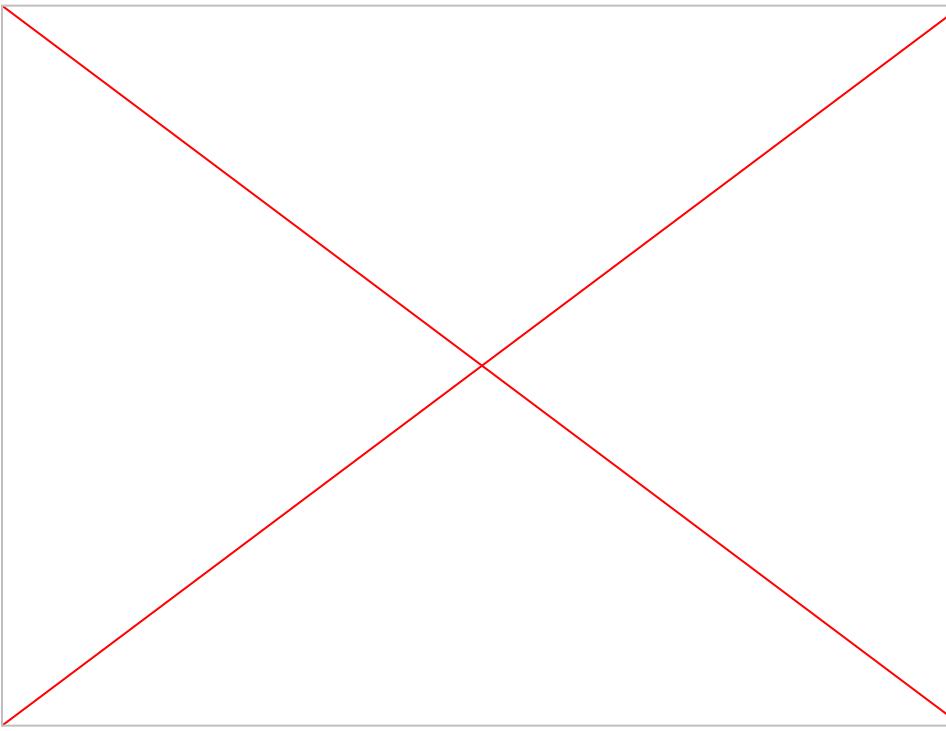
<https://www.youtube.com/@guilhembarruol1045>



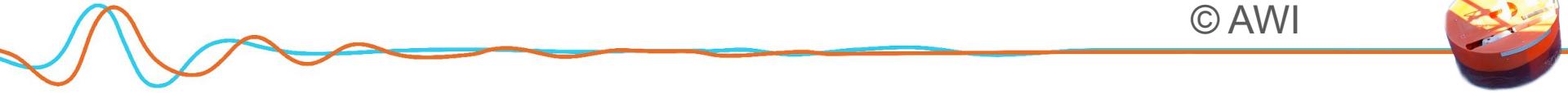
© Guilhem Barruol



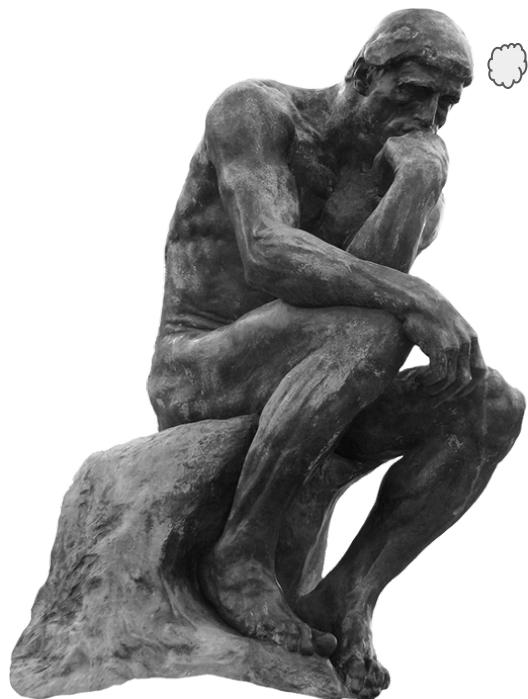
# Deployment



© AWI

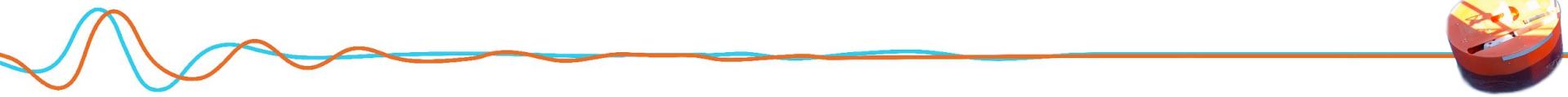


# The long wait

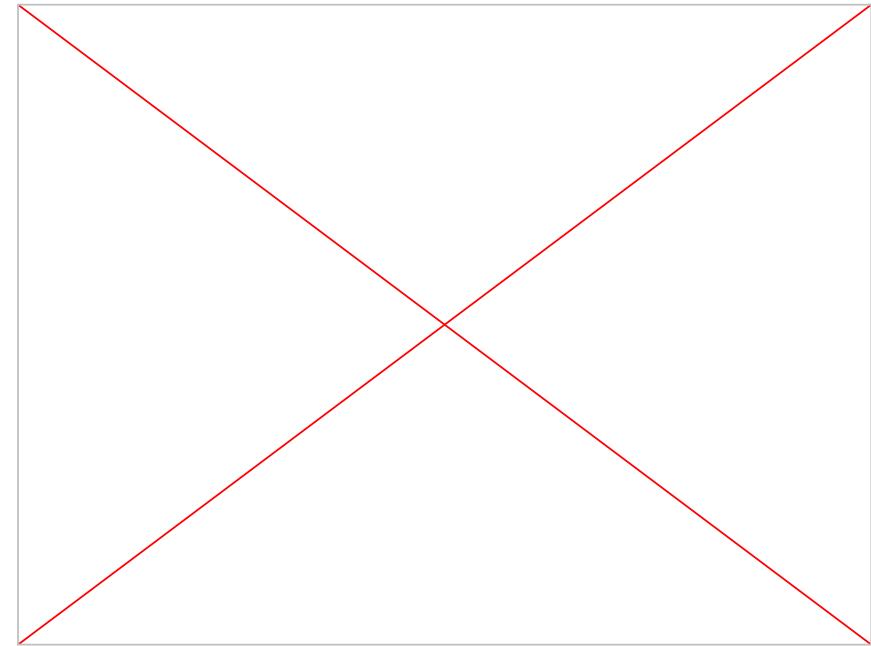
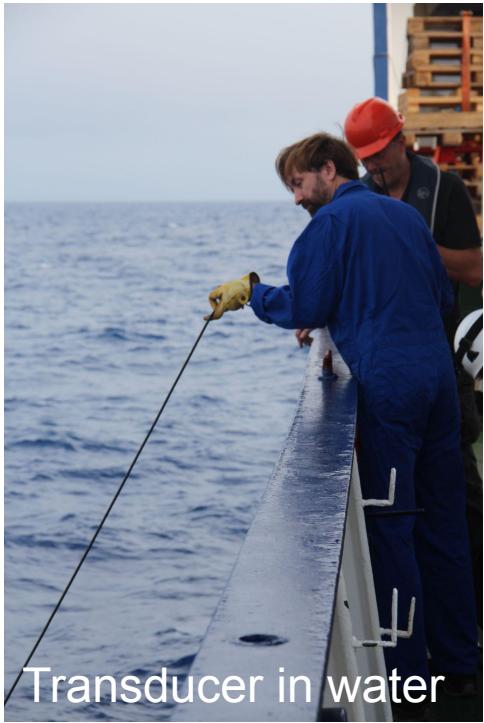


Did I screw everything tight enough... or too tight?  
Did I program the auto release right?  
Did the OBS hit the shipwall a bit too hard?  
Will the batteries last?

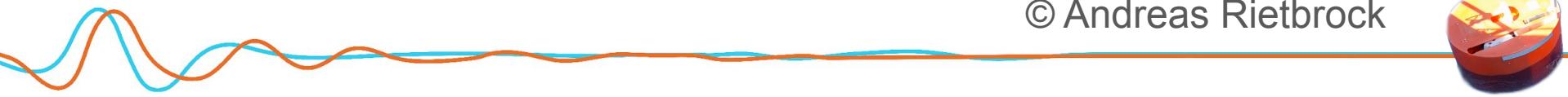
...



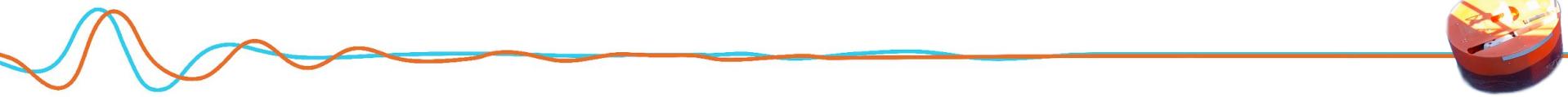
# Recovery



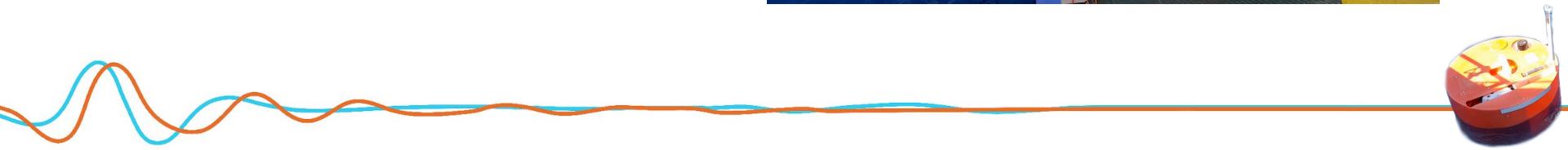
© Andreas Rietbrock



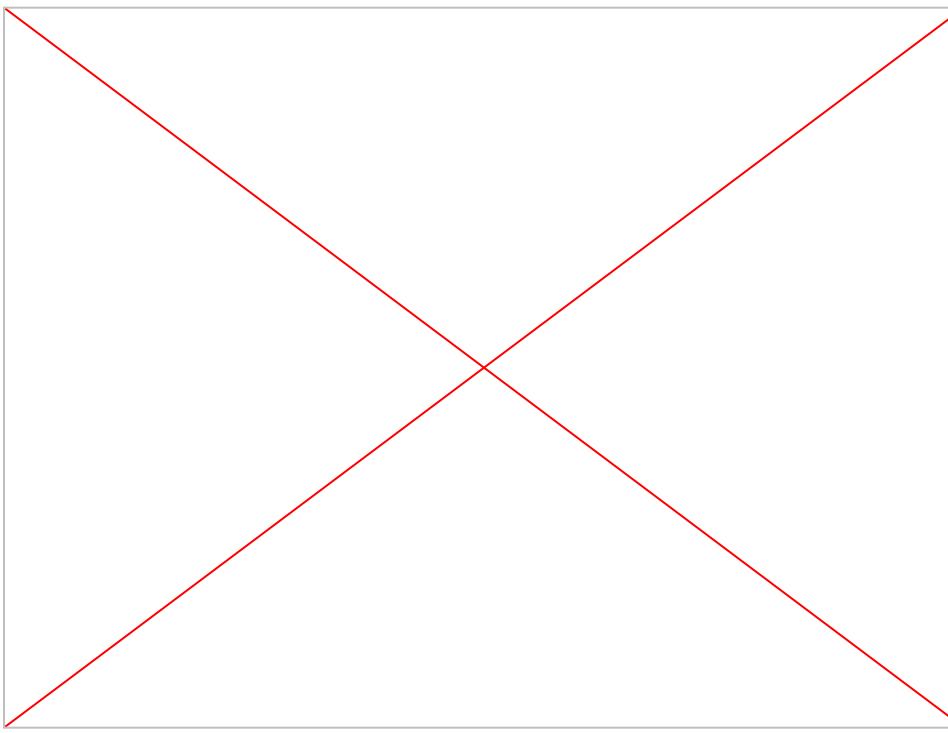
# Recovery



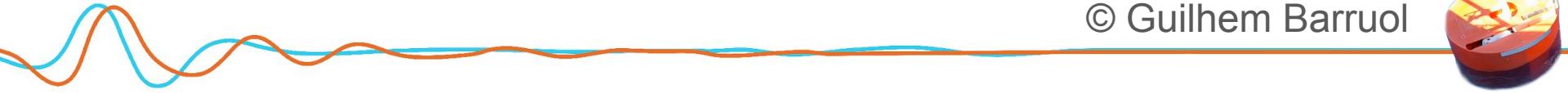
# Recovery



# Recovery

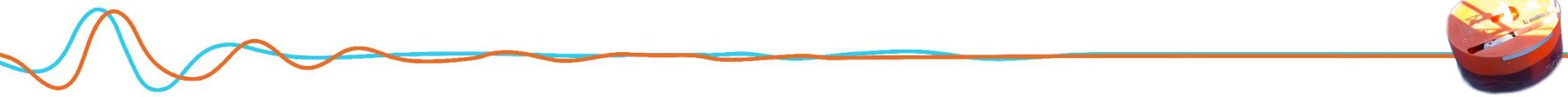


© Guilhem Barruol

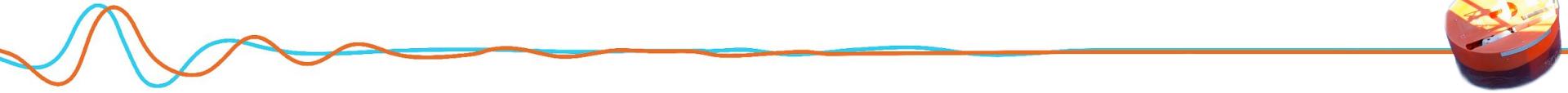
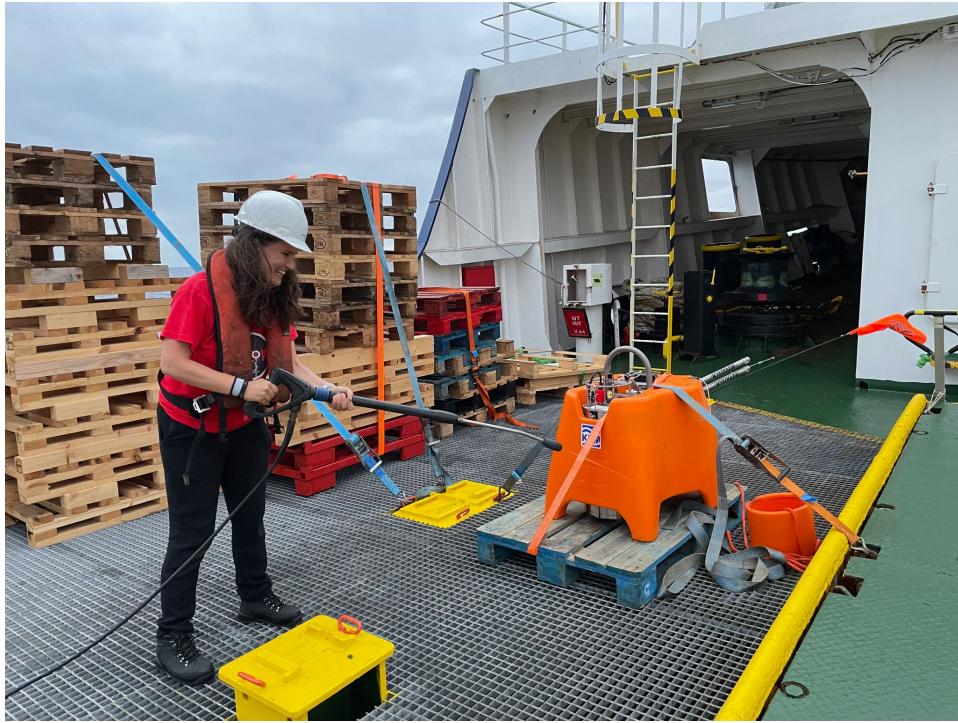


...and what can go wrong...

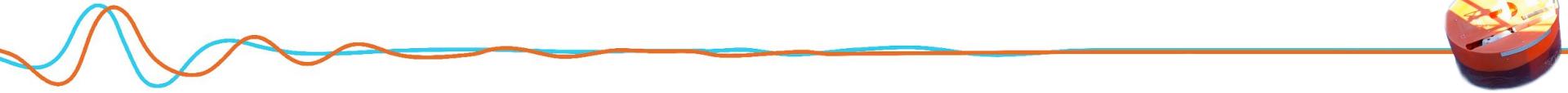
Murphy's Law: What can go wrong?!



# OBS maintenance on board

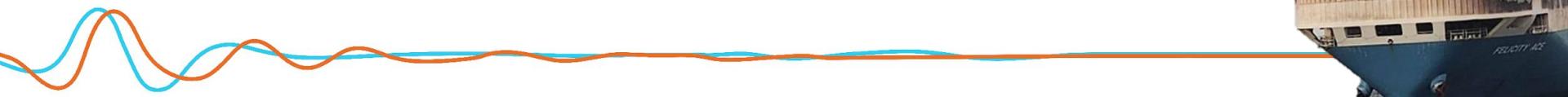


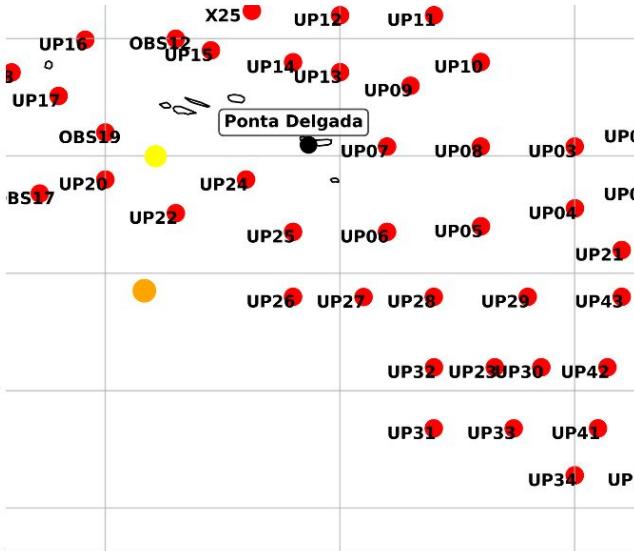
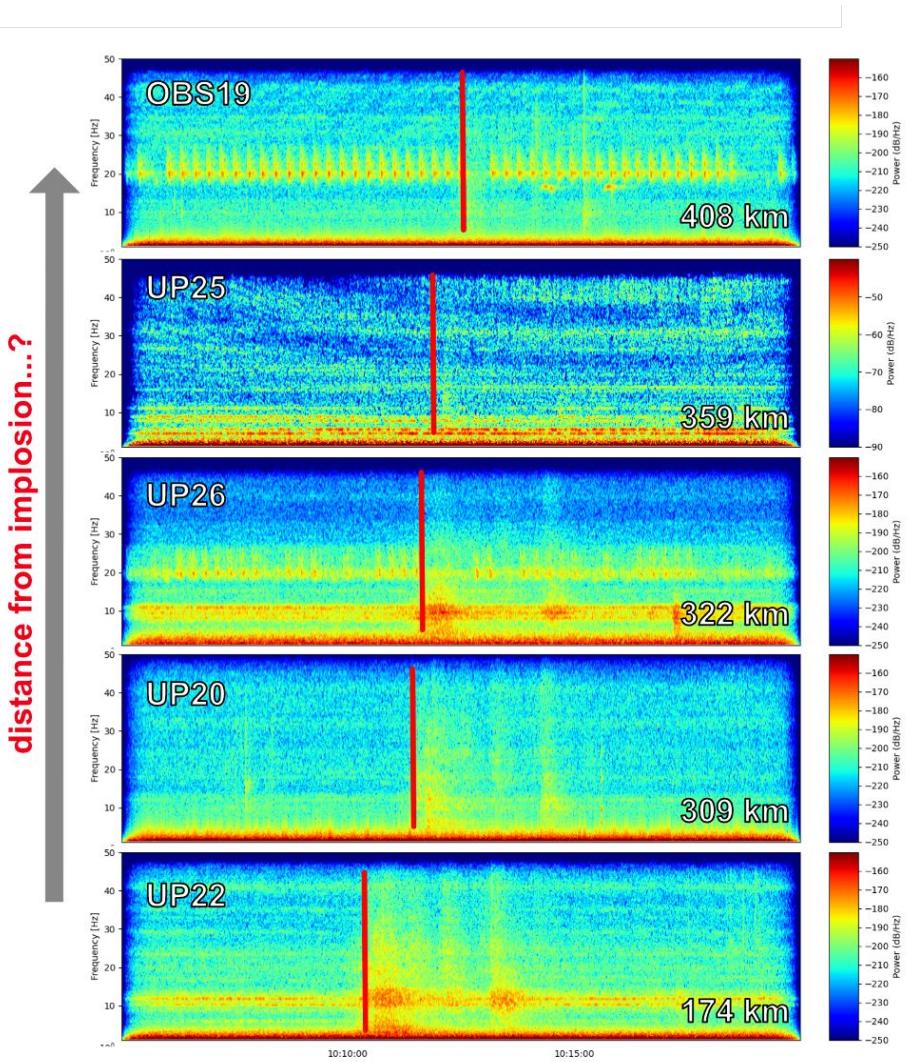
First glance at the data...



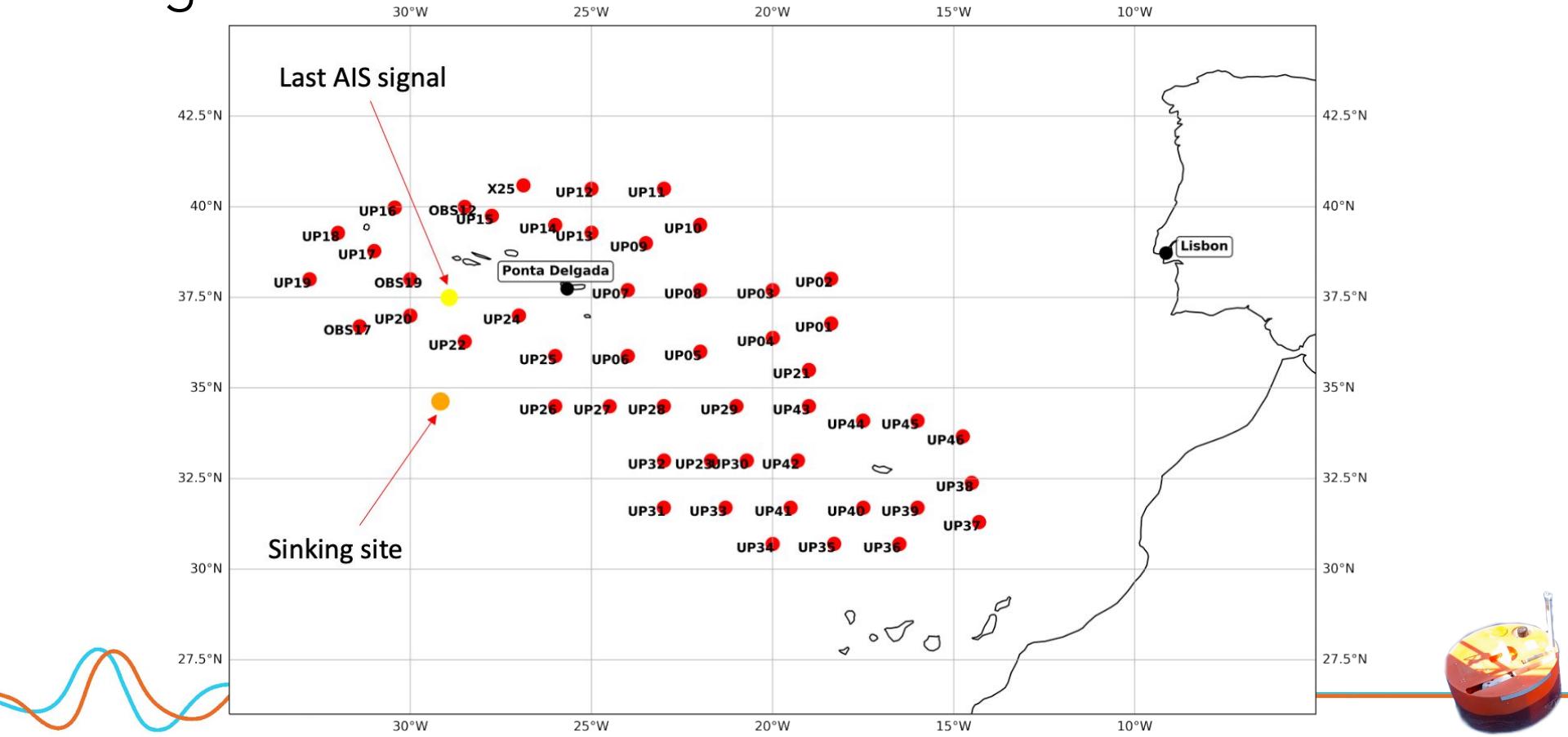
# Finding sinking ships?

- 2022-02-16 Car carrier FELICITY ACE issued distress signal in the morning ~90 nm SSW of Azores, Atlantic (en route from Emden, Germany to Davisville, Rhode Island)
  - Fire reported in one of cargo decks
  - Suspicion on what started the fire has fallen on lithium batteries used in electric vehicles
- 2022-02-18 (0540 UTC) AIS missing during last 17 hours
  - No oil leakage confirmed from the vessel
  - Two large tugs continue to spray the vessel with water cannons to achieve hull and boundary cooling.
  - Two salvage crafts with additional firefighting and towing capability are expected to arrive today.
- 2022-03-01 (0900 UTC) The Felicity Ace sank about 400 km (220nm) off Portugal's Azores Islands as it was being towed





Rough estimate based on arrival times...



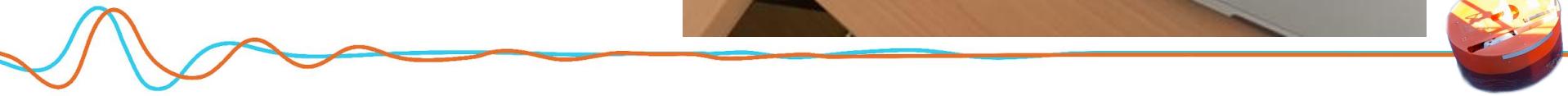
# Lot's and lot's of data... on many hard drives

200 sps for 13 months ~127 GB of raw data

100 sps for 13 months ~52 GB

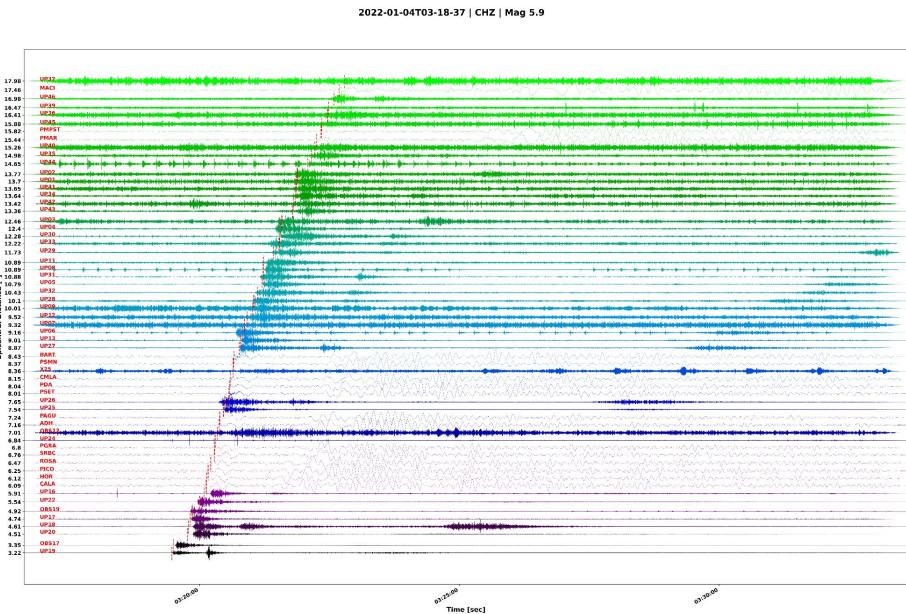
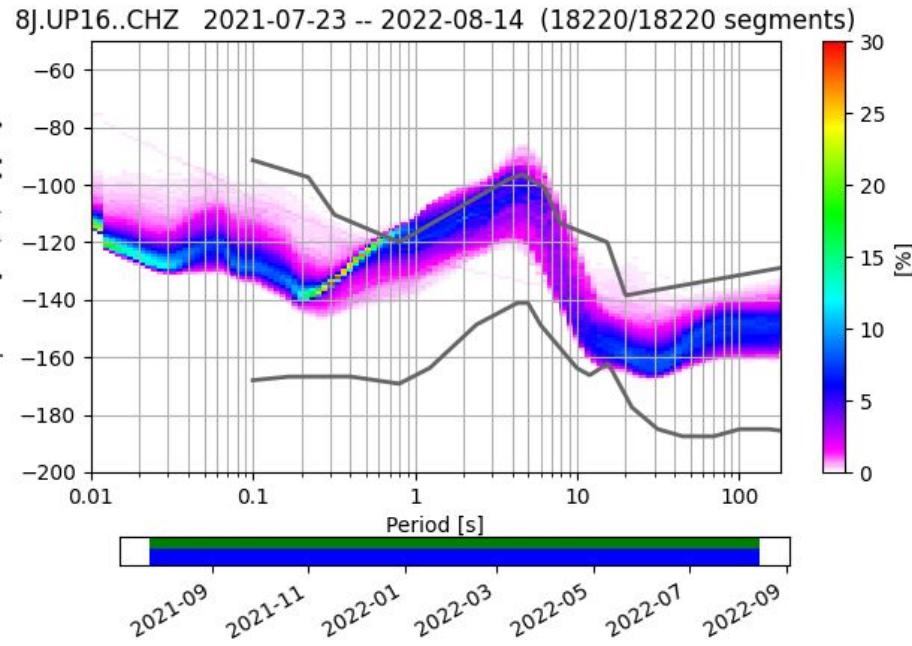
50 sps for 13 months ~31GB

x 50 stations: ~3.3 TB

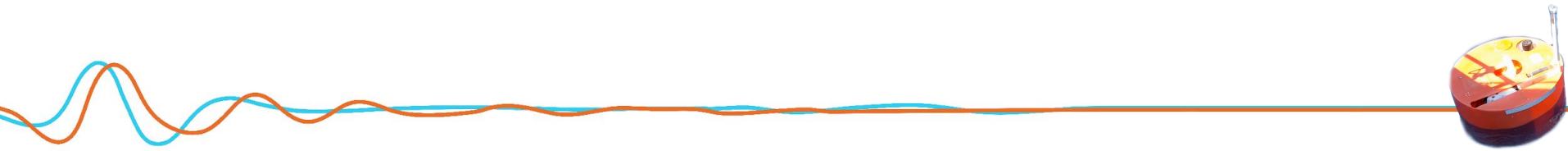
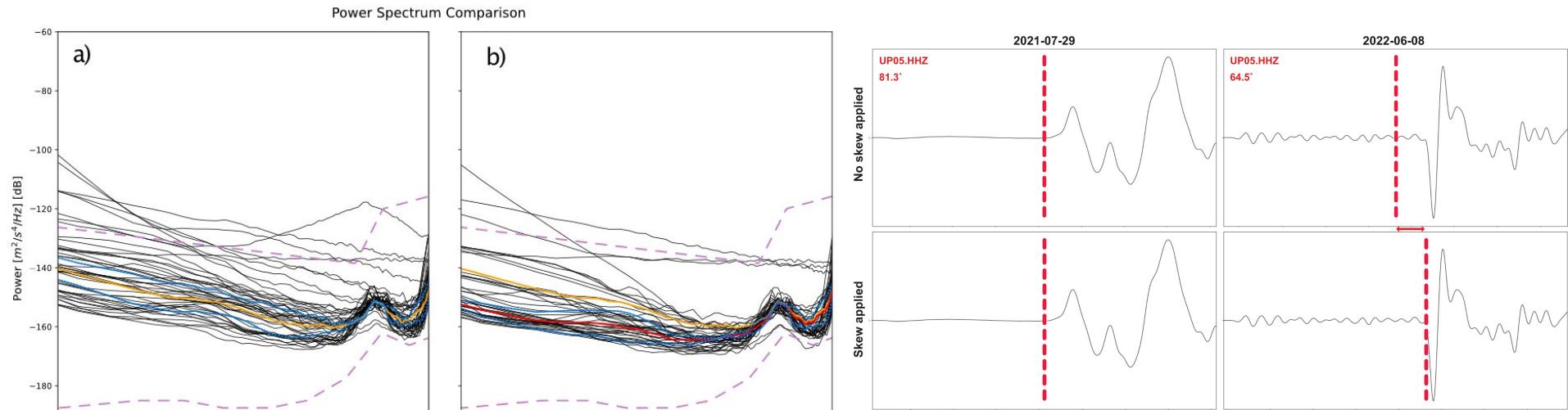


# QC: Explore the data!

## QC, PPSD, move outs, ...



# Corrections: Skews, orientation, compliance, orientation



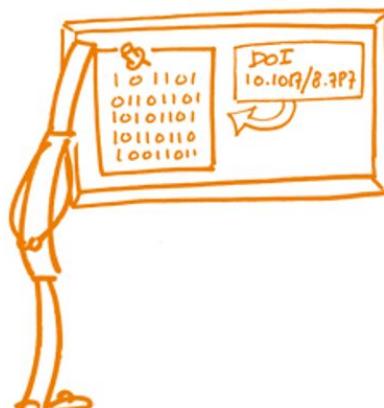
# eFAIRs and EIDA/IRIS upload

## FAIR DATA PRINCIPLES

AH!



FINDABLE

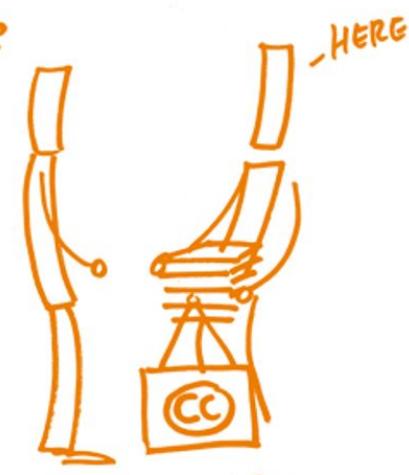


ACCESSIBLE

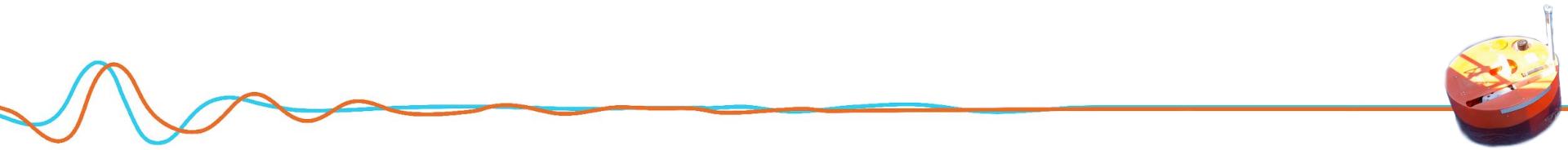
HOW DO YOU  
OPEN A .XZQ FILE?



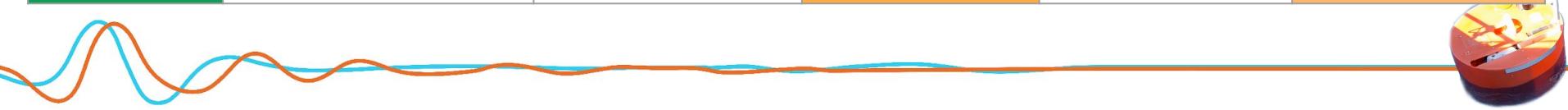
INTEROPERABLE



REUSABLE



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# Thank you!

