

The French Tide Gauges Network in Southern Ocean  
and Antarctica  
ROSAME

**Conclusions and recommendations after 25 years of  
experience**

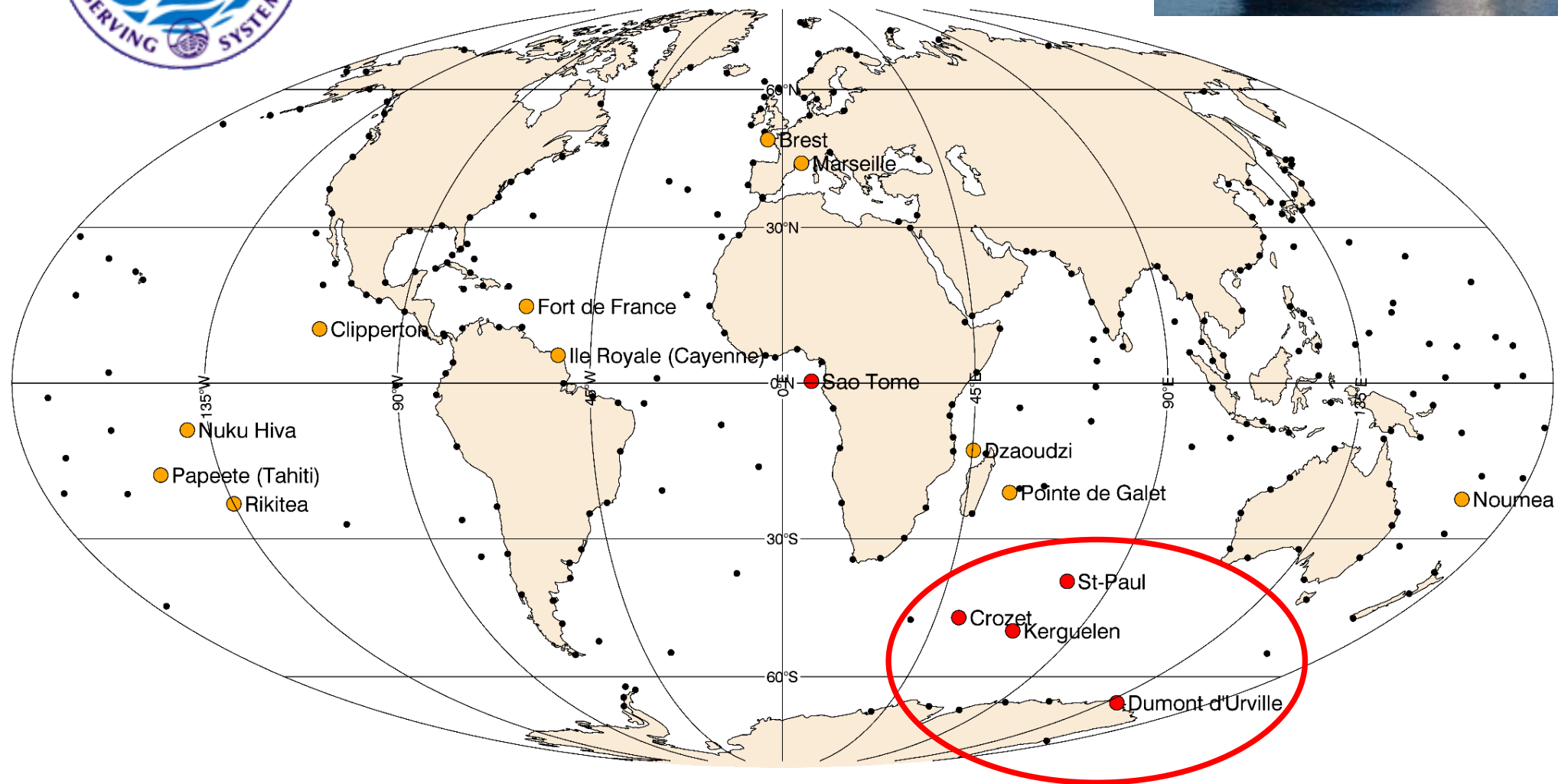
*L. Testut, P. Téchiné*

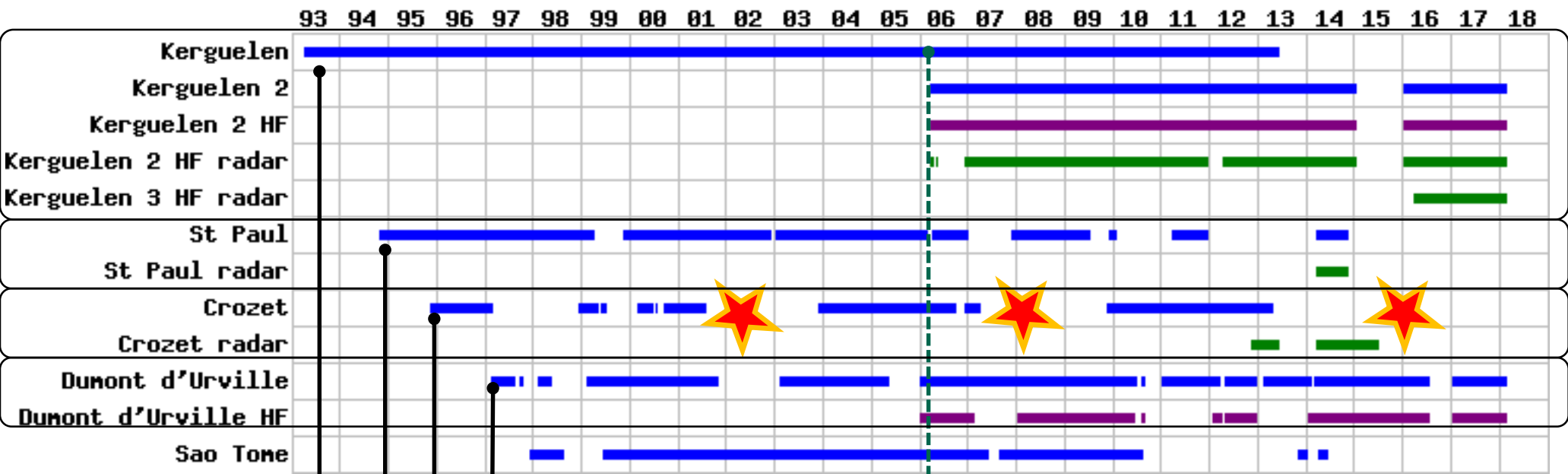
*M. Calzas, A. Guillot, C. Guillerm, C. Brachet, C. Drezen, L. Fichen  
T. Donal*

*Legacy from Christian Le Provost*



GLOSS/SONEL/ROSAME





**Aanderra WLR7**  
**Digiquartz® sensors**

- Bottom Pressure Sensor
- Stilling well
- 1 hour sampling
- ARGOS satellite transmission



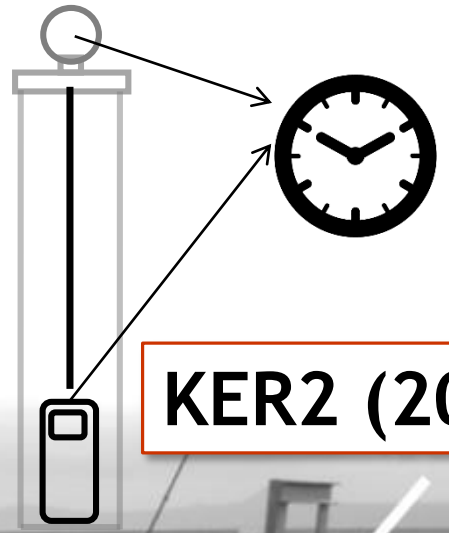
2006

- Duplication of sensor
- Radar technology (Krohne)
- Higher sampling (1')
- Ethernet transmission
- Instrumental development of our own station (see poster)
  - Sensors
  - Datalogger
  - Gps toys





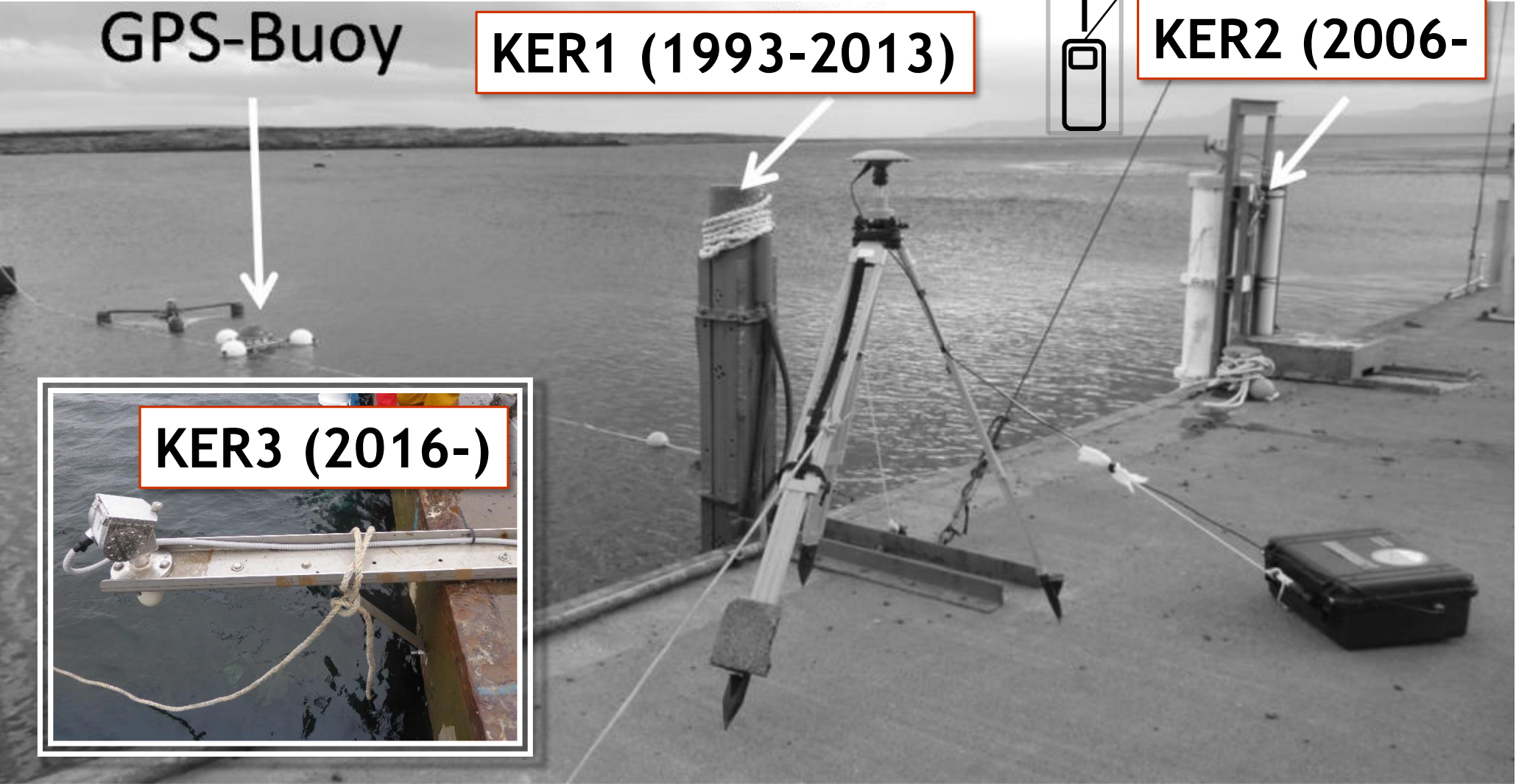
# Kerguelen



GPS-Buoy

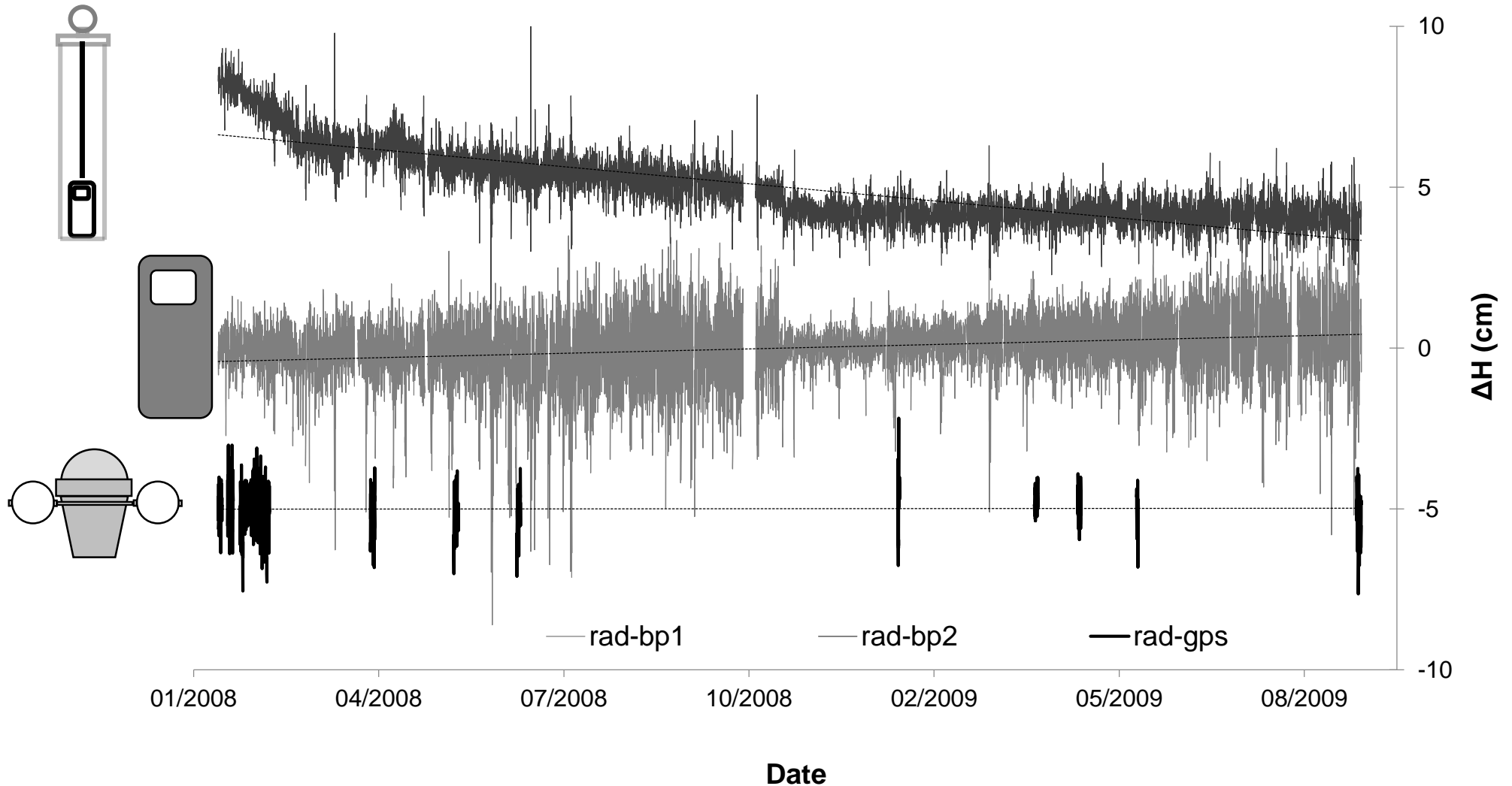
**KER1 (1993-2013)**

**KER2 (2006-**



**KER3 (2016-)**

# Inter comparison of sensors



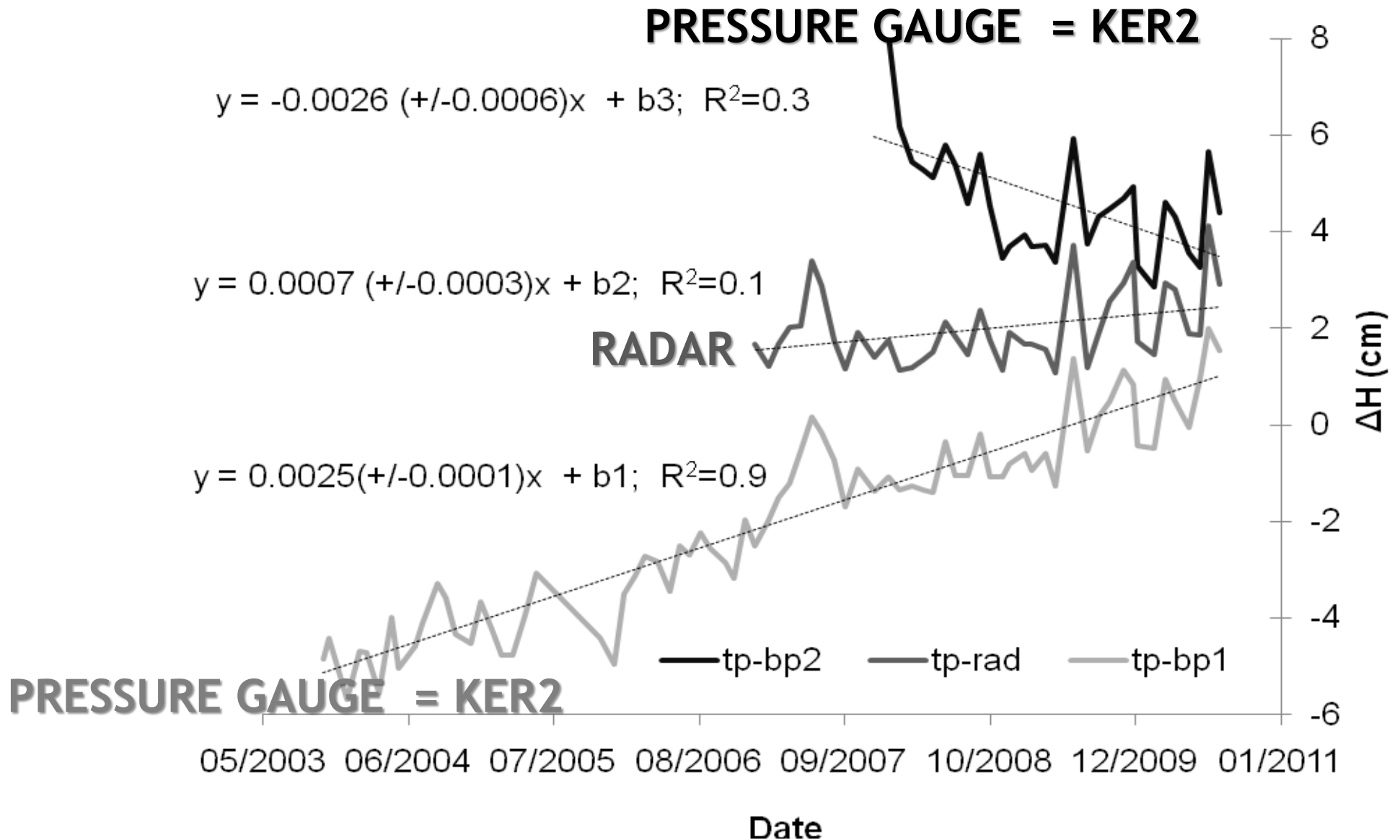
# Monitoring the sensor stability

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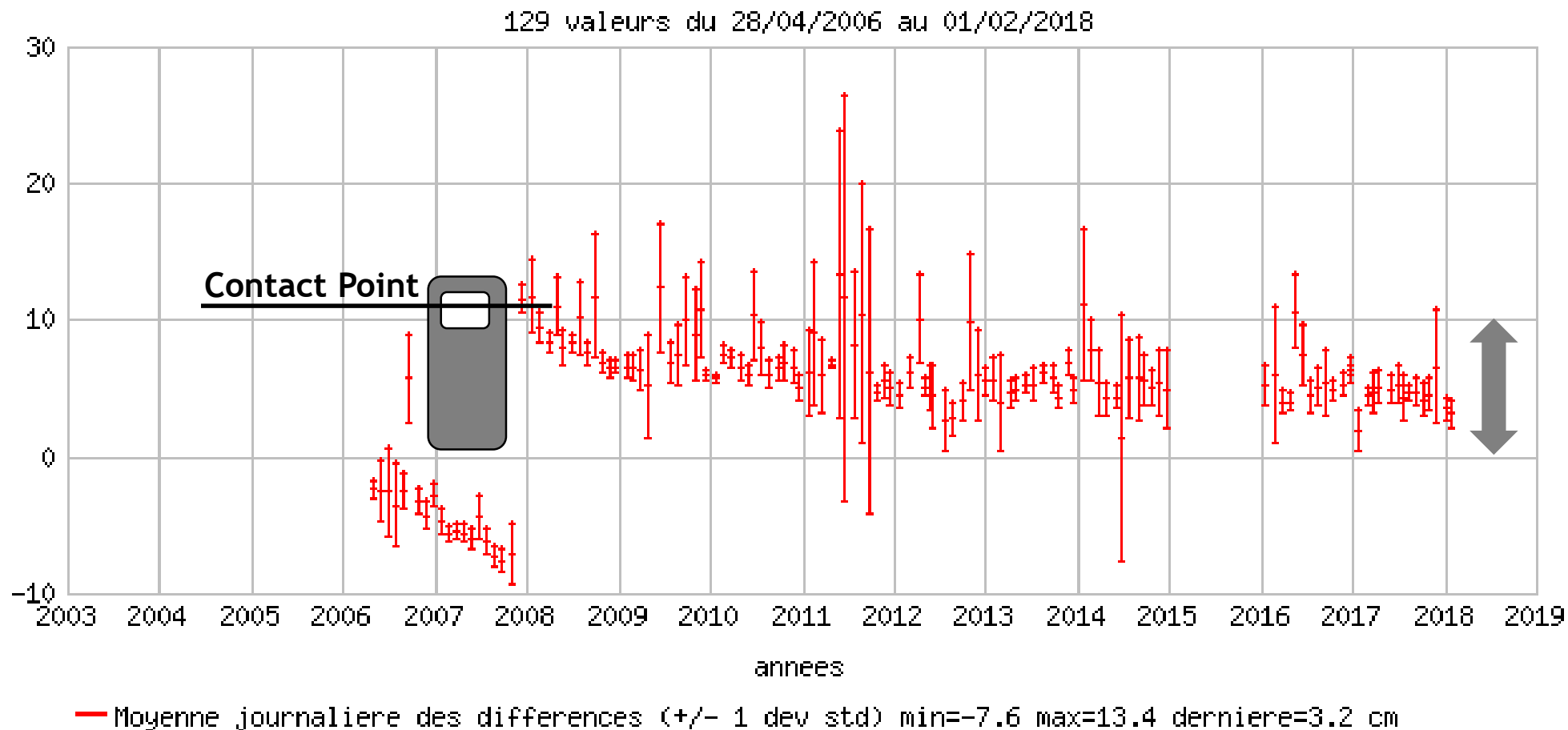
- Critical to detect signal of few mm/yr



# Tide pole as a reference



# “Automatic” stability monitoring





# The perfect configuration ?

- Monthly readings
- Automatic processing

**TIDE POLE**

- Eth. (2') + ARGOS (20')
- BP + RADAR

**KER2**

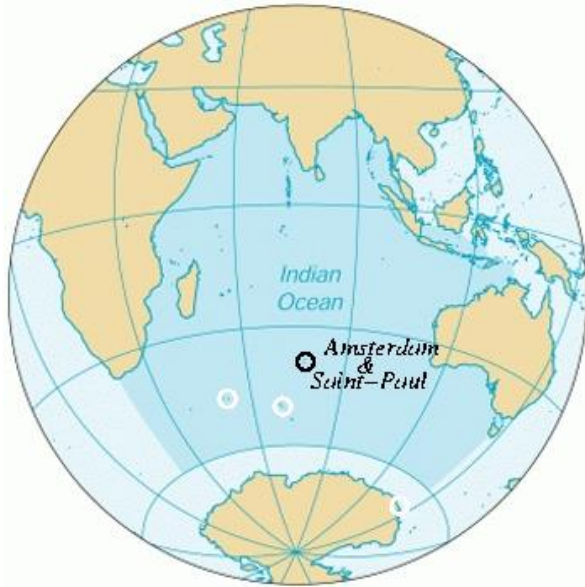
- Eth. (1') (cheap)
- RADAR (1k€)
- Campbell (1k€)
- No stilling well

**KER3**



# Saint-Paul

(77°32 E - 38°42 S)



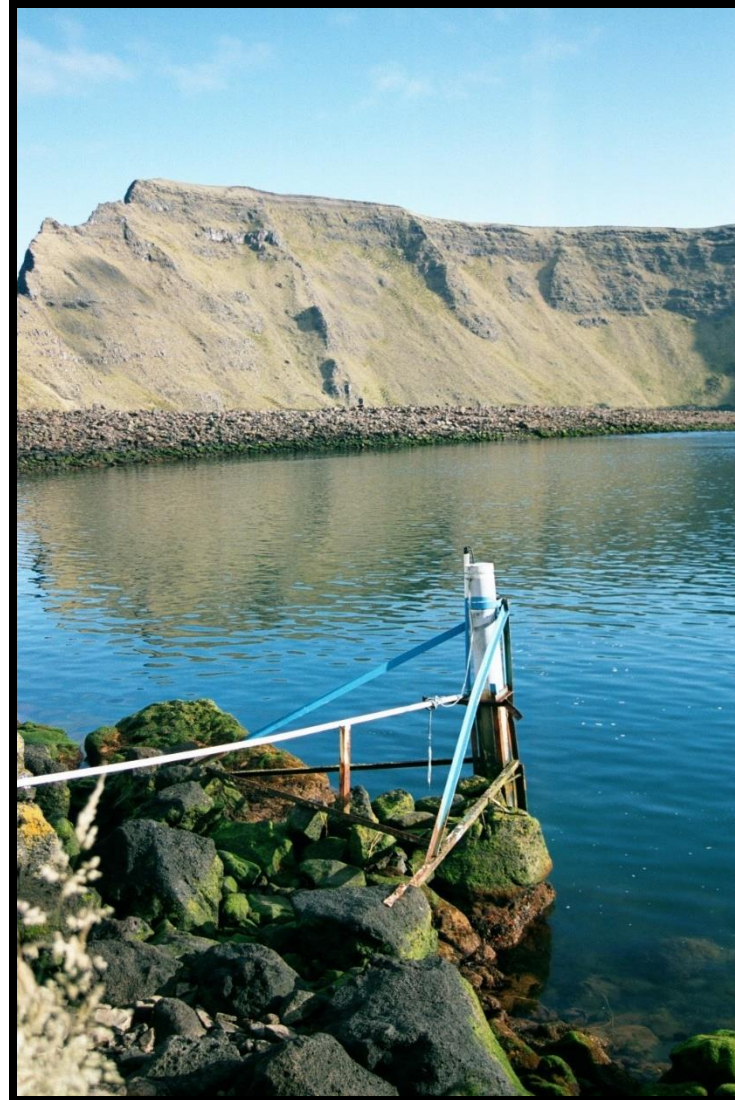
**TG: Pressure Gauge**

**Type: WLR7 Aanderaa**

**Inst. date: 1994**

**Time sampling: 1h**

**Transmission: Argos**

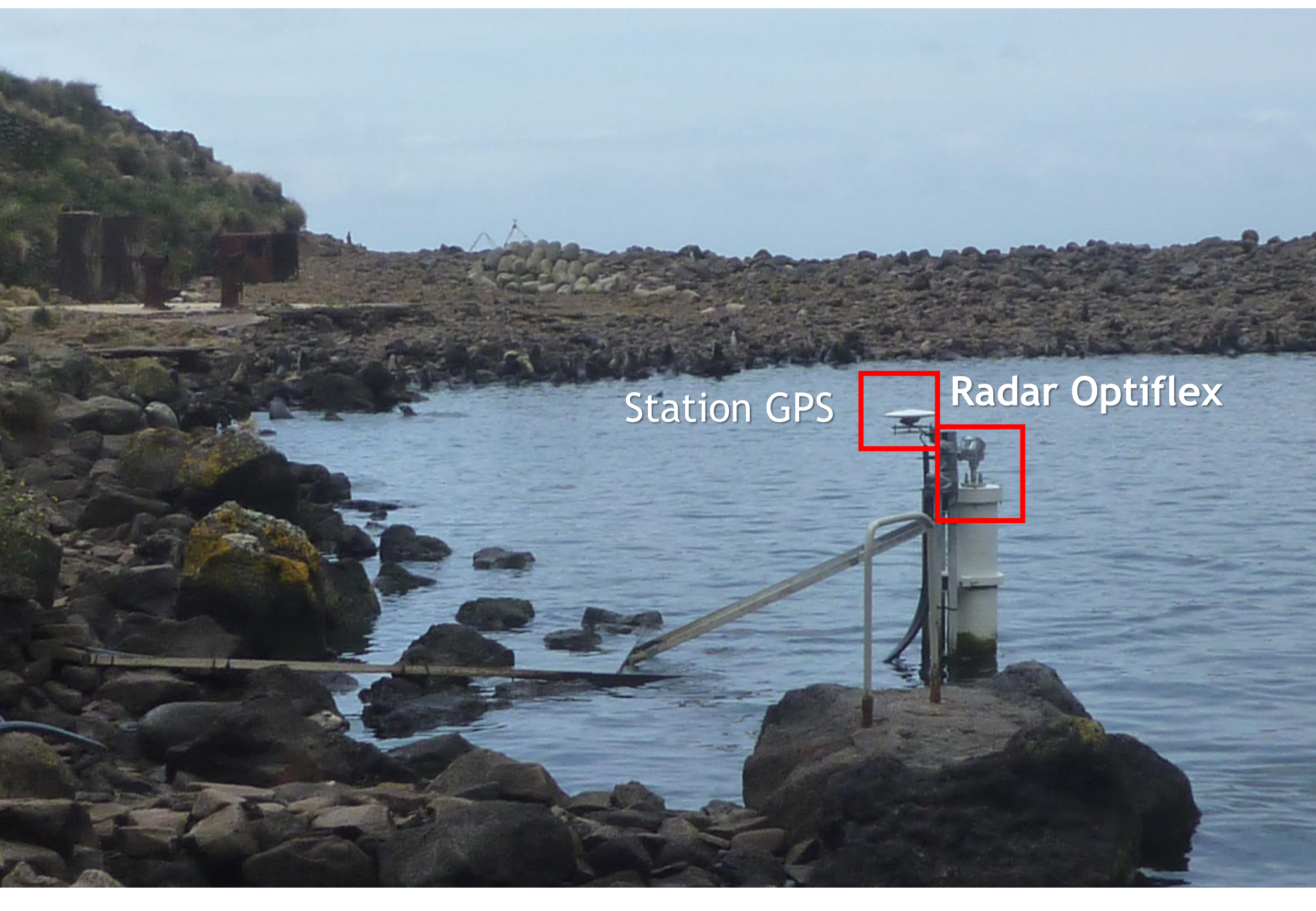


- No energy
- No ethernet
- No one

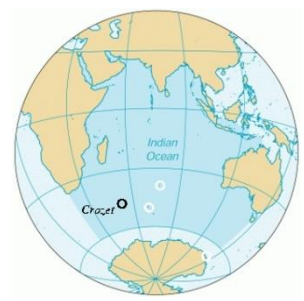


Station GPS

Radar Optiflex







# Crozet







**TIDE GAUGE**

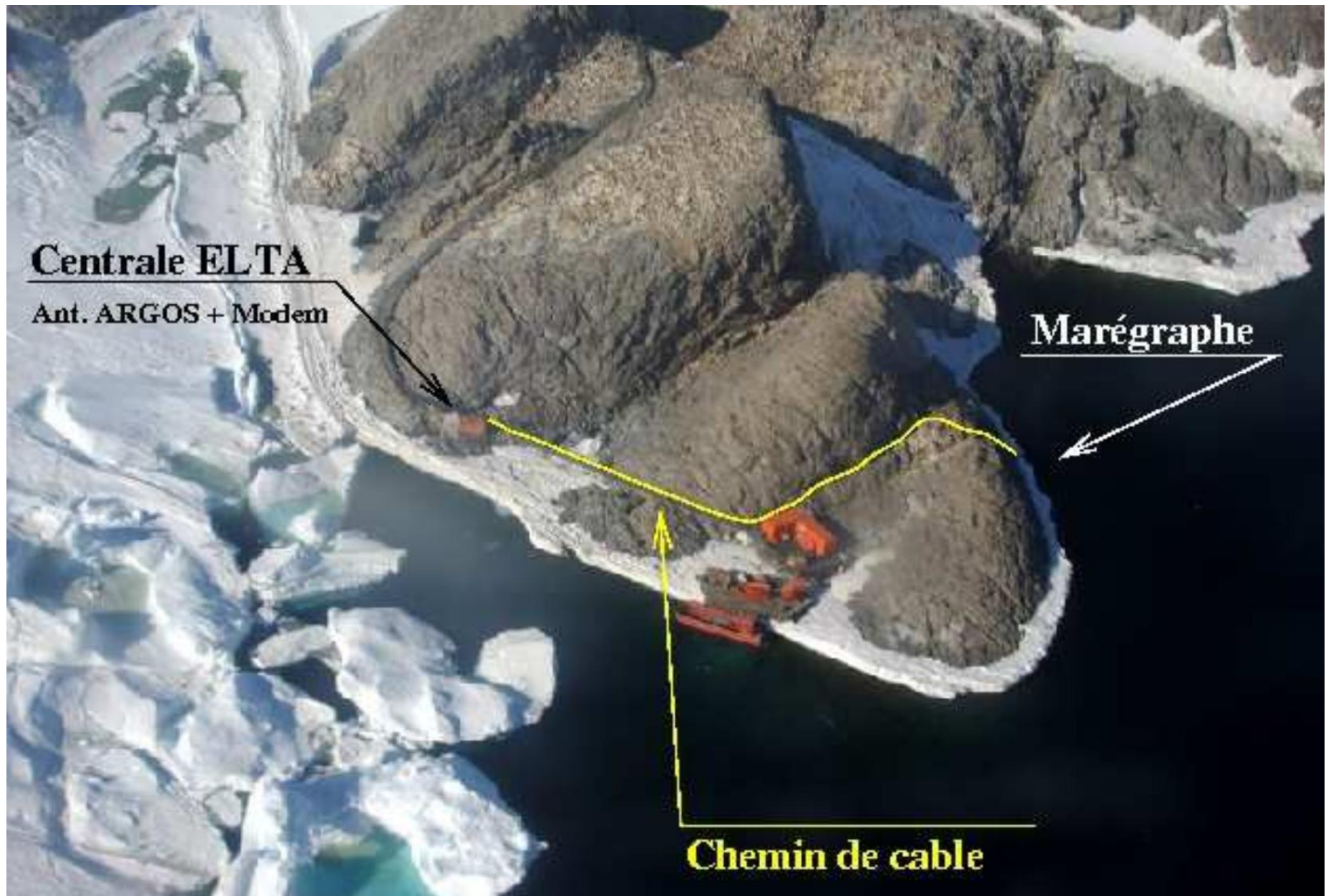








# Dumont d'Urville

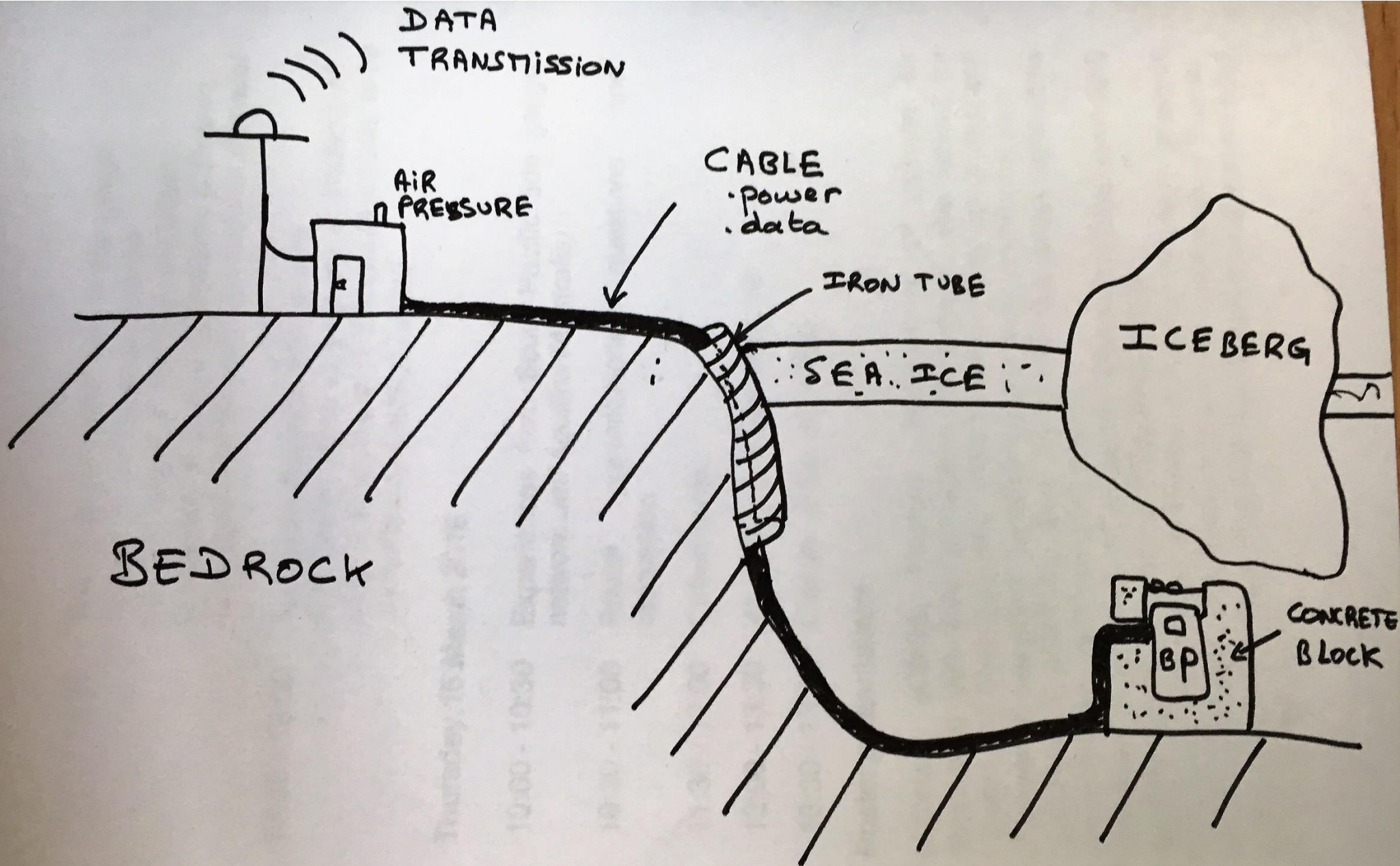




# Dumont d'Urville



# Dumont d'Urville



















# RECOMMENDATION

- Use radar technologies if possible
- Control your observatory
  - Levelling
  - **In situ** sensor calibration
  - Permanent GPS station (and send the data to SONEL [www.sonel.org](http://www.sonel.org))
- If you can duplicate the sensors and telemetry to avoid gaps

<http://www.legos.obs-mip.fr/observations/rosame/>