



Observatoire  
de la CÔTE d'AZUR

Geo  
AZUR

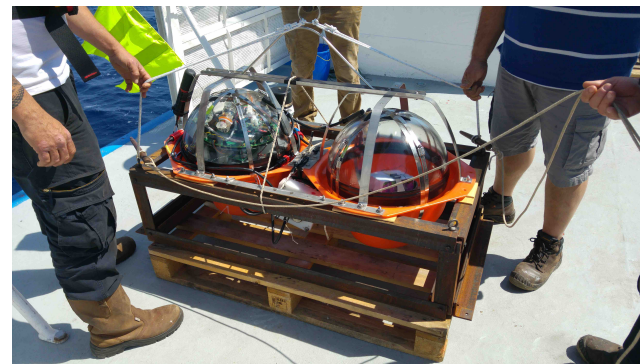
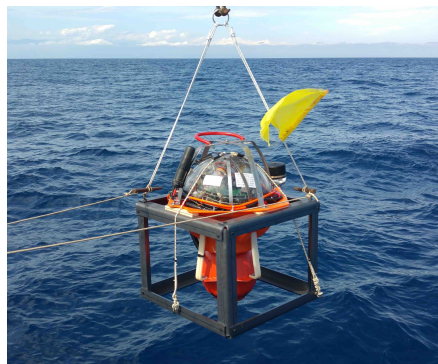
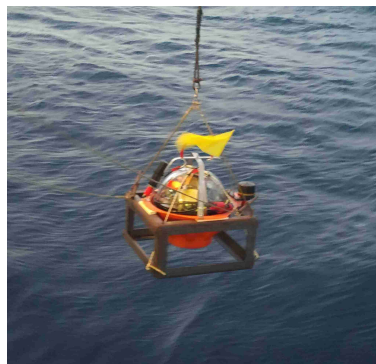
UNIVERSITÉ  
CÔTE D'AZUR



# OBS of Geoazur/OCA Nice, France

Ben Yates (responsable) and Davide Oregioni

Active/Refraction and Passive/Earthquake Seismology



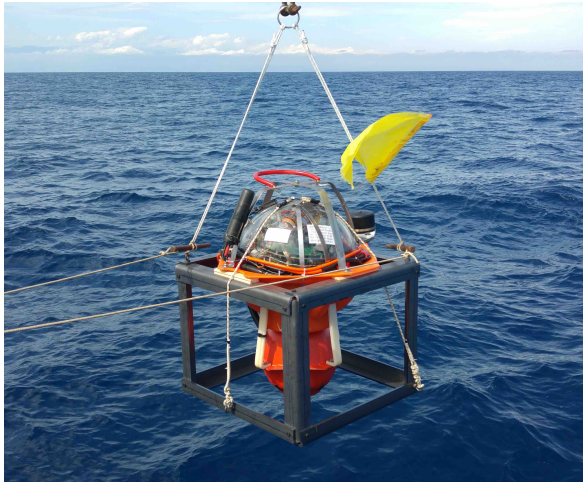
# OBS of Geoazur/OCA Nice, France



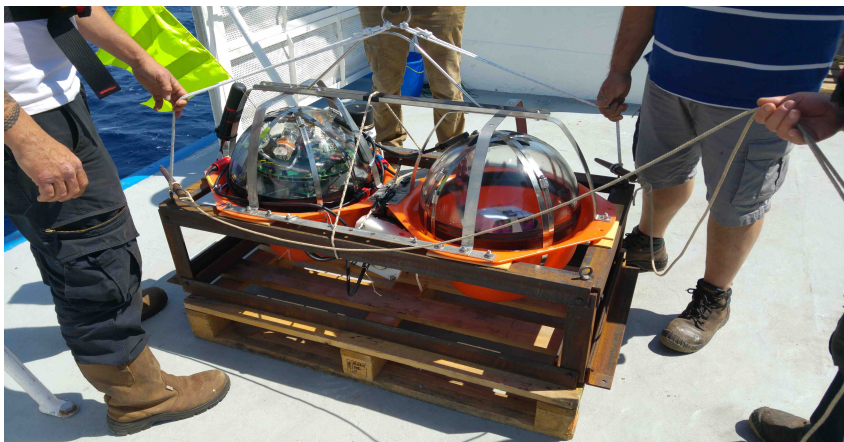
- 40 OBS with integrated 4.5 Hz gimbaled geophone package
- Well adapted to active seismic/refraction studies
  - Compact, light-weight, etc
- Can also be deployed for up to 6 months for passive seismic studies – local micro-seismicity

# OBS of Geoazur/OCA Nice, France

These 40 OBS can also be equipped with other sensors :



2 Hz



Trillium Compact

- We have 14 (at present) 2 Hz, 3 component gimbalede geophone sensors
- Capable of 6 month deployments with one sphere
- or 1 year with 2 spheres
- Can also be equipped with a Trillium compact, 120s sensor
- Currently only 1 trillium compact in the Geoazur park

# OBS of Geoazur/OCA Nice, France

## Technical Characteristics :

- Based on Persistor microcontroller board
- 3 component geophone (or trillium compact) sensor plus a hydrophone
- Power consumption is approximately 350 mW at 100 Hz sampling of 4 channels
- 32 G compact flash cards
- SeaScan timebase (+- 4 ms/day max)
- Programmable acquisition windows (sampling, channels, etc)
- USB Data transfer through closed sphere
- EdgeTech Release board, with burnwire
- Benthos and timer as secondary, backup releases
- Strobe and VHF for recovery
- Data conversion to Miniseed format after recuperation

# OBS of Geoazur/OCA Nice, France

## Near term Future and Ongoing Projects

- Geoazur OBS since 1993 - Current initial design finished in 2004
- Park has been undergoing a refurbishment since 2014/15
  - Replace unreliable large band sensors; poor coupling for short period sensors
  - Acquire funding to complete instruments that lacked components
  - Simplify mechanics, integrate 4.5 Hz sensors
  - Miniseed / SEED format for data
- New electronics interface for simplified preparation
  - ON/OFF through closed sphere and complete preparation at lab
  - Simplified battery packs
- Better mechanical system for recovery
- Back-saving procedures, apparatus, etc

# OBS of Geoazur/OCA Nice, France

## Future Projects Priorities :

- First – More/Better Sensor packages:
  - At least 6 More 2 Hz sensors to have a total of 20
  - At least 4 or 5 more Trillium compact 120 s sensors
- Second priority – new acquisition system
  - Lower power
  - Auto gps sync
  - etc
- Other innovations
  - Compass
  - Buried sensors
  - Covered sensors

# OBS Art



Christina Lorena Weisner

## OCEAN BOTTOM SEISMOMETERS

October 16 - November 10, 2017

College of The Albemarle Professional Arts Building Gallery



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ALBEMARLE