

Glider observed sub-seasonal variability in water mass transport in the Ibiza Channel

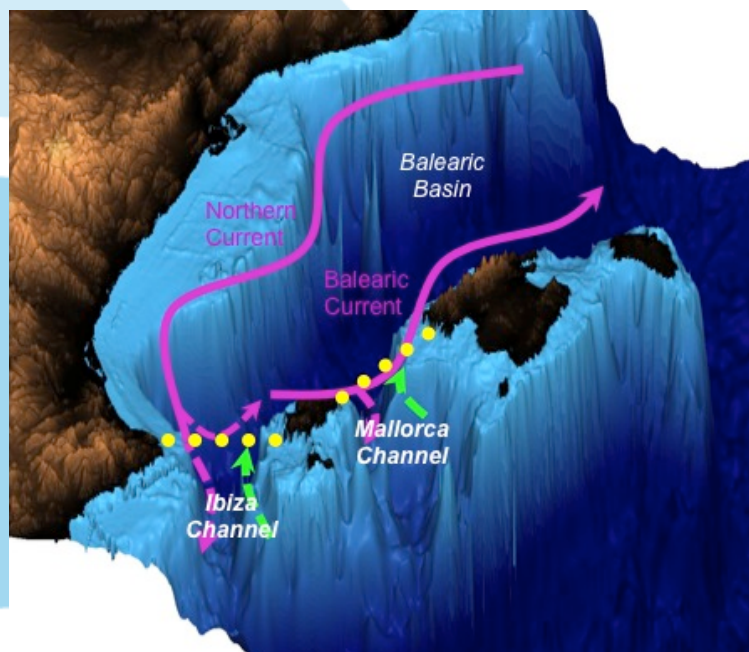
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Ibiza Channel:

Key 'choke point' in
WMed circulation
North/South exchange
watermasses
Affect on local
ecosystems

Glider monitoring:

Sub-seasonal
variability



Improve:

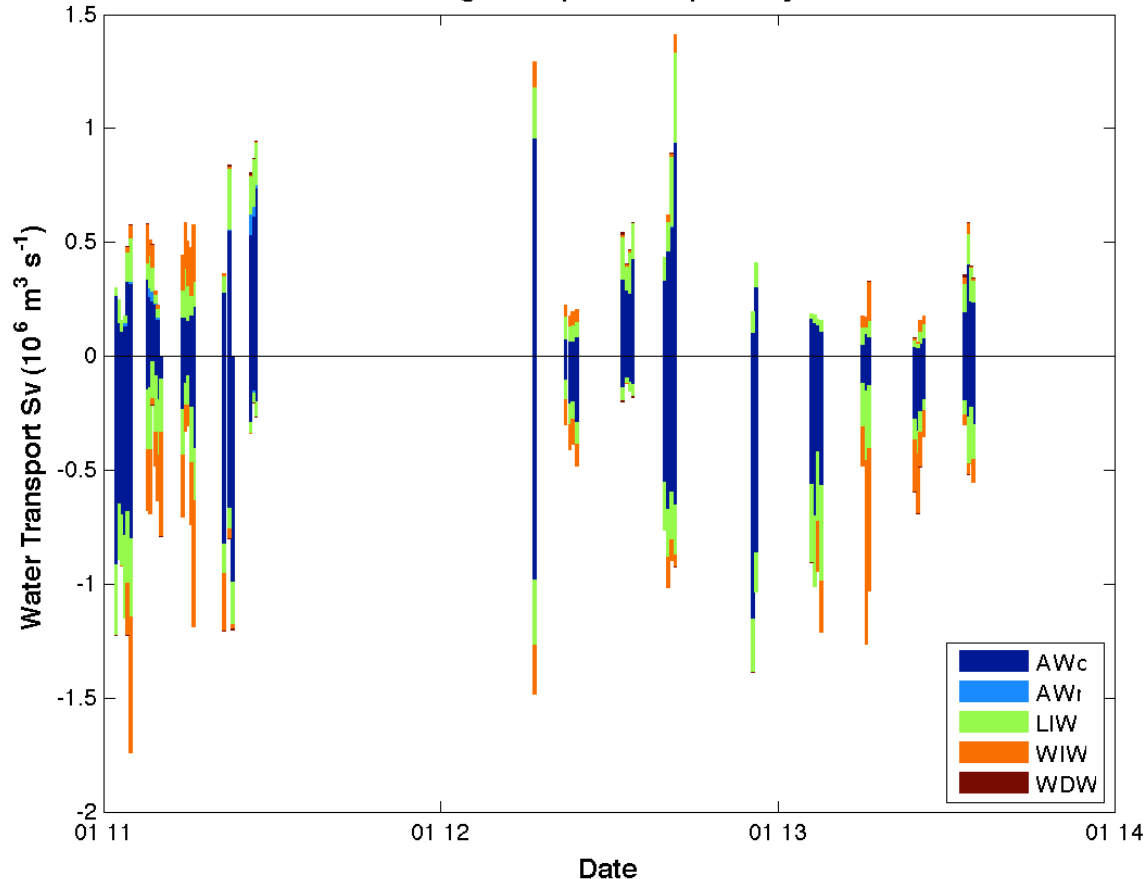
Numerical modeling
Link to biogeochemical
Detection long term trends



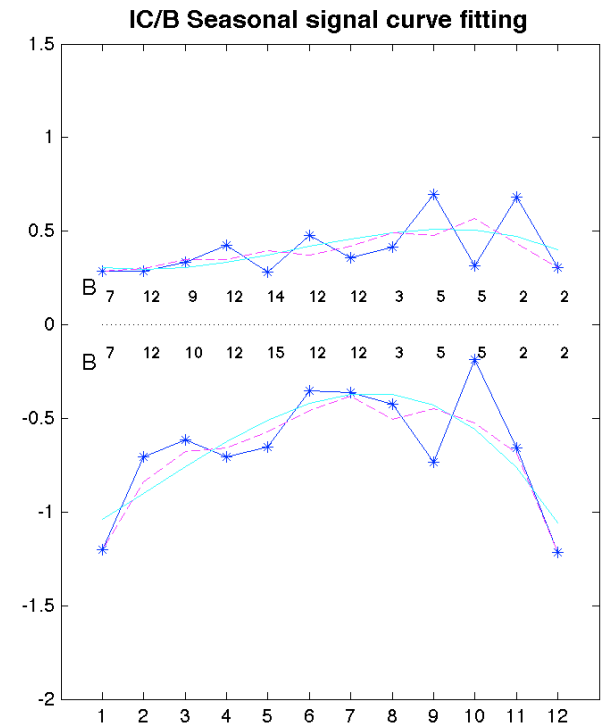
Glider observations reveal high frequency variability

- 15 missions in 2.5 years, 2011 – 2013, 53 transects of the Ibiza Channel
- Use CTD data to calculate geostrophic transports of different water masses
- Detected high frequency variability in water transports (Heslop et al, 2012)
- Changes of same scale as the seasonal signal in days - weeks

Ibiza Channel - geostrophic transports by water mass



Seasonal cycle (southwards)



Insight into channel dynamics – combining with ships CTD

- Combining glider with long term but sparse ships CTD data (IEO), 16 yrs, 44 transect
- To qualify and develop a more detailed view of seasonal pattern of transports
- Importance of high frequency variability, identify events across the full timescale

- ❖ Develop pattern of seasonal modes
- ❖ Understand physical drivers
- ❖ Identify the interplay between basin and mesoscale processes

