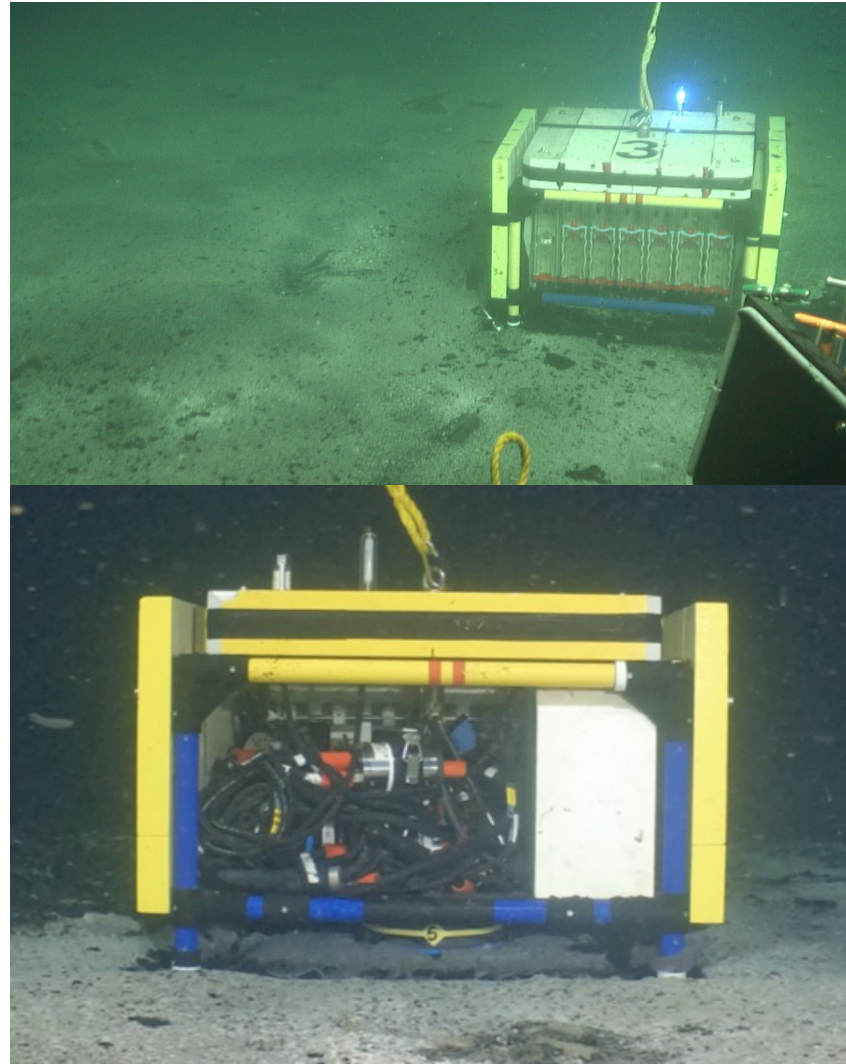


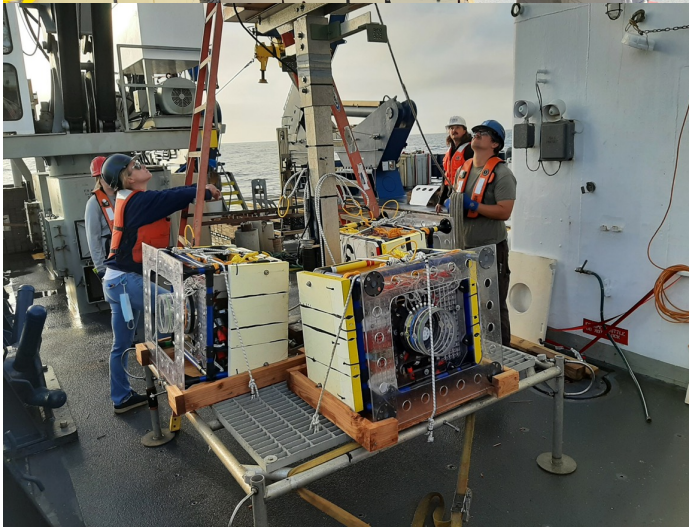
AT50-11 Benthic Flux Chamber (BFC) Deployments using HOV Alvin

NSF Projects: OCE-CHEM 1829981 and 1830033

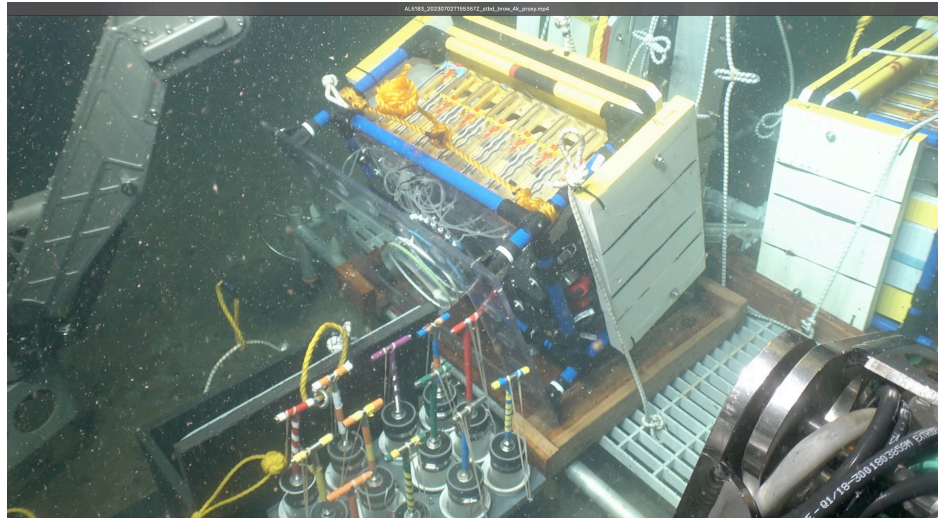
PI: Tina Treude (UCLA), Co-PI: David Valentine (UCSB)

Presented by: David (DJ) Yousavich (UCLA)

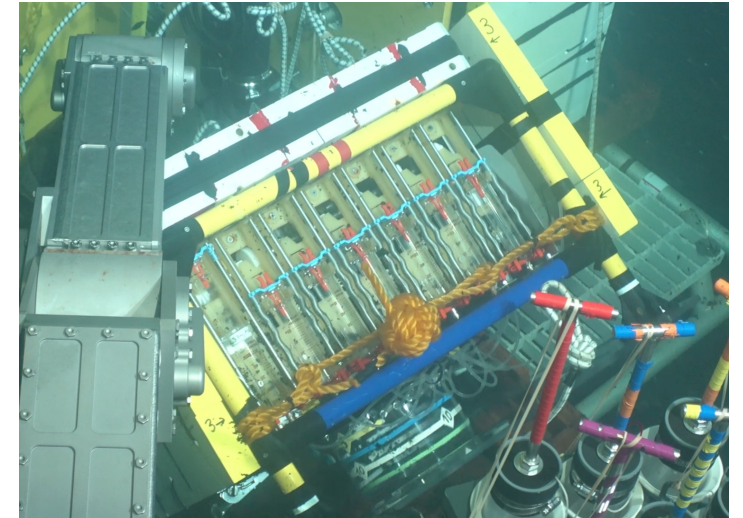




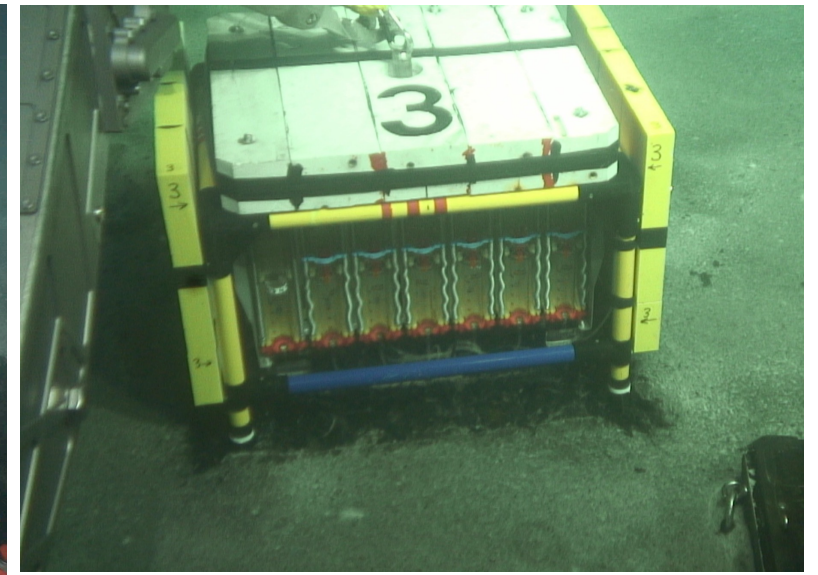
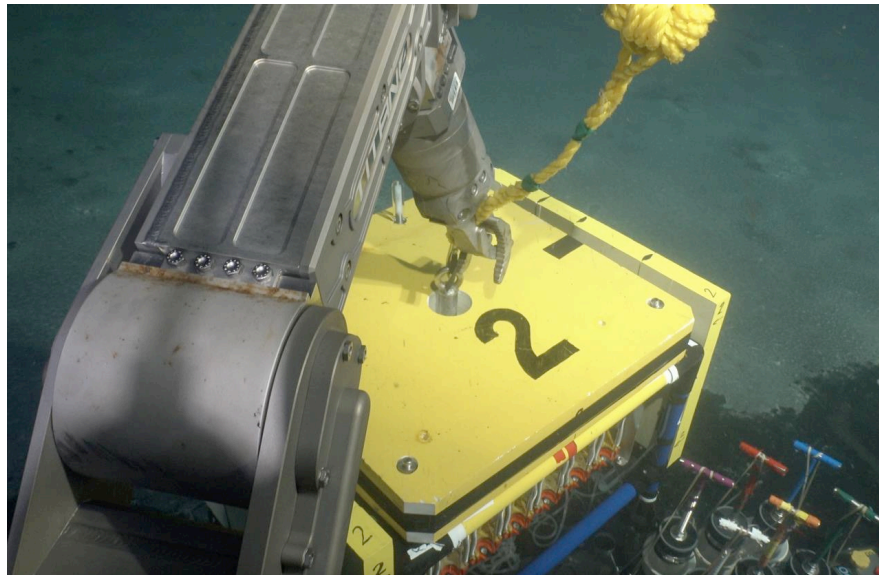
Chambers prepped on the ship and fastened to underwater elevator with bungee cords. Notice the plastic “shoes”



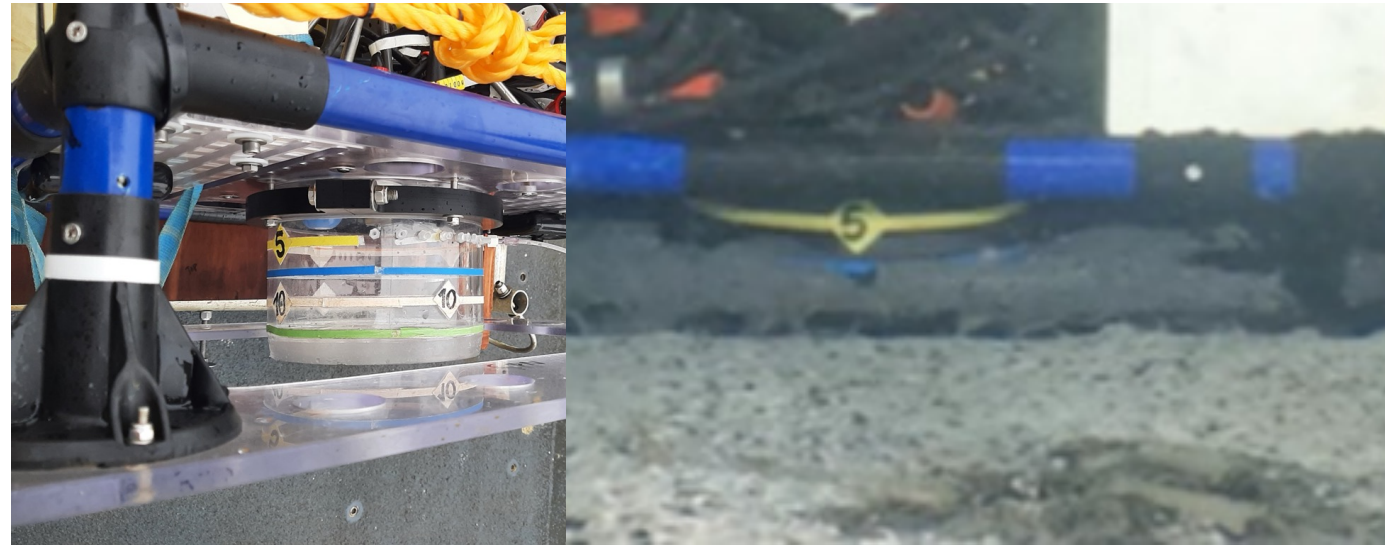
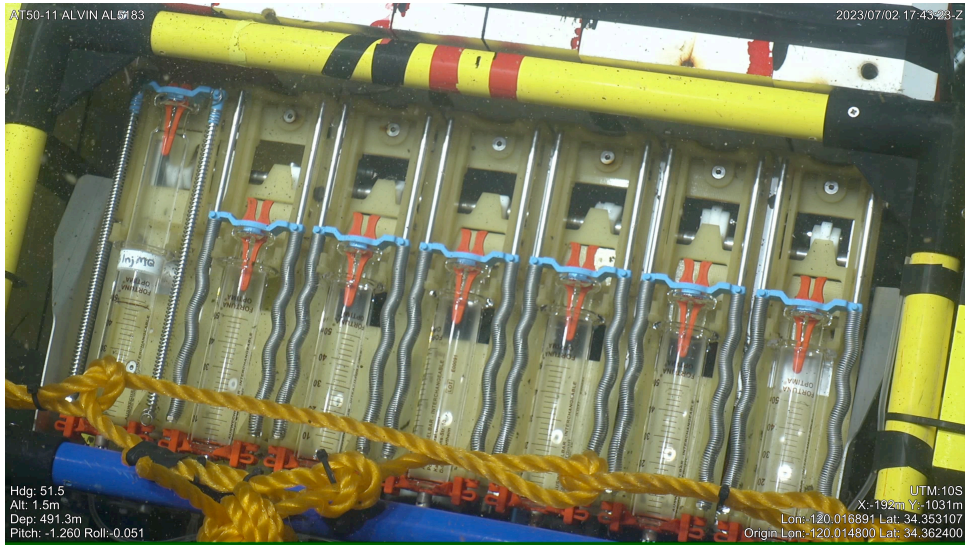
Chambers delivered to the seafloor using the free-falling underwater elevator



Chambers laid on their side for descent to prevent surface water capture (anoxic bottom water)

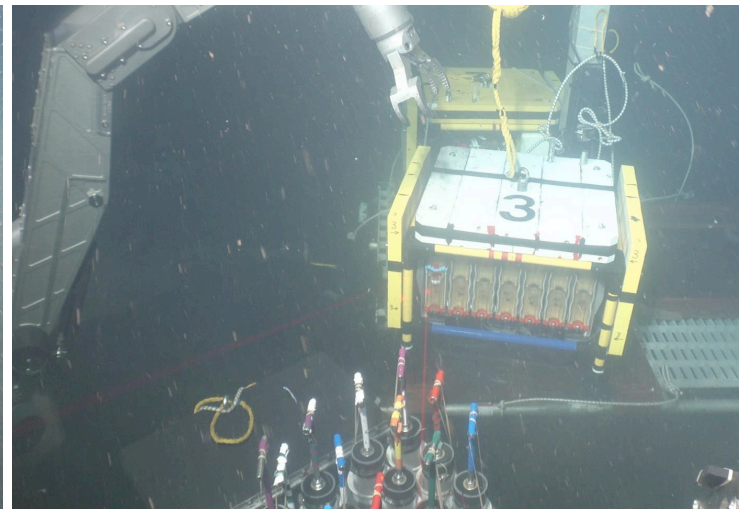
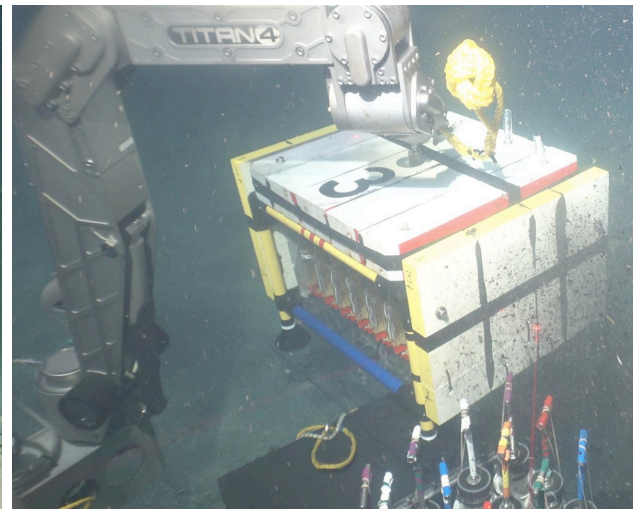


Once placed, BFC incubations initiated using a magnetic switch



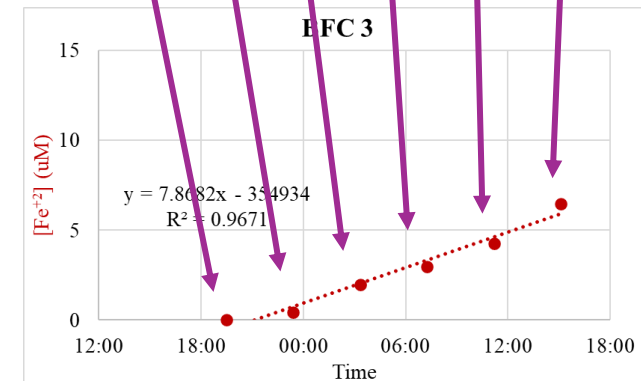
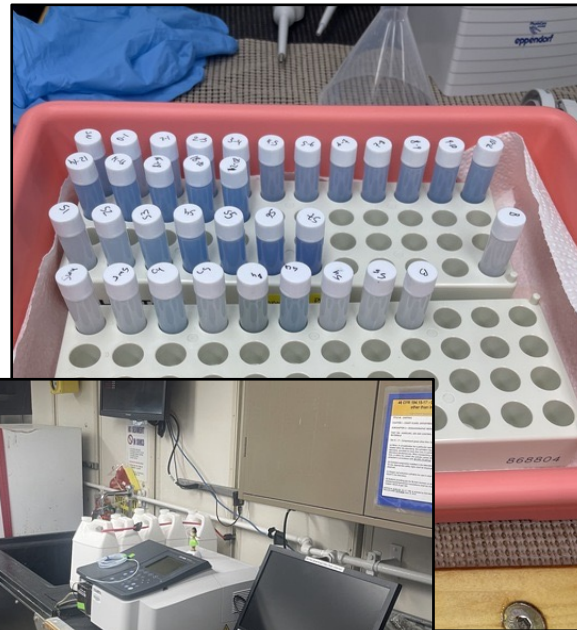
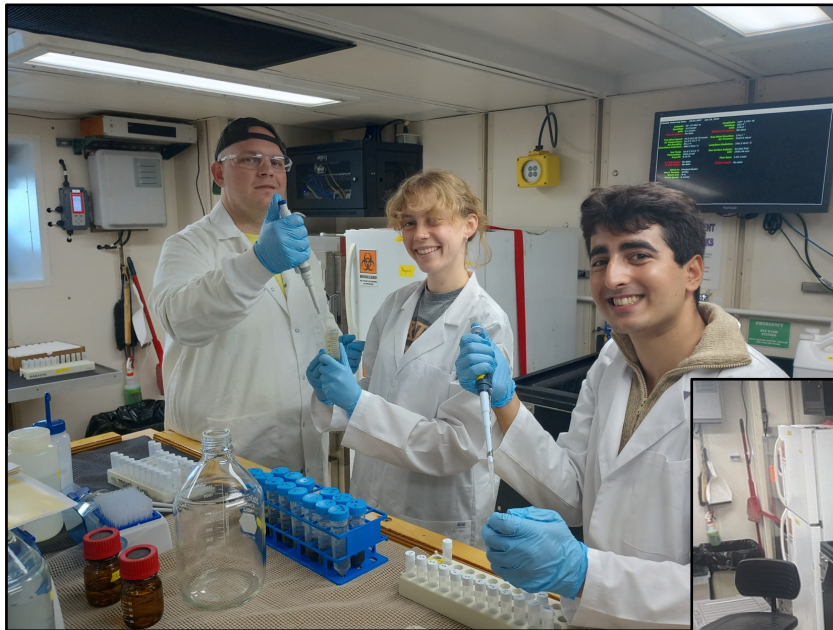
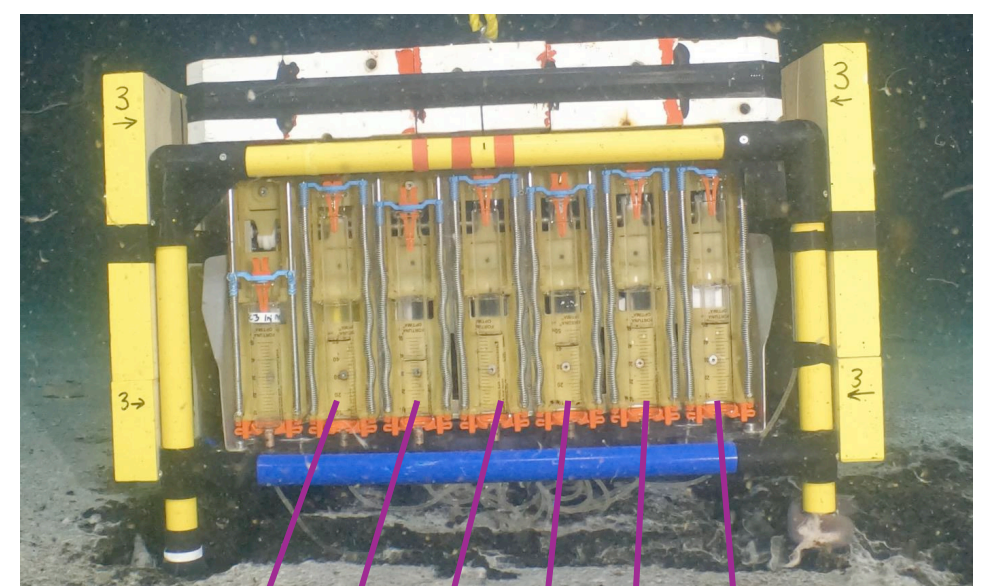
First syringe injects DI water (or DI water plus ^{15}N -Nitrate tracer) into the chamber. Subsequent syringes take time-series samples

The change in conductivity is used to calculate the chamber volume; visual assessment of chamber penetration using different colored tape allows for a back-up estimation of chamber volume.



Chambers are recovered on a subsequent dive and placed back onto the underwater elevator for ascent.

- Once shipboard, the syringes are sampled and immediately processed for redox-sensitive species.
- A time series can then be constructed, and a flux can be calculated.





Questions? Thank you!