Observing the ocean: gliders and abyssal cabled observatories

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PhilSea10 - Gliders

- Larger acoustic propagation, tomography experiment
- Test gliders for nav and as moving receivers for tomography – $N^2$

Van Uffelen et al., JOE, 2015
ALOHA Cabled Observatory

Since June 2011

2 lights
hydrophone

4728 m

8 ports
1200 W
100 Mb/s
1 us

CTDO2, ADCP Modem, pressure, FLNTU

2 Nov 2014
Lizard fish attacking Shrimp (~ 20 cm)

Need continuous sampling!

25 mK fluctuations – large for abyss

Humpbacks
Technology

- Ability to sample $F(x,y,z,t)$

- Put sensors into the repeaters of commercial submarine telecommunications cable systems.
- Potential of 20,000 nodes, in 1 Mm of cable deployed every 10-20 years.
- UN ITU/WMO/IOC Joint Task Force.

Moorings and robotics