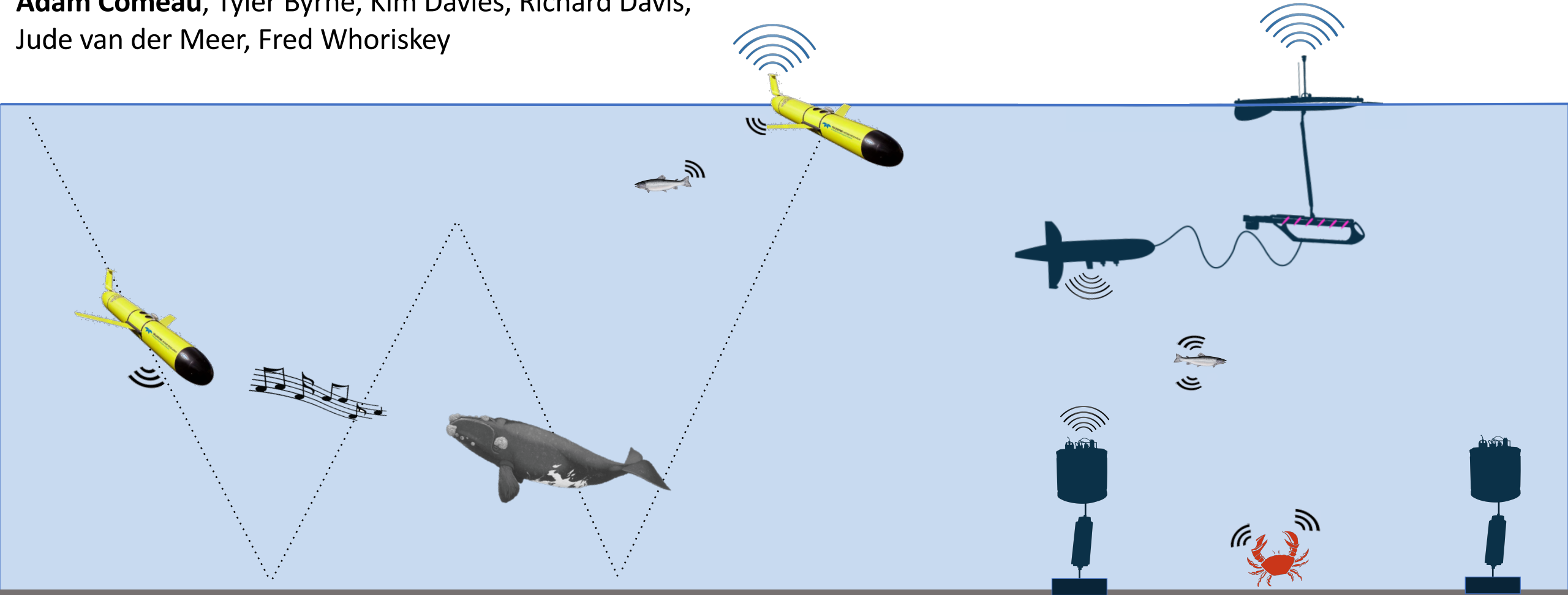


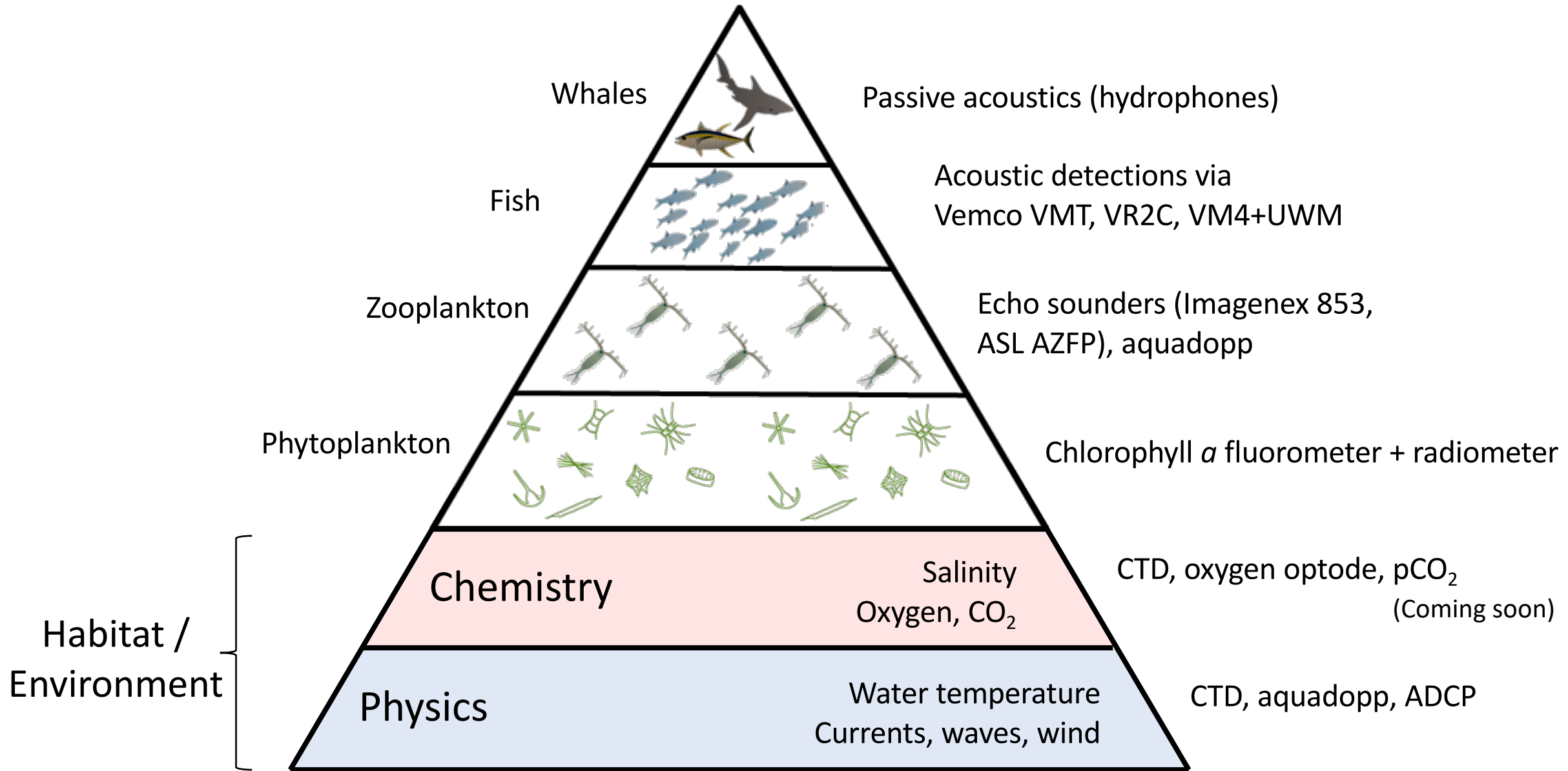
Tracking animals and measuring their habitat using gliders

Adam Comeau, Tyler Byrne, Kim Davies, Richard Davis,
Jude van der Meer, Fred Whoriskey





Sensing ocean habitat and organisms



A mission in
2016 and 2017



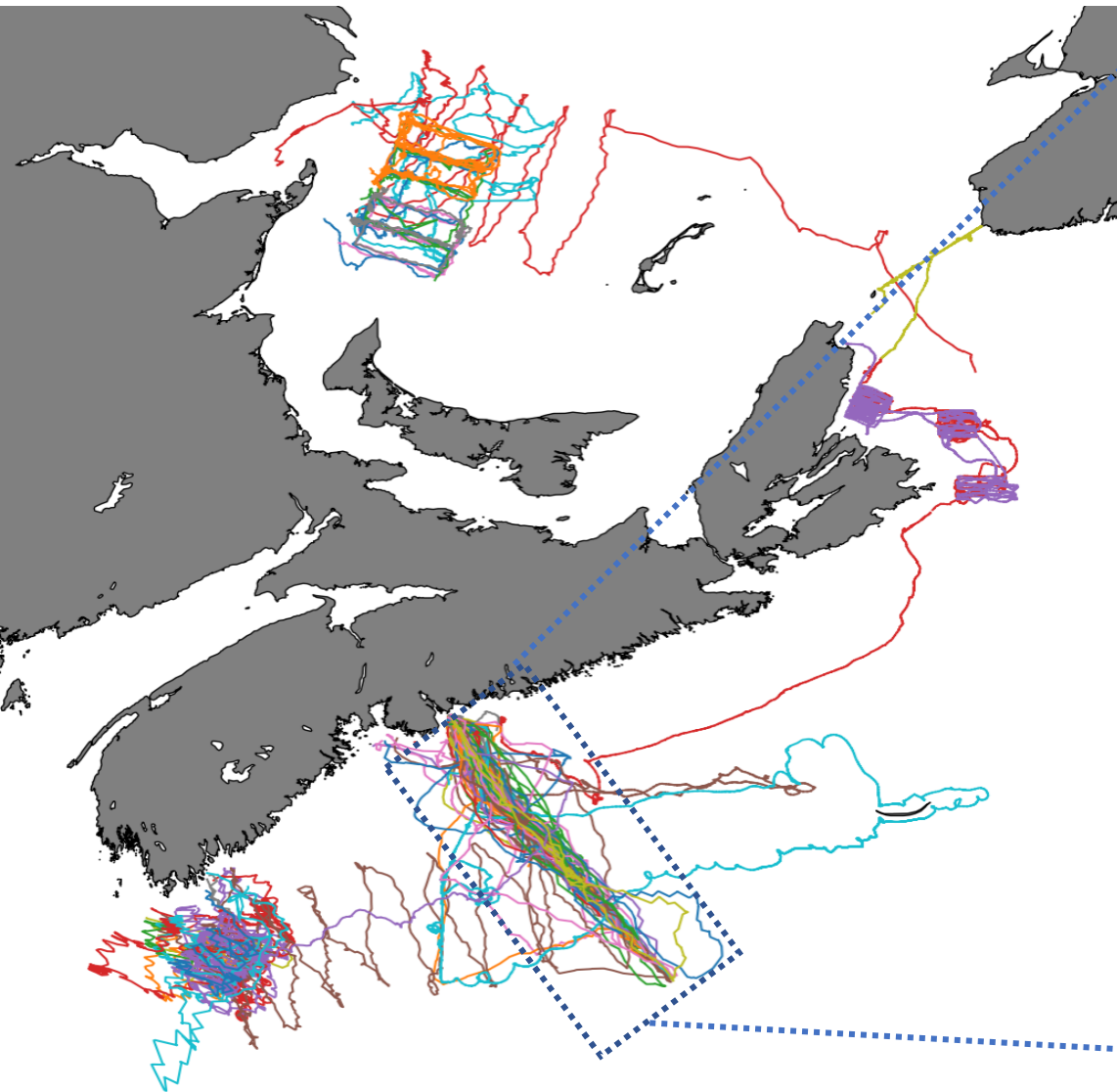
A mission in
2016 and 2017



Coming soon 2020

Coming soon 2019

Persistent monitoring of the Halifax line 2011 - 2016

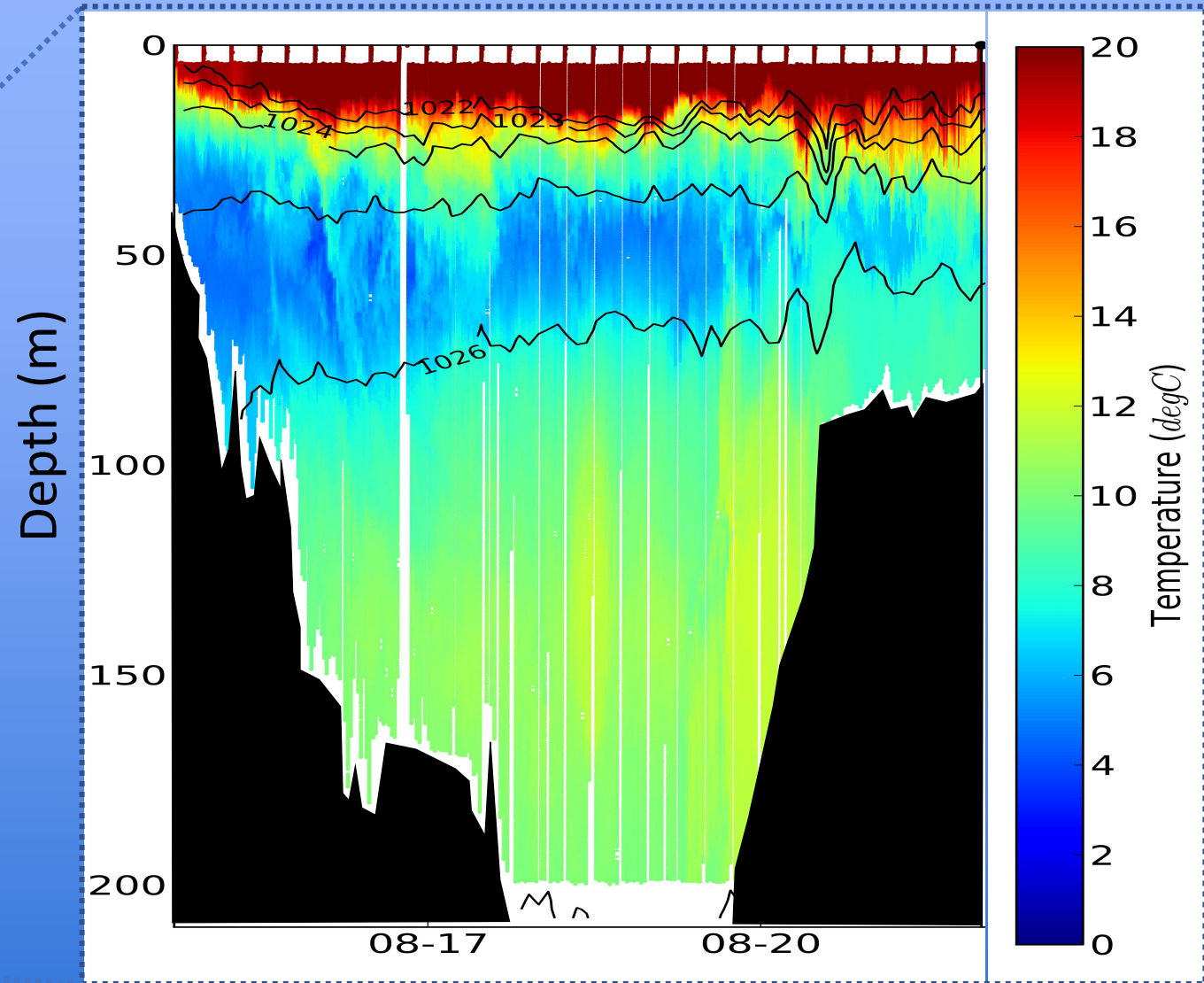


Water Temperature in August

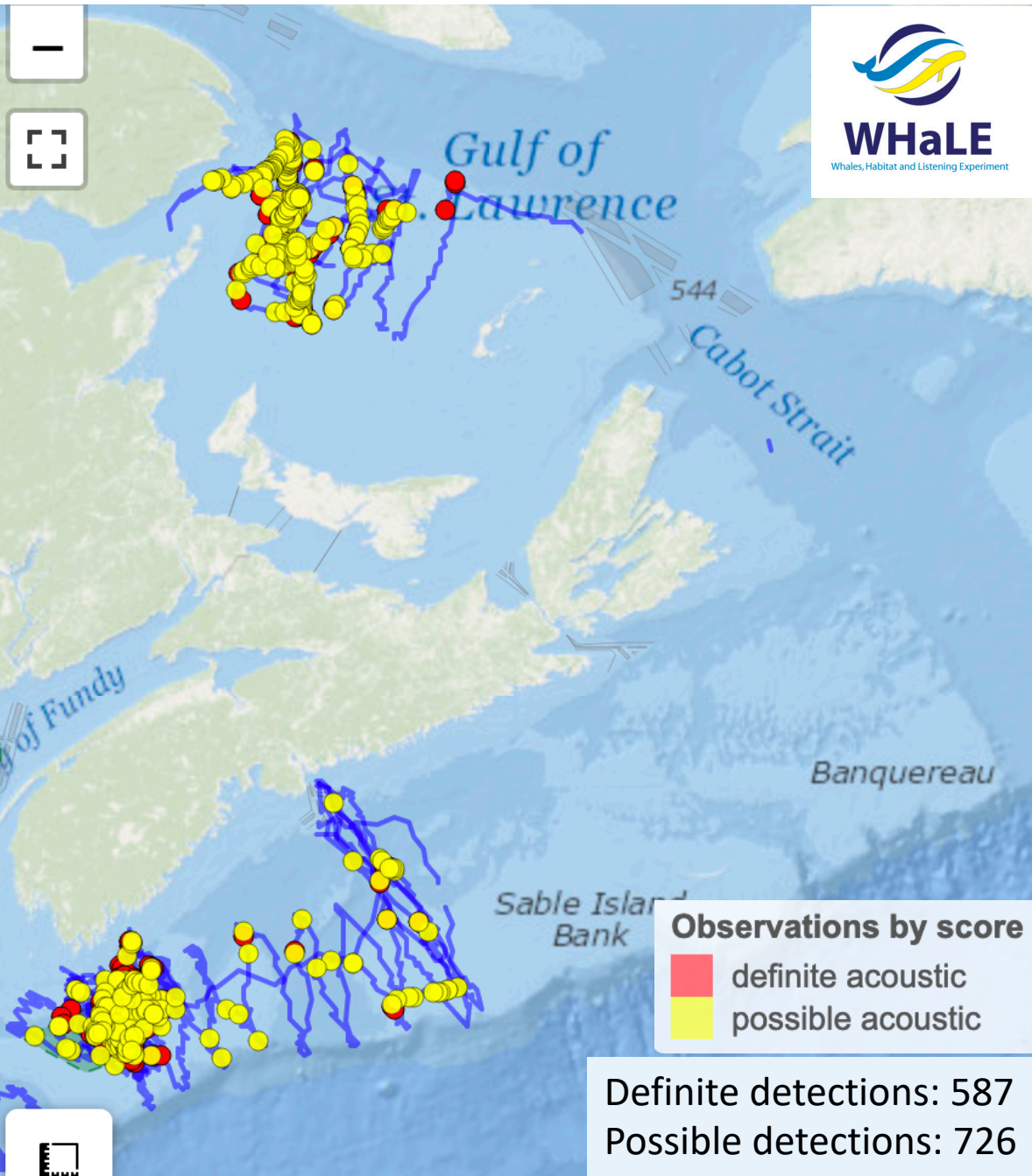
Halifax



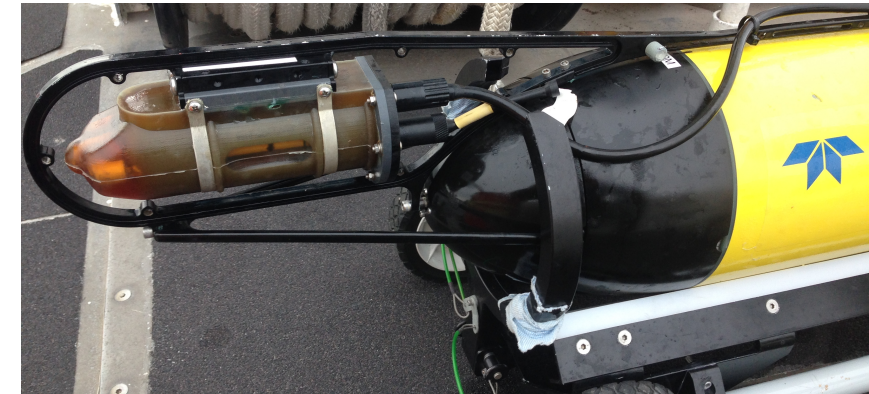
Offshore



Baleen whale monitoring 2014-2019 using Slocum gliders mounted with DMONs

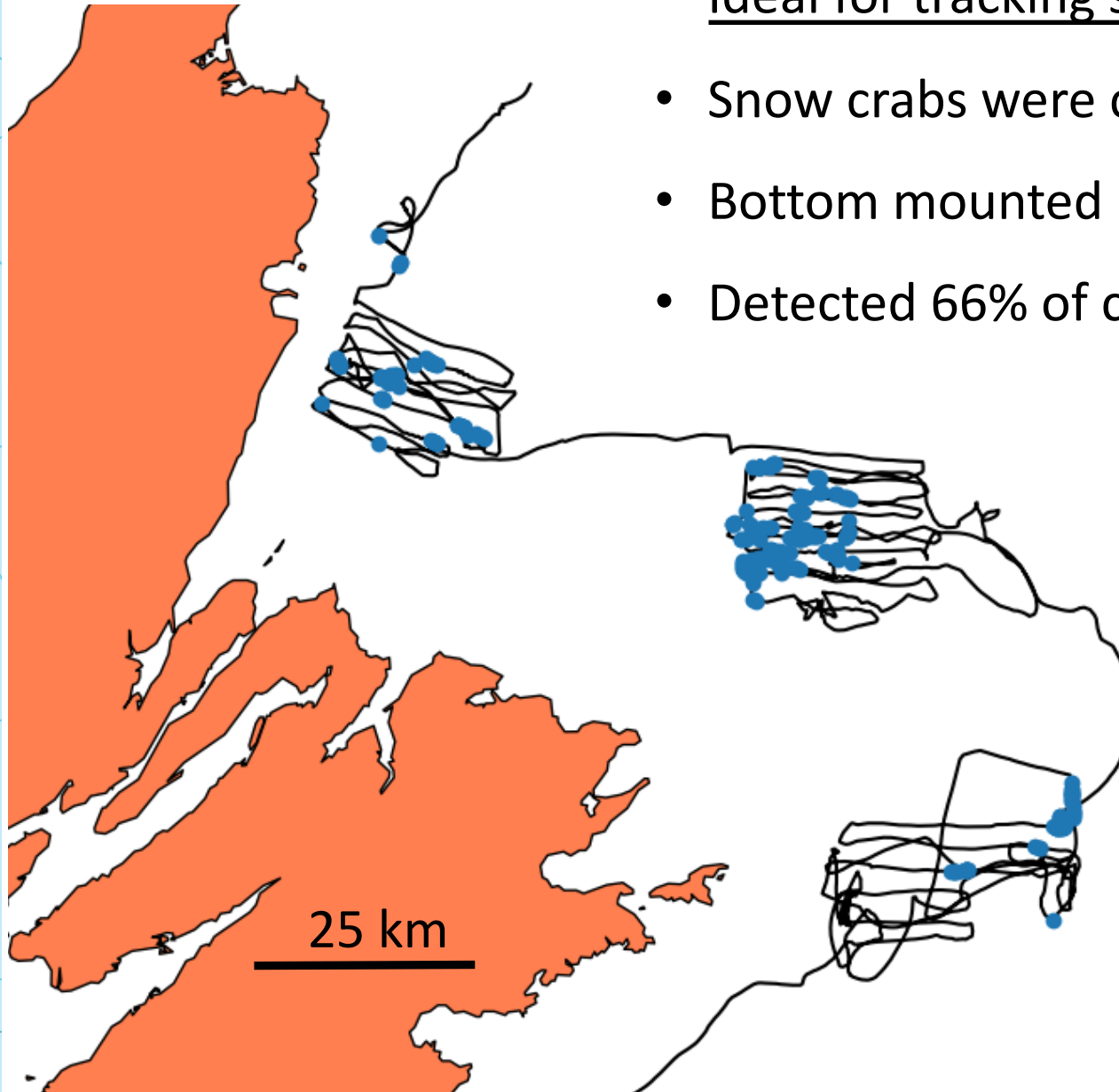


- DMON (Digital acoustic monitoring instrument) Baumgartner, WHOI
- Detect / classify / report, call types from 5 baleen whale species
 - Humpback whales
 - North Atlantic right whales
 - Blue whales
 - Sei whales
- Near real-time
- Rudder noise G3 is quieter

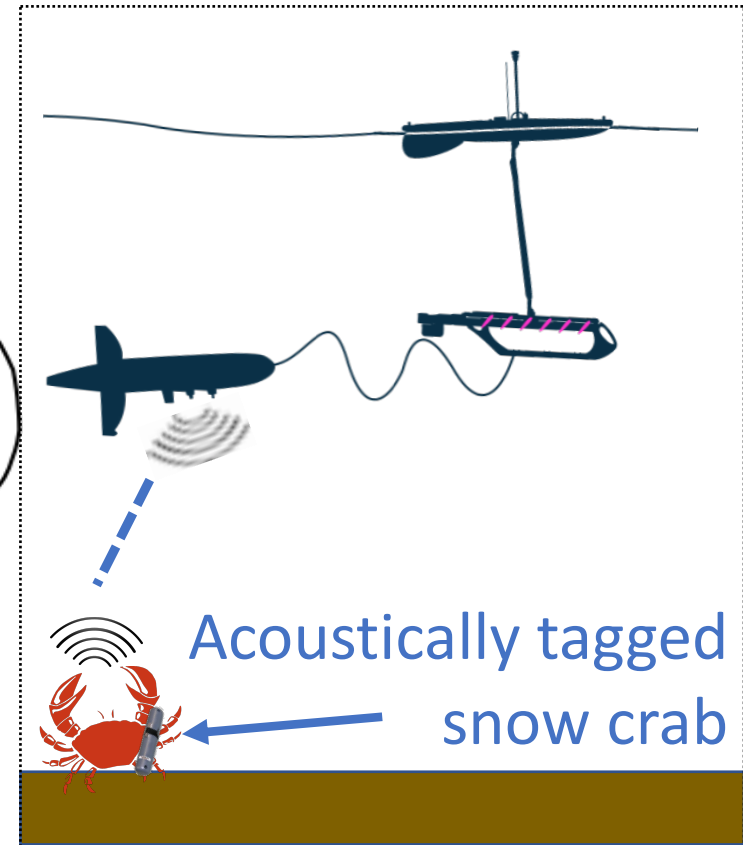


whalemap.ocean.dal.ca/WhaleMap/

Snow crab tracking using a Wave glider



- Ideal for tracking slow moving animals
- Snow crabs were caught / tagged / released
- Bottom mounted receiver array
- Detected 66% of crabs that were tagged

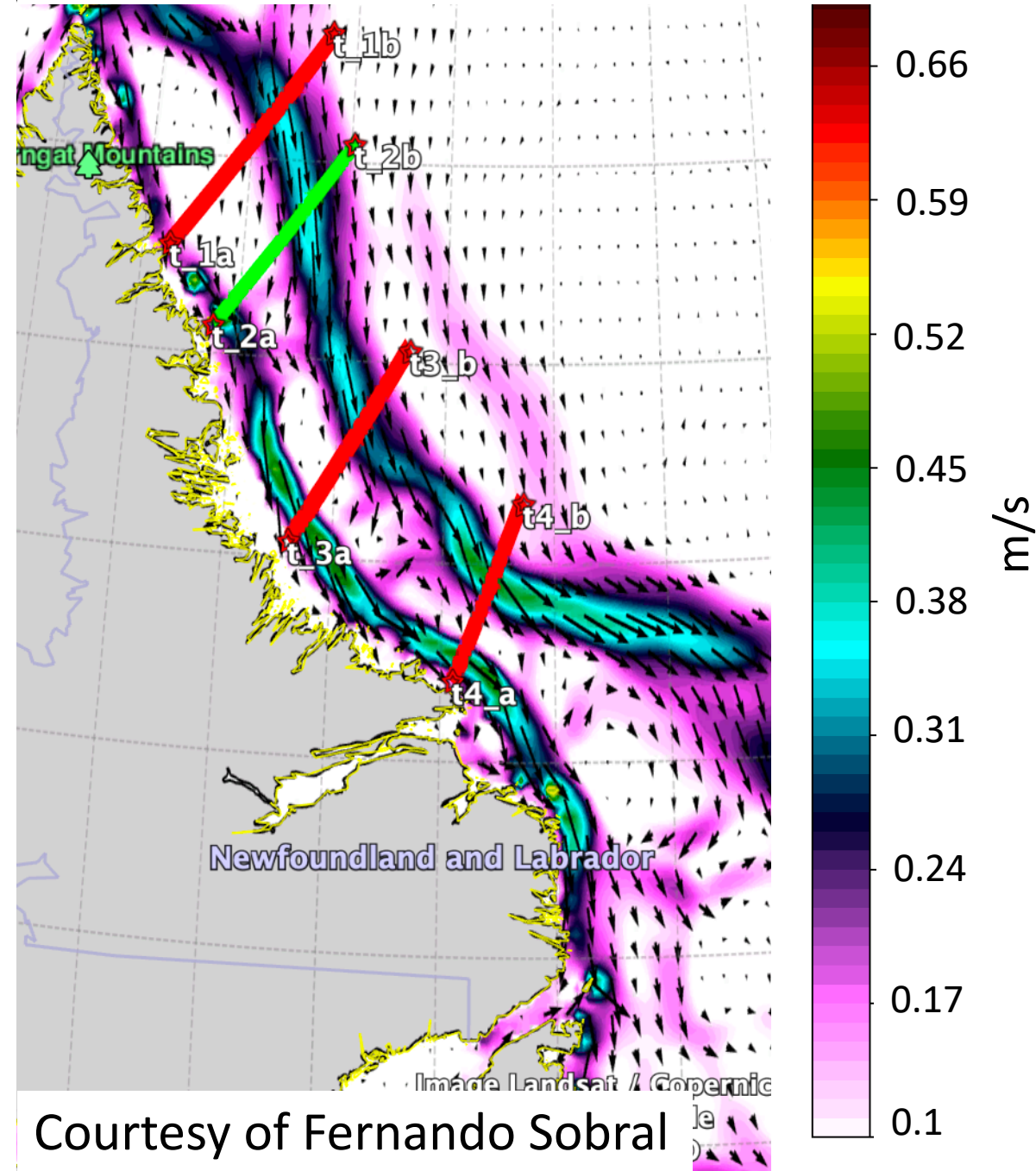




OCEANS NORTH

- 2019 Pilot test glider deployment (July - Sept)
- Inner Labrador shelf is not well observed
- Glider to collect observations (CTD + bio-optical + acoustic telemetry)
- Fly a glider perpendicular across both inshore and offshore Labrador currents

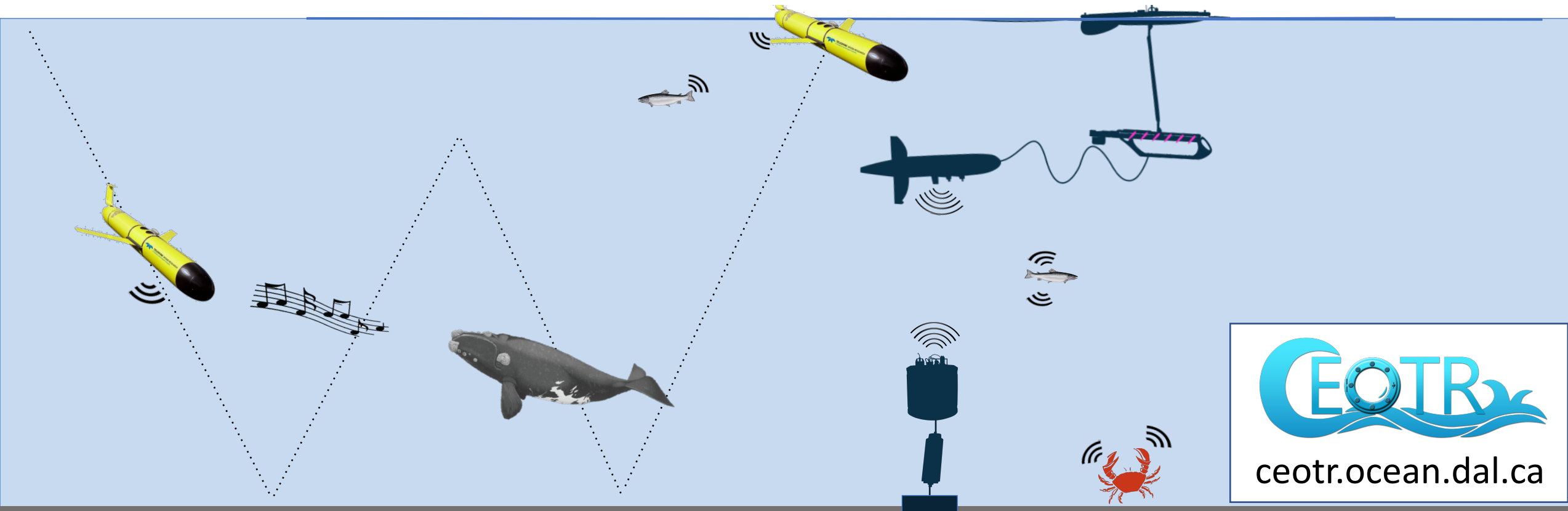
Glory monthly averaged surface currents



Courtesy of Fernando Sobral

Thank you!

- Operate gliders in the Northwest Atlantic and Gulf of Saint Lawrence
- Equip hydrophones for near real-time monitoring of baleen whales
- Our gliders are mobile receivers to detect acoustically tagged animals
- Future work planned in the Labrador sea and off of Baffin Island



$\triangleright \rho \triangleright^{\text{fb}} C^{\text{fb}} \sqcup \Gamma^{\text{b}} \quad \triangleright \rho \gamma \sigma \triangleleft^{\text{fb}} \Pi^{\text{c}}$

-
- A map of the North Atlantic region. Iceland is highlighted in red in the center. To the north is Greenland in light grey. To the east is the European continent, with Norway and Sweden in light grey and Denmark in light yellow. To the south and west are the British Isles (Ireland and Great Britain) and the Atlantic Ocean. The map uses a light blue color for the ocean and various shades of yellow, grey, and red for the landmasses.

