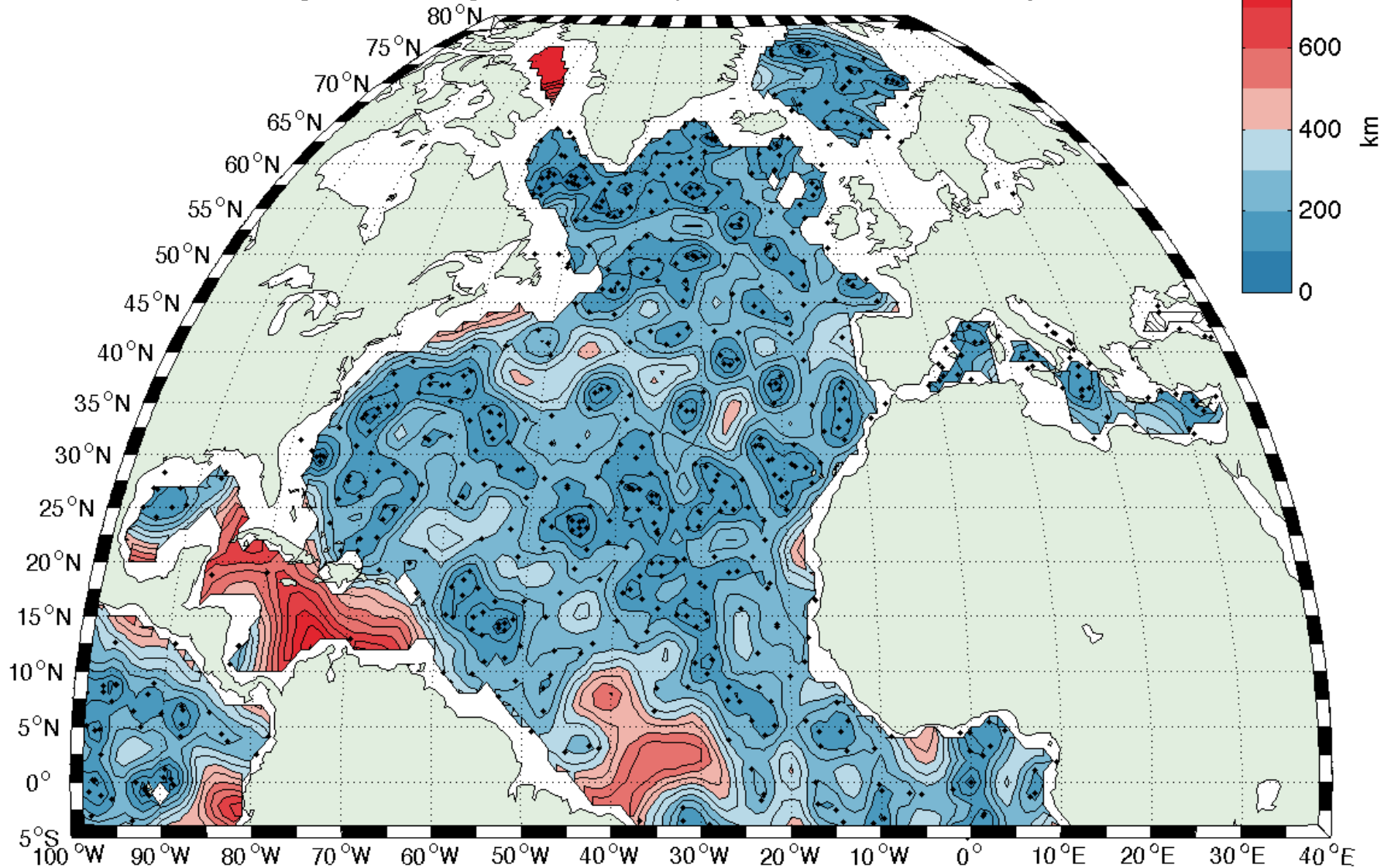


WHOI efforts to increase Argo float coverage in Gulf of Mexico and Caribbean Sea

P.E. Robbins, Steven Jayne, and Breck Owens
Halifax AST15

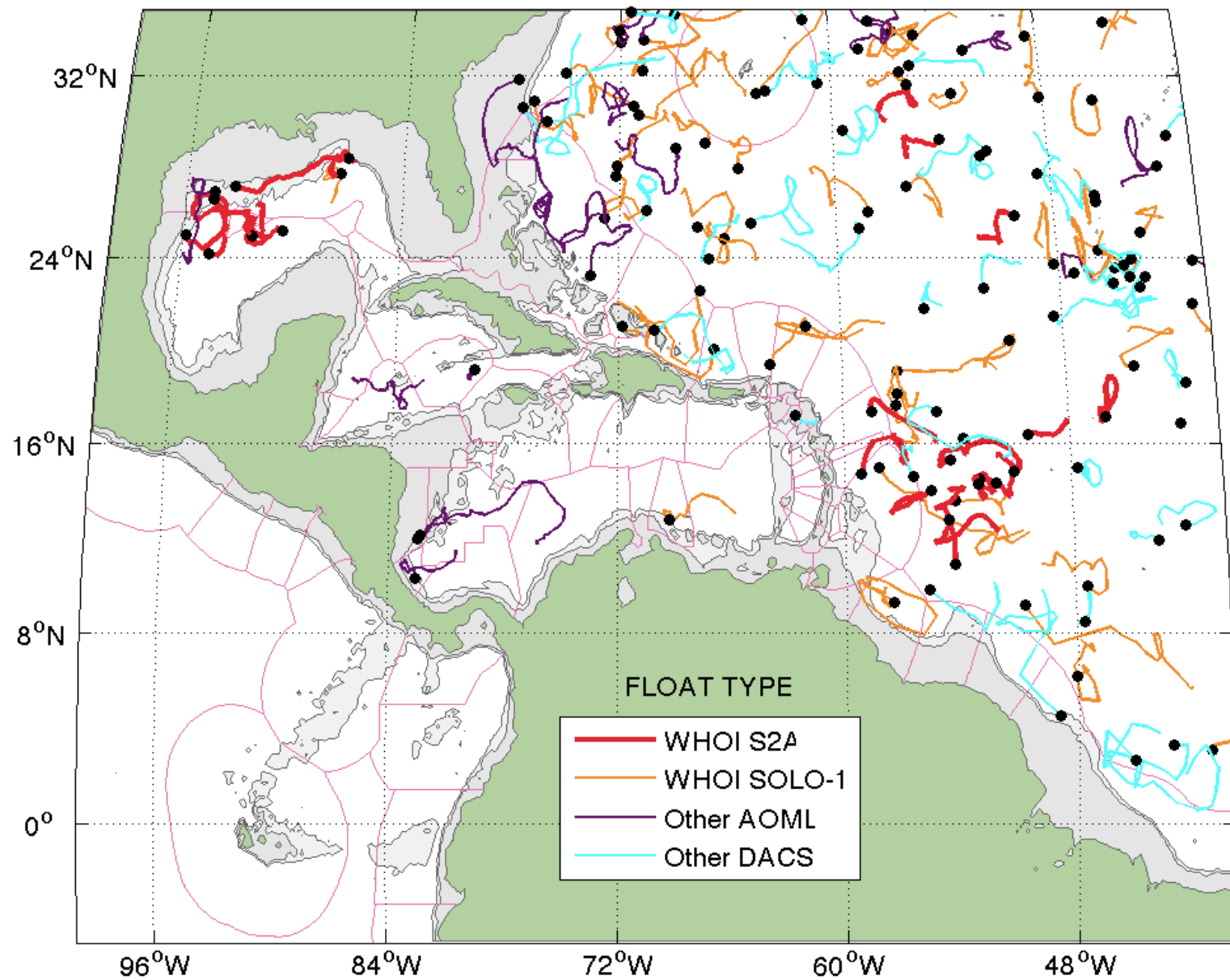
- **June 2010:** 2 SOLO-WHOI Iridium floats deployed in Gulf of Mexico from *MV War Admiral* during Deepwater Horizon oil spill survey
- **Sept 2013:** 5 MRV S2A floats deployed in Gulf of Mexico from *RV Pelican* during Jim Ledwell tracer-release cruise
- **March 2014:** 2 MRV S2A floats to be deployed by *SSV Corwith Cramer* south of Puerto Rico in Caribbean Sea

Argo float coverage, active floats reported at GDAC Data Assembly Center

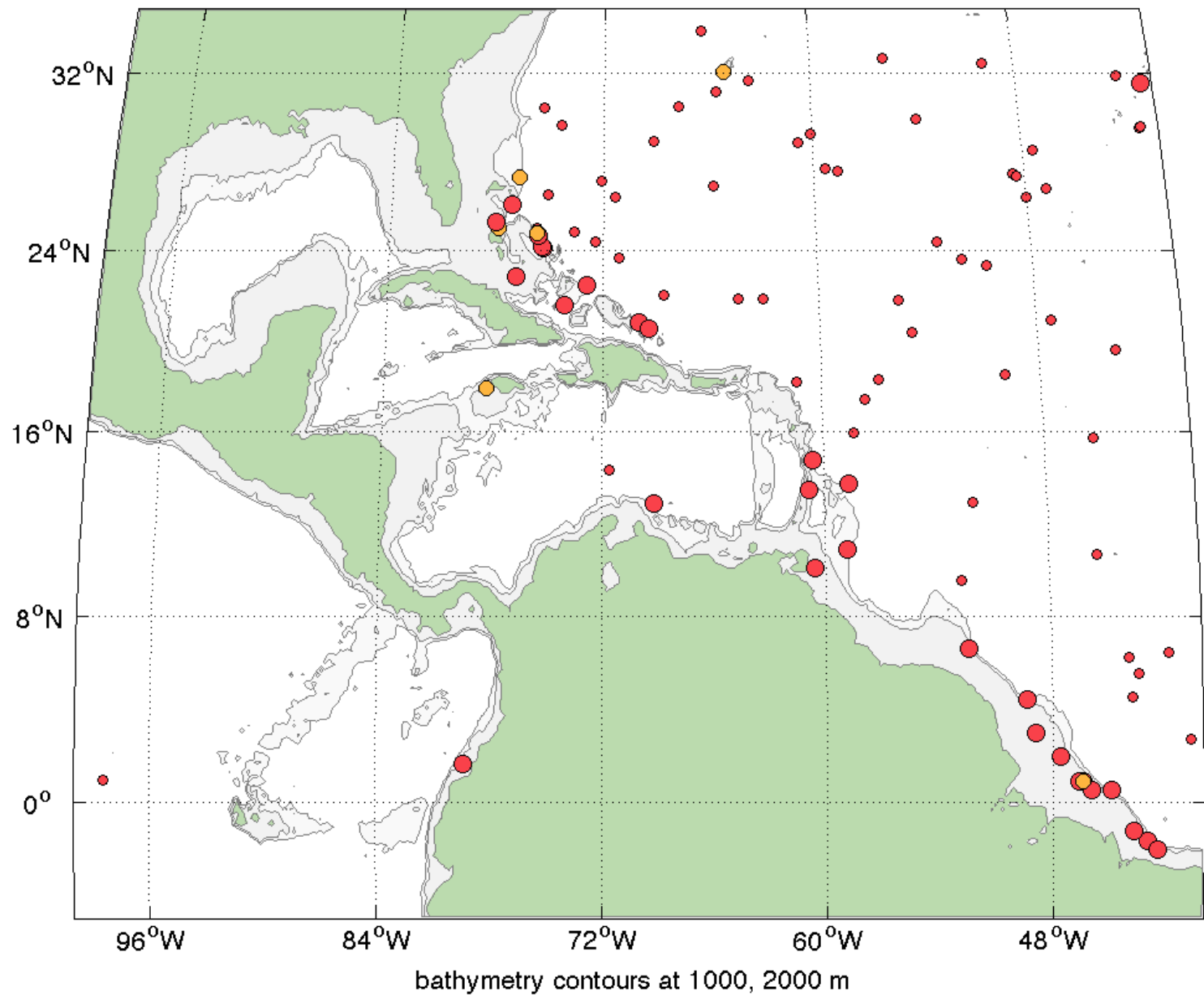


Argo Float Sparseness: Average distance to 4 nearest floats. DAC=GDAC

Locations of currently active floats with 6 month tail

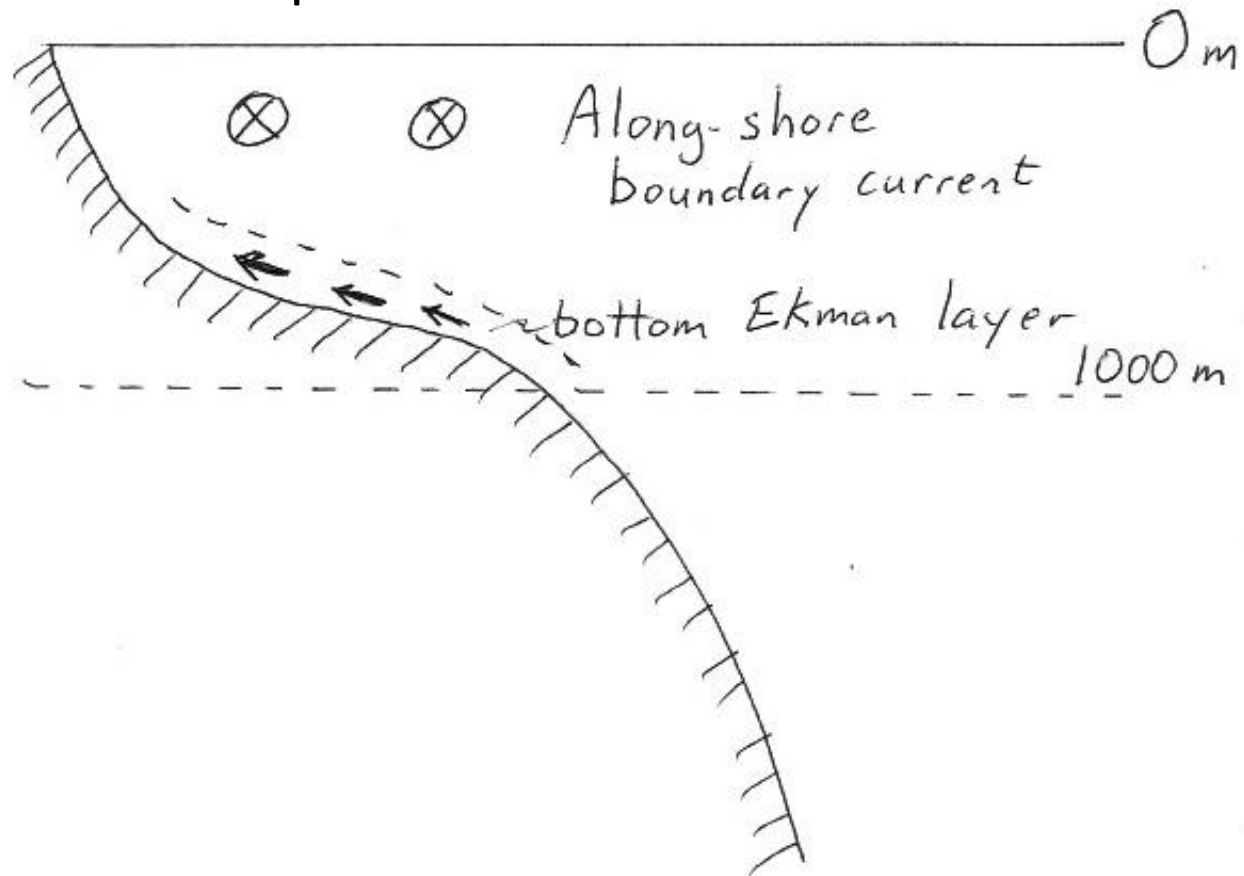


Last reported position of dead WHOI Argo floats

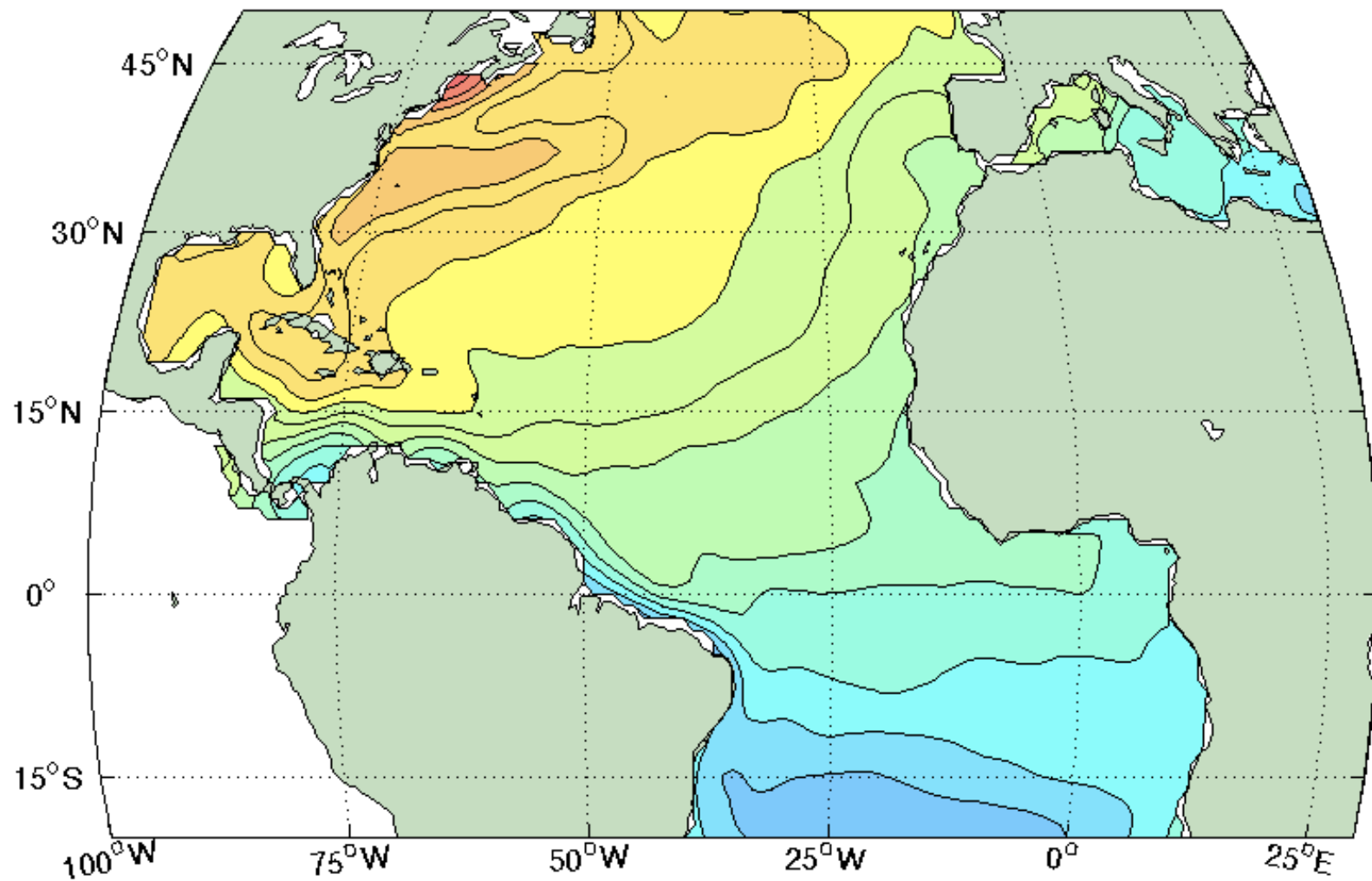


In poleward Western Boundary Currents (equatorward Eastern Boundary Currents), floats in water shallower than 1000m will be pushed onshore in the bottom Ekman layer if they continue to try to park at 1000m.

→ Need to raise park depth to prevent float from getting caught in Ekman “deathtrap.”

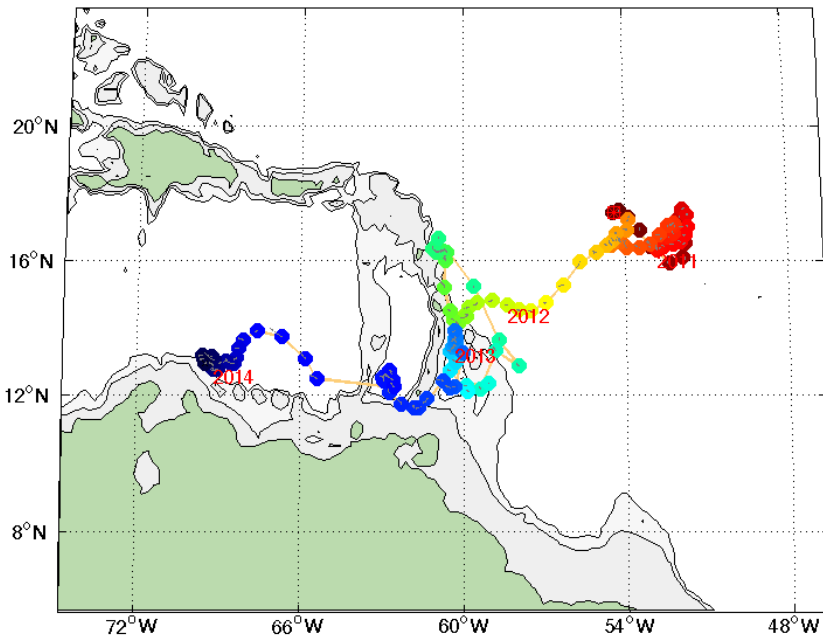


Streamfunction diagnosed from RAW Argo subsurface displacements

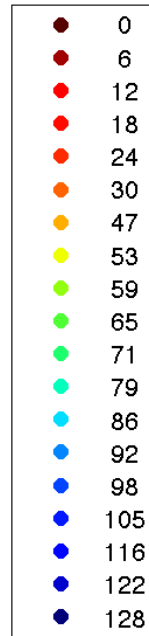


corrlen = 6.0, dx=1.0

4901061: Profile Positions & Trajectory



Cycle #

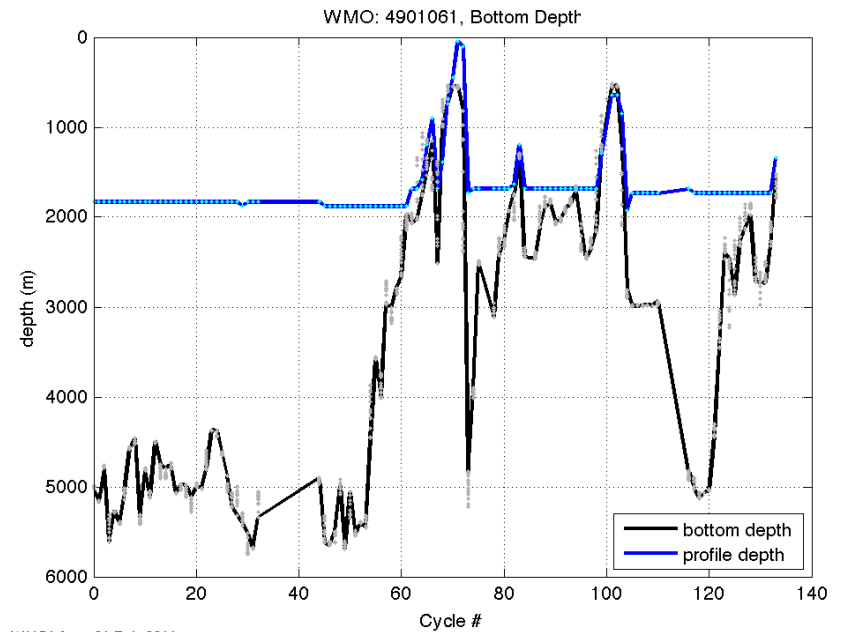


SOLO-WHOI ARGOS
currently active in Caribbean Sea

WMO 4901061
Deployed 2010 June 30
RV Knorr

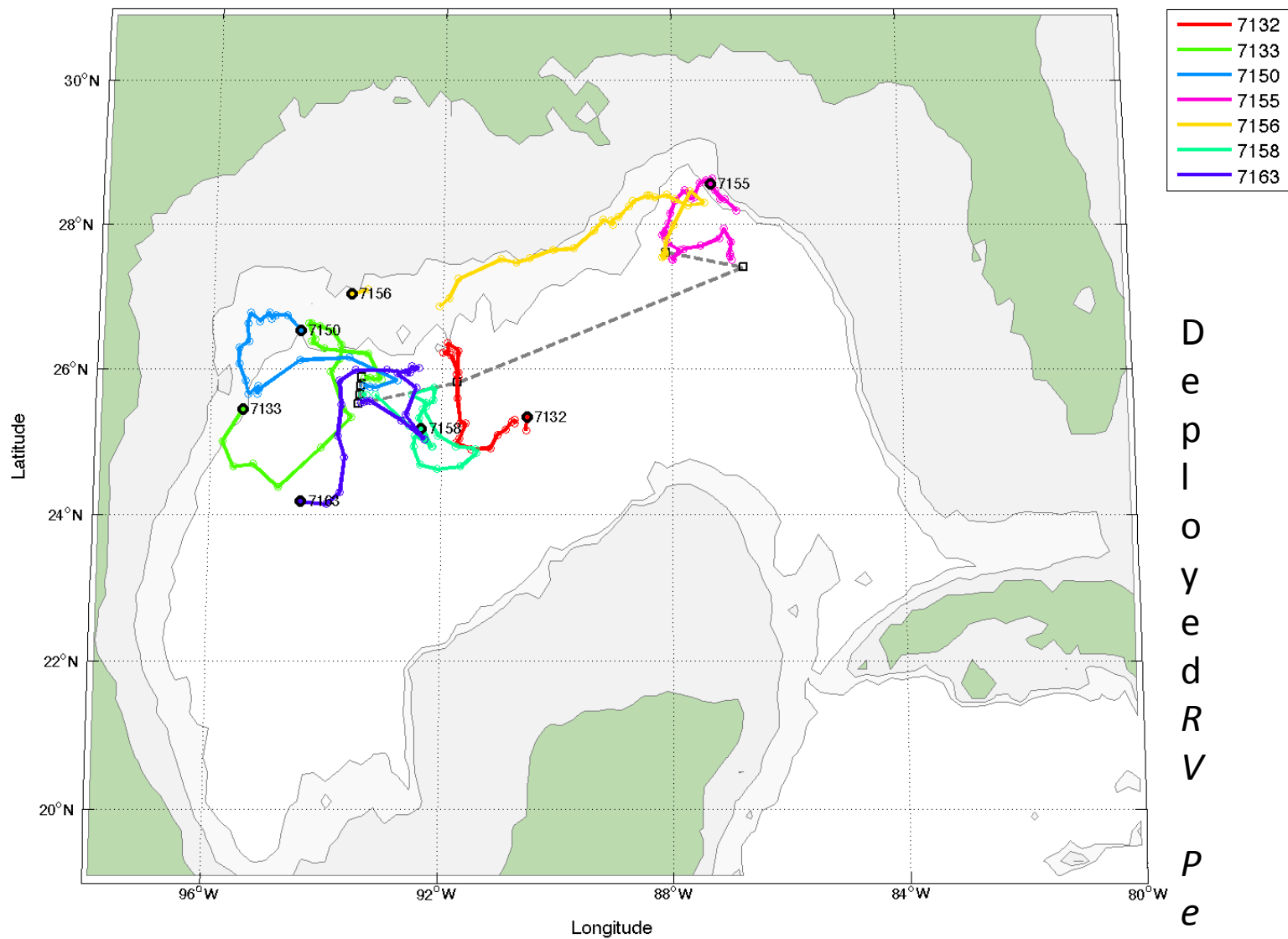
WHOI Argo:21-Feb-2014

Profile depth compared to
Bottom depth from ETOPO5



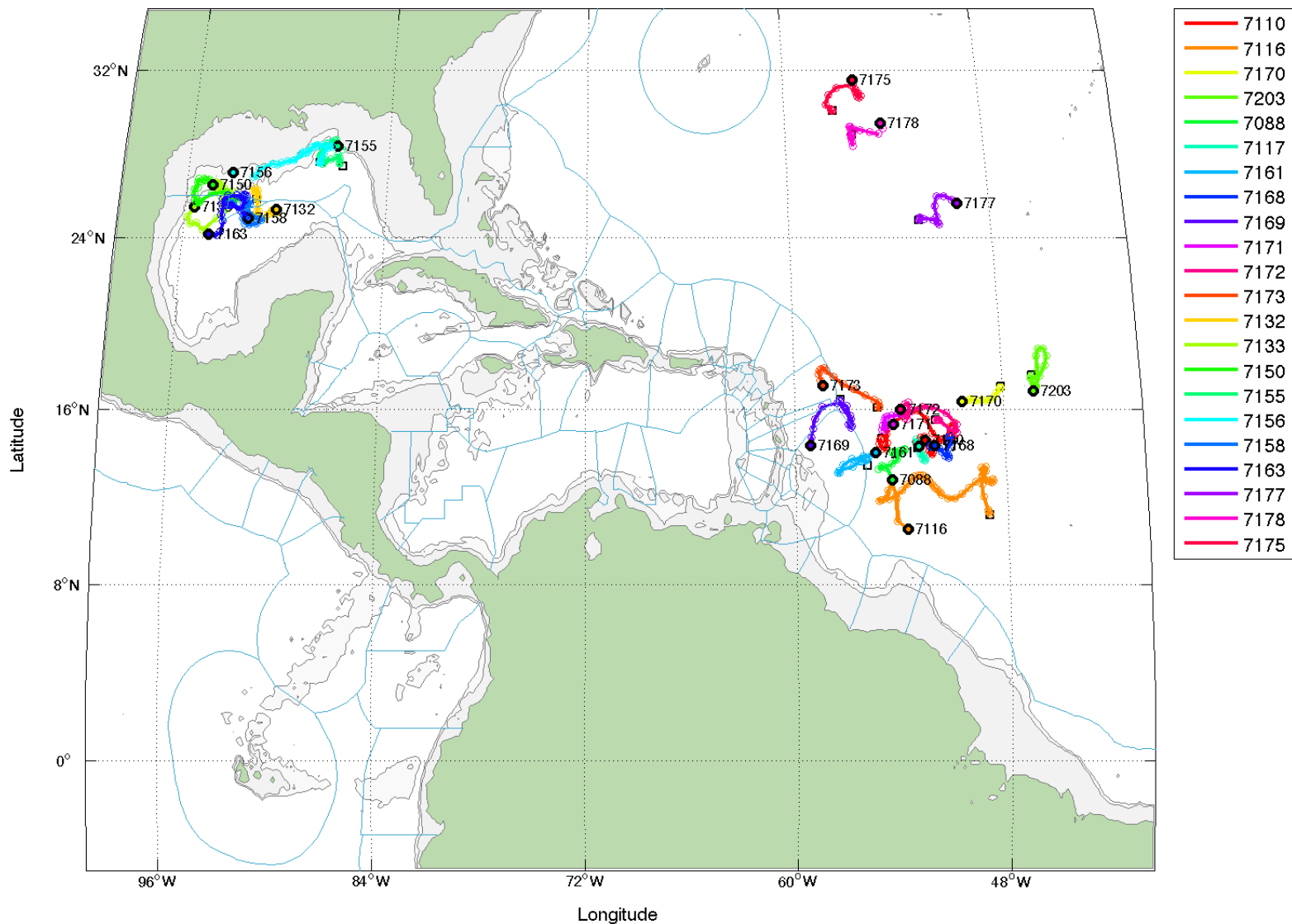
WHOI Argo:21-Feb-2014

WHOI S2A Argo floats deployments: Pelican 2013



Currently active WHOI MRV S2A floats in region

WHOI S2A Argo floats deployments: WHOI S2A Float:



Summary

- Currently 7 active WHOI Argo floats in Gulf of Mexico.
- Combination of direct deployments and advection from North Atlantic should lead to increase in Argo coverage of Gulf of Mexico and Caribbean Sea in coming years.
- If floats get into water shallower than 1000m with a shoreward bottom Ekman layer, the park depth should be raised for best chance to “rescue” the float to deeper waters.
- What’s the best protocol for floats in stuck waters less than 1000m depth?
 - park 200m above bottom? park near surface?
 - profile more often so we get more frequent information?

WHOI-AOML Argo float deployment plans

