

# WHOI Argo Deployment Report

Pelle Robbins

Aug 26, 2021

## Summary

[Cruises in Preparation](#)

[Completed cruises \(2021\) with deployments by platform type](#)

## Planned Cruises

[PNE \(PIRATA Northeast Extension\) and GO-SHIP A13.5](#)

[Ron Brown projected Cruise Track](#)

[PNE / A13.5 Draft Deployment Locations](#)

[Atlantic Charter](#)

[Atlantic Charter Draft Deployment Locations](#)

## Ongoing Deployment Opportunities

[Bermuda Institute of Ocean Sciences](#)

[South African Resupply Cruises](#)

[NOAA VOS XBT network: AX07 & AX08](#)

[Wallenius Wilhelmsen Lines / Science RoCS](#)

## Other Maps

[PNE, A13.5 and charter tracks over current fleet \(healthy floats\)](#)

[PNE, A13.5 and charter tracks \(healthy & young floats\)](#)

[PNE, A13.5 and charter tracks compared to location of recent WHOI deployments](#)

[All Argo Deployments in Atlantic Basin, 2021 \(thus far\)](#)

## Summary

### Cruises in Preparation

Cruise	Ship	Load Location	Load Date	Inventory
PNE and GO-SHIP A13.5	<i>Ronald Brown</i>	Key West	~ Nov 1	26 core (max) 1 deep solo 5-7 navis bgc
Atlantic Charter	<i>Iris</i>	Woods Hole	~ Nov 15	70 core 1 deep solo 12 Canadian
RoCS 2021b	TBD	Newark	TBD	4 core

### Completed cruises (2021) with deployments by platform type

Cruise	Ship	S2A	ALTO	NAVIS BGC
SANAE	<i>SA Agulhas II</i>	8	-	-
PNE	<i>Ronald Brown</i>	12	-	-
GO-SHIP A20	<i>RV T. Thompson</i>	7	-	-
GO-SHIP A22	<i>RV T. Thompson</i>	8	-	-
Exports	<i>RRS Discovery</i>	-	-	2
Loop Current	<i>RV Pelican</i>	4	-	-
RoCS 2021A	<i>MV Tijuca</i>	2	-	-
OOI Irminger	<i>RV Armstrong</i>	-	6	1

## Planned Cruises

### PNE (PIRATA Northeast Extension) and GO-SHIP A13.5

Cruise	Ship	Load Location	Load Date	Inventory
PNE and A13.5	<i>Ronald Brown</i>	Key West	Nov 1 ish	26 core (max) 1 deep solo 5-7 navis bgc

Core floats ballast - all General Atlantic

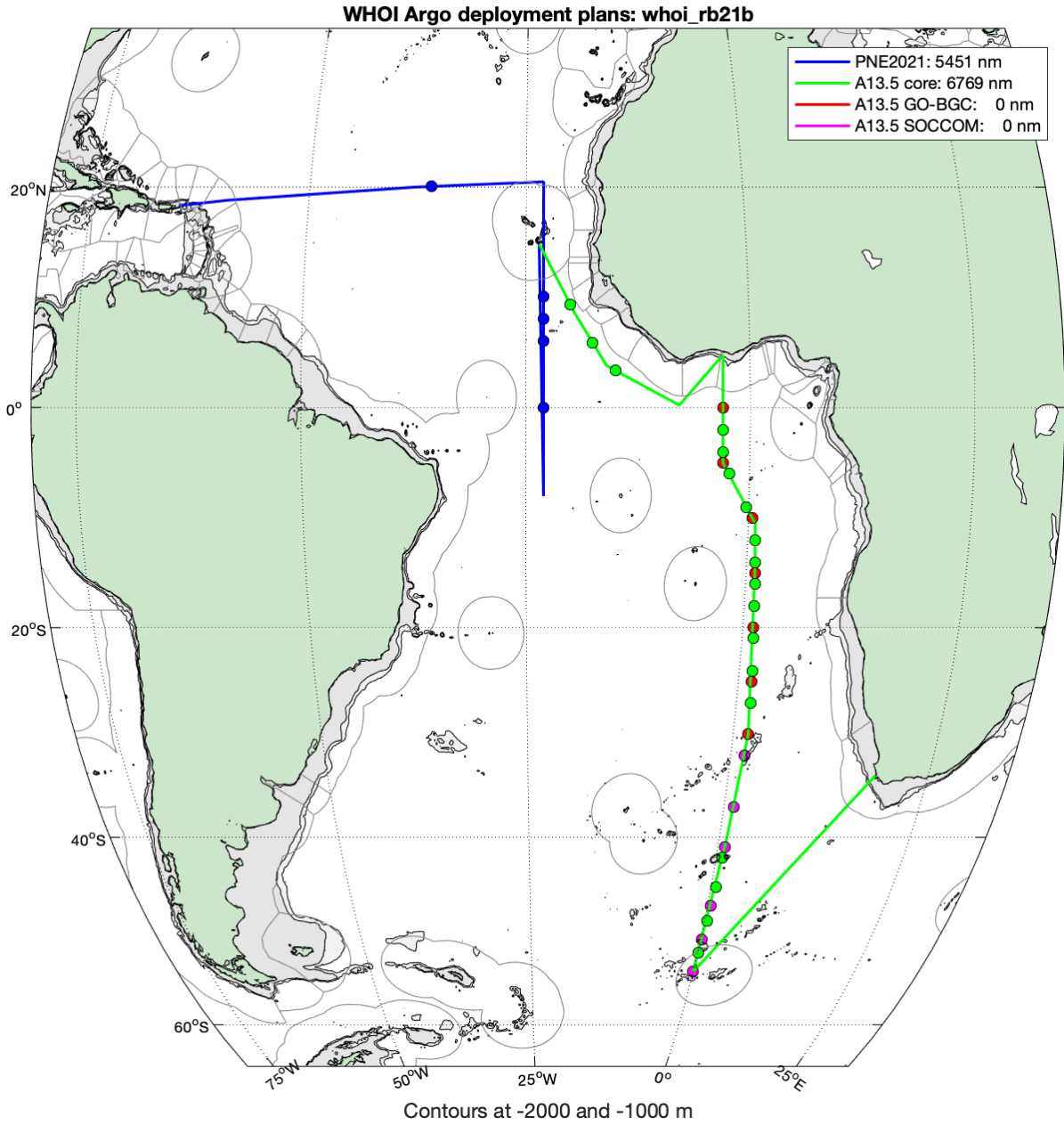
BGC float ballast - ???

Bill Dullea and Ryan Anderson to travel to Key West to initialize floats and aid in loading.

RONALD H. BROWN schedule (as of Aug 19)

Port	Arrive date	Depart Date	Next Cruise	Days at Sea
Key West	Nov 1	Nov 9	WBTS-Abaco	10
St. Thomas UVI	Nov 18	Nov 21	PNE	33
Praia, Cape Verde	Dec 23	Jan 1	A13.5	45
Cape Town	Feb 18	Mar 1	Transit to drydock	

### Ron Brown projected Cruise Track

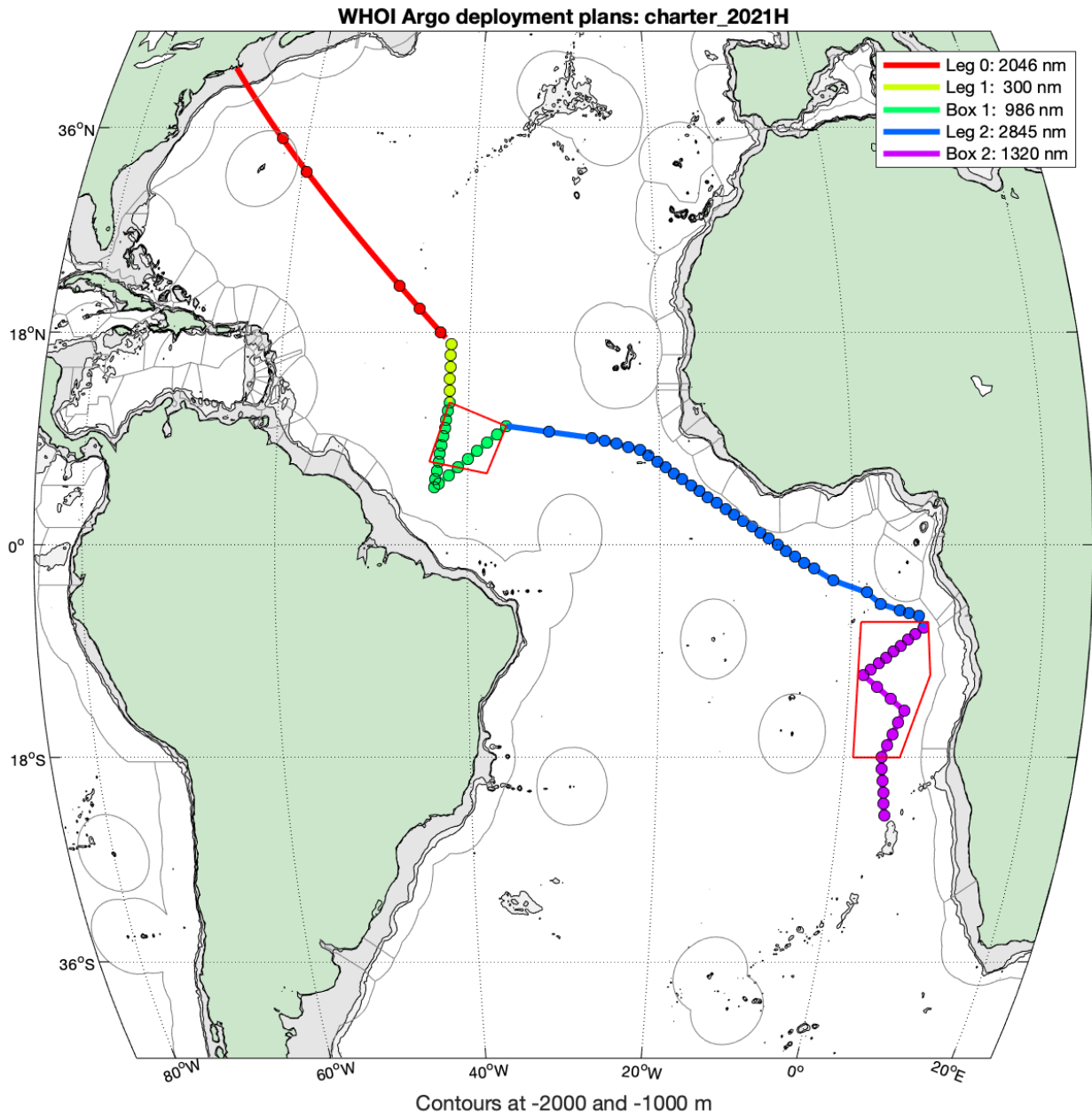


## PNE / A13.5 Draft Deployment Locations

01 PNE2021	20° 4'N	36° 0'W
02 PNE2021	10° 0'N	23° 0'W
03 PNE2021	8° 0'N	23° 0'W
04 PNE2021	6° 0'N	23° 0'W
05 PNE2021	0° 0'S	23° 0'W
06 A13.5 core	52° 0'S	0° 8'E
07 A13.5 core	48° 30'S	0° 23'E
08 A13.5 core	45° 0'S	0° 38'E
09 A13.5 core	42° 0'S	0° 50'E
10 A13.5 core	27° 0'S	1° 40'E
11 A13.5 core	24° 0'S	1° 30'E
12 A13.5 core	21° 0'S	1° 20'E
13 A13.5 core	18° 0'S	1° 10'E
14 A13.5 core	16° 0'S	1° 3'E
15 A13.5 core	14° 0'S	0° 57'E
16 A13.5 core	12° 0'S	0° 52'E
17 A13.5 core	9° 0'S	0° 14'W
18 A13.5 core	6° 0'S	2° 19'W
19 A13.5 core	4° 0'S	3° 0'W
20 A13.5 core	2° 0'S	3° 0'W
21 A13.5 core	0° 0'S	3° 0'W
22 A13.5 core	9° 17'N	20° 0'W
23 A13.5 core	5° 49'N	17° 30'W
24 A13.5 core	3° 20'N	15° 0'W
25 A13.5 GO-BGC	30° 0'S	1° 50'E
26 A13.5 GO-BGC	25° 0'S	1° 33'E
27 A13.5 GO-BGC	20° 0'S	1° 17'E
28 A13.5 GO-BGC	15° 0'S	1° 0'E
29 A13.5 GO-BGC	10° 0'S	0° 27'E
30 A13.5 GO-BGC	5° 0'S	3° 0'W
31 A13.5 GO-BGC	0° 0'S	3° 0'W
32 A13.5 SOCCOM	54° 0'S	0° 0'W
33 A13.5 SOCCOM	50° 30'S	0° 15'E
34 A13.5 SOCCOM	47° 0'S	0° 29'E
35 A13.5 SOCCOM	41° 0'S	0° 55'E
36 A13.5 SOCCOM	37° 0'S	1° 14'E
37 A13.5 SOCCOM	32° 0'S	1° 40'E

# Atlantic Charter

Cruise	Ship	Load Location	Load Date	Inventory
Charter	<i>Iris</i>	Woods Hole	Nov 15 ish	70 core 1 deep solo 12 Canadian



## Atlantic Charter Draft Deployment Locations

01 Leg 0 35° 0'N 63° 1'W  
02 Leg 0 32° 0'N 59° 31'W  
03 Leg 0 22° 0'N 47° 50'W  
04 Leg 0 20° 0'N 45° 30'W  
05 Leg 0 18° 0'N 43° 10'W  
06 Leg 1 17° 0'N 42° 0'W  
07 Leg 1 16° 0'N 42° 0'W  
08 Leg 1 15° 0'N 42° 0'W  
09 Leg 1 14° 0'N 42° 0'W  
10 Leg 1 13° 0'N 42° 0'W  
11 Box 1 12° 0'N 42° 0'W  
12 Box 1 11° 17'N 42° 9'W  
13 Box 1 10° 34'N 42° 18'W  
14 Box 1 9° 50'N 42° 27'W  
15 Box 1 9° 7'N 42° 36'W  
16 Box 1 8° 24'N 42° 45'W  
17 Box 1 7° 41'N 42° 54'W  
18 Box 1 6° 58'N 43° 3'W  
19 Box 1 6° 14'N 43° 12'W  
20 Box 1 5° 31'N 43° 21'W  
21 Box 1 4° 48'N 43° 30'W  
22 Box 1 5° 9'N 43° 0'W  
23 Box 1 5° 50'N 42° 0'W  
24 Box 1 6° 32'N 41° 0'W  
25 Box 1 7° 14'N 40° 0'W  
26 Box 1 7° 55'N 39° 0'W  
27 Box 1 8° 37'N 38° 0'W  
28 Box 1 9° 18'N 37° 0'W  
29 Box 1 10° 0'N 36° 0'W  
30 Leg 2 9° 30'N 31° 30'W  
31 Leg 2 9° 0'N 27° 0'W  
32 Leg 2 8° 45'N 25° 45'W  
33 Leg 2 8° 30'N 24° 30'W  
34 Leg 2 8° 15'N 23° 15'W  
35 Leg 2 8° 0'N 22° 0'W  
36 Leg 2 7° 30'N 21° 8'W  
37 Leg 2 7° 0'N 20° 15'W  
38 Leg 2 6° 30'N 19° 22'W  
39 Leg 2 6° 0'N 18° 30'W  
40 Leg 2 5° 30'N 17° 38'W  
41 Leg 2 5° 0'N 16° 45'W  
42 Leg 2 4° 30'N 15° 52'W  
43 Leg 2 4° 0'N 15° 0'W  
44 Leg 2 3° 30'N 14° 5'W  
45 Leg 2 3° 0'N 13° 11'W  
46 Leg 2 2° 30'N 12° 16'W  
47 Leg 2 2° 0'N 11° 22'W  
48 Leg 2 1° 30'N 10° 28'W  
49 Leg 2 1° 0'N 9° 34'W  
50 Leg 2 0° 30'N 8° 41'W  
51 Leg 2 0° 0'S 7° 47'W  
52 Leg 2 0° 30'S 6° 54'W  
53 Leg 2 1° 0'S 6° 0'W  
54 Leg 2 1° 30'S 5° 0'W  
55 Leg 2 2° 0'S 4° 0'W  
56 Leg 2 3° 0'S 2° 0'W  
57 Leg 2 4° 0'S 1° 30'E  
58 Leg 2 5° 0'S 3° 0'E

## WHOI Argo Deployment Report

8

59 Leg 2	5° 30'S	5° 0'E
60 Leg 2	5° 45'S	6° 0'E
61 Leg 2	6° 0'S	7° 0'E
62 Box 2	7° 0'S	7° 30'E
63 Box 2	7° 30'S	6° 45'E
64 Box 2	8° 0'S	6° 0'E
65 Box 2	8° 30'S	5° 15'E
66 Box 2	9° 0'S	4° 30'E
67 Box 2	9° 30'S	3° 45'E
68 Box 2	10° 0'S	3° 0'E
69 Box 2	10° 30'S	2° 15'E
70 Box 2	11° 0'S	1° 30'E
71 Box 2	12° 0'S	3° 0'E
72 Box 2	13° 0'S	4° 30'E
73 Box 2	14° 0'S	6° 0'E
74 Box 2	15° 0'S	5° 30'E
75 Box 2	16° 0'S	5° 0'E
76 Box 2	17° 0'S	4° 30'E
77 Box 2	18° 0'S	4° 0'E
78 Box 2	19° 0'S	4° 12'E
79 Box 2	20° 0'S	4° 24'E
80 Box 2	21° 0'S	4° 36'E
81 Box 2	22° 0'S	4° 48'E
82 Box 2	23° 0'S	5° 0'E



# Ongoing Deployment Opportunities

## Bermuda Institute of Ocean Sciences

Ship: *RV Atlantic Explorer*

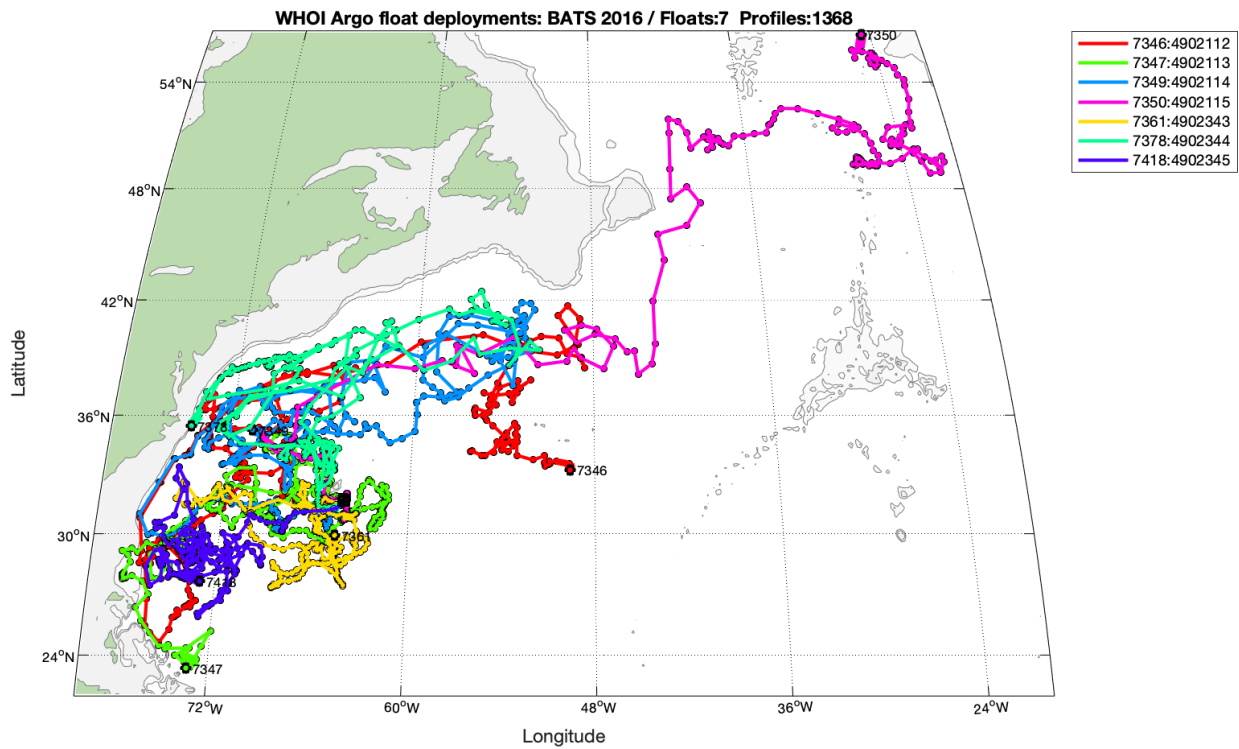
Contact: Rod Johnson, [Rod.Johnson@bios.edu](mailto:Rod.Johnson@bios.edu)

Monthly cruise to Bermuda Atlantic Time-Series site (31 50°N, 64 10°W)

Most recent WHOI Argo deployment: December 2018

Maximum number of WHOI deployments in a calendar year: 7 in 2016

Typical logistics: WHOI airships a pallet of four floats. Floats are deployed one-per-month at BATS site until supply is exhausted. Float startup (magnet swipe) performed by Rod Johnson and associates a few days before each cruise. Proper BIST startup confirmed by WHOI prior to loading.



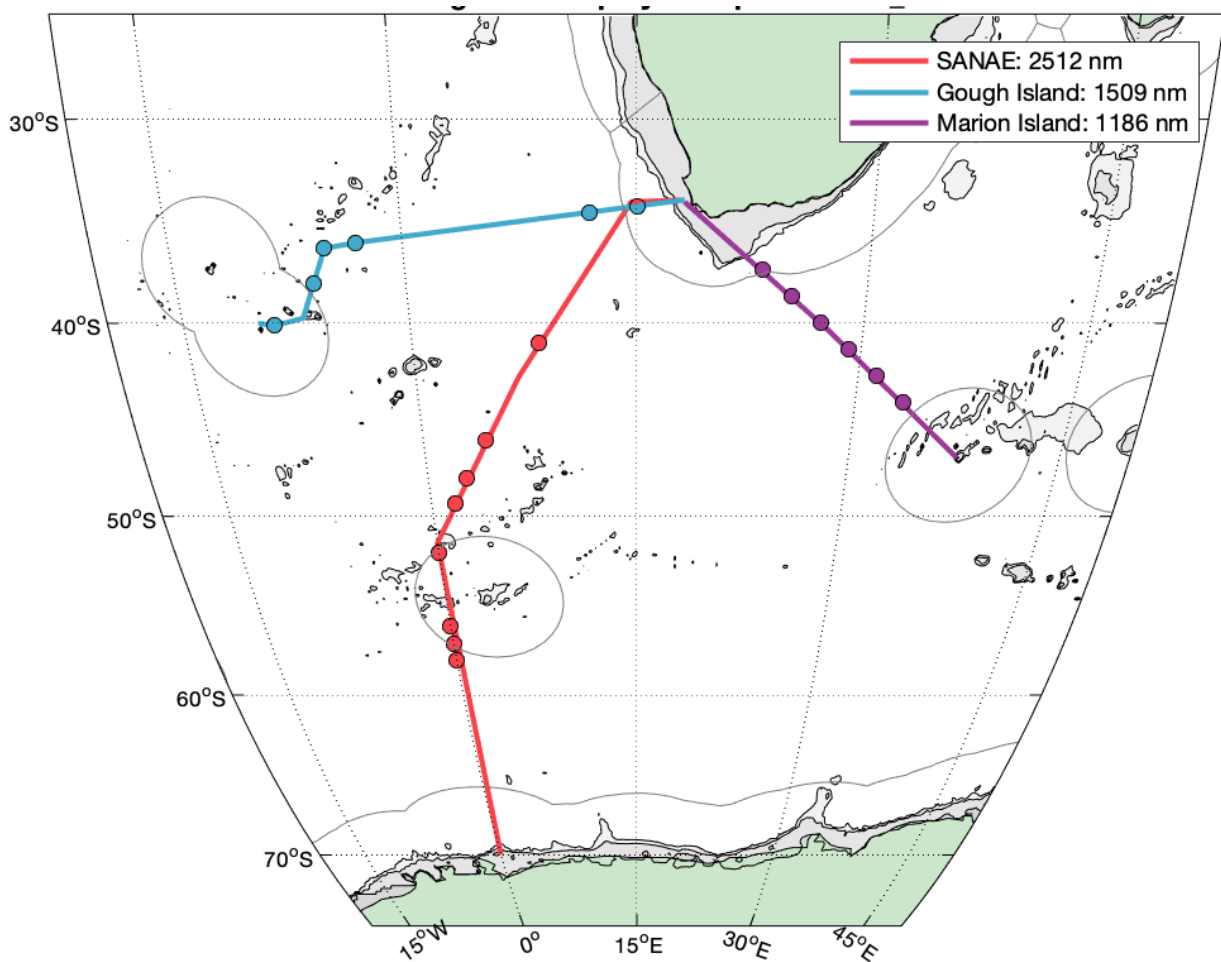
## South African Resupply Cruises

Ship: *S. A. Agulhas II*

Contact: Tamaryn Morris, [Tamaryn.Morris@weathersa.co.za](mailto:Tamaryn.Morris@weathersa.co.za)

<b>Annual Cruises</b>	<b>Usually Departs</b>	<b>Most recent WHOI participation</b>
Marion Island	April	April 2019
Gough Island	September	Sept 2020
SANAE	December	Dec 2020

Typical logistics: WHOI airships batch of floats via J&D Ship Services, CapeTown (allow 3 weeks for delivery (pre-covid)). Float startup (magnet swipe) performed by Tamaryn Morris and associates. Proper BIST startup for each float confirmed by WHOI via email (or text) prior to floats loading onto ship.



## NOAA VOS XBT network: AX07 & AX08

Container ships: e.g. CMA CGM FLORIDA, CHICAGO EXPRESS, etc..

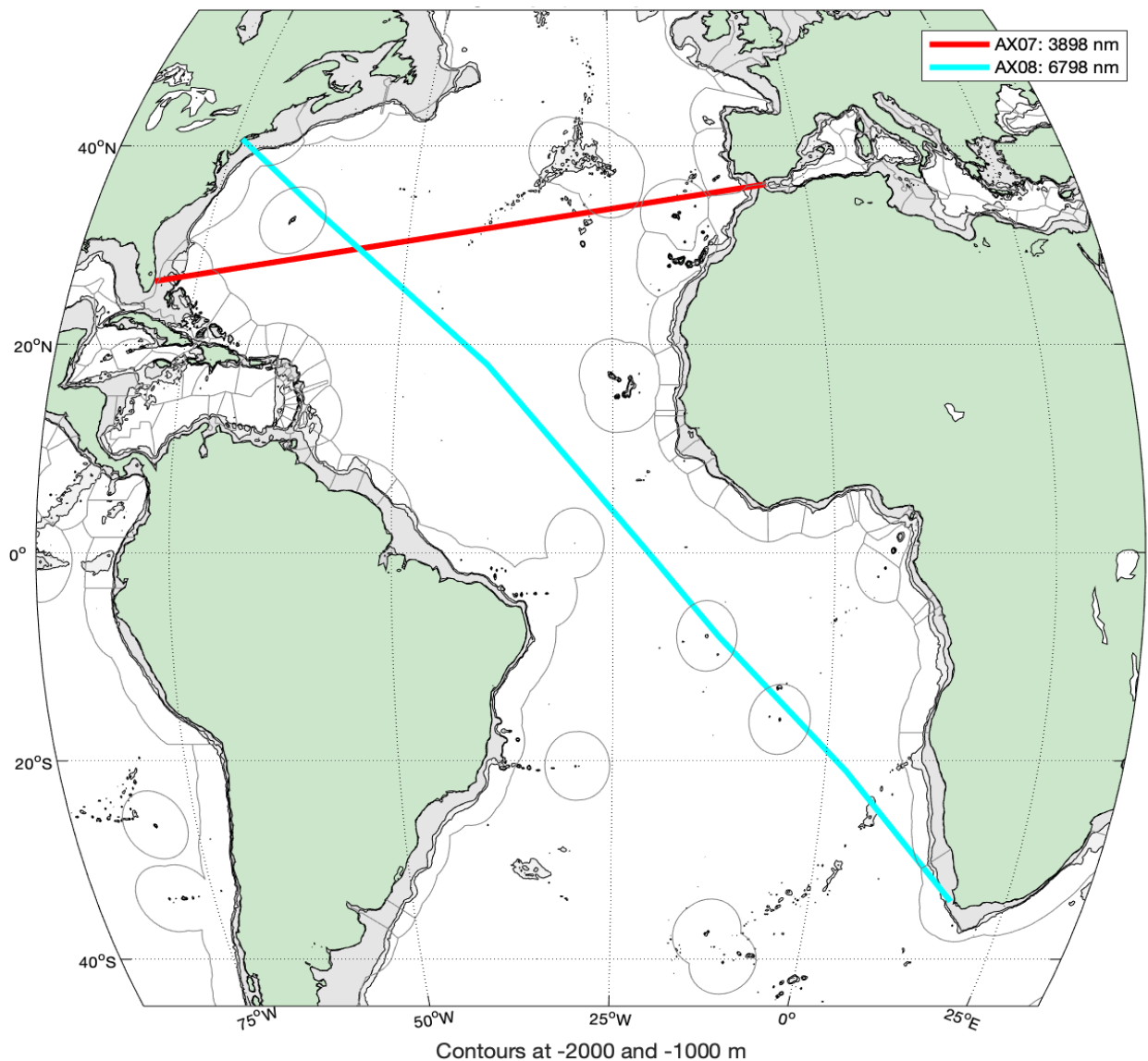
Contact: Zach Barton, AOML, [zach.barton@noaa.gov](mailto:zach.barton@noaa.gov)

Most recent WHOI deployments:

AX07: November 2020

AX08: June 2017

Typical logistics: WHOI ground-ships batch of floats to Newark (AX08) or South Florida (AX07). Float startup performed by a NOAA tech. Proper BIST startup for each float confirmed by WHOI prior to floats loading onto ship. Maximum of 8 floats allowed per cruise.



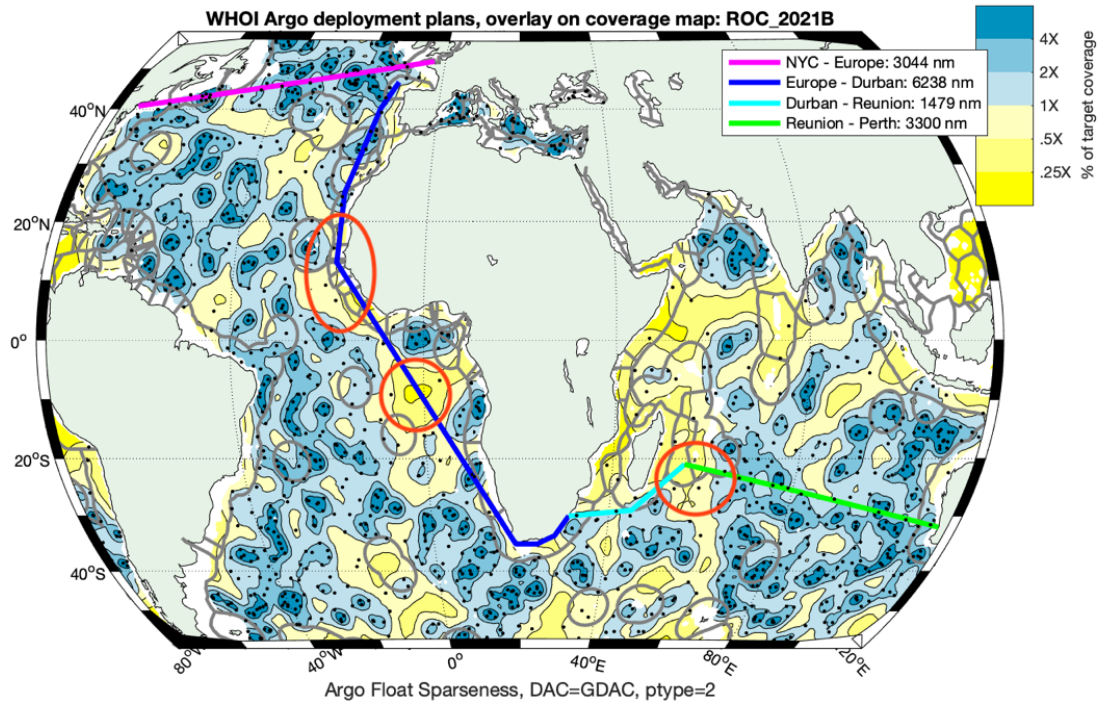
## Wallenius Wilhelmsen Lines / Science RoCS

Swedish logistics company with fleet of 126 vessels, 15 trade routes to six continents

Contact: Kerry Strom, [kstrom@whoi.edu](mailto:kstrom@whoi.edu)

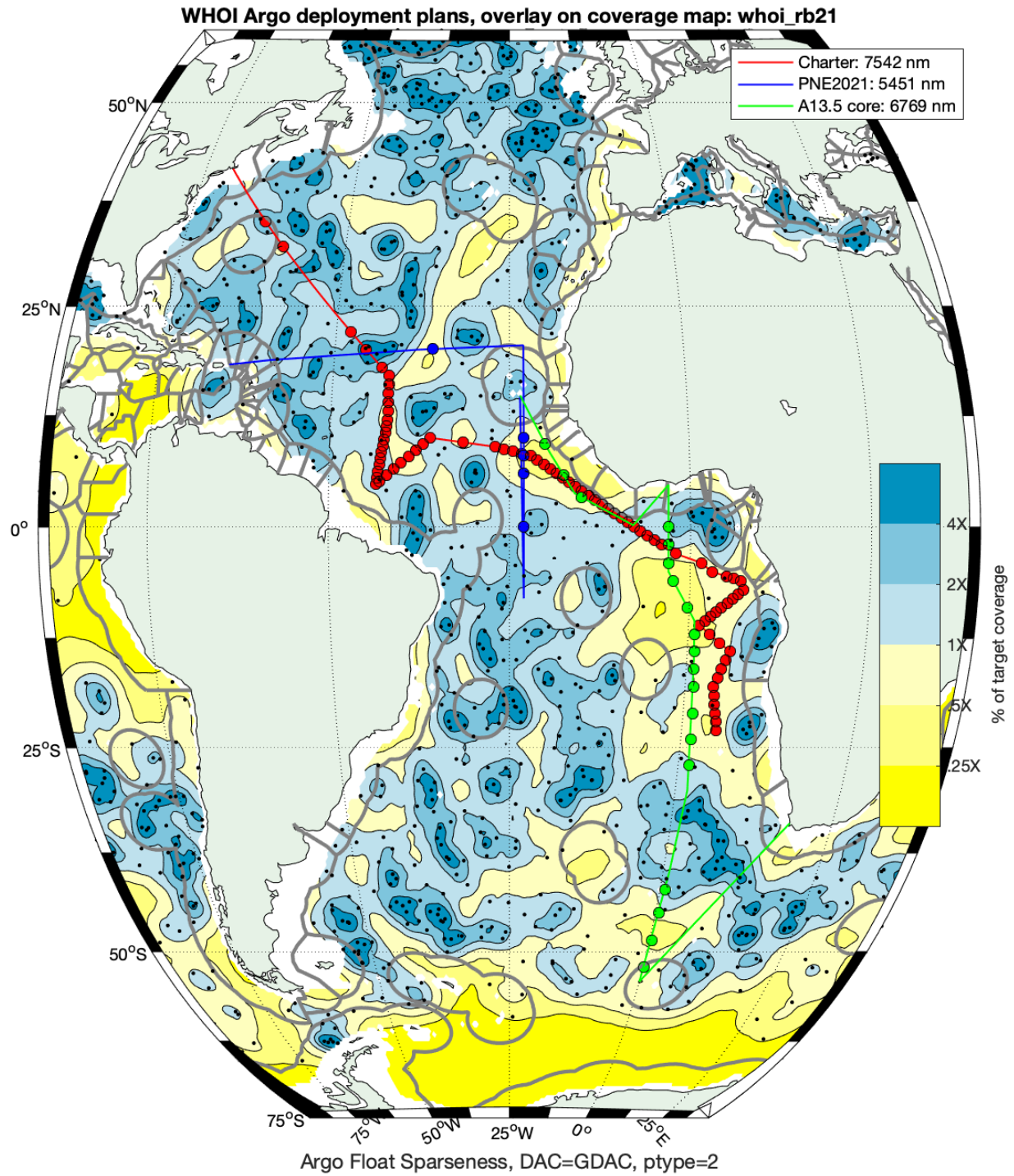
<https://www.whoi.edu/oceanus/feature/science-rocs-argo-monitoring/>

In May 2021 we successfully completed pilot deployment of two floats from a RoRo ship crossing the North Atlantic. Next step is deployments further afield in the South Atlantic or Indian Ocean.



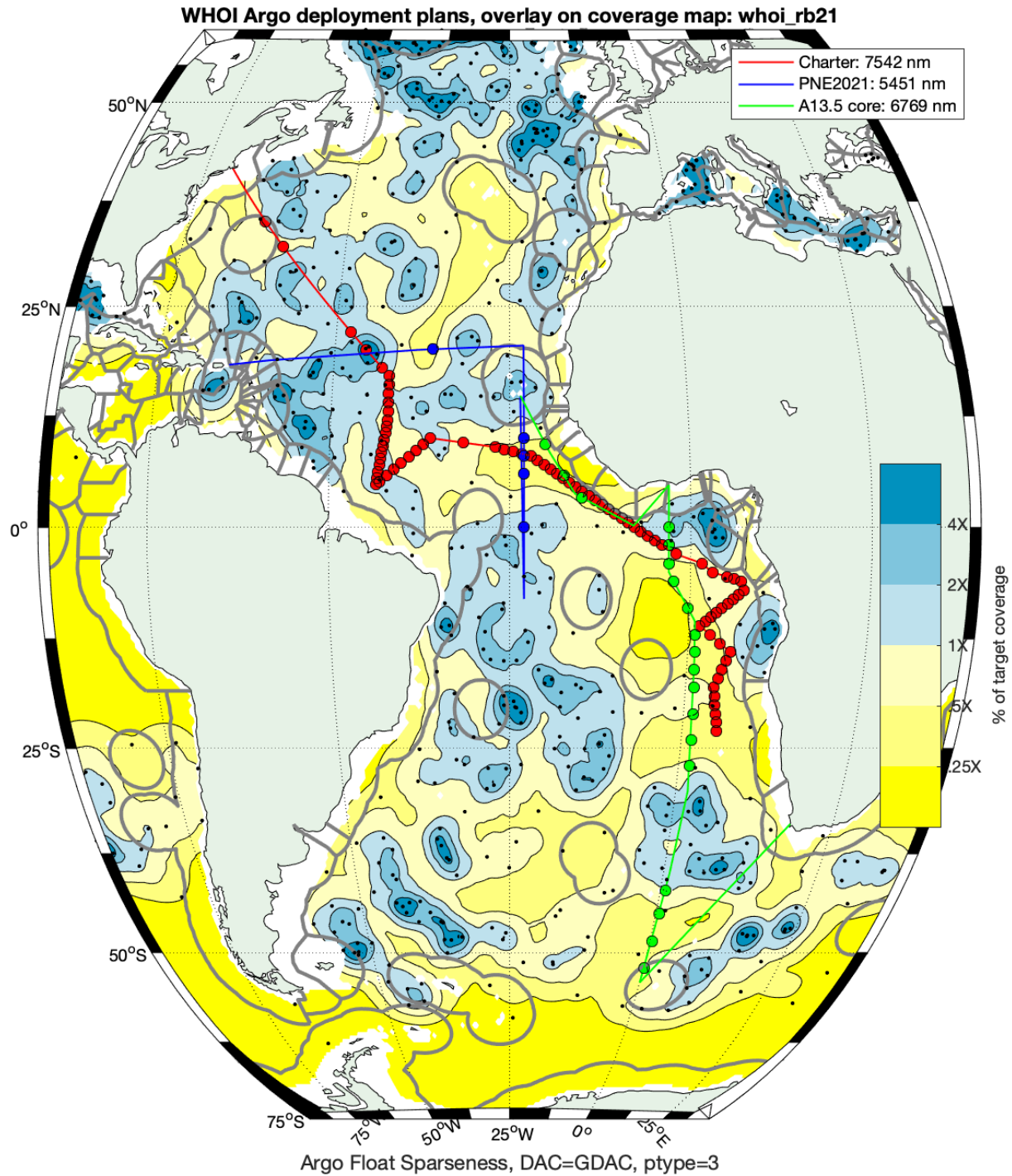
## Other Maps

### PNE, A13.5 and charter tracks over current fleet (healthy floats)



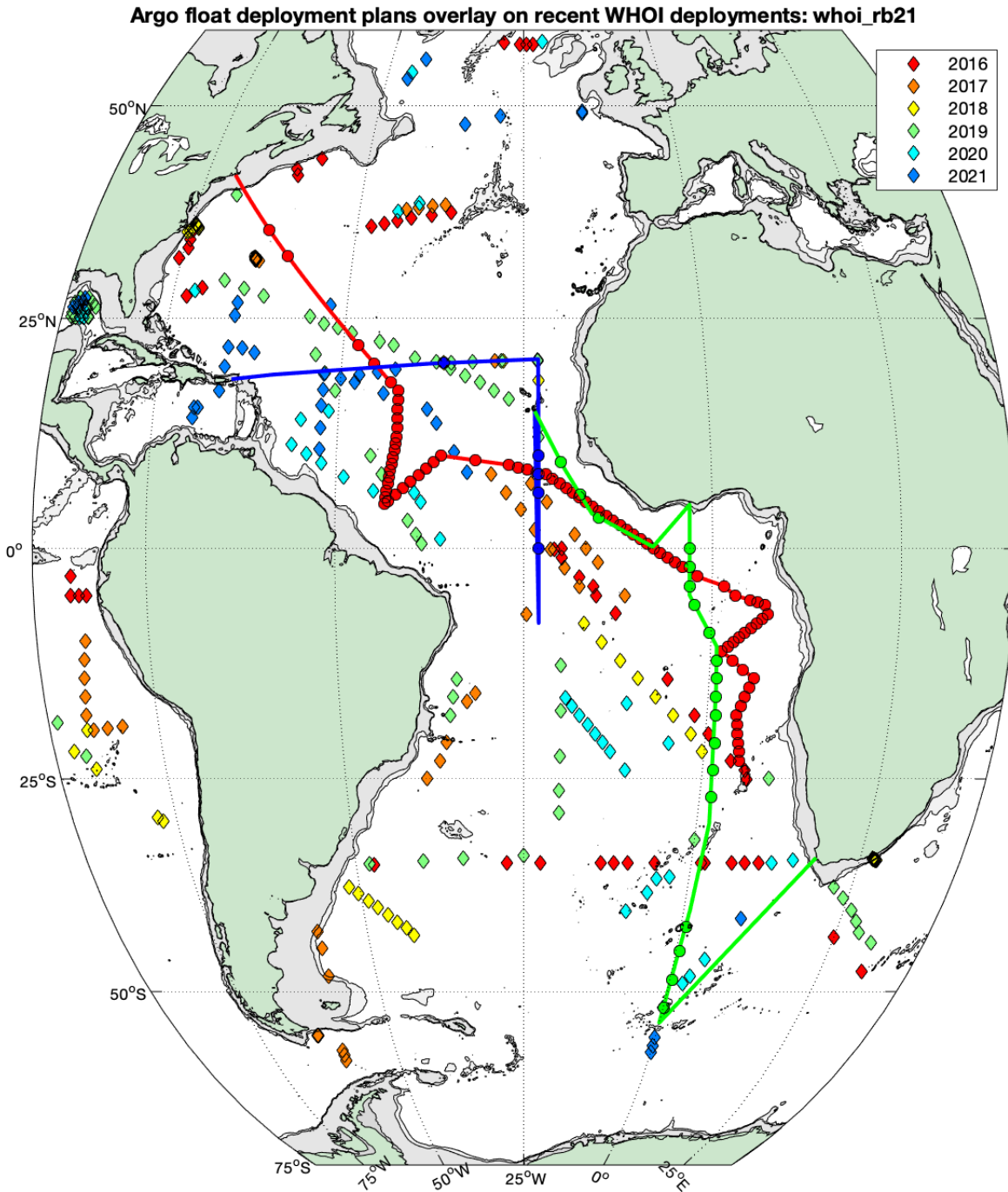
Healthy float == not greylisted and profiling deeper than 1200 dbar.

# PNE, A13.5 and charter tracks (healthy & young floats)

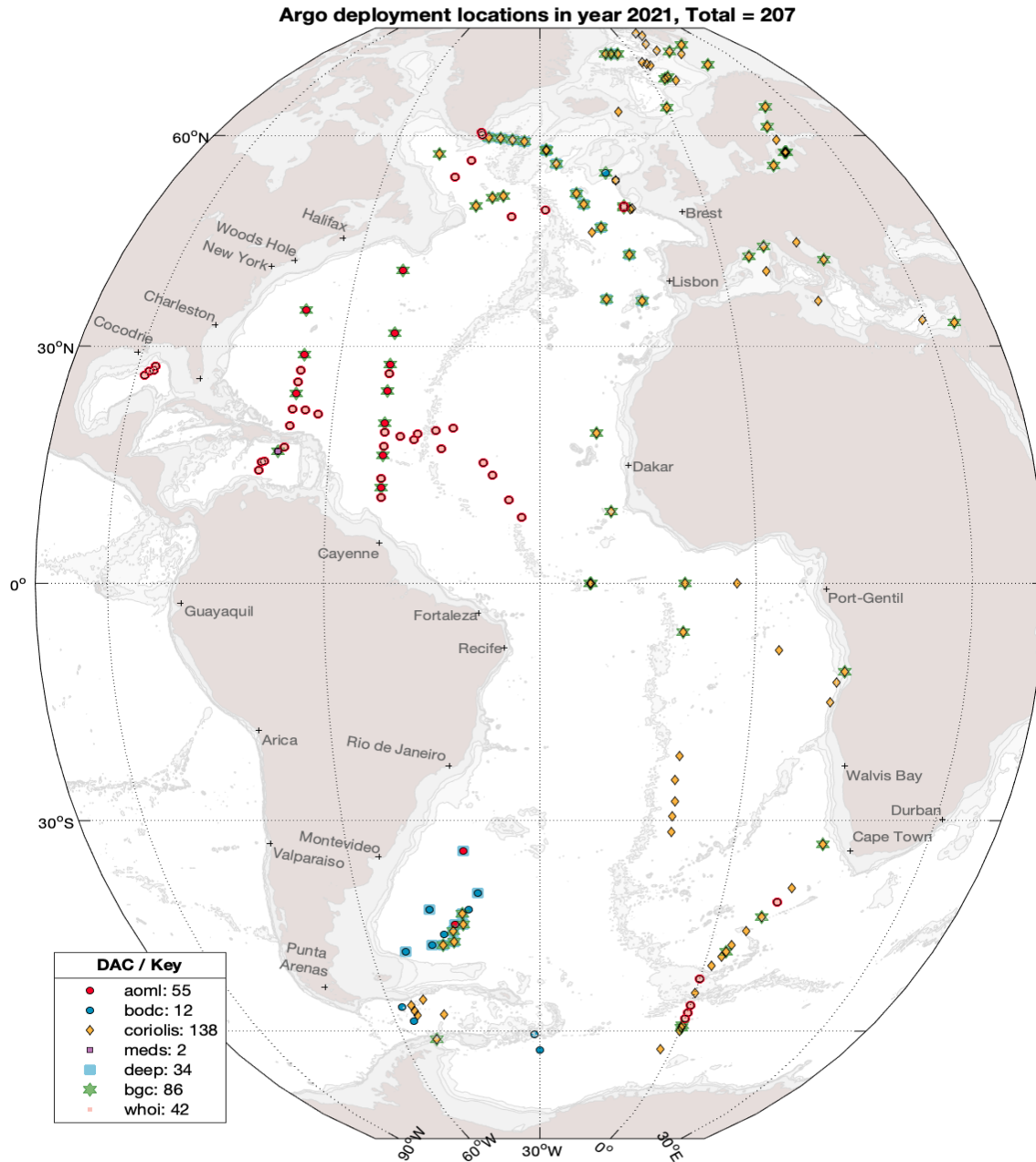


Healthy float == not greylisted and profiling deeper than 1200 dbar.  
Young float == deployed less than 3.5 years ago.

# PNE, A13.5 and charter tracks compared to location of recent WHOI deployments



# All Argo Deployments in Atlantic Basin, 2021 (thus far)



Pelle Robbins, WHOI Argo: 20-Aug-2021

Maps for other basins and other years at <http://argo.who.edu/argo/maps/deployment/>

For purposes of this map, a BGC float is defined as any WMO appearing in GDAC file argo\_bio-profile\_index.txt. Deployment information extracted from metadata files at the GDAC.