Argo Deployment Plan, Blue Observer 2021

Version N; Dec 12, 2021

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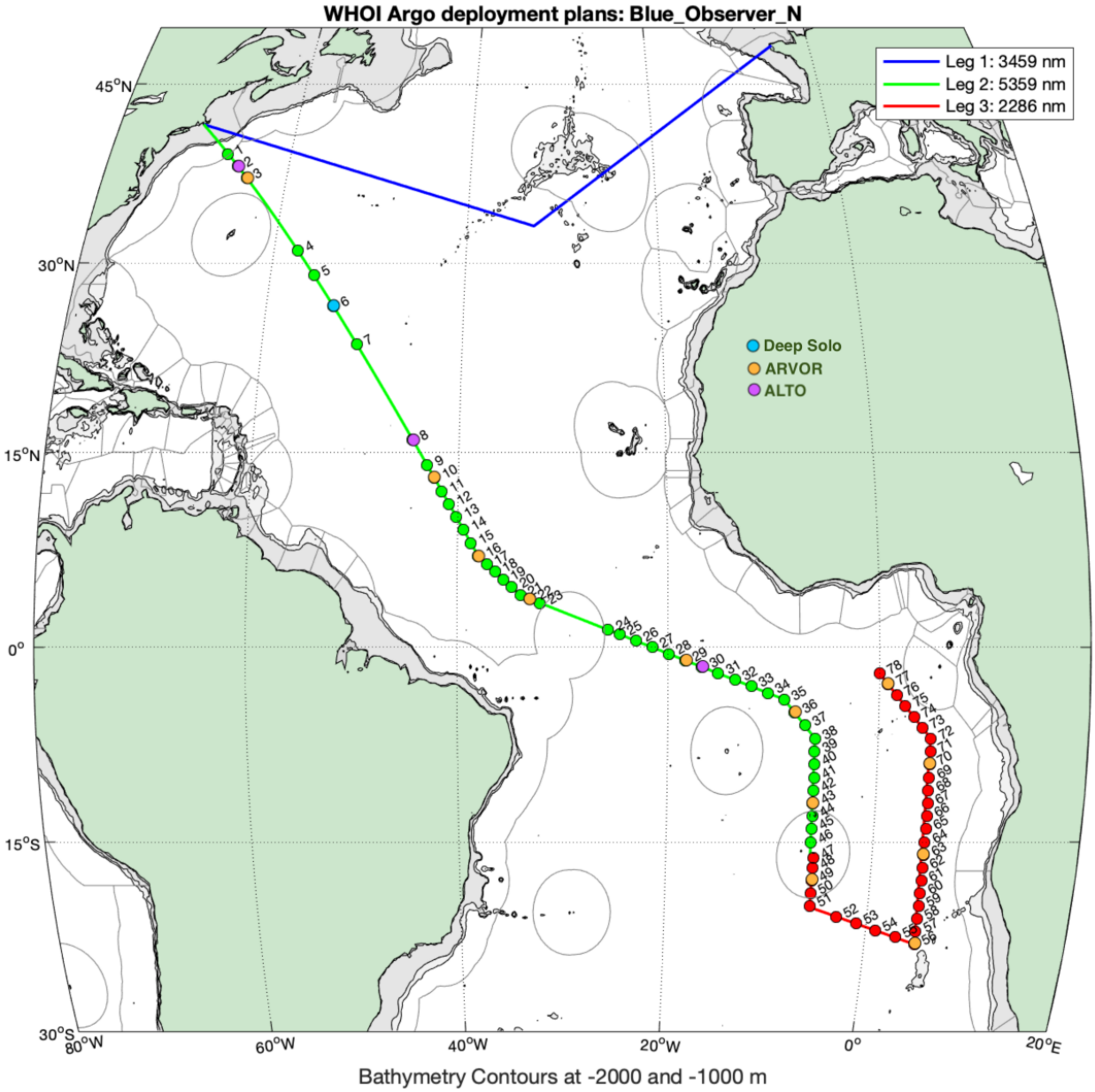
Equipment embarqued: 78 Argo floats

- 62 WHOI MRV S2A
- 3 WHOI MRV ALTO
- 1 WHOI MRV Deep Solo #12039
- 12 DFO NKE ARVOR

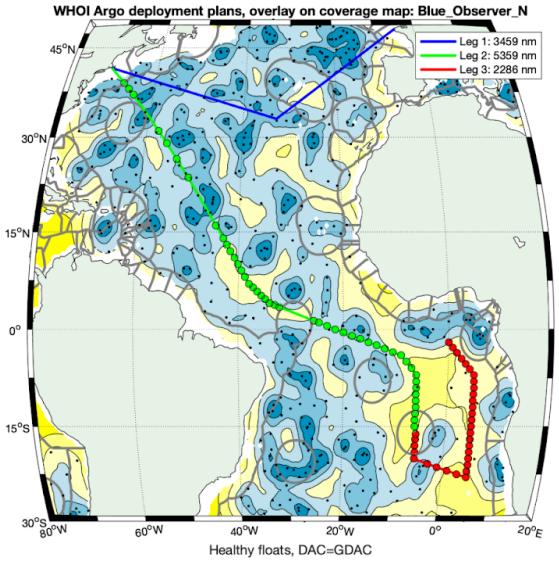
Waypoint, Latitude, Longitude, Distance, Time (at 7 knots), Float Type

1, 39.00, -66.96, 228 nm, 1.4 days, S2A
2, 38.00, -65.62, 315 nm, 1.9 days, ALTO (firmware Ver 6) 11031 or 11044
3, 37.00, -64.34, 401 nm, 2.4 days, ARVOR #1
4, 31.00, -57.53, 895 nm, 5.3 days, S2A
5, 29.00, -55.54, 1053 nm, 6.3 days, S2A
6, 26.50, -53.18, 1248 nm, 7.4 days, **Deep SOLO (best calm between 26.5 and 32°N)**
7, 23.50, -50.53, 1479 nm, 8.8 days, S2A
8, 16.00, -44.52, 2042 nm, 12.2 days, ALTO 11059 (firmware Ver 9)
9, 14.00, -43.02, 2189 nm, 13.0 days, S2A
10, 13.00, -42.28, 2263 nm, 13.5 days, ARVOR #2
11, 12.00, -41.55, 2336 nm, 13.9 days, S2A
12, 11.00, -40.83, 2410 nm, 14.3 days, S2A
13, 10.00, -40.12, 2483 nm, 14.8 days, S2A
14, 9.00, -39.41, 2556 nm, 15.2 days, S2A
15, 8.00, -38.70, 2629 nm, 15.6 days, S2A
16, 7.00, -38.00, 2702 nm, 16.1 days, ARVOR #3
17, 6.40, -37.20, 2762 nm, 16.4 days, S2A
18, 5.80, -36.40, 2821 nm, 16.8 days, S2A
19, 5.20, -35.60, 2881 nm, 17.1 days, S2A
20, 4.60, -34.80, 2941 nm, 17.5 days, S2A
21, 4.00, -34.00, 3001 nm, 17.9 days, S2A
22, 3.70, -33.06, 3060 nm, 18.2 days, ARVOR #4
23, 3.40, -32.12, 3119 nm, 18.6 days, S2A
24, 1.33, -25.67, 3526 nm, 21.0 days, S2A
25, 1.00, -24.62, 3592 nm, 21.4 days, S2A
26, 0.50, -23.06, 3690 nm, 22.0 days, S2A
27, 0.00, -21.50, 3789 nm, 22.6 days, S2A
28, -0.50, -19.94, 3887 nm, 23.1 days, S2A
29, -1.00, -18.38, 3986 nm, 23.7 days, ARVOR #5
30, -1.50, -16.81, 4084 nm, 24.3 days, ALTO (firmware Ver 6) 11031 or 11044
31, -2.00, -15.25, 4183 nm, 24.9 days, S2A
32, -2.50, -13.69, 4281 nm, 25.5 days, S2A
33, -3.00, -12.12, 4380 nm, 26.1 days, S2A
34, -3.50, -10.56, 4478 nm, 26.7 days, S2A

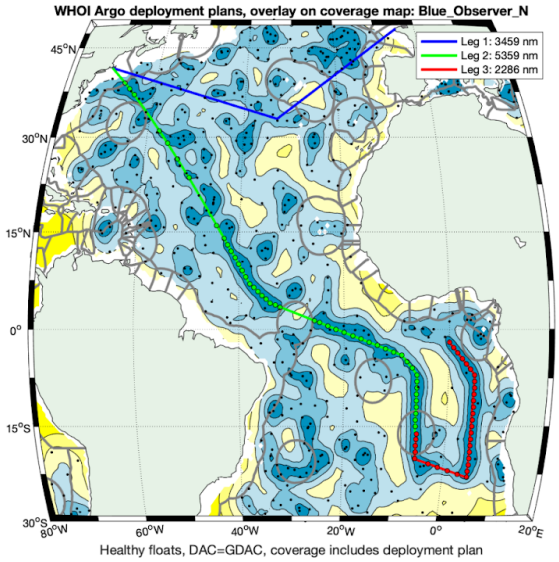
35, -4.00, -9.00, 4576 nm, 27.2 days, S2A
36, -5.00, -8.00, 4661 nm, 27.7 days, ARVOR #6
37, -6.00, -7.00, 4746 nm, 28.2 days, S2A
38, -7.00, -6.00, 4830 nm, 28.7 days, S2A
39, -8.00, -6.00, 4890 nm, 29.1 days, S2A
40, -9.00, -6.00, 4949 nm, 29.5 days, S2A
41, -10.00, -6.00, 5009 nm, 29.8 days, S2A
42, -11.00, -6.00, 5069 nm, 30.2 days, S2A
43, -12.00, -6.00, 5129 nm, 30.5 days, ARVOR #7
44, -13.00, -6.00, 5188 nm, 30.9 days, S2A
45, -14.00, -6.00, 5248 nm, 31.2 days, S2A
46, -15.00, -6.00, 5308 nm, 31.6 days, S2A
47, -16.20, -5.70, 5382 nm, 32.0 days, S2A
48, -17.00, -5.70, 5429 nm, 32.3 days, S2A
49, -18.00, -5.70, 5489 nm, 32.7 days, ARVOR #8
50, -19.00, -5.70, 5549 nm, 33.0 days, S2A
51, -20.00, -5.70, 5609 nm, 33.4 days, S2A
52, -20.82, -3.00, 5769 nm, 34.3 days, S2A
53, -21.36, -1.00, 5885 nm, 35.0 days, S2A
54, -21.91, 1.00, 6002 nm, 35.7 days, S2A
55, -22.45, 3.00, 6118 nm, 36.4 days, S2A
56, -23.00, 5.00, 6233 nm, 37.1 days, ARVOR #9
57, -22.00, 5.00, 6293 nm, 37.5 days, S2A
58, -21.00, 5.00, 6353 nm, 37.8 days, S2A
59, -20.00, 5.00, 6413 nm, 38.2 days, S2A
60, -19.00, 5.00, 6473 nm, 38.5 days, S2A
61, -18.00, 5.00, 6532 nm, 38.9 days, S2A
62, -17.00, 5.00, 6592 nm, 39.2 days, S2A
63, -16.00, 5.00, 6652 nm, 39.6 days, ARVOR #10
64, -15.00, 5.00, 6712 nm, 40.0 days, S2A
65, -14.00, 5.00, 6771 nm, 40.3 days, S2A
66, -13.00, 5.00, 6831 nm, 40.7 days, S2A
67, -12.00, 5.00, 6891 nm, 41.0 days, S2A
68, -11.00, 5.00, 6951 nm, 41.4 days, S2A
69, -10.00, 5.00, 7010 nm, 41.7 days, S2A
70, -9.00, 5.00, 7070 nm, 42.1 days, ARVOR #11
71, -8.00, 5.00, 7130 nm, 42.4 days, S2A
72, -7.00, 5.00, 7189 nm, 42.8 days, S2A
73, -6.17, 4.17, 7260 nm, 43.2 days, S2A
74, -5.33, 3.33, 7330 nm, 43.6 days, S2A
75, -4.50, 2.50, 7401 nm, 44.1 days, S2A
76, -3.67, 1.67, 7471 nm, 44.5 days, S2A
77, -2.83, 0.83, 7542 nm, 44.9 days, ARVOR #12
78, -2.00, 0.00, 7612 nm, 45.3 days, S2A


WHOI Argo deployment plans: Blue_Observer_N
Leg 1: 3459 nm
Leg 2: 5359 nm
Leg 3: 2286 nm
Deep Solo
ARVOR
ALTO
45°N
30°N
15°N
0°
15°S
30°S
80°W
60°W
40°W
20°W
0°
20°E
Bathymetry Contours at -2000 and -1000 m

“Healthy” Float coverage, Before/After

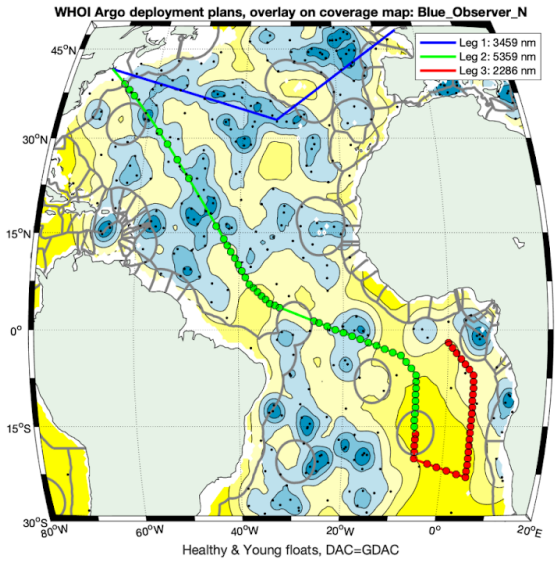


Healthy floats, DAC=GDAC

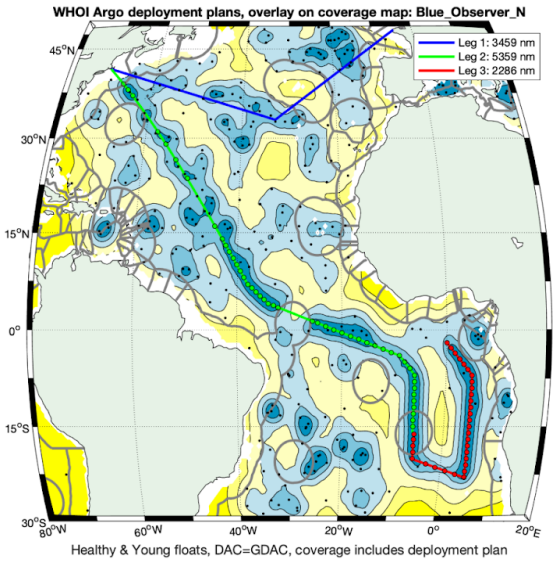


Healthy floats, DAC=GDAC, coverage includes deployment plan

“Healthy & Young ” Float coverage, Before/After

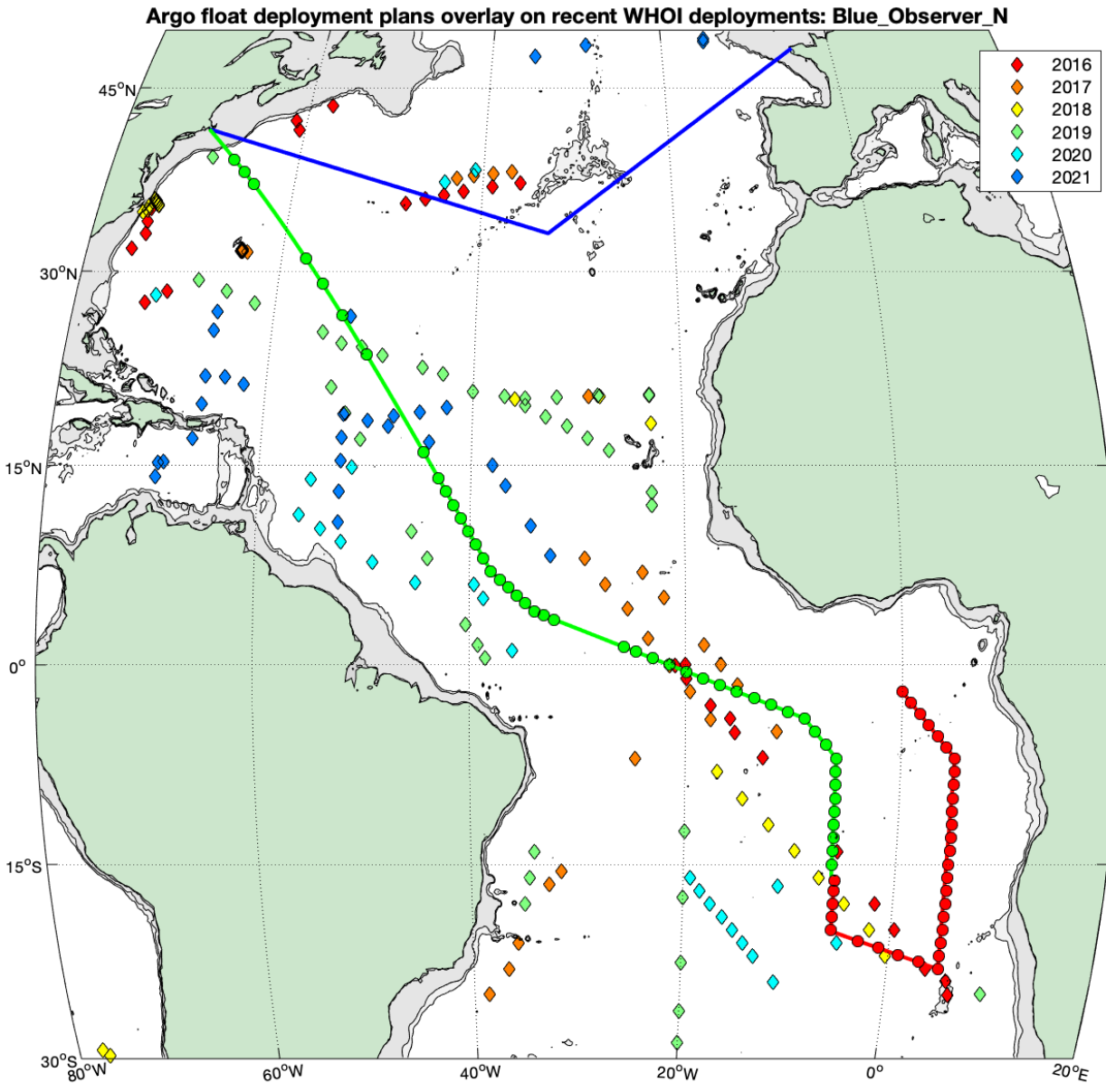


Healthy & Young floats, DAC=GDAC

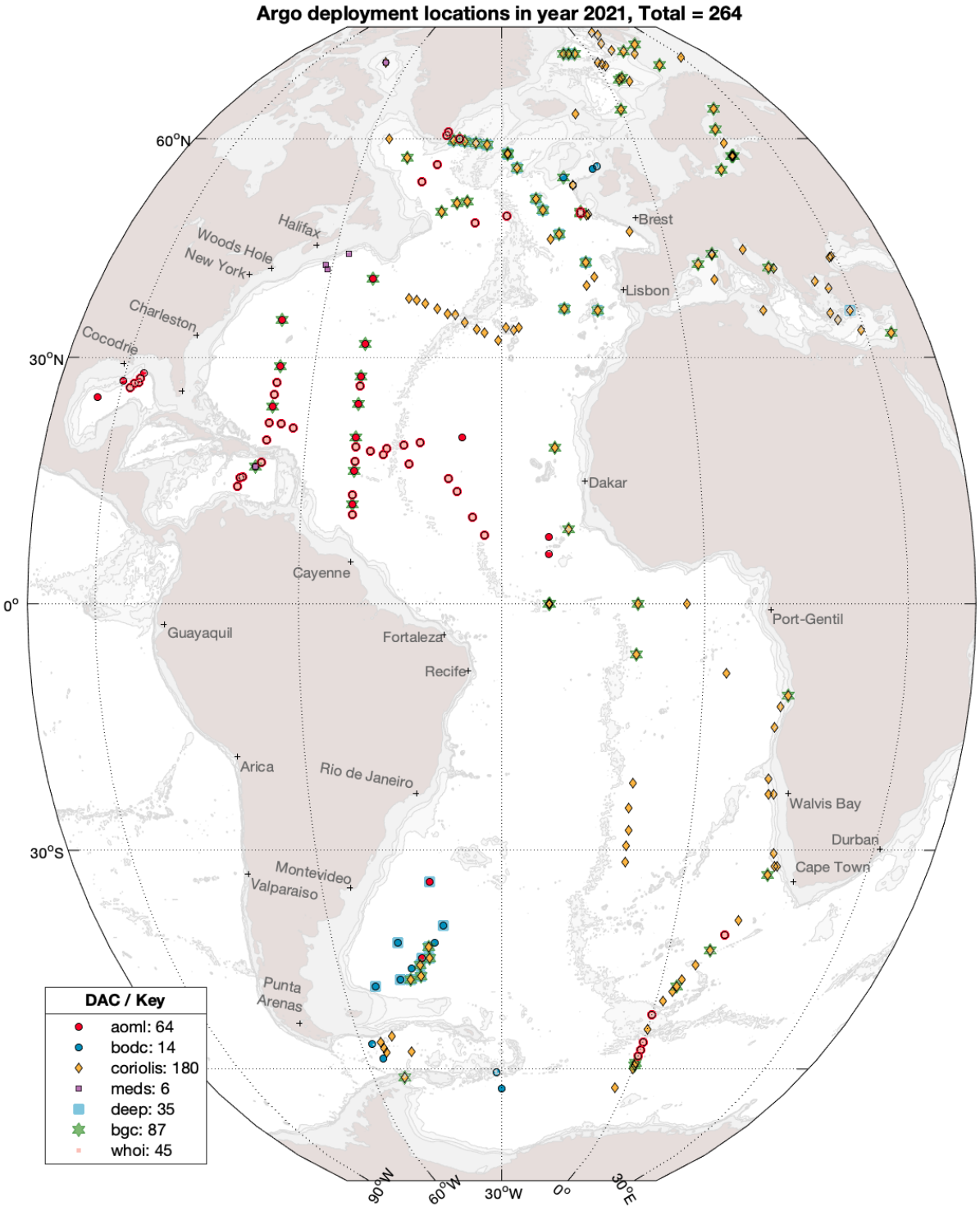


Healthy & Young floats, DAC=GDAC, coverage includes deployment plan

Comparison to Location of recent WHOI float deployments



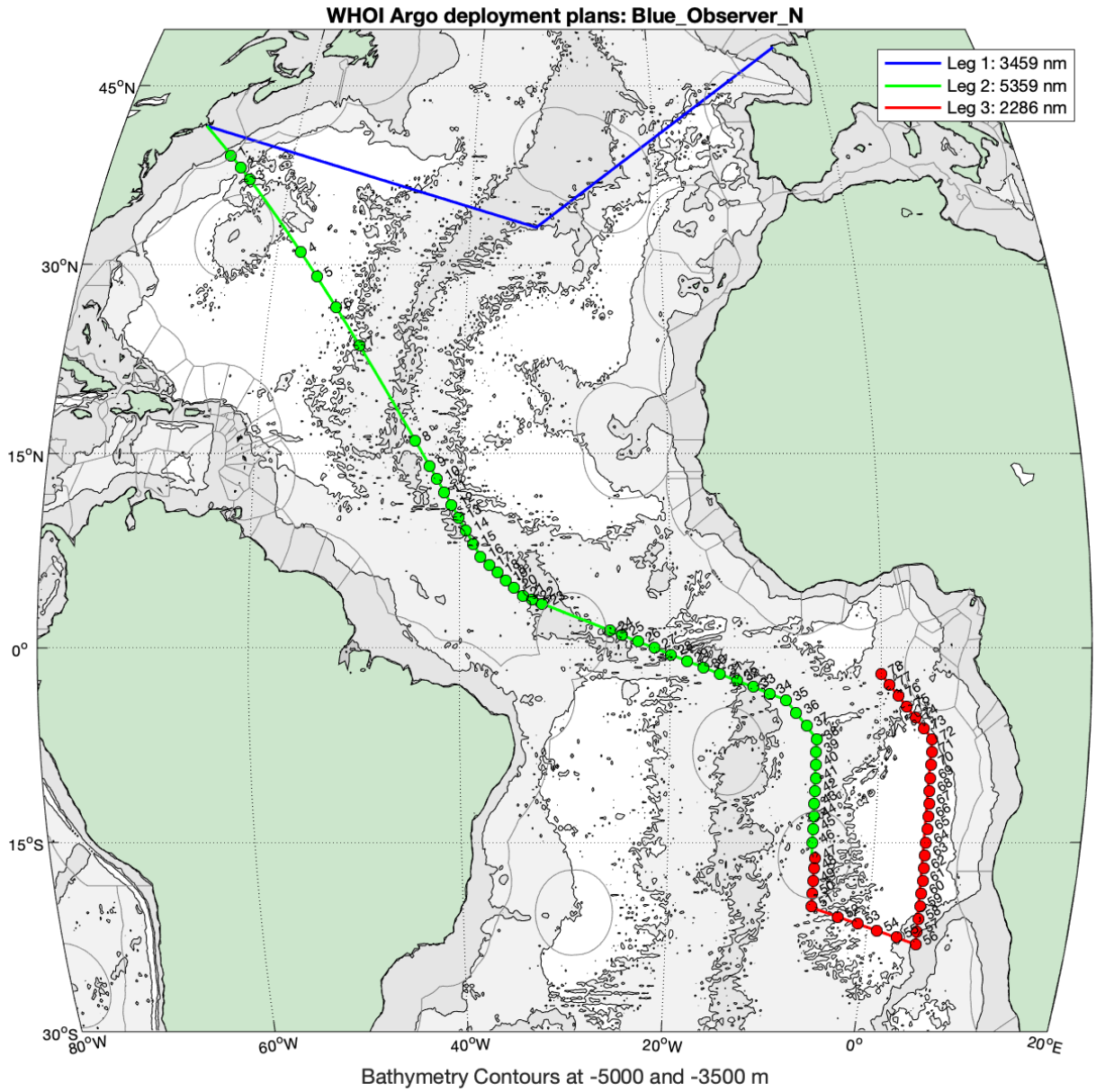
Location of all International Argo Deployments in Atlantic, 2021 thus far.



Pelle Robbins, WHOI Argo: 07-Dec-2021

Deep Float Considerations

The best range for Deep Float deployment is between 26.5 and 32°N. An unanticipated downside of this route is that much of the time the ship will be sailing over the Mid-Atlantic Ridge (waypoint 7 thru 53). The topographic roughness of the Mid-Atlantic Ridge makes it a less desirable location for initial Deep Solo deployment. If deep float is not deployed by station 6, then may be best to hold till Angola Basin on Leg 3.



Current Deep Argo Coverage