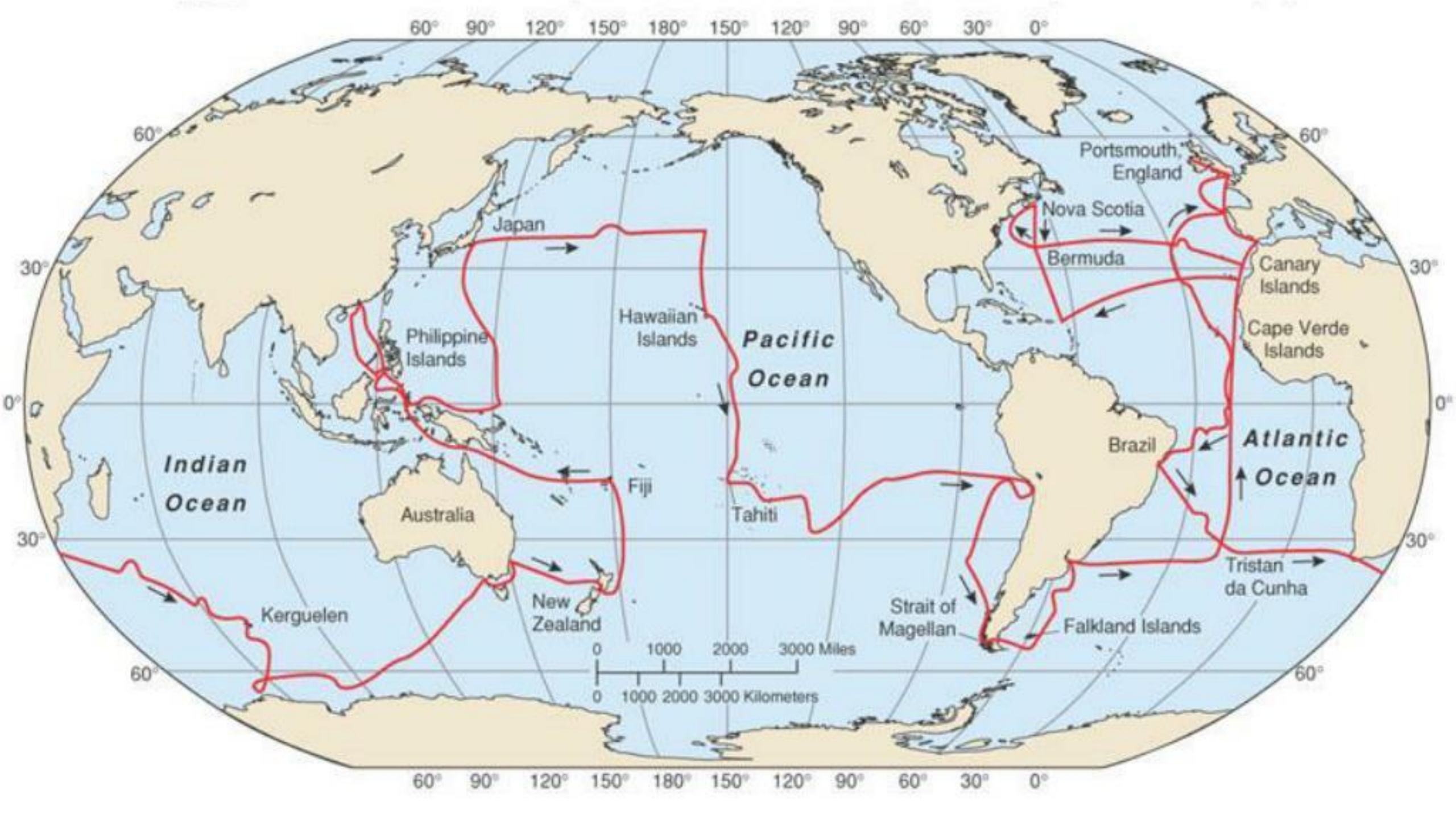
HAVET GENOM OBSERVATIONER

SweWater Summit, 28 Maj 2026

Source : Athelstan Spilhaus, *Atlas of the World with Geophysical Boundaries*, 1991
Cartographie : Clara Dealberto


60° 90° 120° 150° 180° 150° 120° 90° 60° 30° 0°
60°
30°
0°
30°
60°
Portsmouth, England
Nova Scotia
Bermuda
Canary Islands
Cape Verde Islands
Japan
Hawaiian Islands
Philippine Islands
Pacific Ocean
Indian Ocean
Atlantic Ocean
Brazil
Fiji
Tahiti
Australia
New Zealand
Kerguelen
Strait of Magellan
Falkland Islands
Tristan da Cunha
0 1000 2000 3000 Miles
0 1000 2000 3000 Kilometers

WATCHED WATERS

Remote sensors and other instruments are revealing tremendous variability in physical conditions in the world's oceans.

TYPE OF INSTRUMENT:

- Bottle
- Mechanical BT† probe
- Expendable BT probe
- CTD‡
- Moored buoy
- Instrument attached to marine mammal
- Glider
- Float from the Argo sensing network

Number of casts* per year (hundreds of thousands)

8
6
4
2
0

1925 1935 1945 1955 1965 1975 1985 1995 2005 2015

Limited observations using simple probes and bottles to sample water.

Fewer deployments after the fall of the Soviet Union, a major player in ocean research.

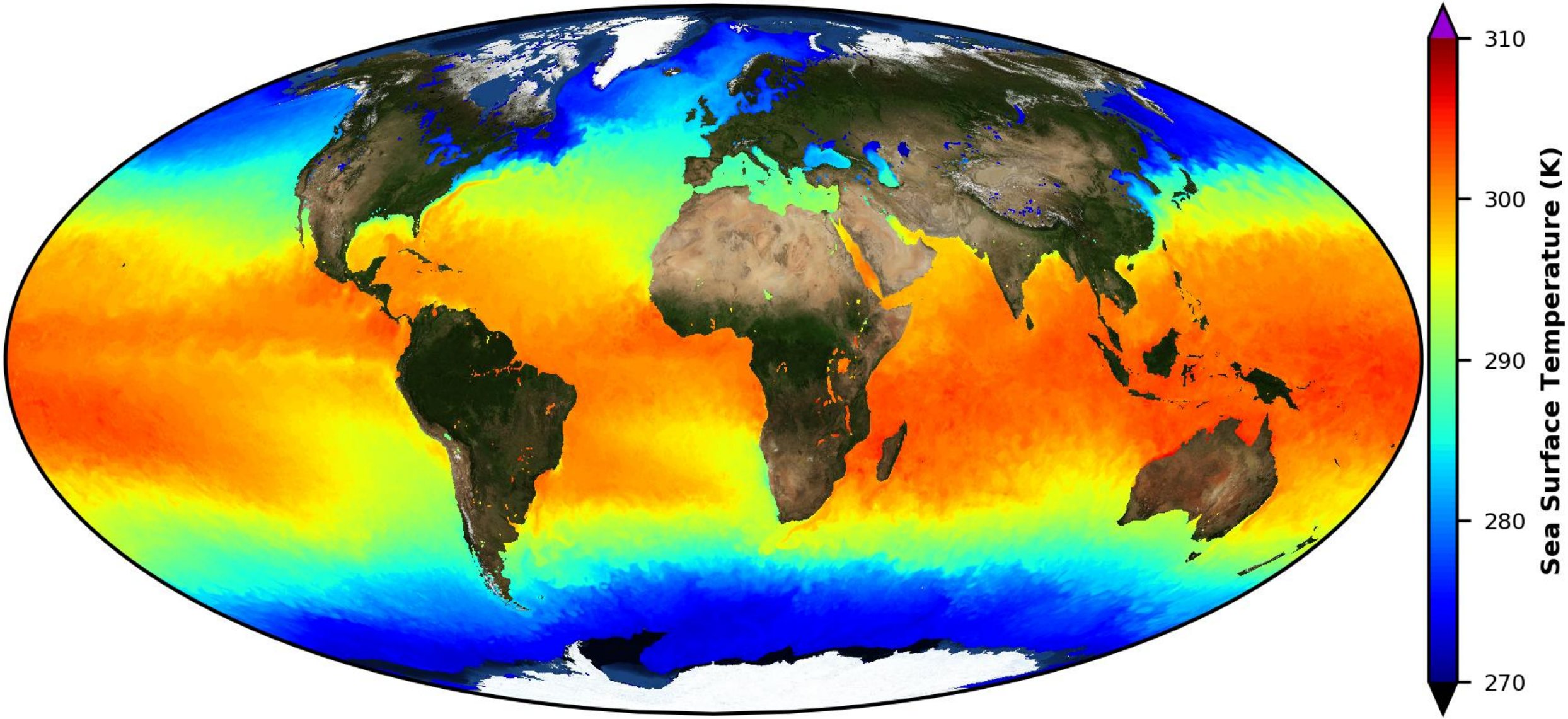
New observing technologies and programmes drove this jump.

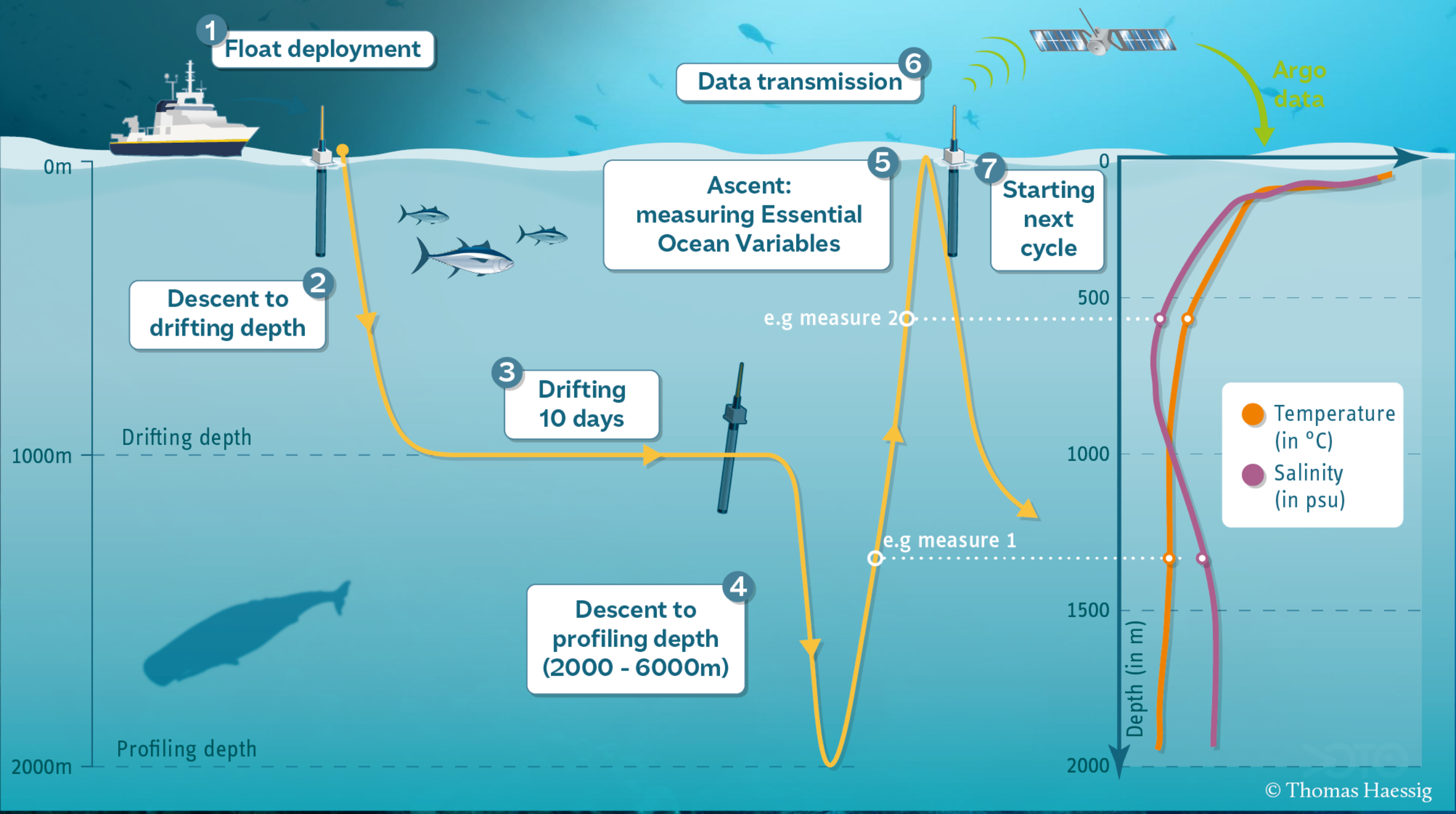
SOURCE: NOAA/NCEI WORLD OCEAN DATABASE, HTTPS://GO.NATURE.COM/2OFK8HG

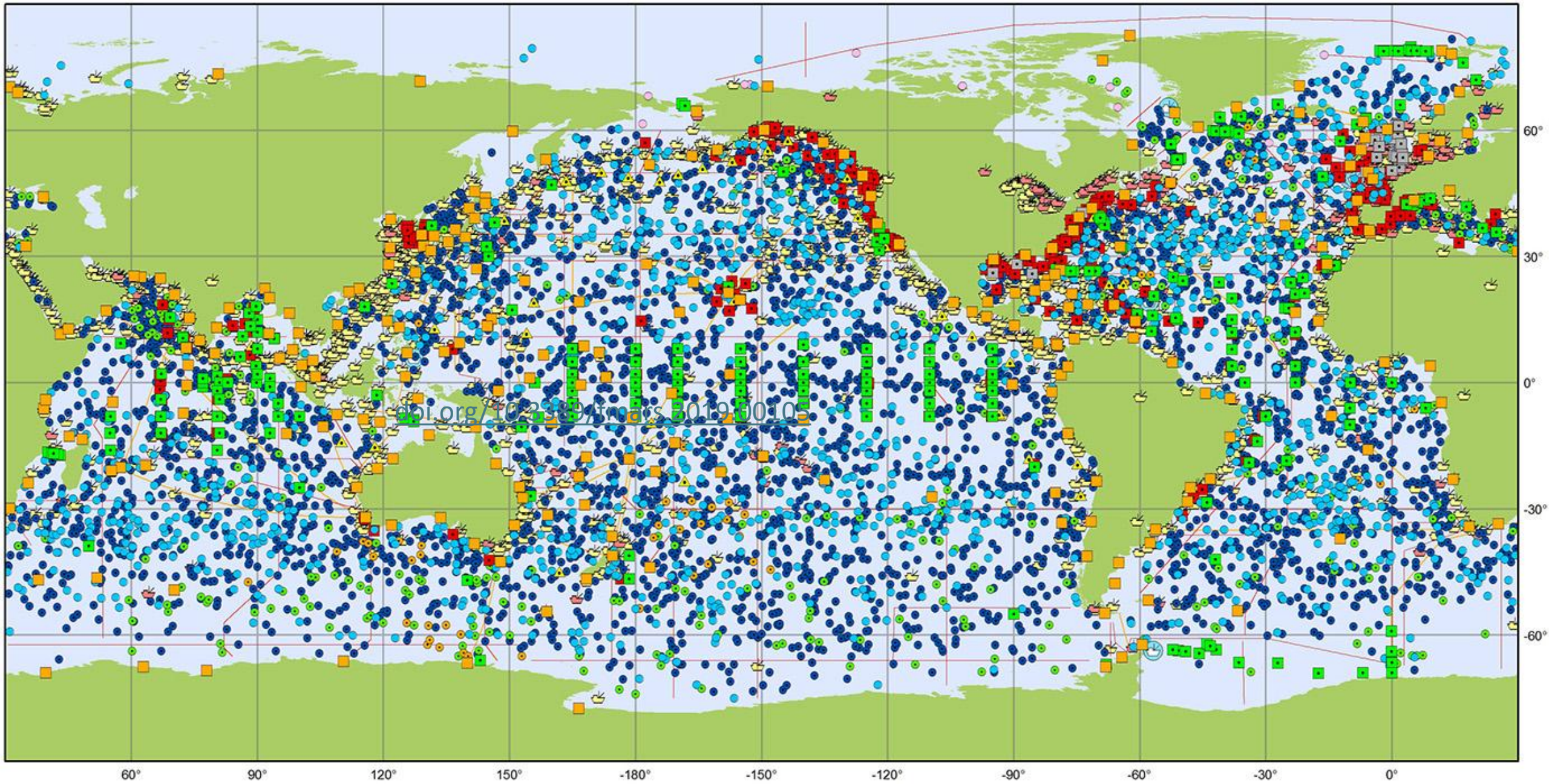
*A cast is a set of measurements for a single variable such as temperature or salinity at different depths; †BT, bathythermograph; ‡CTD, high-resolution sensor of conductivity, temperature and depth.

GHRSST Level 4 K10_SST Global 10 km Analyzed Sea Surface Temperature (Jan. 9, 2019)

from Naval Oceanographic Office (NAVO)




1 Float deployment
2 Descent to drifting depth
3 Drifting 10 days
4 Descent to profiling depth (2000 - 6000m)
5 Ascent: measuring Essential Ocean Variables
6 Data transmission
7 Starting next cycle
Argo data
0m
Drifting depth
1000m
Profiling depth
2000m
e.g measure 2
e.g measure 1
0
500
1000
1500
2000
Depth (in m)
Temperature (in °C)
Salinity (in psu)
© Thomas Haessig



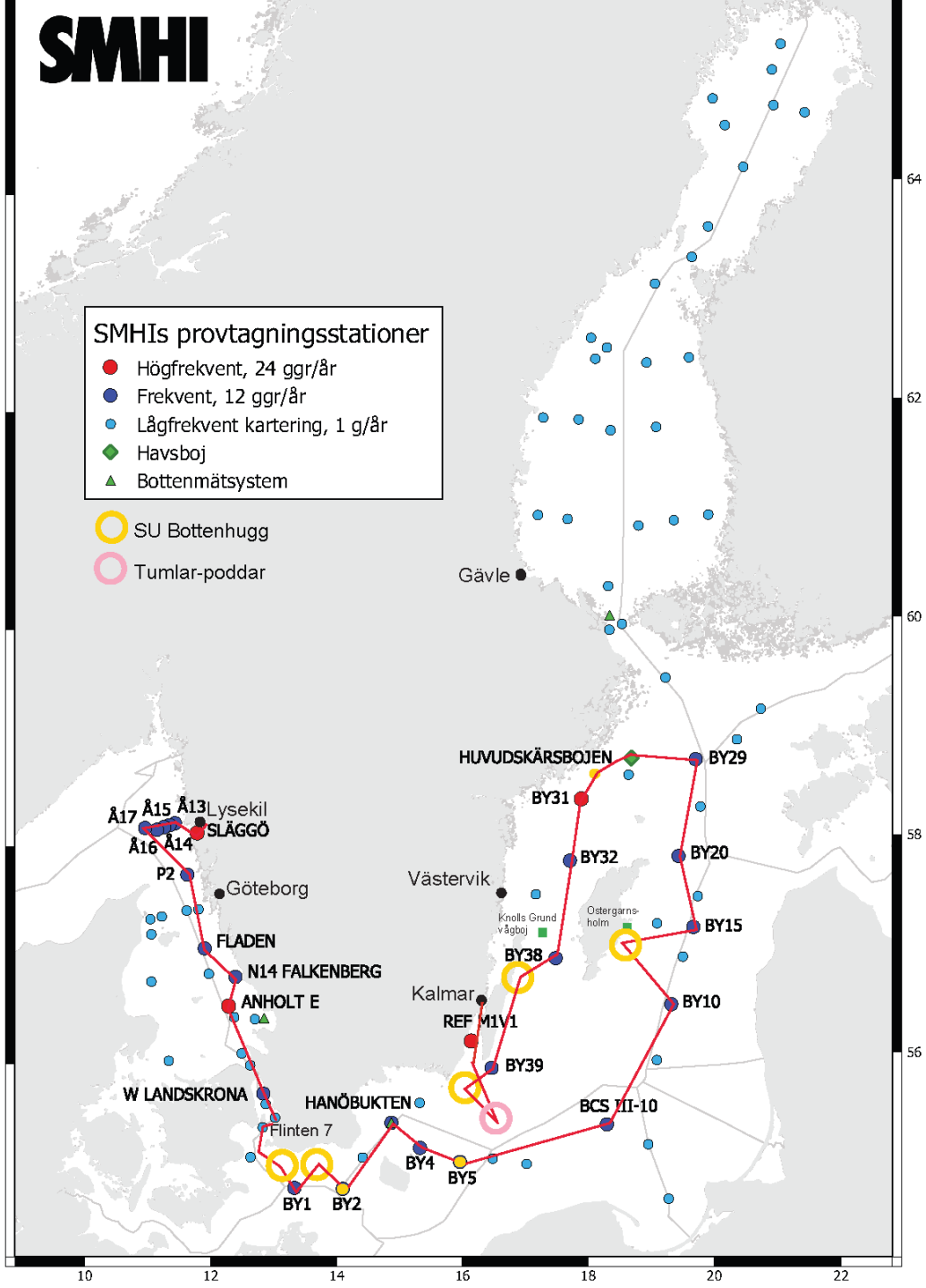
doi.org/10.3389/fmars.2019.00105

Main in situ Elements of the Global Ocean Observing System

March 2018


FALSTERBOREV.


SVEA


SMHI
SMHIs provtagningsstationer
Högfrekvent, 24 ggr/år
Frekvent, 12 ggr/år
Lågfrekvent kartering, 1 g/år
Havsboj
Bottenmätsystem
SU Bottenhugg
Tumlar-poddar
Gävle
Lysekil
Göteborg
Västervik
Kalmar
Å17
Å15
Å13
SLÄGGÖ
Å16
Å14
P2
FLADEN
N14 FALKENBERG
ANHOLT E
W LANDSKRONA
Flinten 7
HANÖBUKTEN
BY1
BY2
BY4
BY5
REF M1V1
BY38
BY39
HUVUDSKÄRSBOJEN
BY31
BY32
BY29
BY20
BY15
BY10
BCS III-10
Knolls Grund vågboj
Ostergarns-holm
64
62
60
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56
10
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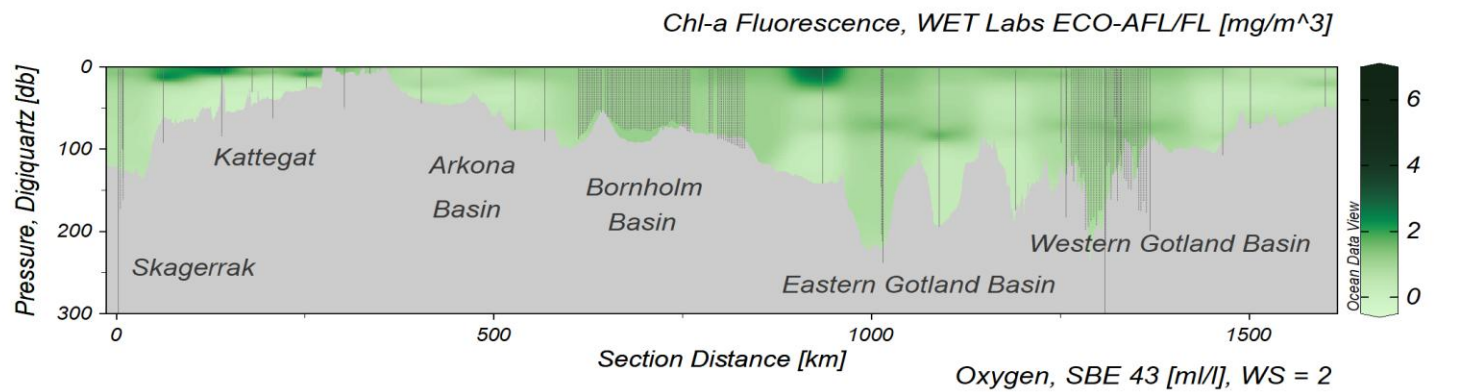
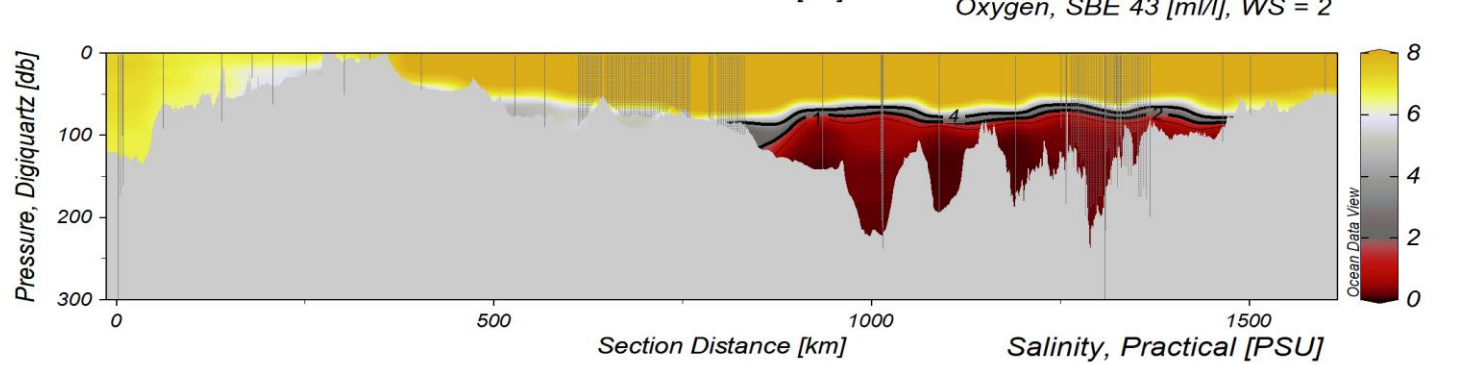
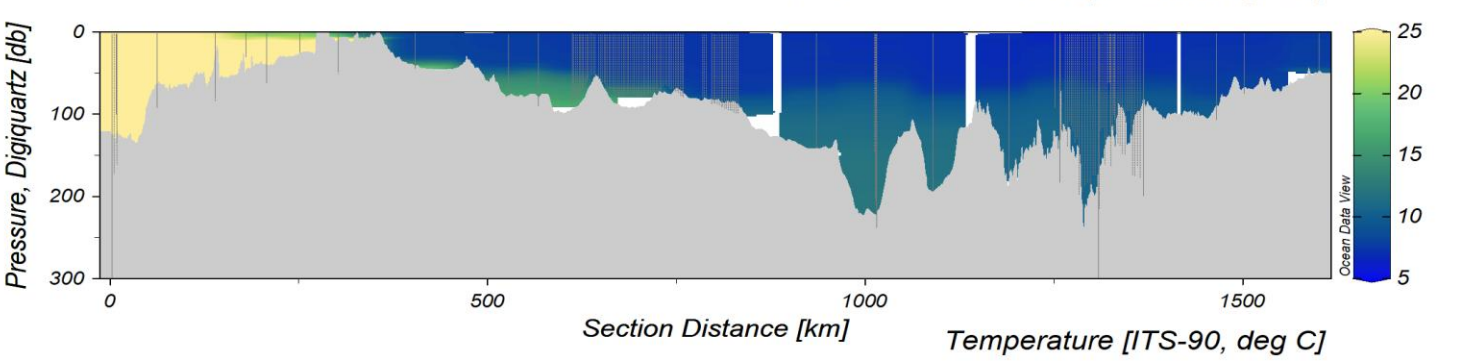
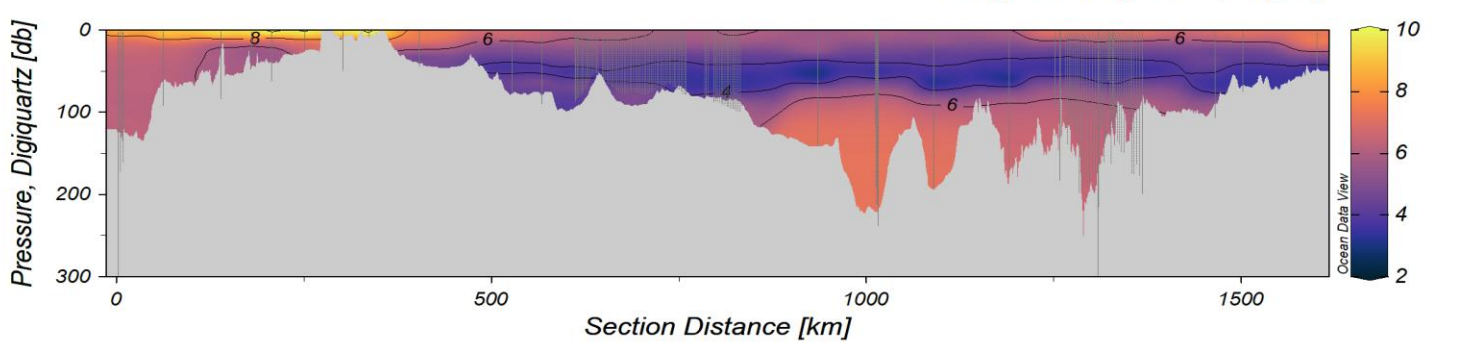
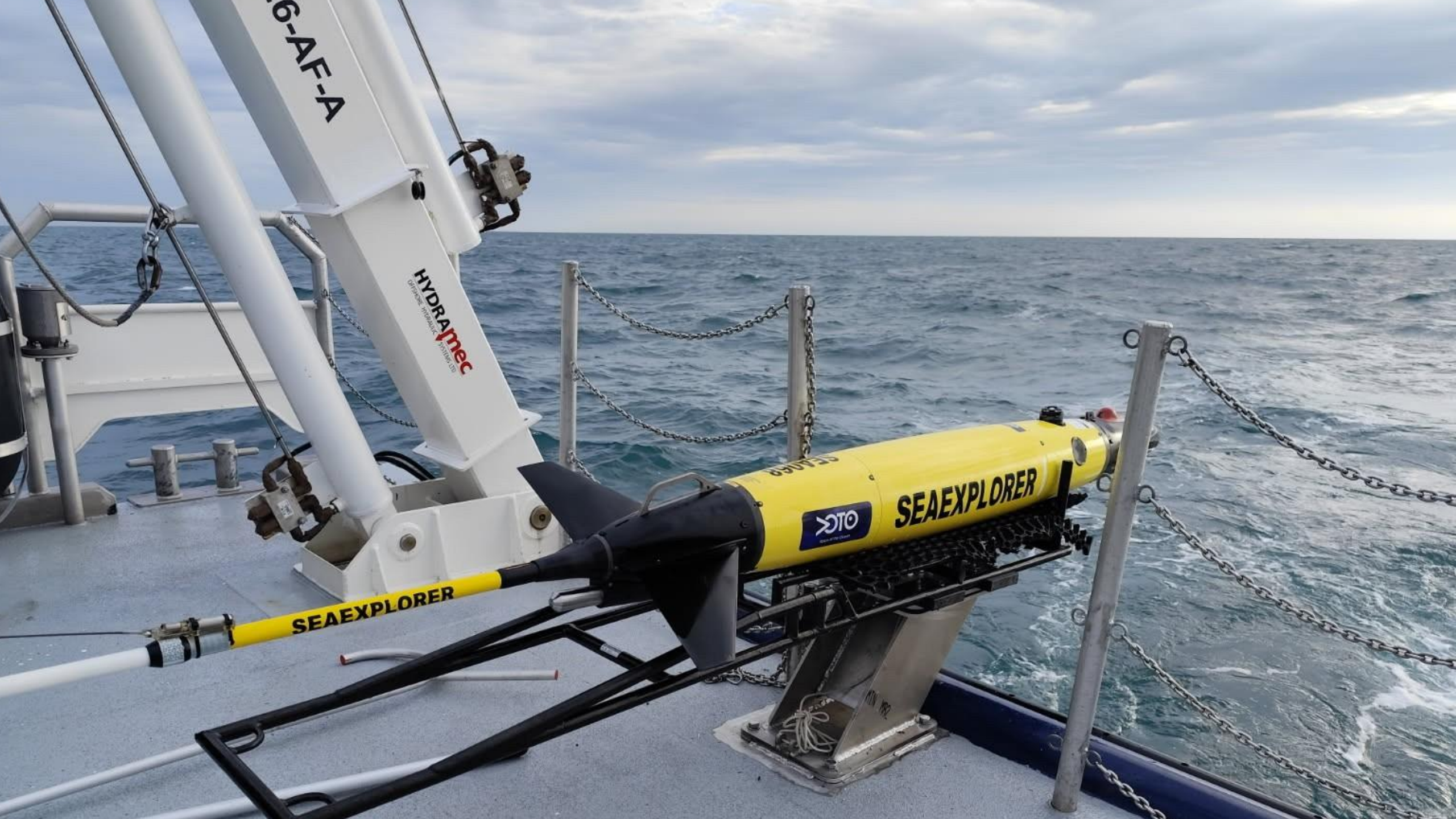
20
22


Chl-a Fluorescence, WET Labs ECO-AFL/FL [mg/m^3]
Pressure, Digiquartz [db]
Kattegat
Skagerrak
Arkona Basin
Bornholm Basin
Western Gotland Basin
Eastern Gotland Basin
Section Distance [km]
Ocean Data View


Oxygen, SBE 43 [ml/l], WS = 2
Pressure, Digiquartz [db]
Section Distance [km]
Salinity, Practical [PSU]
Ocean Data View


Pressure, Digiquartz [db]
Section Distance [km]
Temperature [ITS-90, deg C]
Ocean Data View


Pressure, Digiquartz [db]
Section Distance [km]
Ocean Data View


6-AF-A
HYDRAmec
SEAEXPLORER
SEAEXPLORER

GLIDER DEPLOYMENT

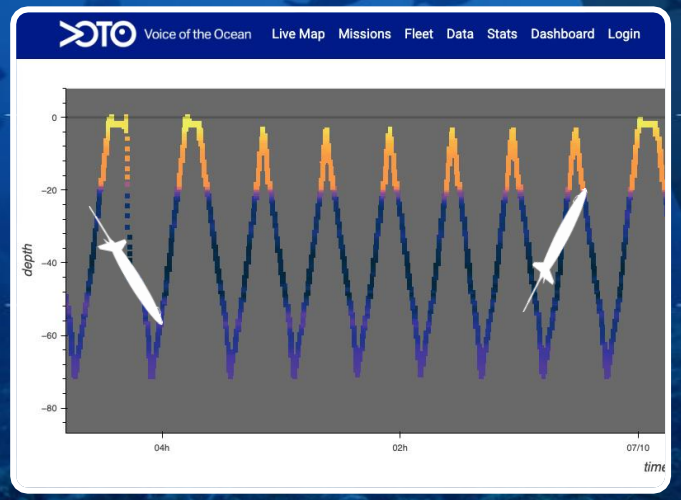
- *Manual deployment from vessel*

BUOYANCY CHANGE

- *Ballast deflation of oil bladder*

COMMUNICATION

- *Data downloading*
- *Files transmission*
- *Route and mission updates*



BUOYANCY CHANGE

- *Ballast inflation of oil bladder*

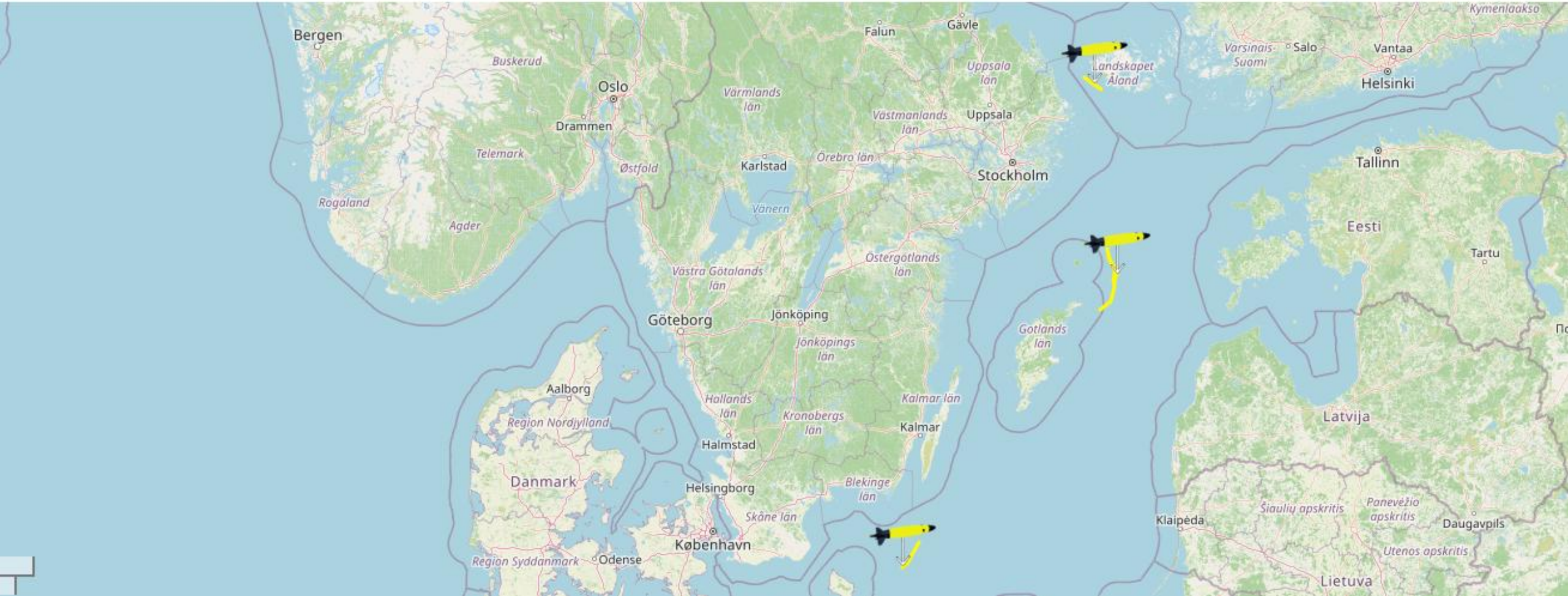
V SHAPED MOVEMENT

A glider doesn't have propellors or an internal engine. Instead, it uses a pump to gently change its buoyancy over time. This allows it to slowly move up and down through the water.

Observations Portal

Our **18** gliders have recorded **540,198** profiles during **20 years 129 days** at sea, covering **157,836 km**.
Our **4** sailbuoys have spent **1 years 179 days** at sea sailing **67,601 km**.

Live platform locations



TACK!