

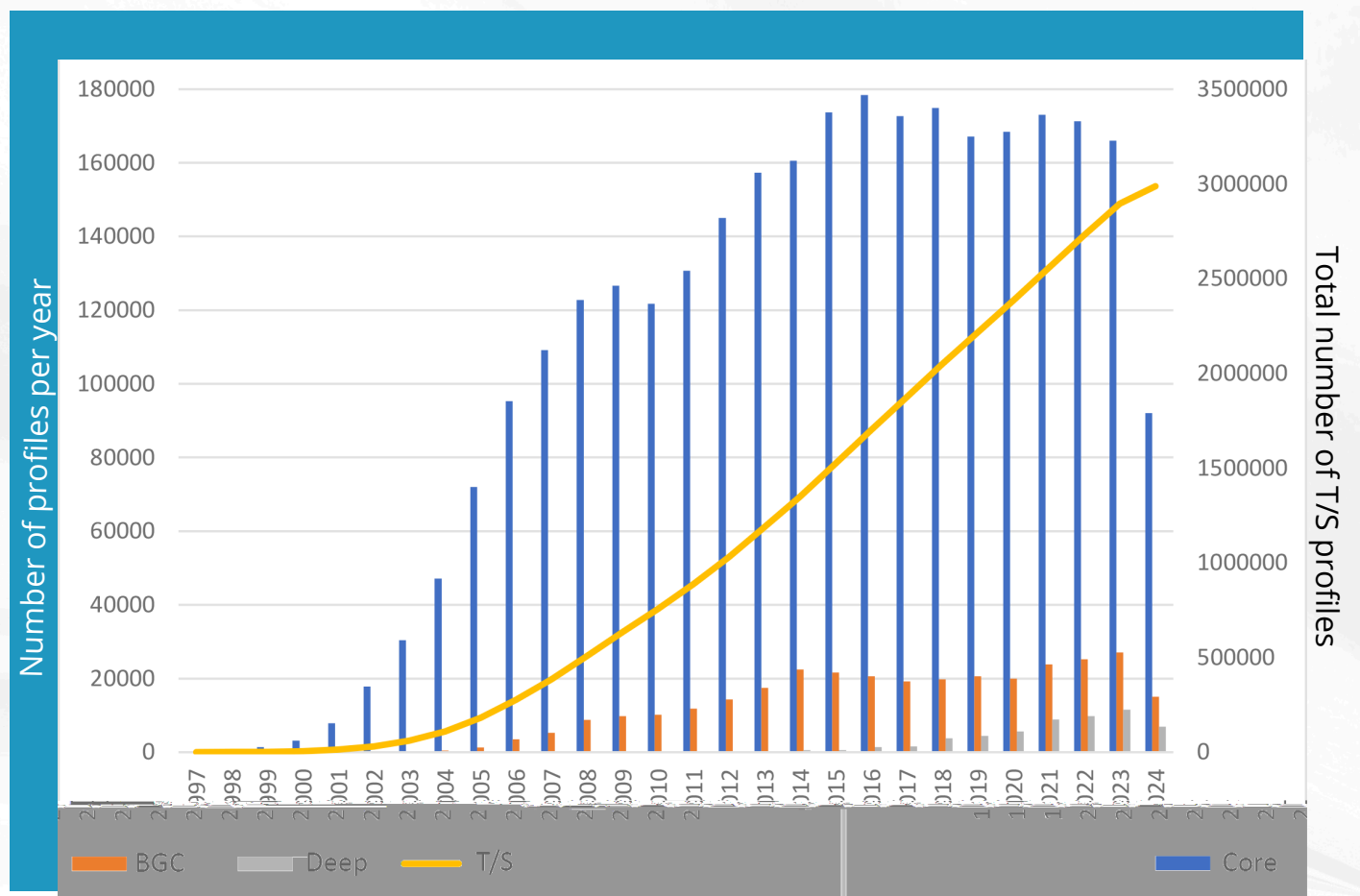


# OneArgo Data Bytes

[argo.ucsd.edu](http://argo.ucsd.edu)

## 3 million profiles reached!

After 25+ years of Argo, more than three million temperature and salinity profiles have been collected. These freely available profiles have vastly improved our understanding of the ocean, its variability, and its role in Earth' climate. Congratulations to Argo and looking forward to reaching more milestones in collecting core, BGC and Deep profiles across the global ocean.



# OneArgo Data Bytes



## When do Argo floats surface?

Ideally, Argo floats would surface at random local times to allow for understanding patterns in the ocean on smaller than the 10-day sampling time scale. If floats are not uniformly sampling throughout the day, there can be a bias in estimating ocean temperatures and thus ocean heat content.

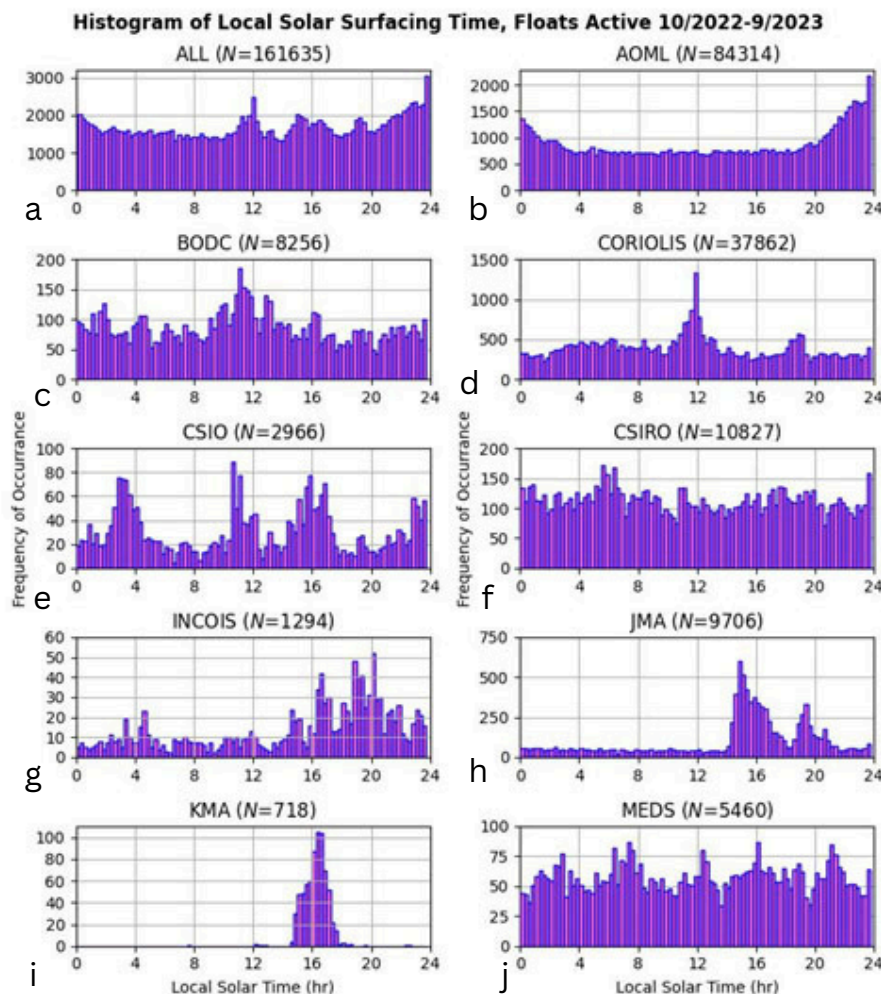
Argo looked at the distribution of local surfacing time and found that, overall, the times are fairly well distributed throughout the day (see a in plot to the left). However, some DACs had times clustered around specific times, such as local noon (see d, in plot to the left). This is due to default settings or software limitations in some float types.

While there are good scientific reasons for surfacing at a certain local time for some BGC

sensors, *Argo* has asked that all floats be set to an approximately 10 day cycle, but not exactly 10 days (e.g. 10.08), so that the floats surface at a slightly different time each subsequent cycle. To accommodate BGC sampling requests, floats with radiometers are asked to profile one extra profile per month that surfaces at noon.

In order for this to be implemented, there have been conversations with float manufacturers to (i) educate them on this new Argo sampling recommendation, (ii) determine the best strategy to adjust float cycle time, and (iii) consider adjusting factory default settings if necessary.

Progress in implementing random surface times across the fleet has been made and will be monitored annually. The ADMT is asking DACs to add a string to CONFIG\_MISSION\_COMMENT of 'TOD\_SAMPLING ALERT' to identify profiles that target a certain surfacing time in case they should be removed from scientific analyses.



# OneArgo BGC Data Bytes



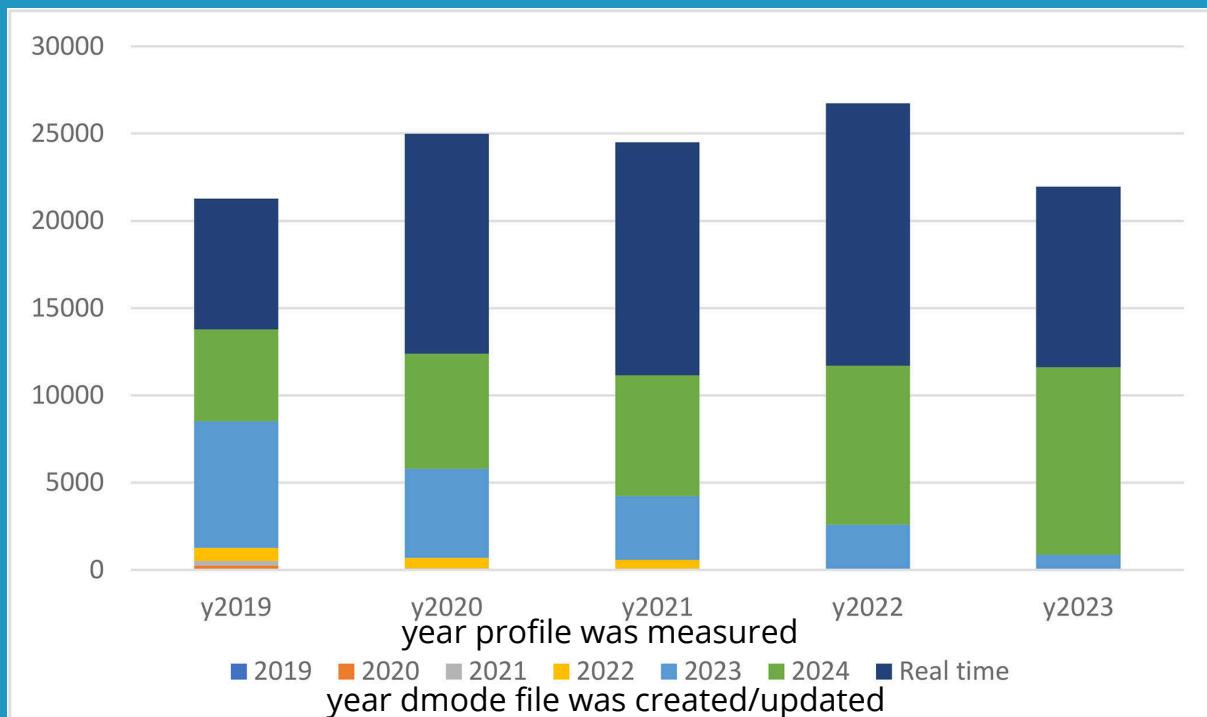
## BGC data on the GTS

New BUFR sequences have been approved to send BGC data onto the GTS. Argo plans to send only **adjusted BGC data** onto the GTS. Here are the parameters and their sequences:



- Dissolved oxygen: 3 06 044
- Chlorophyll-A: 3 06 045
- Dissolved nitrate: 3 06 046
- Sea water pH: 3 06 047
- BBP700: 3 06 048

## Number of BGC Argo Profiles measured in past five years



BGC Argo profiles are *reprocessed more often* than core files. The Argo community suggests you refresh your dataset *every six months*.

# OneArgo Deep Data Bytes



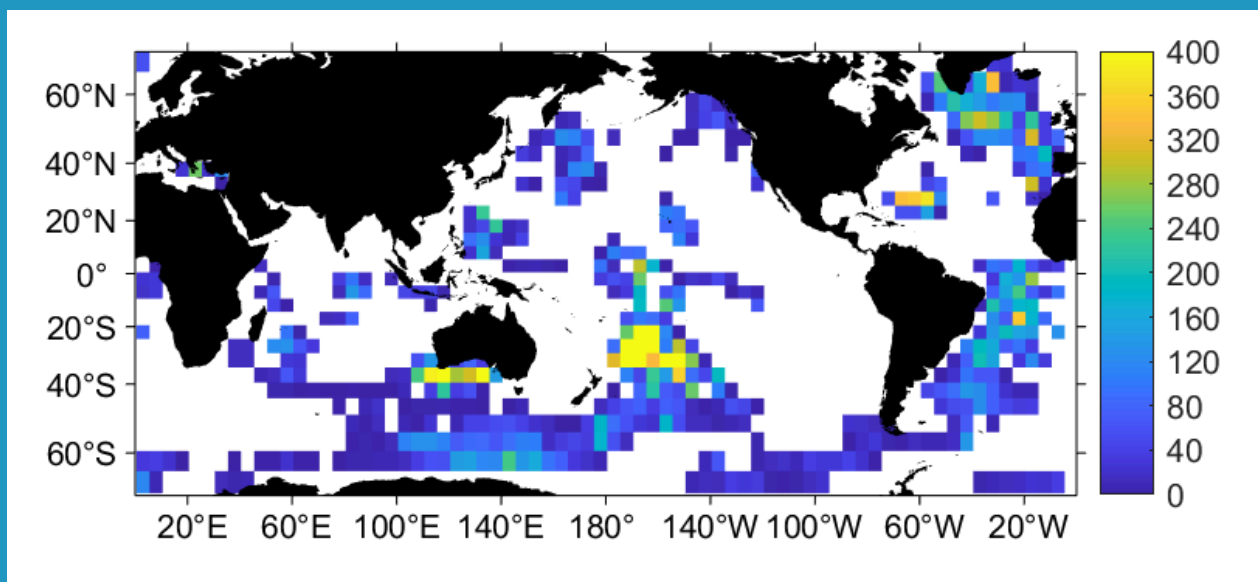
## Deep Argo Array Status

The Deep SOLO was originally designed to only profile on descent, leading to a 10 day delay of the profile delivery. With the transition to OneArgo, Deep SOLOs have been modified to also profile upon ascent from parking depth (or other designated depth) to the surface with a real time profile delivery onto the GDACs and the GTS. Currently, the newer Deep SOLO floats are delivering profiles both upon descent from the surface to 6000db and upon ascent starting from 2000db that contribute a regular core Argo profile.



The ADMT is working on how to make Deep Argo floats and profiles easily identifiable in the index lists on the GDACs.

## Density of all available Deep Argo Profiles in 1 degree x 1 degree bins



There are over 40,000 Deep Argo profiles to deeper than 4000db, mostly in the pilot array regions of the SW Pacific Ocean, Southern Ocean under Australia, the Northern Atlantic, and Brazil Basin.