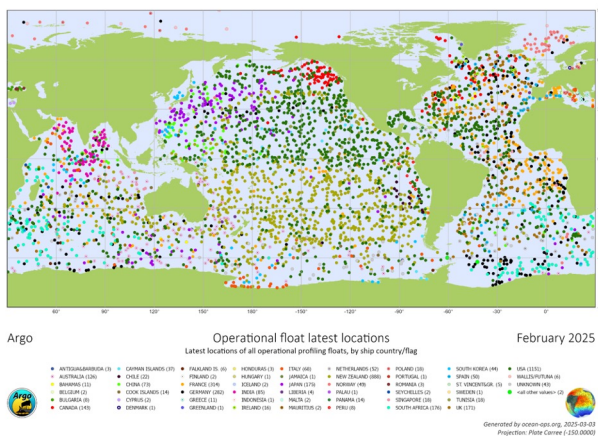# Argo

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Argo

Argo is an international program that collects information from the interior of the ocean using a fleet of robotic instruments that drift with the ocean currents and move up and down between the surface and a mid-water level. Each instrument (float) spends almost all its life below the surface.

The OneArgo design adopted since OceanObs19 extends the original Argo Core Mission to include: the full-depth ocean (the Deep Argo Mission, down to 6000 metres); enhanced sampling in the tropics and western boundary regions; higher latitudes (Polar Argo Mission); and a suite of biogeochemical parameters (BioGeoChemical Argo Mission).

Argo network status

Core coverage remains solid, but the OneArgo extension missions are well below the design density: BGC ~50% and Deep ~20%.
• More polar floats
• Thin patches of the array in W Indian remain a challenge (ships avoiding conflict zones)
• Arctic remains a major gap but there are more pilot deployments
• Core data latency - 87% in 12 hours, 60% in 6 hours

Left: A recently-introduced map generated by OceanOPS: Active Argo floats, coloured by country of ship that deployed the float. Note the critical and disproportionately large contributions by New Zealand and South Africa.

Future plans and opportunities
• We are exploring new data formats to serve our data, rather than our unwieldy, complex and slow to read netCDF files.
• We are exploring new suppliers for deep floats (Osean), new pH sensors and new CTDs.
• Production of a longer lived BGC float, S2BGC, is only just now going into production.

Synergy with GO-SHIP

Floats can acquire many more profiles than ships for both BGC and Deep measurements (panels below). However Argo depends critically on GO-SHIP for both deployment opportunities (especially BGC and Deep) and collecting the reference data for calibration of float profiles to enable preparation of climate-quality datasets.

Challenges/concerns
• Sustainable funding for the new missions remains our present major challenge. Argo teams are trying to work within their national contexts to work towards this, and the community is engaging in WMO and the UNOC process. We still face the issue that our user community believes the new missions are 'in the pipeline' rather than recognizing the need to ensure these are resourced.
• How do we keep our commercial suppliers viable while we work to secure sustainable funding for the new missions. This could have an impact on Core coverage as we try to maintain sustainable orders for BGC and Deep floats.

Asks from OCG
• To find a way to track the efficacy of the combined GOOS – the parameter view of the GOOS and some tracking metrics
• We lack a clear design (and costing) for ocean carbon observing (beyond surface flux estimates)– this is problematic when trying to articulate our ask from governments.

https://argo.ucsd.edu/