

PML

Plymouth Marine
Laboratory

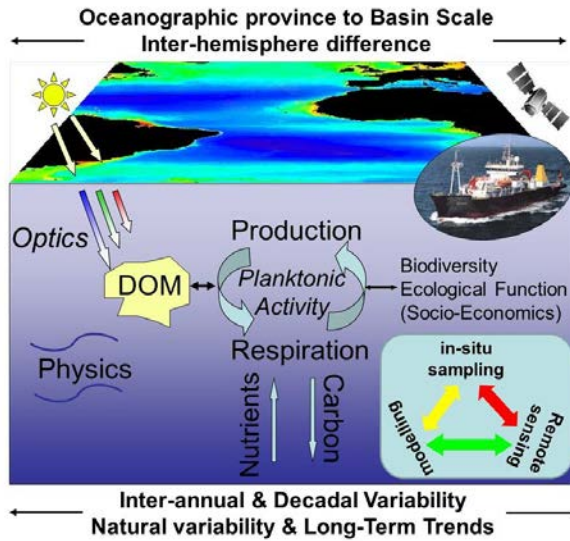
Listen to the ocean



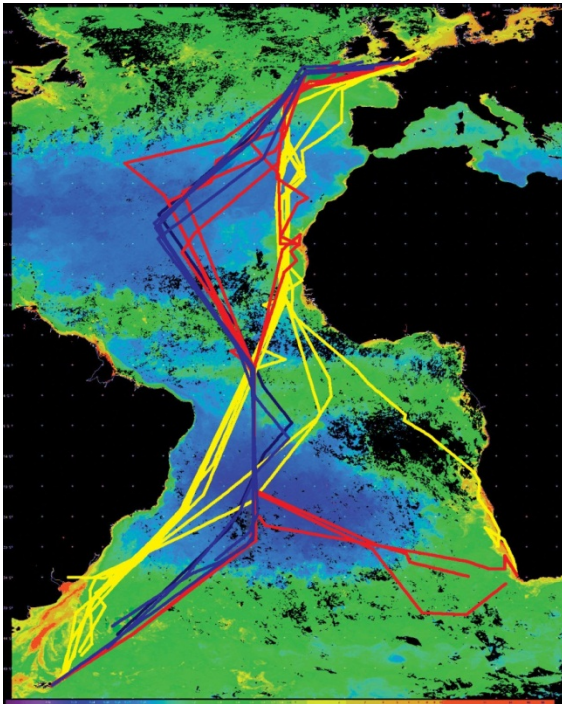
ANDY REES (apre@pml.ac.uk)



AMT - The Atlantic Meridional Transect

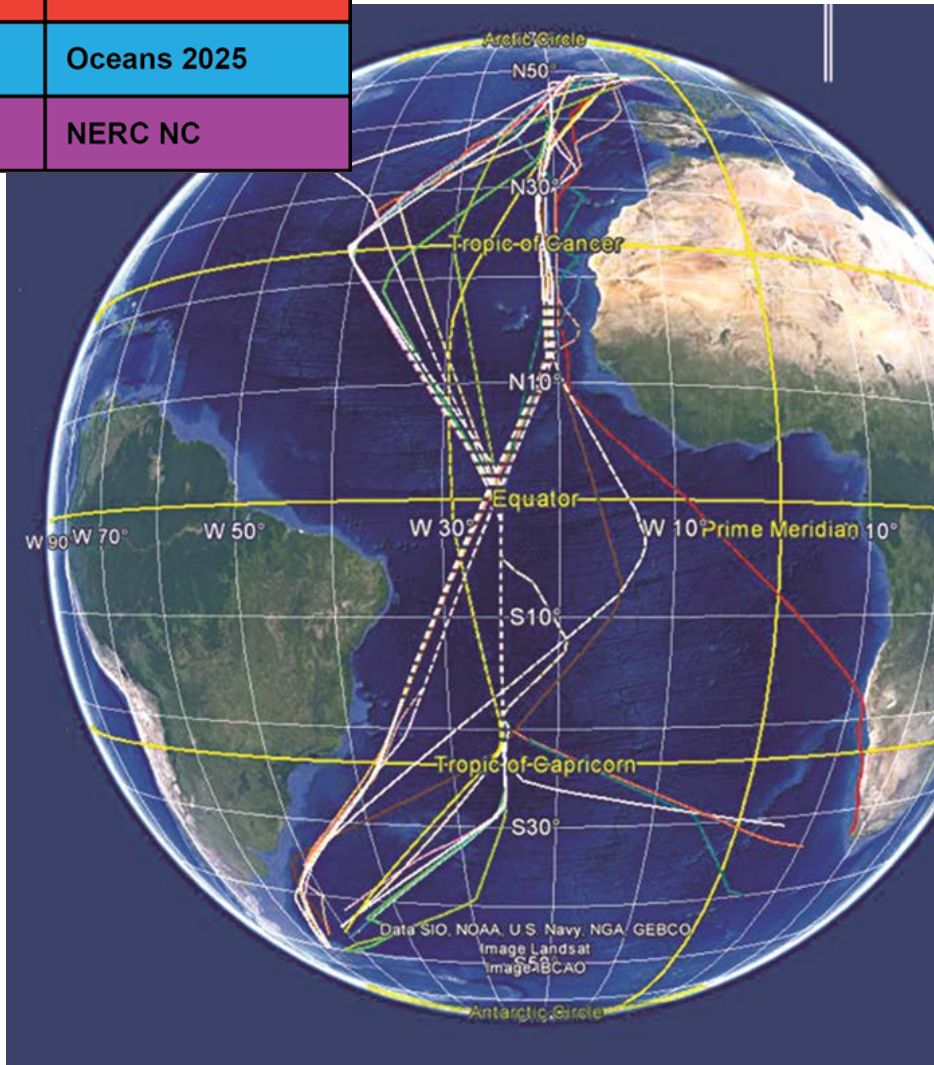


- Annual Cruise Track between ~50N & ~50S
 - Since 1995
 - Coherent set of repeated biogeochemical measurements
 - low temporal frequency, extensive spatial coverage, over decadal time period.
- A unique observing system
 - co-ordinated by PML with NOC
 - offers unique datasets
 - collaborative opportunities



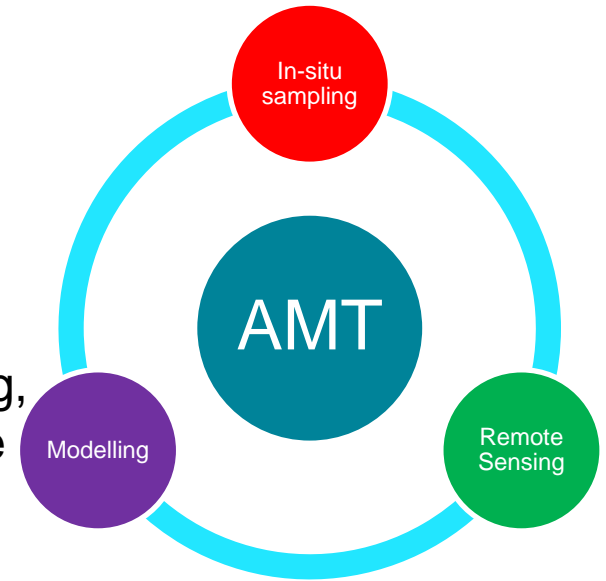
AMT has completed 26 research cruises between the UK & South Atlantic

Cruise no.	Dates	Funders
AMT1-11	1995-2000	PML, NERC, NASA
AMT12-17	2002-2006	NERC Consortium
AMT18-21	2008-2011	Oceans 2025
AMT22-	2012-	NERC NC



AMT Objectives:

- Quantify the nature and causes of ecological and biogeochemical variability in planktonic ecosystems;
- Quantify the effects of this variability on nutrient cycling, on biogenic export and on air-sea exchange of climate active gases;
- Construct a multi-decadal, multidisciplinary ocean time-series which is integrated within a wider “Pole-to-pole” observatory concept;
- Provide essential sea-truth validation for current and next generation satellite missions;
- Provide essential data for global ecosystem model development and validation;
- Provide a valuable, highly sought after training arena for the next generation of UK and International oceanographers.



Providing essential sea-truth validation for current and next generation satellite missions

Geophysical Research Letters

AN AGU JOURNAL

Regular Article

Space-based lidar measurements of global ocean carbon stocks

Michael J. Behrenfeld , Yongxiang Hu, Chris A. Hostetler, Giorgio Dall'Olmo, Sharon D. Rodier, John W. Hair, Charles R. Trepte





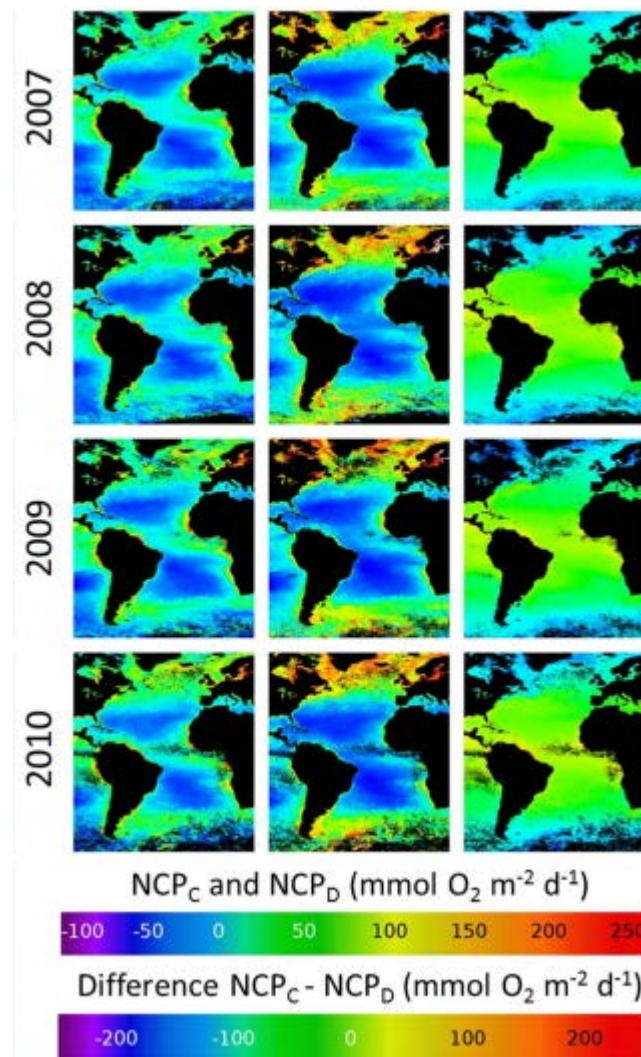
Remote Sensing of Environment

Volume 134, July 2013, Pages 66–77



Deriving phytoplankton size classes from satellite data: Validation along a trophic gradient in the eastern Atlantic Ocean

Vanda Brotas^{a, b}, , , Robert J.W. Brewin^a, Carolina Sá^b, Ana C. Brito^{a, b}, Alexandra Silva^b, Carlos Rafael Mendes^{b, 1}, Tânia Diniz^b, Manfred Kaufmann^c, Glen Tarran^a, Steve B. Groom^a, Trevor Platt^a, Shubha Sathyendranath^a



Levered funding from
European Space Agency

AMT26 was the first ESA-AMT
expedition providing in-situ and
above water radiometric
data for Sentinel 3 validation
of Ocean Colour and SST

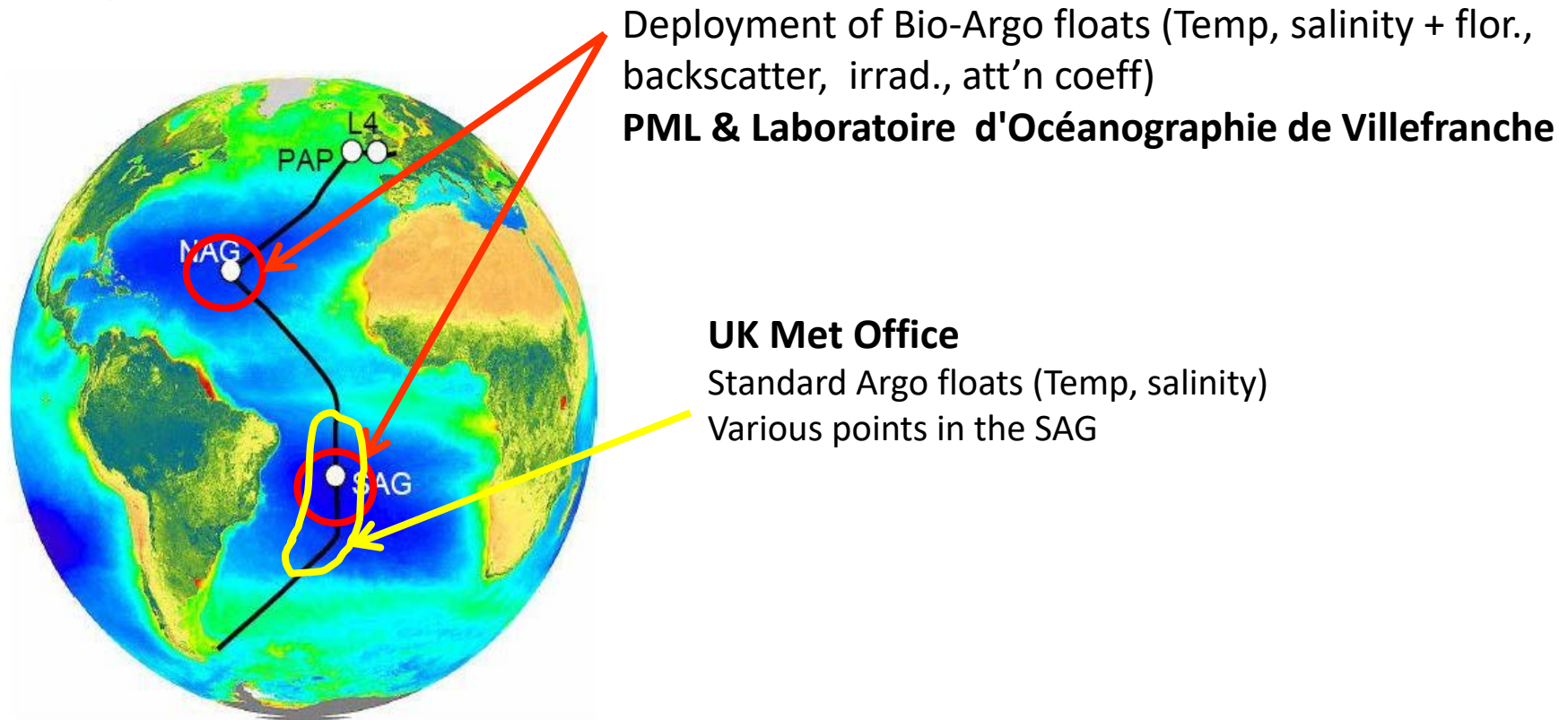


Copernicus Sentinel Atlantic Meridional Transect
Fiducial Reference Measurements Campaign
(AMT4SentinelFRM)

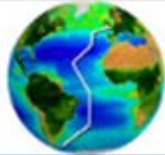


In response to the Request for Quotation
ESRIN/RFQ/3-14457/16/I-B
Copernicus Space Component
E/EO11-01 – Sentinel 3 Operations
12th April, 2016

To construct multi-decadal, multidisciplinary ocean time-series which are integrated within a wider “Pole-to-pole” observatory concept



AMT measurements cover many of the GOOS essential ocean variables selected to monitor ecosystem structure and function (temperature, salinity, optical properties, ocean colour, meteorology, dissolved oxygen, pH, dissolved nutrients, pCO₂, phytoplankton, zooplankton)



Atlantic Meridional Transect

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You are in: [AMT - Atlantic Meridional Transect - Oceanographic research cruise](#) > [Training](#)

Training



AMT provides excellent opportunities to the next generation of oceanographers and has contributed to more than 75 PhD studies.

The program also hosts the POGO-AMT fellowship. The fellowship enables students and early stage scientists from developing countries to take part in the annual cruise.

This is a fantastic opportunity to gain hands-on training and experience within an internationally renowned scientific programme. See the [POGO website](#) for more information on the fellowship and application criteria.

"Being on the AMT cruise is like being in an atmosphere-ocean interaction class – with the subject of my training as my special project and with the other components of the programme as other topics comprising the course. This is the most extensive study on the biogeochemistry of the surface oceans that I know of and it's amazing how the components of the programme are interrelated".



Previous POGO-AMT Fellows



2008
Mario Vera
Universidad de la Republica Uruguay



2009
Charissa Ferrera
University of Philippines



2010
Barbora Hoskova
Institute of Microbiology, Czech Republic



2011
Alaa Younes
Institute of Oceanography & Fisheries, Egypt



2012
Priscila Lange
Federal University of Rio Grande, Brazil



2013
Ankita Misra
National Institute of Oceanography, Goa, India



2014
Rafael Rasse
Instituto Venezolano de Investigaciones Cientificas (IVIC), Venezuela

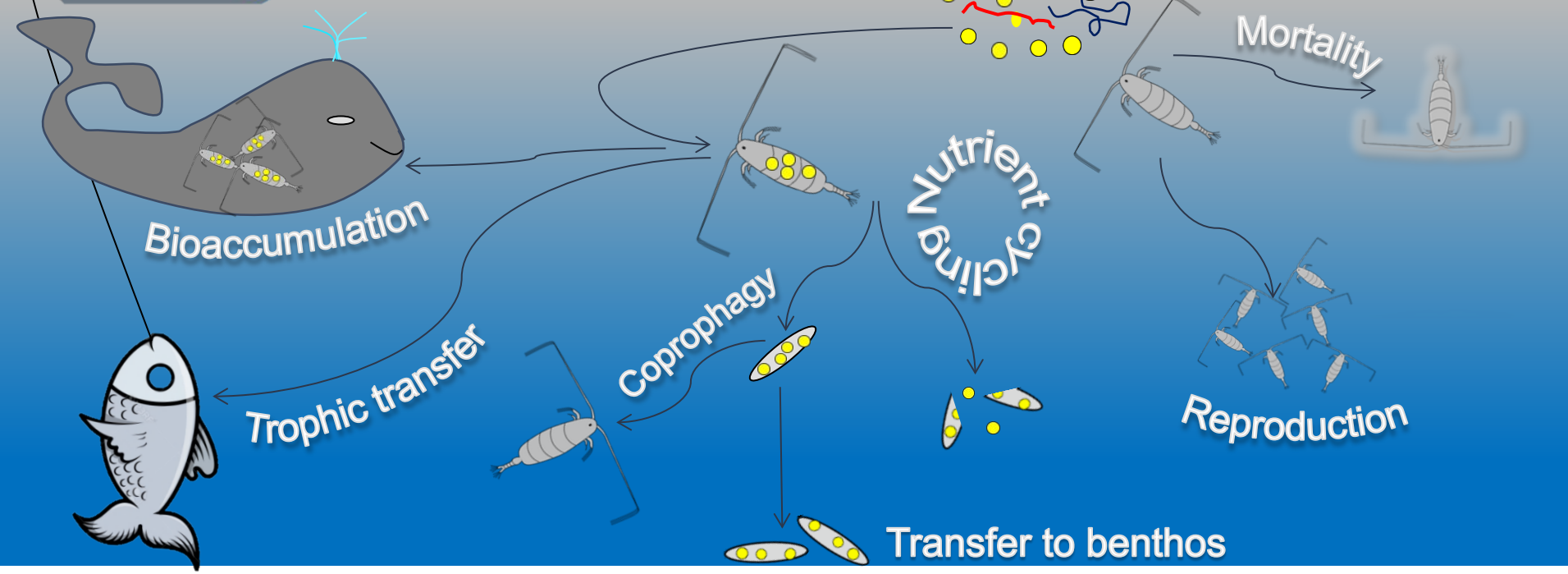
Related Links

[List of publications](#)

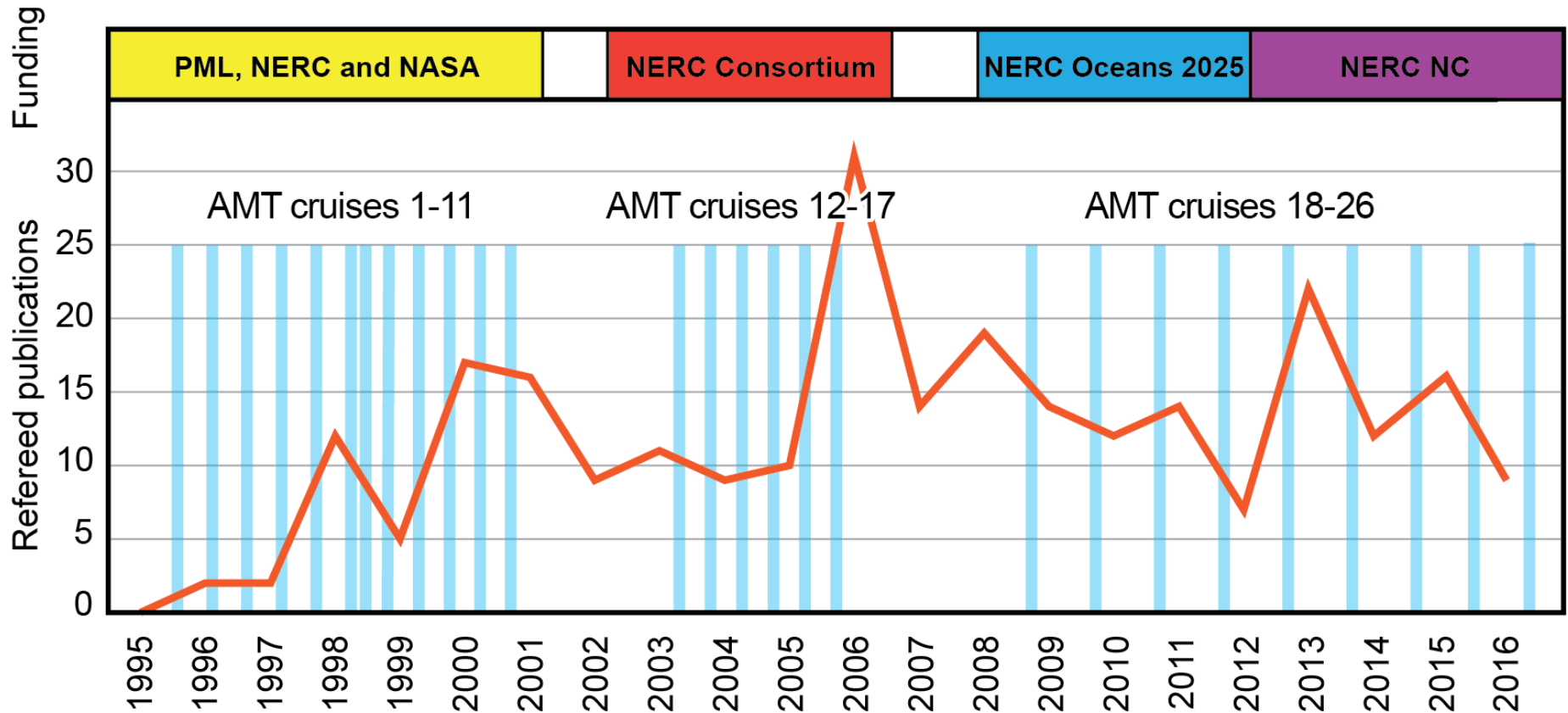
[POGO AMT Fellowship website](#)

Microplastics in the marine environment

- small fibres, beads, granules and fragments of plastics (<5 mm in diameter)

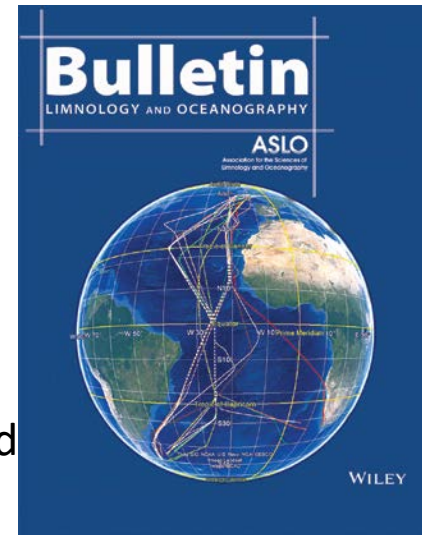


2017 Special issue of Progress in Oceanography imminent 17 papers in press



>313 refereed papers

Over 70 PhD theses



- Multidisciplinary program which annually undertakes oceanographic & atmospheric research over 100° latitude & covers tropical to sub-polar ocean provinces.
- Since 1995 has provided a time-series of robust, significant and reliable data that forms the backbone of a pole-to-pole observatory.
- Provides a platform for UK and international teams to deliver high impact discovery science within the strategically placed context of temporally and spatially diverse series of observations.
- Delivers essential sea-truth validation for current and next generation satellite missions and data for global ecosystem model development and validation.
- AMT objectives align with those of Future Earth and international programmes IMBER, SOLAS and GEOTRACES. Core measurements are recognised as GOOS Essential Ocean Variables (EOVs)

