



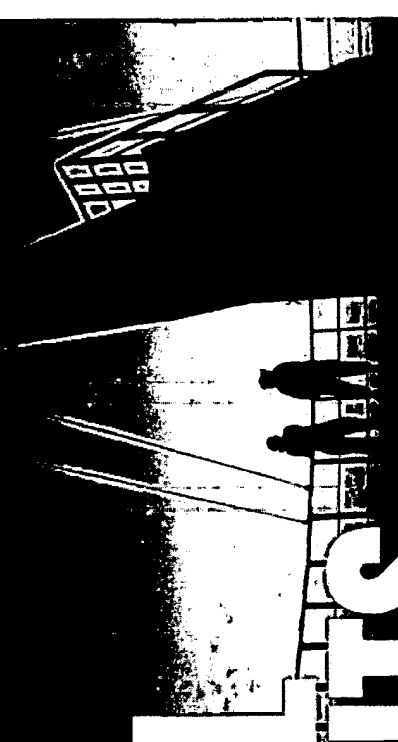
# ANNUAL REPORT & FINANCIALS STATEMENTS 2023/24

FOR THE YEAR ENDED 30 SEPTEMBER 2024  
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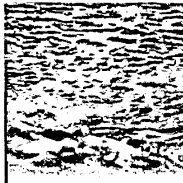

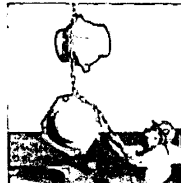

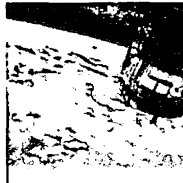
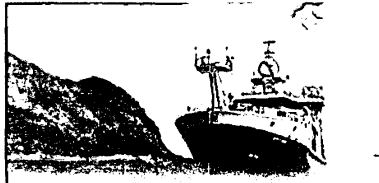

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## A NEW ERA FOR NOC

### FOREWORD BY THE CHAIR OF TRUSTEES

Our planet is a blue planet, most of it is covered by ocean. Yet so much of the ocean is yet to be discovered and fully understood.



As Chair of the Trustees of the National Oceanography Centre, I'd like to thank the staff and stakeholders of NOC for their dedication and commitment in making this another successful year and for ensuring that NOC continues to be one of the world's leading oceanography institutions.

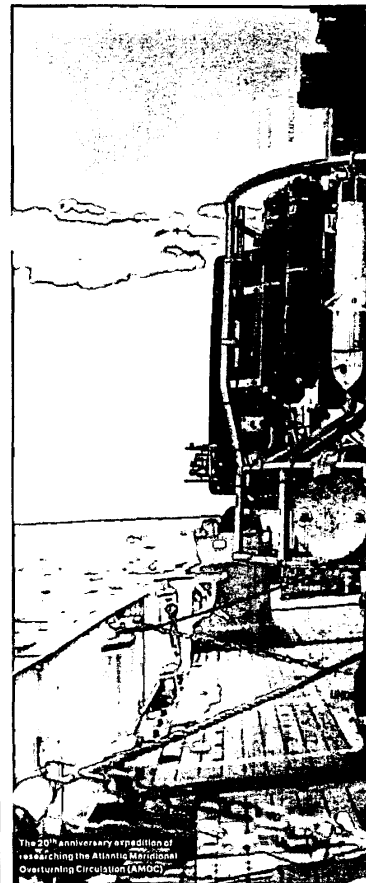
Our work has continued to explore, educate and enthuse all on the enormous opportunities that the ocean brings, and the value in the sustainable use of its resources. It's a critical time for marine research, and the role of the ocean in mediating our climate and supporting all life on Earth is ever clear.

This year represents the beginning of a new era for NOC, with a number of significant appointments. Within the Trust Board we are delighted with the successful appointment of three new Trustees, strengthening our knowledge and understanding of the communities and landscapes that we work with and engage. David McSweeney, Sir Michael Dixon and Clare Harbord each bring with them a wealth of experience in business, government, finance, science and engagement and we all very much look forward to working with them as we continue to support NOC on this journey.

In April 2024 we announced the appointment of Dr John Siddorn as Chief Executive. I am delighted with the appointment of John as CEO as he brings a strong track record of leadership in innovation for ocean research and will keep pushing the frontiers of science and innovation. Then in June 2024 Professor Penny Holliday was appointed as Chief Scientist – a critical role as we continue to understand planet Earth and inspire future generations to develop further knowledge and understanding.

As the UN Decade of the Ocean approaches its mid-way point it's a good opportunity to take stock and consider how far we've come, and how far we have to go. The United Nations General Assembly proclaimed in 2017 that "the ocean holds the keys to an equitable and sustainable planet" and "understanding the variability of the ocean and the related impacts on our society will be of vital importance, if we want both nature and humankind to thrive". Governments all over the world accept the importance of the ocean and the science required to understand its impact. Collaboration and partnerships are critical for us to tackle these global issues collectively. It's time now for all of our actions to be led by the scientific evidence that research provides us with, and I invite you to support NOC as we continue to push the boundaries of our understanding.

SIR JEREMY DARROCH

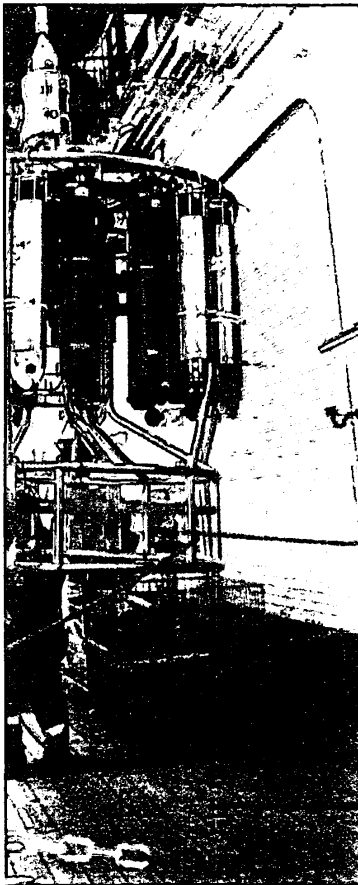


The 20th anniversary expedition of researching the Atlantic Meridional Overturning Circulation (AMOC)

**197** RESEARCH PAPERS PRODUCED

**84%** GOLDEN OPEN ACCESS  
166 TOTAL

**1%** GREEN OPEN ACCESS  
1 TOTAL



## REPORT OF THE CHIEF EXECUTIVE

As Chief Executive I am pleased to present the National Oceanography Centre's 2023/2024 Annual Report and reflect on our achievements and challenges of the past year.

I took on the leadership of NOC in April 2024 and I am very excited to have been given this opportunity at such an important time for the organisation, as we continue to grow from strength to strength. When joining the organisation in 2020 as Associate Director, the passion and expertise of the staff of NOC struck me as one of our key strengths, and this continues to be what I consider our strongest asset – our people.

It is now unquestioned that the ocean plays a critical role in planetary health, as stated by the Intergovernmental Oceanographic Commission "It feeds us, protects us and absorbs more than 90% of the excess heat generated by global warming. It is an inestimable source of economic, social and cultural wealth – 3 billion people depend on marine and coastal biodiversity for their livelihoods". Whilst the importance of the ocean is globally well accepted, the majority of the ocean remains unmapped, unexplored and poorly understood. Here lies the role of science and innovation – it isn't just about opportunities and solutions, but also about understanding the risks and helping society to prepare for the challenges ahead. Working with governments, NGOs, industry and partners across the world, we turn research and technological innovation into real action for some of the world's biggest challenges.

The stories within this annual report demonstrate the enormous breadth of science we have delivered over the past twelve months – although much of our research stretches far beyond 12 months. This year we celebrated the 20<sup>th</sup> anniversary expedition of researching the Atlantic Meridional Overturning Circulation (AMOC), as part of its RAPID programme. This makes the RAPID-AMOC array one of the longest running, continual sustained deep-ocean observation arrays in the world – and as we have demonstrated in recent years, long-term evidence is critical in understanding the current and potential changes in the global climate system.

So much of our work is for public good, from helping to protect coastal communities, food security and livelihoods, to advancing carbon adaptations that could limit the levels of climate change for generations to come. The case studies within this report demonstrate the depth and breadth of this, from marine monitoring using our autonomous vehicles and innovative technology and the use of earth observation data and digital twinning technology to transform environmental science, to the discovery of hundreds of new benthic organisms and the analysis of microplastics in Antarctica. We see our existing and new partnerships as a vital element to our success, and by bringing together world-leading expertise and innovation we are tackling some of the biggest global challenges humans have faced.

Interwoven with all our science we consider our engagement role seriously, demonstrated through our events such as our annual Westminster parliamentary reception, public and school open days at the Southampton site and our events in Greenland and Iceland with the public, academic and diplomatic audiences. We understand that the impact of our work stretches across all audiences and we strive to ensure it is accessible and meaningful for all.

Looking ahead it continues to be a challenging landscape for all in terms of funding for research and at NOC we are highly focused on the impact of our work and the opportunities we can bring to both the economy and society. We continue to focus on our partnerships and commercial collaborations and build on our foundations as an independent research institute. I thank every one of the NOC team for their contributions towards our achievements over the past year and I look forward to tackling the next challenges with my esteemed colleagues as we demonstrate the expertise that NOC can bring.

DR JOHN SIDDRON



# CHAIN REACTION

## STORY SPOTLIGHT

Our scientists discovered a chain of events that lead to hotter and drier European summers, suggesting that European summer weather can be predicted months or even years in advance. The paper, published in *Weather and Climate Dynamics*, proposes that melt-water in the North Atlantic starts a chain of events

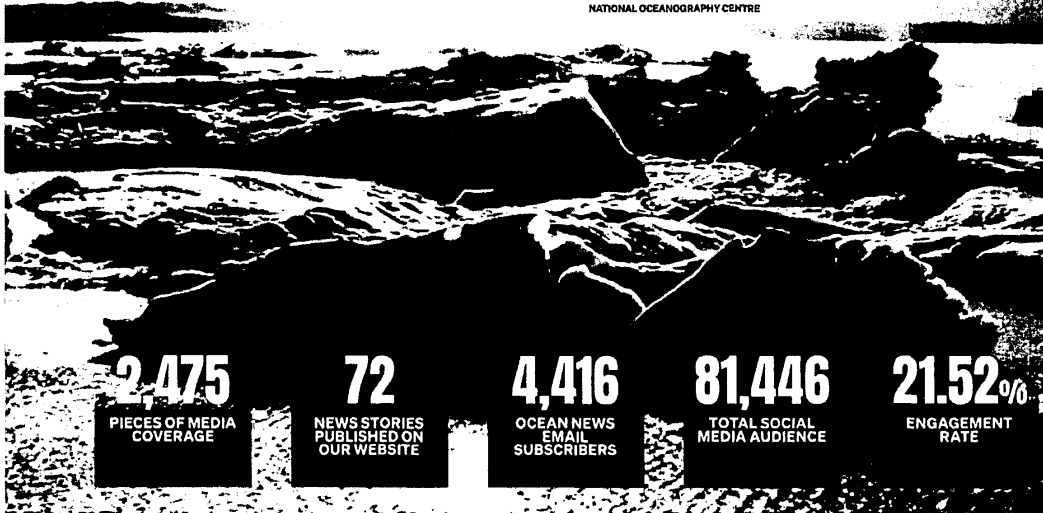
Melting sea ice and glacial ice are a growing source of freshwater to the North Atlantic. With increases in ice melt, the study suggests that European heatwaves and droughts will become more frequent and intense in future. The warming over Europe after strong freshwater releases in the North Atlantic will add to the warming already happening because of climate change, by causing weather patterns to shift.

The research findings demonstrate the importance of ocean observations, to ensure climate models capture all physical processes required to make accurate weather predictions. This study is a step forward for improving models, which will enable industries and stakeholders to plan ahead for specific weather conditions, such as adapting agricultural methods to be more resilient, predicting fuel usage, and bracing for flooding events.



"The location and strength of melt water occurrences in the North Atlantic in winter provide valuable clues about the location, strength and character of European weather anomalies in the subsequent summers."

DR MARLENA OLTMANN  
LEAD AUTHOR & RESEARCH SCIENTIST  
NATIONAL OCEANOGRAPHY CENTRE





# UNLOCKING THE OCEAN'S CARBON SECRETS

## STORY SPOTLIGHT

An international team of scientists and engineers led by researchers at NOC, University of Southampton and Heriot-Watt University conducted an intense six months of study to gain a better understanding of the role marine organisms play in storing carbon in the ocean.

The story is part of the Global Carbon Project, funded by the Natural Environment Research Council (NERC), to gain the better understanding necessary to make robust predictions for how we can better manage a changing world.

Scientists set sail on two ambitious expeditions, with a spring expedition on NOC's RRS Discovery and a second autumn expedition on board RRS James Cook, both aimed for the North Atlantic south of Iceland. An exciting combination of field research and cutting-edge autonomous tech provided rare insights into the marine environment over a whole seasonal cycle with sampling across the most ecologically active seasons.

Operated by our world-leading engineers, Autonomous Research (AUR) 4 also completed its first ever charter to carry out 15,000 miles of traveling for over two months, equipped with cutting-edge sensors, many developed by NOC gathering critical data for climate research and beyond.



**"Despite the ocean's important role in storing carbon and reducing the effects of climate change, we still lack basic knowledge of how marine life helps store carbon in the deep ocean. In PARTITRICS, we are investigating how organisms living in the ocean's twilight zone produce and recycle carbon, and what that means for long-term carbon storage. This work will allow development of improved models to make better predictions of the feedbacks between ongoing climate change and biological carbon storage."**

**PROFESSOR STEPHANIE HENSON**  
RESEARCH FELLOW, OCEAN BIOGEOSCIENCES  
NATIONAL OCEANOGRAPHY CENTRE

#### ADDRESSING CRITICAL CLIMATE CHALLENGES

Scientists know that marine organisms play a critical role in storing carbon in the ocean that might otherwise remain in the atmosphere. However, recent evidence suggests that climate models are not fully accounting for the impact of potential changes in biological processes. This could hinder predictions of the ocean's role in future carbon storage at a critical time.

One of the first pieces in the study – the Partitric Survey – led by Henson from NOC, is gaining a better understanding of how climate change will affect the ability of the ocean to store carbon. Henson's research focuses on how marine organisms store carbon in the deep ocean, but also on how climate change could impact the ability of the ocean to store carbon. Henson's research is part of a larger programme of research at NOC, which is focused on understanding the role of the ocean in the climate system. Henson's research is part of a larger programme of research at NOC, which is focused on understanding the role of the ocean in the climate system.

#### ENABLED BY CUTTING-EDGE TECHNOLOGY

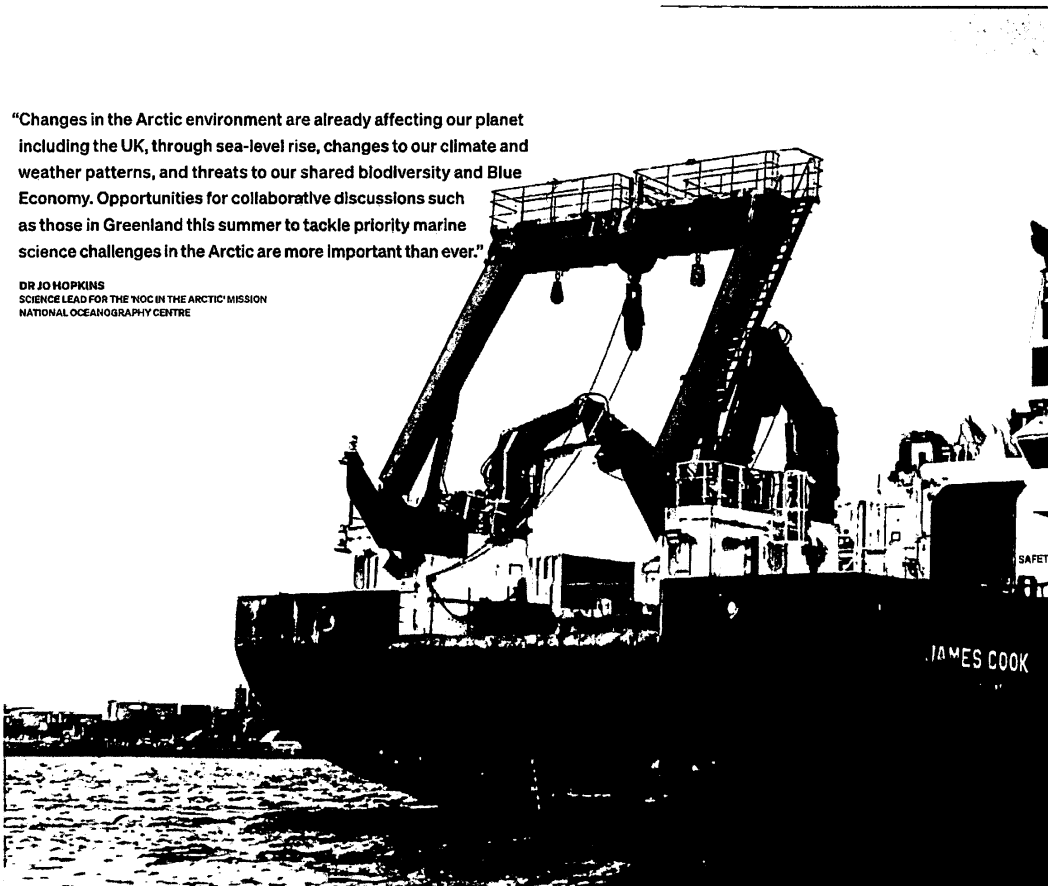
Additionally, a joint BIO-Carbon and FMRI mission saw the use of two autonomous vehicles, ALR 4 and ALR 6, better known as "Boty McBotface", both equipped with a suite of cutting-edge sensors to analyse the biology and chemistry of the ocean. The sensors, many of which are developed by our Ocean Technology and Engineering team at NOC, have provided the scientists with unprecedented amounts of information on the changing conditions in the ocean in near-real-time.

The mission was part of the UK's first deep-sea mission, the ALR 4 and ALR 6, which were deployed in the North Atlantic. The mission was part of the UK's first deep-sea mission, the ALR 4 and ALR 6, which were deployed in the North Atlantic. The mission was part of the UK's first deep-sea mission, the ALR 4 and ALR 6, which were deployed in the North Atlantic.

The programme is part of a larger programme of research at NOC, which is focused on understanding the role of the ocean in the climate system. The programme is part of a larger programme of research at NOC, which is focused on understanding the role of the ocean in the climate system.

**"Changes in the Arctic environment are already affecting our planet including the UK, through sea-level rise, changes to our climate and weather patterns, and threats to our shared biodiversity and Blue Economy. Opportunities for collaborative discussions such as those in Greenland this summer to tackle priority marine science challenges in the Arctic are more important than ever."**

**DR JO HOPKINS**  
SCIENCE LEAD FOR THE 'NOC IN THE ARCTIC' MISSION  
NATIONAL OCEANOGRAPHY CENTRE





# A SUMMER OF ARCTIC ENGAGEMENT

## STORY SPOTLIGHT

This summer marked an extraordinary season of collaboration and engagement in the Arctic, where UK-led initiatives deepened scientific understanding and fostered diplomatic relationships across the region. Through our global class research vessels, the RRS *Discovery* and RRS *James Cook*, we engaged with Arctic communities, science institutions, and diplomatic bodies in Iceland and Greenland, ahead of ambitious research expeditions.

This began when 10 ambassadors in Iceland and 25 senior diplomats from the diplomatic community in Reykjavik were hosted onboard RRS *Discovery*, organised and supported by the British Embassy and British Ambassador to Iceland, Bryony Mathew.

Welcomed by Captain Stewart Mackay and the British Ambassador, the ambassadors had a tour of the ship, giving them unique insight into life at sea and facilitating important discussions on the latest research happening in the surrounding ocean.

### RRS JAMES COOK IN NUUK

In August, alongside the British Embassy in Denmark, we opened our research vessel RRS *James Cook* to the Greenlandic public and science community during a stop in Nuuk. Approximately 160 visitors were welcomed by Captain James Gwinnett and crew to explore the vessel.

Our scientists and Royal College of Art representatives engaged with locals, discussing ocean science around Greenland and its societal importance. The event also fostered collaborative discussions between NOC, the British embassy in Copenhagen, the Greenlandic science community, and the Government of Greenland, focusing on UK-Greenland science collaboration. Researchers explored new opportunities for tackling marine science challenges, highlighting synergies and novel uses of NOC platforms.

### NEXT STOP REYKJAVIK

RRS *James Cook* then embarked on an ambitious expedition from Greenland to Reykjavik, kicking off a year of intensive study that will bring a new understanding of how much carbon is stored by the biological carbon pump in the Labrador Sea, a key region of carbon storage in the North Atlantic. As part of this mission, the ship will return to Nuuk in the summer of 2025. The return visit will provide a great opportunity for UK-Greenlandic collaboration, building on ideas and connections made during this visit.

The biological carbon pump stores large quantities of carbon dioxide (CO<sub>2</sub>) in the deep ocean. Without this process, scientists think atmospheric CO<sub>2</sub> concentrations could be 50% higher than they are even now. NOC scientists are deploying autonomous technologies including Argo floats, underwater gliders, and imaging systems to gather crucial data that will be used to inform climate models, improving our understanding of how the world will respond to climate change. Representatives from the UK's Royal College of Art were also onboard during this visit to test the performance of their time-lapse cameras at sea.

### INSPIRING THE NEXT GENERATION

Later in the summer, the British Embassy to Iceland held their 'Future Careers' event onboard the RRS *James Cook*, inspiring the next generation of ocean scientists and mariners. Hosted by the ship's Captain and crew, Icelandic University students and Embassy officials toured the global-class research vessel and learned about the diverse career roles available at sea. Ocean scientists also engaged with attendees about their upcoming ambitious expedition to the Iceland Basin, connecting global scientific efforts with local communities.

Our engagement in the region showed that there is great interest from local communities and Arctic science ecosystems in engaging, paving the way for closer collaboration with our Arctic neighbours.

"This is a great opportunity to add value to an existing dataset. SPLASH builds on a previous wave overtopping project CreamT. It will use the observations made available through the British Oceanographic Data Centre (BODC) to develop Machine Learning tools. At the same time satellite image analysis techniques will be developed to demonstrate how different sources of coastal observations can be combined to better understand variability in coastal wave hazard."

DR JERRY BROWN  
SPLASH PROJECT COORDINATOR  
NATIONAL OCEANOGRAPHY CENTRE

# HARNESSING DIGITAL TWIN TECHNOLOGY

## STORYSPOTLIGHT

Five innovative projects launched this year will increase the precision of our digital twin models, improve our understanding of how climate change will transform environmental systems. The projects, led by NERC, Southampton University and Plymouth, will share a total of £1.2 million in funding, delivered by the Natural Environment Research Council (NERC) as part of the Twinning Capability for the National Environment (Twinning Capability).

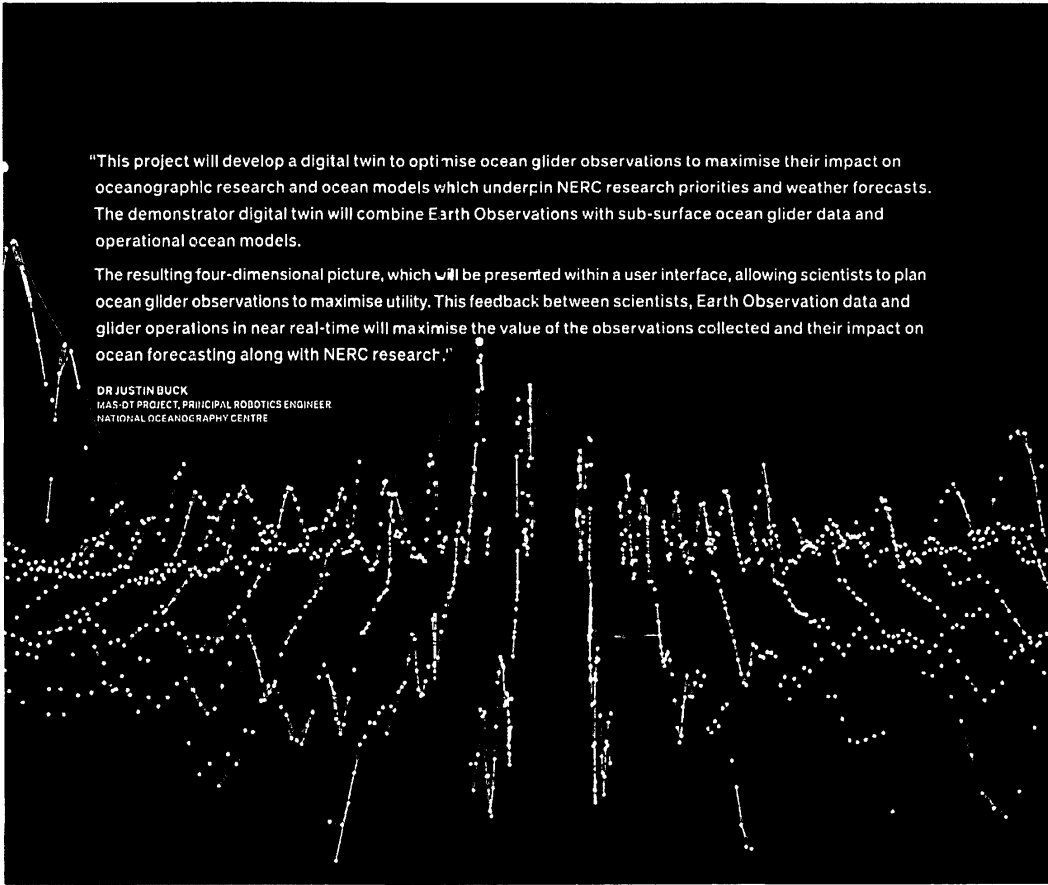
The digital twin pilot projects will demonstrate how research using Earth observation data and emerging digital twinning technologies can benefit environmental science across priority areas including climate change, biodiversity and ecosystems, and natural hazards.

NERC will lead the MAS-DT project that looks at ocean glider observations for ocean models which underpin weather forecasts. NERC will also contribute expertise to two more of the TWINGE funded projects, SyncED-Ocean and SPLASH.

Synchronising Earth observation and modelling frameworks towards a digital twin ocean (SyncED-Ocean) is led by Matthew Palmer, Plymouth Marine Laboratory. The project will deliver a digital twin pilot demonstrator that combines data from satellite Earth observations and marine autonomous robots for assimilation to marine system models to provide an up-to-date view of local coastal ocean ecosystem. It will focus on significantly improving the current predictive capability of harmful algal blooms (HABs) and their subsequent impacts on ocean oxygen concentration in UK coastal areas, both of which present serious risks to ocean health, biodiversity and productivity.

SPLASH digital approaches to predict wave hazards is led by Meeres Valerie, University of Plymouth. This project will create a digital twin of a year-overlapping in order to build a deployable coastal warning tool that tracks wave hazards. This allows us to better understand how processes such as wind, tides, coastal sheltering and tides interact across an area to change the coastal wave hazard. The ultimate aim is to transform weather and climate research and improve operational hazard management to increase UK resilience.

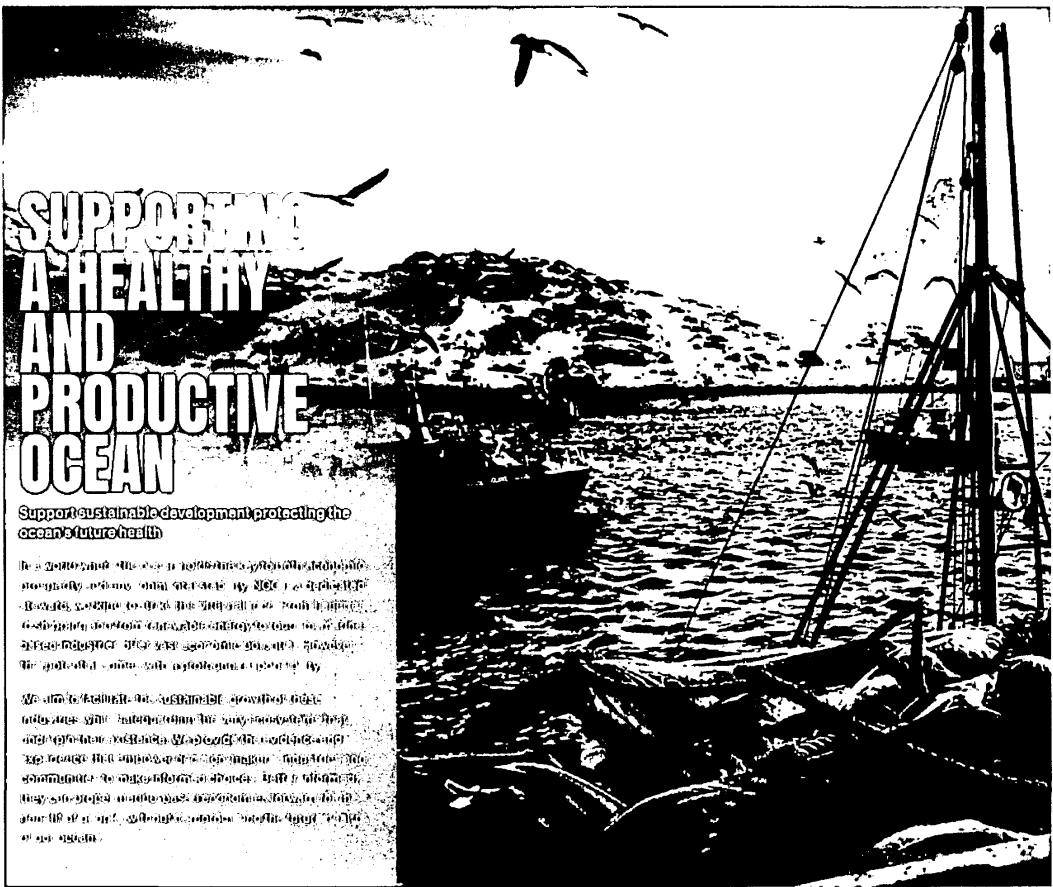
The TWINGE programme is part of a £200 million portfolio of UK Earth observation investment package (EOIP) projects which were announced in November 2022.



"This project will develop a digital twin to optimise ocean glider observations to maximise their impact on oceanographic research and ocean models which underpin NERC research priorities and weather forecasts. The demonstrator digital twin will combine Earth Observations with sub-surface ocean glider data and operational ocean models.

The resulting four-dimensional picture, which will be presented within a user interface, allowing scientists to plan ocean glider observations to maximise utility. This feedback between scientists, Earth Observation data and glider operations in near real-time will maximise the value of the observations collected and their impact on ocean forecasting along with NERC research."

DR JUSTIN BUCK  
MAS-DT PROJECT, PRINCIPAL ROBOTICS ENGINEER  
NATIONAL OCEANOGRAPHY CENTRE

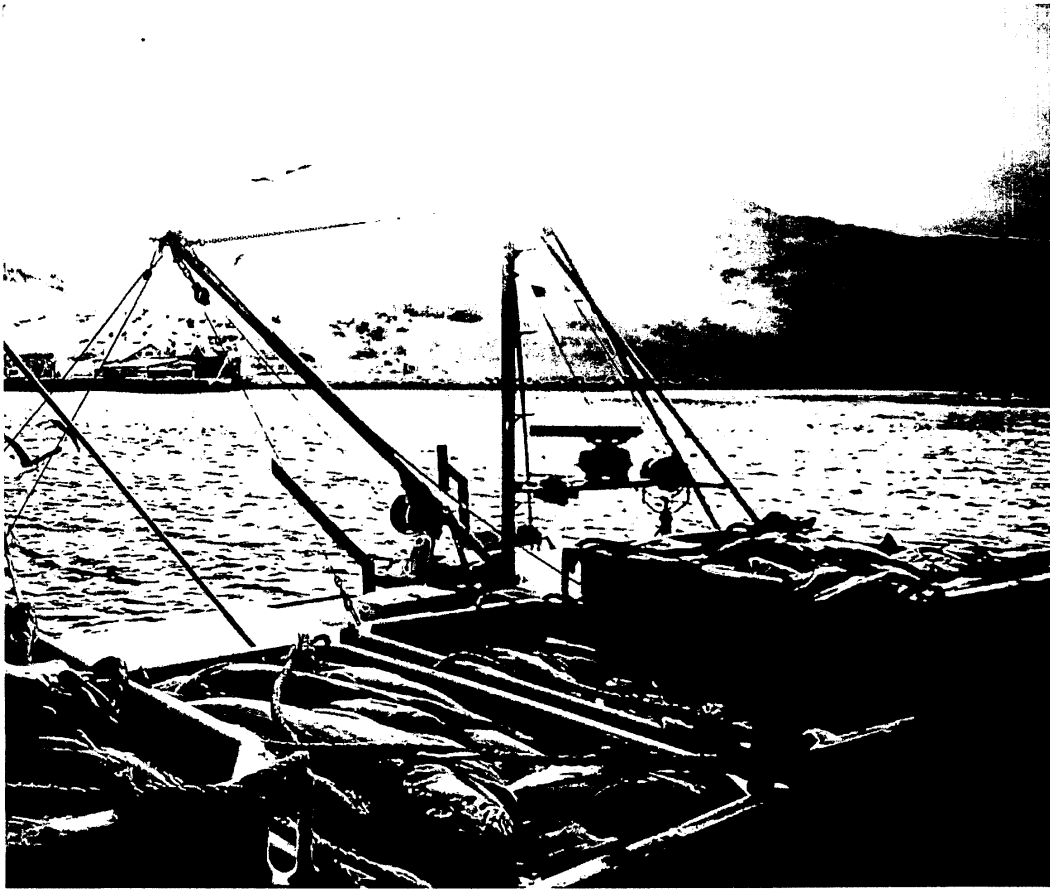


# SUPPORTING A HEALTHY AND PRODUCTIVE OCEAN

Support sustainable development protecting the ocean's future health

In a world where the ocean is a vital source of food, jobs and income, it is essential to ensure that the world's oceans are healthy and productive. The ocean provides a source of food, jobs and income for billions of people. It is also a source of recreation and inspiration. The ocean is a vital part of our planet's ecosystem and we must protect it for the future.

We are committed to supporting sustainable development of the ocean. We will work with governments, industry and civil society to ensure that the ocean is healthy and productive. We will also work to protect the ocean's ecosystem and ensure that it is a source of food, jobs and income for future generations.



## REVOLUTIONARY REMOTE SENSING TECHNOLOGIES

The health of our ocean is vital for the survival and well-being of all life on our planet. TechOceanS, an EU-funded project coordinated by NOC, is creating new remote ocean sensing technology to support ocean conservation and monitoring.

The project has developed and demonstrated nine innovative technologies that could revolutionise how we understand ocean biology, chemistry, and plastic pollution.

Among these ground breaking solutions are five advanced sensors, two high-tech imaging systems for studying seabed and pelagic life, as well as plastics. There's also a cutting-edge sampler designed to collect particle samples and a novel AI-driven image processing method that compresses data and transmits information more efficiently.

To bring these technologies to life, the team tested and integrated them across a range of platforms at the Plocan facility in Gran Canaria. Here, seven of the newly developed

technologies were combined and integrated into four different autonomous vehicles, including two of NOC's cutting-edge Autosub Long Range (ALR) better-known as Boaty McBoatface.

This also provided a unique, hands-on learning experience for a diverse group of students and technicians from ODA (Official Development Assistance) states. They supported with the preparation and management of the deployments, gaining invaluable, multidisciplinary training that blended theory with real-world application.

NOC is a pioneer of ocean technology – pushing the boundaries of endurance and capability each time we make a deployment.



Two Autosub Long Range (ALR) vehicles being prepared in the Plocan facility, Gran Canaria.  
© Plataforma Océánica de Canarias

## AUTONOMOUS MARINE MONITORING

Working with the University of Southampton (UoS) and the Department for Environment, Food and Rural Affairs (Defra), we demonstrated the potential for using autonomous underwater vehicles with innovative imaging technology to meet UK Government marine monitoring ambitions.

An Autosub Long Range (ALR), deployed from shore with a UoS "BioCam" three-dimensional seafloor imaging system, completed a fully autonomous survey of the Central Fladen Nature Conservation Marine Protected Area (MPA) in the northern North Sea. Using BioCam, geo-referenced, colour corrected conventional still images and corresponding seafloor texture and microtopographic maps were generated.

Using an ocean robot without the use of a research vessel reduced costs, supported net zero goals and generated higher quality seafloor mapping data and photography, comparable to ship-deployed systems.

The project, part of Defra's Marine Natural Capital and Ecosystem Assessment programme, also helps deliver the "Big Data" needed by data-driven machine learning tools to map and assess our marine natural capital and the benefits it provides.

## TOXIC ALGAE DETECTION BREAKTHROUGH

Our scientists developed a faster way to test for toxic algae, helping local authorities to mitigate the risks to people, seafood producers and wildlife.

The new method, based on novel environmental DNA testing, where water is tested for organisms' DNA, is faster and more accurate than traditional methods of identifying algae. It also helped validate new artificial intelligence (AI) driven models for predicting the occurrence of harmful algal blooms earlier.

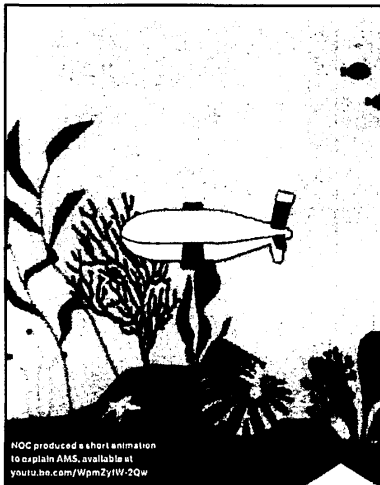
This includes Dinophysis, which produces a toxin that can enter the food chain when near seafood production areas and attacks human digestive systems, causing pain and sickness.

Testing was carried out in 2021 - 2022 in St Austell Bay, Cornwall, famous for its seafood and for being a hotspot for toxic marine algae.

We worked in collaboration with Cornwall Port Health Authority, the University of Glasgow, the University of Exeter and Cefas.



Autosub Long Range (ALR) being deployed from shore with a UoS "BioCam" three-dimensional seafloor imaging system

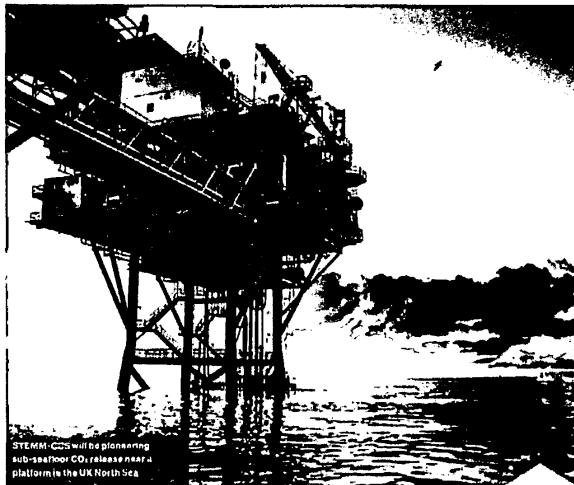


NOC produced a short animation to explain AMS, available at [youtu.be.com/WpmZyIW-2Qw](https://youtu.be.com/WpmZyIW-2Qw)

### AUTONOMOUS MONITORING SERVICE

Our world-leading scientific research combined with our unique proven engineering capabilities in autonomous underwater vehicles and seabed landers, has enabled us to develop a new turn-key solution for carbon capture storage (CCS) monitoring.

This solution, known as Autonomous Monitoring Service (AMS), utilises our own intelligent seabed landers for points of special geological interest that require continuous monitoring. This ensures maximum environmental protection for any offshore CCS activity with the potential addition of autonomous vehicle technology for wide area monitoring and additional scientific sensing capabilities.



STEMM-CCS will be pioneering sub-seafloor CO<sub>2</sub> releases near a platform in the UK North Sea

### ADVANCING OFFSHORE CARBON CAPTURE & STORAGE (CCS) MONITORING

2023 saw the successful conclusion of a major international demonstration advancing offshore CO<sub>2</sub> storage, a crucial capability for mitigating future climate change. Project Greensand injected CO<sub>2</sub> into disused North Sea oil and gas wells for long-term storage, marking the world's first cross-border storage of CO<sub>2</sub>.

NOC played a crucial role in this project through development and demonstrations of its CO<sub>2</sub> monitoring technology. In a previous EU-funded project, STEMM-CCS, NOC developed advanced chemical sensors for pH and total alkalinity key parameters which can detect the presence of dissolved carbon in the sea, and showed that these can be used to monitor CO<sub>2</sub> storage facilities offshore. For Project Greensand, this monitoring system was further developed to operate longer and with lower power consumption, which is essential for sustained deployment.

This project underscores our pivotal role in advancing monitoring solutions critical to the success and safety of offshore CCS, and illustrates NOC's strength in developing technology for both scientific research and which supports market-driven climate change mitigation efforts.

### INVESTING IN APPLIED SCIENCE

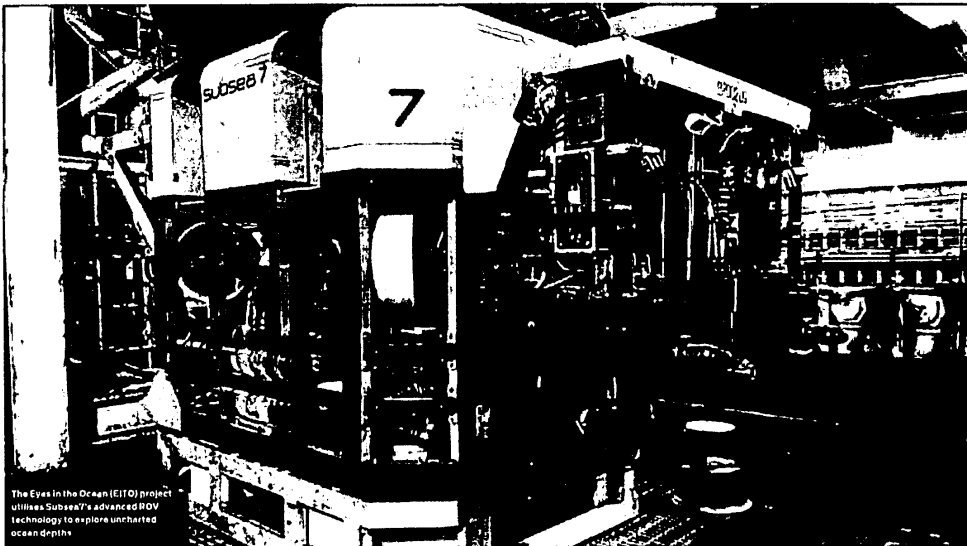
Our trading subsidiary NOC Innovations has continued to invest in applied scientists, with seven now in the team.

This included, as part of our BORA Blue Ocean Research Alliance® with Subsea7, a high-impact project looking at Grey Trigger fish populations in Southern Brazil. It also saw blue carbon evaluations for Allonby Bay, part of a Department of the Environment, Food, and Rural Affairs Highly Protected Marine Areas pilot, with NOC analysing cores from the bay for carbon sediment stocks and showing that it's possible to assess the rate of carbon deposition within Highly Protected Marine Areas (HPMAs).

### EYES IN THE OCEAN

In partnership with Subsea7, we launched the BORA Blue Ocean Research Alliance®'s Eyes In the Ocean (EITO) project, which utilizes advanced ROV technology to explore uncharted ocean depths. Leveraging Subsea7's unique operational access, the project captures detailed footage of marine life in remote locations, providing critical data for scientific analysis.

Our scientists analyse these observations, contributing valuable insights into the diversity, distribution, and behaviour of elusive marine species. Building on the legacy of the SERPENT project, EITO is expanding our understanding of deep-sea ecosystems, with the potential to inform future marine policy and global scientific research.



The Eyes in the Ocean (EITO) project utilizes Subsea7's advanced ROV technology to explore uncharted ocean depths.

# SECURING AGAINST MARINE RELATED DISASTERS

Protect people and economic infrastructure from marine-related disasters

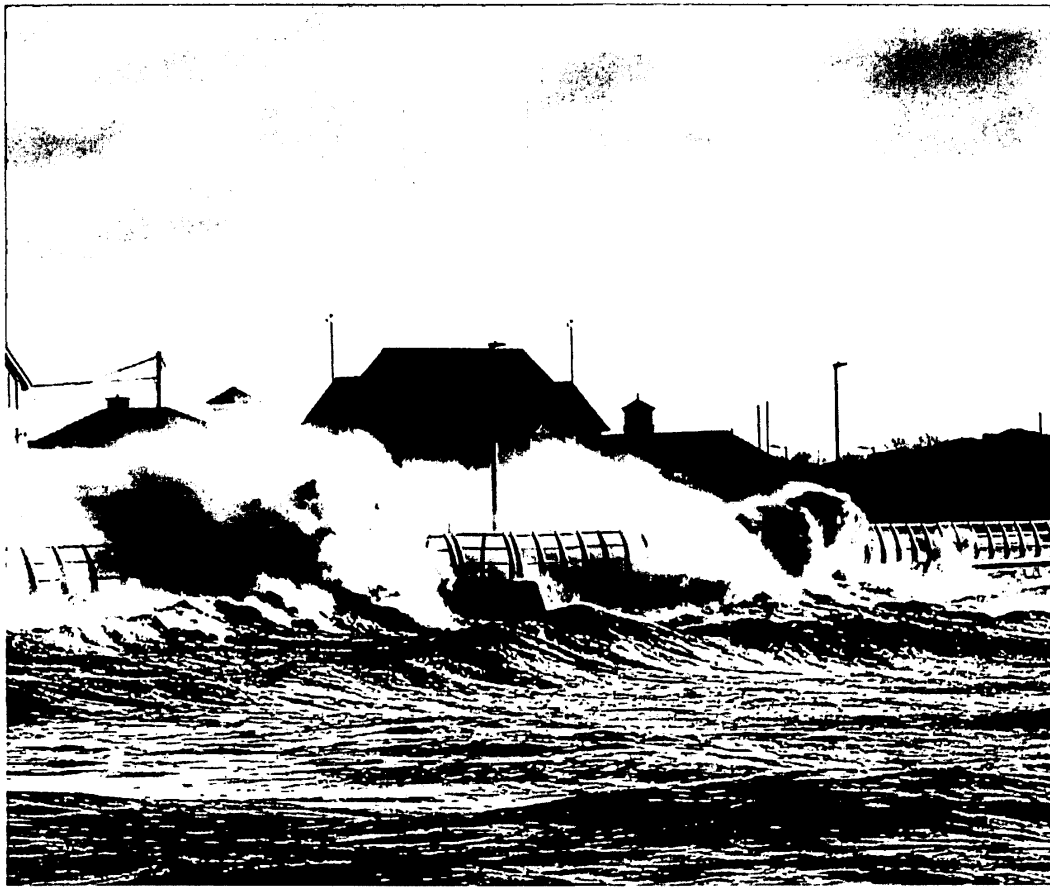
As our environment changes the risks to human lives and economic infrastructure is growing

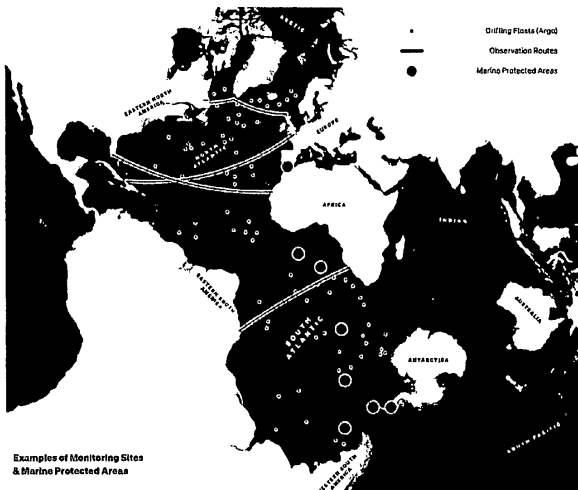
We act to safeguard coastal regions and marine-dependent industries against a wide spectrum of marine-related disasters, from formidable storms and tsunamis to the dangers posed by rising sea levels and coastal erosion.

Our goal is to empower communities and industries with the tools and knowledge they need to prepare for potential disasters, but also to respond effectively and recover swiftly.

We achieve this through a multifaceted approach using the latest research, data-driven forecasting and innovative solutions that strengthen resilience and protect lives and livelihoods.







Examples of Monitoring Sites & Marine Protected Areas

## LEADING NATIONAL CAPABILITY

Our ground breaking Climate Linked Atlantic Sector Science (CLASS) project completed in March 2024. The six-year, Atlantic-focused programme's goal was to evaluate how climate change and human exploitation impact the ocean. The results are extensive contributions to our understanding of the Atlantic Ocean system.

CLASS delivered sustained ocean observation, world-class model development to predict future oceanic conditions and use of state-of-the-art technologies to gather highly precise ocean data.

Critical knowledge gaps around ocean variability, climate regulation and ecosystems services were addressed while analyses were performed on the ocean's response to climate change and human activities, with more than 600 related publications to date.

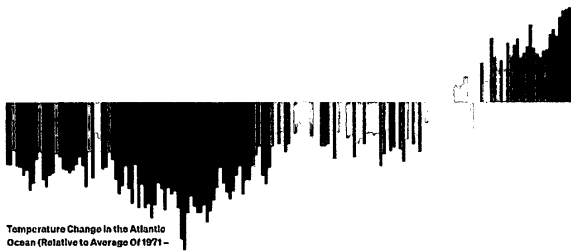
Key collaborators on the NERC-funded project were the Scottish Association for Marine Science (SAMS), Plymouth Marine Laboratory (PML), as part of Marine National Capability underpinning activities.

Its success has driven the new, NERC-funded Atlantic Climate and Environment Strategic Science (AtlantiS) programme.

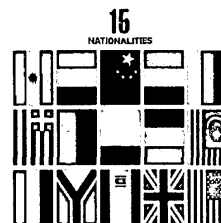
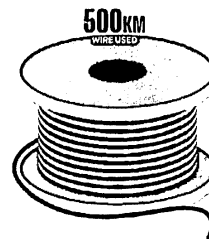
AtlantiS, in collaboration with SAMS, PML and the Marine Biological Association, will continue to deliver sustained ocean observations, supporting national and international research and policy.

This includes responses to key climate change effects such as marine heatwaves, sea level rise and increasing storm intensity, as well as supporting the UK's ambition for healthy, biologically diverse and resilient marine environments, a sustainable blue economy and keeping communities safe from natural hazards.

As part of the AtlantiS programme, NOC will deliver next-generation climate, ocean and coastal modelling for predicting and understanding environmental change and deploy new technologies to further enhance autonomous ocean observing capabilities, supporting UK lower-carbon goals and expanding observing capability.



Temperature Change in the Atlantic Ocean (Relative to Average Of 1971 - 2000), 1850-2022



## 20 YEARS OF RAPID

This year marked the 20<sup>th</sup> anniversary expedition of our Atlantic Meridional Overturning Circulation (AMOC) research, part of the RAPID programme. The AMOC, a crucial current system in the Atlantic Ocean, significantly impacts climate patterns. Without an effectively operating AMOC, we will likely experience increasingly extreme weather systems, with the potential to impact everyone on the planet. This makes our AMOC observing arrays, crucial in continuously improving understanding and prediction of the potential impacts of an AMOC slow down or collapse.

This milestone expedition onboard the RRS Discovery, in collaboration with the University of Miami and the National Oceanic and Atmospheric Administration (NOAA), serviced the RAPID-AMOC 26°N array, one of the world's longest-running deep-ocean observation arrays, deployed in 2004. Throughout these 20 years, the array has transformed our understanding of AMOC variability and its effects on climate and weather.



A RAFOS float being deployed as part of the Overturning in the Subpolar North Atlantic Program (OSNAP)

## 10 YEARS OF OSNAP

Scientists from NOC and the Scottish Association for Marine Science (SAMS) celebrated a decade of monitoring the Atlantic Meridional Overturning Circulation (AMOC) as part of the Overturning in the Subpolar North Atlantic Program (OSNAP), focuses on the AMOC component flowing through the Rockall Trough and Iceland Basin.

Marking the 10<sup>th</sup> anniversary of OSNAP array data, it represents a significant international effort to understand AMOC changes. This voyage was also the first under the new Atlantis programme, which studies the ocean's role in climate change mitigation. Departing from Aberdeen on July 3 and arriving in Reykjavik on July 28, the expedition recovered and redeployed instruments measuring ocean properties and currents. The expedition utilised new technologies, including lab-on-chip sensors and advanced telemetry, to enhance our data collection and remote monitoring capabilities.

## EMPOWERING THE NEXT GENERATION FOR FLOOD MITIGATION

We are playing an integral role in a new NERC-funded FLOOD Centre for Doctoral Training, supported with £2.6 million NERC funding.

The centre, co-directed by NOC's Professor Jenny Brown, will educate the next generation of PhD students with a better understanding of flooding using advanced monitoring and new forms of computer modelling, artificial intelligence and machine learning to map and forecast future flooding risks.

This will drive a talent pool of environmental experts invested in protecting against rising river, rainfall and sea levels and make the UK – where one in six households are in flood-prone areas – more resilient to flooding.

The FLOOD centre includes experts from the universities of Southampton, Bristol, Loughborough and Newcastle, NOC, UK Centre for Ecology and Hydrology and British Geological Survey.

It also has an additional 37 partner organisations across the UK, from local and national government to water, energy and infrastructure companies, finance and (re)insurance companies and charities.



FLOOD CDT will educate the next generation of PhD students to map and forecast future flooding risks



Advanced NOC-operated underwater gliders are dramatically improving North Sea data collection

### ADVANCING WEATHER FORECASTING

A collaboration with the Met Office is helping to improve the accuracy of weather forecasting and generate better analyses of the state of the North Sea utilising our advanced ocean modelling.

By using advanced NOC-operated underwater gliders, the three-year project is dramatically improving North Sea data collection and enabling key data, such as salinity and temperature data to be sent to the Met Office in near real-time for weather and ocean forecasts, vital for vessels operating in the North Sea.

The data is also fed, daily, into Met Office forecast models and is part of a wider programme to increase how much observational data is available for use in models run on their new supercomputer, supporting continuous forecast improvement efforts.

Stephen Woodward, Engineering Manager, said:

“The data gathering potential of gliders is a key driver for this project which will, in time, support decision making in vital UK services, including search and rescue, counter-pollution and ocean biodiversity.”

### CONTRIBUTING CRITICAL CLIMATE DATA

We contributed to the prestigious Bulletin of the American Meteorological Society's Annual State of the Climate Report, led by NOAA's National Centers for Environmental Information. This report, involving over 530 scientists from 60 countries, provides a comprehensive overview of Earth's climate.

Our contribution included a unique marine air temperature dataset derived from 140 years of ship-based records. This meticulously quality-controlled dataset, regularly updated by our scientists, offers a critical perspective on modern climate change by placing contemporary data in the context of the past century, enriching our understanding of anthropogenic impacts on the global ocean.

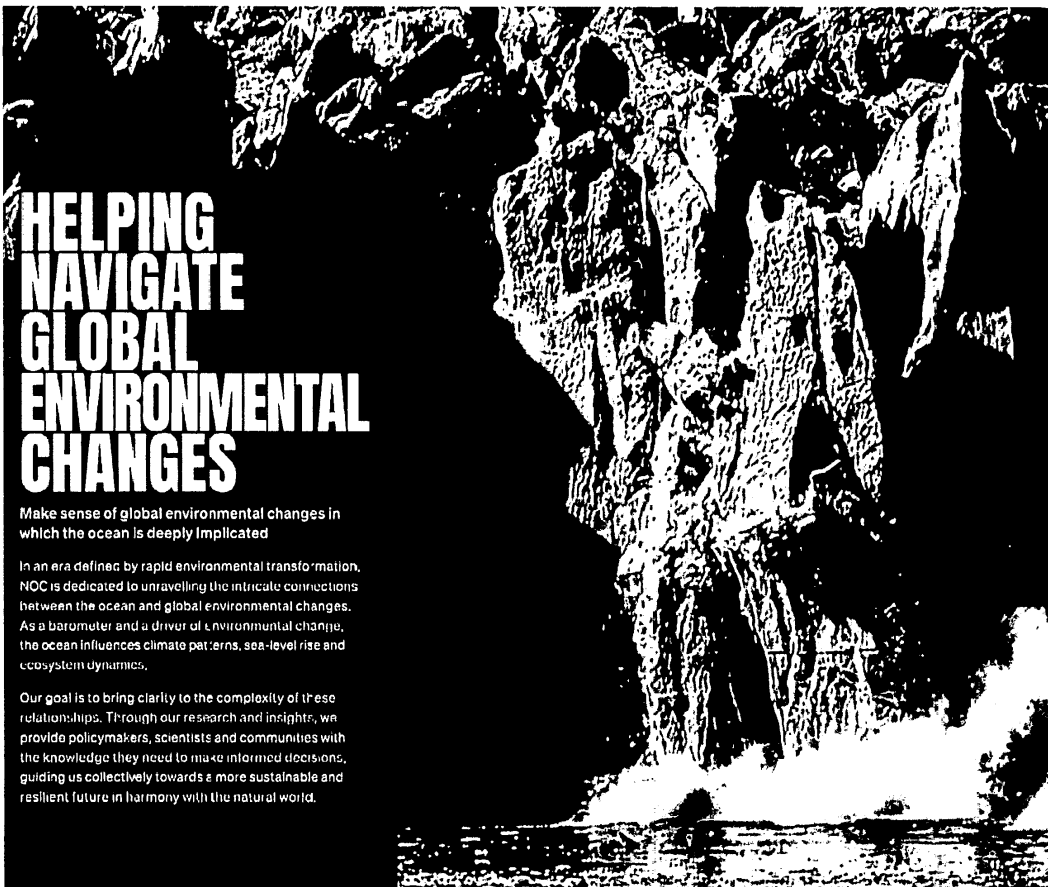
## STATE OF THE CLIMATE IN 2023

### GLOBAL OCEANS

G. C. Johnson and R. Lumpkin, Eds.



Special Online Supplement to the Bulletin of the American Meteorological Society Vol. 105, No. 8, August 2024  
 DOI.org/10.1175/BAMS-D-24-0100.1

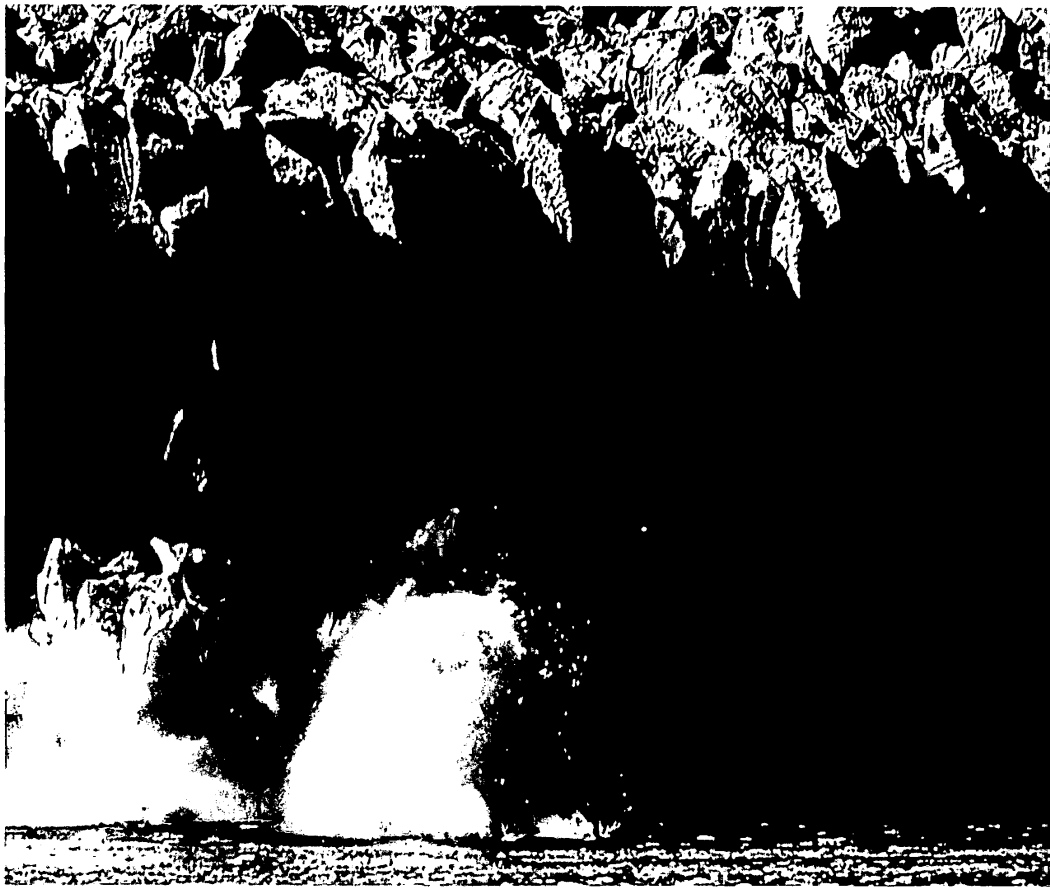


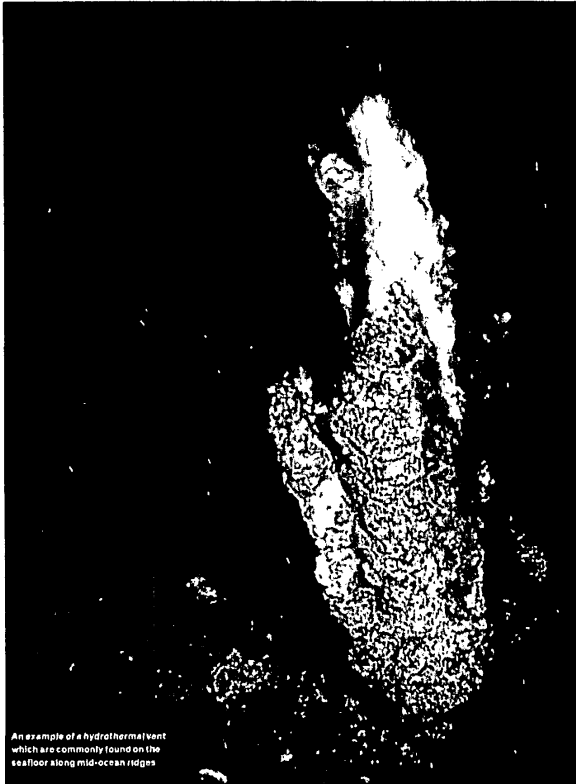
# HELPING NAVIGATE GLOBAL ENVIRONMENTAL CHANGES

Make sense of global environmental changes in which the ocean is deeply implicated

In an era defined by rapid environmental transformation, NOC is dedicated to unravelling the intricate connections between the ocean and global environmental changes. As a barometer and a driver of environmental change, the ocean influences climate patterns, sea-level rise and ecosystem dynamics.

Our goal is to bring clarity to the complexity of these relationships. Through our research and insights, we provide policymakers, scientists and communities with the knowledge they need to make informed decisions, guiding us collectively towards a more sustainable and resilient future in harmony with the natural world.





An example of a hydrothermal vent which are commonly found on the seafloor along mid-ocean ridges

## **UNDERSTANDING DEEP-SEA WEATHER**

Sustained ocean observations by NOC scientists revealed that deep ocean currents are more complex than previously thought.

The study, published in *Nature Geoscience*, used data from 34 deep sea moorings, deployed over four years in up to 2,500 m water depth offshore Mozambique.

They showed that currents sped up, slowed down, changed direction and sometimes reversed direction completely, depending on the varying and uneven surfaces and features on the ocean floor.

The results challenge previous models, which suggested that these currents would be continuous and steady.

The findings will help improve the understanding of how sediment, including life sustaining nutrients, carbon, microplastics and other pollutants, are transported and accumulate around the planet.

Better understanding of how deposits have ended up where they are can also help provide important clues about the potential impacts of future ocean changes.

## **HYDROTHERMAL VENT DISCOVERY**

With partners at the universities of Plymouth and Southampton and British Antarctic Survey, we found that hydrothermal vents could provide a vital source of nutrients for phytoplankton in the Southern Ocean.

In research published in *Nature Communications Earth & Environment*, we showed that the nutrients iron and manganese are released in boiling water from hydrothermal vents deep underwater and can reach the ocean surface where phytoplankton live.

This helps boost a critical component of the Earth's carbon cycle because these phytoplankton use carbon dioxide from the atmosphere to grow and then trap it in the ocean.

The remote Southern Ocean, where the NERC-funded study was carried out, is known to have a critical shortage of these nutrients, suppressing how fast phytoplankton use and store carbon dioxide. Understanding this natural source of these metals helps to assess the impact of proposed climate interventions such as artificial ocean fertilisation.

### UNCOVERING SEAFLOOR BIODIVERSITY

A NERC-funded expedition aboard the RRS *James Cook* explored the abyssal Pacific seafloor, particularly the Clarion Clipperton Zone (CCZ), as part of the SMARTX project. This research, endorsed by the UN Ocean Decade, involved scientists from NOC, the Natural History Museum and several other institutions. They used advanced technologies, including Autonomous Underwater Vehicles (AUVs) and robotic systems, to study the biodiversity of this remote area.

The team collected biological and geochemical samples as well as hundreds of thousands of images to identify new species and understand deep-sea ecosystems. The expedition also mapped the area, studied deep-water ocean circulation and investigated animal recolonisation. This work provided crucial baseline data for conservation and management of potential impacts to this area.



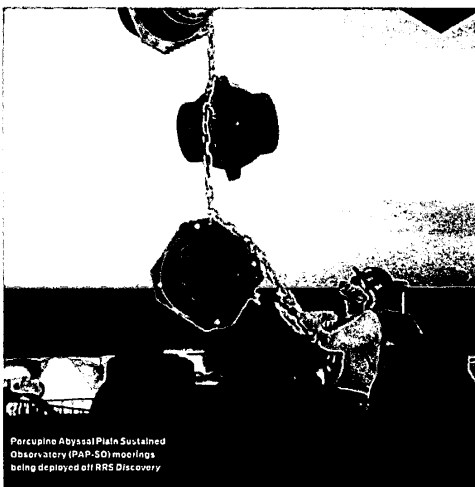
An *Amperima* sea cucumber captured at ~4000 m, grazing on sediment covering the seafloor

### OCEAN CARBON DYNAMICS

Our scientists discovered a significant time difference in the rate of particles sinking to the ocean floor, a key factor in understanding how the ocean can combat climate change.

The data, collected at the Porcupine Abyssal Plain Sustained Observatory (PAP-SO) in the Northeast Atlantic, highlights the critical role of the upper ocean ecosystem in carbon sequestration. Located nearly 5000 meters deep, 300 miles southwest of Ireland, PAP-SO has been monitoring oceanic changes since 1989. The research shows that the ecosystem's structure, not just plant growth rates, significantly impacts how carbon is stored.

This discovery is crucial for understanding the Biological Carbon Pump, which helps the ocean absorb about 30% of human carbon emissions. PAP-SO's ongoing observations, supported by a specially designed buoy and sensors, allow scientists to detect changes, inform policy, and advance climate change mitigation efforts.



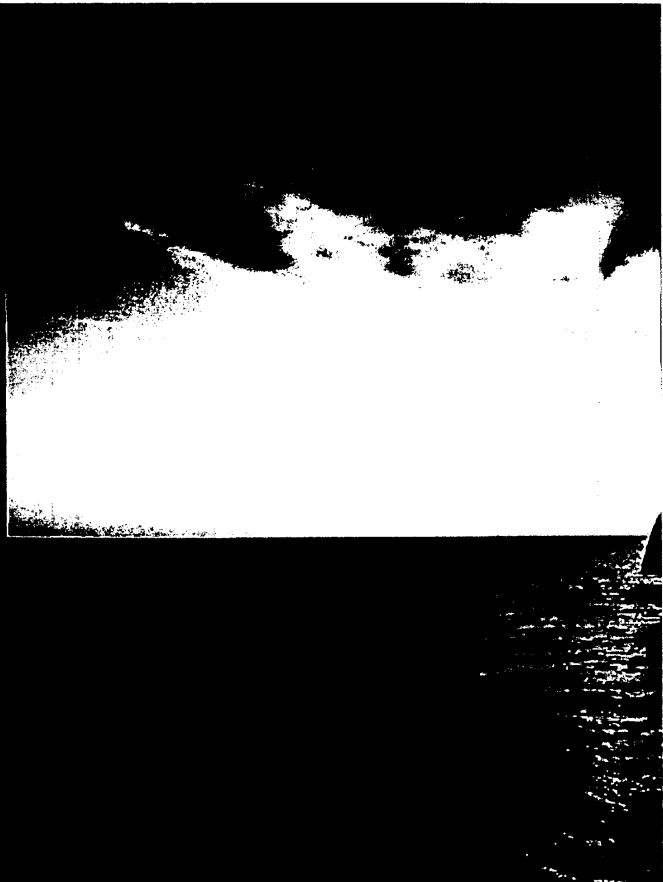
Porcupine Abyssal Plain Sustained Observatory (PAP-SO) moorings being deployed off RRS Discovery

# RAISING OCEAN AWARENESS AROUND THE WORLD

Educate humankind to understand scientific evidence about the ocean's role in our lives

Our ocean is not merely a distant realm, it is an integral part of our daily lives, influencing weather patterns, regulating our climate and providing sustenance for billions. As a leading ocean research organisation, we provide scientific evidence to inform discussions, evoke wonder and enhance awareness of the ocean's immense significance.

Our expert researchers, engineers and ambassadors engage with diverse stakeholders, from local community groups and schools to national and international change makers, to foster a deeper understanding of the ocean's profound impact on our world.





## OCEAN OPEN DAY

We were delighted to welcome visitors back to our Southampton site for on-site open day events on June 8, World Ocean Day, marking our first since 2019 due to the effects of COVID-19.

Over two days, we opened our doors to local schools and the wider public to inspire, empower and spread awe about the ocean, its importance in our lives and what we're doing to help protect it and the benefits it brings to us.

During the hugely successful schools open day, 25 teachers and 190 pupils, aged 9-13, from twelve primary and secondary schools, engaged with exhibits around the building, with lots of opportunities for them to get hands on and interactive.

Teachers' comments included:

"It was amazing and has created permanent positive change amongst our pupils. We have so many ideas in moving forward and are so grateful to have been included in this visit. Our children came straight back and asked to create a new Responsible Role 'Oceanographers'."

During the wider public open day, attended by 1,300 people, we had seventeen exhibits across six locations.

Autosub Long Range (ALR) attracted huge interest, as did the exhibits on Discovering the Deep (ROV), the Discovery Collections, Marine Geohazards, and life on board a research ship. The public also showed keen interest in the need for climate change, pollution, biodiversity and habitat loss research.

The event was a success thanks to support from 115 NOC staff and students during both days and many others in the days and weeks before the open days.

**1,300+**  
OCEAN OPEN  
DAY ATTENDEES  
ACROSS TWO DAYS

**17**  
UNIQUE EXHIBITS  
ACROSS SIX  
LOCATIONS



Guests were invited to explore the hidden microscopic world of ocean sediment cores

**190**  
PUPILS ATTENDED  
FROM TWELVE  
LOCAL SCHOOLS

**25**  
TEACHERS  
SUPPORTED ON  
THE SCHOOLS DAY

**115**  
STAFF & STUDENTS  
SUPPORTED THE  
TWO DAY EVENT

### OCEAN ROBOTS UNDER THE SPOTLIGHT AT POP23

We were thrilled to feature in Protecting Our Planet Day 2023 (POP23) in November. The event offered a full day of Inspiring climate talks, interactive activities and effective solutions, across life on Earth and in space, to thousands of learners around the UK.

Senior Robotic Systems Engineer Matt Kingsland reported on the most recent travels of ALR, and how it is working hard to monitor and protect the UK's cold-water corals. The segment, part of the "Protecting our Ocean" session, reached an incredible 54,696 learners, including 51,600 young people and 3,096 adults.

**54,696**  
LEARNERS REACHED DURING THE SESSION

**94%**  
OF THOSE REACHED WERE YOUNG PEOPLE



Chief Scientist Professor Penny Holliday appearing on our award-winning podcast, Into the Blue

### FIRST PODCAST MINI-SERIES

Our award-winning podcast, Into the Blue, launched its first ever mini-series this year diving deep into the subject of the Atlantic Meridional Overturning Circulation (AMOC). Guests from universities from across the UK and some of our own scientists, including Chief Scientist Professor Penny Holliday, came together to educate listeners about what the AMOC is, how we observe it and the consequences of its decline on the climate over four episodes.

The series was met with a positive reception and featured some of the podcast's most popular episodes, especially on YouTube, where we gained over 8,000 views. As our audience continues to grow into the Blue's third season, launched this summer, promises to be bigger and better than ever with new guests and subjects.

**31,900**  
TOTAL PODCAST VIEWS AND LISTENS

### **INSPIRING COLLABORATION FOR OCEAN ACTION**

We hosted our third parliamentary reception, titled "Ocean Challenges, Ocean Solutions", at the House of Commons, to discuss the ocean research and innovation needed to protect our ocean, planet and people.

The event saw leading experts from NOC come together with ocean stakeholders from across a wide range of industries, government and academia to facilitate vital discussion, innovative partnerships and collaboration for ocean action.

Across the key topics of climate change, biodiversity loss and pollution, lively conversation explored the importance of research in informing solutions for our ocean and climate, and the vital collaboration needed across sectors for this research to translate into action.

The work of the All-Party Parliamentary Group (APPG) for the Ocean was also presented, including the launch of the group's second inquiry report on the "Future of Ocean Technology" and the APPG's support of the Biodiversity of Areas Beyond National Jurisdiction Treaty.

### **SCIENCE BURSARY**

We have continued to host the collaborative West P&I Science Bursary to empower students and early career researchers in the field of marine science or oceanography.

Students selected for the latest round of the bursary receive six months' support from world-leading NOC scientists Dr Alice Horton, Dr Claire Evans, Dr Vanessa Monteleone, Dr Tillys Petit, Dr Sophie Clayton and Dr Sourav Sahoo.

Holly Evans, Head of Strategic Partnerships at NOC, said:

"We have a vital role to play in supporting the next generation of ocean scientists and this is a great opportunity for the students as well as the mentors."

The bursary, led by NOC's Dr Ben Moat, has been made available through the generous support of West of England P&I Club, a leading insurance provider to the global maritime industry.



Dr John Siddorn hosting "Ocean Challenges, Ocean Solutions" at the House of Commons



Antarctic veteran and sailor Stephen Wilkins visiting the Bellingshausen Sea in Antarctica.  
© Stefan Raimund/The Ocean Race



### MICROPLASTICS MISSION

We supported a pioneering collaborative science mission to undertake the first analysis of tiny microplastics (down to 30 microns) in Antarctica. Using a sailing yacht designed for polar expeditions, Antarctic veteran and sailor Stephen Wilkins visited the Bellingshausen Sea in Antarctica, spending two months amidst the ice, capturing 60 water samples – 40 while sailing and 20 while anchored.

Our scientists then helped to analyse the samples to understand the number, size and chemical composition of microplastics present using cutting-edge analytical techniques.

The project was driven by The Ocean Race, on which NOC is a scientific collaborator, with the goal of understanding the abundance, characteristics, sources, fate and impacts of microplastics – crucial for our understanding of the risks these contaminants pose to the unique Antarctic ecosystem.

The Ocean Race is contributing scientific data to the Ocean Decade Odyssey project, an endorsed Project of the UN Decade of Ocean Science for Sustainable Development.



Our Education Fund has enabled us to bring the ocean to life in the classroom with hands on exhibits

### **NEXT GENERATION OF OCEAN GUARDIANS**

This year, we launched our Education Fund, enabling businesses and philanthropists to support the education future ocean lovers. Supporting NOC's education projects will inspire future generations of ocean scientists and explorers, bring STEAM (Science, Technology, Engineering, Arts and Mathematics) learning to life through the expertise of scientists and engineers from diverse disciplines, create essential resources for both national and international communities, offer leading support for early career researchers and postgraduates, and safeguard the future of our oceans.

We play an important role in education and training future generations of scientists and informed citizens. If we want to see our ocean and our planet thrive, we must make sure our children understand our ocean and are empowered to shape its future.

Our education work brings STEAM learning to life for children and young adults, connecting them to the wonders of the ocean and the exciting careers that it provides. As well as providing leading training and development for our community of postgraduates and early career researchers.

### **CPD RECOGNITION**

A training course developed by the Marine Environmental Data and Information Network (MEDIN) 'Marine Data Management, Governance and the MEDIN tool set' has been granted Continuing Professional Development (CPD) recognition by the internationally renowned Institute of Marine Engineering, Science and Technology (IMarEST).

The accreditation serves as a testament to the course's quality and relevance in fostering expertise among professionals engaged in marine data management and governance.

This endorsement is set to have a positive impact on participants. Professionals completing the course will now earn CPD points, enhancing their professional profile and demonstrating their commitment to keeping up with industry advancements. This recognition also positions the course as a valuable resource for organisations seeking to invest in the continuous development of their marine data management personnel.

### ENHANCING SEDIMENT ANALYSIS CAPABILITIES

Our British Ocean Sediment Core Research Facility (BOSCORF) has proudly welcomed the Itrax FluoXRay X-ray fluorescence sediment core scanner, providing the only one in the UK capable of handling both wet and dry sediment samples. This advanced scanner builds on our history with Itrax core scanners, which have been in use here since 2004, contributing to over 300 scientific papers, including 100 in high-impact journals.

The new FluoXRay can measure a wide range of elements, from aluminium to uranium, at resolutions as fine as 200 micrometres up to 1 centimetre. This makes it vital for high-resolution studies, pollution analysis, and sediment provenance assessments. This marks another step in our commitment to offering top-tier analysis techniques to UK and international scientists.

**3,732**

SEDIMENT CORES  
APPROXIMATELY

**377**

SUBSAMPLES  
COLLECTED

**895m**

OF SEDIMENT  
CORES ANALYSED

**642**

HOURS OF  
ANALYSIS

**21**

INSTITUTES

**41**

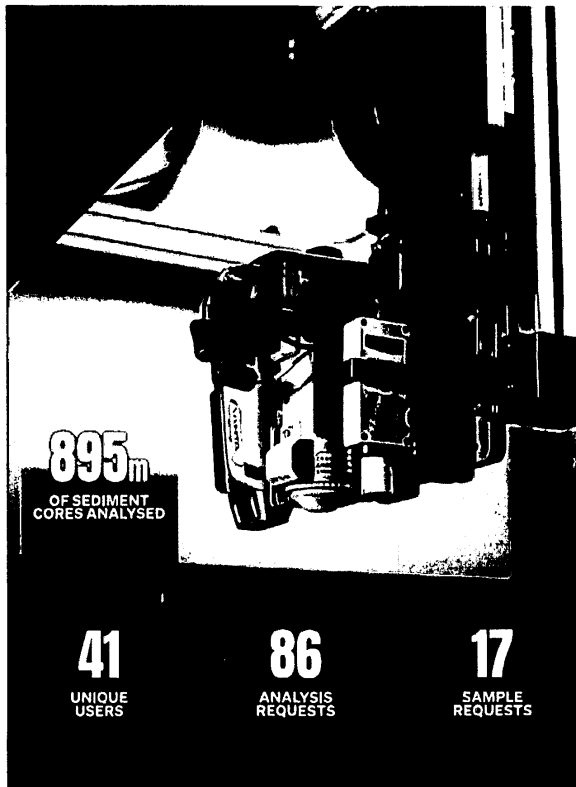
UNIQUE  
USERS

**86**

ANALYSIS  
REQUESTS

**17**

SAMPLE  
REQUESTS



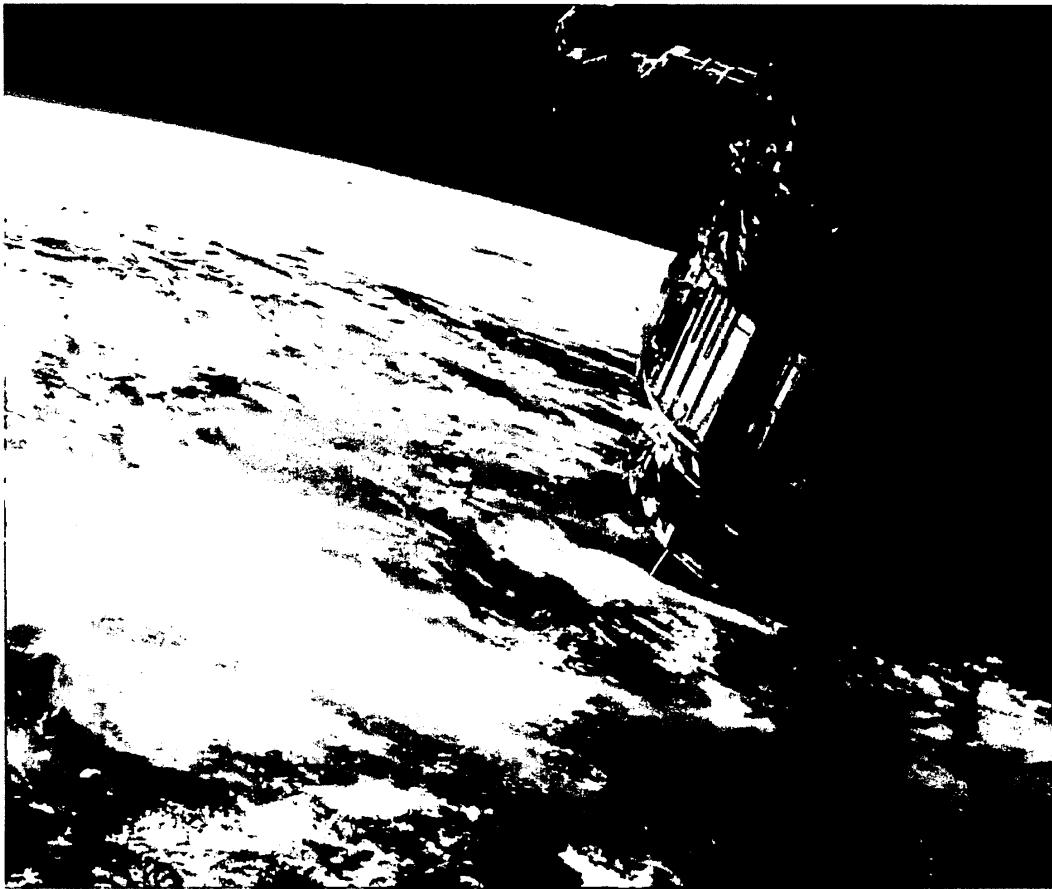


# TACKLING GLOBAL CHALLENGES TOGETHER

Address issues of national importance requiring interdisciplinary science; a strong emphasis in global influence

In our contemporary world, the challenges confronting the ocean are intricate and interwoven, yet also extend beyond mere geographic borders. NOC bridges these gaps. Through holistic, cooperative approaches we unite experts from diverse fields to confront pressing matters head-on.

We nurture international collaborations that both push the boundaries of scientific knowledge and contribute to the collective efforts of nations in addressing shared challenges. With visionary leadership, we are pioneers in tackling the multifaceted issues facing our ocean, making us a global leader in the realm of multidisciplinary science.





Alan Evans and Jess Allan hosting the Ocean Pavilion at COP28, working with our partners to highlight the need for improved ocean observations

### UNITED ON THE GLOBAL STAGE

We attended the 28<sup>th</sup> Conference of the Parties (COP28) to the United Nations Framework Convention on Climate Change (UNFCCC). As one of the world's leading centres of expertise on the ocean's interaction with climate, we partnered with leaders in ocean science, engineering, and policy to host the Ocean Pavilion

We joined partners of the Ocean Pavilion and associated stakeholders to call on world leaders to support and foster efforts to greatly expand and improve ocean observations worldwide to provide a basis for understanding ongoing natural and anthropogenic change and for planning mitigation and adaptation strategies.

Our delegation also led and participated in several key COP events, discussing hot ocean topics including new Greenhouse Gas Removal Pathways, stressing the need for rapid and rigorous scientific assessment of different approaches.

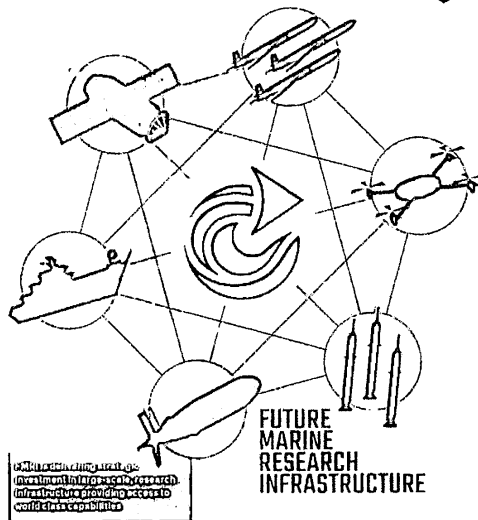
### UN OCEAN DECADE DITTO

Our scientists were prominent at the UN Decade for Ocean Science Digital Twins of the Ocean (DITTO) summit in Xiamen, China. The summit brought to scientists, technologists, and users from around the world and resulted in the Xiamen Statement.

### GRAND SCIENCE CHALLENGES

NERC's Future Marine Research Infrastructure (FMRI) programme, hosted at NOC, is making headway in developing a business case for investment in marine research infrastructure. Its initial focus is a Science Requirements Framework, "Marine Science in 2040", to shape recommendations, to be delivered at the end of 2025, for future, impactful and sustainable infrastructure.

FMRI also recruited a team of 15 Grand Challenge Champions to lead conversations around five grand science challenges, held roadshow workshops across the UK, as well as virtual meetings and conversations with key stakeholders, with a draft framework due to be presented at the Challenger Conference in September (2024).

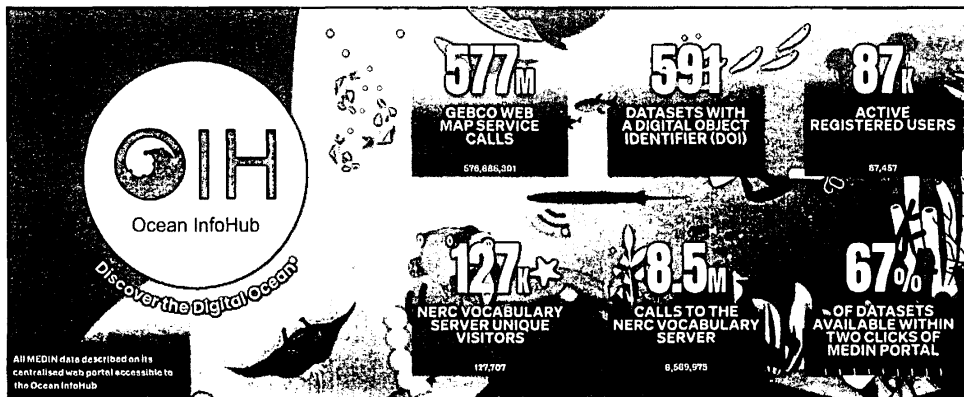
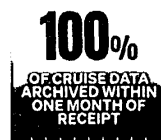


### SUPPORTING THE UN OCEAN DECADE DIGITAL INFRASTRUCTURE

The Marine Environmental Data and Information Network (MEDIN), hosted at NOC, has now made all the data described on its centralised web portal accessible to the UN Ocean Decade digital infrastructure, Ocean InfoHub.

Accessible ocean data is critical in developing our understanding of global environmental changes. This step has significantly improved the findability of UK marine data, supporting MEDIN's ethos of 'measure once, use many times.' Now, any data archived with an accredited MEDIN data centre, such as our British Oceanographic Data Centre (BODC), can be accessed from Ocean InfoHub.

This milestone has made MEDIN the biggest contributor to this globally important digital infrastructure to data and is another example of MEDIN providing global leadership in this area.

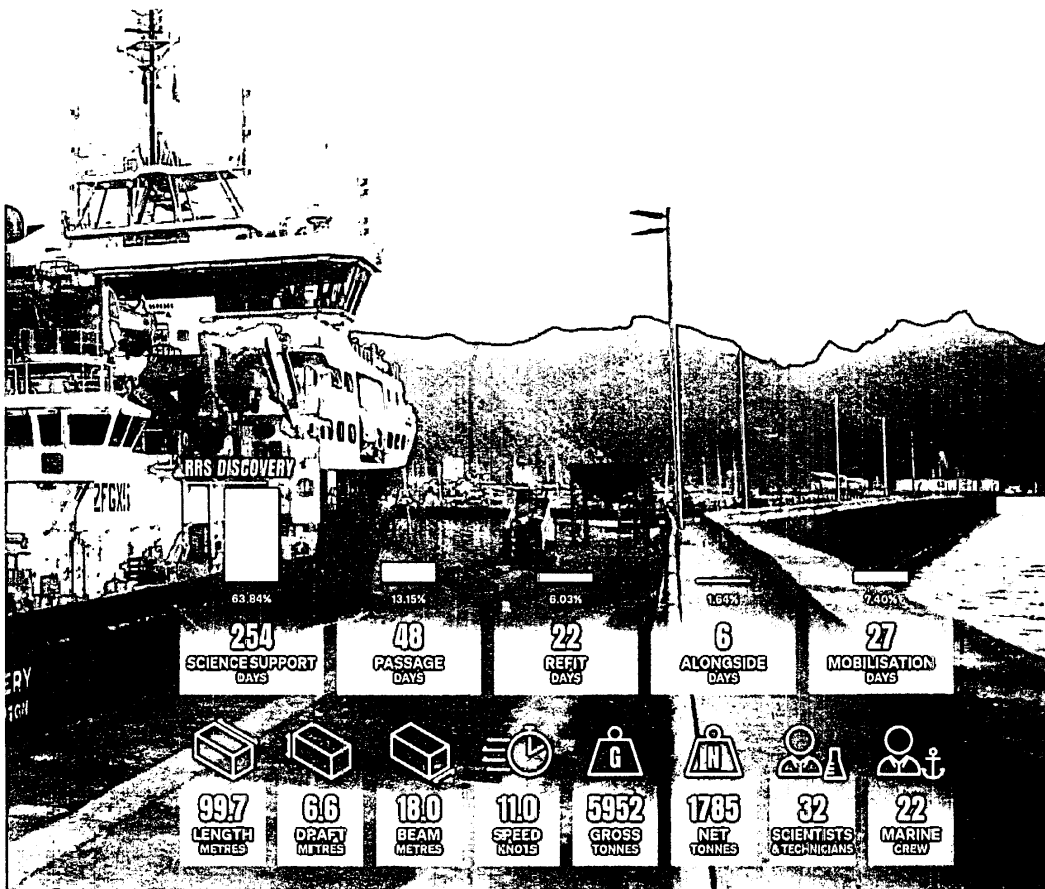




# SHIPS FOR GLOBAL SCIENCE

In the ever-evolving sea and ocean-scapes of scientific exploration, the NOC-operated research ships, RRS *Discovery* and RRS *James Cook*, have led remarkable expeditions in a testament to global co-operation and shared aspirations for the health of our ocean.

RRS *Discovery* and RRS *James Cook* are operated by the National Oceanography Centre on behalf of the Natural Environment Research Council.



## DY169 - NEWFOUNDLAND

Under the leadership of Fisheries and Ocean Canada (DFO), this charter continued the pivotal role in the ongoing Atlantic Zonal Monitoring programme.

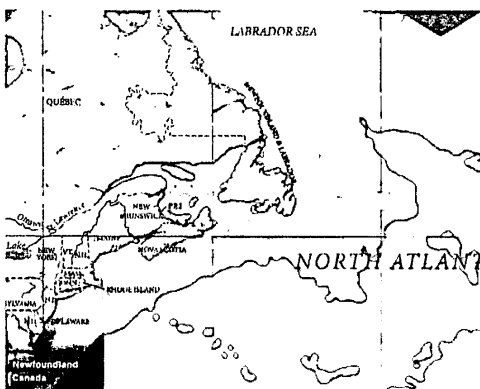
Starting in 1998, these annual expeditions focus on the comprehensive collection and analysis of biological, chemical and physical oceanographic data, including through the use of National Marine Equipment Pool (NMEP) systems.

Since 2000, the programme has consistently produced the State of the Ocean Condition Report, contributing significantly to the scientific community's understanding of the Atlantic Ocean's health and dynamics.

This was also the first year of a five-year collaborative framework agreement with DFO and Natural Resources Canada, which will see further charters and continued collaborative opportunities.

Lindsay Beazley, a Chief Scientist of DY169, said:

"This was another highly effective survey delivered by NOC. We very much appreciated the professionalism, great demeanour, and approachability of the Captain, crew, and NMF technicians on board. We very much look forward to working with NOC again."



## DY172 - SOUTH PACIFIC GYRE

RRS Discovery sailed out of Cape Town, South Africa, supporting a University of Southampton-led team to gather crucial data needed to study how nutrient limitation can impact how diverse microbes use sunlight. This could limit how these microbes "fix" carbon, but not necessarily other metabolic processes, an area which is not well understood.

To better understand these processes, the voyage gathered observations in two contrasting areas, the South Atlantic Ocean Gyre and the Southern Ocean high-nutrient, low-chlorophyll (HNLC) region, the largest of its type on Earth, down to as far south as 60° South.

The conversion of light energy into chemical energy in the ocean sets a key constraint on the amount of energy that sustains food webs, fisheries and drives the carbon cycle.

### DY173 - CONGO CANYON

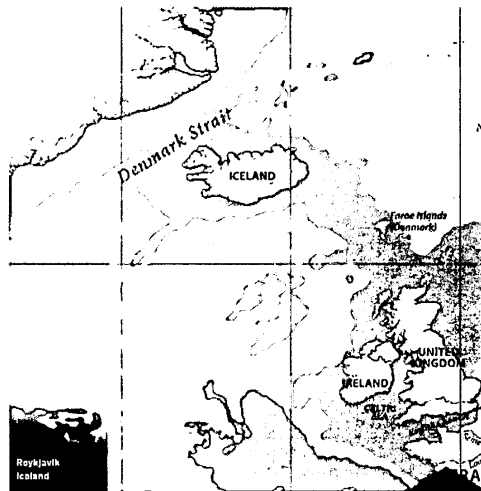
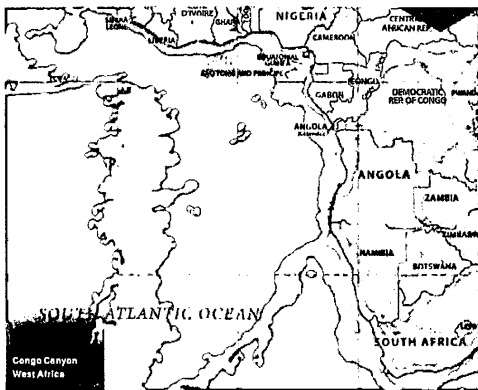
Led by Durham University, this expedition was part of two NERC-funded projects looking to directly measure what can be disruptive and damaging turbidity currents that flow along the floor of the Congo Canyon offshore West Africa and develop new ways to take those measurements using new hydrophone sensors.

The project extends long-term research in this area helping to better understand these currents and the impact they can have on the seabed. This includes their potential to damage vital submarine cables, such as in 2020, when it took 20-25 days to repair submarine cable connections to West Africa following a major turbidity current event.

New technologies to measure these currents will enable better knowledge allowing cables to be laid in lower-risk areas.

Prof. Pete Talling, Chief Scientist of DY173, said:

"In a general sense, I think that the UK marine science community is very fortunate to have this extremely efficient and flexible level of support at NMF, which focusses on getting the job done effectively."

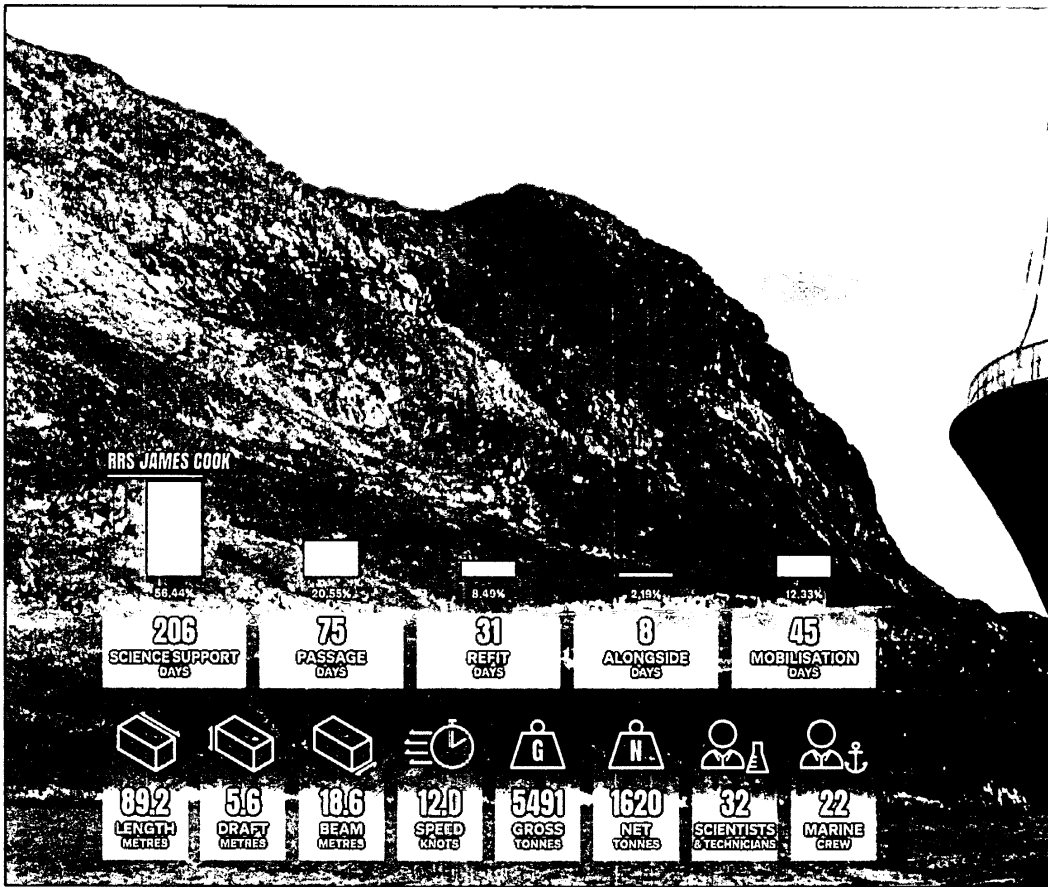


### DY182 - MID ATLANTIC RIDGE

The DY182 expedition was part of the Overturning in the Subpolar North Atlantic Program (OSNAP), an international effort to study ocean currents and their impact on heat and freshwater movement in the North Atlantic. The program involving scientists from the UK, Netherlands, Germany, France, Canada, and China, is crucial for understanding changes in the North Atlantic ocean circulation and its broader environmental impacts.

The expedition managed and maintained equipment that measures ocean currents and conditions between Iceland and the Irminger Basin, including recovering and redeploying 12 monitoring stations along the Mid Atlantic Ridge.

They collected water samples and measured ocean properties like temperature, salinity, and currents at about 42 locations along this line. They also gathered continuous data on ocean currents, weather conditions, and surface temperature and salinity throughout the expedition, with additional water sampling and measurements at specific points along the route.







### JC260 - BARBADOS

Our scientists in collaboration with Seafields, Integrated Environmental Solutions (INES) and the University of the West Indies, Cave Hill Campus Barbados (UWI), started a project in the Caribbean to improve our understanding of the potential effects of using seaweed to store carbon dioxide from the atmosphere. The project is co-funded by the UK Foreign, Commonwealth and Development Office.

The first phase of the project was a thorough assessment of the experimental sites that will be used in Barbados – which was completed onboard the RRS James Cook. Scientists from all organisations participated in the research expedition, which mapped and sampled the seafloor and overlying water column at depths of 1000m and 4000m.

Dr Chris Pearce, Chief Scientist of JC260, said:

"Given the nature of this cruise and what we wanted to deliver, I cannot think of any manner in which it could have been handled or delivered better. The whole team excelled and were incredibly helpful, informative and engaged.

A huge thanks to everyone involved at all stages."

### JC263 - PORCUPINE ABYSSAL PLAIN

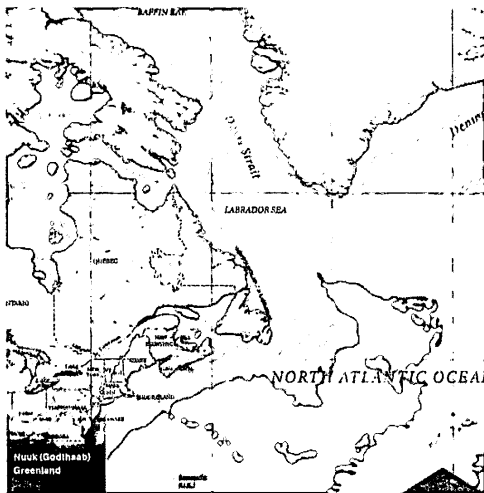
NOC researchers visited the Porcupine Abyssal Plain Sustained Observatory (PAP-SO) in the North Atlantic was the first as part of the new NERC-funded Atlantis programme, delivering the latest observations and data on essential ocean variables.

Sitling at 4,850 m depth, PAP-SO is the world's longest running abyssal ecology time-series station, monitoring seafloor ecology since 1985, water column particle flux since 1992 and surface ocean and atmosphere parameters since 2003.

The latest expedition to PAP-SO used a combination of traditional approaches and cutting-edge technologies to bring scientific understanding to long-term change in the ocean – from surface to seafloor.

The cruise also contributed to other programmes, including Integrated Carbon Observing System (ICOS), OceansITES and Minke. The expedition team was supported by NEODASS who provided satellite data daily.





**JC268 - LABRADOR SEA**

NOC researchers undertook a two-week expedition out of Greenland to set up an ambitious, targeted field experiment as part of the NERC-funded Resolving Biological carbon Export in the Labrador Sea ReBELS project.

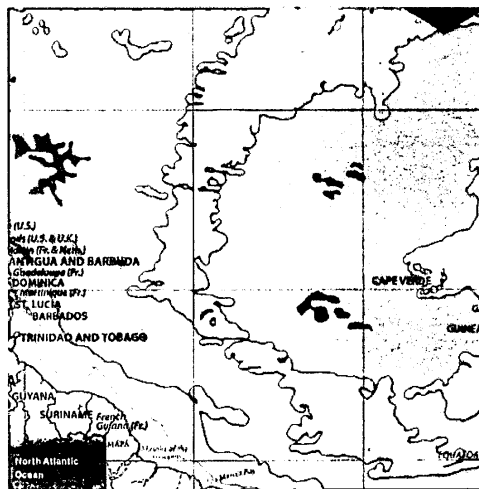
The project involved close collaboration between oceanographers with expertise in the biological carbon pump, ocean dynamics and the use of state-of-the-art autonomous platforms to help understand and quantify the transport of oceanic organic carbon into the deep sea and its effect on ocean carbon storage. This saw a year-long ocean observatory set up using autonomous observing technologies, paired with traditional carbon flux measurements.

Combined with novel data analysis techniques, this will allow the different elements of the biological carbon pump to be quantified through a full annual cycle in the north west North Atlantic. This will help improve climate models in order to predict North Atlantic carbon draw-down with greater confidence.

**JC254 - MID-ATLANTIC RIDGE**

The second ULTRA expedition focused on exploring and sampling the Mid-Atlantic Ridge to better understand seafloor massive sulphide (SMS) deposits. Using the ROV Isis, the team recovered samples to be analysed for their composition and sources. Additional rock samples were collected from the deposits, and vent fluids and gases were sampled from active hydrothermal chimneys.

The team also deployed 23 Ocean Bottom Seismometers to record vibrations from a low-frequency seismic source, helping image the structure of the mineral deposits and surrounding rocks. Seismic-while-drilling techniques were used to explore the sub-seafloor structure, correlating vibrations from the drill with those recorded at the seafloor. GEOMAR, a partner from the German oceanographic institute, conducted an Electro-Magnetic (EM) survey using their MARTEMIS instrument to image the conductivity structure beneath the seafloor and locate areas with sulphide minerals.





## UNDERPINNED BY SUSTAINABILITY AND SOCIAL RESPONSIBILITY

NOC's commitment to Corporate Social Responsibility (CSR) is the compass that guides its research, innovation, and outreach activities. It shapes our decisions, influences partnerships, and ultimately, helps create a more sustainable, equitable, and prosperous world. Through this commitment, we showcase the importance of aligning scientific endeavours with ethical principles, setting a powerful example for organisations and individuals worldwide.

Our commitment can be broken down into four categories:



## PEOPLE

Our people are passionate about what they do, have huge potential and collectively we deliver great things. Our strengths lies in the world-leading interdisciplinary experience, skills and the contribution of roles of every one of our people. Our ability to continue to grow and thrive relies on making NDC a great place to work.



## COMMUNITY

We recognise that our actions impact the local and global community, so we are committed to fostering positive relationships, knowledge sharing, and collaboration. Our engagement with the community extends from outreach and education initiatives to partnerships with local organisations, ensuring that our scientific research benefits society as a whole.



## ENVIRONMENT

Our purpose is to gain a deeper knowledge of the oceans to help every living thing on our planet flourish. In light of our purpose, Environmental Responsibility is one of our organisation's values and for years we have worked on improving the management of the resources we use and the footprint we leave.



## BUSINESS OPERATIONS

Our commitment to sustainable business operations extends to responsible procurement, ethical governance, and promoting awareness and good governance within its workforce. By prioritising these aspects of business operations, we not only set a positive example for others but also ensures the long-term resilience and capacity to fulfill our scientific mission.



### BEHAVIOURS FRAMEWORK

Working with our colleagues we have created improved tools to enable and support how we work with each other, to enhance our culture and to work in partnership.

The framework promotes behaviours that enhance teamwork, fostering a positive atmosphere and a strong culture where everyone feels supported and respected. This encourages everyone to do their best work. Additionally, this framework lays the groundwork for future people and culture initiatives including our Career Pathways and refreshed Performance Management approach and system, to be launched next year.

### PEOPLE

#### UNITE IN PRIDE

### PEOPLE

This year we built upon the success of our first event, hosting our pride celebration and flag-raising event across our NCO sites.

We turned our attention to trans rights, both locally and globally, hosting a fireside Chat with Jo Lockwood, an inclusion expert and speaker, Founder and CEO of SEE Change Happen. During this 'ask me anything' session Jo talked about her journey to transition to help NCO continue to foster a culture of inclusivity, understanding and support for our colleagues, friends and families.





Professor Stephanie Henson receiving the European Geosciences Union's 2024 Fridtjof Nansen Medal

### PROF. HENSON RECEIVES FRIDTJOF HANSEN MEDAL PEOPLE

Professor Stephanie Henson, NOC Principal Scientist received the European Geosciences Union's (EGU) 2024 Fridtjof Nansen Medal for distinguished research in oceanography at the EGU General Assembly this year.

Steph received the award for her outstanding contribution to a topic of fundamental significance to Earth's carbon cycle: how phytoplankton populations and subsequent carbon fluxes, respond to climate variability and climate change.

### FUTURE LEADERS FELLOWSHIP PEOPLE

Dr Anna Lichtschlag was awarded the UK Research and Innovation's (UKRI) Future Leaders Fellowship. Dr Lichtschlag is amongst 75 promising research leaders awarded by UKRI, who will benefit from £101 million to tackle major global issues. The Future Leaders Fellowship allows universities and businesses to develop their most talented early career researchers and innovators.

Dr Lichtschlag is using the award to lead on project SANDMAN, which will develop a new instrument to measure gradients of important biogeochemical compounds directly within seafloor sediments.

### AWARDS AND ACCREDITATION PEOPLE

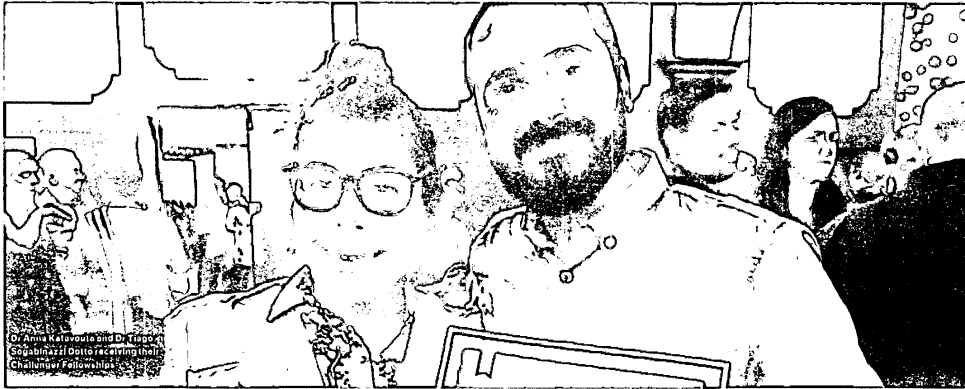
We have had many proud moments this year, we are delighted to have been awarded Employee of the Year at the Mersey Maritime Industry Awards, recognising NOC's strong growth and future potential in the North West region.

At the Hampshire Business Awards, we received the award for our Equality, Inclusivity & Diversity Initiatives, recognising the work and drive to continue to foster a culture of inclusivity.

In recognition of the progress NOC has made with our Diversity, Equality and Inclusion, we have been awarded the Bronze Standard from the Employers Network for Equality and Inclusion's (enei), Talent Inclusion and Diversity Evaluation. This useful benchmarking tool has allowed us to understand the impact of our work to date and provide feedback for us to continue to make this an important priority.



Dr Lichtschlag is developing a new instrument to measure compounds directly within seafloor sediments.



**PROF. HOLLIDAY AWARDED CHALLENGER MEDAL**



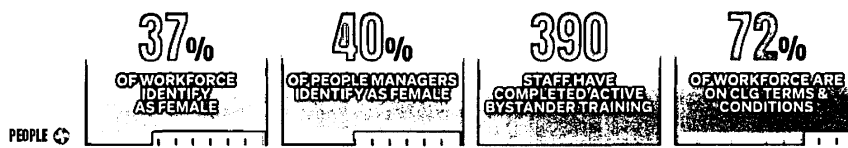
We were delighted to congratulate our Chief Scientific Officer Professor Penny Holliday, who was presented the prestigious Challenger Medal at this year's Challenger Conference. The Challenger Medal is the premier award of the Society, for a distinguished UK marine scientist or other person who has made a single major contribution, or a sustained contribution, to the development of marine science, or whose innovation has opened up new perspectives.

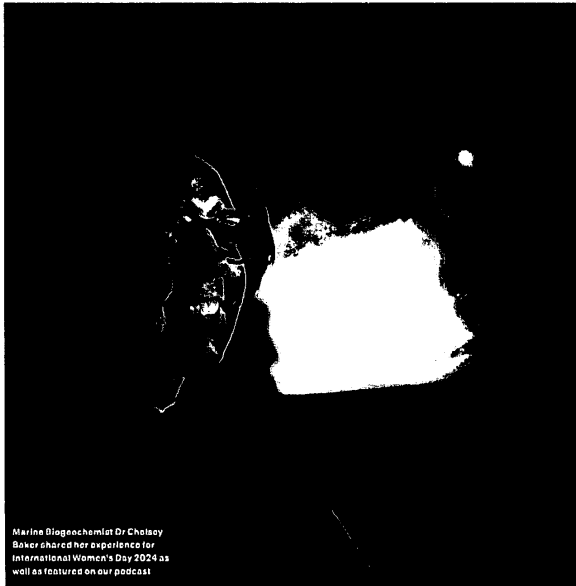
**CHALLENGER FELLOWSHIPS**



Challenger Fellowships were awarded to Dr Anna Katavouta and Dr Tiago Segabinazzi Dotto at this year's Challenger Conference. This recognition is reserved for early career scientists to acknowledge their outstanding accomplishments or potential in a branch of marine science. The fellowship was created by the Challenger Society in 2000 and is awarded biennially to members of the Society.

**OUR PEOPLE STATISTICS**





Marine Biogeochemist Dr Chelsey Baker shared her experience for International Women's Day 2024 as well as featured on our podcast

### INTERNATIONAL WOMEN'S DAY

PEOPLE

In celebration of International Women's Day, we held a week of events, aiming to inspire our people to understand and value Women's inclusion. We delivered events focusing on inclusive language and communication, how to be an active ally to Women in NOC and heard from inspiring external speakers from women in engineering and top of science.

### NEURODIVERSITY CELEBRATION

PEOPLE

We delivered a week of activities aimed at supporting and improving understanding for colleagues with neurodiversity's and neuro-inclusive allies. This included creating resources for staff and managers, and workshops and events celebrating neurodiversity to improve understanding of the value and impact neurodiversity has at NOC.

We also launched our Neurodiversity Group, inviting anyone who identifies as neurodivergent (whether diagnosed or not), to share their lived experience and feed into the NOC Culture Club that helps design and deliver future events and initiatives.

### ENGAGEMENT SURVEY

PEOPLE

We have embarked upon an annual People Engagement Survey, this is a route to get open and honest feedback from our people to understand what we are doing well and where we can improve.

This provides a great opportunity to have the wider NOC leadership team involved in developing the outputs from the Engagement survey by creating the action plans. The insights gathered from the survey will be instrumental in helping us make NOC an even better place to work for everyone.

**138**

MANAGERS HAVE COMPLETED OUR DEVELOPMENT PROGRAMME

**16**

EMPLOYEE'S TRAINED AS MENTAL HEALTH FIRST AIDERS

**10%**

OF EMPLOYEE'S HAVE FORMAL FLEXIBLE WORKING

**151**

VACANCIES FILLED



Our @OBCORP facility successfully achieved Silver LEAF Status reflecting our commitment to sustainability

## ENERGY

We monitor and manage all our utilities and waste very proactively and have achieved our ISO45001 ISO accreditation for our Environmental Management System this year.

We worked with our partner Team Energy to review our Energy Performance Certificate for our Southampton Site and after significant investment have had this increased to a rating of C. We have reduced our energy consumption by 100%.

In alignment with our commitment to decarbonisation, we have initiated a comprehensive upgrade of our energy monitoring systems. This initiative focuses on implementing advanced metering solutions that provide detailed insights into our energy consumption patterns and by identifying high-consumption areas, we can strategically target improvements to reduce our carbon footprint. This capability will support our broader goals of sustainability and operational efficiency.

## ENVIRONMENT

## LEAF

This year we embarked on the Laboratory Efficiency Assessment Framework (LEAF), a standard set by University College London to improve the sustainability and efficiency of laboratories.

Laboratory-based research is essential for advancing society, but it is also extremely energy and resource-intensive. We are proud to announce that NOC has joined over 100 global institutions already taking part.

We are proud that 100% of our laboratories have now been awarded Bronze and we have 4 labs that have already achieved Silver.

## ENVIRONMENT

## PROCUREMENT

### BUSINESS OPERATIONS

As NOC continues to grow and evolve, we all recognise the importance of making responsible choices that benefit not only our company but also the environment and society as a whole.

This year we launched our Sustainable Procurement Strategy recognising that we need to take a comprehensive view of our entire supply chain and work closely with our suppliers to ensure social responsibility is at the heart of what we do. This is a long-term strategy that has six key areas of focus:

1. Ensure prudent use of natural resources and reduction of waste in the supply chain
2. Support the management of our carbon impact
3. Seek out opportunities to increase supply from UK manufacturers
4. Work with internal departments to embed sustainable procurement
5. Management of the delivery of goods and services through effective contracts
6. Work with suppliers to implement ethical working practices and reduce any risk of modern slavery across the NOC's supply chain

## MODERN SLAVERY

### BUSINESS OPERATIONS

We remain committed to fulfilling our corporate responsibilities in relation to the Modern Slavery Act and to preventing modern slavery and human trafficking in our business activities and supply chains. This is demonstrated through our robust governance frameworks, our corporate values and our own CSR goals.

During 2023/24, some of the below activities were undertaken to contribute towards our commitments in this area:

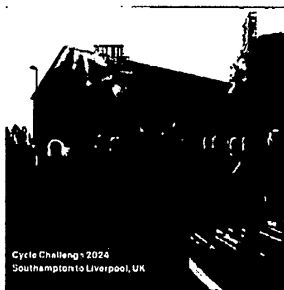
- Our procurement strategy considered Modern Slavery risk prevention by asking suppliers to meet a Code of Conduct that reflects the requirements of the Modern Slavery Act. Where this wasn't possible, NOC asked for equivalent standards to be met.
- We delivered Modern Slavery training to all staff and raised awareness by publishing internal newsletters and displaying posters in key areas which cover the signs of Modern Slavery and how to make reports.
- We launched a new internal whistle blowing phone line with an anonymous function available.
- We registered with the UK Government's Modern Slavery Assessment Tool and intend to use the results of the assessment to direct future improvement.



We are working to ensure that every pallet and box in our supply chain is sourced responsibly, supporting the fight against modern slavery.



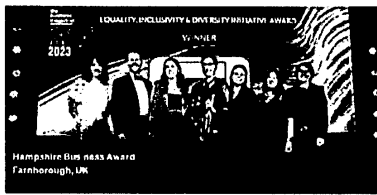
Unite In Pride 2024  
Southampton & Liverpool, UK



Cycle Challenge 2024  
Southampton & Liverpool, UK



Future Careers Event  
Nuuk, Iceland



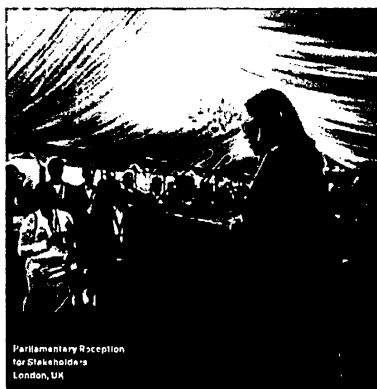
Hampshire Bus 1683 Award  
Farnborough, UK



Marine Autonomy Technology  
Showcase (MATSC0231)  
Southampton, UK



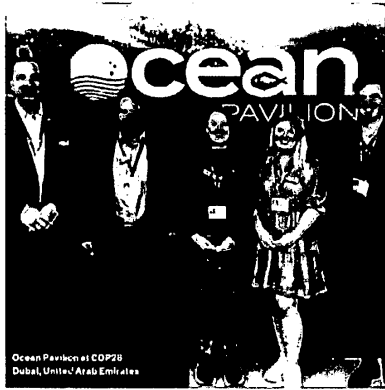
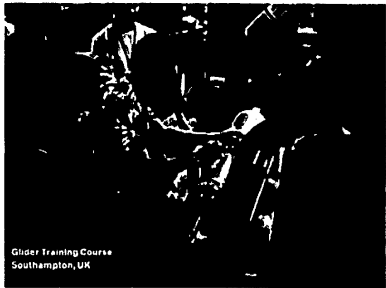
Royal Society Summer Science  
Exhibition 2024  
London, UK

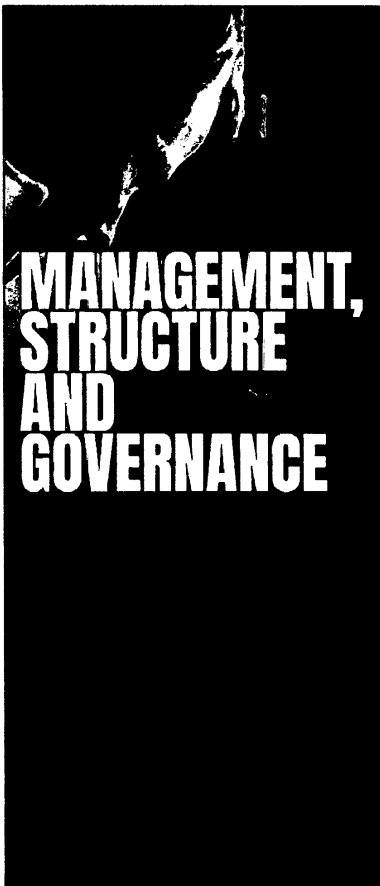


Parliamentary Reception  
for Stakeholders  
London, UK



Conservative Party Conference  
Birmingham, UK





**OVERVIEW**

NOC was incorporated on 2 July 2018 as a charitable company limited by guarantee and commenced trading on 1 November 2018. It is registered as a charity with the Charity Commission in England & Wales and the Scottish Charity Regulator and is governed by articles of association in accordance with the Companies Act 2006.

**OUR BOARD**

**ORGANISATIONAL STRUCTURE AND DECISION-MAKING POLICIES - BOARD OF TRUSTEES**

NOC's Board of Trustees, who are also Non-Executive Directors for the purposes of company law, have overall responsibility for ensuring that NOC is carrying out its purpose for the public benefit; the continued financial viability of the organisation; and for ensuring that we meet all our legal and compliance requirements. The Trustees oversee the day-to-day delivery of NOC's strategy, which is led by the Executive Committee. Trustee Directors are appointed by the existing Trustee Directors for a term of three years and are eligible for re-appointment for a further three years. The Board of Trustees during the financial year was as follows:

**DIRECTORS**



Sir Jeremy Darroch  
Chair



Dr Ruth Bumphrey



Prof Sir Ian Boyd



David Gee



Daniel Hook



Sarah Kenny OBE  
Retired 2<sup>nd</sup> July 2024



Dr Sarah McMath



Sir Michael Dixon  
From 15<sup>th</sup> March 2024



David McSweeney  
From 8<sup>th</sup> Apr 2024



Clare Harbord  
From 8<sup>th</sup> May 2024

**NOC EXECUTIVE ATTENDEES**

Prof. Ed Hill CBE (Outgoing CEO), Julie Pringle-Stewart (Company Secretary), Prof. Penny Holliday (Chief Scientific Officer) and Dr John Siddorn (CEO).

**OBSERVERS**

Alison Robinson (NERC), Mark Inall (NOC Association) and Simon Durbin (NERC).

#### **DELEGATION OF DECISION MAKING - EXECUTIVE COMMITTEE**

The Board delegates the day-to-day leadership and operations of NOC to its Executive Committee, which is made up of the Chief Executive Officer; the Chief Operating Officer/Chief Financial Officer; the Chief Scientific Officer and five Associate Directors. The Executive Committee meets monthly, reviewing progress against NOC's goals; the KPIs set by the Board; and both current and longer-term priorities for the organisation. The Board has approved a formal Statement of Delegations for the Executive Committee to allow them to conduct the business of the organisation effectively. During the financial year, the Board approved an updated Executive Roles and Responsibilities framework, setting out accountabilities for each member of the Executive Committee.

#### **BOARD MEETINGS**

The NOC Board meets formally at least quarterly. Standing items covered in Board meetings include strategy, performance, risk and compliance, Health, Safety & Environment (HSE) and Corporate Social Responsibility (CSR). The Executive reports quarterly to the Board on progress against KPIs set at the start of the financial year, which cover each of NOC's goals. Throughout this year, to provide assurance to the Board that NOC are meeting the principles and recommendations, and to promote board discussion in each area, the progress against each of the principles of the Charity Governance Code has been shared. Deep dive topics have included Culture including Equality, Diversity and Inclusion (EDI), Health, Safety & Environment (HSE), Risk Management, Financial Sustainability and Corporate Social Responsibility (CSR), as well as key science projects and achievements. The Board has continued to look at strategic topics and held an away day with the Executive in October to discuss the new NOC Strategy 2025-2035, alongside key topics such as the organisation and funding, overall health and the role of NOC Innovations.

#### **DELEGATION OF DECISION MAKING - COMMITTEES**

The Board of Trustees has established four formal committees: the Audit & Risk Committee; the Nominations Committee; the Remuneration Committee; and the Scientific and Technology Advisory Committee. Their role is to undertake detailed scrutiny of specific subject matters and to make recommendations on those topics. The committees are chaired by a Trustee Director appointed by the Board and report directly to the Board. NOC also has a Finance and Investment Committee which is a sub-committee of the Board and reports directly to them. The constitution of the committees and their respective Terms of Reference are reviewed at least annually.

#### **AUDIT AND RISK COMMITTEE**

The Audit and Risk Committee is chaired by David Gee and meets quarterly. On behalf of the Board, it has overall responsibility for financial reporting and controls; risk management; audit; and whistle-blowing. The committee acts independently from the

NOC Executive, to ensure that the interests of the charity are properly protected and to ensure the integrity of the company financial reporting. Standing items within the agenda include cyber security and GDPR. Each quarter the committee also completes a deep dive into one of the strategic risks being managed across the business. During 23/24 the committee reviewed our key compliance policies, our annual financial business planning and targets and appointed our auditors.

#### **REMUNERATION COMMITTEE**

The Remuneration Committee was chaired by Sarah Kenny OBE, however she retired from her trustee role during the 23/24 financial year. Sir Michael Dixon has chaired the committee from July 2024. The Committee meet quarterly. It provides a forum for developing policy on trustee and executive remuneration; to recommend levels of remuneration for Directors; and to review the remuneration policy and reward package for all employees. It oversees any major changes in the employee benefits structure throughout the organisation. During the 23/24 year, the Committee reviewed and approved the executive team's objectives, executive pay and executive performance pay and the overall pay policy for NOC. The Committee also approved NOC's Gender Pay gap submission.

#### **NOMINATION COMMITTEE**

The Nomination Committee has the role of leading the process for Board appointments and making recommendations to the Board and meets at least twice a year. It is chaired by Sir Jeremy Darroch and is responsible for long-term succession planning for future trustees, seeking to ensure there is a formal, rigorous, and transparent procedure for the appointment of new directors to the Board and reviewing and evaluating the balance of skills, knowledge, experience and diversity on the board. The Board analyses the capabilities of the existing Trustee Directors using a skills matrix, which is reviewed annually. The committee had oversight of the recruitment process to successfully appoint three new trustees in this financial year.

#### **SCIENCE AND TECHNOLOGY ADVISORY COMMITTEE**

The Science and Technology Advisory Committee is chaired by Professor Sir Ian Boyd. Its remit is to provide independent advice to support the Board of Trustees and the Director Science & Technology in their responsibilities for development and delivery of the research strategy for NOC and on sustaining the quality and impact of NOC's research performance, its research environment and the health of its intellectual capital base. The committee is chaired by a member of the NOC Board and has a membership of no more than 10 people with expertise covering the breadth of NOC's main areas of scientific research and technology development. Members are drawn from outside NOC, taking due consideration of diversity, and bringing stakeholder and international perspectives commensurate with NOC's role as one of a relatively small number of large-scale oceanographic institutions in the world.

### FINANCE AND INVESTMENT COMMITTEE

The Finance and Investment Committee is chaired by the Chief Financial Officer, Julie Pringle-Stewart. Its remit is to have overall financial oversight of the NOC and has delegations to make investment decisions on behalf of the Board within a financial limit. The Committee ensures that the NOC has the reserves and investment required for long-term success and to meet the strategic objectives of the organisation. The Committee reports directly to the NOC Board and provides assurance to the Board of the financial performance and recommended treasury and investment decisions. Key outcome of the committee this year has been the commitment to re-invest over £1.5m of reserves on innovative research projects and technology.

### TRUSTEES' INDEMNITIES

Under NOC's governing documents, directors and former directors are entitled to an indemnity against liability incurred by them to a third party in the proper performance of their duties as a director or officer of NOC. The governing document also gives NOC powers to provide indemnity insurance for the Trustees in respect of liability arising from breach of trust or duty, negligence, subject to the conditions of s.189 of the Charities Act 2011 (which excludes from such insurance any criminal and regulatory fines and penalties). NOC maintains such insurance for the Trustees, with an annual cap on liability.

### PAY POLICY FOR SENIOR STAFF

This year one Trustee received remuneration as disclosed under note 7 to the financial statements. Details of Trustees' expenses incurred in the course of their duties and reimbursed are disclosed under note 7. The Remuneration Committee has responsibility for developing, implementing and reviewing the remuneration, considering market value; performance; capabilities, values and leadership behaviours, and using up to date and relevant comparative salary information. The Chair of the Remuneration Committee recommends the remuneration package of the Chief Executive Officer to the Chair of the Board, who in turn reports to the Board.

### INDUCTION AND TRAINING OF TRUSTEES

As part of our on-boarding process, new Trustees receive an induction to introduce them to our work, which includes an introduction to each member of the Executive team, presentations, tours and meeting various colleagues to learn about the different functions of NOC. NOC also provides a trustee handbook with guidance on both NOC itself, and on charity governance requirements. The trustees also have an annual programme of reviewing the Charity Governance Code, to review compliance and achievements in this area, and review one or two topics of the code each quarter. This year Trustees (including those newly appointed) have undertaken GDPR training and Cyber Security training. Newly appointed Trustees also attended a welcome day event in June 2024 as a formal introduction to NOC.

### REVIEW OF BOARD PERFORMANCE

The board's performance is reviewed internally every year, with an external effectiveness review undertaken every three years. An internal review of Board Effectiveness was undertaken in the summer of 2024, with input from Trustees via a questionnaire and followed up at a meeting of the Board. The actions and improvement areas that were identified will be implemented during the next financial year. The next external effectiveness reviews due to be undertaken in 2025.

### SUBSIDIARY GOVERNANCE AND RELATED PARTIES

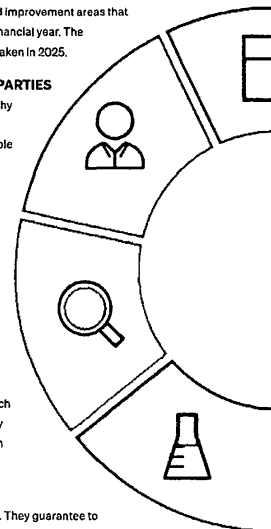
NOC's wholly owned subsidiary, National Oceanography Centre Innovations Limited ('NOC Innovations'), was established in 2019 as a private limited company. Its role is to undertake more applied and commercial work, to facilitate knowledge exchange and encourage innovation. It has covenanted to donate to NOC all profits earned which it may legally donate and to re-claim gift aid on its profits to NOC. The NOC Innovations Board is chaired by David Gee, and its other directors are members of the Executive Committee. The NOC Innovations Board meets quarterly. Its Managing Director, Huw Gullick, provides regular updates to the NOC Board of Trustees on the activities and financial reporting of NOC Innovations. NOC is eligible to bid for funding from UKRI, including the Natural Environment Research Council (NERC). NOC manages the National Capability funding on behalf of NERC, working in partnership with marine centres throughout the UK.

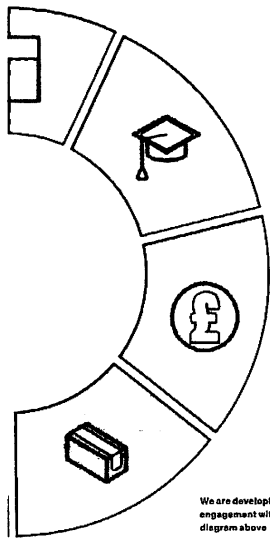
### MEMBERS OF NOC AND LIABILITY

The Members of the Charity are the Trustee Directors. They guarantee to contribute an amount not exceeding £1 to the assets of the Charity in the event of winding up.








### OUR STAKEHOLDERS

During the year, NOC has continued developing formal framework for engagement with stakeholders, led by the Executive Committee, with the Board being briefed on and involved with setting the strategy. The Board reviewed its interaction with stakeholders, and that of NOC as a whole, as part of its annual Board Effectiveness review in August 23 and is developing actions to embed and extend stakeholder engagement further during the next financial year.





**OUR EXECUTIVE COMMITTEE**

-  OUR EMPLOYEES
-  YOUNG PEOPLE & STUDENTS
-  OUR FUNDERS
-  OUR SUPPLIERS
-  SCIENTISTS, ENGINEERS & RESEARCHERS
-  MARINE RESEARCH ORGANISATIONS & PUBLIC AUTHORITIES
-  PUBLIC IN THE UK & WORLDWIDE

We are developing actions to embed and extend engagement with our key stakeholders outlined in the diagram above



**DR JOHN SIDDORN**  
CHIEF EXECUTIVE



**PROFESSOR ED HILL CBE**  
OUTGOING CHIEF EXECUTIVE



**PROF. PENNY HOLLIDAY**  
CHIEF SCIENTIFIC OFFICER



**JULIE PRINGLE STEWART**  
CHIEF OPERATING OFFICER  
CHIEF FINANCIAL OFFICER



**DR JON BLOWER**  
ASSOCIATE DIRECTOR  
DIGITAL OCEAN



**NATALIE CAMPBELL**  
ASSOCIATE DIRECTOR  
CORPORATE BUSINESS SUPPORT



**PROF. DOUG CONNELLY**  
ASSOCIATE DIRECTOR  
SCIENCE AND TECHNOLOGY



**DR MAATEN FURLONG**  
ASSOCIATE DIRECTOR  
NATIONAL MARINE FACILITIES



**HUW GULLICK**  
ASSOCIATE DIRECTOR  
NOC INNOVATIONS AND ENGAGEMENT

## PUBLIC BENEFIT STATEMENT

In setting the vision and mission for the NOC, the Trustees gave due consideration to the guidance on public benefit, as outlined by the Charity Commission of England and Wales and the Scottish Charly Regulator OSCR.

NOC's key driver for selecting topics for research is always what will take ocean science forward for the furtherance of our charitable purpose, our touchstone in all endeavours is increasing knowledge to deliver public benefit.

NOC and our trading subsidiary, NOC Innovations, bring benefits in a number of ways, including through scientific research, marine technology, education, information and advice. Through our work, we aim to:

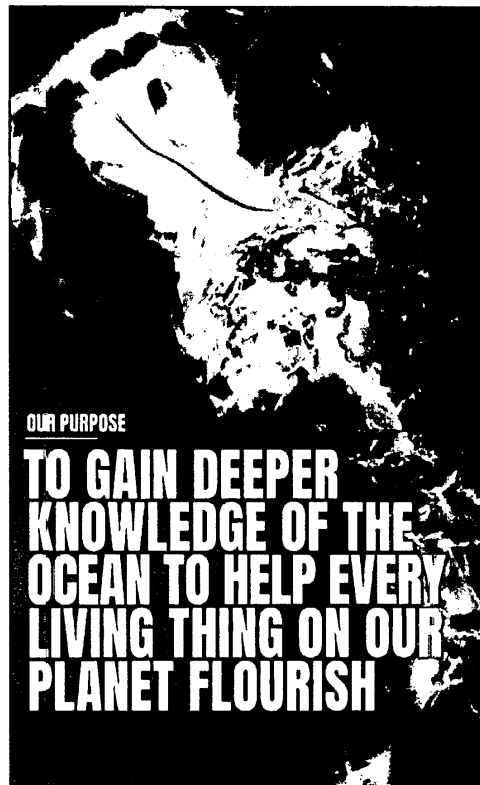
- Support sustainable development protecting the ocean's future health
- Protect people and economic infrastructure from marine-related disasters
- Making sense of global environmental changes in which the ocean is deeply implicated
- Educate humankind to understand scientific evidence about the ocean's role in our lives
- Address issues of national importance requiring inter-disciplinary science
- Underpinned by sustainability and social responsibility

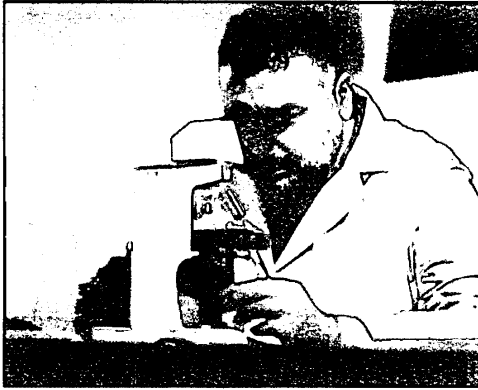
To enable the organisation and individuals to exercise independent discretion in decision making we have established an Activity Decision Tree. Its general principles are applied when deciding whether activity is routed through the National Oceanography Centre (NOC) or the trading subsidiary: National Oceanography Centre Innovations Limited (NOC Innovations Ltd). This includes examination of ethical considerations, reputational risks, organisation and scientific independence of NOC, where the benefit is accrued and risk and mitigations thereof.

Where contract research is undertaken by NOC we do so in line with the Commission's guidance on Research by Higher Education Institutions, and ensure it is funded at full economic cost, often by matching funding across the portfolio. NOC retains scientific control of any IP licensed so that it can continue to advance science and technology for the benefit of the public.

## OUR VALUES

 EXCELLENCE	 ENVIRONMENTAL RESPONSIBILITY
 INTEGRITY	 INNOVATIVE THINKING
 EMPOWERMENT	 WORKING IN PARTNERSHIP





## OUR CHARITABLE OBJECTIVES

### THE ADVANCEMENT OF SCIENCE

...In particular, enhancing the scientific knowledge and understanding of oceanographic sciences, and the ocean and its interaction with the earth system, and facilitating the use and application of that knowledge and understanding, particularly by:

- a. Undertaking and facilitating research including through technology development, experimentation, analysis, long term ocean observation, monitoring, mapping, surveying and modelling of a high international standard and disseminating valuable research outcomes.
- b. Providing access to scientific research and technology development facilities and infrastructure including research ships and other measurement platforms and systems to the ocean science community. Obtaining, managing, curating and providing access to digital data, samples and other specimens.
- c. Obtaining, managing, curating and providing access to digital data, samples and other specimens. Innovation or by encouraging and supporting innovation.
- d. Being the UK national focus for ocean science, exercising leadership for and promoting co-operation with the wider UK science community, and providing national and international visibility and expert representation for oceanographic sciences.
- e. Leading, facilitating and supporting innovation.

### THE ADVANCEMENT OF EDUCATION

...In oceanographic science and the ocean and its interaction with the earth system and relationship with people, particularly by:

- f. Contributing to the education (particularly post graduate higher education), training and development of the next generation of scientists, engineers, technologists including the supervision of postgraduate research students.
- g. Supporting the building of marine research scientific and technical capacity in other countries around the world.
- h. Communicating with and engaging with the public in relation to ocean science and technology through seminars, talks, leaflets, papers and other means.

## **GOVERNANCE ARRANGEMENTS**

### **GOVERNANCE FRAMEWORK**

We continue to improve and evolve our governance framework in line with the evolving needs of the organisation. Our framework is comprised of three areas: our policies, our statement of delegation and our committees that support and have oversight of our operations. Our internal audit programme continues to provide assurance and feedback on the effectiveness of, and how our governance enables and supports the organisation.

This year we completed a project to review all the policies developed at the time we became independent from government. The aim of this review was to understand if the controls were effective and also, importantly, whether they were enabling our day-to-day operations. This allowed our department heads across the business to update and improve our ways of working. The project was successful and has seen increased engagement with policy and procedure across the business.

We also undertook a full review of NOC's Statement of Delegations (SODA), completed as part of an internal audit process. The SODA is reviewed annually to ensure any changes to our governance and operational ways of working are updated and reflected in the recorded delegations. A new version of the document was updated based on discussions had with Associate Directors and Group Heads across the business. The work focused on reviewing the SODA in terms of effectiveness, whether the SODA enabled operations across NOC and most importantly, to ensure the necessary controls were in place. This work was approved by the Board in November 2023 and the new SODA has been in operation since this time.

### **CYBER SECURITY AND DATA PROTECTION**

We successfully retained our cyber essential accreditation this year and rolled out new online mandatory cyber security training to the whole organisation to help improve awareness and understanding. Our training completion rates at the end of the reporting year are 89%. As part of supporting our staff, we have completed regular phishing campaigns to help test the impact of the training. We continue to work with external partners that provide us with additional support and expertise to keep NOC's IT Security levels high, successfully maintaining a grade-A security card throughout the year. There have been 0 Cyber incidents that have affected NOC's regulatory obligations.

Supporting our staff to understand the risks we face and how they can keep NOC operating safely is extremely important. We dedicated our resources to training our staff in critical governance areas, we rolled out new Information Governance training this year, to all staff via an online training platform, which achieved a 97% completion rate. The Legal and Governance team provided in person follow up GDPR training to all staff via their divisional meetings. This has become part of the NOC induction and on-boarding package, with refresher training to be rolled out for staff throughout the year. The Head of Legal and

Governance has written a new Data Protection Policy and we have continued with our project to improve our ways of working. Engaging and training our staff to understand their governance responsibilities will continue to be a theme into next year. There were no reportable data protection breaches during the financial year.

### **RISK MANAGEMENT**

The Trustees keep oversight of the strategic risks that the organisation faces and provide their guidance and their position with regards to our risk tolerances. This year we have considered how we can improve ease of use and understanding of our risk approaches, looking to align ways of working with other areas of the organisation such as learning from our Health & Safety practices. Our risk management approach is explained to all new starters across the organisation and is embedded well as part of our operational committee meetings. We continue to take feedback from the organisation and tested our understanding of risk via an internal audit programme.

This year we reviewed our approach to Business Continuity; this was a full review of our policies and documented approach as well as training with the Incident Response Team. This aims to improve our resilience and ensure that business impact assessment risks identified are understood with mitigations in place.

### **ETHICS, SAFEGUARDING AND CONFLICTS OF INTEREST**

Safeguarding is incredibly important as we aspire to engage more with our local communities and young people our future scientists and engineers. This year we also fully reviewed and update our Conflicts of Interest and Safeguarding Policies and procedures. All staff training in key compliance areas, including safeguarding, conflicts of interest and modern slavery, was rolled out in September 2024 and refresher training will be provided regularly.

### **DUE DILIGENCE**

Our new Funding Assurance and Corporate Responsibility (FACR) Group was established this year, this group has taken ownership and coordination of our new approach to Due Diligence for the organisation but also assurance processes for all projects. This year the Audit & Risk Committee completed an audit of the approach to self-insured assets and pricing for risk. The FACR group have completed internal and external engagement to create a new Corporate Social Responsibility Strategy that has been approved by the NOC Board of Trustees and will be launched next financial year.

There were no externally reportable conflicts of interest and no significant governance or control issues during the financial year.

## REFERENCE AND ADMINISTRATIVE DETAILS

### COMPANY REGISTERED NUMBER

11444362

### CHARITY REGISTERED NUMBERS

1185265

SC049898

### REGISTERED OFFICE

National Oceanography Centre

European Way

Southampton

SO14 3ZH

### INDEPENDENT AUDITOR

BDO LLP

Arcadia House

Maritime Walk

Ocean Village

Southampton

SO14 3TL

### LEGAL ADVISORS

Eversheds Sutherland

Bridgewater Place

Water Lane

Leeds

LS11 5DR

### BANK

NatWest

3 Hampshire Corporate Park

PO Box 462

Templers Way

Chandlers Ford

SO53 3RY

### DIRECTORS AND TRUSTEES

Sir Jeremy Darroch

Chair

Dr Ruth Boumphrey

Professor Sir Ian Boyd

David Gee

Daniel Hook

Sarah Kenny OBE

Retired 2nd July 2024

Dr Sarah McMath

Sir Michael Dixon

13th March 2024 onwards

David McSweeney

8th April 2024 onwards

Clare Harbord

8th May 2024 onwards

### SENIOR MANAGEMENT TEAM

Dr John Siddorn

Chief Executive Officer

April 2024 onwards

Professor Ed Hill CBE

Chief Executive Officer

Retired April 2024

Julie Pringle-Stewart

Chief Operating Officer

Chief Financial Officer

Company Secretary

Dr Maaten Furlong

Associate Director for National Marine Facilities

Jon Blower

Associate Director for Digital Ocean

Natalie Campbell

Associate Director for Corporate Business Support

Professor Doug Connelly

Associate Director for Science & Technology

Huw Gullick

Associate Director for NOC Innovations\*\*

Associate Director for Engagement

Prof. Penny Holliday

Associate Director National Capability

Chief Scientific Officer

June 2024 onwards

Andrew Lovett

Head of Strategic Finance

Matt Eades

Head of People and Skill

Rachel Power

Head of Legal and Governance

Mohammad Alhashimy

Head of Legal and Governance

## SECTION 172 STATEMENT

The NOC Board of Trustees have acted in a way that they consider to be in good faith, that would be most likely to promote the success of the company for the benefit of its members as a whole, and in doing so have regard to the matters set out in s172(1)(a-f) of the Companies Act 2006, in the decisions taken during the year.

The Board of Trustees are briefed on their legal duties as part of their induction and are able to seek further advice from the Company Secretary, Head of Legal & Governance or access external independent advice if required.

### STRATEGY AND CONSIDERATION OF THE CONSEQUENCE OF LONG-TERM DECISIONS

To drive success, we've defined seven ambitious strategic priorities for 2023/24. These priorities give us a focus for the business plan period and are integral to achieving our overarching purpose. The seven priorities are:

- **Mission Project** – showcase our ambition to be leaders in socially beneficial science areas
- **People Focus** – our strength lies in world-leading interdisciplinary experience, skills and roles of every one of our people
- **Optimise Funding** – developing a fully balanced portfolio
- **Strategic Space** – transforming our sites into inspiring future-ready spaces for staff to work and thrive
- **Freedom Matters** – using our courageous, independent voice to explore all potential routes to enable change
- **Commercialising Technology** – continuing to build our expertise in autonomous underwater vehicles (AUVs) and biogeochemical sensors sets us apart
- **Leading Sustainably** – making our commitment to sustainability the compass that guides our research, innovation, culture, our decisions and influences our partnerships.

The organisation must maintain a sufficient level of income such that it can meet its cost commitments and remain financially viable. This year we have developed our balanced portfolio approach that shows how the projects blend and creates a simple model to add additional opportunities or risks to identify the potential outcomes and make sound decisions for NOC. In line with this, we have embarked upon an asset management transformation project highlighting the importance of investing in our basic infrastructure required to grow and create further profitable income. We aim to enhance our research capabilities and capacity, starting projects to review our laboratories and workshop capabilities.

As part of the mission project priority, we have agreed with our Board of Trustees to invest in NOC's Marine Research Observing Infrastructure. This provides the necessary investment to work towards the world's first trans-Arctic passage of an AUV equipped with state-of-the-art sensors. Throughout our history, we have pioneered ocean data technology and will continue to invest in technological advancements in oceanographic research equipment continually offering improved functionalities and data collection capabilities.

Key highlights of the projects and initiatives delivered to meet the priorities have been outlined on pages 48 to 54.

We have now finished the fourth year of delivery of our five-year strategy "Defining our Future" which aims to preserve the very best of what we do and grow our work- exploring new depths; creating the most innovative technologies; being the most exciting place to learn and work. The Executive has started a review of the strategy and our key performance indicators ready for a new strategy for launch in 2025. Throughout the year, decisions and considerations at Board meetings are consistently linked to how NOC meet its strategic objectives and how NOC can build and develop further to the environment around and in turn, contribute further to achieving public benefit.

Decisions are underpinned by a detailed business plan, with budgets built from funded projects and forecasts across the following 5 years, based on experience of research funding; pipeline research areas; and market research on future areas of growth. The Board also considers the longer-term prospects and funding landscape for NOC, considering expected changes in technology and skills required and types of research and data analysis to be undertaken in the next 10-15 years, and conscious of NOC's aim to diversify income over the longer term.

### SUSTAINABILITY AND SOCIAL RESPONSIBILITY

As a registered charity with public benefit at the heart of the organisation, NOC's aim is to make a positive contribution to society by advancing ocean science and education supported by continuing substantial public research investment. As the national centre and a world leader in marine science, NOC's aim is to lead by example.

We have now finished the third year of delivery of our Corporate Social Responsibility (CSR) Strategy, which we've celebrated in Section 3.6 and have worked on developing a new CSR strategy. The CSR Committee has met regularly within the organisation, leading strategic progress towards the pillars of People; Operations; Community; Environment; and Research. In its delivery of this plan, NOC is aiming to work to the principles of ISO 26000 Social Responsibility. The Board reviews CSR as part of its regular programme.

#### **OUR PEOPLE**

The Board considers that developing and maintaining good employee engagement and cementing NOC's reputation as an employer of choice, are fundamental to the delivery of the NOC Strategy.

We remain focused on our ability to attract and retain the best talent. The NOC has a certificate of sponsorship, enabling us to sponsor visas for those members of staff and new job applicants who require a visa. The ability to sponsor visas is therefore key to NOC's recruitment and retention, and our ability to collaborate. We decided to support incoming employees with Visa Application Costs as part of our recruitment offer. In benchmarking against other research organisations and universities this gives us a strong offer to attract the best talent.

NOC has completed extensive stakeholder engagement to identify our cultural priorities. The outputs of this engagement were presented to the Executive and Board of Trustees in January 2024. The commitment to continuing to invest in our culture recognises that our success hinges on our ability to evolve. Our recent work has outlined strategic cultural priorities aligned with our goals and has identified initiated actions to nurture this culture. The output of this work will be used alongside the outputs from this year's engagement survey and will help create a NOC action plan.

We have spent time focusing on developing the data and information created for our people dashboards. The new dashboards cover a range of key metrics and insights to help NOC better understand and manage our workforce effectively. We aim to further develop our dashboards so that they become useful tools in informing decision-making and future initiatives.

As always, we continue to make progress in delivering our Diversity Equality and Inclusion initiatives, this has included supporting our trans community with the installation of gender-neutral toilets at our Southampton site. We have now applied for additional year 2 funding following several successful deliverables resulting from our initial funding proposal. Year 2 funding will build upon this foundation, with a sharper focus on social mobility.

We have maintained proactive engagement with the Trade Unions in setting pay for the year and reviewing our approach to allowances. We continue to engage employees through our Staff Focus Group and Open Staff Meetings, that continue to evolve based on the feedback we encourage.

#### **HIGH STANDARDS AND BUSINESS CONDUCT**

NOC's values of Excellence, Innovative Thinking, Empowerment, Environmental Responsibility, Integrity, and Working in Partnership, underpin the way in which the Trustee

Directors take decisions and set standards for the way in which the organisation operates.

Through the delivery of our strategy, NOC's intention is to promote our reputation, reflecting responsible behaviour and maintaining high standards of business conduct.

#### **LEARN**

The Board reviews the NOC's Ethics & Research integrity frameworks annually. NOC continues to be committed to following the Seven Principles of Public Life, which outline the ethical standards to which those working in the public sector are expected to adhere and which complement NOC's own values.

#### **MEMBERS**

The Trustee Directors are also the Members of NOC. The Directors, in consultation with the Executives, take decisions jointly, in accordance with company law, and regularly review any conflicts of interest they may have in their other capacities or wider activities.

## STREAMLINED ENERGY & CARBON REPORTING (SECR)

In line with our commitment to innovation and environmental responsibility, we took several steps in FY 2023-24 to reduce our environmental impact. These efforts included embedding sustainability into our laboratories and workshops, increasing energy efficiency, managing waste, and, in partnership with the Natural Environment Research Council (NERC), testing Hydrotreated Vegetable Oil (HVO) fuel for use on RRS *Discovery* and RRS *James Cook*.

This year, our total carbon impact reached 20,110.71 tCO<sub>2</sub>e. This is an increase from 19,323 tCO<sub>2</sub>e in FY 2022-23, representing a 4% rise overall. Our sustainability initiatives reduced emissions from electricity, rental cars, water, and landfill. However, there was a significant increase in emissions from business travel (up 34%) and fuel used by logistics vehicles (up 16%). Business travel accounts for around 6.5% of our footprint. These increases were due mainly to more scientific missions and increased travel for mariners to ships operating in remote locations, and an increased in travel for scientists presenting research at key events. Both of these activities are vital for advancing ocean science and influencing policy.

NOC tested Hydrotreated Vegetable Oil (HVO) fuel for the first time on our research ships as a potential alternative to conventional marine gas oil (MGO). This trial, part of a collaborative effort between NERC and NOC, aims to reduce carbon emissions from our marine science operations. HVO offers a short-term solution to reduce emissions without compromising scientific capability, while we continue to develop longer-term strategies. Since fuel use accounts for about 83% of NOC's carbon footprint, the NOC Marine Carbon Project is a critical part of our broader decarbonisation efforts. Additional actions include exploring upgrades to ship propulsion systems for better efficiency, modifying infrastructure for renewable shore power, and investing in tools to integrate carbon considerations into marine planning.

NOC tracks its staff Full-Time Equivalent (FTE) figures to better understand our carbon footprint. For FY 2023-24, with 683.6 FTE, our carbon intensity was 29 tCO<sub>2</sub>e/FTE, the same as the previous year despite a slight increase in FTEs. Our building-related intensity ratio was 0.35 tCO<sub>2</sub>e/m<sup>2</sup>.

As an organisation focused on ocean research, we closely monitor our environmental impact. The 4% increase in emissions indicates we have room for improvement. We remain committed to understanding and reducing our carbon footprint while continuing essential research operations. We recognise that there is still much work to do to meet our long-term targets and our next area of focus will be on managing emissions from business-critical travel for our science and marine teams.

We are pleased, however, with the progress made this year, including stabilising overall emissions, successfully testing HVO fuel, and reducing energy use in our buildings. All our labs and workshops achieved the LEAF laboratory energy efficiency program Bronze award, and we reached our EPC targets ahead of schedule. We look forward to the results of these efforts in the coming years and remain committed to balancing our research goals with our environmental responsibilities.

### EMISSION DETAILS SCOPE 1 EMISSIONS

These amounted to:

- Gas Combustion  
914 tCO<sub>2</sub>e
- Ship Fuel Consumption  
16,723 tCO<sub>2</sub>e
- Fleet Vehicles  
24 tCO<sub>2</sub>e

Total Scope 1 emissions: 17,661 tCO<sub>2</sub>e

### SCOPE 2 EMISSIONS

These amounted to:

- Electricity  
1,116 tCO<sub>2</sub>e
- Purchased Heating (Liverpool Office)  
19 tCO<sub>2</sub>e

Total Scope 2 emissions: 1,135 tCO<sub>2</sub>e

### SCOPE 3 EMISSIONS

- Business Travel, Rental Car fuel  
9 tCO<sub>2</sub>e
- Waste (incinerated, landfill, food waste, recycling)  
5 tCO<sub>2</sub>e
- Business Travel, Employee Mileage Claims  
11 tCO<sub>2</sub>e
- Water Consumption and Discharge  
3 tCO<sub>2</sub>e
- Air (domestic, short-haul and long-haul) and Rail (domestic and international)  
1,287 tCO<sub>2</sub>e

Total Scope 3 emissions reported here: 1,315.31 tCO<sub>2</sub>e

TABLE 6: PRINCIPAL SOURCES

REPORTING YEAR 2022-23

REPORTING YEAR 2023-24

UNITS	SCOPE	2022-23	2023-24	TOTAL	2022-23	2023-24	TOTAL
Gas Combustion for Heating m <sup>3</sup>	1	5,310.28	-	5,310.28	4,995.95	-	4,995.95
Marine Gas Oil fuel for RRS Discovery tonnes	1	2,529.00	-	2,529.00	2,770.44	-	2,770.44
Marine Gas Oil fuel for RRS James Cook tonnes	1	2,530.00	-	2,530.00	2,379.00	-	2,379.00
HVO Biofuel for RRS Discovery & RRS James Cook litres	1	-	-	-	330,000.00	-	330,000.00
Fleet Vehicles Diesel & HVO fuel litres	1	6,149.00	-	6,149.61	9,360.90	-	9,360.90
Fleet Vehicles Propane Gas fuel tonnes	1	-	-	1.30	1.60	-	1.60
Electricity kWh	2	4,996.00	303.00	5,299.00	5,053.84	335.52	5,389.15
Heat Purchased for Own Use (CHP/District Heating) mWh	2	0.00	100.03	100.03	-	154.25	154.25
Business Travel - Rental Car Fuel £GBP	3	-	-	7,080.00	-	-	6,374.89
Business Travel - Employee Expense Claims miles	3	-	-	50,110.14	-	-	41,126.66
Water Consumption and Discharge m <sup>3</sup>	3	10,338.00	329.00	10,667.00	9,540.00	341.85	9,881.85
<b>RESULTING EMISSIONS</b>	<b>SCOPE</b>	<b>2022-23</b>	<b>2023-24</b>	<b>TOTAL</b>	<b>2022-23</b>	<b>2023-24</b>	<b>TOTAL</b>
Gas Consumption for Heating tonnes CO <sub>2</sub> e	1	969.34	0.00	969.34	913.76	-	913.76
Marine Gas Oil fuel for RRS Discovery tonnes CO <sub>2</sub> e	1	8,219.23	0.00	8,219.23	8,990.92	-	8,990.92
Marine Gas Oil fuel for RRS James Cook tonnes CO <sub>2</sub> e	1	7,953.32	0.00	7,953.32	7,720.57	-	7,720.57
HVO Biofuel for RRS Discovery & RRS James Cook tonnes CO <sub>2</sub> e	1	-	-	-	11.74	-	11.74
Fleet Vehicles Diesel and HVO fuel tonnes CO <sub>2</sub> e	1	16.28	0.09	16.37	18.95	-	18.95
Fleet Vehicles Propane Gas fuel tonnes CO <sub>2</sub> e	1	1.82	-	1.82	4.80	-	4.80
Electricity tonnes CO <sub>2</sub> e	2	1,083.96	62.78	1,146.75	1,046.36	69.46	1,115.82
Heat Purchased for Own Use (CHP/District Heating) tonnes CO <sub>2</sub> e	2	0.00	18.32	18.32	-	18.85	18.85
Business Travel - Rental Car Fuel tonnes CO <sub>2</sub> e	3	-	-	11.09	-	-	9.18
Business Travel - Employee Expense Claims tonnes CO <sub>2</sub> e	3	-	-	13.44	-	-	11.05
Water Consumption and Discharge tonnes CO <sub>2</sub> e	3	4.00	0.12	4.11	3.23	0.12	3.35
<b>Total</b> tonnes CO <sub>2</sub> e		-	-	<b>18,353.79</b>	-	-	<b>18,818.96</b>
Floor Space m <sup>2</sup>		51,234.80	2,800.00	54,034.80	51,234.80	2,800.00	54,034.80
Intensity Ratio tCO <sub>2</sub> e/m <sup>2</sup>		-	-	0.34	-	-	0.35
Intensity kgCO <sub>2</sub> e/m <sup>2</sup>		-	-	338.67	-	-	384.27

**METHODOLOGY FOR COLLECTING EMISSIONS AND ENERGY DATA**

**SCOPE 1**

- Gas Use for Heating: Data from site meters were converted to CO<sub>2</sub>e using UK Government GHG Conversion Factors.
- Ship Fuel: Captains reported fuel use, which was converted to CO<sub>2</sub>e using carbon conversion factors for Marine Gas Oil (MGO) and Hydrogenated Vegetable Oil Bio-fuel (HVO).
- Fleet Vehicle Fuel: Fuel data were obtained from turnover records and converted to CO<sub>2</sub>e using HVO, Diesel and Propane Gas conversion factors.

**SCOPE 2**

- Electricity: kWh data from site meters were converted to CO<sub>2</sub>e using UK Government GHG Conversion Factors.
- Purchased Heat: Data from Liverpool site meters were similarly converted to CO<sub>2</sub>e.

**SCOPE 3**

- Business Travel, Rental Cars: A third-party provider supplied fuel spending data, which we converted to litres using the average cost of a litre of fuel. We then applied the UK Govt average car emission factor to this volume of fuel to calculate the carbon impact.
- Business Travel, Employee Expense Claims: We used total mileage, and applied the UK Govt conversion factor for an average car to calculate the resulting carbon impact.
- Water Consumption: We used data from on-site water meters, and applied the conversion factor for supplied water, and water discharge.

**TABLE 2: ADDITIONAL REPORTING - WASTE**

UNITS	REPORTING YEAR 2022-23			REPORTING YEAR 2023-24		
	SOUTHAMPTON	LIVERPOOL	TOTAL	SOUTHAMPTON	LIVERPOOL	TOTAL
Incinerated Waste tonnes	48.02	0.36	48.38	48.04	0.40	48.44
Landfill tonnes	18.76	0.00	18.76	8.22	0.00	8.22
Anaerobic Digestion of Food Waste, Producing Renewable Biogas tonnes	4.25	0.00	4.25	4.02	0.00	4.02
Recycled tonnes	89.84	2.71	92.55	82.42	7.31	89.73
<b>Total Emissions from Waste Scope 3 / tonnes CO<sub>2</sub>e</b>		<b>Sub Total tCO<sub>2</sub>e</b>	<b>11.49</b>		<b>Sub Total tCO<sub>2</sub>e</b>	<b>4.99</b>

**WASTE MANAGEMENT**

We have four waste streams at NOC; namely incinerated waste, landfill, anaerobic digestion of food waste processed off-site, and recycling. Data is gathered from waste management reports, disposal records, and recycling statistics to ensure accurate emissions assessment using emissions factors for each type of waste.

TABLE 3: ADDITIONAL REPORTING - AIR AND RAIL EMISSIONS

REPORTING YEAR 2022-23

REPORTING YEAR 2023-24

	REPORTING YEAR 2022-23	REPORTING YEAR 2023-24
<b>Domestic Air emissions</b> tonnes CO <sub>2</sub> e	32.58	34.59
<b>Short-Haul Air</b> tonnes CO <sub>2</sub> e	123.12	225.32
<b>Long-Haul Air</b> tonnes CO <sub>2</sub> e	446.59	772.42
<b>International Air</b> tonnes CO <sub>2</sub> e	340.44	233.29
<b>Domestic Rail</b> tonnes CO <sub>2</sub> e	15.24	21.09
<b>International Rail</b> tonnes CO <sub>2</sub> e	0.13	0.05
<b>Total Emissions from Business Travel</b>	958.10	1,286.76
<b>Grand Total</b> tonnes CO <sub>2</sub> e	19,323.38	20,110.71
<b>Full Time Equivalent Staff (FTE)</b>	651.10*	683.60**
<b>Intensity Ratio</b> tonnes CO <sub>2</sub> e / FTE	29.68	24.41

**BUSINESS TRAVEL, AIR AND RAIL**

We receive monthly carbon impact reports from our travel booking partner, who tracks and records all travel emissions. Rail and air travel is mostly booked by our scientific teams for conferences, research trips, and RSS vessel missions, including essential crew for the mariners. Our shore-based staff also travel between our Southampton and Liverpool sites, though most meetings are conducted online via Teams video conferencing to minimize travel and recycling statistics to ensure accurate emissions assessment using emissions factors for each type of waste.

## RISK MANAGEMENT STATEMENT

NOC's risk management framework continues to support the company's management in the taking of risk in line with the Board's risk appetite. Risk reporting and discussion has been ongoing throughout the year and have played a significant role in enabling the Board and management to take decisions both in respect to the execution of the business' strategic objectives and in the avoidance of unwanted outcomes.

Our Risk Management Framework continues to provide management with the ability to anticipate the evolution of risks and the mitigations necessary to remain within appetite; to increase our resilience to change, and to reduce the threats and uncertainty faced by the organisation. It also supports management in the maximisation of opportunities by better facilitating informed decision-making whilst also providing assurance that the company taking steps to ensure it is operating within appetite.

The Executive Directors play a lead role in identifying and managing risk throughout the organisation, acting as the escalation route for risks to the Executive Directors, the Risk and Audit Committee and the Board of Trustees. The Board and management are aided by a Risk Management function providing oversight, advice, challenge, and guidance for the management of risk; support for risk reporting and the development of policies, procedures, regulatory compliance and training.

### PRINCIPAL RISKS AND UNCERTAINTIES

The Board of Trustees and the Risk and Audit Committee provide essential and valued external challenge and advice through an ongoing assessment of the company's emerging and principal risks. Notably, our Board committees have provided challenge and support to management on the key risks impacting the company over the past 12 months. Principal amongst these risks have been:

- ongoing management of the risks associated with the transformation of NOC's infrastructure, systems, controls and staffing against an increasing appetite for the commercialisation of the technical knowledge of the organisation;
- the challenges faced by the organisation as it increases its appetite and ability to seek and win funding away from its traditional sources of income;
- the ongoing challenges associated with the retention and recruitment of staff to ensure we remain competitive and as a result of barriers to continued reliance on talent based in the EU;

- ongoing management of the continuously evolving threat of cyber-attack through the implementation of available safeguards and recommended best practice whilst also maintaining access to the scientific data we manage and support the communities who access our IT estate; and
- NOC's goal to increase the diversity of its sources of funding against an uncertain landscape for funding from our traditional and largest sources.

NOC continues to evolve its Risk Management Framework in support of improvements in risk insights, accountability, and the future evolution of the organisation. NOC anticipates undertaking a thorough review of its risk management practices over the next 12 months to ensure its risk appetite, approach to risk management and the way it reports and manages risk remain effective for the organisation.



SIR JEREMY BARROCH  
CHAIR OF BOARD OF TRUSTEES  
20 DECEMBER 2024

## FINANCIAL REVIEW

### RESULTS FOR THE YEAR

The net income and total increase to reserves for the year ended 30 September 2024 amounted to £4,573k (2023: £199k increase).

### INCOME

Total income for the year for the group amounted to £86,213k (2023: £85,401k). The income was principally derived from UKRI-NERC funding for research, the operation of research infrastructure, data management and services and facilities of £63,484k (2023: £61,612k). A further £13,852k (2023: £14,047k) of other grant income was derived from other grants such as EU and GCRF funding.

### EXPENDITURE

Total expenditure for the year amounted to £81,640k (2023: £85,202k). Staff costs accounted for £41,998k (51%) (2023: £38,002k, 45%) of expenditure in the year. The increase in staff costs compared to the prior year relates to the annual pay award.

### RESERVES POSITION AND POLICY

The NOC recorded a net increase in unrestricted reserves of £1,601k (2023: £2,027k increase) while there was a £87k decrease (2023: £1,411k increase) recorded in restricted reserves. This is due to the phasing of projects with income being earned on restricted projects and released as unrestricted funds to cover central overhead on projects. The restricted fixed asset reserves increased by £3,059k (2023: £3,239k increase) being the net of capital additions, capital disposals and depreciation charged during the year.

It is the policy of the Trustees to ensure that an amount is held in the unrestricted reserves to mitigate against operational risk likely to materialise over any 12-month period.

The reserves policy states that £8,000k of unrestricted reserves is required to be held as free cash for operational risk cover. This was deemed to still be applicable in the FY24 year.

As at 30 September 2024 unrestricted reserves were £19,250k (2023: £17,649k). The investment of unrestricted reserves is set out in the Investment Policy below.

### INVESTMENT POLICY

The investment policy ensures that unrestricted reserves earmarked for investment opportunities are agreed, prioritised and approved in line with the NOC Strategy and Business Plan. As well as ensuring the delivery of the associated benefits and enhanced capability, whether this is financial or qualitative or both.

NOC will use the TRAC (Transparent Approach to Costing) FEC (Full Economic Cost) as the framework for pricing all contracts and projects and so ensuring it monitors its sustainability.

Under TRAC there is the Margin for Sustainability and Investment (MSI) that is built into the FEC recovery that will contribute to the unrestricted reserves annually and then become the overall investment pot and provide ongoing risk cover. It is in the interests of the charity and the beneficiaries of NOC to continue to invest in new capability and further the aims of the charity in terms of its advance of science. TRAC requires that NOC does not hold too much in the sustainability reserve and encourages continual investment using the amount over the sustainability margin. It is in the interests of the charity and the beneficiaries of NOC to continue to invest in new capability and further the aims of the charity in terms of its advance of science object.

The Board approved an investment of £850k out of unrestricted reserves in May 2022 and determined to continue to commit to investing at least £850k each year to upgrade and replenish assets and infrastructure transferred to NOC when its activities commenced. During the current year the Trustees approved investment of free cash into cash deposits to mitigate against the rising costs of overheads.

Deposits placed yielded interest of £1,418k (2023: £444k) during the year.

The Finance and Investment Committee are putting in place a 5-year investment plan. The committee is inviting business cases from staff for investment in furthering its charitable objectives to bring the plan into action. In considering each case the Finance and Investment Committee will look to ensure it is for the purposes of making a return as well as investing in the strategic aims of NOC. Investments will be kept under regular review for performance.

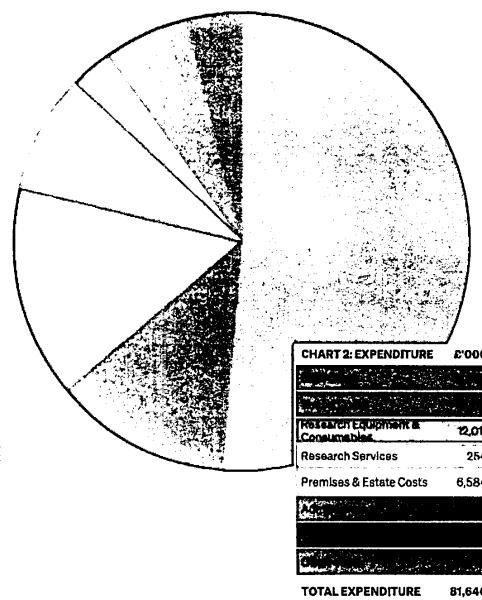
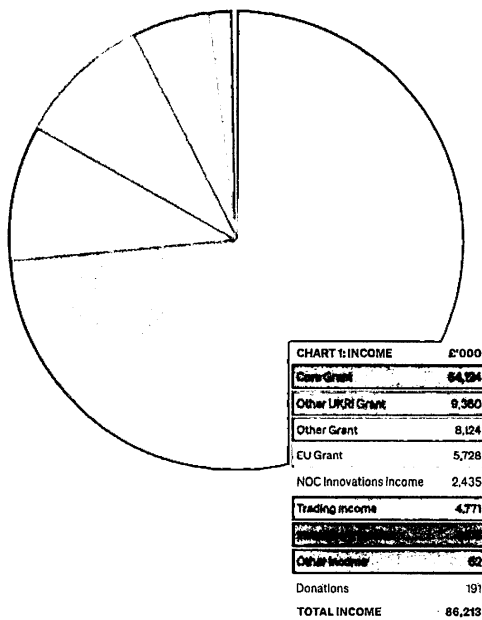
### TRADING SUBSIDIARY

NOC's trading subsidiary, National Oceanography Centre Innovations Limited, was incorporated on 9 October 2019 and is a wholly-owned subsidiary of NOC. In the year to 30 September 2024 the subsidiary reported a loss for the financial year of £190k (2023: loss £5k).

There is an Operating Agreement in place between the charity and the trading subsidiary to ensure there is a structured and governed relationship. This includes detailed clauses which ensure the protection of licensed IP for the charity.

The trading subsidiary undertakes four significant areas of activity; product sales (marine data products), Events (Commercial activity only), Intellectual Property licensing (agreements) and Marine Robotic Innovation Centre – membership and renewal.

The Chair of NOC Innovations reports to the NOC Board of Trustees. The Board of Trustees review the progress of the subsidiary, ensuring that the strategic objectives of the subsidiary are not in conflict with its own and that the financial return is satisfactory. One member of the NOC Board of Trustees is a member of the trading subsidiary board.



#### FUNDRAISING POLICY

NOC seeks to ensure all fundraising activity is conducted with due regard to the guidance of the Charity's Commission and the Fundraising Regulator. NOC has undertaken limited fundraising activity during the year to 30 September 2024. Going forward, NOC's approach to fundraising will be to seek support from charitable foundations, trusts and corporations through their foundations. In addition, there will be the opportunity for the public to donate via regular or one-off giving or supporting fundraising events.

#### PLANS FOR FUTURE PERIODS

Our Five-Year Strategy, and its seven interdisciplinary strategic goals, will enable us to maintain commitment and delivery of our Charitable Objectives. Detailed in the Trustees' Report (incorporating the Strategic Report) are the activities we'll be focusing on between 2020-25, as part of our Five-Year Strategy, and our funding framework will diversify to support this.

#### GOING CONCERN

NOC has put together a Five-Year Business Plan which brings together the National Capability funding from NERC-UKRI with signed research projects and those in the pipeline. For the year 2023/24 a bottom up budgeting process was carried out reviewing the full current cost base of NOC which has been trimmed back to achieve some savings assisting with the rising inflation. As such the cost base is covered by funded projects with some resource available to deliver new projects that are in the pipeline or in early stages of bid development at present. NOC is deploying detailed resource planning to inform recruitment. As the forecast goes out to 2024/25 and beyond there is more capacity to take on new funded projects, at this time the plan starts to forecast increased income from fundraising and NOC Innovations activity. Once this takes more shape, recruitment will be planned around the skills needed to deliver new areas of activity. Taking into consideration, signed Awards for National Capability infrastructure and science facilities and services spanning the next three-five years, current indications of recommissioning for National Capability Science, previous success rates in research grant rounds with sustained bid submission and forecast of future income based on marketing analysis the indications are that NOC can continue to cover its cost base over the coming five-year period.

In conclusion there are no material uncertainties to cast doubt on NOC's ability to continue as a going concern.


#### DISCLOSURE OF INFORMATION TO AUDITOR

Each of the persons who are Trustees at the time when this Trustees' report was approved has confirmed that so far as the Trustee is aware, there is no relevant audit information of which the charitable company's auditor is unaware; and that Trustees have taken all the steps that ought to have been taken by the Trustees in order to be aware of any relevant audit information and to establish that the charitable company's auditor is aware of that information.

#### AUDITOR

The auditor, BDO LLP, has indicated their willingness to continue in office. The designated Trustees will propose a motion reappointing the auditor at a meeting of the Trustees.

Approved by order of the members of the board of Trustees and signed on their behalf by



SIR JEREMY DARROCH  
CHAIR OF BOARD OF TRUSTEES  
20 DECEMBER 2024

## STATEMENT OF TRUSTEES' RESPONSIBILITIES

The Trustees (who are also the directors of the Charity for the purposes of company law) are responsible for preparing the Trustees' Report including the Strategic Report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

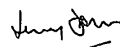
Company law requires the Trustees to prepare financial statements for each financial period. Under company law the Trustees must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and the Charity and of the incoming resources and application of resources, including the income and expenditure of the Group for that period. In preparing these financial statements, the Trustees are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP (FRS102);
- make judgements and accounting estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group will continue in business.

The Trustees are responsible for keeping adequate accounting records that are sufficient to show and explain the Charity's transactions and disclose with reasonable accuracy at any time the financial position of the Charity and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Group and the Charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Financial statements are published on the Charity's website in accordance with legislation in the United Kingdom governing preparation and dissemination of financial statements, which may vary from legislation in other jurisdictions. The maintenance and integrity of the Charity's website is the responsibility of the trustees. The Trustees' responsibility also extends to the ongoing integrity of the financial statements contained therein.

Approved by order of the members of the board of Trustees and signed on their behalf by:



SIR JEREMY DARROCH  
CHAIR OF BOARD OF TRUSTEES  
20 DECEMBER 2024

## INDEPENDENT AUDITOR'S REPORT

TO THE MEMBERS AND TRUSTEES OF NATIONAL OCEANOGRAPHY CENTRE

### OPINION ON THE FINANCIAL STATEMENTS

In our opinion the financial statements:

- give a true and fair view of the state of the Group's and of the Parent Charitable Company's affairs as at 30 September 2024 and of the Group's incoming resources and application of resources and the Parent Charitable Company's incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Company's Act 2006, Charities and Trustee Investment (Scotland) Act 2005 and regulations 6 and 8 of the Charities Accounts (Scotland) Regulations 2006, as amended.

We have audited the financial statements of National Oceanography Centre ("the Parent Charitable Company") and its subsidiaries ("the Group") for the year ended 30 September 2024 which comprise the consolidated statement of financial activities, the consolidated balance sheet, the charity balance sheet, the consolidated statement of cash flows and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

### BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### INDEPENDENCE

We remain independent of the Group and the Parent Charitable Company in accordance with the ethical requirements relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

### CONCLUSIONS RELATING TO GOING CONCERN

In auditing the financial statements, we have concluded that the Trustees' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group and the Parent Charitable Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the Trustees with respect to going concern are described in the relevant sections of this report.

### OTHER INFORMATION

The Trustees are responsible for the other information. The other information comprises the information included in the Annual Report and Financial Statements, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements, or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

### OTHER COMPANIES ACT 2006 REPORTING

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Trustees' Report, which includes the Directors' Report, and the Strategic report prepared for the purposes of Company Law, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic report and the Directors' Report, which are included in the Trustees' Report, have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the Group and the Parent Charitable Company and its environment obtained in the course of the audit, we have not identified material misstatement in the Strategic report or the Trustees' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 and the Charities Accounts (Scotland) Regulations 2006 requires us to report to you if, in our opinion:

- proper and adequate accounting records have not been kept by the Parent Charitable Company, or returns adequate for our audit have not been received from branches not visited by us; or
- the Parent Charitable Company financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

#### RESPONSIBILITIES OF TRUSTEES

As explained more fully in the statement of trustees' responsibilities, the Trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustees are responsible for assessing the Group's and the Parent Charitable Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the Group or the Parent Charitable Company or to cease operations, or have no realistic alternative but to do so.

#### AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

We have been appointed as auditor under section 44(1)(c) of the Charities and Trustee Investment (Scotland) Act 2005 and under the Companies Act 2006 and report in accordance with the Acts and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level

of assurance but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

#### EXTENT TO WHICH THE AUDIT WAS CAPABLE OF DETECTING IRREGULARITIES, INCLUDING FRAUD

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below:

#### NON-COMPLIANCE WITH LAWS AND REGULATIONS

Based on:

- Our understanding of the Group and Charitable Company and the sector in which it operates;
- Discussion with management and those charged with governance, including the Audit and Risk Committee; and
- Obtaining and understanding of the Group's and Charitable Company's policies and procedures regarding compliance with laws and regulations; and

We considered the significant laws and regulations to be the Companies Act 2006, Charity regulations in England and Scotland and UK tax legislation.

The Group is also subject to laws and regulations where the consequence of non-compliance could have a material effect on the amount or disclosures in the financial statements, for example through the imposition of fines or litigations. We identified such laws and regulations to be health and safety legislation.

Our procedures in respect of the above included:

- Review of minutes of meeting of those charged with governance for any instances of non-compliance with laws and regulations;
- Review of correspondence with regulatory and tax authorities for any instances of non-compliance with laws and regulations;
- Review of financial statement disclosures and agreeing to supporting documentation; and
- Involvement of tax specialists in the audit.

#### FRAUD

We assessed the susceptibility of the financial statements to material misstatement, including fraud. Our risk assessment procedures included:

- Enquiry with management and those charged with governance regarding any known or suspected instances of fraud;
- Obtaining an understanding of the Group and the Charitable Company's policies and procedures relating to:
  - Detecting and responding to the risks of fraud; and
  - Internal controls established to mitigate risks related to fraud.
- Review of minutes of meeting of those charged with governance for any known or suspected instances of fraud;
- Discussion amongst the engagement team as to how and where fraud might occur in the financial statements;
- Performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;

Based on our risk assessment, we considered the area's most susceptible to fraud to be the posting of inappropriate journal entries to manipulate financial results, particularly in relation to recording revenue in the correct period.

Our procedures in respect of the above included testing a sample of journal entries throughout the year, which met a defined risk criteria, by agreeing to supporting documentation

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Our audit procedures were designed to respond to risks of material misstatement in the financial statements, recognising that the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery, misrepresentations or through collusion. There are inherent limitations in the audit procedures performed and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we are to become aware of it.

A further description of our responsibilities for the audit of the financial statements is located at the Financial Reporting Council's ("FRC's") website at: <https://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

#### USE OF OUR REPORT

This report is made solely to the Charitable Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006, and to the Charitable Company's trustees, as a body, in accordance with the Charities and Trustee Investment (Scotland) Act 2005. Our audit work has been undertaken so that we might state to the Charitable Company's members and trustees those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Charitable Company, the Charitable Company's members as a body and the Charitable Company's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

DocuSigned by:

*David I Anson*

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**DAVID I ANSON (SENIOR STATUTORY AUDITOR)**  
**FOR AND ON BEHALF OF BDO LLP, STATUTORY AUDITOR, SOUTHAMPTON, UK**

20 December 2024

## CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES

FOR THE YEAR ENDED 30 SEPTEMBER 2024  
INCORPORATING AN INCOME & EXPENDITURE ACCOUNT

	NOTE	UNRESTRICTED FUNDS	RESTRICTED FUNDS	RESTRICTED FIXED ASSET FUNDS	TOTAL 2024
		(\$'000)	(\$'000)	(\$'000)	(\$'000)
<b>Income from:</b>					
Donations, grants and legacies	1	42,403	28,066	7,058	77,527
Income from trading subsidiary	10	2,435	-	-	2,435
Other trading activities	2	4,242	529	-	4,771
Investments	3	1,418	-	-	1,418
Other income	2a	58	4	-	62
<b>Total incoming resources</b>		<b>50,556</b>	<b>28,599</b>	<b>7,058</b>	<b>86,213</b>
<b>Expenditure on:</b>					
Raising funds:					
Expenditure from trading subsidiary	10	2,625	-	-	2,625
Charitable activities	4	46,330	28,686	3,999	79,015
<b>Total expenditure</b>		<b>48,955</b>	<b>28,686</b>	<b>3,999</b>	<b>81,640</b>
Net income/ (expenditure)		1,601	(87)	3,059	4,573
<b>Net movement in funds</b>	15	<b>1,601</b>	<b>(87)</b>	<b>3,059</b>	<b>4,573</b>
<b>Reconciliation of funds:</b>					
Fund balances at beginning of year	15	17,649	2,550	7,074	27,273
Net movement in funds		1,601	(87)	3,059	4,573
<b>Total fund balances at 30 September 2024</b>	15	<b>19,250</b>	<b>2,463</b>	<b>10,133</b>	<b>31,846</b>

The notes on pages 84-99 form part of these financial statements.

CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES AT 30 SEPTEMBER 2024

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FOR COMPARATIVE PURPOSES – FINANCIAL PERFORMANCE FOR THE PRIOR  
FINANCIAL YEAR

	NOTE	UNRESTRICTED FUNDS	RESTRICTED FUNDS	RESTRICTED FIXED ASSET FUNDS	TOTAL 2023
<b>Income from:</b>					
Donations, grants and legacies	1	50,889	24,513	308	75,710
Income from trading subsidiary	10	2,623	-	-	2,623
Other trading activities	2	6,356	24	-	6,380
Investments	3	444	-	-	444
Other income	2a	244	-	-	244
<b>Total incoming resources</b>		<b>60,556</b>	<b>24,537</b>	<b>308</b>	<b>85,401</b>
<b>Expenditure on:</b>					
Raising funds:					
Expenditure from trading subsidiary	10	2,628	-	-	2,628
Charitable activities	4	53,566	25,326	3,682	82,574
<b>Total expenditure</b>		<b>56,194</b>	<b>25,326</b>	<b>3,682</b>	<b>85,202</b>
Net income/ (expenditure)		4,362	(789)	(3,374)	199
Transfers between funds	15	(2,335)	2,200	135	-
<b>Net movement in funds</b>	<b>15</b>	<b>2,027</b>	<b>1,411</b>	<b>(3,239)</b>	<b>199</b>
<b>Reconciliation of funds:</b>					
Fund balances at beginning of year	15	15,622	1,139	10,313	27,074
Net movement in funds		2,027	1,411	(3,239)	199
<b>Total fund balances at 30 September 2023</b>	<b>15</b>	<b>17,649</b>	<b>2,550</b>	<b>7,074</b>	<b>27,273</b>

All amounts are derived from continuing activities during the above two periods. The consolidated statement of financial activities includes all gains and losses recognised in the year.

## CONSOLIDATED BALANCE SHEET

AT 30 SEPTEMBER 2024

COMPANY NUMBER: 11444362

	NOTE	2024	2024	2023	2023
		£'000	£'000	£'000	£'000
<b>Fixed assets</b>					
Intangible assets	8	-	-	-	1
Tangible assets	9	16,655	16,655	14,411	14,411
Investments	10	-	-	-	-
<b>Total Fixed Assets</b>		<b>16,655</b>	<b>16,655</b>	<b>14,411</b>	<b>14,411</b>
<b>Current assets</b>					
Investments	10	8,000	8,000	4,000	4,000
Stock	11	568	568	553	553
Debtors	12	13,630	13,630	13,527	13,527
Cash at bank and In hand	17	26,528	26,528	33,347	33,347
<b>Total Current Assets</b>		<b>48,724</b>	<b>48,724</b>	<b>51,427</b>	<b>51,427</b>
Creditors: amounts falling due within one year	13	(33,533)	(33,533)	(38,566)	(38,566)
<b>Net current assets</b>		<b>15,191</b>	<b>15,191</b>	<b>12,861</b>	<b>12,861</b>
<b>Net assets</b>	16	<b>31,846</b>	<b>31,846</b>	<b>27,273</b>	<b>27,273</b>
<b>Funds</b>					
Unrestricted	15	19,250	19,250	17,649	17,649
Restricted	15	2,463	2,463	2,550	2,550
Restricted fixed asset	15	10,133	10,133	7,074	7,074
<b>Total funds</b>	15	<b>31,846</b>	<b>31,846</b>	<b>27,273</b>	<b>27,273</b>

The financial statements were approved and authorised for issue by the Trustees and signed on their behalf by:



SIR JEREMY DARROCH  
CHAIR OF BOARD OF TRUSTEES  
20 DECEMBER 2024

## CHARITY BALANCE SHEET

AT 30 SEPTEMBER 2023

COMPANY NUMBER: 11444362

	NOTE	2024	2024	2023	2023
		£'000	£'000	£'000	£'000
<b>Fixed assets</b>					
Intangible assets	8	-	-	-	1
Tangible assets	9	16,655	16,655	14,390	14,390
Investments	10	-	-	-	-
<b>Total Fixed Assets</b>		<b>16,655</b>	<b>16,655</b>	<b>14,390</b>	<b>14,391</b>
<b>Current assets</b>					
Investments	10	8,000	8,000	4,000	4,000
Stock	11	566	566	553	553
Debtors	12	13,473	13,473	13,457	13,457
Cash at bank and In hand	17	25,949	25,949	32,681	32,681
<b>Total Current Assets</b>		<b>47,988</b>	<b>47,988</b>	<b>50,691</b>	<b>50,691</b>
Creditors: amounts falling due within one year	13	(32,469)	(32,469)	(37,871)	(37,871)
<b>Net current assets</b>		<b>15,519</b>	<b>15,519</b>	<b>13,020</b>	<b>13,020</b>
<b>Net assets</b>	16	<b>32,174</b>	<b>32,174</b>	<b>27,411</b>	<b>27,411</b>
<b>Funds</b>					
Unrestricted	15	19,578	19,578	17,787	17,787
Restricted	15	2,463	2,463	2,550	2,550
Restricted fixed asset	15	10,133	10,133	7,074	7,074
<b>Total funds</b>	15	<b>32,174</b>	<b>32,174</b>	<b>27,411</b>	<b>27,411</b>

As permitted by S408 of the Companies Act 2009, the Charity has not presented its own income and expenditure account and related notes. The Charity's surplus for the year was £4,763K (2023: surplus £204K).

The financial statements were approved and authorised for issue by the Trustees on and signed on their behalf by:



SIR JEREMY DARROCH  
CHAIR OF BOARD OF TRUSTEES  
20 DECEMBER 2024

## CONSOLIDATED STATEMENT OF CASH FLOWS

AT 30 SEPTEMBER 2024

COMPANY NUMBER: 11444362

	NOTE	2024	2023
<b>Cash flows from operating activities</b>		<b>5,300</b>	<b>5,049</b>
Surplus for the year:		4,573	199
Depreciation	5	4,896	4,302
Amortisation	5	1	44
Loss on disposal of Fixed Assets		746	340
Investment income	3	(1,418)	(444)
Decrease/ (increase) in stock	11	(13)	30
Decrease/ (increase) in Debtor	12	(103)	3,112
(Decrease) in Creditors	13	(5,033)	(10,515)
<b>Net cash provided by/ (used in) operating activities</b>		<b>3,849</b>	<b>(2,832)</b>
<b>Cash flows from investing activities</b>			
Investment income	3	1,418	444
Proceeds from sale of tangible assets		-	16
Increase in cash deposits > 90 days		(4,000)	(4,000)
Purchase of tangible assets	9	(7,886)	(3,424)
<b>Net cash used in investing activities</b>		<b>(10,468)</b>	<b>(6,984)</b>
<b>Decrease in cash and cash equivalents in the year</b>		<b>(6,619)</b>	<b>(9,896)</b>
<b>Cash and cash equivalents at the beginning of the year</b>	17	<b>33,347</b>	<b>43,243</b>
<b>Cash and cash equivalents at the end of the year</b>	17	<b>26,728</b>	<b>33,347</b>

## NOTES TO THE FINANCIAL STATEMENTS

### BASIS OF PREPARATION OF FINANCIAL STATEMENTS

The financial statements have been prepared on a going concern basis under the historical cost convention. The financial statements have been prepared in accordance with the Charities SORP, 2nd Edition (FRS 102) Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2019), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

National Oceanography Centre meets the definition of a public benefit entity under FRS 102. Assets and liabilities are initially recognised at historical cost or transaction value unless otherwise stated in the relevant accounting policy.

The financial statements are prepared in Sterling, which is the functional currency of the Group. Monetary amounts in these financial statements are rounded to the nearest thousand pounds.

The preparation of financial statements in compliance with FRS 102 requires the use of certain critical accounting estimates. It also requires management to exercise judgement in applying the Group's accounting policies.

The following principal accounting policies have been applied consistently:

### BASIS OF CONSOLIDATION

The Consolidated Statement of Financial Activities (SOFA) and Consolidated Balance Sheet consolidate the financial statements of the Company and its subsidiary undertaking. The results of the subsidiary are consolidated on a line-by-line basis.

The Parent Charitable Company has taken advantage of the exemption allowed under section 408 of the Companies Act 2006 and has not presented its own Statement of Financial Activities in these financial statements.

### EXEMPTIONS FOR QUALIFYING ENTITIES UNDER FRS 102

The Parent Charitable Company has taken advantage of the following disclosure exemptions available in FRS 102:

- from preparing a statement of cash flows;
- from financial instruments disclosures; and
- from the aggregate remuneration of the key management personnel as their remuneration is included in the totals for the group as a whole.

### GOING CONCERN

The Trustees have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis.

The key assumption in assessing going concern is that NOC's key funders (UKRI and EU) have continued to pay as per their schedules, and the costs of delivery can continue to be met against rising inflation.

NOC has put together a Five-Year Business Plan which brings together the National Capability funding from NERC-UKRI with signed research projects and those in the pipeline. For the year 2023/24 a bottom up budgeting process was carried out reviewing the full current cost base of NOC which has been trimmed back to achieve some savings assisting with the rising inflation. As such the cost base is covered by funded projects with some resource available to deliver new projects that are in the pipeline or in early stages of bid development at present. NOC is deploying detailed resource planning to inform recruitment.

As the forecast goes out to 2024/25 and beyond there is more capacity to take on new funded projects, at this time the plan starts to forecast increased income from fundraising and NOC innovations activity. Once this takes more shape the recruitment will be planned around the skills needed to deliver new areas of activity. Taking into consideration, signed Awards for National Capability Infrastructure and science facilities and services spanning the next 3-5 years, current indications of recommissioning for National Capability Science, previous success rates in research grant rounds with sustained bid submission and forecast of future income based on marketing analysis the indications are that NOC can continue to cover its cost base over the coming five-year period.

In conclusion there are no material uncertainties to cast doubt on NOC's ability to continue as a going concern.

### INCOME

All income is recognised once the Group has entitlement to the income, it is probable that the income will be received, and the amount of income receivable can be measured reliably.

Grants are included in the Consolidated Statement of Financial Activities on a receivable basis. The balance of income received for specific purposes but not expended during the year is shown in the relevant funds on the Balance Sheet. Where income is received in advance of entitlement of receipt, its recognition is deferred and included in creditors as deferred income. Where entitlement occurs before income is received, the income is accrued. Donations and grants for particular purposes are included in income as restricted funds.

Where grants relate to donated fixed assets, they are measured at fair value, unless it is impractical to measure this reliably, in which case the cost of the item to the donor is used. The gain is recognised as income from donations and a corresponding amount is included in the appropriate fixed asset class and depreciated over the useful economic life, in accordance with the Group's accounting policies.

Investment income relates to interest on funds held on deposit and is included when receivable and the amount can be measured reliably by the Group; this is normally upon notification of the interest paid or payable by the institution with whom the funds are deposited.

Incoming resources from charitable trading activity are accounted for when earned.

Where a contract for services is performed gradually over time the revenue is recognised as the activity progresses. The amount of revenue reflects the costs incurred up to the balance sheet date.

All other income is recognised on an accruals basis once the Group is legally entitled to receipt.

#### EXPENDITURE

Expenditure is recognised once there is a legal or constructive obligation to transfer economic benefit to a third party. It is probable that a transfer of economic benefits will be required in settlement and the amount of the obligation can be measured reliably.

Expenditure is classified by activity. The costs of each activity are made up of the total of direct costs and shared costs, including support costs involved in undertaking each activity.

Direct costs attributable to a single activity are allocated directly to that activity.

Shared costs which contribute to more than one activity and support costs which are not attributable to a single activity are apportioned between those activities on a basis consistent with the use of resources. Central staff costs are allocated on the basis of time spent, and depreciation charges allocated on the portion of the asset's use.

Expenditure on raising funds includes all expenditure incurred by the Group to raise funds for its charitable purposes and includes costs of all fundraising activities events and non-charitable trading.

Expenditure on charitable activities is incurred on directly undertaking the activities which further the Group's objectives, as well as any associated support costs.

Governance costs include those incurred in the governance of the Charity and its assets and are primarily associated with constitutional and statutory requirements.

All expenditure is inclusive of irrecoverable VAT.

#### FOREIGN CURRENCIES

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at rates of exchange ruling at the reporting date.

Transactions in foreign currencies are translated into sterling at the rate ruling on the date of the transaction.

Exchange gains and losses are recognised in the Consolidated Statement of Financial Activities.

#### INTANGIBLE ASSETS AND AMORTISATION

Intangible assets are capitalised and recognised when future economic benefits are probable, and the cost or value of the asset can be measured reliably.

Intangible assets are initially recognised at cost. After recognition, under the cost model, intangible assets are measured at cost less any accumulated amortisation and any accumulated impairment losses.

At each reporting date the Charity assesses whether there is any indication of impairment. If such indication exists, the recoverable amount of the asset is determined to be the higher of its fair value less costs to sell and its value in use. An impairment loss is recognised where the carrying amount exceeds the recoverable amount.

Amortisation is provided on intangible assets at rates calculated to write off the cost of each asset on a straight-line basis over its expected useful life.

The estimated useful lives are as follows:

Computer software - 5 years straight line

#### TANGIBLE FIXED ASSETS AND DEPRECIATION

Tangible fixed assets are capitalised and recognised when future economic benefits are probable, and the cost or value of the asset can be measured reliably.

Tangible fixed assets are initially recognised at cost. After recognition, under the cost model, tangible fixed assets are measured at cost less accumulated depreciation and any accumulated impairment losses. All costs incurred to bring a tangible fixed asset into its intended working condition should be included in the measurement of cost.

Assets in the course of construction are included at costs incurred to date. Depreciation on these assets is not charged until they are brought into use.

At each reporting date the Charity assesses whether there is any indication of

impairment. If such indication exists, the recoverable amount of the asset is determined to be the higher of its fair value less costs to sell and its value in use. An impairment loss is recognised where the carrying amount exceeds the recoverable amount.

Depreciation is charged on a straight-line basis over their estimated useful lives.

Depreciation is provided on the following bases

Scientific equipment	- 5 years
Marine pool	- 5 years
Fixtures and fittings	- 5 years
Computer equipment	- 5 years
Plant and machinery	- 5 years

The assets' residual values, useful lives and depreciation methods are reviewed, and adjusted prospectively if appropriate, or if there is an indication of a significant change since the last reporting date.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised in the Consolidated Statement of Financial Activities.

#### INVESTMENTS

Investments in subsidiaries are valued at cost less provision for impairment.

#### STOCKS

Stocks comprise of fuel held in storage for vessels and ship bond stock. Fuel stock is recorded at cost. Ship bond stock is valued at the lower of cost and net realisable value after making due allowance for obsolete and slow-moving stocks.

#### DEBTORS

Trade and other debtors are recognised at the settlement amount after any trade discount offered. Prepayments are valued at the amount prepaid net of any trade discounts due.

Work in progress reflects the costs incurred to balance sheet date on a contract for services.

#### CASH AND CASH EQUIVALENTS

Cash at bank and in hand includes cash and short term highly liquid investments with a short maturity of three months or less from the date of acquisition or opening of the

deposit or similar account.

#### LIABILITIES AND PROVISIONS

Liabilities are recognised when there is an obligation at the Balance Sheet date as a result of a past event, it is probable that a transfer of economic benefit will be required in settlement, and the amount of the settlement can be estimated reliably.

Liabilities are recognised at the amount that the Group anticipates it will pay to settle the debt or the amount it has received as advanced payments for the goods or services it must provide.

#### FINANCIAL INSTRUMENTS

The Group only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value with the exception of bank loans which are subsequently measured at amortised cost using the effective interest method.

#### OPERATING LEASES

Rentals paid under operating leases are charged to the Consolidated Statement of Financial Activities on a straight-line basis over the lease term.

#### PENSIONS

The Group operates a defined contribution pension scheme, and the pension charge represents the amounts payable by the Group to the fund in respect of the year.

The Group is also participating in a multi-employer plan with The National Environmental Research Council which is a defined benefit scheme funded from annual grant in aid on a pay as you go basis. It is not possible for the Group to obtain sufficient information to enable it to account for the plan as a defined benefit plan, it therefore accounts for the plan as a defined contribution plan.

#### FUND ACCOUNTING

General funds are unrestricted funds which are available for use at the discretion of the Trustees in furtherance of the general objectives of the Group and which have not been designated for other purposes.

Designated funds comprise unrestricted funds that have been set aside by the Trustees for particular purposes. The aim and use of each designated fund is set out in the notes to the

financial statements.

Restricted funds are funds which are to be used in accordance with specific restrictions imposed by donors or which have been raised by the Group for particular purposes. The costs of raising and administering such funds are charged against the specific fund. The aim and use of each restricted fund is set out in the notes to the financial statements.

Restricted fixed asset funds represent the moveable assets of the National Oceanography Centre, being the plant, equipment (including IT equipment), libraries, stocks, inventory and consumables of the operation. Without them the National Oceanography Centre could not operate. They are shown separately to other unrestricted funds due to the size and importance of these assets to the National Oceanography Centre.

Investment income, gains and losses are allocated to the appropriate fund.

#### **GIFT AID DONATIONS MADE TO THE CHARITY**

Donations made by the subsidiary to the Parent Charity are recognised as income in the charity either when paid or at the date when the subsidiary has a legal liability to make the donation payment if earlier.

#### **RESEARCH VESSELS**

NOC operates and manages two research vessels owned by UKRI under a bareboat charter at peppercorn rates. The terms of the bareboat charter do not meet the definition of a lease and, due to the unique nature of the vessels, it is not possible to reasonably quantify the value ascribed to the ownership and operation of them.

#### **CRITICAL ACCOUNTING ESTIMATES AND AREAS OF JUDGEMENT**

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

#### **CRITICAL ACCOUNTING ESTIMATES AND ASSUMPTIONS**

The Group makes estimates and assumptions concerning the future. The resulting accounting estimates and assumptions will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

#### **CRITICAL AREAS OF JUDGEMENT**

Depreciation is a key estimate in the accounts which requires management judgement over the useful life of the assets and the residual values. The policy has been set out in the notes above.

**1 INCOME FROM DONATIONS AND LEGACIES**

	UNRESTRICTED FUNDS	RESTRICTED FUNDS	RESTRICTED FIXED ASSET FUNDS	TOTAL FUNDS	TOTAL FUNDS
	2024	2024	2024	2024	2023
<b>GROUP AND CHARITY</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
Donations:					
Other donations	108	83	-	191	51
<b>Total Donations</b>	<b>108</b>	<b>83</b>	<b>-</b>	<b>191</b>	<b>51</b>
Income from grants:					
UKRI NERC grant	22,149	26,709	5,266	54,124	50,825
UKRI other grants	8,819	124	417	9,360	10,787
Other grants	11,327	1,150	1,375	13,852	14,047
<b>Total Grants</b>	<b>42,295</b>	<b>27,983</b>	<b>7,058</b>	<b>77,336</b>	<b>75,659</b>
<b>Total Donations and Grants</b>	<b>42,403</b>	<b>28,066</b>	<b>7,058</b>	<b>77,527</b>	<b>75,710</b>

**2 INCOME FROM TRADING ACTIVITIES**

	UNRESTRICTED FUNDS	RESTRICTED FUNDS	TOTAL FUNDS	TOTAL FUNDS	
	2024	2024	2024	2023	
<b>GROUP AND CHARITY</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	
Rental		527	-	527	1,300
Disbursements		2,267	-	2,267	1,909
Maintenance and repairs income		1,381	529	1,910	3,086
Bond sales		60	-	60	66
Ship charter income		-	-	-	19
Other trading income		7	-	7	41
<b>Total Other Trading Income</b>		<b>4,242</b>	<b>529</b>	<b>4,771</b>	<b>6,380</b>

**2A OTHER INCOME**

	UNRESTRICTED FUNDS	RESTRICTED FUNDS	TOTAL FUNDS	TOTAL FUNDS	
	2024	2024	2024	2023	
<b>GROUP AND CHARITY</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	
Other donations		58	4	62	244

3 INCOME FROM INVESTMENTS

	UNRESTRICTED FUNDS	TOTAL FUNDS	TOTAL FUNDS
	2024	2024	2023
<b>GROUP AND CHARITY</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
Bank interest	1,418	1,418	444

4 EXPENDITURE ON CHARITABLE ACTIVITIES

	STAFF COSTS	VESSEL COSTS	RESEARCH COSTS	ESTATE COSTS	DEPRECIATION	OTHER COSTS	TOTAL	TOTAL
	2024	2024	2024	2024	2024	2024	2024	2023
<b>GROUP AND CHARITY</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
Activities undertaken directly								
Scientific research	27,046	10,291	12,526	1,881	1,218	254	53,216	60,975
Support costs								
- Administration costs	14,952	-	(515)	4,703	3,678	2,577	25,335	21,075
- Governance costs	-	-	-	-	-	464	464	524
<b>Total Expenditure</b>	<b>41,998</b>	<b>10,291</b>	<b>12,011</b>	<b>6,584</b>	<b>4,896</b>	<b>3,235</b>	<b>79,015</b>	<b>82,574</b>
							<b>TOTAL FUNDS</b>	<b>TOTAL FUNDS</b>
							<b>2024</b>	<b>2023</b>
<b>GROUP AND CHARITY</b>							<b>£'000</b>	<b>£'000</b>

Analysis of governance costs

Audit fees:		
- Audit of financial statements	126	125
- Other fees paid to auditors	106	178
Trustee remuneration and expenses	9	8
Legal and professional fees	211	200
Finance costs	12	13
<b>Total Governance costs</b>	<b>464</b>	<b>524</b>

Total expenditure on charitable activities for the year was £79,015K (2023: £82,574K). Of that expenditure £46,330K (2023: £53,566K) was unrestricted, £28,686K (2023: £25,326K) was restricted and £3,999K (2023: £3,682K) was restricted fixed asset funds.

5 NET INCOME

	2024	2023
<b>GROUP AND CHARITY</b>	<b>£'000</b>	<b>£'000</b>
<b>Net income is stated after charging/ (crediting):</b>		
Depreciation of tangible fixed assets	4,896	4,302
Amortisation of intangible fixed assets	1	44
Loss on disposal of equipment	746	340
Loss/ (Gain) on foreign exchange	81	288
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6 STAFF COSTS

	2024	2023
<b>GROUP AND CHARITY</b>	<b>£'000</b>	<b>£'000</b>
Wages and salaries	33,808	30,337
National insurance contributions	3,537	3,219
Pension costs	4,653	4,446
	-----	-----
<b>Total Staff Costs</b>	<b>41,998</b>	<b>38,002</b>

During the year there were redundancy costs of £201K (2023: £61K) which were paid to 7 (2023: 9) members of staff. Of these 2 (2023: 2) were statutory redundancy pay and 5 (2023: 7) were severance pay.

The number of employees for the year was as follows:

	2024	2023
<b>GROUP AND CHARITY</b>	<b>NUMBER</b>	<b>NUMBER</b>
Science and research staff	301	266
Fundraising staff	2	2
Operations and finance staff	215	207
Engineers and technicians	121	112
Mariners	83	86
	-----	-----
<b>Total Staff numbers</b>	<b>722</b>	<b>673</b>

The number of employees whose employee benefits (excluding employer pension costs) exceeded £60,000 was:

	2024	2023
<b>GROUP AND CHARITY</b>	<b>NUMBER</b>	<b>NUMBER</b>
£60,001 - £70,000	50	46
£70,001 - £80,000	28	19
£80,001 - £90,000	6	5
£90,001 - £100,000	1	3
£100,001 - £110,000	3	1
£110,001 - £120,000	1	0
£120,001 - £130,000	0	1
£130,001 - £140,000	1	1
£140,001 - £150,000	1	0
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**6 STAFF COSTS (CONTINUED)**

	2024	2023
<b>GROUP AND CHARITY</b>	<b>£'000</b>	<b>£'000</b>
Key management personnel salaries (inc. Employer pension contributions and National Insurance) (Key management personnel are the Senior Management Team, as set out on page 61 of this report)	392	539

**7 TRUSTEE REMUNERATION AND EXPENSES**

During the year one trustee received remuneration of £9K (2023: one trustee received £8K).

The remuneration was agreed and provided under a provision in the governing document of the Charity. Remuneration was provided due to the Trustees' role as the Chair of the Audit and Risk Committee, which requires a range of specialist knowledge and experience and has a wide remit in terms of the role that the Trustee is required to provide. No other benefits were provided.

During the year £1K (2023: £1K) of expenses were reimbursed to trustees in relation to travel and subsistence.

During the year professional indemnity insurance of £82K (2023: £78K) was purchased in respect of all the Trustees and Officers of the company.

**8 INTANGIBLE FIXED ASSETS**

<b>GROUP AND CHARITY</b>	<b>COMPUTER SOFTWARE AND TOTAL</b>
	<b>£'000</b>
<b>Cost</b>	
At 1 October 2023	1,609
Additions	-
<b>At 30 September 2024</b>	<b>1,609</b>
<b>Amortisation</b>	
At 1 October 2023	1,608
Charge for the year	1
<b>At 30 September 2024</b>	<b>1,609</b>
<b>Net book value</b>	
At 30 September 2024	-
At 30 September 2023	1

9 TANGIBLE FIXED ASSETS

	SCIENTIFIC EQUIPMENT	MARINE POOL	FIXTURES & FITTINGS	COMPUTER EQUIPMENT	PLANT & MACHINERY	MOTOR VEHICLES	TOTAL
GROUP	£'000	£'000	£'000	£'000	£'000	£'000	£'000
<b>Cost or valuation</b>							
At 1 October 2023	18,813	11,322	47	2,441	1,894	-	34,517
Additions	2,962	3,470	-	1,400	31	23	7,886
Disposals	(1,469)	(1,420)	-	(229)	(27)	-	(3,145)
<b>At 30 September 2024</b>	<b>20,306</b>	<b>13,372</b>	<b>47</b>	<b>3,612</b>	<b>1,898</b>	<b>23</b>	<b>39,258</b>
<b>Depreciation</b>							
At 1 October 2023	11,886	5,235	26	1,348	1,611	-	20,106
Charge for the year	2,619	1,612	21	389	255	-	4,896
On disposals	(1,122)	(1,023)	-	(227)	(27)	-	(2,399)
<b>At 30 September 2024</b>	<b>13,383</b>	<b>5,824</b>	<b>47</b>	<b>1,510</b>	<b>1,839</b>	<b>-</b>	<b>22,603</b>
<b>Net book value</b>							
At 30 September 2024	6,923	7,548	-	2,102	59	23	16,655
At 30 September 2023	6,927	6,087	21	1,093	283	-	14,411
<b>CHARITY</b>							
	SCIENTIFIC EQUIPMENT	MARINE POOL	FIXTURES & FITTINGS	COMPUTER EQUIPMENT	PLANT & MACHINERY	MOTOR VEHICLES	TOTAL
CHARITY	£'000	£'000	£'000	£'000	£'000	£'000	£'000
<b>Cost or valuation</b>							
At 1 October 2023	18,813	11,322	-	2,441	1,894	-	34,470
Additions	2,962	3,470	-	1,400	31	23	7,886
Disposals	(1,469)	(1,420)	-	(229)	(27)	-	(3,145)
<b>At 30 September 2024</b>	<b>20,306</b>	<b>13,372</b>	<b>-</b>	<b>3,612</b>	<b>1,898</b>	<b>23</b>	<b>39,211</b>
<b>Depreciation</b>							
At 1 October 2023	11,886	5,235	-	1,348	1,611	-	20,080
Charge for the year	2,619	1,612	-	389	255	-	4,875
On disposals	(1,122)	(1,023)	-	(227)	(27)	-	(2,399)
<b>At 30 September 2024</b>	<b>13,383</b>	<b>5,824</b>	<b>-</b>	<b>1,510</b>	<b>1,839</b>	<b>-</b>	<b>22,556</b>
<b>Net book value</b>							
At 30 September 2024	6,923	7,548	-	2,102	59	23	16,655
At 30 September 2023	6,927	6,087	-	1,093	283	-	14,390

On 1 November 2019 goodwill and moveable assets - being the plant, equipment (including IT equipment), libraries, stocks, inventory and consumables of the operation, were transferred to the charity by way of a capital grant from UKRI totalling £24,646K.

**10 INVESTMENTS**

**INVESTMENT IN SUBSIDIARIES**

The following was a subsidiary undertaking of the Charity with a nominal value for the investment in the subsidiary of £1:

NAME	GRANT NUMBER	REGISTERED OFFICE ADDRESS	PRINCIPAL ACTIVITY	CLASS OF SHARES	HOLDING
National Oceanography Centre Innovations Limited	12250763	National Oceanography Centre European Way Southampton United Kingdom SO14 3ZH	Development of products and services based on the output of ocean science research and engineering	Ordinary	100%
					2024
					<b>£'000</b>
					2023
					<b>£'000</b>
Income					2,435
Expenditure					2,625
					-----
Net liabilities					(190)
					-----

**INVESTMENT IN CASH DEPOSITS**

The value of cash deposits being held for greater than 30 days were:

	2024	2023
	<b>£'000</b>	<b>£'000</b>
<b>GROUP AND CHARITY</b>		
Cash Deposits at 30 September	8,000	4,000
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**11 STOCK**

	2024	2023
	<b>£'000</b>	<b>£'000</b>
<b>GROUP AND CHARITY</b>		
Marine fuel	48	52
Ship bond	518	501
	-----	-----
	566	553
	-----	-----

12 DEBTORS

	GROUP 2024	GROUP 2023	CHARITY 2024	CHARITY 2023
GROUP AND CHARITY	£'000	£'000	£'000	£'000
Trade debtors	5,847	4,094	5,306	3,965
Group debtors	-	-	404	216
Prepayments	1,374	1,888	1,374	1,888
Accrued income	6,493	7,180	6,277	7,023
Other debtors	116	365	112	365
<b>Total Debtors</b>	<b>13,630</b>	<b>13,627</b>	<b>13,473</b>	<b>13,457</b>

13 CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	GROUP 2024	GROUP 2023	CHARITY 2024	CHARITY 2023
GROUP AND CHARITY	£'000	£'000	£'000	£'000
Trade creditors	1,181	768	1,181	768
Due to Marine and EU partners	(28)	118	(28)	118
Pension accrual	357	294	357	294
Social security and other taxes	242	2,228	(48)	2,048
Accruals	3,039	2,532	3,039	2,532
Deferred income (note 14)	28,742	32,626	27,968	31,911
<b>Total Creditors</b>	<b>33,533</b>	<b>38,566</b>	<b>32,469</b>	<b>37,671</b>

14 DEFERRED INCOME

	GROUP 2024	GROUP 2023	CHARITY 2024	CHARITY 2023
GROUP AND CHARITY	£'000	£'000	£'000	£'000
At 1 October	32,626	37,526	31,911	37,311
Released to income	(76,649)	(78,502)	(76,590)	(78,486)
Amounts deferred in year	72,765	73,602	72,647	73,086
<b>Carried forward</b>	<b>28,742</b>	<b>32,626</b>	<b>27,968</b>	<b>31,911</b>

Deferred income relates to grant income, including research grants, which are received in advance of specific conditions being met. The income is shown as deferred until those conditions are fully satisfied.

15 FUNDS

	BALANCE AT		BALANCE AT			
	30 SEPTEMBER	2023	INCOME	EXPENDITURE	30 SEPTEMBER	2024
<b>GROUP</b>		<b>2,700</b>	<b>2,607</b>	<b>(2,004)</b>		<b>2,293</b>
Unrestricted funds						
Designated unrestricted:						
Designated funds		3,924	1,950	(2,070)		3,804
General unrestricted:						
Unrestricted funds		13,725	48,606	(46,885)		15,446
<b>Total unrestricted funds</b>		<b>17,649</b>	<b>50,556</b>	<b>(48,955)</b>		<b>19,250</b>
Restricted funds						
Restricted funds		2,550	28,599	(28,686)		2,463
Restricted fixed asset funds		7,074	7,058	(3,999)		10,133
<b>Total restricted funds</b>		<b>9,624</b>	<b>35,657</b>	<b>(32,685)</b>		<b>12,596</b>
<b>Total funds</b>		<b>27,273</b>	<b>86,213</b>	<b>(81,640)</b>		<b>31,846</b>

	BALANCE AT		BALANCE AT			
	30 SEPTEMBER	2023	INCOME	EXPENDITURE	30 SEPTEMBER	2024
<b>CHARITY</b>		<b>2,700</b>	<b>2,607</b>	<b>(2,004)</b>		<b>2,293</b>
Unrestricted funds						
Designated unrestricted:						
Designated funds		3,924	1,950	(2,070)		3,804
General unrestricted:						
Unrestricted funds		13,883	46,171	(44,260)		15,774
<b>Total unrestricted funds</b>		<b>17,787</b>	<b>48,121</b>	<b>(46,330)</b>		<b>19,578</b>
Restricted funds						
Restricted funds		2,550	28,599	(28,686)		2,463
Restricted fixed asset funds		7,074	7,058	(3,999)		10,133
<b>Total restricted funds</b>		<b>9,624</b>	<b>35,657</b>	<b>(32,685)</b>		<b>12,596</b>
<b>Total funds</b>		<b>27,411</b>	<b>83,778</b>	<b>(79,015)</b>		<b>32,174</b>

15 FUNDS (CONTINUED)  
PRIOR YEAR COMPARATIVE FIGURES

GROUP	BALANCE AT 30 SEPTEMBER			BALANCE AT 30 SEPTEMBER	
	2022	INCOME	EXPENDITURE	TRANSFERS	2023
	£'000	£'000	£'000	£'000	£'000
<b>Unrestricted funds</b>					
<b>Designated unrestricted:</b>					
Designated funds	-	-	-	3924	3,924
<b>General unrestricted:</b>					
Unrestricted funds	15,622	60,556	(56,194)	(6,259)	13,725
<b>Total unrestricted funds</b>	<b>15,622</b>	<b>60,556</b>	<b>(56,194)</b>	<b>(2,335)</b>	<b>17,649</b>
<b>Restricted funds</b>					
Restricted funds	1,139	24,537	(25,326)	2,200	2,550
Restricted fixed asset funds	10,313	308	(3,682)	135	7,074
<b>Total restricted funds</b>	<b>11,452</b>	<b>24,845</b>	<b>(29,008)</b>	<b>2,335</b>	<b>9,624</b>
<b>Total funds</b>	<b>27,074</b>	<b>85,401</b>	<b>(85,202)</b>	<b>-</b>	<b>27,273</b>

CHARITY	BALANCE AT 30 SEPTEMBER			BALANCE AT 30 SEPTEMBER	
	2022	INCOME	EXPENDITURE	TRANSFERS	2023
	£'000	£'000	£'000	£'000	£'000
<b>Unrestricted funds</b>					
<b>Designated unrestricted:</b>					
Designated funds	-	-	-	3,924	3,924
<b>General unrestricted:</b>					
Unrestricted funds	15,755	57,933	(53,566)	(6,259)	13,863
<b>Total unrestricted funds</b>	<b>15,755</b>	<b>57,933</b>	<b>(53,566)</b>	<b>(2,335)</b>	<b>17,787</b>
<b>Restricted funds</b>					
Restricted funds	1,139	24,537	(25,326)	2,200	2,550
Restricted fixed asset funds	10,313	308	(3,682)	135	7,074
<b>Total restricted funds</b>	<b>11,452</b>	<b>24,845</b>	<b>(29,008)</b>	<b>2,335</b>	<b>9,624</b>
<b>Total funds</b>	<b>27,207</b>	<b>82,778</b>	<b>(82,574)</b>	<b>-</b>	<b>27,411</b>

**15 FUNDS (CONTINUED)**

General funds are unrestricted funds which are available for use at the discretion of the Trustees in furtherance of the general objectives of the Group and which have not been designated for other purposes.

Designated funds comprise unrestricted funds that have been set aside by the Trustees for particular purposes.

The aim and use of each designated fund are set out in the notes to the financial statements.

Restricted funds are funds which are to be used in accordance with specific restrictions imposed by donors or which have been raised by the Group for particular purposes. The costs of raising and administering such funds are charged against the specific fund.

Restricted funds comprise of NMF ship operating income, charter income balance and NMEP capital replacement.

Restricted fixed asset funds are funds for the sole use of acquiring the moveable assets of NOC on the 1 November 2019 and the expenditure is the subsequent depreciation of these assets.

**16 NET ASSETS**

	FIXED ASSETS	INVESTMENTS	OTHER CURRENT ASSETS	CURRENT LIABILITIES	TOTAL
	2024	2024	2024	2024	2024
	(1,000)	(1,000)	(600)	(600)	(3,200)
General unrestricted	2,683	-	41,505	(28,742)	15,446
Designated unrestricted	-	-	3,804	-	3,804
Restricted	2,646	-	3,390	(3,573)	2,463
Restricted fixed asset	11,326	-	25	(1,218)	10,133
<b>Total Net Assets</b>	<b>16,655</b>	<b>-</b>	<b>48,724</b>	<b>(33,533)</b>	<b>31,846</b>

	FIXED ASSETS	INVESTMENTS	OTHER CURRENT ASSETS	CURRENT LIABILITIES	TOTAL
	2023	2023	2023	2023	2023
	(1,000)	(1,000)	(600)	(600)	(3,200)
General unrestricted	2,539	-	34,729	(23,543)	13,725
Designated unrestricted	-	-	3,924	-	3,924
Restricted	3,862	-	13,711	(15,023)	2,550
Restricted fixed asset	8,011	-	(937)	-	7,074
<b>Total Net Assets</b>	<b>14,412</b>	<b>-</b>	<b>51,427</b>	<b>(38,566)</b>	<b>27,273</b>

16 NET ASSETS (CONTINUED)

	FIXED ASSETS	OTHER CURRENT ASSETS	CURRENT LIABILITIES	TOTAL
	2024	2024	2024	2024
<b>GROUP</b>	<b>6,811</b>	<b>2,809</b>	<b>(422)</b>	<b>9,198</b>
General unrestricted	2,730	41,153	(28,109)	15,774
Designated unrestricted	-	3,804	-	3,804
Restricted	2,646	3,007	(3,190)	2,463
Restricted fixed asset	11,279	24	(1,170)	10,133
<b>Total Net Assets</b>	<b>16,655</b>	<b>47,988</b>	<b>(32,469)</b>	<b>32,174</b>

	FIXED ASSETS	OTHER CURRENT ASSETS	CURRENT LIABILITIES	TOTAL
	2023	2024	2024	2024
<b>GROUP</b>	<b>6,802</b>	<b>3,924</b>	<b>(4,227)</b>	<b>6,499</b>
General unrestricted	2,518	33,993	(22,848)	13,863
Designated unrestricted	-	3,924	-	3,924
Restricted	3,862	13,711	(15,023)	2,550
Restricted fixed asset	8,011	(937)	-	7,074
<b>Total Net Assets</b>	<b>14,391</b>	<b>50,691</b>	<b>(37,671)</b>	<b>27,411</b>

17 CASH AND CASH EQUIVALENTS

	GROUP	GROUP	CHARITY	CHARITY
	2024	2023	2024	2023
<b>GROUP</b>	<b>26,528</b>	<b>33,347</b>	<b>25,949</b>	<b>32,681</b>
Cash at bank	26,528	33,347	25,949	32,681

19 OPERATING LEASE COMMITMENTS

	2024	2023
<b>GROUP</b>	<b>7,088</b>	<b>1,750</b>
No later than 1 year	1,418	1,500
between 1 and 5 years	5,670	250
<b>Total Operating Lease Commitments</b>	<b>7,088</b>	<b>1,750</b>

## **20 RELATED PARTY TRANSACTIONS**

The Charity has made use of the exemptions in section 33.1A of FRS 102 and paragraph 1 of Schedule 5 of the Companies Act 2006 and has chosen not to disclose transactions with its wholly owned subsidiary, as these are eliminated on consolidation.

Transactions with Trustees are detailed in note 7.

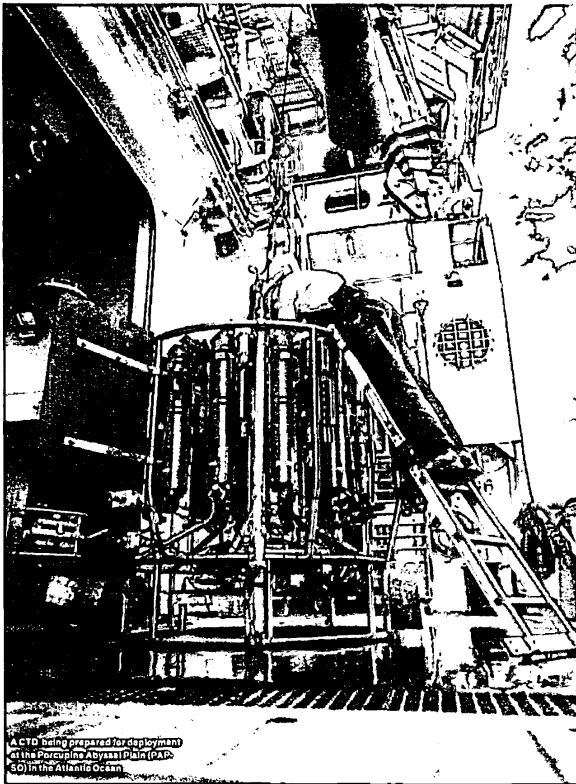
## **21 PENSION COMMITMENTS**

UKRI-NERC employees are entitled to be members of the Research Council's Pension Scheme which is a defined benefit scheme funded from annual grant-in-aid and pay-as-you-go basis. The pension scheme is contributory and is administered by the Research Council's Joint Superannuation Service.

The scheme is a multi-employer scheme, for which a separate Research Council's Pension Scheme account is published. NERC are unable to identify their share of the underlying assets and liabilities and those relating to NOC.

Employees who joined after 1 November 2019 are entitled to be members of the National Oceanography Centre Group Pension Scheme. This is a defined contribution pension scheme administered by Legal and General. Contributions for the year were employer's 10% and employees a minimum of 5%.

The pension costs charge for the year represents contributions payable to the schemes and amounted to £4,653K (2023: £4,446K).



A CTD being prepared for deployment at the Porcupine Abyssal Plain (PAP-50) in the Atlantic Ocean.

## GO DEEPER

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Cover image: The sun setting off the  
base of the ERB Discovery within an  
deployment at the PIP-60

**NOCLAJIK**

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