

DPLR4\1037

Investigating mesophotic coral bleaching during the 2023/2024 El Nino Event

In 2024, the fourth mass global coral bleaching event was declared. While impacts of bleaching on shallow-water coral reefs are well documented, those on Mesophotic Coral Ecosystems (MCEs; 30–150 m) are largely unknown and frequently go unnoticed. This project will build on our previous work in BIOT to further our understanding of the impacts of coral bleaching at mesophotic depths and the resilience of MCEs to climate change. This project will feed directly into conservation and management within BIOT.

DPLR4\1037

Investigating mesophotic coral bleaching during the 2023/2024 El Nino Event

Section 1 - Project Title & Contact Details

Q1. Project Title

Investigating mesophotic coral bleaching during the 2023/2024 El Nino Event

Q2. Please select whether you are applying as an organisation or as an individual (Guidance section 3 and Guidance Glossary)

Organisation

CONTACT DETAILS

Title Dr
Name Nicola
Surname Foster
Organisation University of Plymouth
Website (Work) [REDACTED]
Tel (Work) [REDACTED]
Email (Work) [REDACTED]
Address [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

CONTACT DETAILS

Title Dr
Name Phil
Surname Hosegood
Organisation University of Plymouth
Tel (Work) [REDACTED]
Email (Work) [REDACTED]
Address [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

CONTACT DETAILS

Title Dr
Name Clara
Surname Diaz
Organisation University of Plymouth
Tel (Work) [REDACTED]
Email (Work) [REDACTED]
Address [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

GMS ORGANISATION

Type	Organisation
Name	University of Plymouth
Phone (Work)	[REDACTED]
Email (Work)	[REDACTED]
Address	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

Section 2 - Overseas Territory(ies)

Q3. Please state whether the same (or similar) project proposal has previously been submitted to the UK Government for funding, including through Darwin Plus Local, Defra's other Darwin Plus grant schemes or other UK Government funding mechanisms. Failure to do so may result in the application being ineligible.

Yes

Please provide details including the grant scheme applied for, round number, project and/or application number, whether your submission was successful and in case this is a resubmission, how you have addressed the feedback in your cover letter.

In September 2023, the same team from the University of Plymouth applied for a NERC Urgency Grant (led by Phil Hosegood) - NE/Y006305/1 - 'Assessing bleaching prevalence and severity in the Indian Ocean mesophotic coral ecosystems during the 2023 El Nino/IOD event'. The objective of the Urgency Grant was to collect critical data on the impacts of a positive Indian Ocean Dipole (IOD) event on mesophotic corals in the Maldives and the Seychelles. The application had some similarities to the current application but was based in a different location. The NERC Urgency grant application was not funded because of uncertainty that the positive IOD event would happen, rather than issues with the project that was proposed. However, the positive IOD event did take place and is now transitioning to a negative phase, which may have significant implications for mesophotic coral ecosystems.

Q4. Overseas Territory (Guidance section 1.3):

Which UK Overseas Territory(ies) will your project be working in? Please note that in case of a non-permanent resident population you need to demonstrate a clear, meaningful, long-term link to the territory.

British Indian Ocean Territory (BIOT)

*** if you have indicated a territory group with an asterisk, please give detail on which territories you are working on here:**

No Response

In addition to the UKOT(s) you have indicated, will your project directly benefit any other UK OT(s) or country(ies)?

Yes

Please list these here and describe how they will benefit:

Mesophotic Coral Ecosystems (MCEs) occur in other UK Overseas Territories (OTs) located in the tropics (e.g., Cayman Islands, BVI, TCI) and these ecosystems are also under threat from climate change. Data collected within this project will further our understanding of the impacts of coral bleaching within these deeper coral ecosystems and provide evidence on the vulnerability and resilience of MCEs, their ability to withstand impacts from climate change, and their ability to provide the ecosystem services lost following the degradation of shallow-water reefs. These data are relevant for the conservation and protection of MCEs in all UK OTs.

Section 3 - Project Partners

Q5. Project partners (Guidance section 3.2)

In this section, please give details of all the partners involved (including the Lead Organisation) and provide a summary of their roles.

Project Leader name (Guidance section 3.1):	Dr Nicola Foster
Lead Organisation name (if applying as an organisation; Guidance section 3.1):	University of Plymouth
Lead Organisation Website (if applicable):	www.plymouth.ac.uk
Is the Lead Organisation based in a UKOT where the project is working (Guidance section 3.1)?	<input checked="" type="radio"/> No
Please justify why this project is led from outside the UKOT. You should demonstrate a clear, meaningful, long-term link to the Territory.	BIOT does not have a permanent residential population. The UK-US military base is located on Diego Garcia with approximately 2500 contractors and US/UK military personnel but these individuals cannot apply for grants due to work commitments/lack of UK residency. The University of Plymouth has strong links with BIOT, with Foster, Diaz and Hosegood conducting research there since 2015. We have developed long-term meaningful relationships with the BIOT Administration and Environment Officers on Diego Garcia. Our projects have investigated the biodiversity and distribution of mesophotic coral ecosystems and oceanographic drivers of biodiversity hotspots across the archipelago to inform conservation and management.
List other partners involved and where are they based:	The project does not have any formal partners but it will involve key stakeholders. We will work closely with the BIOT Administration (BIOTA) of the Foreign, Commonwealth and Development Office, ZSL (Rachel Jones), Environment Officers, Community Liaison Officers and military personnel, who will be invited to participate in data collection for the project. We will offer training in the use of our equipment, including Remotely Operated Vehicles, drop-camera systems and oceanographic moorings during data collection.

Summary of roles and responsibilities of each partner in the project:

The proposed project will be undertaken by four staff at the University of Plymouth, with 10 years' experience undertaking projects in BIOT: Dr Nicola Foster (PI; Lecturer in Marine Biology), Dr Clara Diaz (Co-PI; Postdoctoral Research Fellow); Dr Phil Hosegood (Co-PI; Associate Professor in Physical Oceanography) and Mr Peter Ganderton (Technical Specialist in Marine Instrumentation). Foster will lead and design the project with Diaz co-leading. Both have been investigating mesophotic coral ecosystems (MCEs) within BIOT for the past five years. Foster, Diaz and Hosegood will plan and coordinate the fieldwork in BIOT (with logistical support from Rachel Jones, ZSL), with Foster and Diaz undertaking two-three weeks of fieldwork within BIOT to collect data on the impacts of bleaching on MCEs (30-150 m depth) using a Remotely Operated Vehicle (ROV) and a drop-camera system. Both Foster and Diaz have extensive experience in piloting ROVs (to 200 m depth) and have significant experience in deploying drop-cams from small vessels (including within BIOT). We will survey the physical environment over the depth gradient, collecting critical data on light and temperature using oceanographic moorings and sensors. Hosegood will prepare the oceanographic equipment and provide outputs from numerical models of the region (funded under a project by the Bertarelli Foundation). Image annotation and statistical analysis will be undertaken by Diaz, supervised by Foster. All members will support writing of reports. Peter Ganderton will support Foster and Diaz in designing a drop-camera system and Ganderton will build the drop-camera and support the preparation of instrumentation.


I confirm that all listed partners are aware of this application and have indicated support:


Checked

Attach a Cover Letter for your application (Guidance section 4.2).

 [Cover letter DarwinLocal Foster DPLR4-1037](#)

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Section 4 - Project Summary & Description

Q6. Project Summary (Guidance section 3.8)

Please provide a brief summary of your project. This may be used in communication activities and/or published online, if your application is successful.

In 2024, the fourth mass global coral bleaching event was declared. While impacts of bleaching on shallow-water coral reefs are well documented, those on Mesophotic Coral Ecosystems (MCEs; 30–150 m) are largely unknown and frequently go unnoticed. This project will build on our previous work in BIOT to further our understanding of the impacts of coral bleaching at mesophotic depths and the resilience of MCEs to climate change. This project will feed directly into conservation and management within BIOT.

Q7a. Description (Guidance section 2.1 and 6)

Please provide a description of your project, including:

- the overall objective
- the current situation and the problem the project is trying to address
- what success will look like and how you will measure it.

Please be as specific as possible when describing the project, using quantified data and evidence where available. You may wish to consider: what are the specific threats to the environment that the project will attempt to address, and what should we know about these threats? What does your successful project look like? And how will you demonstrate whether and how your project has been successful?

As the effects and trajectory of climate change become clearer, mitigation measures are frequently considered to compensate for the adverse effects of global warming. In the marine environment, the focus is now largely on shallow-water coral reefs, as they are experiencing extensive bleaching due to excessive surface warming during the current 2023/2024 El Niño event. However, the subsurface effects of climate change on light-dependent mesophotic coral ecosystems (MCEs; 30-150 m), remain understudied despite their potentially pivotal importance to marine ecosystems as shallow-water coral communities are threatened by climate change.

Whilst MCEs are thought to be buffered from the aversive effects of climate change due to the thermally-stratified ocean and may offer a compensatory role as shallow-water reefs decline, recent evidence demonstrates that oceanographic processes can drive extensive coral bleaching within MCEs down to 100 m (Diaz, Foster et al., 2023, Nature Communications, <https://doi.org/10.1038/s41467-023-42279-2>). Indeed, a strongly positive Indian Ocean Dipole (IOD) event caused a deepening of the thermocline in the Indian Ocean, with surface water temperatures (29°C) observed at 100 m. However, our knowledge on these processes remains limited by the logistical complexities of investigating coral communities at depths beyond the limits of conventional SCUBA. Nevertheless, an assessment of the role of MCEs in sustaining the overall biodiversity of marine ecosystems and their resilience in the face of increasingly severe thermal events causing coral bleaching is critical.

In late 2023, the IOD-index moved towards a strong positive event, hence our team returned to BIOT in January-February 2024 to survey previously studied sites (2019, 2020, and 2022), as well as additional locations around the Archipelago, to establish the extent to which coral bleaching within MCEs followed the more recent IOD positive peak event. Bleaching was observed at mesophotic depths (60-90 m) again, without concurrent bleaching of corals in surface waters.

A reverse IOD event (negative) is predicted for late 2024, which will elicit a shoaling of the thermocline, exposing MCEs to cold, sub-thermocline waters, all whilst the shallow-water reefs are subject to elevated surface temperatures due to the ongoing El Niño. The objective of this project is to revisit previously surveyed sites during this exceptional event to gather biological and oceanographic data at mesophotic depths, enhancing our understanding of how regional and global-scale events impact MCE resilience. Specifically, we aim to assess the ability of bleached mesophotic corals to recover as the subsurface thermal regime responds to basin-scale forcing events. Long-term data collection on MCEs during warming events has never been conducted to date but is crucial to predict the potential changes within these important ecosystems, in this increasingly changing climate.

Our project will utilise expertise developed, and equipment acquired, during previous projects in BIOT. The team is intimately familiar with the region and were the first to witness bleaching in MCEs during the 2019 IOD event. In this project, we will use advanced remotely operated vehicles that can be deployed from a range of platforms, providing maximum flexibility when operating in challenging environments. We will complement biological measurements with a range of oceanographic sensors that enable an assessment of the local and regional

oceanographic conditions.

Success of the project will be demonstrated through establishing the recovery rates of mesophotic corals from bleaching observed in early 2024, documenting the influence of local and regional oceanography on the thermal regime within MCEs, and the incorporation of data specifically related to the protection of MCEs within management plans for the BIOT MPA. Through this project, we will begin to establish the resilience of BIOT MCEs to basin-scale perturbations in the thermal regime, helping to maintain the protection status of BIOT and conserve biodiversity.

Q7b. Long-term sustainability (Guidance section 2.1 and 6)

Please describe the long-term benefits of the project and the change it will bring about. How will the outcomes of the project be sustained after the funding is finished?

Healthy Mesophotic Coral Ecosystems (MCEs) are essential to maintain the overall biodiversity and resilience of coral reef ecosystems and they provide key ecosystem services to the surrounding environment, including nursery and feeding grounds and key habitat. This project will support marine conservation efforts within BIOT, providing the management authorities with critical data on the vulnerability and resilience of MCEs to climate change, and data on the ability of deeper corals to recover from bleaching events. These data will provide essential information to inform the management and conservation of MCEs within BIOT, enabling appropriate management strategies to be developed for MCEs and incorporated into the management plan for the BIOT MPA. Such actions will ensure the long-term sustainability of MCEs and protection of marine biodiversity within BIOT.

(Optional) Please upload any additional and supporting materials or files (such as maps of project sites, etc) below. Maximum of 5 sides of A4, and is combined as a single PDF:

No Response

Section 5 - Project Outcome(s)

Q8. Project Outcome(s) (Guidance section 1.2)

Successful Darwin Plus Local projects must demonstrate measurable outcomes in at least one of the themes of Darwin Plus with a clear focus on biodiversity and the natural environment, either by the end of the project or soon after through a credible plan.

Please note: Any proposals including research or monitoring are required to demonstrate a clear link to tangible outcomes for conservation of biodiversity and the natural environment. Please explain how any new research will be applied to drive environmental outcomes on the ground.

Please confirm that your project has a clear focus on biodiversity and the natural environment.

Checked **Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;**

Please tick which additional theme(s) of Darwin Plus your project contributes to (if relevant):

Checked	Climate change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;
Checked	Environmental quality: improving the condition and protection of the natural environment
Unchecked	Capability and capacity building: enhancing the capacity within OTs, including through community engagement and awareness, to support the environment in the short- and long-term.

Please justify your selection. Please use quantitative information where possible here.

Our project will enhance biodiversity and conservation within BIOT through the collection of data and documentation on the impacts of climate change on Mesophotic Coral Ecosystems (MCEs), in particular the impacts of the thermal regime on coral bleaching. Understanding these impacts on MCEs, in particular their vulnerability and resilience, will enable management authorities to develop effective conservation and management strategies, ensuring the long-term survival of these ecosystems within BIOT and the overall conservation of biodiversity within coral reef ecosystems. These efforts combined will contribute to the long-term protection and conservation of the natural environment in BIOT.





Section 6 - Workplan

Q9. Workplan (Guidance section 2.2)

Please provide anticipated dates for the start and end of your planned project here. Please use the Darwin Plus Local Project Workplan (available at: <https://darwinplus.org.uk/apply/local-applications/>) to provide a list of the individual activities you have planned for this project, a brief description of what each activity entails, and the months in which the activities will be carried out. If the project involves only one activity (e.g. a purchase), please still provide project start and end dates (noting estimated times for procurement). Please note that your project must start after 1 October 2024 and be completed by 31 March 2025.

Start date:	End date:	Duration (e.g. 3 months):
01 October 2024	31 March 2025	6 months

Please upload the completed Darwin Plus Local Project Workplan with your proposed project activities here

-  [r4-dplus-local-implementation-workplan Foster DPLR4-1037](#)
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-  docx 33.5 KB

Section 7 - Costs

Q10. Costs (Guidance section 2.2 and please read the Finance Guidance)

Please provide a breakdown of costs to be funded through Darwin Plus Local (in GBP).

Are you seeking any matched funding for this project?

Yes

How much matched funding are you seeking and where from?

We are seeking £[REDACTED] in matched funding:

- £[REDACTED] from University of Plymouth:
- £[REDACTED] - Dr Phil Hosegood ([REDACTED] for 6 months) to provide oceanographic support for the project
- £[REDACTED] - Oceanographic equipment (CTD - £[REDACTED] TD - £[REDACTED] Mooring consumables - £[REDACTED] Echosounder system - £[REDACTED]
- £[REDACTED] from Bertarelli Foundation:
- Rachel Jones from ZSL ([REDACTED] for 6 months) to provide logistical support for travel to/from BIOT and fieldwork in BIOT.

Budget line	Explanation	Cost in GBP
	N Foster (PI, supervisor, fieldwork) @ 15% for 6 months = £[REDACTED] Clara Diaz (Co-PI, PDRA, fieldwork) @ 2 month FT (257 hours) = £[REDACTED] P Ganderton (Technical support) @ 5% for 6 months = £[REDACTED]	
Staff costs:	Total Staff Matched Funding £[REDACTED] P Hosegood (Co-PI, Oceanography) @ 20% for 6 months = (matched funding = £[REDACTED] Rachel Jones (ZSL; Logistical support in BIOT) @ 5% for 6 months = (matched funding = £[REDACTED]	£[REDACTED]
Consultancy costs:	N/A	£0.00
Overhead costs:	N/A	£0.00
Travel & subsistence costs:	Through Rachel Jones (ZSL) and our team's experience working within BIOT, the cheapest options for travel and subsistence have been selected, where possible. - Return flights from London to Bahrain to meet AMC flight @ £[REDACTED] x 2 - Return AMC flight from Bahrain to DG @ £[REDACTED] x 2 - Transit accommodation in Bahrain (2 nights each way x 2 people) @ £[REDACTED] x 2 - Fieldwork Accommodation on DG (12 nights for 2 people) @ £[REDACTED] x 2 - Travel & Fieldwork subsistence (2 people) @ £[REDACTED] x 2	£[REDACTED]

Operating costs:	- Small boat hire for fieldwork around DG @ £ [REDACTED] - Equipment shipping costs @ £ [REDACTED] - Equipment Calibration @ £ [REDACTED] - Car hire on DG (12 days, including fuel) @ £ [REDACTED]	£ [REDACTED]
Capital equipment:	RBR Temperature Depth Sensors for use on drop-camera system @ £ [REDACTED] x 2	£ [REDACTED]
Other Costs	Small equipment costs (<£1000 per item) and consumables (Cable, GoPro cameras and deep housings, drop-camera components, PAR sensor, hard drives, handheld GPS unit, ropes and buoys) @ £ [REDACTED]	£ [REDACTED]
	Equipment Matched Funding: £ [REDACTED] - oceanographic equipment (CTD - £ [REDACTED] TD - £ [REDACTED] Mooring consumables - £ [REDACTED] Echosounder system - £ [REDACTED]	
Total:		49,407.89

This section provides more information on the budget to help evaluators understand how you will use the funds you are requesting. You do not need to list all costs, but please list and detail costs of more than £1,000 per item below, under the appropriate budget line.

Details of staff costs over £1,000 (if relevant)

There is no permanent residential population on Diego Garcia, thus the project requires external staff to undertake the data collection. We have minimised staff costs where possible, including providing matched funding of £ [REDACTED] for Phil Hosegood and Rachel Jones. Due to their prior experience and connections within the community, Nicola Foster and Clara Diaz are essential members of the project team and will spend up to 21 days in the field to collect data, followed by additional days for data analysis and report preparation. Peter Ganderton will provide essential technical support to develop key pieces of equipment.

Details of overhead costs over £1,000 (if relevant):

N/A

Details of travel and subsistence costs over £1,000 (if relevant):

Travel and subsistence costs have been kept to a minimum where possible. However, military flights from Bahrain to Diego Garcia have a set price each year, and there are no alternative transport options to BIOT, thus we have to incur this cost. Accommodation options on Diego Garcia are limited to one provider, and we have chosen the cheapest option suitable to our situation.

Details of operating costs over £1,000 (if relevant):

Boat rental on Diego Garcia is essential to access sampling sites around the atoll. There is only a single provider of boat hire available at a cost of £ [REDACTED]/day, which totals £ [REDACTED] for 8 days rental.

Details of capital equipment costs over £1,000 (if relevant):

Depth/temperature sensors are essential to accurately measure variations in the thermal regime over the depth gradient during the fieldwork expedition. These data are critical to determine the temperature at depth when surveying the mesophotic coral communities and to validate oceanographic models of the region. Each sensor costs £ [REDACTED] and we require two for the project.

Details of consultancy costs over £1,000 (if relevant):

N/A

Details of other costs over £1,000 (if relevant)

To support the project, we have secured matched funding for oceanographic equipment from the University of Plymouth for [REDACTED]

If your project budget was prepared in another currency and converted to GBP, please provide the exchange rate, its source, and the date it was accessed:

Other currency:	Exchange rate:	Source of this exchange rate:	Date exchange rate accessed:
No Response	No Response	No Response	No Response

Darwin Plus Local has been created to build capacity and contribute to local economies in-territory.

What % of the total will be spent in the OTs? [REDACTED]

If less than 80% of the total project spend is to be spent within the OT(s), please explain why.

There is no permanent residential population in BIOT, thus project teams from outside BIOT are required to undertake data collection for projects and to manage environmental programmes. As a consequence, the majority of project costs are spent outside BIOT. This project will be led and delivered by scientists at the University of Plymouth, who have been working in the region for the last 10 years and have strong links to BIOT. The project is also supported by the BIOT Administration and by ZSL, who lead and coordinate a programme of science within BIOT (Bertarelli Program in Marine Science), which comprises over 100 scientists from 25 institutions around the world. These scientists are working on an interdisciplinary programme centred around conservation and the protection of biodiversity within BIOT (www.marine.science). While only [REDACTED] of the total spend will be within BIOT, the data collected will directly inform the conservation of ecosystems within the BIOT MPA.

Section 8 - Local and National Priorities

Q11. Local and national priorities

Please explain how this project aligns with local and national priorities? You may wish to consider the project in the context of national environmental laws, objectives, strategies, territory specific agreements, action plans or policies.

The current project aligns with a number of national policies relating to environmental objectives, strategies, territory-specific action plans, MPA management plans and policies within the UK and BIOT. These include the UK government's '25 Year Environmental Plan to Improve Our Environment', which sets out plans to: "support the conservation and biodiversity of coral reefs in UK and Overseas Territories,...and encourage the best sustainable management practices of coral reefs", "reverse the loss of marine biodiversity and, where practicable, restore it", "better manage existing protected sites", and "prevent human-induced extinction or loss


of known threatened species in England and the Overseas Territories” (DEFRA, 2018). This plan also includes a commitment to the ‘Blue Belt’ of Marine Protected Areas around the UK’s Overseas Territories to conserve habitats and the species they support and increase resilience to long-term pressures, such as climate change. Through the investigation and protection of MCEs within BIOT, we will be contributing directly to the objectives of these plans. Furthermore, the project aligns with the Conservation and Management Plan for BIOT, which specifically details “...plans to maintain, enhance and protect the biodiversity of BIOT”. Our data will feed directly into updating the management plan for BIOT.


Will the project take place on Government owned land or water or involve biocontrol, invasive alien species control or eradication?


Yes

Please attach evidence that you have Government support for this project i.e. a Letter of Support. Applications which indicate that they do not take place on Government land or water, but which propose work that appears to the reviewers would be difficult/impossible to carry out without working on government land or waters may be ineligible if no Letter of Support is provided.

 [BIOTA SUPPORT LETTER Plymouth DPLR4-1037](#)

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Section 9 - Project Risks

Q12. Project Risks

Please demonstrate your consideration of any risks involved in this project and how you intend to manage them. Please note the importance of health and safety and environmental risk assessment in the design of your project. If there is any possibility that your project may have negative impacts on the environment or human health, it is important that you provide a comprehensive analysis of potential environmental and human health risks, and the prevention measures you will take to ensure the work does not cause harm.

Depending on your project, you may wish to consider:

- Biosecurity risks – particularly for projects involving external equipment.
- Safeguarding risks – particularly for projects involving vulnerable groups such as children, older people or people with disabilities.

Risk

Mitigation

Using remotely operated vehicles (ROVs) and drop-camera systems in remote and challenging environments and at depth poses numerous challenges and loss or damage to this equipment can jeopardise the project.

To mitigate this potential loss, we will, where possible, deploy the ROV/drop-camera in areas where we have bathymetric data and are aware of the topography and water depth. Using the live camera feed, we will avoid areas of complex terrain and canyons during the dive. We will also take spares for the ROV and an entirely separate drop-camera system that can be used in place of the ROV should it become lost or damaged. This will ensure video footage can still be collected for the project should the ROV be lost/damaged.

Bilateral negotiations are currently taking place between the UK and Mauritian governments over sovereignty of BIOT. The outcomes of these discussions are uncertain and there is a possibility that control of BIOT, and authorisation to enter the territory to collect data, may pass to Mauritius.

The short duration of this project is a mitigating factor in this instance. Fieldwork will be concluded by mid-December 2024 and all data analysis can take place back in the UK. There is some flexibility to bring the fieldwork forward slightly to early November should this be required. We are confident that the main objectives of the project will be met.

Data management - collecting large amounts of digital data comes with inherent risks related to loss of data. This could be through loss or damage to the ROV or drop-camera system, loss of oceanographic mooring buoys, loss of SD cards or failure of hard drives.

To mitigate the loss of data, we will ensure all data are downloaded from SD cards immediately after each ROV dive, all data are downloaded from oceanographic instruments immediately after retrieval, and all data are saved on multiple hard drives, which are stored in separate locations. On return to the UK, all data will be uploaded to secure online storage.

Do you require more fields?

No

Section 10 - Terms & Conditions

Q12. Terms and conditions (Guidance section 3.10)

By applying for Darwin Plus Local you are adhering in full to the grant Terms and Conditions in full (available at: [Darwin Plus website](#) and as referenced in the Guidance at section 3.10). For information, the Terms and Conditions include requirements for all applicants to (amongst other requirements as per the full Terms and Conditions):

- Uphold a zero tolerance for inaction approach to tackling sexual exploitation, abuse, and harassment.
- Where appropriate, make all reasonable and adequate efforts to address gender inequality and other power imbalances.
- Notify all cases of fraud and theft (whether proven or suspected) relating to the project to the Grant Administrator as soon as they identified.

Please indicate you have read, and understood, and will adhere to the Terms and Conditions.

Checked

Supporting documents list (please have these ready to attach with application)

- Cover Letter of no more than two A4 pages. (Guidance section: 4.2 has information on what this cover letter should include).
- If the project takes place on public land or water or is addressing invasive alien species, a Letter of support from OT Government.
- Project Workplan in the template provided for Darwin Plus Local (available at: <https://darwinplus.org.uk/apply/local-applications/>).
- Map and additional information (optional) maximum five additional pages.

If your application is successful

If your project application is successful, the Fund Administrator (NIRAS) will ask you to provide some financial evidence for due diligence checks before you receive your project grant. (Please see section 3.3 of the Darwin Plus Local Finance Guidance). Please be ready to provide this evidence promptly.

- **Financial evidence for organisations:** Year-end financial statements, the latest management accounts or audited accounts (if you have these).
- **Financial evidence for individuals:** Proof of identity such as a passport, ID card or driving licence and solvency (such as bank statements) and a police check.

Section 11 - Certification

Certification

I certify that, to the best of my knowledge and belief, the statements made in this application are true and the information provided is correct.





Checked

I have the authority to submit an application on behalf of my organisation.

Checked

Name: Nicola Foster

Position in the organisation: (if applicable) Lecturer in Marine Biology

Signature (please upload e-signature)  [Nicola Signature](#)
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Date: 24 June 2024

Section 12 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance documents, including the “Darwin Plus Local Guidance” and the “Darwin Plus Local Finance Guidance”.	Checked
If my proposed project takes place on public lands or water or is addressing alien invasive species, I have uploaded a Letter of Support from Government.	Checked
I have uploaded a cover letter that details the information requested in the guidance (Guidance section 4.2 has information on what this cover letter should include).	Checked
I have read, and can meet, the current Terms and Conditions for this fund (found at: https://darwinplus.org.uk/apply/local-applications/) for this fund.	Checked
I have provided actual start and end dates for my project that fit this Round.	Checked
I have provided my summary budget based on UK government financial years i.e. 1 April – 31 March and in GBP in the application form.	Checked
I have uploaded my project workplan using the specific template provided (available at: https://darwinplus.org.uk/apply/local-applications/).	Checked
I have uploaded all supplementary documents if I have any.	Checked
(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
I have checked the Darwin Plus website immediately prior to submission to ensure there are no late updates.	Checked
I have read and understood the Privacy Notice on the Darwin Plus website.	Checked

We would like to keep in touch!

Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our mailing list we share updates on upcoming and current application rounds under Darwin Plus. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share project news. You are free to unsubscribe at any time.

Checked

Data protection and use of personal data

Information supplied in the application form, including personal data, will be used by Defra as set out in the **Privacy Notice**, available from the [Forms and Guidance Portal](#).

This **Privacy Notice must be provided to all individuals** whose personal data is supplied in the application form. Some information may be used when publicising Darwin Plus including project details (usually title, lead partner, project leader, location, and total grant value).

Project Title:

Darwin Plus Local

Provide a **Project Implementation Timetable** that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project. Round 4 is for a **maximum of 6 months** with activities starting from 1 October 2024. All activities must be completed by 31 March 2025.

Please add/remove columns to reflect the length of your project. For each activity (add/remove rows as appropriate) indicate the number of months it will last, and shade only the months in which an activity will be carried out. The workplan can span multiple pages if necessary.

Activity #	Description (max 25 words)	No. of months	UK Financial Year 2024/25					
			Calendar Year 2024			Calendar Year 2025		
			Oct	Nov	Dec	Jan	Feb	Mar
1	Fieldwork logistics and planning for Chagos – liaise with BIOTA, travel bookings, kit transport, boat rental, accommodation, plan surveys).	1.5						
2	Drop camera system – Design system, purchase equipment and build a drop-camera system for surveying mesophotic ecosystems.	1						
3	Undertake fieldwork surveys in Chagos to collect primary data for the project – video surveys of benthos and collection of oceanographic data.	1						
4	Data organisation and archive & cruise report preparation.	1						
5	Data sharing to the ocean environment team at the UK Hydrographic Office.	1						
6	Data analysis – extract images from videos, annotate organisms within images, record occurrences of coral bleaching and mortality (using Biigle).	3						
7	Data analysis – analysis of moorings data and CTD data, visualisation of data.	3						

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			Calendar Year 2024			Calendar Year 2025		
			Oct	Nov	Dec	Jan	Feb	Mar
8	Statistical analysis – diversity, richness calculations, coral bleaching recovery rate analysis, oceanographic data.	2						
9	Report writing and delivery.	2						
10	Project monitoring and evaluation – evaluate progress of the project in month 2 and 5.	2						