
DPR12S2\1010

Climate impacts on FI past, present and future freshwater dynamics

A major threat to FI biodiversity and livelihoods is a drying climate. As warming continues, FI water security is a growing concern - but we lack baseline data to inform mitigation and adaptation. We will assess FI past and present freshwater dynamics (soil moisture, surface water), and identify how freshwater dynamics are influenced by land use. We will model future scenarios and identify habitats/areas prone to drying. Finally, climate change resilience and mitigation will be mainstreamed into management through workshops.

PRIMARY APPLICANT DETAILS

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DPR12S2\1010

Climate impacts on FI past, present and future freshwater dynamics

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Title	Dr
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GMS ORGANISATION

Type	Organisation
Name	South Atlantic Environmental Research Institute
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Section 2 - Title & Summary

Q3. Title:


Climate impacts on FI past, present and future freshwater dynamics


What was your Stage 1 reference number? e.g. DPR12S1\1123


DPR12S2\1045

Please attach a cover letter as a PDF document.

 [Response letter signed Sept](#)

 01/10/2023

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Q4. Summary of project

Please provide a brief non-technical summary of your project: the problem/need it is trying to address, its aims, and the key activities you plan on undertaking.

Successful Darwin Plus Main projects must demonstrate substantial measurable outcomes in at least one of the themes of Darwin Plus either by the end of the project's implementation or via evidenced mechanisms for post-project delivery.

Preference will be given to discrete projects implementing existing identified environmental solutions on the ground.

The broad themes of Darwin Plus Main are:

- **Biodiversity:** improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;
- **Climate change:** responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;
- **Environmental quality:** improving the condition and protection of the natural environment;
- **Capability and capacity building:** enhancing the capacity within UKOTs to support the environment in the short- and long-term.

A major threat to FI biodiversity and livelihoods is a drying climate. As warming continues, FI water security is a growing concern - but we lack baseline data to inform mitigation and adaptation. We will assess FI past and present freshwater dynamics (soil moisture, surface water), and identify how freshwater dynamics are influenced by land use. We will model future scenarios and identify habitats/areas prone to drying. Finally, climate change resilience and mitigation will be mainstreamed into management through workshops.

Section 3 - UKOT(s), Dates & Budget Summary

Q5. UKOT(s)

Which UK Overseas Territory(ies) will your project be working in?

- Falkland Islands (FI)

* 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 UKOTs you have indicated, will your project directly benefit any other Territories or country(ies)?

- No

Q6. Project dates

Start date:

01 July 2024

End date:

31 December 2026

Duration (e.g. 2 years, 3 months):

2 years 5 months

Q7. Budget summary

Year:	2024/25	2025/26	2026/27	Total request
Amount:	£50,390.00	£79,057.00	£54,855.00	£184,302.00

Q8. Do you have matched funding arrangements?

Yes

Please ensure you clearly outline your matched funding arrangement in the budget.

Q9. If you have a significant amount of unconfirmed matched funding, please clarify how you will fund the project if you don't manage to secure this?

We have no unconfirmed matched funding.

Q10. Have you received, applied for or plan to apply for any other UK Government funding for the proposed project or similar?

No

Section 4 - Problem statement

Q11. Problem the project is trying to address

Please describe the problem your project is trying to address in the UKOTs, relating to at least one of the themes of Darwin Plus:

For example, what are the specific threats to the environment that the project will attempt to address? Why are they relevant, for whom? How did you identify the need for your project? Please cite the evidence you are using to support your assessment of the problem.

Small Island territories and nations lack the capacity to tackle climate change at a global level, but can locally mitigate and adapt by understanding risks and impacts to natural systems. FI climate is increasingly becoming dry. Lakes and ponds are now susceptible to complete desiccation – which until recently, was simply unprecedented. This was demonstrated by fieldwork and landowner engagement during SAERI's DPLUS116 project (2020-2022). The causes of this unprecedented drying are unclear in the absence of baseline data, but are likely a combination of ongoing regional drought affecting a large part of South America and now over 10

years in duration (thought to be the most severe of the last millennium), and likely exacerbated by climate change and land management. With the recognition that the FI climate is changing, and that this change has already impacted FI hydrology, focus is now on water security, adaptation and mitigation. FI freshwaters cover a vast area, play a key role in maintaining terrestrial biodiversity, in the hydrology of peatlands and carbon storage, and sustain FI water supplies and livelihoods. Hence, an urgent requirement is for baseline data on FI freshwater, with which to understand and inform management.

Our project will use satellite imagery (freely available Landsat, Sentinel 1 and 2B with a resolution of 10-30 m) to identify hydrological change (soil moisture and surface water) over the last 30 years, and how spatiotemporal trends relate to climate and land use practices. The resolution of imagery has proven to be sufficient for peat condition assessment in the UK and assessment of global surface water (<https://global-surface-water.appspot.com/>). Furthermore, the return period for Sentinel 1 data (currently 12 days) enables temporal as well as spatial assessment, which higher-resolution products may not. Modelled future scenarios will provide insights into how different habitat types are influenced by drying. Finally, we will hold an adaptation, mitigation and resilience workshop to identify opportunities for enhanced monitoring, and mainstreaming findings into policy and land management (as appropriate). In doing so, our project addresses all four of the broad Darwin Plus themes: improving and conserving biodiversity, responding to, mitigating and adapting to climate change, and improving the condition of our natural environment.

Section 5 - Environmental Conventions, Treaties and Agreements

Q12. Environmental Conventions, Treaties and Agreements

Please detail how your project will contribute to the aims of the national and/or international agreement(s) your project is targeting. What key UKOT Government priorities and themes will it address and how? You should also consider local, territory specific agreements and action plans here. Letters of support from UKOT Government partners/stakeholders should also make clear reference to the agreements/action plans your project is contributing towards.

International

- Ramsar Convention (at least two sites whereby baseline data on surface water will be established)
- CBD: Article 8 (In-situ conservation), Article 12 (Research and Training); Goal A, Target 1 “people are aware of the values of biodiversity and the steps they can take to conserve ... it”; Goal C, Target 11, the conservation of wetlands through effective and well-connected systems.
- UK ‘25 Year Environment Plan’ Indicator K4: Extent and condition of terrestrial and marine protected areas in the UK Overseas Territories.

National

- FI Environment Strategy 2021-2040: several key objectives and actions, e.g., “increase knowledge of the ... aquatic environments and biodiversity, through identifying and filling key knowledge gaps”, “manage and protect our native ... aquatic ecosystems” and climate change resilience and adaptation.
- FI Biodiversity Framework 2016-2030: cross-cutting challenge “lack of information”.
- ‘The Islands Plan 2023-26’: vision to “Develop a mitigation and adaptation plan for climate change that will include addressing the challenges of drying land, water management and rainfall.”

Section 6 - Method, Project Stakeholders, Gender, Change Expected, Pathway to Change & Exit Strategy

Q13. Methodology

Describe the methods and approach you will use to achieve your intended Outcome and contribute towards your Impact. Provide information on:

- how you reflected on and incorporated **evidence and lessons learnt** from past and present similar activities and projects in the design of this project.
- the specific approach you are using, supported by **evidence** that it will be effective, and **justifying why you expect it will be successful** in this context.
- how you will undertake the work (activities, materials and methods).
- how the **main activities** will be and where these will take place.
- how you will **manage the work** (governance, roles and responsibilities, project management tools, risks etc.).

Whilst the FI marine environment has been the focus of recent climate change research (e.g., DPLUS148 and MCCIP (Marine and Climate Change Impacts Partnership)), there has been comparatively little focus on FI freshwater environments. The Terrestrial Ecosystems of the Falklands – a Climate Change Risk Assessment (TEFRA) project examined the impacts of climate on FI plants, soils and terrestrial habitats. However, TEFRA did not focus on freshwater. Similarly, DPLUS116 took place during two exceptionally dry summers, and highlighted both the vulnerability of FI wetlands and the lack of baseline data to guide management. However, it also did not focus on freshwater dynamics. Both TEFRA and DPLUS116 provide important context to develop the proposed project, which will seek to understand the potential impacts of climate change on freshwater dynamics. This will be critical to managing, mitigating and adapting to future changes. SAERI have successfully completed two terrestrially-focused projects that share similarities with the proposed freshwater project (DPLUS083 and DPLUS116). Lessons learned from these successful projects include devising realistic project schedules, the development of robust budgets and working with landowners and government to utilise local knowledge and build local capacity.

FI lakes and ponds have become increasingly susceptible to drying in recent years. The cause of drying is unclear, but is likely a combination of climate changes and land management. Our project will address the lack of baseline data on FI freshwater dynamics through four work packages (WP).

WP 1: A report card on terrestrial climate change impacts

With stakeholder collaboration and involvement, undertake a MCCIP-like exercise adapted to FI freshwater environments and their terrestrial catchments. The workshop will have two key aims: (1) we will bring stakeholders together early in the project, to share information, knowledge, ideas, and concerns related to FI freshwater dynamics. This will help to inform and shape how we both best engage stakeholders, and better understand how we tailor project outputs for stakeholder use. (2) based on the workshop outcomes we will produce a report card that reviews the current state of FI freshwater, perceived current and future risks, and confidence around risks identified. The workshop will guide WP2 (e.g., identifying habitats considered most vulnerable to climate changes).

WP 2: Establishing a freshwater baseline

- (1) Use freely available Landsat and Sentinel satellite imagery to assess past (last 30 y) and present freshwater dynamics (surface water extent and soil moisture (e.g., Normalized Difference Moisture Index, Soil Water Index). Note that published studies provide a proof of concept for the use of freely available satellite data to map surface water, including Pekel et al. (2016).
- (2) At select sites, in-situ soil moisture loggers will be used to improve satellite derived soil moisture indices (i.e., provide confidence around estimates).
- (3) Quantify changes in freshwater dynamics over time.
- (4) Identify the extent to which soil moisture is affected by land-use (e.g., by quantifying differences between areas with contrasting management), building on new evidence from a SAERI-UKCEH PhD study suggesting that intensive grazing can trigger vegetation change and drastically reduce moisture levels.
- (5) Provide options for future monitoring, captured within a report.

WP 3: Future Modelling and scenarios

Modelling will provide insights into whether drying scenarios are consistent throughout the islands, or if discrete areas are more prone to drying, and how these areas are characterized (e.g., soil type, vegetation, management, topographic position). As part of the WP, we will explore and mine online datasets (WorldClim) and local data sets (weather station data, new Defra- and FIG-funded 'flux towers' which measure evapotranspiration rates) and integrate these data into the analysis, where relevant. We will investigate a number of data-driven gridded models, such as the UKCEH Grid2Grid and JULES land surface models, selecting those that offer the best balance between data requirements, model complexity and performance. The best-performing model(s) will then be used to run future scenarios for FI waters based on a range of climate and land-management scenarios.

WP 4: Adaptation, mitigation and resilience workshop

With key stakeholders including landowners and government, we will:

- (1) Identify opportunities for monitoring surface water cost effectively, and how monitoring could support management and adaptation.
- (2) Provide an overview of project findings, including data tools (e.g., maps), access to data tools and how they can be used to support management.
- (3) Identify how key findings relate to land management, and opportunities for adaptation and mitigation.
- (4) Identify opportunities for mainstreaming key findings into policy.

Activities will be managed through a Project Management Group comprised of project partners, which will support and guide project delivery.

Q14. Project Stakeholders

Who are the stakeholders for this project and how have they been consulted (include local or host government support/engagement where relevant)? Briefly describe what support they will provide and how the project will engage with them

Falkland Islands Government (FIG) Department of Agriculture are project partners. They have been actively involved in developing the project with SAERI, to ensure the outputs are targeted and relevant. FIG Department of Agriculture will provide expertise in the context of land management practices, logistical support, lead landowner communications and support landowner engagement. FIG Environment Department are project partners and have also been involved in the design of the project. FIG Environment Department will provide strategic policy and environmental strategy advice, and help to mainstream project findings.

All project partners will be represented on the Project Management Group (PMG), which will help guide and support project delivery.

Other key project stakeholders are the FI rural community. In July 2023, we gave a presentation at Farmers Week to introduce the project. Although we highlighted funding was not secured, we wanted to engage key stakeholders as early as possible and provide a project overview, and examples of the type of project deliverables envisaged. Projects tackling the evolving threats to FI freshwater security, such as this project, are viewed as high priority by both FIG and landowners. It was particularly beneficial to introduce the project, as we secured stakeholder support and opened discussions about other available data that could be included in the project, and how the project could, for example, support FIG initiatives, such as those exploring the feasibility of introducing a water scarcity 'early warning' for landowners. We will engage the rural community through workshops and established communication routes (e.g., newsletters).

Q15. Gender equality and social inclusion

All applicants must consider whether and how their project will contribute to promoting equality between persons of different gender and social characteristics. Explain your understanding of how individuals may be excluded from equal participation within the context of your project, and how you seek to address this. You should consider how your project will proactively contribute to ensuring individuals achieve equitable outcomes and how you will engage participants in a meaningful way.

There are no gender or social inclusion barriers present within SAERI or anticipated for this project. SAERI have an Equal Opportunities Policy and our recruitment process reflects this. SAERI's policy statement on Equality is: "SAERI are committed to ensuring that recruitment, promotion, training, development, assessment, benefits, pay, terms and conditions of employment, redundancy and dismissals are determined on the basis of capability, qualifications, experience, skills and productivity. We are also committed to achieving a working environment, which provides equality of opportunity and freedom from unlawful discrimination on the grounds of race, sex, pregnancy and maternity, marital or civil partnership status, gender reassignment, disability, religion or beliefs, age or sexual orientation." We believe that better decisions are made by diverse groups. We acknowledge that attendance at workshops or meetings may be limited by parental responsibilities and will adjust timings accordingly. The current SAERI staff cohort is 60% female and 40% male. This project has a large landowner engagement component. Whilst the opportunity for taking part in this project is open to all, it is likely that more men than women will take part. The project will actively encourage female landowner participation.

Q16. Change expected

Detail the expected changes this work will deliver. You should identify what will change and who will benefit a) in the short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended). Please describe the changes for the environment and, where relevant, for people in the OTs, and how they are linked.

When talking about how people will benefit, please remember to give details of who will benefit, differences in benefits by gender or other layers of diversity within stakeholders, and the number of beneficiaries expected. The number of communities is insufficient detail – number of households should be the largest unit used.

Short term

- FI terrestrial climate change impacts will be better understood via an MCCIP like exercise (identifying key risks, likelihood and confidence), which will involve stakeholders and government.
- Project outputs, including baseline data on FI freshwater dynamics, will provide FIG with key data to support the delivery of their FI Environment Strategy objectives and internal government objectives.
- Stakeholder engagement is a key part of the project. Stakeholders will be informed through two workshops. A greater understanding of changes in FI freshwater over time, and the relationship with habitats and land use, will focus and enhance terrestrial habitat restoration efforts, and land management.
- Exit strategy includes securing future monitoring, and identifying opportunities for mainstreaming findings into policy/strategy and more generally, improving land management in the context of freshwater, livelihoods and biodiversity.

Long-term

- The project will identify options and recommendations (developed with our project partners FIG) for the continued monitoring of freshwater and mainstreaming project results into policy surrounding climate change adaptation and mitigation. This will ensure a lasting project legacy.
- Landowner/land manager capacity to understand, manage, mitigate and adapt to current and predicted changes in freshwater will be enhanced by direct involvement in workshops and through presentations and project publications.
- Data tools from the project (e.g., maps) will be made freely available within the Falkland Islands data portal, and again, accessibility to these tools will be emphasized during workshops.
- R scripts for processing Earth Observation data to map soil moisture and lake inundation will be created so that analyses can be easily repeated in future years to provide a continuing time series.

- Ultimately, the project will provide baseline data on FI freshwater dynamics, that can be used to understand climate change resilience, adaptation and mitigation.
- Improved understanding of the impacts of changing climate and land-management on the hydrology of the FI will also help with developing policies to protect and enhance the vast carbon stocks held in Falkland peatlands, which are critically dependent on the maintenance of high-water levels and thus highly vulnerable to loss (leading to CO2 emissions) if exposed to sustained drying.

Q17. Pathway to change

Please outline your project's expected pathway to change. This should be an overview of the overall project logic and outline why and how you expect your Outputs to contribute towards your overall Outcome and, in the longer term, your expected Impact.

Activities (data acquisition, collection, modelling)

The project will establish the current state of FI freshwater (baseline) using satellite imagery to identify current and historic freshwater hydrology and soil moisture (WP2). We will also generate model-based predictions of scenarios for future freshwater dynamics (WP3). These will be used to understand the relationship between contrasting patterns of land use and freshwater. Through workshops we will identify options for future monitoring and policy mainstreaming.

Outputs

Key to project output are regular stakeholder engagement through workshops, reports, and presentations. Stakeholders will have access to data tools produced, and early engagement will help guide and tailor project outputs to be user friendly. Note that we presented a project overview at farmers week (July 2023).

Outcomes

Establishing current and predicted trends in FI freshwater will provide landowners with enhanced appreciation of how vegetation/habitats on their land, influence surface water, and opportunities for management and mitigation (WP4). The project data will be key to supporting water security, and assist with FIG's ambition for climate change adaptation and mitigation by establishing baselines in freshwater dynamics. Project partners FIG will assist in identifying how recommendations and resources produced (WP4) can be mainstreamed into policy and management.

Q18. Sustainable benefits

How will the project reach a sustainable point and continue to deliver benefits post-funding? Will the activities require funding and support from other sources, or will they be mainstreamed in to "business as usual"? How will the required knowledge and skills remain available to sustain the benefits? If relevant, how will your approach be scaled? How will you ensure your data and evidence will be accessible to others?

The project will provide baseline data on FI freshwater status and change over time. Our exit strategy includes identifying opportunities for monitoring surface water cost effectively, opportunities for adaptation and mitigation, and for mainstreaming key findings into policy/strategy/current land management. These will help identify and progress management options for freshwater security. A large part of the project involves the development of data tools understand changes in freshwater dynamics (via Work Package 2). The collation of data and its upkeep will be covered by the existing member of staff in the FI IMS-GIS data centre.

The project will also provide sustainable benefits to people – particularly the rural sector – by providing the tools (e.g., online maps) to educate and inform stakeholders how land management can impact or benefit freshwater stocks, long after the project ends. Again, sustainability of data tools will be managed through the FI IMS-GIS data centre. Finally, the project will have sustainable benefits to biodiversity and conservation. Not only will the project identify areas that are at risk of drying, or have now become seasonally dry, but it will identify areas that

remain less prone to drying. Crucially, the project will identify options for (alternative) land management practices and freshwater monitoring to help conserve FI freshwater and the biodiversity and the livelihoods it sustains. Opportunities for mainstreaming project findings into policy/strategy/land management will be taken forward by our project partners FIG after the project ends.

Freshwater security is key to supporting FI livelihoods and biodiversity conservation. Our project addresses all four of the broad Darwin Plus themes: improving and conserving biodiversity, responding to, mitigating and adapting to climate change, and improving the condition of our natural environment and enhancing our capacity to support our environment in the short and long term.

If necessary, please provide supporting documentation e.g. maps, diagrams, references etc., as a PDF using the File Upload below:

No Response

Section 7 - Risk Management

Q19. Risk Management

Please outline the 6 key risks to achievement of your Project Outcome and how these risks will be managed and mitigated, referring to the Risk Guidance. This should include at least one Fiduciary, one Safeguarding, and one Delivery Chain Risk.

Risk Description	Impact	Prob.	Inherent Risk	Mitigation	Residual Risk
<p>Fiduciary (Financial) A risk that funds may be mishandled or misappropriated.</p>	Major	Possible	Minor	The Project Leader and Project Manager, who are responsible for project spend, must abide by SAERI purchasing and procurement policies, which requires senior approval for purchases over a limited amount. They must also maintain hard copies of all project expenses and the project finances must be audited at project end.	Moderate
<p>Safeguarding A risk that safeguarding policies may not be followed by the individual or equally, that safeguarding measures are not followed by the organization.</p>	Moderate	Possible	Major	SAERI has a comprehensive safeguarding policy that formally outlines policy principles and responsibilities within the organization and includes a designated safeguarding officer (DSO). Adherence to safeguarding policies will form part of a project terms of reference.	Moderate

Delivery Chain	A risk that UKCEH will be unable to provide support to Work Package 2, or that FIG will be unable to engage in the project as anticipated, due to a national response to avian influenza (see also Risk 4).	Moderate	Rare	Minor	We have developed the project with our project partners UKCEH and FIG. UKCEH has funding to support their involvement. FIG has provided letters of support highlighting their engagement in the project, and an FIG response plan to Avian Influenza has been prepared in advance of an anticipated outbreak.	Minor
Risk 4	Avian Influenza: Although the field work component of the project is small, avian influenza might nonetheless cause the closure of sites or impede local movement to field sites	Moderate	Possible	Major	The project will utilise soil moisture loggers across the Falkland Islands, limiting reliance on a single area or location. This will minimize impact of any potential site closures.	Minor
Risk 5	Recruitment delay: Project start is delayed due to recruitment and failure to secure a suitably qualified candidate – which could have follow-on effects in terms of project delivery and timings	Moderate	Possible	Major	The project timeline has been designed to allow a long lead-in time (5 months) from the project start until the anticipated beginning of project activities	Minor
Risk 6	Diminishing stakeholder involvement or buy-in, that could impact the sustainability and legacy of the project	Moderate	Rare	Minor	The project has been designed with substantive stakeholder engagement, including the initial project design presented to landowners at ‘Farmer Week’ in July 2023 and a workshop planned at project commencement. Our project partner FIG will be important in helping to enable the project to engage with landowners via various platforms	Minor

Q20. Project sensitivities


Please indicate whether there are sensitivities associated with this project that need to be considered if details are published (detailed species location data that would increase threats, political sensitivities, prosecutions for illegal activities, security of staff etc.). Please note your response to this question won't influence the outcome of your application.


No


Section 8 - Workplan


Q21. Workplan

Provide a project workplan that shows the key milestones in project activities. Complete the Word template as appropriate to describe the intended workplan for your project.

 [BCF Workplan Template 2023-24 FINAL](#)

 02/10/2023

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 pdf 148.34 KB

Section 9 - Monitoring and Evaluation (M&E)

Q21. Monitoring and evaluation (M&E) plan

Describe how the progress of the project will be monitored and evaluated, making reference to who is responsible for the project's M&E.

Darwin Plus projects will need to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact.

Additionally, please indicate an approximate budget and level of effort (person days) to be spent on M&E (see Finance Guidance).

The project will be implemented as a partnership between SAERI, FIG, and UKCEH. These partners will be members of the Project Management Group (PMG) whose main commitment and task is to monitor and steer the project. A Memorandum of Understanding (MoU) between all of the project partners will be established at the start of the project and will articulate the roles and responsibilities of all parties in the delivery of the project. Additionally, as part of the Project Management Structure, in the first six months of their appointment, the Project Manager will prepare a detailed Monitoring and Evaluation (M&E) plan in which a set of evaluation questions will be used to assess the effectiveness of the project's outcomes. Specific monitoring questions will be used to answer the evaluation questions and will be checked through indicators, data sources/methods to obtain the data, and the responsibilities for data collection (as mentioned in the MoU). The M&E plan will be then submitted to the PMG for sign off. Oversight of the delivery of the M&E plan will be the responsibility of the Project Manager, signing off of the implementation of the M&E plan will be the responsibility of the PMG. The Project Manager will present a quarterly report on progress against deliverables, M&E and a quarterly financial report to the PMG which will check that the project delivers its outputs on time, within the proposed budget, and that the quality of the outputs is of a high standard.





Summary reports of the project's outcomes will also be provided to the Darwin Initiative as required by the donors reporting mandates. An online file-sharing system will be established to ensure all partners have access to relevant documents, targets, etc. Oversight of the delivery of the M&E plan will be the responsibility of the Project Manager, signing off of the implementation of the M&E plan will be the responsibility of the PMG. A component of the M&E budget allocation will be used to bring in specialist, independent review if identified as required by the PMG during and/or at the end of the project process, however, the structure of the project means that the specialist oversight, the Project Manager and the committees provide continual oversight. The Project Manager and Project Lead are based in the FI.

Total project budget for M&E (£)	[REDACTED]
(this may include Staff and Travel and Subsistence Costs)	
Total project budget for M&E (%)	10
Number of days planned for M&E	40

Section 10 - Logical Framework

Q23. Logical Framework (logframe)

Darwin Plus projects will be required to monitor and report against their progress towards their Outputs and Outcome. This section sets out the expected Outputs and Outcome of your project, how you will measure progress against these and how we can verify this.

-  [BCF St2 and Single Stage Logical Framework Template Apr23](#)
-  02/10/2023
-  15:03:16
-  pdf 99.73 KB

Impact:

Baseline for FI freshwater established enabling climate change resilience and mitigation to be mainstreamed into policy, strategy and land management.

Outcome:

Robust baseline data enables past, present and future FI freshwater dynamics to be understood and provides informed, evidence-based recommendations for climate change mitigation and adaptation

Project Outputs

Output 1:

Report card on terrestrial climate change impacts (from the perspective of key stakeholders)

Output 2:

Establish a freshwater baseline using satellite imagery

Output 3:

Model future freshwater dynamic scenarios under a range of climate change scenarios

Output 4:

Climate change adaptation, mitigation and resilience workshop

Output 5:

No Response

Do you require more Output fields?

It is advised to have fewer than 6 Outputs since this level of detail can be provided at the Activity level.

No

Activities





Each activity is numbered according to the Output that it will contribute towards, for example, 1.1, 1.2, 1.3 are contributing to Output 1.

- 1.1 Host workshop in FI to establish current knowledge and freshwater 'report card'
- 1.2 Submit workshop findings to Project Management Group
- 1.3 Publish workshop findings on project website
- 2.1 Collate satellite imagery
- 2.2 Analyse current and historical freshwater dynamics
- 2.3 Establish satellite derived soil moisture indices (e.g., NDMI & Soil Water Index)
- 2.4 Expand the network of existing (n = 6) soil moisture probes (at least n = 10 new sites)
- 3.1 Model future freshwater dynamics using a range of scenarios
- 3.2 Results captured in a report that is published on the project website
- 4.1 Host workshop in FI, with a focus on climate change adaptation, mitigation and resilience
- 4.2 Submit proposals/report stemming from workshop to FIG's Environment Committee for consideration
- 4.3 Publish workshop report on project webpage

Section 11 - Budget and Funding

Q24. Budget

Please complete the appropriate Excel spreadsheet which provides the Budget for this application and ensure the Summary page is fully completed. Some of the questions earlier and below refer to the information in this spreadsheet.

-  [BCF Budget over 100k MASTER Aug23 FK Fre shwater](#)
-  01/10/2023
-  17:22:55
-  xlsx 98.69 KB

Q25. Alignment with other funding and activities

This question aims to help us understand how familiar you are with other work in the geographic/thematic area, and how this proposed project will build on or align with this to avoid any risks of duplicating or conflicting activities.

Q25a. Is this new work or does it build on existing/past activities (delivered by anyone and funded through any source)?

New Initiative

Please provide details:

This is a new initiative.

Q25b. Are you aware of any current or future plans for work in the geographic/thematic area to the proposed project?

No

Q26. Balance of budget spend

Defra are keen to see as much Darwin Plus funding as possible directly benefiting UKOT communities and economies. While it is appreciated that this is not always possible every effort should be made for funds to remain in-Territory.

Explain the thinking behind your budget in terms of where Darwin Plus funds will be spent. What benefits will the Territory/ies see from your budget? What level of the award do you expect will be spent locally? Please explain the decisions behind any Darwin Plus funding that will not be spent locally and how those costs are important for the project.

The majority of the budget spend will be on staff costs for the SAERI Project Manager. SAERI is a FI based organization and as such, the retained Project Manager will be based in FI for the duration of the project and work in the SAERI offices. They will be paid in FI and therefore contribute to tax here. Costs not retained locally include travel and subsistence for the recruitment of Project Manager if a suitably qualified person is not found locally. The main overseas costs are UK partner organization costs (UKCEH); however, they are a small percentage of the total costs, and will be matched by significant aligned and in-kind contributions by UKCEH (we have only capture core staff and overhead costs in matched funding - rather than the wider contribution by UKCEH). These wider contributions include: i) support for operation and processing of data from four Defra- and FIG-funded flux towers, providing detailed hydrological information; ii) ongoing core-funded work on Falkland pond hydrology and biogeochemistry; iii) continuing work on the impacts of land-management on peat hydrology and carbon cycling via a UKCEH-led PhD student; and iv) core-funded development of and support for land-surface hydrology models including Grid2Grid and JULES.

Q27. Value for Money

Please describe why you consider your application to be good value for money including justification of why the measures you will adopt will secure value for money.

SAERI and partners have galvanized 17 % match funding. SAERI has successfully managed a number of DPLUS projects and the budget provides the project with the necessary support and personnel for success. Crucially, the budget was calculated from actual costs incurred by SAERI in managing similar projects - this ensures value for money, as is reflected in the comparatively low cost of the project versus the hugely significant project outputs and benefit to the FI. SAERI, UKCEH and FIG have all contributed time in-kind, showing not only good value for money, but a clear commitment to the project and its delivery. Finally, the soil moisture probes purchased will have a long-term value in that it will be a resource that will enhance the capacity of FIG and SAERI's ongoing efforts to develop a soil moisture monitoring program, adding to the lasting legacy of the project.

Q28. Capital items

If you plan to purchase capital items with Darwin Plus funding, please indicate what you anticipate will happen to the items following project end. If you are requesting more than 10% capital costs, please provide your justification here.

Project Title: Climate impacts on FI past, present and future freshwater dynamics

	Activity	No. of months	Year 1 (24/25)				Year 2 (25/26)				Year 3 (26/27)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Report card on terrestrial climate change impacts													
1.1	Recruit project manager	5												
1.2	Host workshop in FI to establish current knowledge and freshwater 'report card'	1												
1.3	Submit workshop findings to Project Management Group	0.5												
1.4	Publish workshop findings on project website	0.5												
Output 2	Establish a freshwater baseline using satellite imagery													
2.1	Collate Satellite imagery	0.5												
2.2	Analyse current and historical freshwater dynamics	5												
2.3	Establish satellite derived soil moisture indices (e.g., NDMI & Soil Water Index)	5												
2.4	Expand the network of existing (n = 6) soil moisture probes (at least n = 10 new sites)	1												
Output 3	Model future freshwater dynamic scenarios under a range of climate change scenarios													

Project Title: Climate impacts on FI past, present and future freshwater dynamics

	Activity	No. of months	Year 1 (24/25)				Year 2 (25/26)				Year 3 (26/27)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.1	Model future freshwater dynamics using a range of scenarios	5												
3.2	Results captured in a report that is published on the project website	0.5												
Output 4	Climate change adaptation, mitigation and resilience workshop													
4.1	Host workshop in FI, with a focus on climate change adaptation, mitigation and resilience	1												
4.2	Submit proposals/report stemming from workshop to FIG's Environment Committee for consideration	1												
4.3	Publish workshop report on project webpage	0.5												

Project Title: Climate change and FI past, present and future freshwater dynamics

<p>Impact:</p> <p>Baseline for FI freshwater established enabling climate change resilience and mitigation to be mainstreamed into policy, strategy and land management.</p>			
<p>Outcome:</p> <p>Robust baseline data enables past, present and future FI freshwater dynamics to be understood and provides informed, evidence-based recommendations for climate change mitigation and adaptation</p>	<p>0.1 Baseline data (x2) on surface freshwater and soil moisture established (Y3, Q3).</p> <p>0.2 Stakeholders (at least n = 10) understand how the data can be used to inform land management, have an appreciation of future monitoring options, and understand how findings can be mainstreamed into policy/strategy. Measured through workshop attendance (Y3, Q3).</p>	<p>0.1 Publication of datasets (x2) on the FI IMS-GIS data centre portal http://dataportal.saeri.org/ and reports circulated to stakeholders.</p> <p>0.2 Adaptation and resilience workshop attendance.</p>	<p>Government and stakeholders remain committed to the project and engage in project activities (government are project partners and will form part of the Project Management Group).</p>
<p>Outputs:</p> <p>1. Report card on terrestrial climate change impacts (from the perspective of key stakeholders)</p>	<p>1.1 One meeting/workshop with stakeholders including government and local landowners (at least n =10) by Y2Q1 [DPLUS-B05].</p> <p>1.2 Report card on terrestrial climate change impacts (key</p>	<p>1.1 Verification through the publication of a workshop report.</p> <p>1.2 Report card (x1) published on the project website and disseminated to key stakeholders.</p>	<p>Government and stakeholders remain committed to the project and engage in project activities (government are project partners and will form part of the Project Management Group).</p>

Project Title: Climate change and FI past, present and future freshwater dynamics

	stakeholder perspectives) produced by Y2, Q1 [DPLUS-C01] .		
2. Establish a freshwater baseline using satellite imagery	<p>2.1 Current and historical freshwater dynamics (surface water and soil moisture (Normalized Difference Moisture Index) over the last 30 years established through analysis of satellite imagery and findings published in a report by Y3, Q3 [DPLUS-C01].</p> <p>2.2 Establish satellite derived soil moisture indices (e.g., NDMI & Soil Water Index) by Y3, Q3 [DPLUS-C01].</p> <p>2.3 Use SAERIs existing in-situ soil moisture probes (n = 6), and expand this network (at least n=10), to inform and improve the accuracy of the satellite derived soil moisture indices (that is, provide confidence around these estimates), by Y3, Q3.</p>	<p>2.1 Report produced (x1). Published on the project website and disseminated to key stakeholders. One presentation tailored to both public and government to disseminate findings. (Y3, Q3).</p> <p>2.2 Report produced (x1). Published on the project website and disseminated to key stakeholders. (Y3, Q3).</p> <p>2.3 Fieldwork report (x1) will be made available on the project website, and data will be deposited in the Falkland Islands data portal. (Y3, Q3).</p>	Recruitment for the project manager is not delayed (we have allocated 5 months for recruitment).
3. Model future freshwater dynamic scenarios under a range of climate change scenarios	3.1 Model future scenarios of FI freshwater dynamics using data from WP1. Produce a	<p>3.1 Report produced (x1).</p> <p>3.2 Report published on the project website and disseminated to key stakeholders (Y3Q3).</p>	Partners have the capacity and resource to collaborate in the analysis of data.

Project Title: Climate change and FI past, present and future freshwater dynamics

	report on future scenarios by Y3, Q3 [DPLUS-C01] .		Results provide anticipated insights into climate impacts and a drying FI.
4. Climate change adaptation, mitigation and resilience workshop	<p>4.1 Workshop with stakeholders (at least n = 10) that covers key project topics including (i) opportunities for monitoring surface water cost effectively [DPLUS-B01] (ii) how the key findings relate to land management, and opportunities for adaptation and mitigation [DPLUS-D02] and (iii) Identify opportunities for mainstreaming key findings into policy/strategy. Produce a report on workshop by Y3, Q3.</p> <p>4.2 Stakeholders (at least n = 10 individuals, and including x2 government departments) understand how to access and use the project data created by Y3, Q3 [DPLUS-A03].</p>	<p>4.1 Report produced (x1). Published on the project website and disseminated to key stakeholders (Y3Q3).</p> <p>4.2 Workshop report (x1) and webGIS project data (x1) publicly available (Y3Q3).</p>	<p>Government and stakeholders remain committed to the project and engage in project activities (government are project partners and will form part of the Project Management Group – key stakeholders include local landowners, and water security is a key area of concern).</p> <p>FIG and stakeholders endorse findings and incorporate into their policy/strategy and management.</p>
<p>Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1. Each activity should start on a new line and be no more than approximately 25 words.)</p> <p>1.1 Host workshop in FI to establish current knowledge and freshwater ‘report card’</p> <p>1.2 Submit workshop findings to Project Management Group</p>			

Project Title: Climate change and FI past, present and future freshwater dynamics

1.3 Publish workshop findings on project website

2.1 Collate satellite imagery

2.2 Analyse current and historical freshwater dynamics

2.3 Establish satellite derived soil moisture indices (e.g., NDMI & Soil Water Index)

2.4 Expand the network of existing (n = 6) soil moisture probes (at least n = 10 new sites)

3.1 Model future freshwater dynamics using a range of scenarios

3.2 Results captured in a report that is published on the project website

4.1 Host workshop in FI, with a focus on climate change adaptation, mitigation and resilience

4.2 Submit proposals/report stemming from workshop to FIG's Environment Committee for consideration

4.3 Publish workshop report on project webpage