



Darwin Initiative Main/Post/D+ Project Half Year Report (due 31st October 2018)

Project reference	DPLUS083
Project title	Soil map and online database as climate change mitigation tools
Country(ies)/territory(ies)	Falkland Islands
Lead organisation	South Atlantic Environmental Research Institute (SAERI)
Partner(s)	James Hutton Institute (JHI), Natural History Museum (NHM), Falkland Island Government (FIG), UK Falkland Island Trust (UK FIT), Universidad de Magallanes (UMAG), Centre for Ecology and Hydrology (CEH)
Project leader	Tara Pelembe – report drafted by Project Manager Stefanie Carter.
Report date and number (e.g., HYR3)	HY1
Project website/blog/social media etc.	https://www.south-atlantic-research.org/research/terrestrial-science/soil-map-and-online-database-as-climate-change-mitigation-tools/ @SAERI_FI

1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up to end September).

1. Project Management structure, monitoring, evaluation and communications tools established (1.1 – 1.6)

The Project Manager (PM) was successfully recruited and arrived in the Falklands at the end of August. Prior to this the PM received training on soil surveying in Cambridge (Figure 1). A Memorandum of Understanding (MoU) has been prepared and sent to project partners. Comments have been received from all project partners but the process of signing a final version is delayed because the document had to be translated into Spanish for one project partner. The revised document will have to be translated again. It is anticipated that the signed final document will be ready by the end of December 2018. Two Project Management Group (PMG) meetings have been held (22 May 2018 and 24 September 2018); the meeting notes are available on the project [website](#). The first meeting did not take place in Cambridge as originally anticipated but via Skype because this was more practical given locations, diaries etc. and the only way for the meeting to go ahead.

A Project Stakeholder Group (PSG) is currently being established. An invitation has been sent to all landowners, land managers, Falkland Conservation (FC) and other stakeholder groups who may be interested in participating. The project website was established and now that the PM is in place, it will be regularly updated. The Monitoring and Evaluation plan is completed and submitted alongside this report; it is also available on the project [website](#).



Figure 1: Soil Resources Foundation Course, Cambridge, August 2018. From left to right: John Hazelden (soil surveyor), Jim McAdam (consultant / UK Falkland Islands Trust), Rodney Burton (soil surveyor who delivered the course), Steffi Carter (PM / SAERI), iLaria Marengo (GIS specialist / SAERI).

2. WP 1: National Soil Map, peatland distribution and soil erosion extent/risk (2.1-2.5, 2.7)

The soil surveyor has been successfully recruited. The sampling points have been identified (a map is available on the project [website](#) and in Figure 2) and the PMG has agreed on the fieldwork methodology which is available on the project [website](#). Orders for equipment to be sourced from the UK have been placed: some items have already arrived (Figure 3), and the remainder are due to arrive on 20 November 2018. Equipment sourced locally will be purchased in November 2018. The first soil campaign will take place between 24 November and 22 December 2018, the second campaign is planned for February 2019, the third for November 2019. Preparations for the first campaign are currently being carried out and will be finalised before the campaign starts.

A soil penetrometer has been loaned from the Agri Food and Biosciences Institute and Queens University Belfast in Northern Ireland. This will be available for the first soil sampling campaign and will provide an important additional measurement for soil properties.

Satellite imagery has been selected and processed. The methodology applied is available on the project [website](#). The first maps with soil properties have been produced (example in Figure 4) but as indicated in the methodology write-up their accuracy is uncertain due to data issues. Once these issues are resolved, the maps will be uploaded to the project's website. It is anticipated that this will be completed by the end of November 2018.



Figure 2: Map of the Falkland Islands with all scheduled soil survey points that will be visited provided permission from landowners is granted.



Figure 3: Equipment that has already arrived in the Falklands.



Figure 4: Example of a preliminary map for soil characteristics at a 100 m resolution. Displayed is pH, the darker the shade of grey the lower the pH.

3. WP2: Assessment of the sustainability of soil management practices and of soils physical, chemical and microbiological properties (3.1, 3.2, 3.4)

Equipment sourced outside of the Falklands has been ordered and is due to arrive in time for the first soil campaign. The standard methods of soil collection and storage have been identified and are described as part of the fieldwork methodology protocol, available on the project [website](#).

In the initial application it was specified that the number and locations of samples for the microbial analyses would be determined through stakeholder consultations. This approach was changed as it was deemed too subjective and not scientifically robust. Therefore, a total number of 100 sampling points will be visited for sample collection as this is the maximum number covered by the budget. The sampling points to be included will be established randomly to avoid bias and to give the best statistical representation.

4. WP3: Development of soil spatial database and interactive tool (4.1 – 4.4)

The Data Management Plan has been drafted and is available on the project [website](#). The SAERI server has been set up to store the project database and all soil datasets from previous surveys have been collated and incorporated into a QGIS file. The Project Partners share data through a google team drive to which everyone has access. The data management procedures also are specified in paragraph 6 of the MoU.

Additional Outputs

The project will also be able to deliver additional outputs. In order to assess the role of the Falklands peatland in CO₂ emission or sequestration, it is proposed to carry out CO₂ flux monitoring from peatland areas for a complete annual year. This is possible within the overall budget provided some of the funds can be re-allocated to purchasing field equipment, which has been discussed with LTS and for which a change request will be submitted shortly. The additional work would start when the first two soil survey campaigns are completed. The majority of the work would be carried out off-season and would therefore not affect the established log framework.

Overall, the project is progressing as anticipated. The only delays are the preliminary maps (as explained above) and the establishment of the PSG. The PM's first priority upon taking up the post was to organise and order equipment because of the restriction of the container closing date for a particular voyage to get equipment to the Falklands before the first fieldwork period. The PM therefore did not have the opportunity to engage with potential stakeholders until the beginning of October. Due to the fieldwork timings it is anticipated that the first PSG meeting will take place in January 2019.

2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

Although the soil campaigns were planned for November 2018, February 2019 and November 2019, there was an error in associated budget allocation for the Feb 2019 trip. In the original budget the cost of the Feb 2019 field trip was allocated to FY 2019/20. This has been discussed with LTS and a change request will be submitted shortly.

This does not change the project schedule but if the change request was not granted, it would have major negative implications for the project. The fieldwork from the second soil campaign in February 2019 would have to be added to the third period in November 2019 – a period when the ground is usually wetter and weather can be more unpredictable. Completion of such an extended period of fieldwork at the end of 2019 would be difficult to achieve. As a result, the anticipated complete number of sampling points would probably not be visited which would make the final maps less accurate.

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?

Discussed with LTS: Yes/~~No~~

Formal change request submitted: ~~Yes~~/No

Received confirmation of change acceptance ~~Yes~~/No

3a. Do you currently expect to have any significant (e.g., more than £5,000) underspend in your budget for this year?

Yes No Estimated underspend: £

3b. If yes, then you need to consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project, please submit a rebudget Change Request as soon as possible. There is no guarantee that Defra will agree a rebudget so please ensure you have enough time to make appropriate changes if necessary.

4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

No.

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document. Additionally, if you were funded under R24 and asked to provide further information by your first half year report, please attach your response as a separate document.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also be raised with LTS International through a Change Request.**

Please send your **completed report by email** to Eilidh Young at Darwin-Projects@ltsi.co.uk . The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 22-035 Darwin Half Year Report**