



Newsletter 3

August 2020

Hello and welcome to our third Newsletter.

We hope you and your families are well and that you have managed to take some time off during the summer.

As you will see, even in these trying times, Centre staff continue to initiate exciting new collaborations, secure project funding, and publish papers. With the easing of lockdown restrictions, our hope is to be back out into the field, and start meeting people in person soon.

Ongoing projects and future opportunities

Climate-KIC Landscapes as Carbon Sinks

The [Landscapes as Carbon Sinks](#) project continues to develop a wide range of activities across its land use partnerships, bioeconomy, finance, and soil carbon workstreams.

We have welcomed two new members to the team:

Eliane Steiner, a research assistant based at ETH Zurich, will assist in the development and implementation of a role-playing game to support stakeholders in Scotland to identify and explore scenarios towards the Government's net-zero carbon target by 2045.

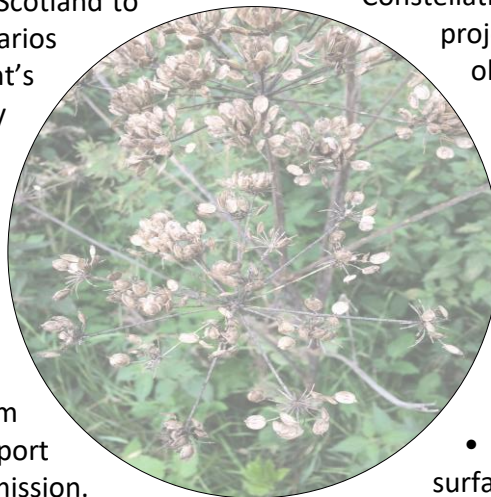
Renée Hermans joins us on a SAGES internship and will quantify the carbon emissions that result from different interventions in the land sector.

In August, our partners from ETH Zurich submitted a report to the Scottish Land Commission.

The outputs from this study will be used to prepare advice for the Scottish ministers on developing regional land use partnerships.

We ran three workshops on building a wood-based bioeconomy in construction, which included partners across the value chain. This has led to the construction of an interactive systems map through which we aim to identify points of intervention that can leverage the largest impact for the development of a construction bioeconomy that draws on domestic wood production.

We are currently finalising details for a workshop that will focus on evaluating financing options to support carbon sequestration through land management. In collaboration with the Highland Council and the Peatland Partnership, this work will



initially look at financing options for peatland restoration.

The project is being managed by Hester Robertson, and we encourage all those interested in being involved with this project to contact Hester directly on hester.robertson@ed.ac.uk.

New funding, fellowships and collaborations

Carbon Constellation Project

Mathew Williams has been successful in a bid to ESA to develop their Carbon Constellation project. This is a €1.1M project over 3 years with three objectives:

- to demonstrate the synergistic exploitation of satellite observations from active and passive microwave sensors together with optical data for better characterisation of carbon and water cycling on land,

- to adapt a numerical land surface model for its application in a data assimilation framework both for local and regional scale,

- to acquire and analyse campaign data to support the development of the model and the data assimilation scheme at sites in the boreal forests of Finland and the woodlands of central Spain.

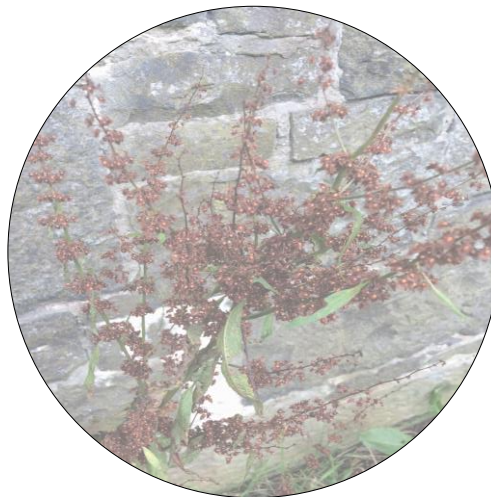
The project is led by Lund, and Edinburgh will lead on the modelling.

NERC Landscape Decisions Fellowships

Janet Fisher was recently awarded a 20-month-long fellowship for a project called '**Developing a Toolkit for Mapping and Deliberating Values for Uplands Management**': Many landscape decisions in contemporary upland UK become contested and some develop into conflicts, particularly when conservation stakeholders are present. There is a need for tools that can

help stakeholders to develop mutual understanding and deliberate key contentious issues. This Fellowship builds on the strengths of the Group and Organisation Future of Conservation Survey (GO-FOX) to adapt it for the management of the UK uplands. The Fellowship will combine the GO-FOX tool with the latest thinking in land use conflicts research to develop the versatile MApping and DELiberating Values for Uplands management (MADEVU) toolkit. This can be used with land use stakeholders to stimulate new understanding and ways of working with the potential to resolve upland conflicts.

Leo Peskett has also been awarded the NERC fellowship for his project **‘Bridging the national and local in landscape decision making: building effective regional partnerships that deliver on climate policy objectives’**”: There is great potential for the land sector to help meet ambitious climate change mitigation and adaptation targets. However, the current picture is often one of disjointed policies and a lack of coordination between national and local levels. Scotland is pioneering a new approach to address this challenge through the development of new Regional Land Use Partnerships in order to deliver the land use decisions needed to meet the 2030 and 2045 climate targets. These new institutions have the potential to be innovative in approach, but their success will depend on addressing significant questions, for example surrounding how they are governed, how they relate to existing institutions, the powers and tools they have to influence land managers, and how they use data. This Fellowship will collaborate closely with the Scottish Land Commission as it works with



stakeholders to build Land Use Partnerships across Scotland. It will help strengthen the role of evidence in these processes by translating relevant landscape decisions research through written products and engagement activities targeted at stakeholders involved in partnership design and implementation.

[DataLab Data for Children Collaborative project](#)

Gary Watmough is a CO-I on a newly funded project looking at estimating human populations using satellite data to support UNICEF vaccination programme planning in Mozambique. This is an 8-month-long project in collaboration with Informatics and UNICEF.

[Scottish Parliament Academic Fellowship](#)

Darrick Evensen recently started this fellowship ‘to advise the Parliament on pathways to ‘green recovery from COVID-19’ in Scotland.

[‘Reflective Learning for Social Inclusion’](#)

[Working with Nepal's forestry and development](#)

[practitioners during times of change](#)

Following on from **Sam Staddon's** GCRF Fellowship and a Kathmandu workshop in September 2019, she and **Clare Barnes** have been working remotely over the summer with a group of amazing forestry and development practitioners in Nepal. Collaborating with gender specialist Ditya Devi Gurung and transformative learning expert Gael Robertson, we have been exploring the role of reflective learning in helping make sense of current global changes, and how our professional practices might respond to those in order to promote more equitable development. It has been a very organic process, responding to

participants' needs and interests, and has been hugely rewarding because of that - as well as a great source of care, compassion and solidarity. We are looking forward to continuing the conversations into the future and see where they take us all.

Congratulations to all of them!

Media and Recent Publications

Sam Staddon appeared in the [June issue of the POLLEN newsletter](#).

Kyle Dexter contributed substantially to a recent effort to develop a [protocol for setting up permanent vegetation monitoring plots in dry forests](#), and which has also been reported in the [RBGE press release](#).

Patrick Meir published the following articles:

- Jones S, Rowland L, Cox PM et al incl Meir P (2020). "The Impact of a Simple Representation of Non-Structural Carbohydrates on the Simulated Response of Tropical Forests to Drought." *Biogeosciences*,

<https://doi.org/10.5194/bg-2019-452>.

-Bartholomew D, Bittencourt PRL et al., Meir P, Rowland L (2020). "Small tropical forest trees have a greater capacity to adjust to carbon metabolism to long term drought than large canopy trees." *Plant Cell and Environment* DOI: 10.1111/pce.13838.

- de Kauwe MG, Medlyn BE et al. incl Meir P (2020). "Identifying areas at risk of drought-induced tree mortality across South-Eastern Australia." *Global Change Biology*, doi.org/10.1111/gcb.15215

Patrick's recent paper was highlighted by Nature as one of their [News and Views articles](#). The paper has also been picked up by the media, most notably it appeared as a [full piece in the New York Times](#), in print on 18 August. The main finding of the article is

concerning from a climate change perspective. It reports on an in-situ full-profile soil warming experiment in Panamanian rainforest. The results show that soil warming causes much larger than expected emissions of CO₂ from tropical forest soil, and demonstrate a higher sensitivity to temperature in these emissions than is predicted by theory. The first author Andy Nottingham developed this work in Panama mainly through Marie Curie and NERC post doc funding at Edinburgh Geosciences, following earlier NERC post doc work at Edinburgh where he warmed forest soils by translocating them down the Andes.

Ebuka Nwobi published a paper on [mapping Niger Delta vegetation cover change](#) using a range of earth observations sensors linked to hard-won and extensive field data in the mangrove forests of Nigeria:

Nwobi, C., M. Williams and E. T. A. Mitchard (2020). "Rapid Mangrove Forest Loss and Nipa Palm (*Nypa fruticans*) Expansion in the Niger Delta, 2007–2017." *Remote Sensing* 12(14): 2344.

Blog

Our [latest blog](#) entry titled "Researching with producer organisations for sustainable and equitable forest landscapes" comes from PhD student **Jack Covey**.

Contact

If you have items for our next newsletter, news to share with the CSFL community, or if you would like to contribute to our blog, please get in touch with Nataša Honeybone (natasa.honeybone@ed.ac.uk).

