



## News from Countries, Sites and Platforms: December 2021



*Welcome to the latest product of eLTER Communications. We've decided to present the "News from countries, sites and platforms" section of the quarterly newsletter as a separate edition, to highlight the efforts of a great many eLTER colleagues in various roles - scientists, site and platform coordinators, national coordinators and so on - who are engaged in a wide variety of fascinating eLTER activities across Europe and beyond. We are very glad to be part of such a vibrant and active community, and we invite similar examples of activities to include in future editions of "News from countries, sites and platforms". So enjoy!*

A screenshot of the eLTER website dashboard. The top left features the eLTER logo and the text "Long-Term Socio-Ecological Research network in Europe". Below this is a map of Europe with several blue dots indicating research sites. To the right of the map is an "About" section with a "Members" count of 1 and a "Read More" link. At the bottom, there is a "Stats" section with four data points: 179,945 OBSERVATIONS, 11,197 SPECIES, 6,250 IDENTIFIERS, and 7,332 OBSERVERS. A "Project Journal" link is also visible.

## Joint online program for Citizen Science across LTSER platforms: A catalyst for network collaboration

A joint Citizen Science (CS) initiative is being developed within the well-known

iNaturalist network to create an umbrella project that will promote long-term biodiversity data registration. This initiative aims to have an impact on the eLTER network, both at a local scale, by **strengthening the relationship between citizens living in LTSER areas and the researchers** and managers who operate them, and at a European scale, by strengthening the interaction between platforms.

**Individual projects will be created for each LTSER platform** within the eLTER umbrella project so that in the future common CS initiatives can be carried out across the entire LTSER network. This will also give visibility to the eLTER network within the community of citizen scientists registered on iNaturalist.

In order for it to be a successful initiative, **several types of training are being planned for platform managers/scientists** to develop projects within iNaturalists. Other types of training dedicated to the application of best practices in CS, as well as techniques for involving citizens in biodiversity registration are also being planned.

Stay tuned for the next news to participate in this joint initiative and in the meantime take a look at the project under construction:

<https://www.inaturalist.org/projects/eltser-platforms>



**ACADEMY OF FINLAND**

## **Finnish environmental RIs get new funding**

The Academy of Finland will continue funding the Finnish research infrastructures. The INAR RI consortia "**Integrated Atmospheric and Earth System Research Infrastructure: Integrated observations for effective climate solutions in terrestrial ecosystems**" has received funding of 3.7 M€ for the 2022–2025 period.

The funding will support research in several fields: **meteorology and atmospheric sciences, climate research**, environmental science, forest sciences and ecology, evolutionary biology and ecophysiology.

The consortia are built on the national networks of environmental RI. This Finnish collaboration between the RIs is unique at the European scale and shows the value of integration and colocation of RIs at the same sites (**17 co-located sites out of 30 sites in total**).

INAR RI brings together the national partners in **ICOS** (Integrated Carbon Observation System), **ACTRIS** (Aerosol, Clouds and Trace Gases Research Infrastructure), **eLTER** (Integrated European Long-Term Ecosystem, Critical Zone & Socio-Ecological Research Infrastructure) and **AnaEE** (Infrastructure for Analysis and Experimentation on Ecosystems) and integrates the nationally operated facilities into a benchmarking RI in the atmosphere-ecosystem domain.

This project has three main aims supporting the development of the RI: 1) development of long-term high-quality environmental observations for better quantification of land carbon sinks and related climate impacts, 2) further integration of the environmental measurements and 3) **development of services related to data and access to better respond to user needs**. The project activities and data produced via INAR RI are relevant to the green transition and support the achievement of the national carbon neutrality target.



## **New 10 million euro research center on global warming will use eLTER sites and data**

The German Research Foundation (DFG) is establishing a new Collaborative Research Centre (CRC). In the CRC “**Regional Climate Change: The Role of Land Use and Water Management**”, researchers are investigating the hypothesis that human-induced land use change and intensified water management also influence regional climate – leading to unintended changes in the natural regional water and energy cycle.

**Phenomena such as droughts or increasing precipitation are attributed to global warming** and the natural variability of the climate system. However, current climate models cannot adequately explain these observations. In this Center, use will be made of eLTER sites in informing models and running experimental studies.

The Center is jointly run by the **University of Bonn and the Forschungszentrum Jülich GmbH** and is coordinated by Prof. Jürgen Kusche, University of Bonn. The Center will run for the next four years with an option for continuing beyond that. The total funding for the Center is about 10 million euros.

*Photo: © Volker Lannert / Uni Bonn*

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## **LTER-D news: German multi-site network Malaise trap project**

In 2019, as a response to alarming insect decline in Germany (e.g. Hallmann et

al. 2017), the German network for Long-Term Ecological Research (LTER-D) [launched the first nationwide Malaise trap project](#).

The aim of the project, run in cooperation with Nationale Naturlandschaften (German umbrella organization of large protected areas), is **to collect data on insect species diversity and population development in typical habitats** in Germany, and to help to identify the processes underlying insect declines and thus develop adaptation strategies.

**Tent-like malaise traps are suitable for trapping a wide range of flying insect species.** Typically these samples are quite large by trapping thousands of insects. It is easy to measure basic variables like biomass, but the meaningful ecological information gained by in depth community analysis requires automated methods to actually identify the species. **The project is unusual in that it has been running so far without basic funding,** relying instead on voluntary support from Senckenberg, UFZ and the other participants. In total, about 80 traps have been set up at 28 sites stretching from Germany's sea coast in the north to the Alps in the south – mainly in agricultural landscapes, semi-natural forests, floodplain forests and floodplain grasslands.

In a first approach, biomass data from 2019 were analyzed. It turned out that **temperature is the major factor affecting biomass variation of trapped insects** in time and space. Accordingly, the biomass of samples across Germany increased linearly with monthly temperature. Only in the hot months of June and July did the higher temperatures result in lower biomass levels. Moreover, the **positive effects of temperature on flying insect biomass diminish** at locations where temperatures most exceeded long-term averages (Welti et al. 2021, DOI: 10.1111/icad.12555).

Currently, metabarcoding is underway for approximately **2,000 samples collected in 2019 and 2020**. This genetic analysis creates a dataset that is unique for Germany, with hundreds of thousands of identifications in just a few weeks, providing information about the complete species composition of each sample. This opens a wealth of new analysis options considering traits of species and species groups.

Ellen Welti et al. (2021). [Temperature drives variation in flying insect biomass across a German malaise trap network. Insect Conservation and Diversity](#). DOI: 10.1111/icad.12555

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## The Negev Highland LTSER platform conference - Israel

On Thursday, October 28, 2021, an unusual audience gathered at the Mitzpe Ramon Community Center - **scientists from various fields of knowledge, along with stakeholders** from the Negev Highland and the Makhteshim country.

The [Scientific consortium of the LTSER Platform](#), led by Dr. Noa Avriel-Avni, organized the conference around three socio-ecological issues:

**1. Restoration of the Asiatic wild ass** (*Equus hemionus*) population, extinct from the region a few hundred years ago - the session dealt with issues of herd management and the effects of the growing ass population on the nature reserve and on the vineyards. The issue is also placed in the socio-geographical-political context and by this many further questions have been raised.

**2. Agricultural farms in the Negev highland valleys** - Is it possible to make a living from agriculture only in this arid area, and what is the best way to combine it with agro-tourism? Landowners, agricultural consultants, landscape planners, tourism experts and scientists have jointly discussed these issues and sharpened the questions, which need to be researched and monitored.

**3. Tourism as a key economic anchor in the Negev Highland** - how can it be combined with the preservation of biodiversity, the culture of the Bedouin shepherds, and other environmental values?

The challenge the conference posed was to strengthen the partnership between stakeholders and scientists; in this respect, the conference was a great success.

[Read more](#)



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