



## NEWSLETTER N°4, July 2021

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### Foreword by Michel Boër, AnaEE DG



Dear readers,

We are in the middle of a very active year for AnaEE. After the ESFRI Landmark evaluation and the ERIC final application, we are now turning to Horizon Europe and its first calls within the scope of AnaEE. We are prepared to contribute to the grand challenges that Europe, and the world as a whole, are facing, in the domains of ecosystem services, of which the Food and Nutrition System are of paramount importance, and on the adaptation to the climate change, including the consequences of the extremes on our ecosystems.

Despite the difficult period, we have now completed our first AnaEE Virtual Tour, which was an opportunity to discuss with all the platforms involved in every country about their work, services offered, and expectations. We now turn toward our First AnaEE Conference in Prague, the country hosting the AnaEE Interface and Synthesis Centre (see below).

Thanks to the relative calm of the pandemic situation, we, at the Central Hub, could visit the AnaEE platforms located in Saint Pierre et Nemours, hosting the Ecotron Ile de France and the aquatic Planaqua platforms, among other impressive facilities. You can read the report below, but we hope that during the coming months, Covid permitting, we will be able to make other visits in person to the facilities of AnaEE.

I take this opportunity also to congratulate Nadia Soudzilovskaia, who has been recently appointed Professor at the University of Hasselt, and who received the very prestigious *Friedrich Wilhelm Bessel Research Award*, granted by the *Alexander von Humboldt* Foundation. Nadia is a very active member of the University of Hasselt Ecotron.

Many of us are now taking some well-deserved holiday, and others will be in vacation in August. I wish you all a nice holiday, and see you soon, tanned and relaxed.

### Save the date for the 1st AnaEE Conference!



June 27 to June 30, 2022. Save the date in your calendar. More information coming soon.

## Focus on Platform: Visit to Ecotron IleDeFrance and Planaqua



On July 2<sup>nd</sup>, we visited the CEREEP-Ecotron IleDeFrance (Centre for Research in Experimental and Predictive Ecology), a research center affiliated to CNRS and Ecole Normale Supérieure in France. This center is located 1 hour away from Paris, in the small city of Saint-Pierre-les-Nemours, and hosts numerous platforms dedicated to ecosystem ecology. The Ecotron IleDeFrance is located in a research building of 1000 m<sup>2</sup> and consists of a platform of 15 climate chambers (called Ecolabs). The center also has numerous aquatic facilities including microcosms, standard mesocosms, and a unique set of large macrocosms. These equipments allow the detailed simulation of climatic environments in artificial conditions for ecological and evolutionary studies on small terrestrial and aquatic ecosystems.

Facilities are used by external users from France and abroad.

The Ecolab platform uses the classical principle of controlled environmental facility, here closed chambers of a volume around of 13 m<sup>3</sup> allowing to control with high precision a series of environmental parameters such as soil and water temperature, soil humidity, CO<sub>2</sub> gas concentration, artificial lighting, etc(1). A complementary set-up will also be soon available to perform global change experiments on larger organisms and ecosystems, including trees. During our visit, the Ecolab platform was fully occupied with experiments on climate adaptations and epigenetics in plants, soil carbon dynamics, and soil gas fluxes.



The aquatic platforms of the center currently include laboratory microcosms, a range of outdoor mesocosms and an ensemble of 16 very large macrosoms with ca. 800 m<sup>3</sup> of water. These equipments allow researchers to understand the functioning of aquatic ecosystems, organisms and biodiversity in response to environmental changes including climate change (air and water temperature, climates simulations in real time, light, organic matter, salinity, air CO<sub>2</sub> content) and biodiversity.

The macrocosms are currently used for a long-term experiment focusing on interactive effects of bottom-up and top-down control mechanisms in freshwater ecosystems. Some of the outdoor mesocosms were also used for short-term experiments funded by France and Europe, including a new experiment focusing on climate warming and the brownification of lakes and several TNA projects funded by the AQUACOSM+ project.



The platform is also equipped with cutting-edge analytical facilities and laboratories that can support research in studying the biotic and abiotic conditions of water samples from the aquatic platform. The analytical facilities include a flow cytometer for analysis of microbial and algal communities, spectrophotometers, a nutrient analysers and DOC/TOC analysers. The staff is also capable of designing sensor solutions on demand for the need of external users.

[More information here](#)



(1) Verdier, B., Jouanneau, I., Simonnet, B., Rabin, C., Van Dooren, T.J.M., Delpierre, N., Clobert, J., Abbadie, L., Ferrière, R. & Le Galliard, J.-F. (2014) Climate and Atmosphere Simulator for Experiments on Ecological Systems in Changing Environments. *Environmental Science & Technology*, 48, 8744–8753.

## The Data Portal is now online





## Search data

E.g. environment



AnaEE is proud to announce that its Data Portal is now online, allowing researchers to publish data in a FAIR-compliant way with ease and practitioners to access our data products from a single entry point. As research questions about the environment and food production become more and more pressing, research work needs to be done on unprecedented scales, made possible only by means of transnational cooperation and data sharing and integration. These processes, however, need a solid and distributed infrastructure to happen.

The AnaEE Data Portal is AnaEE's official data publication platform and it allows environmental and agricultural science practitioners to access experimental data from all across the AnaEE network. The platform is meant to facilitate data access and foster the enforcement of FAIR principles over AnaEE data by providing our users and stakeholders with data search tools, catalogue federation, extensive metadata, and harmonized means of accessing data and metadata via APIs.

The Data Portal is backed by the AnaEE cloud infrastructure provided by the Data and Modelling Centre, and implements the data accessibility, traceability, and interoperability identified by the ENVRI-FAIR project, improving AnaEE's positioning in the European Research Infrastructure ecosystem and paving the way for EOSC integration.

The Data Portal, together with the Developer Portal provides our users and stakeholders with a set of modern and resilient tools to access the wealth of information, services, and tools developed by AnaEE and its associates. These digital facilities, along with the over fifty experimental sites located all around Europe define AnaEE as a landmark in the environmental and agricultural applied research landscape. Over the next months these digital platforms will be populated with new datasets and services provided by the AnaEE network.


[Available here.](#)

## Atmosphere special issue on "Permafrost Peatlands under Rapide Climate Warming"

A special issue of [Atmosphere](#) with the theme Permafrost Peatlands under Rapid Climate Warming is welcoming manuscript submissions with a deadline **15 October 2021**. This Special Issue welcomes articles dedicated to all aspects of the behavior of carbon between soil, waters, and atmosphere. **More information** [here](#).

### NEWS FROM NATIONAL NODES

#### @AnaEE Belgium

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 Our colleague Nadia Soudzilovskaia won the prestigious German Friedrich Bessel Research Award from the Alexander von Humboldt Foundation during her time at Leiden University, for her research on the impact of interactions between plants and fungi on soil carbon. This prize is granted to outstanding mid-career scientists that are collaborating with German researchers. Soudzilovskaia has been also appointed recently as full Professor of the University of Hasselt, where she is a very active member of the team of the Ecotron.

#### @AnaEE France

- Publication of the two first data sets of AnaEE France compliant with ENVRI-FAIR standards and adapted for AnaEE Europe data portal. They are provided as case studies but we plan to publish many more in the coming year. The data sets can be found here in netCDF formats at <https://data.inrae.fr/dataverse/anaee-france>
- A recent analysis of tree fecundity from the long-term rainfall exclusion experiment performed in oak forest at Puéchabon AnaEE France site demonstrates that drought reduces tree fecundity importantly and does not promote acclimation to weather-induced annual variability in rainfall. This suggests that reduced rainfall in the Mediterranean area will further reduce oak tree regeneration than what is currently expected (Le Roncé, I., Gavinet, J., Ourcival, J.-M., Mouillot, F., Chuine, I. and Limousin, J.-M. (2021), Holm oak fecundity does not acclimate to a drier world. *New Phytol.* <https://doi.org/10.1111/nph.17412>)

### OPEN CALLS

improve research and enhance collaboration" Opening 01/09/2021 – Closing 01/10/2021. More information [here](#).

**ERA-NETs SUSFOOD2 and FOSC Joint Call 2021 Announcement** - "Innovative solutions for resilient, climate-smart and sustainable food systems". Closing 16/08/2021. More information [here](#)

**HORIZON EUROPE** – First calls published. More information [here](#)

*Please, if you are aware of any announcement of opportunity, share with us. If you plan to participate to one of these calls and use the AnaEE RI, please, tell us in advance, and follow the AnaEE access rules.*

## EVENTS CALENDAR

**AnaEE France Summer School** : 27 Sept – 1<sup>st</sup> Oct 2021 at Jardin du Lautaret. More information [here](#).

**AnaEE PhD course (AMAGS)**: 23-28 August 2021, University of Copenhagen. More information [here](#).

**Save the Date – AnaEE Conference 2022**: 27-30 June 2022, Prague. More information coming soon.

## About ENVRI Community

- **"The ENVRI-Hub for EOSC and Planet Earth: Event Summary"**

The main ambition of the ENVRI-FAIR project is to build the ENVRI-hub – a central gateway to all the data and services offered by the European environmental research infrastructures. An event was organized to present the concept, approach, and latest progress in the development of ENVRI-Hub. **Videos presentations are available** [here](#).

- **Show your work in a video! Participate in the user story competition organized by ENVRI**

The aim is to produce a 2-minute video demonstrating the use of services provided by the research infrastructure. The video must show how the use of services helps the user's science, why would she/he suggest others the use of services. The winner will receive up to 3000 euros towards its research. Deadline: 31/08/2021. **More information** [here](#).



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