



International seminar

PRE-PROGRAM

15 • 16 • 17 MAY 2024

BOIS D'AMONT • JURA • FRANCE



Functioning and rehabilitation of European mountain peatlands

conferences with European specialists • discussions •
site visits • English French translation



This document is not the final version of the program. Changes may still take place. The final program will be sent to registrants one month before the date of the event.



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International seminar

Functioning and rehabilitation of European mountain peatlands

The peatlands of the (central) European mountains have a number of features in common from a hydrological, biological and, more broadly, functional point of view. Although they appeared later than on the plains, human practices have also had an impact on the functioning of these peatlands. The consequences of these disturbances, far from diminishing over time, are set to increase with climate change.

In many mountain areas, there are a growing number of initiatives aimed at rehabilitating peatlands and trying to preserve their future. Thanks to this international seminar, the partners of the LIFE Climat Jura peatlands programme want to bring together researchers and managers of Central European «mountain peatlands» to answer a number of questions:

- What are the most appropriate scales and strategies for intervention?
- What rehabilitation techniques should be used, and what effects will they have?
- How can the problems be diagnosed and the results quantified?
- And more broadly, what is the future for these mountain peatlands in the context of climate change?



THE PROJECT IN A FEW WORDS *

NAME: LIFE Climat Jura peatlands

CODE NAME: LIFE RestituO

MISSION: to rehabilitate 70 peatlands and limit the impact of their degradation on climate change

DURATION: 7 years (from September 2022 to August 2029)

TOTAL BUDGET: €12.5 million

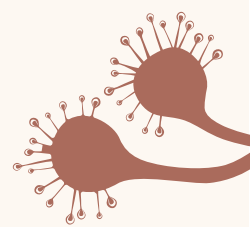
LOCATION: Jura massif of the Franche-Comté region

COORDINATING BENEFICIARY: Conservatoire d'espaces naturels de Franche-Comté

ASSOCIATED BENEFICIARIES: EPAGE Haut-Doubs Haute-Loue, Parc naturel régional du Haut-Jura, EPAGE Doubs Dessoubre and Association des amis de la Réserve naturelle du lac de Remoray

FINANCIAL PARTNERS: European Union, Rhône Méditerranée Corse Water Agency, Ministry of Ecological Transition, ADEME Bourgogne-Franche-Comté, Bourgogne-Franche-Comté Region, Doubs and Jura Departments.

*This project follows the LIFE Jura peatlands programme (2014-2021) which enabled the rehabilitation of 55 degraded peatlands



8:30 am to 9 am	Reception of participants at the “La Tourbière” community hall in Bois d’Amont	
9 am to 9:15 am	Welcoming speech	Francis Muller <i>Former Director of the Peatland Relay Centre France</i>

INTRODUCTION • European mountain peatlands: what are we talking about?

9:15 am to 9:45 am	A brief portrait of (central) European mountain peatlands: where are they found? What do they have in common and how do they differ from lowland mires? What are the issues?	Stephan Glatzel <i>Professor Research, University of Vienna Austria</i>
9:45 am to 9:55 am	Focus on the Jura peatlands	LIFE Climat Jura peatlands team
9:55 am to 10:25 am	Break	

SESSION 1 • Hydrology and carbon in mountain peatlands: scales of consideration and consequences for rehabilitation.

This session will present hydrological and carbon flux approaches at multiple scales in mountain peatlands.

10:25 am to 10:45 am	Origin and transfer of water in the Forbonnet active peatland at Frasne: a multi-tracer assessment	Marc Steinmann <i>Geochemist and Senior Lecturer, Chrono-environment Laboratory, University of Franche-Comté - France</i>
10:45 am to 11:05 am	Identifying the available revitalisation potential of drained peatlands	Karin Kessler <i>Ingenieur for water ressource management, Hydrotopio - Germany</i>
11:05 am to 11:25 am	Small supposed to be beautiful - Upscaling the implementation of hydrological bufferzones	Philippe Grosvernier <i>Professionnel Environnement REGA, Lin'Eco Switzerland</i>
11:25 am to 11:45 am	Flux et bilans de carbone d’une tourbière des Pyrénées : suivi à long terme et impact des épisodes de sécheresse	Laure Gaudois <i>Research fellow, CNRS - Toulouse university France</i>
11:45 am to 12:15 pm	Questions - Exchanges	
12:15 pm to 2 pm	Lunch at the “La Tourbière” community hall in Bois d’Amont	

SESSION 2 • Rehabilitation of European mountain peatlands

After an overview, the aim of this session is to present some of the initiatives undertaken in Europe’s mountains with a view to functional rehabilitation.

2 pm to 2:20 pm	Reaction and resilience of Austrian mires to 35-40 years of environmental stress: A comprehensive resampling study in >200 sites	Michael Steiner <i>Professor, University of Vienna - Austria</i>
2:20 pm to 2:40 pm	Hydrological restoration in mountain mires - experience from Sumava National Park (project LIFE for MIREs)	Ivana Bufková <i>LIFE for Mires Expert Guarantor - Czech Republic</i>

2:40 pm to 3pm	Conservation efforts for mountain peatlands in Poland	Pawel Pawlacyk <i>Project Manager in Naturalists Club Poland</i>
3 pm to 3:30 pm	Questions - Exchanges	
3:30 to 4 pm	Break	

SESSION 3 • Site rehabilitation: what are the effects?

Through a number of case studies, this session will present innovative and original approaches to measuring the effects of rehabilitation measures

4 pm to 4:20 pm	Learning from the past for a better future: Evidence-based rehabilitation of bogs	Stephan Glatzel <i>Professor Research, University of Vienna Austria</i>
4:20 pm to 4:40 pm	Thermal monitoring of wetland restoration using remote sensing	Martin Hais <i>PhD student, University of South Bohemia Czech Republic</i>
4:40 pm to 5 pm	Greenhouse gas (CO₂ and CH₄) flux measurements in Sphagnum-dominated peatlands of the Jura Mountains (France and Switzerland) and development of a testate amoeba-based transfer function for rapid assessment of GHG fluxes	Edward Mitchell <i>Professor, Soil Biodiversity Laboratory, University of Neuchatel - Switzerland</i> Robin Calisti <i>PhD student, Soil Biodiversity Laboratory, University of Neuchatel - Switzerland</i>
5 pm to 5:30 pm	Questions - Exchanges	
5:30 pm to 6 pm	LIFE Climat Jura peatlands programme: presentation and introduction to the fieldwork the following day (logistics)	LIFE Climat Jura peatlands team

EVENING

7 pm to 11 pm	Regional buffet at CEVEO Bois d'Amont	
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Thursday May 16, 2024



FIELD VISITS (see details on pages 6-7)

Choose one of the 3 suggested routes. Duration: full day with picnic lunch.

8:30 am to 5 pm	ROUTE 1 Peatlands of the Lac des Rouges-Truites and the Douillons, a review of 10 years' work
8:30 am to 5 pm	ROUTE 2 Les Rousses and Bellefontaine, peatlands, lakes, drinking water and major works
8:30 am to 5 pm	ROUTE 3 Rehabilitated sites in the Haut-Doubs, between active and wooded peatlands, lakes, rivers, raised bogs and a university research station

EVENING

7 pm to 8:30 pm	Dinner at CEVEO Bois d'Amont	
8:30 pm to 9:30 pm	Conference "Peatlands: how to reach 2050 in the fastest possible way?" at the "La Tourbière" community hall in Bois d'Amont	Hans Joosten <i>Emeritus Professor of Peatland Studies and Palaeoecology at the University of Greifswald and Secretary General of the International Mire Conservation Group</i>

8 am to 8:30 am

Reception of participants at the “La Tourbière” community hall in Bois d’Amont

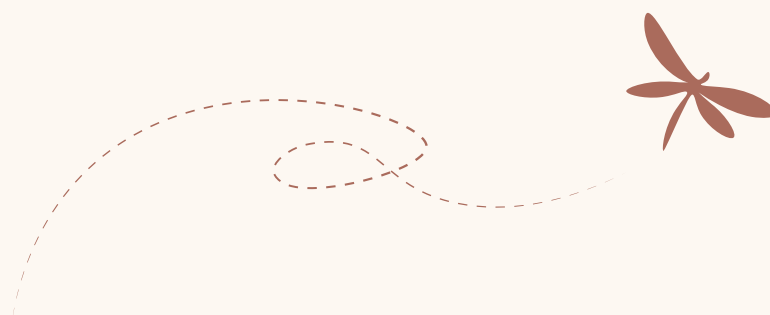
SESSION 4 • What does the future hold for mid-mountain peatlands?

How might Europe’s mountain peatlands evolve in the context of global change? What is their vulnerability?

8:30 am to 8:50 am	Modelling the hydrology of a headwater valley mire in the French Massif Central and simulation of the hydro-ecological impacts of climate change	Julian Thompson <i>Professor of Physical Geography, Hydrology and Wetlands, University College London United Kingdom</i> Arnaud Duranel <i>Consultant in wetland science and conservation wetlands, Ecotelm engineering office - France</i>
8:50 am to 9:10 am	Assessing the resilience of peatlands to climate change: a modeling perspective of the hydrogeological controls	Clément Roques <i>Lecturer/Senior scientist, University of Neuchâtel - Switzerland</i>
9:10 am to 9:30 am	The future of carbon storage in calcareous fens depends on the balance between groundwater discharge and air temperature	Patricia Singh <i>Researcher and qualification postdoc, Masaryk University - Czech Republic</i>
9:30 am to 9:50 am	Questions - Exchanges	
9:50 am to 10:10 am	Pause	

CONCLUSION

10:10 am to 11:10 am	Round table: What choices should be made to preserve European mountain peatlands in the face of global change? How can potential for rehabilitation be identified? What criteria should be used? Should sacrifices be made?	Animator : Francis Muller Speakers : Philippe Grosvernier, Stephan Glatzel, Edward Mitchell, Ivana Bufková, LIFE Climat Jura peatlands representant
11:10 am to 11:30 am	Opinion of decision-makers	Under construction
11:30 am to noon	Seminar synthesis	Hans Joosten <i>Emeritus Professor of Peatland Studies and Palaeoecology at the University of Greifswald and Secretary General of the International Mire Conservation Group</i>
noon to 1 pm	Lunch at the “La Tourbière” community hall in Bois d’Amont	



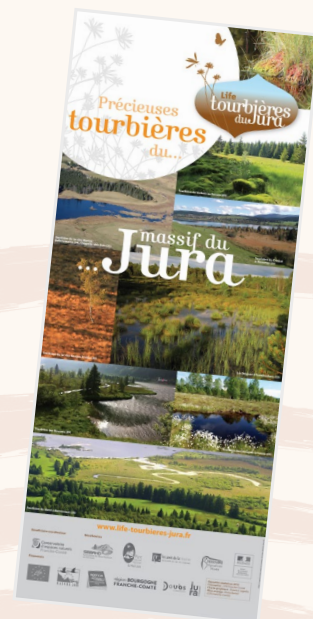
Find out more about the Seminar

Exhibitions

- “Précieuses tourbières du massif du Jura” exhibition: 14 roll-ups designed as part of the Jura peatlands LIFE and Jura peatlands LIFE Climat programmes, inviting the general public to discover the peatlands of the Jura
- Photo exhibition “tourbières du massif du Jura” (landscape, species, etc.) produced as part of the as part of the Jura peatlands LIFE programme

Posters

If you have any posters that you would like to present during the three-day seminar (free access), please let us know when you register. We will get back to you later for more information.



Presentation of site visits

Some of the visits will take place on undeveloped peatlands (wet and uneven terrain), so we advise you to wear clothing suited to the terrain and the weather (it can be cold in May in the Haut-Jura), particularly boots rather than walking shoes.

Groups for each route will be made up of a maximum of 25 people and will be accompanied by a guide, with translation for some groups.

ROUTE 1

Peatlands of the Lac des Rouges-Truites and the Douillons, a review of 10 years' work (Jura, 39)

The **Lac des Rouges-Truites peatland** is made up of a mosaic of habitats combining, in addition to its lake of glacial origin, a wide variety of low mires (gouilles, sedge meadows, wet meadows, phragmitaie, etc.) and a raised bogs. The latter is one of the few in the Jura massif not to have been subject to peat extraction. The site has been drained, but only to a limited extent. The main damage to the site was caused by the rectification of the stream that flows out of the lake in the late 1960s, halving its length. Part of the site is used for mowing and grazing. In 2014, the stream was re-routed, causing the water table to rise and significantly transforming the area surrounding the stream. This work and its consequences will be presented during the visit, along with issues relating to the management of an invasive exotic species, agricultural maintenance of the low marshes and the opening up of the site (development of a discovery trail in 2023).



The 21-hectare **peatland at Les Douillons** in Nanchez was farmed by families and then semi-industrially until the 1970s, and was marked by large drainage ditches and peat mining fronts. Extensive restoration work was carried out in 2016 as part of the Jura peatlands LIFE Nature programme. The visit will provide an opportunity to find out more about this work, the results and the impact on the large population of large white-faced darter (*Leucorrhinia pectoralis*) present.

- **Guides:** Sylvain Moncorgé (Conservatoire d'espaces naturels de Franche-Comté), Quentin Ducreux (Parc naturel régional du Haut-Jura) and Romain Decoin (Amis de la Réserve naturelle du Lac de Remoray)
- **Terrain:** easy to difficult (can be adapted to suit groups)
- **Key words:** lake, watercourse, trophy, low marsh management, drains, extraction, odonates, post-construction setback

ROUTE 2

Les Rousses and Bellefontaine, peatlands, lakes, drinking water and major works (Jura, 39)

The vast peatland complex surrounding the Lac des Rousses was subject to extensive peat extraction and systematic drainage until the 1975s. The main tributary, the Bief Noir, and its tributary, the Bief Février, underwent extensive work, also during the peat mining period. As part of the Jura Peatlands LIFE Nature programme, major functional restoration work was carried out in 2018 on 35 ha of this peat complex, which combines low alkaline marshes, high marshes with hooked pine forest and active transitional marshes. The following work has been undertaken: the neutralisation of 2.6 km of drains, the restoration of 1 km of watercourse and the regeneration of 1.6 ha of peat extraction areas. This visit will give you an insight into these major works, often in a wooded setting.

At Bellefontaine, we will be visiting a peatland where a major ditch has been filled in. The work involved relocating a drinking water pipe and a cross-country ski run. As well as the technical aspects of the work, this will be an opportunity to discuss how to reconcile recreational uses with water resource issues.

If we still have time, an example of the reactivation of high marsh gullies on the small Chaumoz peatland at Chapelle-des-Bois can be visited.

- **Guide:** Pierre Durllet (Parc naturel régional du Haut-Jura) and Céline Mazuez (Amis de la Réserve naturelle du lac de Remoray)
- **Terrain:** medium to difficult (can be adapted depending on the group) - long distances
- **Key words:** drains, neutralisation de fossé, extraction, cours d'eau, lac, haut-marais boisé, alimentation en eau



ROUTE 3

Rehabilitated sites in the Haut-Doubs, between active and wooded peatland, lake, watercourse, raised bogs and university research station (Doubs, 25)

Frasne is home to one of the largest mountain peat complexes in France, covering more than 500 ha in the municipality, including 300 ha in the Forbonnet sector, hemmed in between morainal hillocks, some of which are outcrops, and sinkholes with natural or forced outlets. The site features various forms of peat system, from alkaline mires to active, domed and wooded peat bogs, all of which are highly interesting from a biological and functional point of view, and have been classified as a regional nature reserve since 1986. The site has been extensively exploited as a local energy resource since the XVIIIth century, with the persistence of a highly efficient drainage system that is still dramatically draining the peat complex on all sides. The Life tourbières du Jura 2014-2021 programme has enabled the drainage system to be neutralised in the priority conservation area, the active peat bog, with major works that will be the subject of this visit. 9 years after the initial work was carried out, it will be interesting to see the new vegetation dynamics during the planned visit.

In addition, the historical presence of academics in this sector has highlighted the knowledge that took concrete form 15 years ago with the installation, in the active Forbonnet peatland, of a research station belonging to the National Peatland Observation Service of the National Centre for Scientific Research. This station, one of four in France, is highly instrumented and measures in particular all the parameters linked to carbon in the peatland, as well as hydrological data. It is located close to the work carried out in 2015-2016, and a visit to it will enable us to identify all the monitoring points and discuss the indicators of the functioning of the peatland in terms of carbon.

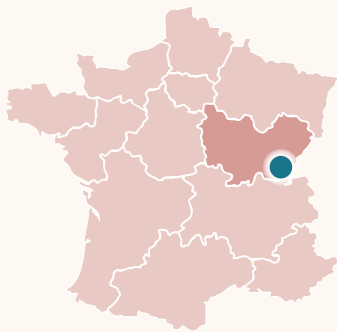
The tour ends with a visit to the Entonnoir lake and the Varot marsh in the communes of Bouverans and Bonnevaux. In a karstic context, the Entonnoir lake has been drained several times over the centuries, in particular by rectifying the Dugeon, which fed the marsh, in the 19th century. This work was completed by the construction of a dike to prevent flooding of the wetland. A restoration programme was carried out by the EPAGE Haut-Doubs Haute-Loue in 2021, as part of the Jura peatlands LIFE programme. It consisted of re-watering around 3 km of stream, while filling in 1.2 km of straight, incised and draining course. The dike isolating the wetland was completely removed to ensure good connectivity.

The magnificent viewpoint from the belvedere will be the ideal place to present the re-routing work carried out, before moving on to the banks of the river.

- **Guides:** Geneviève Magnon, Jean-Noël Resch et Michel Sauret (Epage Haut-Doubs Haute-Loue), Daniel Gilbert (Laboratoire chrono-environnement - Université de Franche-Comté) and the team from the regional nature reserve of the Frasne-Bouverans peatlands
- **Terrain:** medium difficulty
- **Keywords:** drains, flow diversion, retention dyke, carbon measurements, watercourse, lake, remeandering

Key information

Seminar venue



Community hall of "La Tourbière"

165 Rue des Couenneaux
39220 Bois d'Amont

GPS coordinates
46°53'75.25"N 6°13'64.72"E



How do I get there?

BY TRAIN

- **Vallorbe station**, 30 km from Bois d'Amont - trains from Paris, Dole, Dijon, etc. Shuttle bus chartered by LIFE team from Vallorbe to Bois d'Amont
- **La Cure station**, 10 km from Bois d'Amont - train connection between Geneva (station and airport) and La Cure station via Nyon in Switzerland (more information at www.nstcm.ch); trains from Lausanne, Basel, etc. Shuttle bus chartered by LIFE team from La Cure to Bois d'Amont
- **Morez station**, 18 km away - trains from Besançon, Dole, Saint-Claude

Means of
transport
prefer

BY PLANE

- **Geneva airport in Switzerland**, 50 minutes away (50 km) - train connection between the airport and La Cure station (consult Swiss train and bus timetables: www.tprnov.ch), then shuttle bus chartered by LIFE team from La Cure station
- **Dole airport**, 1h45 away (120 km) - possible connection by bus then train between the airport and Vallorbe or Morez station (via Dole station) then shuttle bus chartered by LIFE team

The LIFE team will provide shuttle buses between the "La tourbière" venue and the stations at La Cure and Vallorbe. Depending on expected arrivals, we may also need to add additional buses to the standard service if the need arises.

Hosting

The accommodation offered at the time of registration is located at :

Village Club Cévéo de Bois d'Amont

167 Montée du Val d'Orbe
39220 Bois d'Amont

GPS coordinates
46°54'00.78" N 6°13'65.02"E

www.ceveo.com/village/village-club-de-bois-damont-ete

When you register, it is possible to book bedrooms **from Tuesday evening until Saturday morning** (depending on your arrivals and departures).

Most bedrooms are to be shared by two people, but it is possible to book single bedrooms at an additional cost and subject to availability.

The cost for a night is €65 per person on a half-board basis. Lunch is at €20. It is possible to book a 3-day pack (2 nights from 15/05 to 17/05 - 2 dinners - 2 breakfasts - 3 lunches including 1 picnic) at €190 for a shared bedroom and €220 for a single bedroom.

If you do not wish to be accommodated at CEVEO Bois d'Amont, you can find hotels close to the seminar venue (www.lesrousses.com/se-loger.html). The seminar organising team will not be responsible for booking this accommodation or for travel to and from the venue.



Tourism

If you want to take advantage of your stay to visit the region, here are some useful links:

- www.parc-haut-jura.fr
- www.lesrousses.com/en
- www.jura-tourism.com/#
- www.doubs.travel
- www.myvalleedejoux.ch/en/



Registration

Registration closes **on 15 April 2024**.

YOU CAN REGISTER FOR:

- **the 3-day seminar:** participation in the seminar's conferences and field trips + the 3 lunches + depending on your choice, with or without full board at the Village Club Cévéo;
- **on the first day:** participation in the conferences on Wednesday 15 May with lunch included;
- **on the last day:** participation in the conferences on Friday 17 May with lunch included;
- book rooms at CEVEO Bois d'Amont, depending on your arrivals and departures (for the evening of Tuesday 14 May, for example...);

PLEASE NOTE!

- When registering, please tick the "site visit" option(s) to specify your field trip preferences.
- **The site visits on Thursday 16 May are reserved for 3-day packs**, so it is not possible to register for this day only.
- **3-day packs will be given priority** over single-day registrations, so you may be put on the waiting list.
- Those wishing to pay by money order must enter the promotional code "MANDAT" when paying.

REGISTRATION LINK

www.helloasso.com/associations/conservatoire-d-espaces-naturels-de-franche-comte/evenements/colloque-international-du-life-climat-tourbieres-du-jura



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More information on the Jura peatlands LIFE Climat programme:

www.life-climat-tourbieres-jura.fr