GREIFSWALD
MIRE
CENTRE

ANNUAL REPORT 2021

Cover photo (Jan Peters): Jean Jacques Bambuta, Democratic Republic of Congo National Coordinator and Focal Point of Peatlands and Franziska Tanneberger, one of the two GMC leaders, discuss the Global Peatland Map in the Peatland Pavilion at the World Climate Conference COP26 in Glasgow, UK, November 2021.

Introduction

The Greifswald Mire Centre (GMC) is a partnership between the University of Greifswald, the Michael Succow Foundation and DUENE e.V. The GMC was founded at the beginning of 2015 through a cooperation agreement between the three partners. This annual report summarises the development of the Greifswald Mire Centre in its seventh year of existence, presents significant progress on the GMC's key topics and outlines developments at the GMC. The activities of the GMC are divided into:

1. Communication: Increasing the visibility of peatlands and their importance
2. Consulting & Participation: Peatland protection around the world
3. Implementation: Rewetting of own and project areas
4. Research: Creating knowledge
5. Networking: Strengthening cooperation, expanding networks

You can find an overview of key events at the GMC here.

The activities at the Greifswald Mire Centre are largely financed by third-party funds and donations (Tab. 1). The sharp rise in donations in 2021 reflects the increasing attention for the topic of peatlands.

Table 1: Third-party funding, donations and prize money received by the Greifswald Mire Centre since 2016 (in Euro)

	2016	**2017**	**2018**	**2019**	**2020**	**2021**
Third-party funds	1.490.000	4.508.000	3.719.000	5.776.000	1.405.000	3.892.000
Donations and prize money	79.900	79.700	100.000	2.130	9.100	636.000
Total	**1.569.900**	**4.587.700**	**3.819.000**	**5.778.130**	**1.414.100**	**4.528.000**

1. Communication

Lots of attention for peatlands

The German Environmental Award is presented annually by the German Federal Environmental Foundation and is one of the most highly endowed awards of its kind in Europe. The 2021 German Environmental Award went to the Greifswald peatland researcher Prof. Dr. Dr. h.c. Hans Joosten. The award was presented on 10th October 2021 by Federal President Frank-Walter Steinmeier in Darmstadt and broadcast live. This award attracted a great deal of media attention, not only for the award winner himself, but especially for 'his' topic - peatlands and their importance for global climate protection. Coverage of peatlands in connection with the GMC tripled in 2021 compared to the previous year and included many major media outlets such as the Washington Post, FAZ, Süddeutsche Zeitung, Wirtschaftswoche and KIKA (see GMC Pressespiegel). Hans Joosten intends to use the prize money to expand the PeNCIL peatland library, which is based at the GMC and is the world's largest peatland library with around 25,000 publications, into a global centre of culture and knowledge on peatlands.

Fig. 1. Federal President Frank-Walter Steinmeier presents the German Environmental Award 2021 to peatland researcher Hans Joosten (Photo: DBU/Himsel).

In September 2021, the mobile Paludi tiny house of the GMC toured northern Germany for a fortnight, educating people about the potential of peatland plants as building materials at information events and construction fairs, reaching around 2,500 people. This type of 'science in dialogue' was funded and honoured by the Federal Ministry of Education and Research. In addition, the importance of peatlands and their sustainable use was explained to the general public at **field days** on GMC project areas (e.g. cattail cultivation in the Peene valley) and with the paludiculture **travelling road show exhibition**. The **illustrations** of an intact and a drained peatland and a peatland used in paludiculture (Fig. 2) and four postcards produced on behalf of the GMC illustrate the special features and interrelationships of peatlands in a clear and attractive way and are available free of charge.

Fig. 2. Illustration of an intact (left), drained (centre) and paludiculture (right) peatland (Sarah Heuzeroth; available to download free of charge).

Five volumes were published in the GMC **publication series** in 2021. In volume 03/2021 (Hebermehl), a study on peatlands in Uzbekistan was published for the first time. In volume 05/2021, Martin & Couwenberg reveal the differences in the quality of mapping organic soils and estimating the associated emissions in the EU member states and the UK using data from the 2020 UNFCCC greenhouse gas report. The study recommends above all the consistent use of the IPCC Wetlands Supplement (IPCC 2014) for improvement. The GMC took a new, unusual approach to science communication with the publication of the poem unbezahlbar wie Atmen ist by Sylvia Geist (Volume 04/2021), which was written as part of a dialogue experiment between poetry and science.

A key medium of communication are the GMC's own websites www.greifswaldmoor.de and www.moorwissen.de for detailed news reports and publications as well as the social media channel Twitter for short messages. The number of subscribers to the GMC Twitter account @greifswald-moor increased by 60% to around 1,600 in 2021 (Fig. 3). Numerous new videos produced in-house or by partners were uploaded to the GMC YouTube channel in 2021.

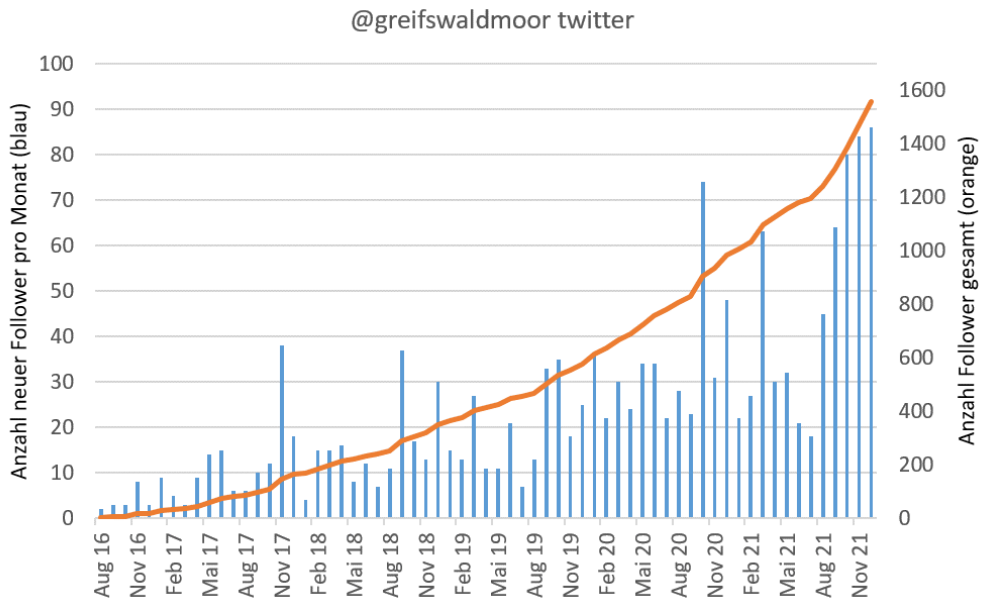

Fig. 3. Development of the number of subscribers to the GMC Twitter account.

2. Consulting & Participation

Peatland protection on your own doorstep

In March 2021, the MV Future Council, established by the state government of Mecklenburg-Western Pomerania and chaired by Dr Franziska Tanneberger, handed over its „Document of New Beginnings“ – visions for the future and a future programme for Mecklenburg-Vorpommern to Minister President Manuela Schwesig. This programme contains extensive recommendations on setting the course, fields of action and instruments in the areas of peatland protection, climate protection and landscape water management, which were developed and adopted unanimously through a process with the 49 members of the Council.

A study by the GMC (Reichelt & Lechtape 2019[1]) shows that 10% of Greifswald's urban area is peatland with a high potential for reducing greenhouse gases. As a result of the city council's decision, Germany's first peatland manager has been working in the Hanseatic City of **Greifswald** since 2021, in close cooperation with the GMC.

In 2021, the Senate of the University of Greifswald decided to strive for climate neutrality by 2030. As the University of Greifswald owns around 8,700 hectares of agricultural and forestry land, many of which are peatland sites, their condition and future use must be taken into account in the carbon footprint. The GMC will provide support in realising the ambitious objectives for peatlands in the region.

Ahead of the state elections in September 2021, the GMC, in collaboration with IKEM, published a fact paper on peatlands and their role in a state climate protection law in Mecklenburg-Vorpommern. Almost all parties in Mecklenburg-Western Pomerania are planning more peatland protection in their programmes for the 2021 state elections, which has also been picked up by the press (e.g. Fig. 4). The new state government has resolved to achieve climate neutrality for MV by 2040. As a third of the state's total greenhouse gas emissions come from drained peatlands, their rewetting requires special attention. MV Minister-President Manuela Schwesig explains on the occasion of the DBU Environmental Award 2021 for Hans Joosten: **"Especially in Mecklenburg-Western Pomerania, which is rich in peatlands, we must, and will make even greater efforts to protect peatlands and thus also to protect the climate."**

Fig. 4. Consideration of peatland protection in the party programmes for the 2021 state elections in MV. (Source: Katapult MV (link))

1 Reichelt F & Lechtape C (2019) Greifswalder Moorstudie - Abschlussbericht Emissionsbilanzierung und Handlungsempfehlungen für die Moorflächen im Greifswalder Stadtgebiet. Greifswald Moor Centrum-Schriftenreihe 01/2019 (Selbstverlag, ISSN 2627-910X), 36 S. (pdf)

Peatland protection in Germany.

In 2021, peatlands also became more of a focus at federal level in Germany. Before the federal elections in September 2021, the Federal Ministry for the Environment published a **National Peatland Protection Strategy** (pdf) for the first time, as agreed in the 2018 coalition agreement. It contains the principles, objectives and measures required for successful peatland protection at federal level. Urgent action is needed in particular with regard to the financing of voluntary rewetting measures in agriculture, the role model function on federal land and international cooperation and research funding. The peatland protection strategy is the result of a broad-based participation process, in which the GMC was also involved, and was the basis for the **federal-state target agreement on peatland protection** (pdf). This was drawn up under the leadership of the Federal Ministry of Agriculture and signed in October 2021. It is another important step by the federal and state governments to drive forward the implementation of peatland protection. Paludiculture is named as an important alternative use. However, the main goal of reducing annual greenhouse gas emissions from peatland soils by 5 million tonnes of CO_2 eq. by 2030 is insufficient in view of the more than tenfold total amount of emissions from drained peatland soils (approx. 53 million tonnes of CO_2 eq.).

The Greifswald Mire Centre was involved in the discussion processes and contributed its own opinions to the drafting of both documents. This was recognised by the ministers when Hans Joosten was awarded the German Environmental Award 2021:

'The peatland expert's in-depth expertise has therefore also been incorporated into the development of the National Peatland Strategy, which the Federal Ministry for the Environment has presented and with which we are creating the basis for the urgently needed renaturation and rewetting measures.' (German Federal Environment Minister Svenja Schulze).

'As a federal ministry, we work together with the Greifswald Mire Centre. Because it is clear to us that peatland protection is climate protection. That is why we have drawn up a target agreement on peatland protection with the federal states.' (Federal Minister of Agriculture Julia Klöckner, link).

A new government was elected in Germany on 24 September 2021. In the new coalition agreement, peatland protection is declared to be a 'public interest', meaning that the interests of the common good take precedence over individual interests. The plan is to adopt a national peatland protection strategy and implement it swiftly. To this end, alternative forms of management (including paludiculture) are to be strengthened and a phase-out plan for peat extraction and utilisation is to be adopted (pdf). A first step is the development of a federal funding guideline 'Climate protection through peatland protection', in which the GMC is also involved.

In 2021, the Federal Ministry for the Environment and the Federal Ministry of Agriculture published several extensive calls for funding for research or model and demonstration projects on peatland protection and paludiculture as well as peat substitutes. The BMEL's project management organisation, the Agency for Renewable Resources (FNR), has set up the 'Peatland Protection' department and employed two project managers to handle such projects.

Peatland protection in Europe

The topic of EU agricultural policy continued to dominate in 2021. In the 'Super Trilogue' process in March/April 2021, we encouraged short-term **interventions** by various countries. We maintained particularly close contact with the Ministries of Agriculture in Ireland, Lithuania and Germany. On 12 May, together with many European research institutions and non-governmental organisations, we wrote an **open letter** to Commission Vice-President Frans Timmermans, Agriculture Commissioner Janusz Wojciechowski and Environment Commissioner Virginijus Sinkevičius. In the letter, we explained that a consistent formulation of the environmental standard (GAEC) 2 and full recognition of paludiculture as an eligible area are necessary in order to achieve the EU's climate and biodiversity targets. We were also able to contribute to the 'Jumbo Trilogue' in May 2021 by sending GMC information papers and holding discussions with members of parliament.

The **final document on the EU's new Common Agricultural Policy** was then reached on 25 June 2021. Even if the overall result is disappointing in many respects, the term 'paludiculture' appears on page 7 of 256 pages. Almost all paludiculture areas should be able to receive aid in future in accordance with the document's requirements. However, the peatland environmental standard GAEC2 'Protection of peatlands and wetlands' can only come into force with justification from 2024 or 2025. As many aspects will only be regulated more concretely in the national strategic plans, we have focussed our further attention on these.

In 2021, the GMC published four **information papers** relevant to EU policy:

- Opportunities for Peatlands and Paludiculture in the EU Common Agricultural Policy (2023-2027)
- Protecting and Restoring Peatlands–Targets and Recommendations for Peatlands in the EU Biodiversity Strategy
- Definition of paludiculture in the Common Agricultural Policy (CAP) (with National University of Ireland and Wetlands International European Association) + List of paludicultural plants and utilisation options (selection)
- Wetland buffer zones for nutrient retention and cleaner waters

Our work on peatlands in Europe outside the EU continued in Belarus, Russia and Ukraine. However, political conditions are making work more difficult in many places. The GMC was able to get involved in the initiative to form a **European Peatlands Initiative**, which was presented at the World Climate Conference in the presence of four environment ministers, and subsequently contribute key ideas and partnerships, also acting as a link between East and West.

Peatland protection worldwide

In July 2021, the forests and wetlands of Colchis in Georgia were recognised as a **UNESCO World Heritage Site**. The GMC has been researching the peatlands in Colchis since the 1990s and submitted the results via the Succow Foundation in the nomination application, convincingly demonstrating the uniqueness of these peatlands (Fig. 5).

Fig. 5. The world's only rain-fed bog (Ispani 1) in the Colchis Plain in Georgia with peat moss turf in the foreground and the Caucasus Mountains in the background. (Photo: Greta Gaudig)

The **UNFCCC World Climate Change Conference COP26** took place in presence once more, in Glasgow in November 2021. Here, peatlands were presented for the first time in a dedicated pavilion organised by the Succow Foundation and GMC together with the UN Environment Programme, IUCN UK Peatland Programme and other members of the Global Peatlands Initiative. The world peatland map developed by the GMC (Fig. 7) attracted many visitors right at the entrance. The water drop shaped construction built from reeds and willow by peatland experts from the University of East London was an impressive eye-opener for many, showing what building materials from paludiculture can be used for (Fig. 6).

Fig. 6. Schematic layout of the peatland pavilion at COP26 in Glasgow with water droplet made from reed and willow (left) and a visit from Federal Environment Minister Svenja Schulze (on the right, photo: Sarah Proctor).

In addition, the twelve-day hybrid lecture programme offered a comprehensive overview of peatland science, conservation and policy on all continents. Hundreds of delegates, politicians, government representatives, practitioners and scientists from all over the world attended, as well as celebrities such as the former First Lady of the United States Michelle Obama and the Executive Director of the UN Environment Programme Inger Andersen. It became clear that many countries do not even realise that they have peatlands. Their representatives realised that peatlands are important for climate protection. The GMC's presence at COP26 was as effective as peatlands are as carbon sinks.

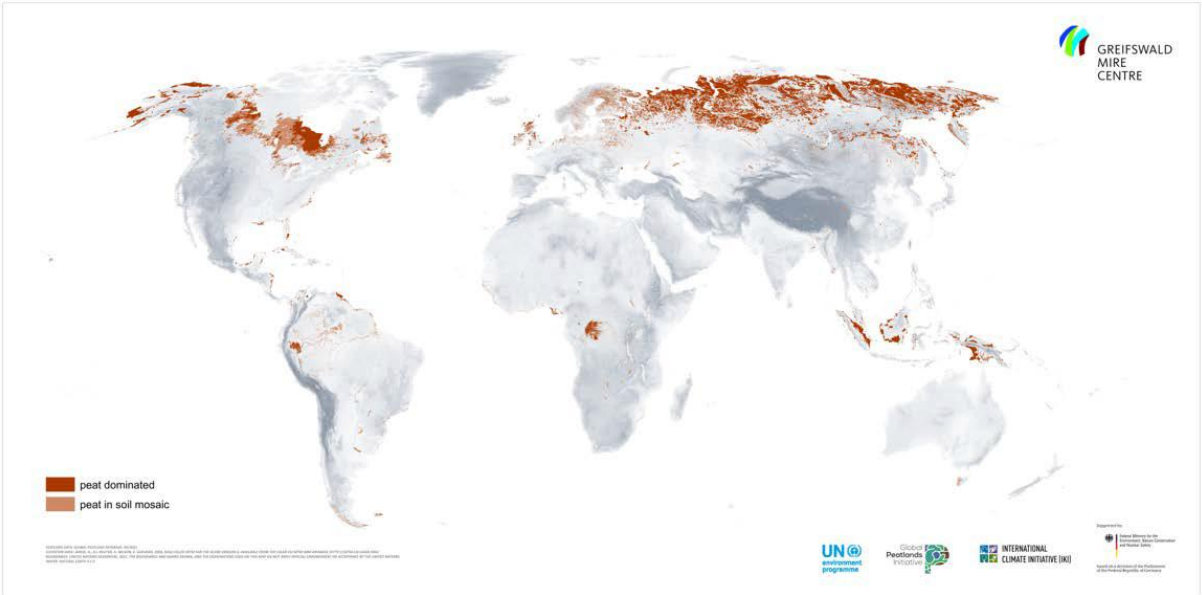

Fig. 7. Updated world peatland map by the GMC, as presented as a 2.5 x 5 m printout at the entrance to the peatland pavilion at COP26.

In November 2021, the **Global guidelines for peatland rewetting and restoration**, written by Hans Joosten, were published by the Secretariat of the Ramsar Convention on Wetlands of International Importance (pdf). The 77-page report provides guidance on problem identification and assessment, objectives, planning, restoration techniques and evaluation of measures, and refers to other regional restoration guidelines.

The Succow Foundation works together with the Nile Basin Initiative, GIZ Uganda and the Ministry of Water and Environment Uganda in a policy dialogue on low-emission strategies and resilient economic development. Through lectures, field seminars and workshops, knowledge about peatlands in **Uganda** and **South Sudan** is transferred, which contributes to raising awareness and leads to peatlands being taken into account in the national development goals of both countries. The GMC has also built capacity for peatland mapping in other regions of the world, such as the **Congo Basin** and **Peru**. In North Kalimantan, **Indonesia,** DUENE e.V. and GIZ Indonesia mapped peatland utilisation, assessed greenhouse gas emissions and developed emission reduction pathways.

3. Implementation

Rewetting on our own areas

The planning and preparations for the optimisation of the hydrological system of the Karrendorfer Wiesen coastal flooding peatland and the rewetting of approx. 80 ha of fen in the Sernitz lowlands (Brandenburg) owned by the Succow Foundation were continued in 2021. Preparatory work was also carried out for the implementation of measures to improve the water balance of the Mannhagener Moor (Mecklenburg-Western Pomerania). The area covers around 50 hectares. In addition to deactivating the existing drainage, it is also necessary to remove the secondary woody vegetation. This practical work reveals obstacles, particularly of a legal and procedural nature, including, for example, the requirements of the MV State Forest Act to compensate for stocking losses due to rewetting.

Fig. 8. Rewetting in the Sernitz lowlands, Bruchhagen. (Photo: Nina Seifert)

Rewetting worldwide

Four **implementation projects** were launched at the GMC in 2021 (Tab. 2). These include a 10-year project which, together with the Langesellschaft MV, aims to implement paludiculture in the form of wet meadows and cattail, reed and alder cultures on the two pilot areas Bargischow Süd (520 ha) and Polder Sandhagen (274 ha) in Mecklenburg-Western Pomerania. The project is being subsidised by the Federal Ministry for the Environment with EUR 12.6 million (Fig. 9).

Fig. 9. Handover of the funding decision for the 10-year paludiculture pilot project in Mecklenburg-Western Pomerania by BMU State Secretary Jochen Flasbarth. (Photo: Stefan Busse)

In the Lithuanian plan for the EU Recovery and Resilience Facility, which the Succow Foundation helped to develop, 16 million EUR was designated for the rewetting of 8,000 hectares of agricultural peatlands.

Together with the 'Foundation for Peatlands Restoration and Conservation', the rewetting of an agriculturally used fen (8 ha) near Baisogala in Lithuania was realised, which on the one hand directly saves at least 100 t CO_2-eq. per year in greenhouse gas emissions and significantly reduces nutrient emissions. On the other hand, carbon financing instruments for peatland rewetting, e.g. as part of a Lithuanian carbon standard for peatlands yet to be developed, are being jointly elaborated. To this end, several discussions were held with governmental and non-governmental stakeholders in 2021.

Table. 2. Projects launched at the GMC in 2021.

Acronym	Title	Partner	Sponsor	Duration
Implementation projects				
DIAPOL-CE	Policy dialogue on low-emission strategies and resilient economic development	Succow Foundation, Nile Basin Initiative, GIZ Uganda, Ministry of Water and Environment Uganda	BMU	02/2021-01/2022
MoKKa	Peatland protection by capacity building	University of Greifswald, Baltic Sea Foundation	BMU	12/2021-11/2024
PaludiPilot MV	Paludiculture project in Mecklenburg-Western Pomerania	Landgesellschaft MV, University of Greifswald	BMU	09/2021-08/2031
toMOORow	Wet peatlands for a sustainable future	Succow Foundation, Michael Otto Environmental Foundation	Michael Otto Environmental Foundation, Otto Group, Sustain Consulting GmbH	since 08/2021
Research projects				
PRINCESS	Peatland Rewetting in Nitrogen-Contaminated Environments: Synergies and trade-offs between biodiversity, climate, water quality and Society	University of Greifswald, NIBIO, University of Antwerp, University of Vienna, University of Warsaw, LUKE	BiodivErsA (BiodivClim)	04/2021 - 03/2024
REMEMBER	The role of emergent macrophytes in reducing biogenic pollution of aquatic ecosystems	University of Greifswald, Belarusian State University, Research Laboratory of Aquatic Ecology National Park “Narochansky	BMBF	04/2021 - 03/2024
TyphaSubstrat	Harvesting and utilisation of cattail biomass as an alternative substrate feedstock in press stubble for vegetable production	University of Greifswald, Research Ring e.V. Darmstadt, Wellink GmbH Stadtlohn	BMEL/ FNR	11/2021 - 10/2024

4. Research

Creating knowledge

The University of Greifswald is committed to goal-orientated teaching and a solid and innovative peatland science education. In March 2021, associate Professor Hans Joosten retired from active service. John Couwenberg and members of the Peatland Science and Palaeoecology working group will take over the teaching of peatlands and the supervision of numerous final theses, presumably until the Chair of Peatland Science is filled. The second appointment procedure has not yet been finalised.

Three new **research projects** have been launched at the GMC in 2021 (Table 2), which are investigating the effects of peatland rewetting, particularly with regard to nutrient dynamics and paludiculture, including the harvesting and use of cattail biomass in horticulture.

In 2021, 38 **articles**, mostly **scientific**, were published under the leadership or with the participation of people in the GMC (see list below). They mainly focus on research on paludiculture, biodiversity and nutrient dynamics of peatlands, peat formation, genetics of peatland plants and palaeoecological studies. Of note is the meta-analysis by Kreyling et al. (2021)[2] in Nature Communications, which compares 243 natural and 320 rewetted fens in Europe. The results show that the rewetting of drained fens leads to the establishment of tall wetland plants (helophytisation) and to long-lasting differences in biodiversity (vegetation), ecosystem functioning (geochemistry, hydrology) and land cover (spectral and temporal metrics) compared to the pre-drainage state. In addition, the transformation pathway for peatland rewetting developed at the GMC for Germany was presented and explained in Tanneberger et al. (2021)[3]. In the Meat Atlas, as part of a series published annually by the Heinrich Böll Foundation, which attracts a great deal of political and public attention, the effects of drainage-based peatland management on food production are presented for the first time in 2021 (Wichmann 2021)[4]. As a result of the evaluation of rewetting measures in Germany, Barthelmes et al. (2021)[5] found that around 70,000 ha, i.e. 3.8 % of the area of organic soils, has been rewetted since 1980.

After 2013 and 2017, the 3rd international conference on Renewable Resources from Wet and Rewetted Peatlands - RRR2021 - organised by the GMC took place from 9 to 11 March 2021, this time purely in a digital format.

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2 Kreyling J, Tanneberger F, Jansen F, van der Linden S, Aggenbach C, Blüml V, Couwenberg J, Emsens W-J, Joosten H, Klimkowska A, Kotowski W, Kozub L, Lennartz B, Liczner Y, Liu H, Michaelis D, Oehmke C, Parakenings K, Pleyl E, Poyda A, Raabe S, Röhl M, Rücker K, Schneider A, Schrautzer J, Schröder C, Schug F, Seeber E, Thiel F, Thiele S, Tiemeyer B, Timmermann T, Urich T, van Diggelen R, Vegelin K, Verbruggen E, Wilmking M, Wrage-Mönnig N, Wołejko L, Zak D, Jurasinski G (2021) Rewetting does not return drained fen peatlands to their old selves. Nature Communications 12, 5693 https://doi.org/10.1038/s41467-021-25619-y

3 Tanneberger F, Abel S, Couwenberg J, Dahms T, Gaudig G, Günther A, Kreyling J, Peters J, Pongratz J & Joosten H (2021) Towards net zero CO_2 in 2050: An emission reduction pathway for organic soils in Germany. Mires and Peat Vol. 27, Art, 5, 1 –17. http://mires-and-peat.net/pages/volumes/map27/map2705.php

4 Wichmann S (2021) Moore – Wiedervernässung als Chance. Fleischatlas, S. 28-29. (pdf)

5 Barthelmes A, Abel S, Barthelmes K-D, Couwenberg J, Kaiser M, Reichelt F, Tanneberger F & Joosten H (2021) Evaluierung von Moor-Wiedervernässungen in Deutschland – Ergebnisse, Erfahrungen und Empfehlungen. Naturschutz und Biologische Vielfalt 171: 121-148.

More than 300 scientists and practitioners from 25 countries around the world - more than at the two previous conferences - shared their knowledge about paludiculture. In addition to passionate keynote speeches, more than 100 scientific papers and posters were presented in 21 sessions. The session on 'Financing livelihoods from wet peatlands' was jointly organised with FAO, UNEP, IUCN and WWF. To compensate for field trips - usually one of the most enjoyable parts of conferences - the RRR2021 took participants on four inspiring virtual paludiculture tours, which can also be experienced after the conference on the GMC YouTube channel. An entertaining literary evening with Hans Joosten, workshops and an art session were further highlights. With discussion forums, open spaces and personal conversations, the virtual platform offered the best opportunities for networking. The key messages of the conference with regard to crop yields, water and nutrient dynamics, greenhouse gas emissions, harvesting techniques, utilisation options including energy recovery, peat moss cultivation and propagation, biodiversity, financing options and economics as well as the global development of paludiculture were summarised in a five page report (pdf). The conference demonstrated the growing global interest and rapid dynamics in the topic of 'paludiculture' with the GMC as a driving force. The wealth of information from the entire conference, including proceedings and pdf files of presentations and posters, has been compiled on the GMC website www.rrr2021.com and is available to all free of charge. The conference was funded by the DFG.

5. Networking

Strengthening cooperation, expanding networks

The Greifswald Mire Centre cooperates with many partners in numerous projects and sees itself as part of a global network of scientists, NGOs and practitioners working on and in peatlands. Individual partnerships (Wetlands International, University of Rostock, Thünen Institute) were intensified in 2021 with the signing of cooperation agreements and regular, intensive exchange. Cooperation continued within the Global Peatlands Initiative and the joint development of a Global Peatland Assessment was initiated. The GMC has initiated an informal European network on peatlands and CAP, which regularly exchanges information. The cooperation with the International Tropical Peatland Centre (ITPC) based in Bogor, Indonesia, is planning the exchange of students for capacity building.

The cooperation between the Succow Foundation and the Michael Otto Environmental Foundation for more peatland climate protection, which was designed for the long term, should be emphasised. In August 2021, the kick-off event for the initiative '**toMOORow** - wet peatlands for a sustainable future' took place in Angermünde with the two founders and friends Michael Succow and Michael Otto (Fig. 10). The initiative comprises three fields of work: 1. the practical demonstration of peatland rewetting as a nature-based solution to the climate crisis and species extinction in Sernitzmoor (Brandenburg) and in Lithuania, 2. the activation of commercial enterprises for the sustainable use of wet peatlands by creating value from paludiculture materials and utilising carbon certificates, and 3. advocacy for suitable environmental and economic policy framework conditions for peatland rewetting in the environmental and agricultural policies of the federal states, the federal government and the EU. The toMOORow initiative is supported by the Otto Group and Systain Consulting, a management consultancy specialising in sustainability.

Fig. 10. Symbolic ground-breaking ceremony at the launch of toMOORow in August 2021 with Jan Peters (Managing Director of the Succow Foundation), Dr Franziska Tanneberger (Director of the GMC), the two founders Prof. Dr Michael Succow and Prof. Dr Michael Otto and Prof. Dr Johannes Merck (Chairman of the Board of the Michael Otto Environmental Foundation) (from left to right; Photo: Karl Lohmann).

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Publications with the participation of the GMC 2021

Baranyai, B., Krebs, M., Oehmke, C. & Joosten, H. (2021) Seed germination and seedling survival of Drosera rotundifolia (L.) cultivated on Sphagnum: Influence of cultivation methods and conditions, seed density, Sphagnum species and vascular plant cover. Mires and Peat 27, Article 15, 14 pp.

Barthelmes, A., Abel, S., Barthelmes, K.-D., Couwenberg, J., Kaiser, M., Reichelt, F., Tanneberger, F. & Joosten, H. (2021) Evaluierung von Moor-Wiedervernässungen in Deutschland – Ergebnisse, Erfahrungen und Empfehlungen. Naturschutz und Biologische Vielfalt 171: 121-148.

Beer, F., Villeagas, L., Nuutinen, M., Wichtmann, W. & Milliken, K. (2021) Peatlands. In: FAO and ITPS: Recarbonizing global soils – A technical manual of recommended management practices, Volume 2, 55-64, Rome, FAO.

Beer, F., Villegas, L., Nuutinen, M & Agus, F. (2021) Restoration of peatlands. In: FAO and ITPS: Recarbonizing Global Soils – A technical manual of recommended management practices, Volume 5, 174-183, Rome, FAO.

Beer, F., Wichtmann, W., Villegas, L. & Agus, F. (2021) Paludiculture. In: FAO and ITPS: Recarbonizing Global Soils – A technical manual of recommended management practices, Volume 5, 185-195, Rome, FAO.

Böcher, M., Boetius, A., Borchardt, D., Grethe, H., Gutow, L., Haase, D., Hain, S., Ibisch, P., Jacob, K., Joosten, H., Niebert, K., Pörtner, H.-O., Settele, J. & Zinngrebe, Y. (2021) Naturschutzpolitischer Aufbruch jetzt: Für ein Jahrzehnt des naturschutzbasierten Klimaschutzes und der Biodiversitätspolitik - Orientierungspapier Biodiversität für die Koalitionsverhandlungen – Oktober 2021. Sustainable Development Solutions Network Germany, Bonn, 51 p.

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