

3D stream network visualisation of an Alpine valley near Lake Como. Figure: Sami Domisch/IGB

Hydrography90m - high-resolution map of the world's river systems

Researchers at the Leibniz - Institute of Freshwater Ecology and Inland Fisheries (IGB), in collaboration with Yales University, developed the highest resolution map of the world's river systems ever produced, backed by a new high-resolution global hydrographic dataset. The map also shows short and very short arms of flowing water. The smallest is 90 metres long. Since small rivers make up the largest part of the global river network (70%), they are particularly important for the conservation of river biodiversity. The dataset covers a total of 726 million potential river sections. "Potential" is a crucial term, because rivers that carry water all year round or only intermittently still need to be identified. Using 30,000 monitoring stations around the world where water volumes have been recorded for years, as well as other environmental parameters (precipitation, temperature, land use, soil characteristics, slope, etc.), the research team is developing a model that uses machine learning to identify these rivers and streams. This model would make it possible to estimate the amount of water in rivers around the world, even if there is no measuring station on site, by calculating the likely discharge, i.e. the amount of water in the river, from the environmental parameters available for the entire area.

Hydrography90m thus offers significant potential to provide a globally comprehensive and standardised assessment of freshwater quantity and quality, flood risk, biodiversity and nature conservation, and resource management objectives. The entire dataset can be used directly in standard GIS applications.

The study Hydrography90m: a new high-resolution global hydrographic dataset (Giuseppe Amatulli et al., 2022) can be found here: https://essd.copernicus.org/articles/14/4525/2022/essd-14-4525_2022.pdf

A summary of the IGB Berlin on Hydrography90m can also be found here: <https://www.igb-berlin.de/en/news/ultrafine-network-rivers>

EU Commission proposes emergency regulation for renewable energies

With the draft of an emergency regulation on the repowering of renewable energy plants, the acceleration of solar democratisation and the widespread installation of heat pumps, the EU Commission wants to accelerate the transition to renewable energies and react to the current energy crisis. The Commission is basing this on the provisions of Art. 122(1) of the EU Treaty (TFEU), which allows for the adoption of emergency economic measures.

With this new regulation, solar projects could be approved in just 4 weeks without an environmental impact assessment. For repowering of power plants, some of which involve large investments and potentially irreversible destruction of ecosystems and biodiversity, projects would be approved in six months or less.

An article in the emergency regulation defines all renewable energy projects as projects that are "in the overriding public interest and serve health and safety", thus partially undermining the provisions of the Water Framework Directive and Natura 2000 legislation.

The EU Council is due to vote on this regulation on 19 December 2022. The Regulation, if adopted, will enter into force directly after its official publication in the Official Journal of the EU. It will run for 18 months with a review option in July 2023.

A document written by Abel La Calle Marcos, lawyer and professor of law at the University of Almeria, showing the illegal dimensions of such a regulation is available here:

German: www.grueneliga.de/images/Wasser/AbelLaCalleMarcos-DE.pdf

English: www.grueneliga.de/images/Wasser/AbelLaCalleMarcos-EN.pdf

French: www.grueneliga.de/images/Wasser/AbelLaCalleMarcos-FR.pdf

Spanish: <https://fnca.eu/biblioteca-del-agua/directorio/file/3016-informe-sobre-la-propuesta-dereglamento-para-acelerar-el-despliegue-de-las-energias-renovables-adoptada-por-la-comision-el-9-de-noviembre-de-2022>

The EU Commission's press release on this topic can be found here: www.consilium.europa.eu/en/press/press-releases/2022/11/24/eu-to-speed-up-permittingprocess-for-renewable-energy-projects/

DWA press release on World Toilet Day

Still 4.2 billion people without access to safe sanitation facilities

Since 2013, 19 November has been declared World Toilet Day by the United Nations General Assembly. World Toilet Day was first introduced by the World Toilet Organization in 2001. Today, 4.2 billion people still do not have access to safe sanitation and 500 million people have to defecate outside in the open (UN source).

The German Association for Water Management (DWA) has been working for decades to ensure that developing and emerging countries around the world have adequate access to sanitation. According to the German Federal Ministry for Economic Cooperation and Development (BMZ), in order to achieve SDG 6 Clean Water and Sanitation, investments would have to be tripled; according to DWA, progress rates would have to be doubled.

Although about half of the world's population is connected to sanitation facilities, only 20 to 30 % of wastewater is treated worldwide. "More than two-thirds of wastewater ends up

untreated in nature, in rivers and in the world's oceans. This continues to be one of the greatest challenges for global environmental and health protection."

The DWA press release can be found here (18.11.2022):

<https://de.dwa.de/de/presseinformationen-volltext/Welttoilettentag.html>

You can find the atlas and more information about the groundwater situation in your region here: <https://correctiv.org/aktuelles/kampf-um-wasser/2022/10/25/klimawandel-grundwasser-indeutschland-sinkt/>

Aarhus Convention -

Meeting with Michel Forst, Special Rapporteur on environmental defenders (23.11.2022)

With the designation of a Rapporteur on the Protection of environmental defenders, the Aarhus Convention responds to the risks and threats faced by environmentalists worldwide. On 23 November 2023, Michel Forst outlined his strategy for the upcoming mandate.

In order to protect environmentalists who are persecuted, punished, prosecuted and even killed, Michel Forst highlights seven points that should be considered when developing the strategy: A human rights-based approach; recognising the heterogeneity of environmentalists; addressing gender and the increased risk for some groups of environmentalists; addressing a holistic approach, particularly with regard to physical integrity and psychosocial well-being; protecting environmental groups, organisations and the social environment; involving environmentalists in the development of protection strategies; and ensuring policies are flexible, adaptable and tailored to different environmentalists.

Michel Forst is planning a series of consultations around the world to identify key trends, the threats activists face, the protection they need and good practices. Michel Forst also emphasised the need to support the work of youth, secure funding and publicise the protection mechanisms he and his team have developed.

Key components of the strategy include supporting the development of specific national laws and policies, using positive narratives and combating problematic terminology (such as "eco-terrorism"), safeguarding fundamental freedoms (e.g. freedom of expression and assembly), combating the increasing use of legal instruments against public participation (SLAPPs - Strategic Lawsuit Against Public Participation), a focus on large-scale investments and corruption, strengthening accountability of nature polluters and access to justice

The Aarhus Convention website will soon be equipped with a complaint form that will allow for quick protection through immediate measures (e.g. relocation of the threatened person and group of people, circle of defenders including families, etc.) and longer-term measures for threatened environmentalists. A complaint can be filed by the person or on behalf of someone, with public or private identity also in case of omission. All complaints are investigated promptly.

You can read more about the Aarhus Convention here: <https://aarhus.osce.org/about/aarhus-convention>

The text of the Aarhus Convention is available here: <https://unece.org/environment-policy/publicparticipation/aarhus-convention/text>

Michel Forst's testimony is available here: https://unece.org/sites/default/files/2022-11/Vision_for_mandate.pdf

COP14 of the Ramsar Convention on the Protection of Wetlands

The 14th Conference of the Parties to the Ramsar Convention adopted 21 new resolutions and adopted the Wuhan Declaration, which aims to mobilise more resources for wetland conservation, integrate wetland protection and conservation into sustainable development, climate and biodiversity plans and national policies, and support stronger protection of wetlands through legislation.

Learn more about the Wuhan Declaration here: <https://www.ramsar.org/news/ministers-andambassadors-adopt-the-wuhan-declaration>

Discover the COP14 press release here: <https://www.ramsar.org/news/cop14-closes-with-21-resolutions-adopted-to-advance-wetlands-action-for-people-and-nature>

View the original 24 draft resolutions here: <https://www.ramsar.org/event/14th-meeting-of-the-conference-of-the-contracting-parties>

Complex chemical cocktail containing the insecticides diazinon and permethrin, causes acute toxicity to crustaceans in mountain lakes

Study by O. Machate et al., 2022

The atmospheric deposition of persistent organic pollutants (POPs) is a major cause of the poor ecological status of most surface waters. A study published in July 2022 by Oliver Machate et al. from the Helmholtz Centre for Environmental Research Leipzig investigated the potential pollution of high-altitude aquatic ecosystems that are normally considered pristine.

The study was conducted on three lakes in the French Pyrenees, where 479 organic chemicals, including POPs, PAHs (polycyclic aromatic hydrocarbons), biocides and pesticides were detected. A cocktail of 151 individual chemicals was used to assess toxicity to crustaceans and algae. Concentrations of insecticides such as diazinon and permethrin were well above the thresholds for acute toxicity to crustaceans at several sites. At these sites, crustaceans were either not present at all or were present in low numbers. Diazinon and permethrin are used to protect livestock and may have been transferred to the mountain lakes by free-ranging livestock grazing.

You can find the study by O. Machate here:

<https://www.sciencedirect.com/science/article/abs/pii/S0048969722015492>

More information on the content and distribution of POPs in selected typical lake ecosystems can be found here (Cui Li et al., 2019): <https://pubmed.ncbi.nlm.nih.gov/31146153/>

Biodiversity targets in danger? Positioning of the WG Water of the Forum Environment and Development on **hydropower development and river** restoration against the background of biodiversity targets and the climate crisis on 08.12.2022 14:00 - 17:00 - online.

Registration to: roth@forumue.de. The event will be held in German with English translation.

Lakes Conference 2023

Lakes, Wetlands and Natural Climate Protection in the UN Decade to Restore Habitats

The Living Rivers Foundation, in cooperation with the Global Nature Fund, the Living Lakes Network Germany and the GRÜNEN LIGA, invites you to the Lakes Conference 2023 on **Thursday, 19 January 22 from 10.00 to 17.00 at the bUm -Betterplace Umspannwerk, Berlin, Paul-Linke-Ufer 21.** On **20 January**, the founding event of the **Water Network (Wassernetz) Berlin** will take place at the same location.

<https://www.living-rivers.eu/de/veranstaltungen/seenfachtagung-2023-berlin>

Registration for both events to: wasser@grueneliga.de

Main FlussFilmFest 2023

In March 2023, the Living Rivers Foundation and its partners Netzwerk Main and Flussparadies Franken e.V. will organise a River Film Festival in 14 different cities along the Main to promote biodiversity and freshwater life. Outdoor and environmental films as well as short films will be shown, followed by a discussion about the problems rivers face in Europe and worldwide.

For more information on the Main River Film Festival 2023, please visit these links:

<https://www.netzwerkmain.de/mainflussfilmfest> and

<https://www.riverfilmfest.eu/main-flussfilmfest>

<https://www.facebook.com/Maininitiative/>

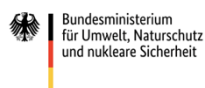
<https://www.instagram.com/netzwerk.main/?hl=de>

Dates preview 2022 International :

8 December 2022 14:00 – 17:00 Online	Biodiversity goals in danger? Positioning of the AG-Wasser on hydropower development and river restoration against the background of biodiversity goals and the climate crisis https://www.living-rivers.eu/de/veranstaltungen/online-seminar-der-ag-wasserim-forum-umwelt-und-entwicklung-biodiversittsziele-in-gefahr Registration at: roth@forumue.de
6 – 8 December 2022 Paris, France	UN- Water Summit for Groundwater https://www.un-igrac.org/agenda/un-water-summit-groundwater
Thursday, 19 January 2023 10:00 – 17:00 Berlin	Lakes, wetlands and natural climate change mitigation in the UN Decade of Habitat Restoration. Lakes Conference 2023. Invitation at: https://www.living-rivers.eu/de/veranstaltungen/seenfachtagung-2023-berlin
Friday, 20 January 2023 10:00 – 13:00	Lakes and wetlands in the Berlin area Registration at: wasser@grueneliga.de
Tuesday, 14 March 2023	World Dam Day (International Day of Action Against Dams and for Rivers, Water and Life) https://worldday.de/international-day-of-actionagainst-dams-world-dam-day/
Wednesday, 22 March 2023	World Water Day

14 – 26 March 2023 Cinemas on the Main River	Main FlussFilmFest www.riverfilmfest.eu
22 March – 24 March 2023	United Nations 2023 Water Conference https://sdgs.un.org/un-2023-conference-water-action-decade
11 October – 12 October 2023 Karlovy Vary (Karlsbad)	Magdeburg Water Protection Seminar 2023

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