

Future scenarios for high-mountain wetlands in the Eastern Pamir under the ongoing climate changes

Monika Mętrak¹, Łukasz Chachulski², Paweł Pawlikowski¹, Elżbieta Rojan³, Marcin Sulwiński¹, Małgorzata Suska-Malawska^{1,4}

¹Faculty of Biology, Biological and Chemical Research Centre, Department of Plant Ecology and Environmental Protection, University of Warsaw, Żwirki i Wigury 101, 02-089 Warsaw, Poland

²Warsaw University of Life Sciences, Faculty of Agriculture and Botany, Department of Botany, Nowoursynowska 159, 02-776 Warsaw, Poland

³Faculty of Geography and Regional Studies, University of Warsaw, Krakowskie Przedmieście 30, 00-927 Warsaw, Poland

Contact person: Monika Mętrak Ph.D., m.metrak@uw.edu.pl



Vegetation patchwork along the Alichur River (catchment of the Yashilkul Lake).

Vegetation patchwork around the Bulunkul Lake (catchment of the Yashilkul Lake).



Find more about:

1. species diversity, spatial structure and habitat features of vegetation patchwork developed on the lake and river terraces in the Eastern Pamir;
2. regional and local drivers of plant response to nutrient availability in the high-mountain wetlands;
3. response of wetland-lake systems in the Eastern Pamir to the ongoing climate changes;
4. scenarios of future species diversity and structure alternations in the high-mountain wetlands in the Eastern Pamir under the ongoing climate changes

in the following papers:

Mętrak M., Chachulski Ł., Pawlikowski P., Rojan E., Sulwiński M., Suska-Malawska M., 2023. Potential role of high-altitude wetlands in preservation of plant biodiversity under changing climatic conditions in the arid Eastern Pamir. **CATENA** 220A

<https://doi.org/10.1016/j.catena.2022.106704>

Mętrak M., Pokarowski P., Sulwiński M., Gantumur A., Suska-Malawska M. 2020. Plant response to N availability in permafrost-affected alpine wetlands in arid and semi-arid climate zones. **Science of the Total Environment**

<https://doi.org/10.1016/j.scitotenv.2020.137791>

Mętrak M., Szwarczewski P., Bińka K., Rojan E., Karasiński J., Górecki G., Suska-Malawska M., 2019. Late Holocene development of Lake Rangkul (Eastern Pamir, Tajikistan) and its response to regional climatic changes. **Palaeogeography, Palaeoclimatology, Palaeoecology** 521: 99-113

<https://doi.org/10.1016/j.palaeo.2019.02.013>

Mętrak, M., Chibowski, P., Sulwiński, M., Pawlikowski P., Suska-Malawska M., 2018. CNP stoichiometry and productivity limitations in high-altitude wetland ecosystems of the Eastern Pamir. **Mires and Peat** 21

http://mires-and-peat.net/media/map21/map_21_09.pdf

Mętrak M., Chachulski Ł., Navruzshoev D., Pawlikowski P., Rojan E., Sulwiński M., Suska-Malawska M., 2017. Nature's patchwork: How water sources and soil salinity determine the distribution and structure of halophytic plant communities in arid environments of the Eastern Pamir. **PLoS ONE** 12(3)

<https://doi.org/10.1371/journal.pone.0174496>

More about the Eastern Pamir (studies on plants and biological soil crusts in a glacier foreland) and Central Asia (studies on environmental pollution, and archaeological research) can be found here:

<https://www.researchgate.net/profile/Monika-Metrak-2>