

## **Second work meeting on the project "Extreme droughts and their impact on agriculture in selected continental climates of Europe", Sofia, December 2023**

With the work on the project "Extreme droughts and their impact on agriculture in selected continental climates of Europe", from December 5 to 8, 2023, on a working visit to the Department of "Climatology, Hydrology and Geomorphology", Faculty of Geology and Geography, were the teams from the partner organizations: Comenius University, Bratislava and University of Natural Resources and Life Sciences Vienna (BOKU), Vienna. The Bulgarian team was financed by the National Scientific Fund of the Ministry of Education and Science under a competition for multilateral scientific and technological cooperation in the Danube region.

The **general aim** of the proposed project is to contribute to clarifying current trends and future projections of drought occurrence and consequences for agriculture at a regional scale by improving the capacity to study and assess meteorological and agricultural droughts and by increasing scientific knowledge and public awareness of extreme climate events and the drought in particular.

The main tasks of the working meeting were quality control of the initial information, exchange of the first results of the work, and presentation of the project to students and lecturers of the Faculty of Geology and Geography, Sofia University.



Prof. Nina Nikolova and Ch. Assist. Simeon Matev presented the database compiled by the Bulgarian team for the work on the project and the possibilities for its updating, as well as the first results of the analysis of the impact of droughts on agriculture. During the meeting, Prof. Josef Eitzinger (BOKU-Met, Vienna) presented the GIS-based system ARIS (Agricultural Risk Information System), which contains algorithms for calculating several agricultural risks, including abiotic (drought, heat, frost) and biotic (various pests) crop damage factors caused by weather.



During the technical session, methodological issues related to the definitions of extreme drought and the algorithms for calculating some indices to assess the drought frequency, intensity, and severity were discussed.



The researchers from the partner organizations (Mag. Dr. Sabina Thaler from BOKU-Met – Vienna and Dr Marián Melo and Mgr. Jaroslava Slavková from Comenius University, Bratislava) gave lectures to students in Bachelor programs Geography and Climate Change and Management. The factors for the manifestation of drought, models for assessing the impact of

drought on the yields of main crops, and the current and future climate scenarios for Central Europe were presented.



The scientific teams of the project visited the Museum of Paleontology and Historical Geology of the GGF. The foreign guests were greatly impressed by the restored skeleton of the Deinotherium and the rich collections on paleontology and historical geology.

Bulgarian scientific team: prof. Nina Nikolova, PhD (coordinator); ch. assist. prof. Simeon Matev, PhD, ch. assist. prof. Petko Bozhkov, PhD, and PhD student Jelena Svetozarevic.