



FOREWORD TO THE SPECIAL ISSUE OF THE JOURNAL OF ENVIRONMENTAL GEOGRAPHY ON CLIMATE CHANGE ADAPTATION IN THE DANUBE REGION

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The Danube Region represents one fifth of the European Union's total area and is home to more than 100 million inhabitants. The region is comprised of 9 EU (*Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Romania, Slovakia and Slovenia*) and 3 accession countries (*Bosnia and Herzegovina, Montenegro, Serbia*) and also involves 2 neighbourhood countries (*Moldova and Ukraine*). The states show significant regional disparities in economic and social development. In order to increase growth and strengthen cooperation at a macro-regional level the European Union adopted the EU Strategy for the Danube Region (EUSDR) in 2011 under the period of the Hungarian EU Presidency. EUSDR is established with eleven priority areas to harmonise development policies connecting these 14 countries.

Water is one of the most important natural resources, basic elements of the human life and its quality determines the quality of our life. EUSDR Priority Area 4 (PA4; <https://www.danubewaterquality.eu/>) of the EUSDR aiming at to maintain and restore the quality of waters, to 'safeguard Europe's water resources', furthermore to assist in the implementation of the EU Water Framework Directive (WFD) and the Urban Waste Water Treatment Directive.

The Environmental Risks Priority Area (PA5; <https://www.danubeenvironmentalrisks.eu/>) of the Danube Region Strategy coordinated by Hungary and Romania has three major objectives to follow during its work in close cooperation with the International Commission for the Protection of the Danube River (ICPDR) and shares the responsibility for the realization of them. First, PA5 addresses the challenges of water scarcity and droughts based on the 2013 update of the Danube Basin Analysis and the ongoing work in the field of climate adaptation. Secondly, support to implement Danube wide flood risk management plans – under the Floods Directive – to reduce flood risks significantly by 2021. Third, it works to update the accidental risk spots' inventory at the Danube River Basin level. The most significant activity in the field of environmental risks is to facilitate the flood protection of the Region and to enhance the flood safety of the whole Danube Basin. In

order to secure the long-term management possibilities, the technical education needs consolidation and a training scheme is under elaboration by the PA5. Though the emphasis is on high water regime, PA5 still considers drought and ice management as equally potential scarcities. We aim to step forward in the awareness and preparedness level of the inhabitants with pilot sites for coordination of operative flood management and civil protection plans. To achieve the goals EUSDR PA5 heavily support project preparations and executions, creating informational material and provide dissemination via the website, plus organizing and participating on project kick-off meetings, consultations and project development workshops, seminars. PA4 and PA5 are working closely to gain additional values.

The EUSDR PAs are driven by a mutually accepted action plan where the countries endorsed the main topics they are collaborating on. Significant policy impact and technical progress is traceable regarding climate change adaptation in PA5 Action-7 "Anticipate regional and local impacts of climate change through research" and Action-8 "To develop spatial planning and construction activities in the context of climate change and increased threats of floods".

EUSDR PA5 is intended to harmonize EU-wide, Danube region and sub-regional level activities. Therefore, PA5 Hungarian coordination gave its opinion in December 2017 to the update of EU Strategy on Adaptation to Climate Change carried out by DG CLIMA in order to secure feedback to the role of EU macro-regional strategies in climate change adaptation. Cooperation started at the end of 2017 with the other 3 macro-regional strategies of EU on the field of risk management and climate change issues, first with a workshop in Budapest (November 2017) and culminated in the jointly organized conference session of the EU Civil Protection Forum 2018 in Brussels (March 2018). The Coordination also involved in the peer-review of the „Adaptation policies and knowledge base in transnational regions in Europe” ETC/CCA technical paper.

Closer cooperation started with Global Water Partnership CEE from the second half of 2017 related to their Integrated Drought Management Programme for the better management of drought and water scarcity issues in the DRB. EUSDR PA5 joined to the initiation of Global Water Partnership and carries out a common European drought and water scarcity EU level policy review in 2018.

ICPDR “Climate Change Adaptation Study Update 2018” process was elaborated in 2017. PA5 contributed to the first review of the document and later on contributed to the preparation of the Danube Region Climate Change Adaptation Strategy.

EU SDR PA5 Hungarian coordination announced the Call for Paper in March 2018 of “Climate Change Adaptation in the Danube Region”, as financing and launching the special issue of the Journal of Environmental Geography thanks to the Interreg Danube Transnational Programme DTP-PAC1-PA5 project (Fig. 1.). Thus, novel scientific results and best practices have been collected from different fields of climate change adaptation. As an important element of our task, the issue also highlights areas where transboundary cooperation is a great potential– since being the core element of the EUSDR.



Fig. 1 Project financed by European Union fund (ERDF) and Hungary

Dear Reader, we have seven great articles in this special issue of the Journal, which are proud to hand over for the knowledge benefit for all of us. It is interesting to follow the development of the research activities in individual institutes and joint projects in the topic of climate change adaptation that is one of the most urging issues in the Danube Basin and the actually in the entire World nowadays. Wish you a pleasant time to browse!