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Application of geographic information systems in the field of strategic planning in climate politics via the example of drinking water service

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Climate change is one of the most significant issues of the 21th century that concerns particular regions to a different extent depending on their societal, economic and environmental characteristics. According to the actual cognition and the outcome of researches so far Hungary is an area of considerable vulnerability both in the global and the regional scales.
A major understanding of past years is that efforts for prevention are insufficient and that special care is necessary for the adaptation techniques to climate change and to strengthen adaptive capacity. This knowledge has led to the development of an adaptive strategy [COM/2013/0216] by the European Union in 2013 in which the necessity for local and regional actions is highlighted. Adaptation has been asserted to be an issue of considerable significance both in national and international strategy development and regulation in the latest years.
Strategic integration of adaptation to climate change on the sectorial and departmental levels requires a wide range of information about the climate vulnerability of societal, economic and environmental systems, however, competent information necessary for the determination of vulnerability is in many cases insufficient. Furthermore, due to the lack of accordance in data systems of different sectors the research on climate vulnerability, owing to complex data needs, is difficult to carry out. Considering all these facts, the development of an extensive geographic information system and an assessment methodology, integrating information on the environment, society and economy and, as an objective background, providing support for planning and decision making in the fields of adaptation and climate politics, is necessary.
In the frames of a comprehensive professional and governmental cooperation the work on the National Adaptation Geo-information System (NAGiS) has begun in Hungary in 2014, aiming for the development of a geographic information system of multifunctional use that supports flexible decision preparation, decision making and strategic planning with objective information.
In the course of our work we analysed adaptation challenges in the field of drinking water service and developed a methodology for the evaluation of vulnerability to climate change integrated into the National Adaptation Geo-information System that may contribute to strategic planning in climate politics effectively.