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Comparison of hydrological hazards in Serbia and Hungary

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A bilateral research cooperation program has been started between Serbia and Hungary at the end of 2017 in the framework of the PANNEX initiative, which became a Regional Hydroclimate Project (RHP) of the World Climate Research Programme (WCRP) Global Energy and Water Exchanges Project (GEWEX). The main focus of our cooperation (supported by the Interstate Science and Technology (S&T) cooperation program for two consecutive years) includes climatological processes and hydrological extremes, i.e. both excessive precipitation and drought, which are both important parts of the climate system of the Pannonian Basin. Moreover, they may result in severe direct and indirect consequences (floods, long-lasting severe droughts, etc.) in various sectors, such as agriculture, water management, energy production, etc. For the purpose of the thorough analysis we intend to use modelling tools (i.e. climatological and hydrological models) as well as various climate indices calculated mainly from precipitation and/or temperature as the two main climatic variables determining drought conditions. We are planning to prepare detailed climatological and hydrological comparisons of the two target regions within the PANNEX domain (i.e. the Pannonian Basin): one in Serbia, and the other one in Hungary. The expertise and experience of the two teams ideally complement each other to fulfill the ultimate goals. The regional consequences of global warming will be key issues in our joint research, so the expected results may be used in the development of specific adaptation strategies at local, regional or even national levels. More specifically, impact studies in agriculture or water management may use the results of our detailed regional analysis.