Impact of climate change and adaptation of some sectors of national economy in Poland and Bulgaria

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The aim of the project is to study the impact of climate change on the environment - soil, water resources, irrigation and drainage systems as well as to define the impact of climate change on the urban environment and human health.

In the years since the beginning of the 21st century in both countries there is an increased frequency and magnitude of extreme weather events such as - severe and prolonged droughts (2007) and devastating floods (2005 and 2014), warm and snow less (2013) and very cold and snowfalls (2012) winters. The effect of these extreme events is reflected strongly in various sectors of national economies of Bulgaria and Poland and sometimes reaches the size of the disaster. Hazardous weather phenomena are commonly involved in sectors such as agriculture and forestry, transport, tourism, energy, management of water resources distribution, irrigation and drainage.

In the Division of Agrometeorology at the meteorological and agro-meteorological networks of the National Institute of Meteorology and Hydrology, BAS (NIMH-BAS) carries out systematic observations of the weather and elements of the environment. There are examined the relationship between the average monthly temperatures and the amount of active and effective temperature sums; No frost period and duration of vegetation season; The rainfall sums and soil water content in the root layer; Length of periods of soil drought and shortening the growing season due to lack of water in the soils.

The Stanisław Leszczycki Institute of Geography and Spatial Organization Polish Academy of Sciences (IGSO PAS) conducting research related to the impact of climate change on the urban environment and human health; agriculture and soil conditions.

The Institute of Agrophysics in Lublin has a common cooperation with the Institute of Water Problems (at the present time part of the National Institute of Meteorology and Hydrology) of the Bulgarian Academy of Sciences.

In 2017, a working meeting was held in Sofia, combined with field workshops. During the stay, substantive assumptions of two articles planned for 2018, prepared jointly by PAN and BAN employees, concerning the city climate (comparison the urban heat island in Warsaw and Sofia) and agroclimatology (the phenomenon of frosts and their impact on cultivation in the main agriculture areas in Poland and Bulgaria)) were discussed.