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The flood retention analysis of Łasica canal valley situated in the Kampinos National Park in Poland.

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The Łasica canal is situated in second largest national park in Poland, in the Kampinos National Park localized near to Warsaw. The Łasica canal valley has 100 square kilometers surface. One of the most unique and valuable wetland areas in Poland are threatened by environmental degradation. Drainage land reclamation done in the past and regulation of watercourses leads to negative changes in water conditions and permanent, advanced changes in flora and fauna in consequences. There is an urgent need to improve water conditions in the endangered wetland area of the Kampinos National Park.
The flood retention of area situated along Łasica canal in the Kampinos National Park has been analysed. The analysis was based on calculations done at one dimension model in steady and unsteady water flow conditions in Łasica canal with existing water structures. The Digital Elevation Model has been also used to define flood extent and retention capacity of the Łasica valley. The Digital Elevation Model of the valley was elaborated and validated by universal kriging method with help of ArcGIS® Geostatistical Analyst as a raster representation of the floodplain morphology. The basis data source for constructing of DEM was set of point data directly measured by GPS RTK on open space or by classical leveling in forest. The morphology forms like oxbows and old meanders were extract by photogrammetric methods and include in post-interpolation processing of the DEM. The changes of retention caused by damming up the water and flow growth in Łasica canal has been analysed, described and presented on poster.