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International School of Hydraulics

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Photo-monitoring of vegetation in Warszawicki channel Citizen Science project results



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Erasmus+

Vegetation in rivers

The presence of vegetation in rivers and channels significantly affects all processes in and nearby the channel

Implications of riverine vegetation on:

- **Water flow:** e.g. hydraulic resistance^[1], flood conveyance^[2], agricultural drainage^[3], erosion control^[4]
- **Transport and mixing processes:** e.g. erosion^[5], deposition^[6], mixing^[7]
- **Morphodynamics:** cross-sectional geometry^[8], channel planform^[9], landform development^[10]
- **Water quality:** e.g. nutrients^[11], pollutants^[12], temperature^[13]
- **Ecology:** e.g. physical habitat^[14], source of energy and matter^[15], moderation of solar energy fluxes^[16]



Literature sources:

- [1] Järvelä 2002; Knight et al. 2010; Nikora et al. 2008; Rowiński et al. 2005
- [2] Geerling et al. 2008; Knight et al. 2010
- [3] Blann et al. 2009; Västilä et al. 2016
- [4] EFIB 2015; Evette et al. 2009
- [5] Osterkamp et al. 2012; Florsheim et al. 2008; Hubble et al. 2010
- [6] Jones et al. 2012; Osterkamp and Hupp 2010; Gurnell, 2014; Västilä and Järvelä 2017
- [7] Sonnenwald et al. 2017; Nepf 2012
- [8] Anderson et al. 2004; McBride et al. 2010; Curran and Hession 2013
- [9] Bertoldi et al. 2011; Camporeale et al. 2013
- [10] Corenblit et al. 2007; Gurnell 2014
- [11] Carpenter and Lodge 1986; Clarke 2002; Schulz et al. 2003
- [12] Dosskey et al. 2010; Basile et al. 2011; Virendra et al. 2008
- [13] Beschta 1997; Garner et al. 2017; Rutherford et al. 2004; Kalinowska and Rowiński 2015
- [14] Demars et al. 2012; Diddle et al. 1997; Daniel et al. 2006
- [15] Gregory et al. 1991; Tabacchi et al. 1998
- [16] Dugdale et al. 2018

Rowiński PM, Västilä K, Aberle J, Järvelä J, Kalinowska M (2018); *Ecohydrol Hydrobiol* 18(4):345-354

- Vegetation changes in time, and space, also seasonally and depends on the hydro-meteorological conditions

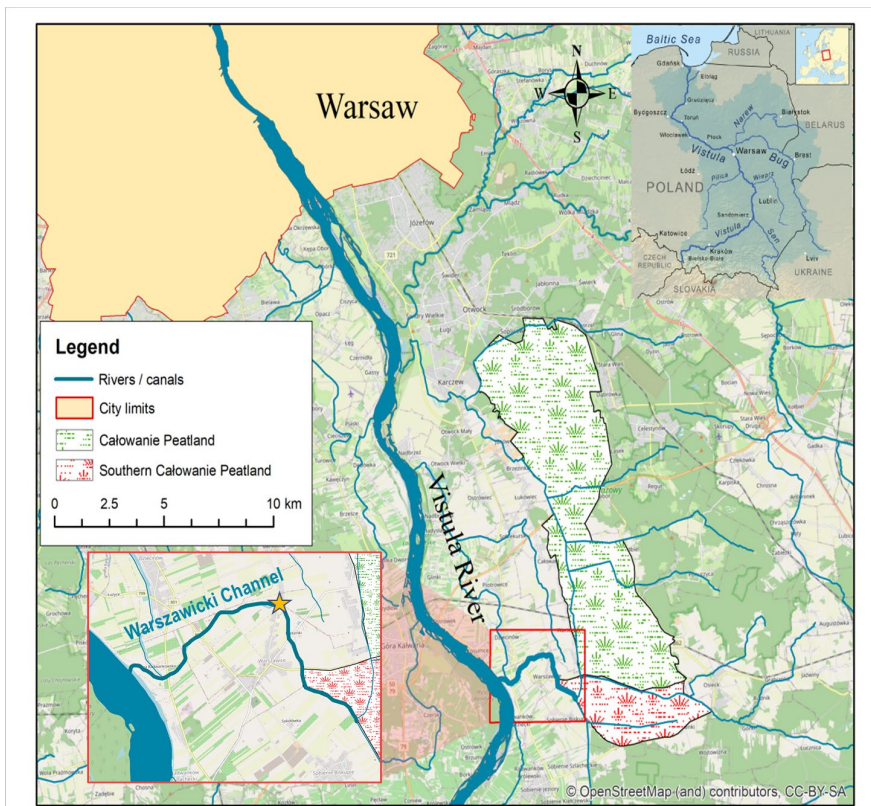
OBJECTIVE

THE CONDUCTED STUDY AIMED TO OBSERVE THE SEASONAL CHANGES OF VEGETATION WITHIN THE FRAMEWORK OF THE BRITEC – CITIZEN SCIENCE PROJECT

SELECTED PHOTOS FROM PHOTO-MONITORING

STUDY AREA

WARSZAWICKI CHANNEL IS LOCATED IN CENTRAL POLAND, NEAR THE BOUNDARIES OF THE CAŁOWANIE PEATLAND, IN THE VISTULA RIVER VALLEY



05.07.2020



Selected photos show the situation from the winter conditions – before vegetation started to grow until the channel maintenance cleaning in summer.



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