

# Water Reservoirs in the Paríž Stream Catchment

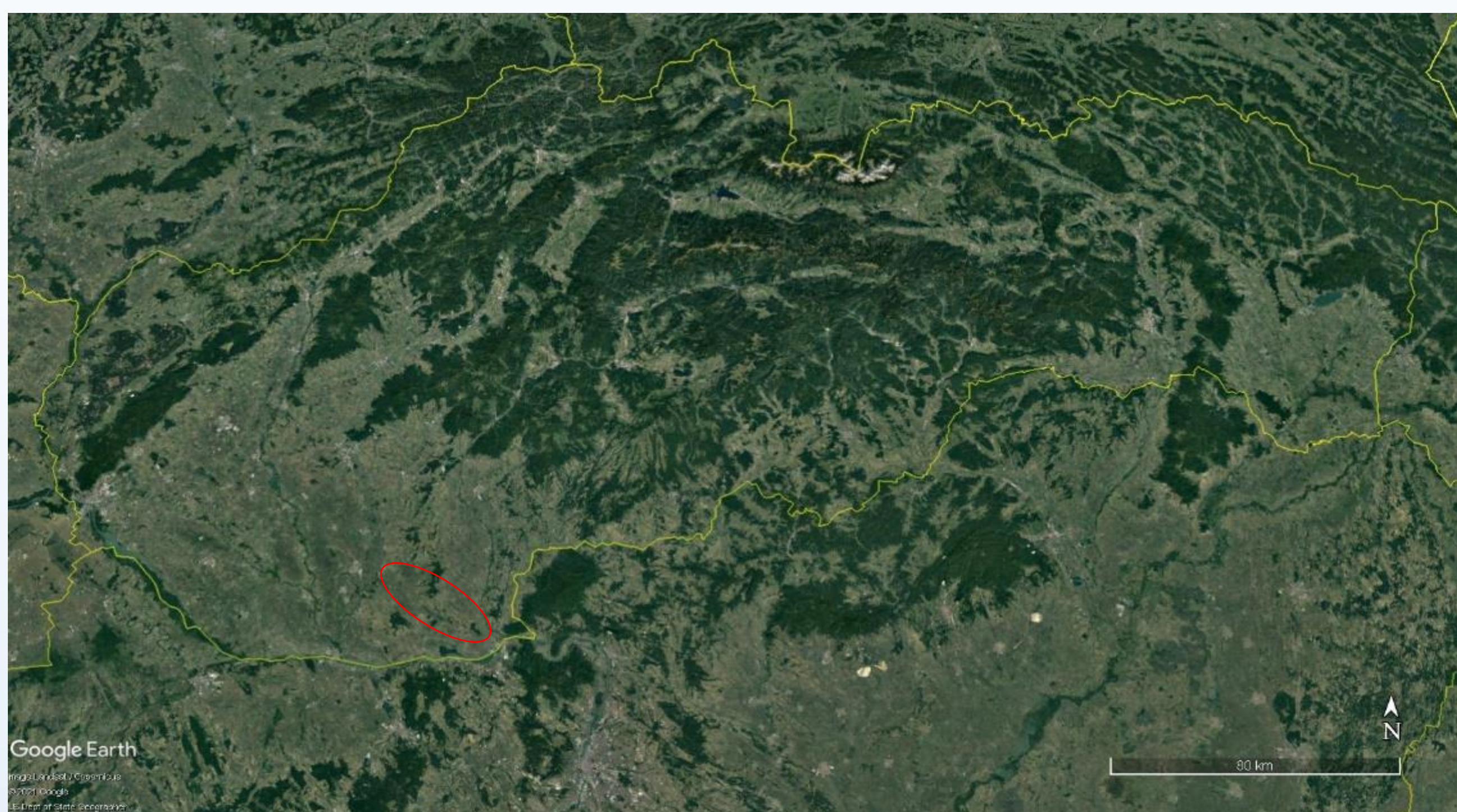
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In the Paríž stream catchment located in the south part of Slovakia, we selected six water reservoirs and one water area near the Ramsar locality called Parížske močiare.

We were interested in near reservoir settlements Jásová, Dubník, Rúbaň, Nová Vieska, Ľubá and Gbelce. Since 2017, we periodically monitored water quality, water levels and management regime of these reservoirs and of nearby area. We measured basic physical and chemical parameter, such as temperature, conductivity, TDS, ODO, pH, ORP, fDOM, turbidity and content of chlorophyll a.

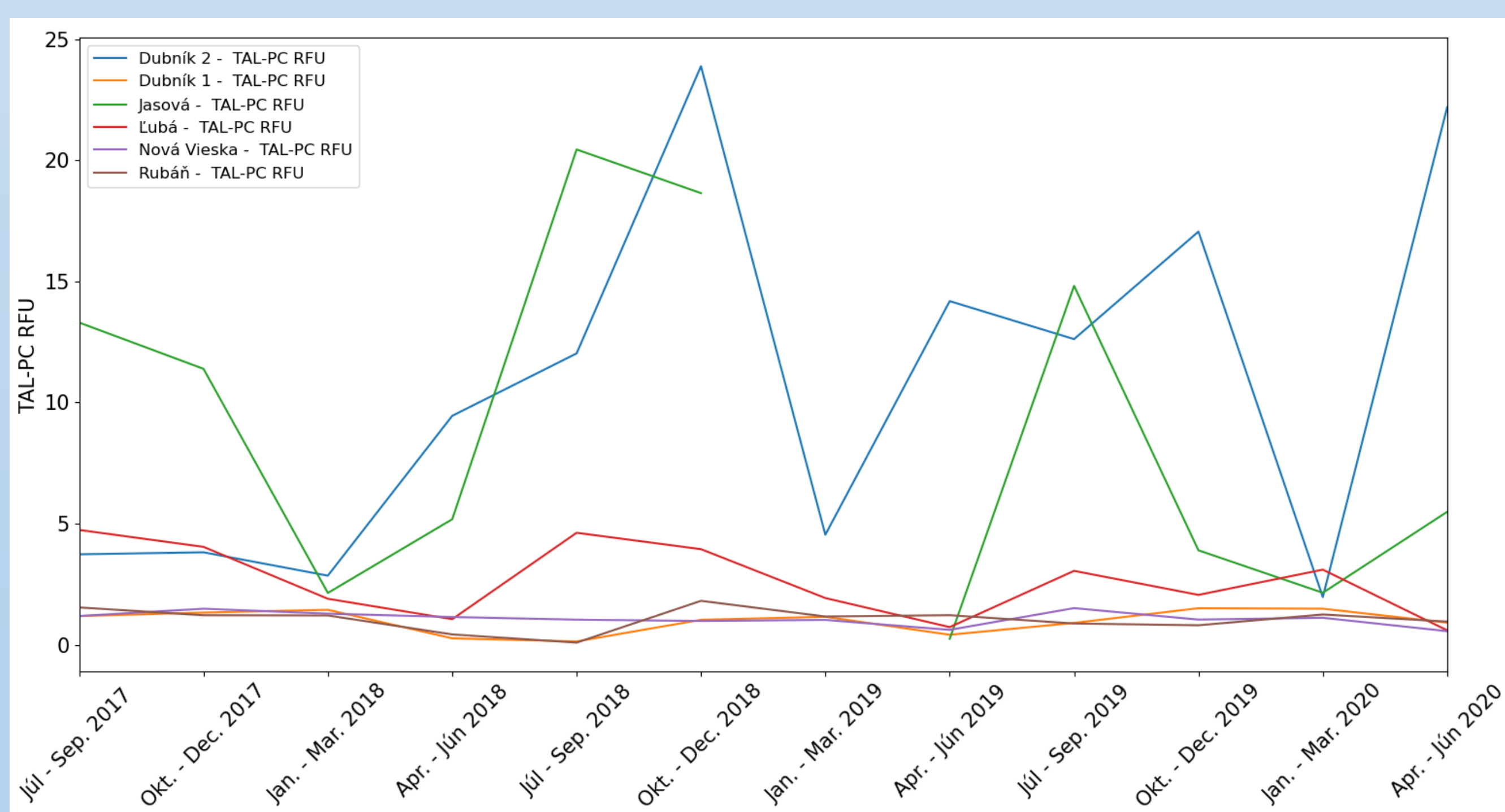
Map: Localities of water sampling



Location of the reservoirs in intensively used agricultural landscape makes them an ideal source for irrigation, which causes in summer months significant drops in water levels and contents of dissolved oxygen and mass development of algae, cyanobacteria and macrophytes.

In the period of measurement water pH was neutral to alkaline and ranged between 7,12 to 9,47. Conductivity was between 268,80 to 1591,80  $\mu\text{S}/\text{cm}$ , TDS was between 296,50 to 1008,25 mg/L and salinity was between 0,23 to 0,78 psu. Turbidity ranged from 1,94 to 120,25 FNU and fDOM ranged from 12,02 to 81,19 RFU. Concentration of dissolved oxygen in 50 cm depth varied between 0,03 to 27,82 mg/L, depending on locality a season. Recorded concentrations for chlorophyll a ranged from 0,12 to 102,50  $\mu\text{g}/\text{L}$ .

Graf 1: Concentration of phycocyanínu (TAL-PC) due to season from summer 2017 to spring 2020

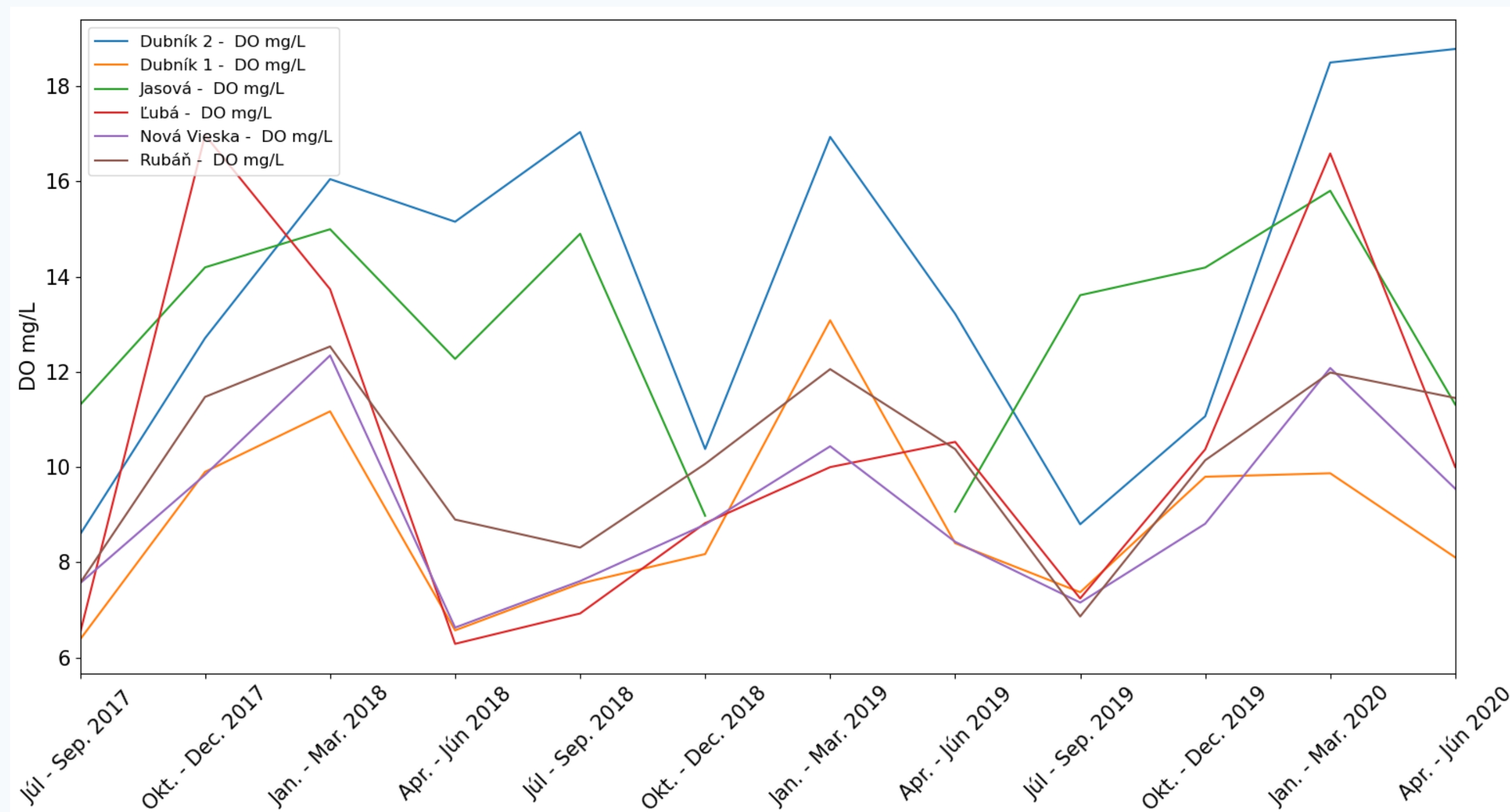


A negative element that affects the quality of life and the water quality is the absent public sewer system with water treatment plants.

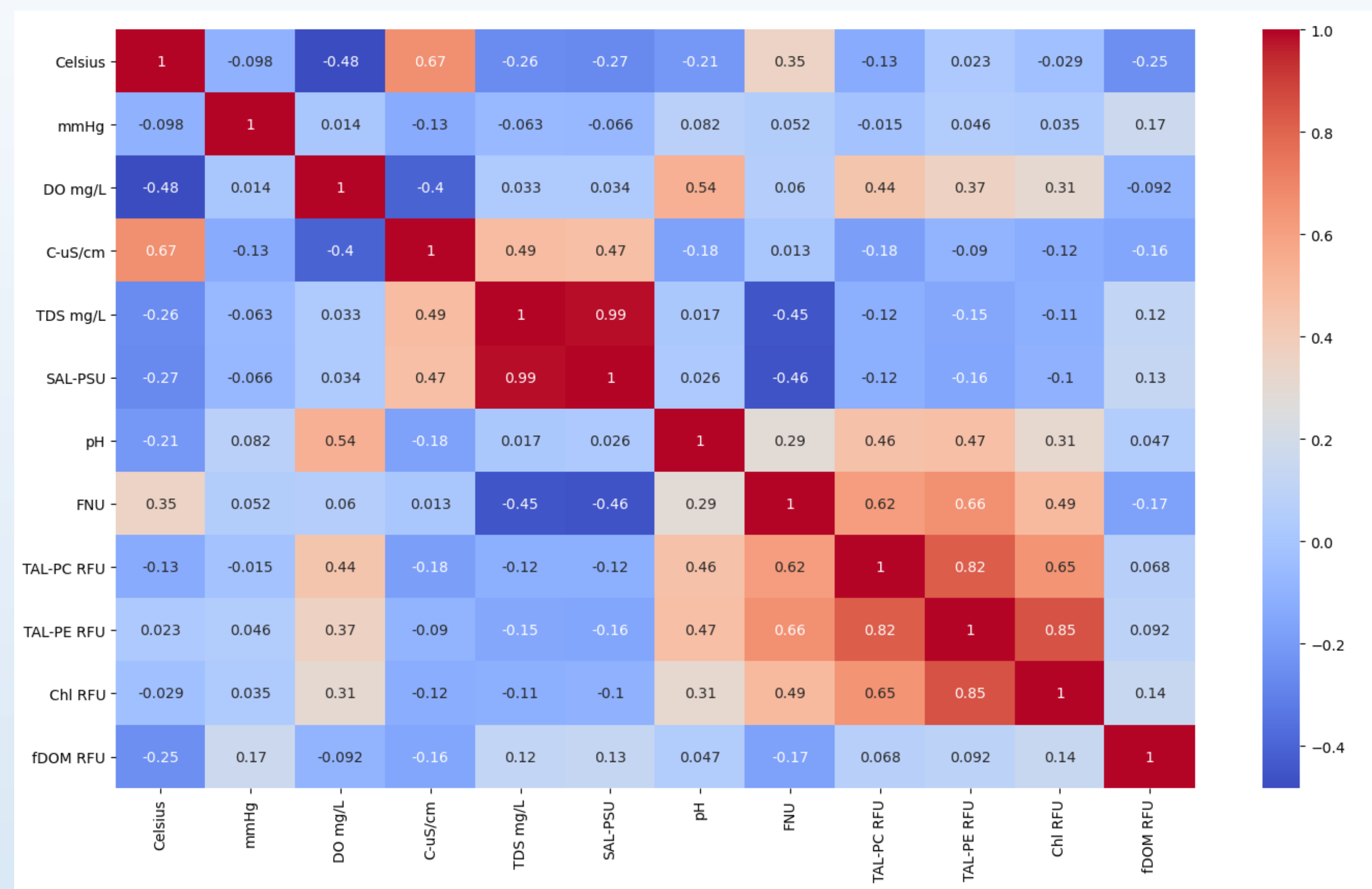
## Acknowledgment

This work was supported by the Vega project 2/0078/18 Research of biocultural values of landscape.

Graf 2: Concentration of dissolved oxygen (DO) due to season from summer 2017 to spring 2020



Graf 3: Spearman correlation



The overall rural character of municipalities has a major influence on their structure and land use in the cadastres. The business structure is focused on agriculture and agricultural services, what is related to appropriate natural and climatic conditions of the territory.

Jasová



Rúbaň 2



Gbelce



Pelophylax kl. esculenta



The area is rich in biocultural elements. The settlements have conditions for development of tourism, especially agrotourism and cycling tourism. This is also linked to the development of local wine production in the last three decades.

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