

FLUORIDE TRENDS IN THE DNIESTER RIVER AND DUBASARI RESERVOIR OVER 2011-2024 PERIOD

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Abstract. The paper presents the data on concentration of fluorides in the Dniester river and Dubasari reservoir, which waters are used for multiple purposes, including the drinking one. Water samples were taken seasonally from 2011 to 2024. Concentration of fluoride ions was determined photometrically by using an acidic solution of zirconyl chloride and alizarin red S. Fluorides ranged 0.05-1.07 mg/L in the Dniester sector from Naslavcea (entry point of the river on the territory of the Republic of Moldova) to Dubasari reservoir and 0.01-0.93 mg/L on that downstream the Dubasari dam. They varied from 0.02 to 0.95 mg/L in the reservoir waters. Mean annual concentrations of fluorides in the entire Dniester river, including the Dubasari reservoir, have oscillated from 0.15 ± 0.07 to 0.81 ± 0.10 mg/L during the investigated period. Concentrations of less than 0.5 mg/L were recorded in 76.6% of analysed water samples. Higher concentrations were observed in the period of low waters, when the groundwater supply of the river prevailed. In most cases, due to modified regime of the Dniester as result of river regulation, a clear seasonal dynamics was not recorded.

Keywords: fluoride ion, surface water, Dniester river, Dubasari reservoir.