



Seasonal variability of methane ebullition in a temperate freshwater reservoir

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Seasonal variability of methane ebullition was observed in the temperate freshwater reservoir of Římov (Czech Republic) in 2014. The canyon-shaped reservoir with one main tributary covers 210 ha with a maximum depth of 40 m and serves as drinking water supply.

The whole area of open water of the reservoir was acoustically investigated fortnightly all year round, except periods with ice cover. Anchored submerged funnels were then placed in ebullitive zones of the reservoir (the upper part) covering a depth range of 4 - 12 m. Sampled gas bubbles were analyzed using gas chromatography. Methane concentration in the sampled bubbles varied from 0 to 82 %. The main ebullition peak occurred in the beginning of July, reaching values up to 1200 mg of CH₄ per square meter per day. These values support the assumption that reservoirs in the temperate zone are not negligible sources of methane.