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DISSOLVED ORGANIC MATTER IN FRESHWATERS

Summary

Organic compounds are a common component of freshwaters. Dissolved organic matter (DOM) is synthesized inside the ecosystem and beyond, in the terrestrial environment. DOM is a heterogeneous mixture of thousands of different organic substances and chemical compounds containing, in addition to carbon, also: oxygen, hydrogen, nitrogen, phosphorus and sulfur. DOM undergoes biological and abiotic transformations. The transformation of DOM consists of primary production processes, photo-oxidation processes, leaching and accumulation. DOM affects the rate and movement of heavy metals in freshwaters. Colored organic substances cause higher water temperature. Dissolved organic carbon (DOC) is the largest reservoir of organic carbon in aquatic ecosystems and is an important element of the biogeochemical carbon cycle. Elevated concentration of DOM in surface water, affects the oxygen deficits in hypolimnion and water eutrophication. The abundance and quality of DOM affects the rate of primary production and is an important element of the microbial loop.

Key words: dissolved organic carbon, dissolved organic matter, freshwater ecosystems