



Paper

The freshwater reservoir effect in radiocarbon dating

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Abstract

The freshwater reservoir effect can result in too high radiocarbon ages of samples from lakes and rivers, including the bones of people whose subsistence was based on freshwater fish, and pottery in which fish was cooked. In my talk, I will explain the causes and consequences of this effect.

Two case studies will show the degree of variability of the freshwater reservoir effect over short and long timescales. Radiocarbon dating of recent water samples, aquatic plants and animals, shows that age differences of up to 2000 years can occur within one river. In the Limfjord, freshwater influence caused reservoir ages to vary between 250 and 700 years during the period 5400 BC - AD 700.

Finally, I will discuss the implications of the freshwater reservoir effect for radiocarbon dating of Mesolithic pottery from inland sites of the Ertebølle culture in Northern Germany.

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