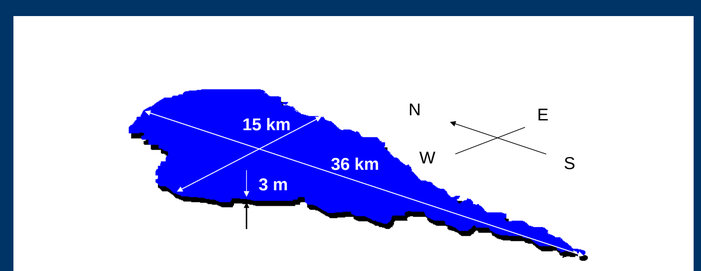
What do our water bodies have in common with the Amazon?

Aerial view of Võrtsjärv. The Limnology Centre can be seen on the shore, and Tondisaar in the middle of the lake. Photo: Arvo Tuvikene

The Võrtsjärv basin and the Emajõgi rivers. Just like the Amazon and Rio Negro flow in the Amazonian lowlands, the Emajõgi and Väike-Emajõgi flow in the Võrtsjärv basin. The Väike-Emajõgi flows into Võrtsjärv, and the water from Võrtsjärv flows through the Emajõgi into Lake Peipsi. Our Võrtsjärv is like an extension of the Emajõgi river system.

Which is wider, Võrtsjärv or Rio Negro? Here, near the Lake Museum, Võrtsjärv is about 5 km wide, which is the same as the width of Rio Negro near Manaus. The widest point of Võrtsjärv is 15 km, which is about the same as the width of Rio Negro near Anavilhanas National Park.



Model of Võrtsjärv

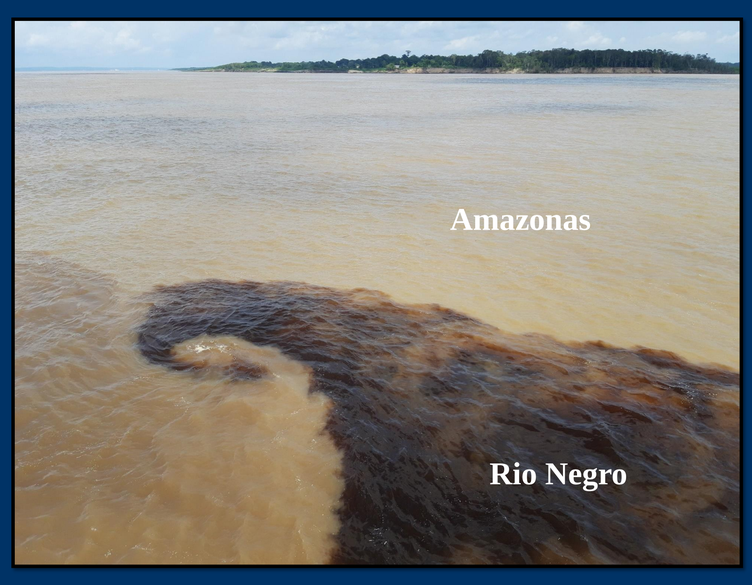
Author: Peeter Nõges

River confluences. The confluence of the Amazon and Rio Negro is a magnificent sight, but we also have a proud river confluence – the **Pedja River flowing into the Emajõgi**. The Pedja River flows through swamps and forests, carrying dark water, while the Emajõgi carries lighter water with sediment and phytoplankton from Võrtsjärv.

Discover the wonders of our nature!

Our rivers and lakes are shallow, with a depth mostly below 10 m. The average depth of Võrtsjärv is 2.8 m, and the maximum depth is only 6 m. The maximum depth of Emajõgi is 11 m.

Our rivers are not very long. Only 10 rivers are longer than 100 km. The longest river, Võhandu, is 162 km.



The mixing of Amazon and Rio Negro waters

Photo: Helen Agasild

The meeting point of Emajõgi and Pedja River waters

Estonia's tallest church, Oleviste (124 m), would almost disappear into the depths of Rio Negro – only the tip of the tower would protrude.

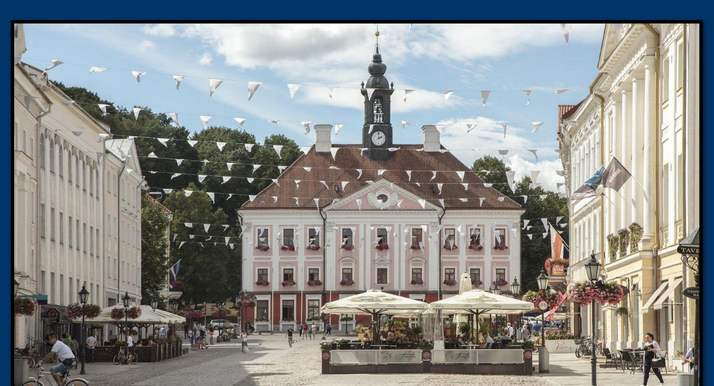
Photo and montage: Priit Zingel

Water level fluctuations. Although we don't have a clear high and low water season like the rivers in the Amazon region, we still have a significant annual water level fluctuation:

- The water level in Võrtsjärv fluctuates on average by 1.4 m per year (i.e. half the average depth)
- The water level in Emajõgi can fluctuate between 1.2-2.6 m per year
- The difference in water level between the low and high water periods of the Amazon River is on average 8-10 m (near the mouth of the Madeira River)
- The difference in water level of Rio Negro is on average 10 m (near Manaus)

Flooded meadow ponds and oxbow lakes. The Emajõgi is characterized by low **meadow ponds** that are flooded during high water. Just like in the Amazon, the fish in the Emajõgi can swim in the meadows during high water. The river's changing course has also created numerous **oxbow lakes** (also called marshes, bends). There are 55 oxbow lakes in the Lower-Pedja Nature Reserve. The fish population in the oxbow lakes is very rich, and for many fish species, the oxbow lakes with flooded meadows are an ideal spawning ground.

Emajõgi flows backwards! During high water (usually in May), the Emajõgi changes direction in a six-kilometre stretch between the Pedja River mouth and Võrtsjärv and flows into Võrtsjärv. The backward flow is slow, only 7 cm/s. No other river in Estonia behaves like this.



Tartu Town Hall Square

Tartu – the Manaus of Emajõgi?

Just like Manaus on the banks of the Rio Negro, we have Tartu on the banks of the Emajõgi – a beautiful and historic city! Emajõgi is the only river in Estonia that is navigable throughout its entire length. Nowadays, large ships no longer sail here, but in the Middle Ages, the Emajõgi was an important trade route, and Tartu was a famous Hanseatic city.

Oxbow lakes of Emajõgi Photo: Arvo Tuvikene

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