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precipitation, riverbed, water quality

Mura is a river in Central Europe, 465 km in length, rises in Austria (1898 m above sea-level) Hohe Tauern national park of the Central Eastern Alps. It is a tributary of the Drava and subsequently the Danube. The size of its basin is 14,304 km². More than half of its surface is in Austria, where the River is 326 km. The Slovenian section of the basin is 1,393 km² in area, 95 km flow in and around Slovenia (67 km along the borders with Austria and Croatia, 28 km inside Slovenia). The rest forms the border between Croatia and Hungary. The tributary in Croatia is 987 km², and Hungary 1911 km².

The River Mura can be divided according to the regions through which it flows:

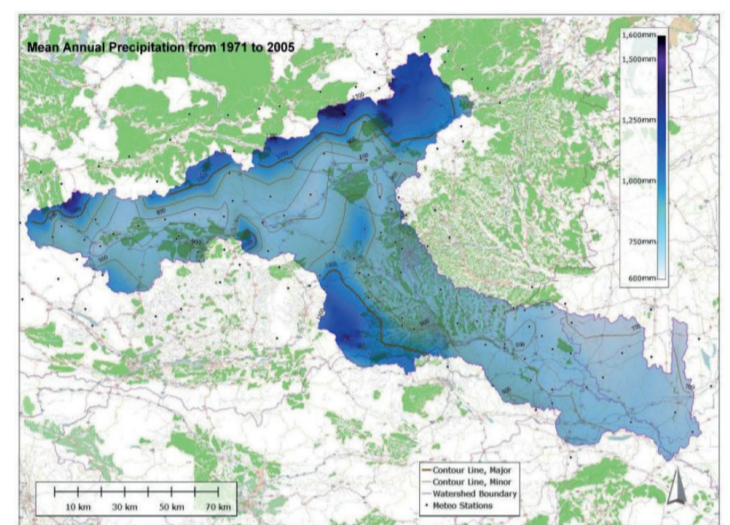
- Mountain section (source–Bruck, Austria)
- Transitional section (Bruck–Mureck, Austria)
- Lowland section (Mureck–Legrad, Slovenia, Croatia, Hungary)

Climatic zones



Climate zones of the Drava-Mura catchment (Source: Lóczy, 2019). 1, Illyric climate; 2, Pannonian climate; 3, Atlantic climate; 4, high-mountain (Alpine) climate. The locations of meteorological stations are shown

Precipitation



Yearly precipitation map for the period 1971-2005 (Source: Šraj et al., 2011)

Riverbed

- Mura-Drava-Danube Transboundary Biosphere Reserve stretches along the Drava, Mura and Danube Rivers, which are separated by flood prevention dykes into an inundation area and a flood-controlled side. The biosphere reserve provides an important tool in learning different approaches to floodplain management.
- Relatively much and large-scale waterworks were carried out on the river Mura in the 1800s and 1830s, manifested in the cutting of the arches of the riverbed. As a result, the river set in motion a huge amount of sediment, the bottom of the riverbed deepened significantly more than expected, and the already built fortifications fell into the water, losing their support. Water interventions took place a hundred years ago and in the 1960s and 1970s, but they did not fundamentally change the nature of the river and the countryside either.
- In the days of the Cold War the border area between the two hostile blocks was sealed off and for decades this prevented the “development” of large reaches of the Drava and Mura. The rivers were free to flow in natural style with the current creating islands and steep banks.
- These banks can reach a height of 40 metres, great cliffs of clay and sand. From them one can look out for miles over a riverscape of oxbow lakes, islands and riparian forest. The vertical fall of the banks is the chosen breeding spot of sand martins, bee-eaters and kingfishers.

Water quality

In case of rivers, the evaluated parameters can be high, good or moderate status. These are the followings:

- Biological quality elements, as phytoplankton, macrophytes and phytobenthos, benthic invertebrate fauna, fish fauna
- Hydromorphological quality elements, as hydrological regime, river continuity, morphological conditions
- Physico-chemical quality elements, as general conditions (nutrient concentrations, salinity, pH, oxygen balance and so on), specific synthetic pollutants, specific non-synthetic pollutants

Mura water quality: good/moderate.