

On the chemical status of the Adige River (Italy)

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The Adige River is the second largest river in Italy and flows from the Alps into to the Adriatic sea, with a length of 410 Km. The main river and its tributaries are well monitored by local authorities and its chemical status is evaluated as good in most of the monitoring stations. However, local sources of pollution may endanger water quality and the ecosystem. We provide a review of the information available in literature about the occurrence of chemical stressors within the catchment. Most of the information is localized in time and space. Yet, studies performed in areas close to Trento, Rovereto and Verona and in the Adige river estuary have shown that the principal source of contamination is due to anthropogenic activities, such as industries and waste water treatment plants. Contamination by metals and heavy metals (Cr, Arsenic, Manganese, Copper, etc), pesticides and hydrocarbons was observed locally. Furthermore, recent studies evidenced the release of POPs such as DDT and PCB during glacier and snow melting, while emerging pollutants and micropollutants were observed downstream waste water treatment plants. With the FP7 Globaqua project, we aim at providing more detailed information (both in terms of spatial and temporal resolution) about the fate and transport of contaminants in the Adige catchment, identifying the areas where the water quality is the main stressor for the ecosystem and the role played by dilution and natural attenuation processes.