

## **Vulnerabilità ed esposizione del patrimonio artistico e architettonico al rischio di inondazione: il caso di Verona**

MATTEO BALISTROCCHI, ROBERTO RANZI, BARBARA SCALA

Università degli studi di Brescia

matteo.balistrocchi@unibs.it, roberto.ranzi@unibs.it; barbara.scala@unibs.it

### **Abstract.**

The contribution proposes a research path concerning the problem of flood management of the Adige river in the city of Verona and, consequently, the solutions implemented in the past to protect the city. The effectiveness of the solutions has been such that it is now possible to attribute to Verona a low flood risk level. The relationship between the city of Verona and the river has always been very strong. The memory of the events that took place with variable intensity can be recognized in the urban transformations, now consolidated, by the numerous plaques affixed on the walls of the city and in the signs made directly on the portals of churches and palaces. After the event of 1882 and its disastrous effects on the city, the municipality undertook studies for new strategies to protect it.

Previously, protection from water was achieved by constructing wooden, iron and sandbag structures placed to prevent water from entering the houses.

Today, after further operations of hydraulic risk mitigation Verona is classified between the areas with low hydraulic hazard.

The cognitive path illustrated has supported the development of non-structural methodologies for the reduction of the hydraulic risk of cultural heritage, in particular, concerning religious heritage. It resulted in a prototype of an intervention plan with the main aim of reducing the vulnerability of the exposed elements and, if possible, cancelling it. The need to work on vulnerability derives from the fact that the exposure, understood as the physical presence of the building in the hydraulic hazard area, cannot be changed. The time between the prediction and the occurrence of the phenomenon makes the prevention plan useful and feasible after establishing an order of actions, identifying the premises for possible movement and safety of the asset and educating the operators.

**Keywords:** flood management, reducing the vulnerability, hydraulic hazard.