

Sistema multianalitico integrato per la valutazione degli effetti dell'alta marea sui paramenti lapidei veneziani

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Abstract.

In the last years, flood episodes are increasingly frequent in the city of Venice. The phenomenon named by the Venetians “*acqua alta*”, that means “high water”, refers to the occurrence of water levels of the Venetian lagoon being higher than normal during high tide, causing the overflowing of the canals and flooding of the pedestrian walkways. In the months of November and December 2019, Venice faced exceptionally high tides, in particular, on November 12th the city was hit by the highest tide in more than 50 years, with an intense “*acqua alta*” peaked at 1.87 metres.

The project “*Venezia 2021- Programma di ricerca scientifica per una laguna regolata*”, financed by *Provveditorato alle OO. PP. del Triveneto* through *Consorzio Venezia Nuova* and coordinated by CORILA association is aimed to better understand the effects of high water on Venetian buildings and how to take action for preserving the cultural heritage of the city. From these studies new solutions will be proposed to overcome this situation of emergency and to prevent further disasters.

For this purpose, thirty samples, located in different area of Venice and the island of Torcello, are subjected to natural weathering. The present work shows the preliminary results obtained through a multi-analytic approach, highlighting the negative effects of high water on the conservation of the Venetian architecture.

Keywords: “*High water*”, *degradation*, *climate change*, *Venice*, *stone materials*.