

## **Richiesta assegno su fondi**

### **Progetto Europeo OPEn-air laboRAtories for Nature baseD solUtions to Manage environmental risks” OPERANDUM (Grant Agreement n. 776848)**

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Durata: 12 mesi, dal 1 dicembre 2020

**Titolo: *Characterisation and modelling of historical flood events and flood hazard assessment under climate-change scenarios for the Panaro River***

Finanziamento: 24000 €

### **Research Project**

Severe hydro-meteorological phenomena are having a high impact in European territories and are of global concern. The science behind these phenomena is complex and advancement in knowledge proceeds with progress in data acquisition and forecasting useful for real-scenario interventions. The employment of nature-based solutions (NBS) to mitigate the impact of hydro-meteorological phenomena is not adequately demonstrated, still uncoordinated at the European level, therefore not reaching full potential. Actions to achieve highest NBS impact requires in addition strategies to enhance societal acceptance and policy strengthening. The objective of OPERANDUM is to reduce hydro-meteorological risks in European territories through co-designed, co-developed, deployed, tested and demonstrated innovative green and blue/grey/hybrid NBS. OPERANDUM is based on “Open-Air Laboratories” (OALs) in seven European countries (and three in China and Australia) and the Italy OAL includes the analysis of the potential of the installation of herbaceous perennial deep rooting plants as coverage of earth embankments on a reach of the Panaro river. An adequate embankment vegetation cover may represent a valuable NBS for the mitigation of flood risk, reducing the likelihood of breach failure in case soil erosion during flood events. The effectiveness of such NBS solution needs to be assessed analyzing the current and future flood hazard expected for the downstream reach of the river Panaro (where the proposed solution, even if implemented on a small-size OAL in the project, may potentially be extended to all the riverbanks).

### **Research Activity Plan**

The research activity will be focused on:

- analysis and processing of climate scenarios, in order to disaggregate the existing scenarios at fine spatial and temporal scales for the specific study area,
- analysis of the hydrological phenomena dominating the past flood events in the Panaro river,
- refinement/improvement of the hydrological and flow propagation modelling developed so far,
- flood hazard assessment under climate change scenarios,
- stake-holder engagement activities,
- coordination with the consortium partners,
- dissemination activities.