



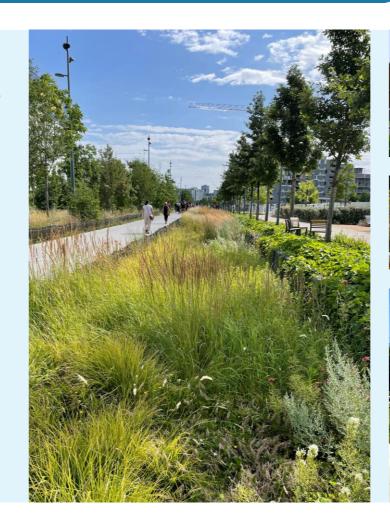


# GreenStorm

Design and deployment of stormwater nature-based solutions for resilient and livable cities

### **Context**

- Nature-based solutions (NBS<sub>SW</sub>) for the management of urban stormwater: green-infrastructures to retain water close to where it falls and prevent floods or pollutant discharge to surface waters
- A variety of potential benefits in addition to stormwater management functions: attenuation of local temperatures; landscape improvement; support for urban biodiversity; other health or well being benefits...
- Yet knowledge gaps: performance & resilience for present and future climate extremes (e.g., droughts, heatwaves...)? Acceptability for residents or municipal services? Pathways for a city-scale implementation? Benefits to be expected?







# **Objectives**

- Improve our understanding of the functioning of NBS<sub>sw</sub> under current and future climate extremes, based on observations from different European countries and numerical modelling
- Engage stakeholders in a dialogue with researchers to develop innovative NBS<sub>sw</sub> designs, to ensure their performance and resilience for future climate extremes, as well as their acceptability for residents or municipal services
- Identify drivers or tools for city-scale implementation of NBS<sub>sw</sub> and assess corresponding hydrological and thermal benefits under current and future climate conditions.

#### General approach Co-creation Observations -Modelling Development of modelling framework for a variety of NBS<sub>SW</sub> design of NBS<sub>SW</sub> **Climate** Local scale **Diversity of** Efficiency, resilience and acceptability of NBS<sub>sw</sub> extremes socio-technical datasets context Current knowledge and practices | Improved NBS<sub>sw</sub> design guidelines (development of climate scenarios) North to south Europe **Upscaling** Copenhagen Full-scale demonstration of NBS<sub>SW</sub> in a Danish neighborhood **Athens Paris** Transferability to other contexts? Pathways for a wider implementation Genoa City scale Östersund Development of NBS<sub>SW</sub> deployment scenarios Assessment of corresponding environmental benefits Policy-enabling modelling **Co-construction**

## Consortium

- 14 partners from 5 European countries: from the extreme North to the South of Europe, a variety of climate, urbanistic and socio-technical contexts
- 7 academic partners: a diversity of disciplines (hydrology, ecophysiology, sustainability sciences, climatology...) and approaches (in-situ monitoring, field numerical modelling, surveys, creation workshops, action research...)
- 6 local authorities and 1 SME: anchoring the research in the reality on the ground; facilitating the transferability of project results; showcasing successful NBS<sub>sw</sub> implementation



**Expected outcomes:** directions for the design of efficient and resilient NBS<sub>SW</sub>; demonstration of the relevance of participatory approaches in NBS<sub>sw</sub> projects; strategies for successful implementation of NBS<sub>sw</sub> depending on local context; city-scale assessment of the benefits of NBS<sub>SW</sub> to guide the intervention of public authorities

Partners: Ecole des Ponts Paristech; Cerema; Université Gustave Eiffel; Kobenhavns Universitet; Universita Degli Studi di Genova; Geoponiko Panepistimion Athinon; Lulea Tekniska Universitet; Kobenhavns Kommune; Athens Anaplasis S.A.; Ville de Paris; Département de Seine Saint Denis; Comune di Genoa; Östersund Kommun; Koordinat (SME)



















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