Multiscalar design for Climate Change.
Linking to Ecosystems, Decarbonization and Health

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AIM

The aim of the thesis is to approach different scales of design with projects that systematically restore ecosystems, promote human health and trigger decarbonization, capitalizing on climate change.

OBJECTIVES

Understanding the hyperlocal influences of climate change on ecosystems, human health and buildings consumption through a review of the actual literature.

Understanding how the built environment can interact with the three fields of exploration.

Developing concrete projects at 4 or 5 different scales that have influence on the three axis.

METHODOLOGY

The form of the thesis will be a Thesis by Papers.

The first paper will be the literature review focused on the three axis, that will highlight the gap to fill.

Other papers will follow the multiscalar framework:

- XL – Territorial scale
- L – Urban scale
- M – Building scale
- S – Urban object scale

All the project will be based on real case studies and exploited via digital simulations and measurements on prototypes.

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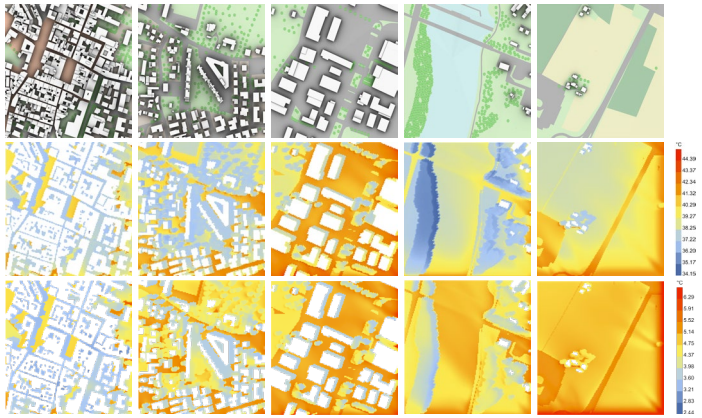
STATE OF THE ART

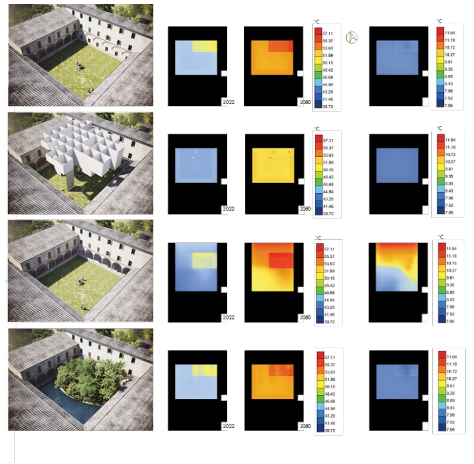
Some of the experiments at the different scales are in progress.

XL – Scale: Analysis of the effects of climate change on ecosystems, health and carbon emissions on the Ceramic District of Modena.
Microclimatic analysis completed. Project in progress.



L – Scale: Microclimatic analysis and nature based strategies for the new railway stations of Pigneto (RM) and Xirbi (CL)
Microclimatic analysis in progress.

S – Scale: Microclimatic analysis and nature based strategies for the cloister of S. Sepolcro church in Parma
Microclimatic analysis completed. Project completed. Publishing in progress.



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