Sustainable Retrofit for Flooding Resilience
Houses Close to the Girona River, Spain

Strong and dangerous flash floods are becoming more frequent at the end of the summer in some Mediterranean towns, usually located in floodplains near to the sea. Flooding is occurring due to torrential rain, and due to the aggressiveness of climate change and human action it is anticipated that these impacts will increase.

This project is focused on El Verger, a town located in the Valencian Community, Spain. It was tragically affected by the Girona River floods in 2007. Previous research studies based on this basin or others with similar features have proposed to create more green areas around the riverbed or adapt the existing houses. However, an architectural and environmental design approach to retrofit this housing has never been studied.

The aim of this thesis research project will be to find some sustainable adaptation both to the design and to the way of construction of housing affected by the floods. The goal is not only to prevent water coming into the houses, but also to improve interior spaces to become as habitable as possible.

Context

Design studies

Outcomes