

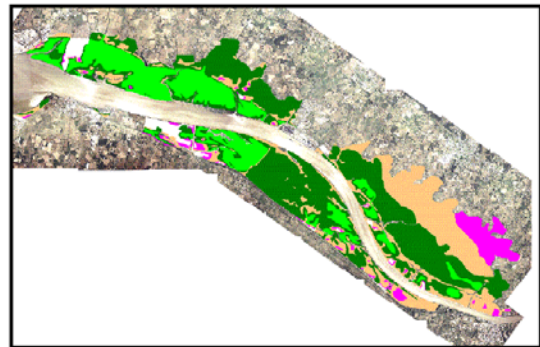
Adaptation: develop a resilient city

The metropolitan urban area is crossing by an important river system around the Loire river. Historically, flood risks have been integrated by political decision-makers and population. Considering the climate change, national and local authorities have established a new management floods plan. Rising sea level (+1 meter) is a parameter included in the Loire river modelling tool. New urban project next to the river Loire adapt their design to integrate flood risk.

The Loire river modelling tool

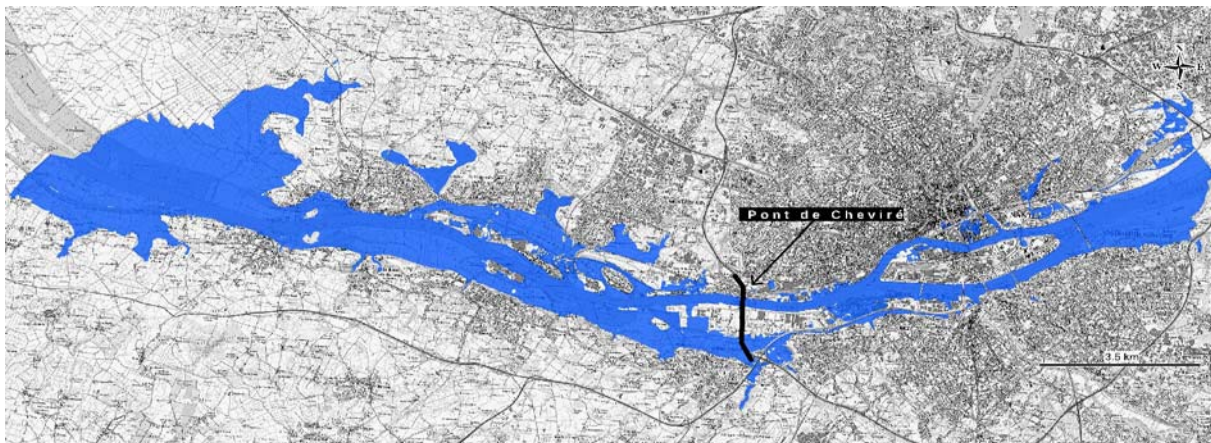
The GIP Loire estuary, a public partners consortium, study the functioning of the river Loire in this present situation and in the future. The modelling tool implemented takes into account climate change effect and especially rising sea level (+1 meter). The modelling tool can show different situations and can analyse some specific measures.

Picture: Loire estuary submersible zones



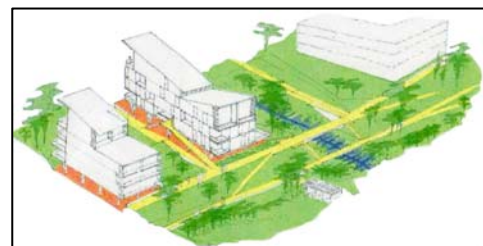
MANAGEMENT FLOOD PLAN

The management floods plan is based on the modelling tool. It classifies zones according to degree of flood risks (low, medium and strong meteorological hazards). This official document limits the urban development (*picture : Flood simulation on the metropolitan area*).



Building with floods: the case of ZAC des Isles Urban Project

Regarding to the management floods plan, the ZAC des Isles urban project is situated in the low and medium hazards zones. Buildings are authorized regarding some criteria in particular building accesses must be maintained during flood periods. Architectural principles: for examples dwellings can be build on stilts, or building first floor is dedicated for car parks or storage rooms.



Example of buildings in submersible zones