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Improving the knowledge about the vulnerabilities to urban floods and the level of resilience, by performing spatial simulations

Jérôme Dutozia, Christine Voiron-Canicio, and Gilles Voiron
Nice Sophia Antipolis, Laboratory ESPACE, Nice, France (voiron@unice.fr)

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The contribution deals with territorial resilience and planning for potential crisis situations that may emerge in the future eco-district Nice Meridia, an urbanizing area located on the edge of the town and along the Var river. The approach is based on the anticipative monitoring of a given urban system with a view to detecting what could disrupt its functioning in the near or a more distant future. It rests on the observation of components such as the habitat, mobility, ways of life, their recent evolving trends, and planned urban developments. However, we decided to pay very close attention to the faint signals sent out by the urban system in its diversity, and likely to generate new interactions between some of the components which could result in possible tensions and risks.
Based on faint signals analysis, various forms of possible tensions concerning the future functioning of the territorial system are spotlighted. These tensions are expected to affect simultaneously increase of risk flood and run off exposure, due to soil sealing and land cover types used. They also affect, mismatch between, the new district construction based on functional mixity, with economic orientation focused on innovation development and new technologies companies, on the one side, and on the other side, residential space, where offers don't meet the selection criteria of the population working in this new urban area. The mismatch produces an important dependence on mobility, both for the eco district working populations and for the eco district occupants. More precisely, we can anticipate that mobility dependence on the future tramway line will be very important due to lack of parking areas in the view to restricting automotiv use.
In this context whose final contours are highly uncertain, we can anticipate the combination of low rhythm evolution of Eco district development, increase dependence on electric mobiliy (tramway), and possible exceptional levels of rainfall event, contribute to emergence of complex scenarios and high-risk situations. Performing spatial simulations to test these various scenarios allow us to identify degree of latitude, through some land use planning and crisis management strategies that would increase territorial resilience.