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Investigating multi-stakeholder risk perceptions associated with coastal flooding the PACA coastline, France

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Introduction

The effects of climate change coupled with increased urbanisation and touristic activities in flood prone areas (Vinet *et al.*, 2011) makes the PACA region (south-east of France) increasingly vulnerable to the risks of coastal flooding / marine submersion.

Negative effects of coastal flooding are eg. danger to human life and property, environmental degradation, financial losses. Managing the risks associated with marine submersion, is a clear priority of French national policy, within the framework of the EU Flood Directive 2007/60/EC (European Parliament and the Council of the European Union, 2007).

Objective of the study

Study social representations, cognition and behaviours in coastal societies through different groups of stakeholders : residents (principal or secondary), tourists and local actors, **in order to better comprehend their relationship to coastal flooding and their risk culture.**

This approach, associated with a in-depth study of the social structure and spatial environment, aims to show the importance of the socio-spatial identity in the construction and diffusion of knowledge on marine submersion risks (Moscovici, 1961; Bauer & Gaskell, 2008).

Theoretical background

Studies in natural risk perception have moved from an "information deficit" model (Mostert & Junier, 2009) to a socio-constructive approach studying social representations (Joffe, 2003).

Social representations theory (SRT) addresses aspects of content and process in the sense construction of social objects into everyday 'common-sense' forms of knowledge (Jodelet, 1989).

Social representations theory :

- ⇒ can apply to the context of sudden and threatening forms of place change by natural hazards;
- ⇒ divergent social groups are likely to construe and represent marine submersion in different, even competing ways. The question of transmission of knowledge is given special attention.

We propose a sociocognitive approach considering the meanings given to risks in function of the asymmetry of social relations.

We expect to observe **a differentiated relationship to the risk of marine submersion on the coast of the PACA region according to place and social position of individuals.**

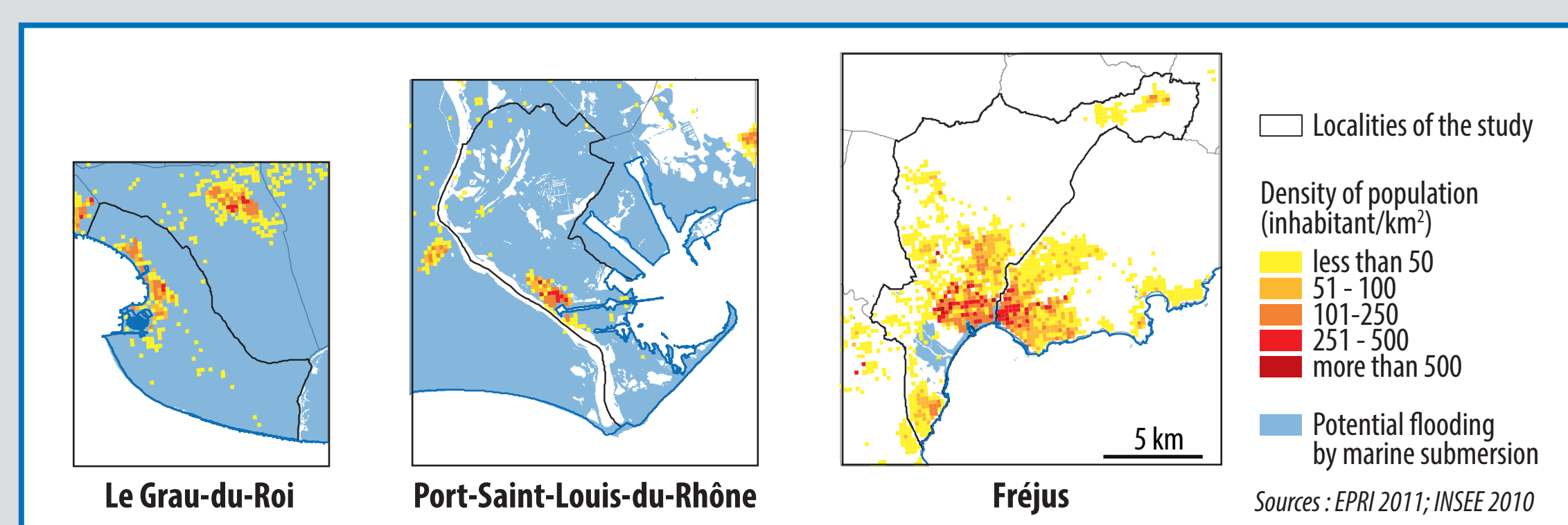
Method

Field of study

The choice of 3 localities allows an intercity comparison in addition to social group comparisons in a semi-experimental approach. These places are alike on some variables (eg. exposure to marine submersion) and different on others (see below).

Locality	Number of residents	Principal residence rate	Median income	Poverty rate	Floodable surface rate	Affected residents rate	Distance city-center/ sea coast
Port-Saint-Louis-du-Rhône	8661	86 %	18146 €	19 %	82 %	99 % 8574	5.0 km
Le Grau-du-Roi	8372	18 %	18933 €	17 %	99 %	100 % 8372	0.5 km
Fréjus	53511	59 %	18977 €	18 %	5 %	19 % 10167	1.5 km

Socio and geographic data (INSEE and personal measure)



Localization of cities according to the risks of submersion

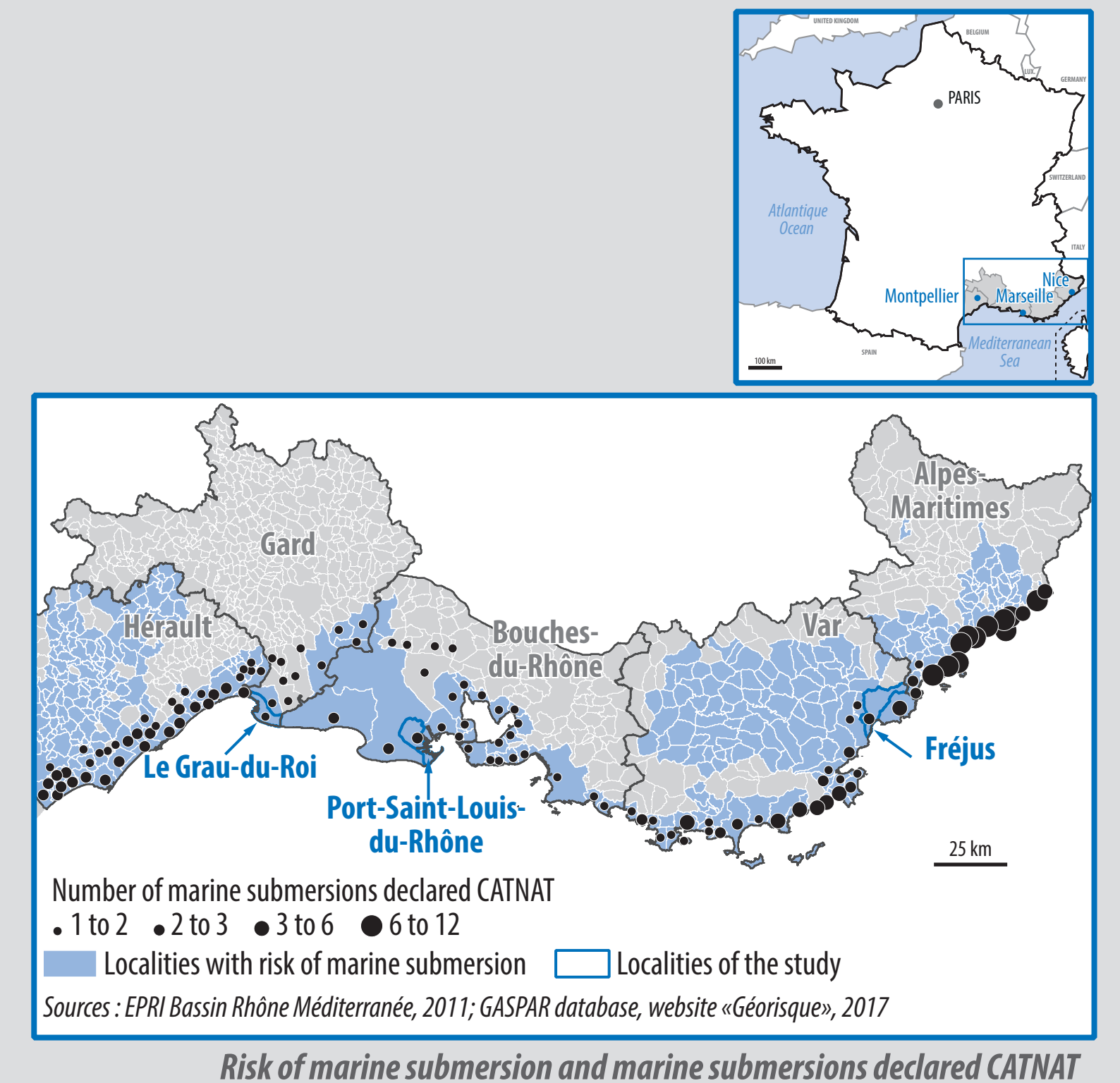
Port-Saint-Louis-du-Rhône is an industrial city whereas Le Grau-du-Roi is a touristic city. In both places the vulnerability is very important and concerns the whole population.

This comparison makes it possible to look at the dynamics of these two cities:

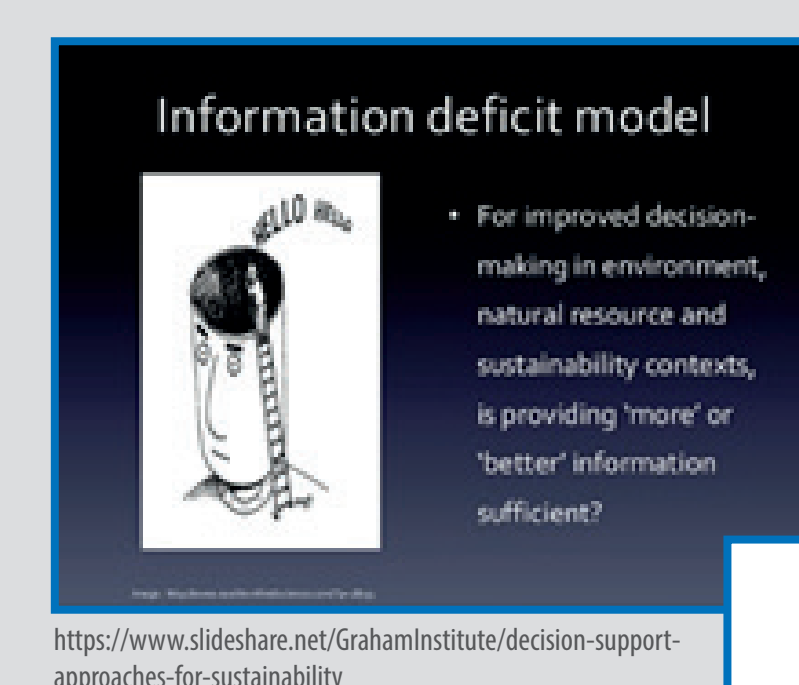
- ⇒ **Do the issues related to tourism or industry involve differentiated relationships to the risks of marine submersion?**
- ⇒ **Is communication about risk the same?**
- ⇒ **Do people perceive risks differently according to the socio-spatial context and their social identity?**

Finally, Fréjus is a tourist city but also economically diversified, its confrontation with the other two cities will allow to highlight the dynamics of a territory that is not totally affected by marine submersion risk in its surface but has about the same number of residents affected by this risk.

- ⇒ **Does the fact that the locality is partially affected by this risk impact its perception among the inhabitants?** (intra and inter city comparison)



Risk of marine submersion and marine submersions declared CATNAT



Measures

This research adopts a mixed methods approach that will triangulate data from both qualitative and quantitative methods of data collection :

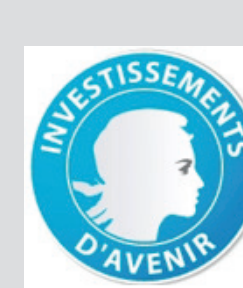
- **Focus groups/interviews** will enable an investigation of groups' marine submersion representations and of the communication/management associated with this risk; as well as an examination of groups' evaluations of past, present and potential future adaptation strategies ;
- **Historical approach** to study the local archives and the memories possibly shared by the population ;
- A large-scale **questionnaire survey** will further enable an investigation of the influence of contextual and social-level variables on the risk relation of different stakeholder groups ;
- Finally, **interviews** will help to better understand the situated understandings of the marine submersion risk to help precisising the psychosocial dynamics identified during the survey phase and their specificities.

Perspectives

Data collection will start in 2018.

This study seeks to contribute to a better understanding of multi-stakeholder risk perceptions associated with marine submersion, with a specific focus on enhancing flood risk communication strategies, helpful for risk management (Baan & Klijn, 2004; Slovic, 1999).

This study benefits from **a close interdisciplinary exchange with natural scientists** as geologists or engineers through the DIGUE2020 project* and the RISKMED project.



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