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Climate change impact, adaptation and associated costs for coastal risks in France

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As part of the French climate plan, an inter-ministerial working group called “climate change impact, adaptation and associated costs in France” was put in place in order to initiate an evaluation of potential damages of climate change as well as the possible measures to mitigate their costs. Seven thematic committees were put in place, including the “natural risks, insurance and adaptation to climate change” committee, within which a working group was in charge of coastal risks, focusing on erosion and coastal submersion impacts. This paper presents and discusses the methodology, recommendations and results provided by this working group.

This working group adapted a risk estimation methodology - where risk is considered as a combination of hazards and vulnerability of exposed elements - at a regional (i.e. sub-national) scale, focusing on the Languedoc Roussillon region in 2100: sea level rise and hazard evolution scenarios were chosen and crossed with specific exposed elements for which damages costs can be estimated. The result served as proxy for a rough estimate of direct and indirect costs potentially induced by erosion and coastal submersion hazards in France during the XXIth century. Finally, climate change compliant recommendations in terms of short term risks management and spatial planning were produced.

This paper will discuss the results obtained within this initiative from a risk assessment perspective. It will address the uncertainties for each step of the assessment, with a specific focus on data and information needs, but also identify processes that were not taken into account such as the ageing of buildings in coastal areas. Finally, the robustness of the proposed short term adaptation solutions will be discussed.

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