NATURE-BASED SOLUTIONS FOR COASTAL CITIES: A BIBLIOMETRIC AND CONTENT ANALYSIS

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Résumé

NATURE-BASED SOLUTIONS AND COASTAL CITIES: AN OXYMORON?
In a context of global sea-level rise, coastal cities appear to be particularly vulnerable territories as they concentrate human and economic issues. To limit the impacts of coastal erosion and marine submersion, various adaptation measures can be implemented, including "Nature-based Solutions" (NbS). Under this umbrella term are grouped "actions aimed at protecting, sustainably managing and restoring natural or modified ecosystems to directly address societal challenges in an efficient and adaptive manner, while ensuring human well-being and producing benefits for biodiversity" (Cohen-Shacham et al. 2016). NbS are increasingly strongly promoted by major funders and international institutions. However, an essential prerequisite for NbS deployment seems to be the presence of natural areas for ecosystems to evolve properly and provide regulating services. In cities, the shoreline is often artificialized and available land is scarce. How then can NbS play a role in adapting coastal cities to sea-level rise?

FROM " NbS " TO " COASTAL URBAN NbS ": A BIBLIOMETRIC ANALYSIS IN 3 STEPS

The first part of this research is based on an in-depth review of the available literature on Nature-based Solutions. The literature is analyzed in three stages. First, the entire literature on NbS is subjected to bibliometrics using the R package Bibliometrix (Aria et Cuccurullo 2017) and Vosviewer software (Van Eck et Waltman 2010). The general characteristics of NbS research are analyzed, and a textual analysis is conducted on author keywords and abstracts. In a second step, publications on nature-based solutions implemented in coastal environments are extracted from the general corpus to perform a classification of coastal NbS. Finally, publications on nature-based solutions in coastal urban environments are analyzed qualitatively.

FIRST RESULTS: URBAN NbS, COASTAL NbS, A DIFFICULT CONCILIATION

This study provides results on (i) the emergence and circulation of the concept of NbS

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and (ii) an overview of its applications in coastal urban environments to face the impacts of sea-level rise. Our aim is to understand the potential obstacles and levers to the implementation of coastal NbS in urbanized areas, and to outline the conditions for their development.

Mots-Clés: Nature based Solutions, coastal ecosystems, coastal cities, sea level rise, coastal hazards