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Miguel Agulles, Camilo Melo-Aguilar and **Gabriel Jordà**, 2022. [Risk of loss of tourism attractiveness in the Western Mediterranean under climate change.](#)

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Abstract:The sun and sea tourism is key for economy of the southern European countries. This economic sector is expected to be severely affected by climate change due to the projected loss of beaches, loss of thermal comfort, water restrictions or extreme events, among other impacts. Thus, adaptation strategies need to be developed urgently. To do so, it is necessary to first conduct an assessment of the risk of loss of tourism attractiveness to guide the development of such strategies. Furthermore, uncertainties in the different factors are considered into the risk analysis. In this study we analyze the risk of loss of tourism attractiveness due to climate change in the Spanish Mediterranean destinations, in the Western Mediterranean, as a case study. To do so, the Vulnerability Sourcebook methodology is adopted and modified to incorporate the uncertainties in the different elements of the impact chains. The increase in heat stress and the loss of beach availability have been identified as the climate change induced hazards that will affect the most the region attractiveness. Also, the impact chains have been constructed and several climatic and socioeconomic indicators have been considered after a knowledge co-production process with selected stakeholders. The weights assigned to each indicator have been obtained from an analytic hierarchy process based on the results of a consultation with sector experts. The results of the impact chain operationalization have shown that exposure and vulnerability in all the touristic destinations in the region are very similar and that the hazard will largely increase in the next decades, specially under the future scenario SSP585 or the RCP8.5. However, the final risk does not seem to suffer a large increase because of the relatively small weight assigned to the hazard. In other words, the exposure (e.g., typology of the tourists and touristic activities) or the vulnerability (e.g., capacity to put in place adaptation strategies) would be more important than the projected change in the hazard (e.g., heat stress increase or beach reduction). The benefits and limitations of the methodology are discussed and some suggestions for the validation of the assessment are proposed.

Keywords:impact chain uncertainties,risk,tourism attractiveness,climate change impacts,AHP.