



## LOYOLA ECON RESEARCH SEMINAR

Monday 26, 2022

11:00 am – 12:00 pm

“Impacts of climate change on European regional tourism demand”

By

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Link to join the Seminar: <https://loyola.webex.com/meet/ldbeltran>

## TITLE

Impacts of climate change on European regional tourism demand

## ABSTRACT

Changes in climatic conditions can pose considerable stress on tourism, bringing potentially large economic implications for one of the most important contributors to European GDP. In this paper we analyse the possible consequences of future climate change on tourism demand in the European Union's regions. We build a historical statistical association between climate suitability indicators for tourism and tourism demand using panel data techniques and monthly data from 269 European NUTS2 regions over the 2000-2019 period. Using a hierarchical clustering algorithm based on hotel location patterns and geographical criteria, we classified regions according to their main tourism typology, which provided additional insights on the impacts expected for different tourism categories. In the second part of this study, we analysed the expected impacts of climate change on tourism demand over the period 2020-2100 by considering projections of the TCI and HCI spanned from five regional climate models provided by the EURO-CORDEX initiative and two emission scenarios (RCP4.5 and RCP8.5). We analysed the regional impacts projected at three specific global warming levels: the Paris Agreement targets (1.5°C and 2°C) and a higher warming level (3°C). Quantifying the economic costs of climate change impacts on tourism demand is determinant to better understand the level of possible regional losses in terms of growth and employment, and to provide key inputs to the policy debate on climate risks, mitigation, and adaptation.

## KEYWORDS

Climate change impacts, Panel Data, Tourism Climate Index (TCI), Holiday Climate Index (HCI), Climate reanalysis data, Regional tourism typology.