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## Analyzing social media photo posts distribution as a potential indicator for UGBI user preferences: the case of Coimbra, Portugal

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The Ecosystem Services provided by Urban Green and Blue Infrastructures (UGBI) are considered fundamental to improve the resilience of urban areas against the growing challenges of global warming. Indicators regarding the relevance and efficiency of UGBI are abundant, but they have been mainly focused on environmental related aspects, while the socio-cultural aspects of UGBI are still under represented. Considering the socio-cultural and recreational aspects, studies show that UGBI can significantly contribute for quality of life, sense of place, social interactions, physical wellbeing, learning, and other intangibles. A major and growing portion of recreation is indeed "nature-based", involving interactions with the natural environment.

For these types of activities, different characteristics of the environment influence people's decisions about where, when, and how to recreate. But fine-scale data collection regarding these aspects are usually site specific, and time and labour intensive. Wood et al. (2013) showed that the number of users who visit a location annually is related to the number of photographs taken in the same area and uploaded to the flickr database.

Using the InVEST recreation model, this work aims to (1) test social media photo posts on Flickr as an indicator for the use of UGBI, and to (2) analyze its potential correlation with a set of cultural and recreational equipment in and around UGBI units.

Two different periods are analyzed, with the intention to identify and evaluate the differences introduced with the implementation of a major city park near the river Mondego.

The results show that the presence of the river and the proximity to the city center - with its old town - are major factors in the recreational use of the UGBI. They also show that the implementation of new UGBI units - under the form of a city park - can change the usage pattern of an area.