



IJUP

ENCONTRO 10ª EDIÇÃO
DE INVESTIGAÇÃO
JOVEM

UNIVERSIDADE
DO PORTO

08.09.10 DE FEVEREIRO 2017
FACULDADE DE MEDICINA DA U.PORTO

U. PORTO

- **12795 | Knickpoints type and location along the Paiva River for extreme sports activities**

Sousa, José Paulo, Faculdade de Letras, Portugal

Gomes, Alberto, Faculdade de Letras, Portugal

Martins, António, Universidade de Évora, Portugal

Knickpoints refer to sectors of river's longitudinal profile where a drastic change on the river slope occurs (Goudie, 2004). Further along the way, due to the knickpoint erosion, multiple knickpoints are formed, always migrating upstream away from the original slope change, giving birth to areas named Knickzones. Knickpoints are usually associated with rapids and in extreme cases with waterfalls. Rapids and waterfalls along rivers are points of tourist interest for radical/extreme sports such as Canyoning, Rafting, Kayaking, Cliff Jumping, Hidrospeed and Canoe-Raft.

In Portugal, there are several rivers that offer fine conditions for practising these sports, e.g. Minho river near Melgaço, Mondego river south of Penacova's and Vouga river in the east of Albergaria-a-Velha.

The main objective of this work is to identify the slope breaks along Paiva River, evaluating those sectors that are already used for touristic purposes and those which have good conditions to practice these sports and have not been used yet.

The hydrographic network of Paiva river, relief and its watershed were retrieved from an SRTM model, which enabled the extraction of longitudinal profiles, in order to obtain slope longitudinal breaks and classify the Knickpoints. Using this methodology, two main knickzones were delineated and eleven knickpoints were found analyzing the river's longitudinal profile.

Along Paiva River, through a quick survey, there are more than a handful of companies offering a wide range of adventure sports (e.g. Clubedopaiva, Multaventura, Casalodaoturismo, Transerrano, Luso Rafting, etc.) that would benefit with a complete analysis of the river's longitudinal profile in order to define new possible locations for these activities.

Hack, J. (1957) Studies of longitudinal stream profiles in Virginia and Maryland. U.S. Geological Survey Professional Paper, 294-B: 45-97.

Goudie, A.S. (2004) Encyclopedia of Geomorphology, vol. 1. Routledge, London and New York, 1156 p.