Accepted Manuscript

Genesis and sedimentary record of blind channel and islands of the anabranching river: An evolution model

Isabel T. Leli, José C. Stevaux, Mário L. Assine

PII: S0169-555X(17)30194-0

DOI: doi: 10.1016/j.geomorph.2017.05.001

Reference: GEOMOR 6026

To appear in: Geomorphology

Received date: 2 May 2017

Revised date: ###REVISEDDATE###

Accepted date: 2 May 2017

Please cite this article as: Isabel T. Leli, José C. Stevaux, Mário L. Assine, Genesis and sedimentary record of blind channel and islands of the anabranching river: An evolution model, *Geomorphology* (2017), doi: 10.1016/j.geomorph.2017.05.001

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



ACCEPTED MANUSCRIPT

Genesis and sedimentary record of blind channel and islands of the anabranching river:

An evolution model

Isabel T. Leli^{1,2}, José C. Stevaux^{2,3,4}, Mário L. Assine²

¹Post-gradution Program on Geography, UNIOESTE/Mal. Cândido Rondon, PR, Brazil

²Institute of Geosciences and Exact Sciences, UNESP/São Paulo State University, Rio Claro,

Brazil

³Center of Geoscience Applied to Petroleum, UNESPetro/Rio Claro, SP, Brazil

⁴Post-graduation Program on Freshwater Ecology, UEM/Maringá, PR, Brazil

isabeltleli@gmail.com, jcstevaux@gmail.com, marioassine@gmail.com

.

Abstract

Blind channel (BC) is a fluvial feature formed by attachment of a lateral sand bar to an island or riverbank. It consists of a 10- to 20-m wide and hundreds to thousands meters long channel, parallel to the island or bank, closed at its upstream end by accretion to the island. It is an important feature in anabranching rivers that plays an important role in both the island formation and river ecology. This paper discusses the formation processes, functioning, evolution, and the sedimentary record of a blind channel, related landforms, and its context on island development in the Upper Paraná River. The evolution of this morphologic feature involves (1) formation of a lateral or attachment bar beside an island with the development of a channel in between; (2) vertical accretion of mud deposits during the flood and vegetal development on the bar; (3) the upstream channel closure that generates the blind channel; and (4) annexation of the blind channel to the island. A blind channel is semilotic to lentic, that is not totally integrated to the dynamics of the main active channel and that acts as a nursery for fingerlings and macrophytes. The sedimentary facies succession of BCs are

Download English Version:

https://daneshyari.com/en/article/8908262

Download Persian Version:

https://daneshyari.com/article/8908262

Daneshyari.com