Conference report AGU 2015

Thanks to the support of the Swiss Geomorphological Society (SGmS) I had the opportunity to participate at the American Geoscience Unition (AGU) fall meeting 2015 in San Francisco (USA).

The poster I presented, entitled "Groundwater, Biogeomorphic Succession and Controls on River Channel Pattern", tries to link observed channel pattern changes from braided to meandering of the Allondon River (Canton Geneva) during the last decades to the role of biotic processes. A time series of classified historical images, dendroecological analysis, and a set of ecological variables (discharge, temperature, precipitation, ground water fluctuations) were used to assess the interdependency and functioning between riverine geomorphological and biological processes. The main results showed that groundwater gradient (depth and fluctuations) along the reach, is able to spatially and temporally modulate vegetation encroachment rates of the channel, thus mediate river morphological response velocity (from braided to meandering) after reduction in perturbation.

The poster has been presented in the session "Fluvial Morphodynamics: Channels Patterns, Process-Based Unsteadiness, Tropical Rivers, and Beyond". Although the session description promised to integrate bio-geomorphic feedbacks, most of the contribution focused on process understanding and modelling of the physical fluvial environments (sediment transport, channel migration,…). The parallel session on complex ecohydraulic interactions would have fit better my field of research.

Although I was expecting much more feedback and discussion on my research, I could introduce and present my research to many researchers.

Notwithstanding, many interesting session gave me the opportunity to broaden my horizon on geomorphology. I found particularly interesting the sessions on coastal geomorphology and its interaction with river estuaries and deltas. The tide dynamics and the change from sweet to salty water appear to add an interesting layer of complexity to the eco-geomorphic interactions observed in braided rivers.

Also the session on experimental studies in surface processes but also on fluvial sediment regime and dam removal, gave me many new inputs and geomorphic process understanding. Especially river morphological and ecological short and long term response to dam removal and the reestablishment of sediment transfer fascinated me.

Overall I appreciated attending this meeting, from which many new inputs and ideas have formed.

Thank you for having support my participation at the AGU 2016.

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