

Interactive comment on “River logjams cause frequent large-scale forest die-off events in Southwestern Amazonia” by Umberto Lombardo

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Thank you very much for the useful comments.

WOHL: I find it intriguing that the accumulation of large wood and associated over-bank flow and channel avulsion described here is occurring in the tropics, where the combination of high rates of wood decay and high discharge per unit area/high fluvial transport capacity for wood are more likely to limit large wood accumulations.

REPLY: Very little has been published on the matter and no doubt further research is needed to understand the underlying processes and extent of the phenomenon. As I mention in the paper, so called “palizadas” (the local name for logjams) are frequently reported also for the Maniqui and Secure rivers.

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WOHL: Analogous channel blocking, overbank flow, and avulsion have been inferred or documented for rivers in temperate latitudes, including the Red River of Louisiana (Triska 1984) or the Black Swamp of Ohio's Maumee River (Wohl, 2014) during the 19th century and contemporary side channels such as those in Canada's Slave River (Kramer et al., 2017). Channel blockage by very large, persistent accumulations of wood is likely to have been much more common in temperate-latitude rivers prior to intensive timber harvest and channel engineering.

REPLY: The following has been added to the discussion: "However, dynamics similar to the ones described here for the Bolivian Amazon have been reported for rivers in temperate latitudes (Kramer et al., 2017; Triska, 1984; Wohl, 2014), suggesting that what we see nowadays in Bolivia could have been more common in temperate regions prior to the anthropic modification of river catchments (Wohl, 2014)."

WOHL: The stratigraphic signature of these sites in the Bolivian Amazon could provide a template for investigating floodplain stratigraphy in environments with suitable conditions that might have experienced this type of wood accumulation and channel instability in the past.

REPLY: The following has been added to the discussion: "The stratigraphic setting in the area of logjam-induced floods in the Bolivian Amazon could provide a template to help reconstruct similar processes that could have been more frequent in temperate regions in the past. "

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