Supporting Information for

## Technical Note: Testing the Connection Between Hillslope Scale Runoff Fluctuations and Streamflow Hydrographs at the Outlet of Large River Basins

Ricardo Mantilla<sup>1</sup>, Morgan Fonley<sup>2</sup>, and Nicolás Velasquez<sup>3</sup>

<sup>1</sup>Department of Civil Engineering, University of Manitoba, Winnipeg, MB, Canada <sup>2</sup>Alma College, Alma, MI, USA <sup>3</sup>Iowa Flood Center, University of Iowa, Iowa City, IA, USA

Correspondence to: Ricardo Mantilla (ricardo.mantilla@umanitoba.ca)

## **Contents of this file**

Figures S1 to S3

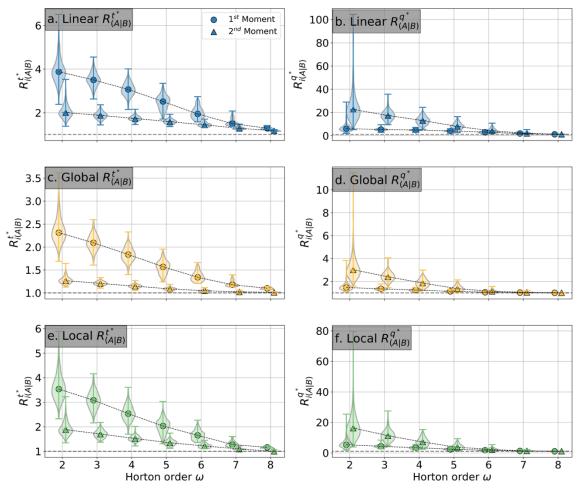


Figure S1. Convergence of hydrographs to a common hydrograph for all links in the river network. The Violin plot represent the distribution of moment ratios for time  $(t^*)$  on the left panels and discharge  $(q^*)$  on the right panels for hydrographs at the outlet of catchments of different Horton Order in the basin.

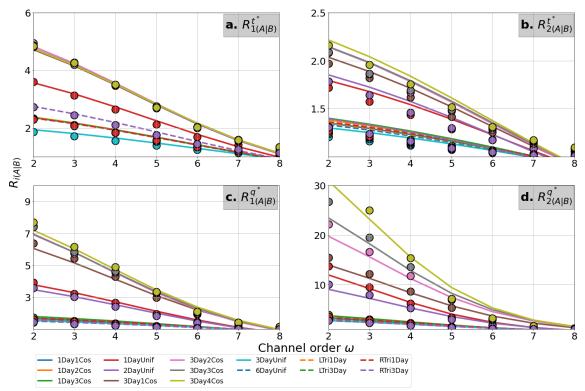


Figure S2. Convergence of moments to the Dirac case using global self-similar non-linear routing.

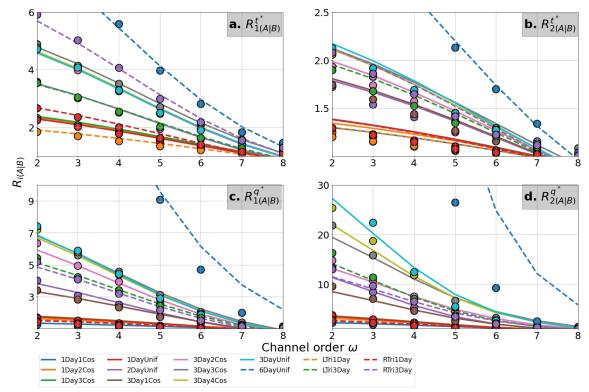


Figure S3. Convergence of moments to the Dirac case using local self-similar non-linear routing.