Impact of earthquake-induced-landslides on hydrologic response of a steep mountainous catchment: a case study of the Wenchuan earthquake zone

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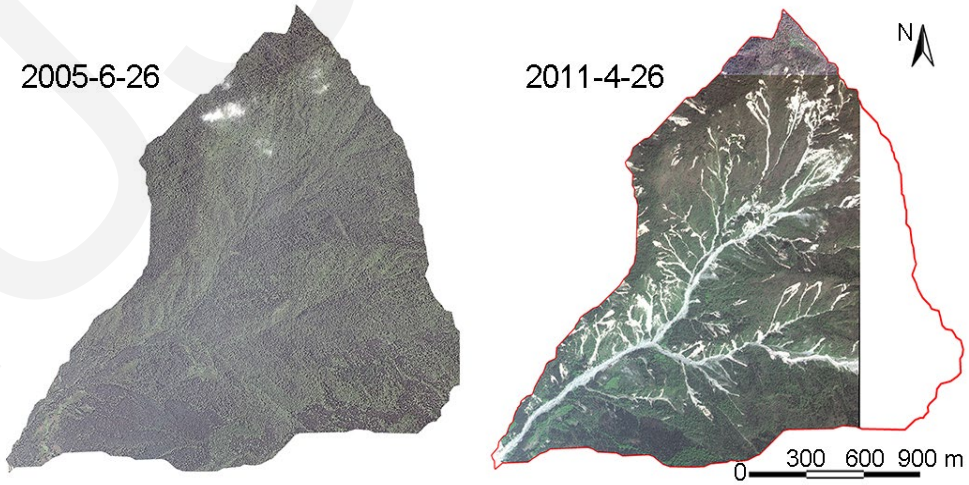
- The damage of Wenchuan earthquake (2008, China) on underlying surface conditions
  - a large number of landslides



Remote sensing image of Jianpinggou catchment before and after the earthquake

- **Method**
  - Numerical simulation
    - The Integrated Hydrology Model (InHM)
- **Aims**
  - Does the influence exist?
  - The degree of influence

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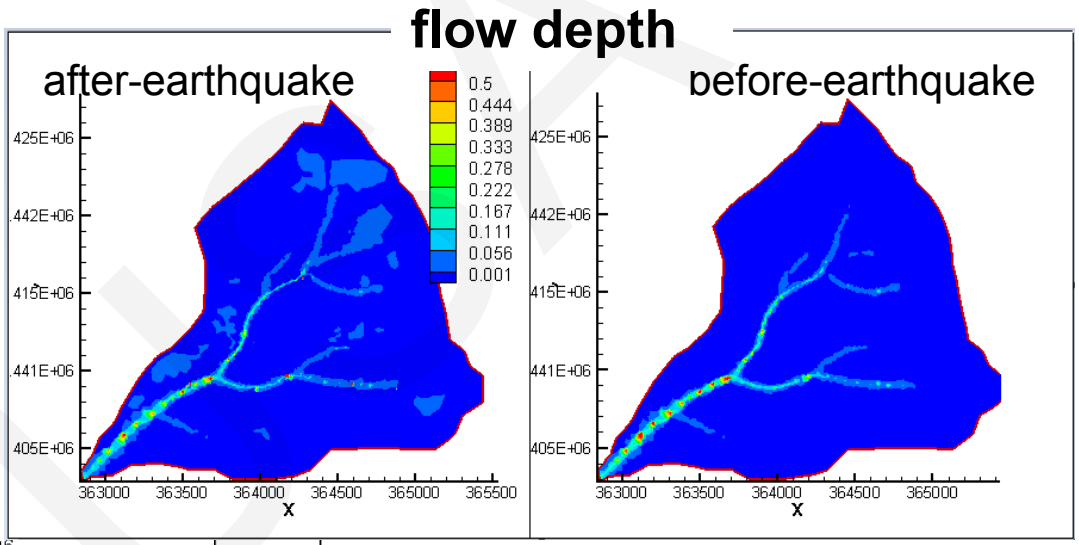
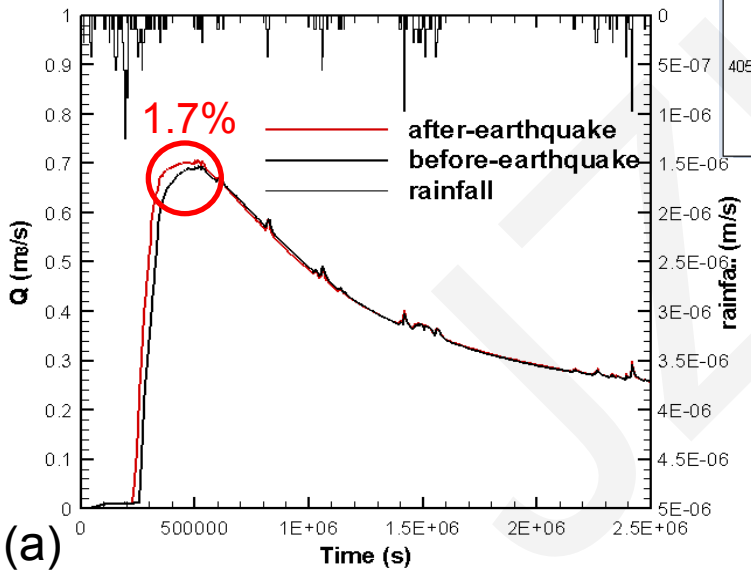
Results

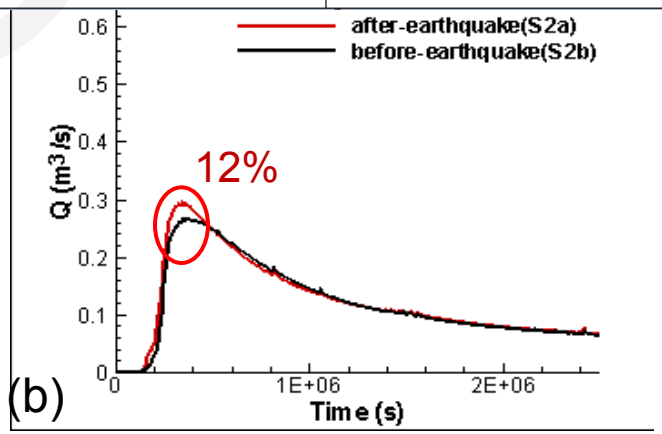
- **Impact of landslides on hydrologic response does exist**

nonuniform in space

greater in local area



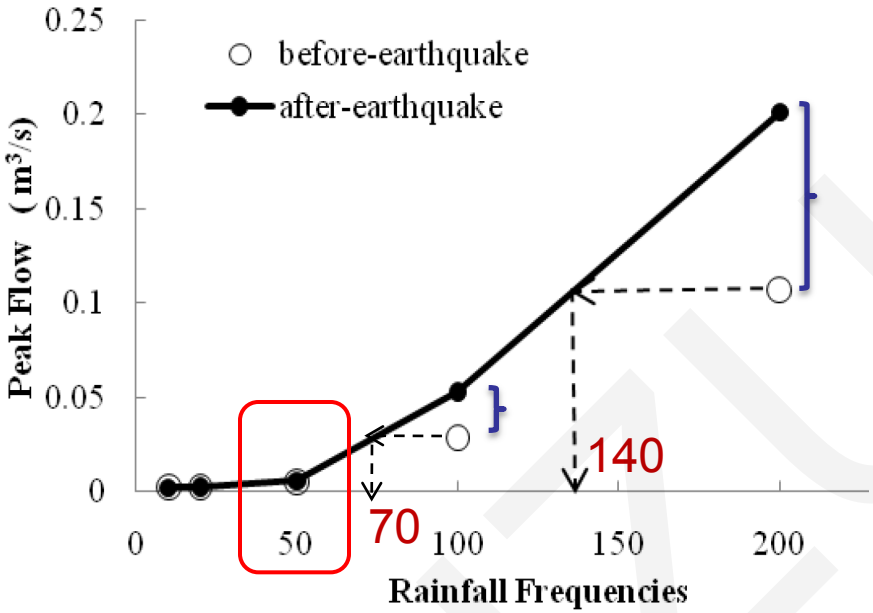




The simulated discharge (Q) at the outlet of the (a) catchment, and (b) southern tributary

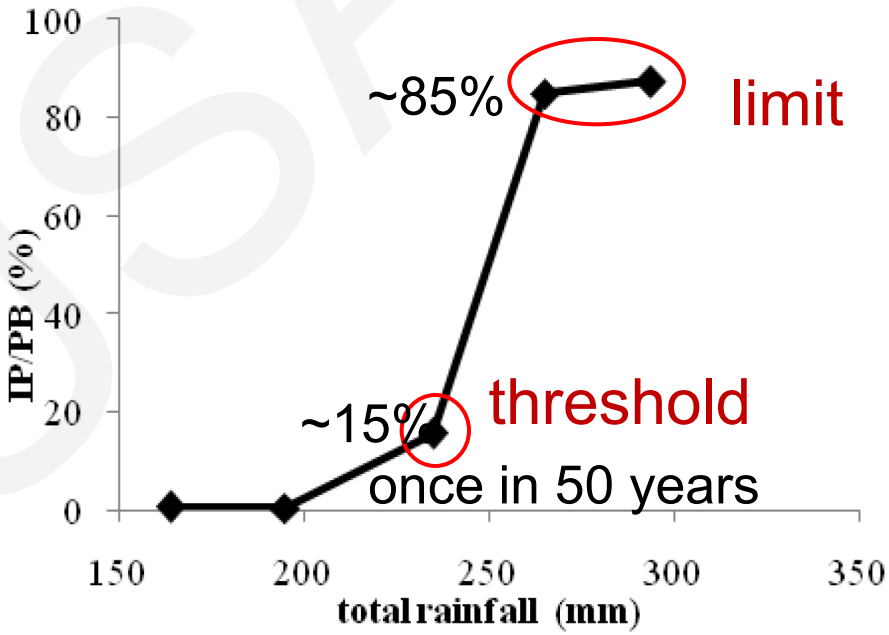
Results

■ related with rainfall conditions



the larger the rainfall is, the more visible the impact is

IP/PB, increase of peak / peak of before-earthquake condition



increase rapidly at a threshold of runoff, but there is a limit with the further enlarged rainfall