**GEOMORPHIC FLOOD AREA (GFA): A QGIS TOOL FOR A COST-EFFECTIVE DELINEATION OF THE FLOODPLAINs**

**Motivation**

Flood risk assessment in data scarce environments poses a great deal of challenge.

**Assumption:**

hydrological extremes modify and shape the earth’s surface: there must be a physical attribute of the surface able to reveal if a portion of a river basin is exposed to flooding

**Background of the Research**

In several case studies in Europe, Africa, and U.S., 11 descriptors assumed to be good flood-related candidates have been used as binary classifiers, and their performances have been measured and validated.

Best performing classifier:

the Geomorphic Flood Index, GFI

**Method: Linear Binary Classification**

**Input Data**

DEM

- Potential flood-prone areas
- Standard flood hazard map

**Output Data**

Geomorphic flood-prone areas

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The GFA – tool executable code and documentation is in the public domain. The plugin can be downloaded for free from the QGIS plugin repository and from the website (https://github.com/HydroLAB.UNIBAS/GFA-Geomorphologic-Flood-Area).