



Science for Solutions decade: HELPING
Hydrology Engaging Local People IN one Global world
IAHS Scientific Decade 2023-2032
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Details of the Working Group – Green infrastructure measures for flood protection

Describe the work and how your suggested working group will contribute to the goal(s): Many methods are available that rely on natural processes to improve infiltration (and reducing runoff) functioning in catchments, often referred to as Nature-based Solutions or Green Infrastructure. These methods include improvements of catchment and urban areas land-use and soil structure to absorb water and reduce runoff, restoration of wetlands, re-connection of floodplains to provide more room for river flood volumes. A lot of these techniques focus on improving infiltration functioning of soils, ground- and surface water systems under different land-uses and topographic contexts through reviving natural processes that may have been reduced over time. However, the effectiveness of many of these implemented measures is not properly monitored and evaluated; as a result, it is difficult to determine whether these green infrastructure measures have improved catchment functioning in terms of, for example, their development over time, response to extreme events, and maintenance.

Describe the methods you will use to achieve the goal(s): Literature review of existing measures, modelling and field-measurements related to different nature-based solutions (or green infrastructure measures), summarizing the main results obtained in the scope of measurements and modelling.

Describe the (a) short-term, (b) the long-term and (c) the ultimate results you hope to achieve:

- (a) enhancement of documentation and standardization related to green infrastructure measures, (a) development and testing of applicability and social acceptability of specific green infrastructure measures in different environments and climate change scenarios
- (b) environmental modelling and evaluation of effectiveness of different green infrastructure measures from the perspective of enhanced disaster risk reduction,
- (c) preparation of the policy brief document with summarizing the impact of green infrastructure measures on catchment functioning in terms of response to extreme events and maintenance over time.

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