

## Biodiversity

How to improve local and supra local biodiversity resilience by interventions within the stream flood plain?  
→ Which spaces to prioritise based on value and feasibility of intervention?

#1 Which spaces should be prioritised because of their connectivity to GSES (long-term ecological stability systems)? polygons in which GSES elements are present (higher priority) or polygons that are connected by "green" landscape to GSES elements (lower priority)

Slovakian GSES network  
[vector polygons]

USES element overlaps polygon in majority of area => 1  
polygon connected by continuous "green" or "water" land cover to GSES element => 0.3  
other polygons => 0

[calculated on 0-1]

B1uses

#2 Which spaces should be prioritised based on improvement potential? potential for easy high impact improvement and investment feasibility

manually assigned values by authors (see the chapter for an image including draft values)  
[analysis geometry polygons]

[calculated on analysis geometry]

[calculated on 0-1]

B2pot

#3 Which spaces should be prioritised based on current state of vegetation? low NDVI (Normalised difference vegetation index)

NDVI  
[raster]

average value of area

1 [linear min-max]  
(lower NDVI is higher priority)

B3ndvi

## Climate Adaptation

How to use areas in the flood plain to capture water in the landscape? → Where is good space for infiltration basins and natural flood protection measures based on soil types, and where is space for [wet] cooling measures?

#1 Which spaces should be prioritised for interventions aimed at cooling the area down? high surface temperature

surface temperature (Google Earth Engine)  
[raster]

average value of area

linear min-max

CA1temp

#2 Where is potential for water retention? high retention ability + permeability

Soil retention ability and permeability map, small scale (Atlas of Slovakia)  
RS Medium+ P Medium = 0.5  
RS High+ P Medium = 1  
[vector polygons]

majority value of area

linear min-max

CA2soil

## Quality of Life

What types of places should be created in the stream flood plain? → What combination of amenities, green spaces, connections?

#1 Where is potential for community functions? high angular choice within polygon → r: local 500 m

PST angular choice analysis on slow traffic network (OSM), r = 500 m  
[vector road network lines]

highest present AC in polygon area (if null = 0)

linear min-max

QL1acl

#2 Where is potential for "centre" functions? high angular choice within polygon → r: 1 km, 2 km

PST angular choice analysis on slow traffic network (OSM), weighted 1x r = 1000 m, 2x r = 2000 m (weighting calculation with normalised values)  
[vector road network lines]

highest present AC in polygon area (if null = 0)

linear min-max

QL2acg

#3 Where is large need for green? lack of green area in buildings within 500 m from polygon

attraction reach from buildings (wikidata) (OSM) to GSM green areas (OSM), r = 500 m, weighted by area of the green area  
[vector building polygons]

sum of values of buildings (that we consider need green) intersecting 500 m buffer from polygon

1 [linear min-max]  
(lower AB is higher priority)

QL3gr