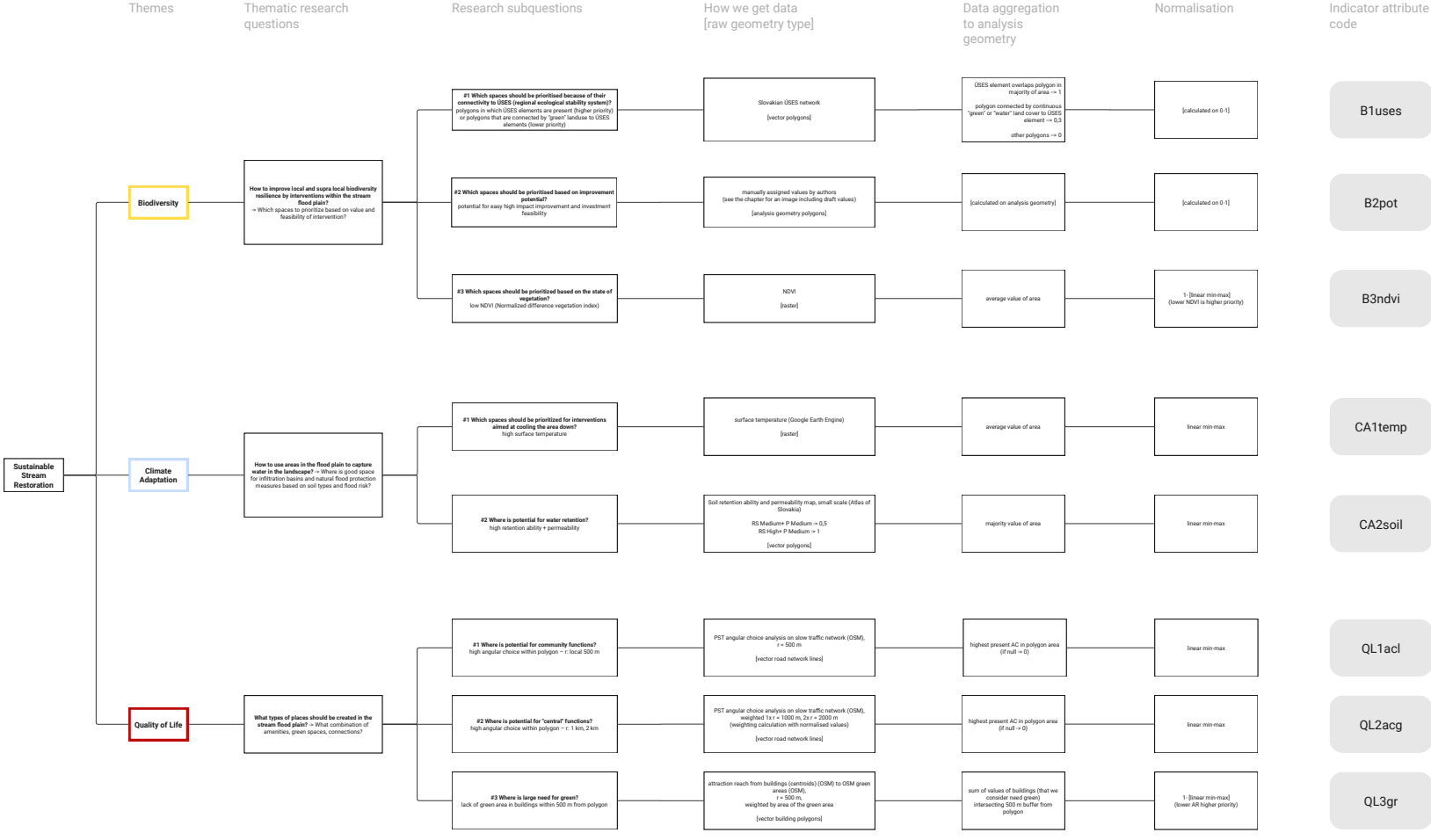
Themes
Thematic research questions
Research subquestions
How we get data [raw geometry type]
Data aggregation to analysis geometry
Normalisation
Indicator attribute code
Sustainable Stream Restoration
Biodiversity
Climate Adaptation
Quality of Life
How to improve local and supra local biodiversity resilience by interventions within the stream flood plain? -> Which spaces to prioritize based on value and feasibility of intervention?
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 flood risk?
What types of places should be created in the stream flood plain? -> What combination of amenities, green spaces, connections?
#1 Which spaces should be prioritised because of their connectivity to ÚSES (regional ecological stability system)? polygons in which ÚSES elements are present (higher priority) or polygons that are connected by "green" landuse to ÚSES elements (lower priority)
#2 Which spaces should be prioritised based on improvement potential? potential for easy high impact improvement and investment feasibility
#3 Which spaces should be prioritized based on the state of vegetation? low NDVI (Normalized difference vegetation index)
#1 Which spaces should be prioritized for interventions aimed at cooling the area down? high surface temperature
#2 Where is potential for water retention? high retention ability + permeability
#1 Where is potential for community functions? high angular choice within polygon ~ r: local 500 m
#2 Where is potential for "central" functions? high angular choice within polygon ~ r: 1 km, 2 km
#3 Where is large need for green? lack of green area in buildings within 500 m from polygon
Slovakian ÚSES network [vector polygons]
manually assigned values by authors (see the chapter for an image including draft values) [analysis geometry polygons]
NDVI [raster]
surface temperature (Google Earth Engine) [raster]
Soil retention ability and permeability map, small scale (Atlas of Slovakia) RS Medium+ P Medium -> 0,5 RS High+ P Medium -> 1 [vector polygons]
PST angular choice analysis on slow traffic network (OSM), r = 500 m [vector road network lines]
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]
attraction reach from buildings (centroids) (OSM) to OSM green areas (OSM), r = 500 m, weighted by area of the green area [vector building polygons]
ÚSES element overlaps polygon in majority of area -> 1
polygon connected by continuous "green" or "water" land cover to ÚSES element -> 0,5
other polygons -> 0
[calculated on analysis geometry]
average value of area
majority value of area
highest present AC in polygon area (if null -> 0)
sum of values of buildings (that we consider need green) intersecting 500 m buffer from polygon
[calculated on 0-1]
1- [linear min-max] (lower NDVI is higher priority)
linear min-max
1- [linear min-max] (lower AR higher priority)
B1uses
B2pot
B3ndvi
CA1temp
CA2soil
QL1acl
QL2acg
QL3gr