

TRAINING COURSE FOR THE GIS TOOL

Exercise 2: Implementation of Valorization
Map (VM) for flood and draught mitigation

Version 1
16 05 2018





1. INTRODUCTION

You are already familiar with the GIS Tools. This instruction will have less details compared to the previous one. If something is unclear please refer to instruction from Exercise 1 or ask the teacher.



➤ **SPACIAL PLANNING UNITS**

Going back to the webpage <http://levis-framwat.sggw.pl>

First we have to choose Spacial Planning Units (SPU). In the "Spacial Planning Units" section again please select SPU "water bodies".

▼ SPACIAL PLANNING UNITS

SPU Zip file with compressed directory containing shape files

Custom border

Then click "Browse" and choose the SPU file; in our case it will be file *SPU_WgSubCatch.zip* from your folder. Now we can calculate indicators.

2. Indicators from the flood group

➤ **GOALS AND INDICATORS**

In the printscreen below you can see "Goal and Indicators" section. It consists of several information. First of all you have to choose goal. We have four main goals: general, flood, drought and water quality. General goals consist of all other three categories. In our case we choose "flood" goal.

Below you have indicator name with short description underneath. On the right you have required input data names (separated by comas), indicator status (which changes with uploading data) and a description of the indicator.

FramWat v.0.8.2 [METHODOLOGY](#) [MANUAL](#) [EXAMPLE DATA](#)

▼ **GOALS AND INDICATORS**

Choose goal

Indicator name	Required input data	Status
<input type="checkbox"/> ArableRatio Arable area in SPU area ratio	Arable layer;	<input type="button" value="show description"/>
<input type="checkbox"/> BFI Base Flow Index	BaseFlow Index;	<input type="button" value="show description"/>
<input type="checkbox"/> CWB Climatic Water Balance	Avarage Climatic Water Balance;	<input type="button" value="show description"/>
<input type="checkbox"/> CWB_Var_e Climatic Water Balance - average intra year variability (cwbMax-cwbMin)/cwb	Minimum Climatic Water Balance; Avarage Climatic Water Balance; Maximum Climatic Water Balance;	<input type="button" value="show description"/>
<input type="checkbox"/> CWB_Var_m Climatic Water Balance - variability in the multiannual period cwbMini/cwb	Minimum Climatic Water Balance; Avarage Climatic Water Balance;	<input type="button" value="show description"/>
<input type="checkbox"/> DrainageD Drainage Density	River;	<input type="button" value="show description"/>
<input type="checkbox"/> EcoAraBuf20mRatio Arable lands in 20-meters buffer around surface waters area to SPU area ratio	River, Lake, Arable layer;	<input type="button" value="show description"/>
<input type="checkbox"/> EcoAreaRatio Semi-natural land cover types area to SPU area ratio	Semi-natural land;	<input type="button" value="show description"/>
<input type="checkbox"/> EcoBadRHS Bad morphological elements length to total length of river in SPU	River Hydromorphology Status; River Hydromorphology Status;	<input type="button" value="show description"/>
<input type="checkbox"/> EcoCombined Combination of number of semi-natural land cover patches and their area	Semi-natural land;	<input type="button" value="show description"/>
<input type="checkbox"/> EcoNumRatio Number of semi-natural land cover patches to total number of land cover patches in SPU	Semi-natural land;	<input type="button" value="show description"/>
<input type="checkbox"/> FloodRiskAreaRatio Flood hazard zone area ratio	Flood extent (e.g. probability 1% (100 years));	<input type="button" value="show description"/>
<input type="checkbox"/> FlowMinAvgRatio Mean low flow to mean flow ratio	Surface water multiannual flow characteristics [mm]; Surface water multiannual flow characteristics [mm]; Surface water multiannual flow characteristics [mm];	<input type="button" value="show description"/>
<input type="checkbox"/> FlowMaxAvgRatio Ratio of high low flow to mean flow in the multiannual period	Surface water multiannual flow characteristics [mm]; Surface water multiannual flow characteristics [mm]; Surface water multiannual flow characteristics [mm];	<input type="button" value="show description"/>
<input type="checkbox"/> FlowMinMaxRatio Mean low flow to mean high flow ratio	Surface water multiannual flow characteristics [mm]; Surface water multiannual flow characteristics [mm]; Surface water multiannual flow characteristics [mm];	<input type="button" value="show description"/>
<input type="checkbox"/> FlowVarRatio_m Low mean flow to high mean flow ratio	Surface water multiannual flow characteristics [mm]; Surface water multiannual flow characteristics [mm]; Surface water multiannual flow characteristics [mm];	<input type="button" value="show description"/>
<input checked="" type="checkbox"/> ForestRatio Forested area to SPU area ratio	Forest layer;	<input type="button" value="show description"/> Ready



Now please choose 5 out of 13 available drought indicators that work. Please create a file in your folder where you will write down the names of the chosen indicators and paste in the output map later on. Please copy into an excel file the table available under “Indicator values”, please don’t download the csv output file but carry out a copy and paste. This data will be useful for assessing the tool.

Available indicators:

- ArableRatio
- DrainageD
- FloodRiskAreaRatio
- FlowMaxAvgRatio
- FlowMinMaxRatio
- ForestRatio
- LakeCatchRatio
- LakeRatio
- NonForestedRatio
- OrchVegRatio
- twi
- UrbanRatio
- WetladRatio

Run the tool according to the previous instruction.

3. Indicators from the drought group

➤ GOALS AND INDICATORS

Now please choose 5 out of 11 available drought indicators that work. Please create a file in your folder where you will write down the names of the chosen indicators and paste in the output map later on.



Please copy into an excel file the table available under “Indicator values”, please don’t download the csv output file but carry out a copy and paste. This data will be useful for assessing the tool.

- ArableRatio
- cwb
- cwb_Var_a
- cwb_Var_m
- DrainageD
- FlowMinAvgRatio
- FlowMinMaxRatio
- FlowVarRatio_m
- ForestRatio
- grr
- LakeRatio
- OrchVegRatio
- twi
- UrbanRatio
- WaterYieldAvgFlow
- WaterYieldMinFlow
- WetladRatio

Run the tool according to the previous instruction.