Decision Support System

for planning of Natural (Small) Water Retention Measures

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General characteristic of NSWRM Planner

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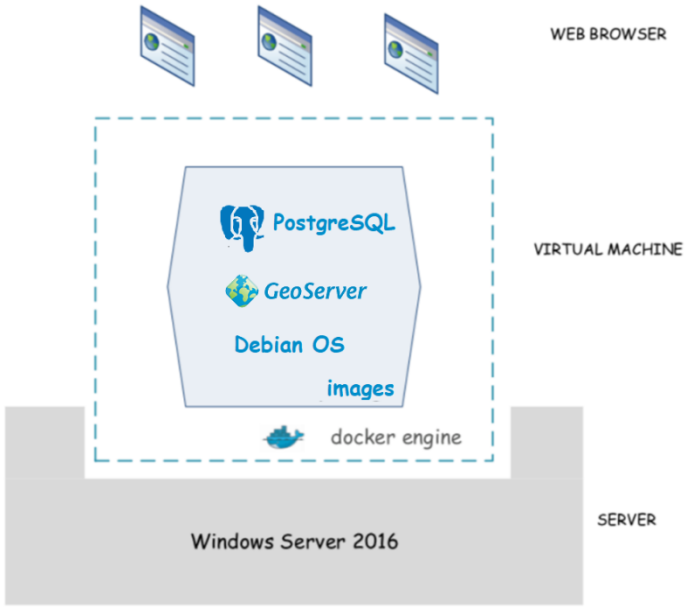
OBJECTIVES

The application is created for people involved in planning water retention measures to mitigate the effects of drought, floods and pollutants such as biogens and sediment.

The goal of the application is to familiarize the user with the catalogue of Natural Small Water Retention Measures (NSWRM) and the planning process as well as to survey their preferences for their area of interest.

The application is open source and can be installed and developed on any server. The demo version was prepared for four pilot catchments located in Poland, Slovakia, Slovenia and Hungary.



ADMINISTRATOR & USERS OF DSS

The administrator of this application can be a national or regional water management authority or other water management institution

The user of this application can be any person involved/responsible for planning of water retention measures in:

-catchment scale,

-protected areas,

-communes,

-forest districts.

Additional users are:

- large-scale land owner like farmers and contractors
- non-governmental organizations
- students

FUNCTIONALITY OF DSS

- Operation via web browser
- Data filtering capability
- Possibility to create and save maps
- Possibility to co-create and download maps
- Possibility to receive reports from shape position analysis

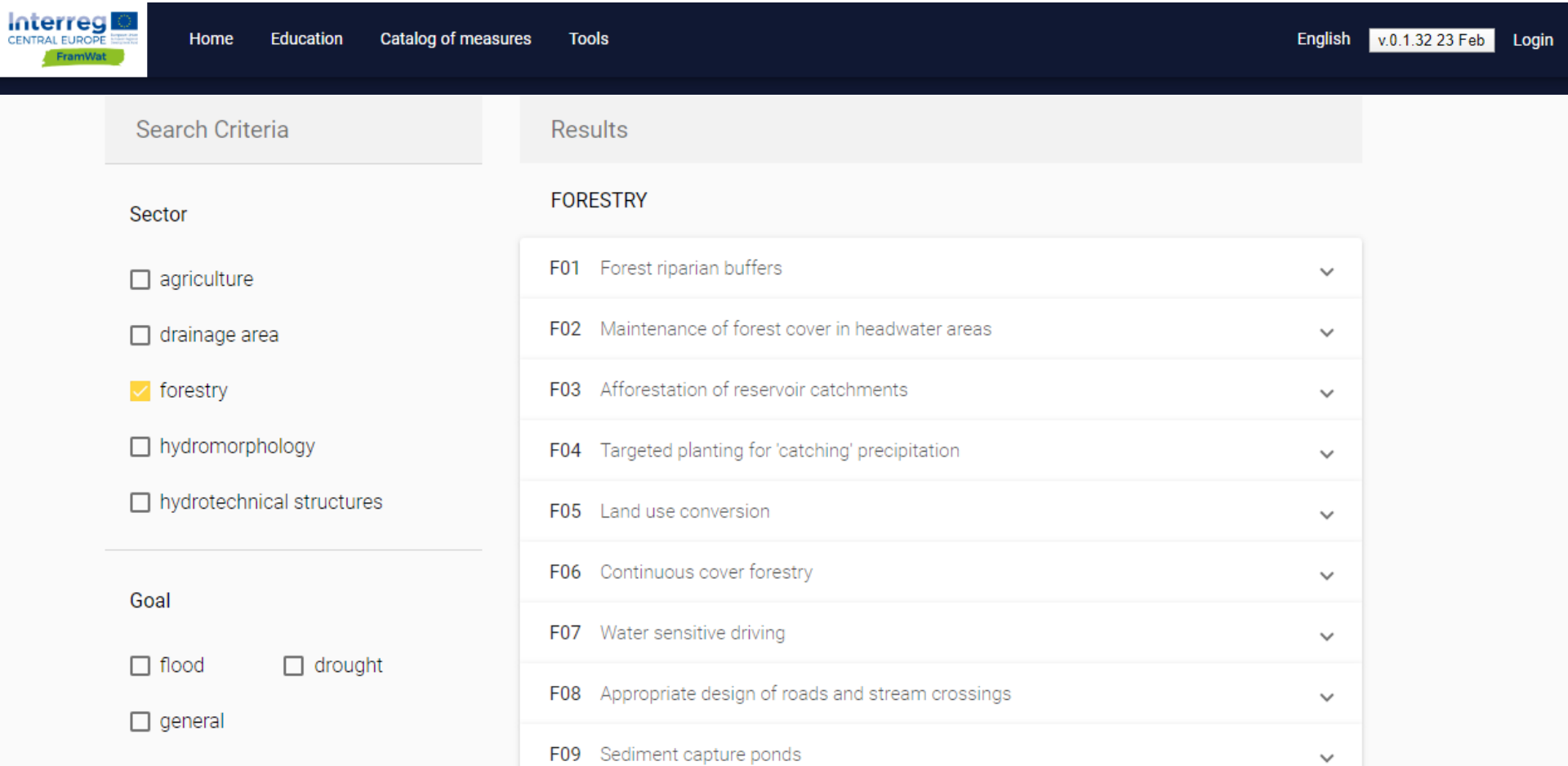
http://planning.waterretention.sggw.pl

DSS CHARACTERISTIC

This web application consists of the start page and three groups of tabs:

- Education
- Catalog of measures
- Tools

http://planning.waterretention.sggw.pl

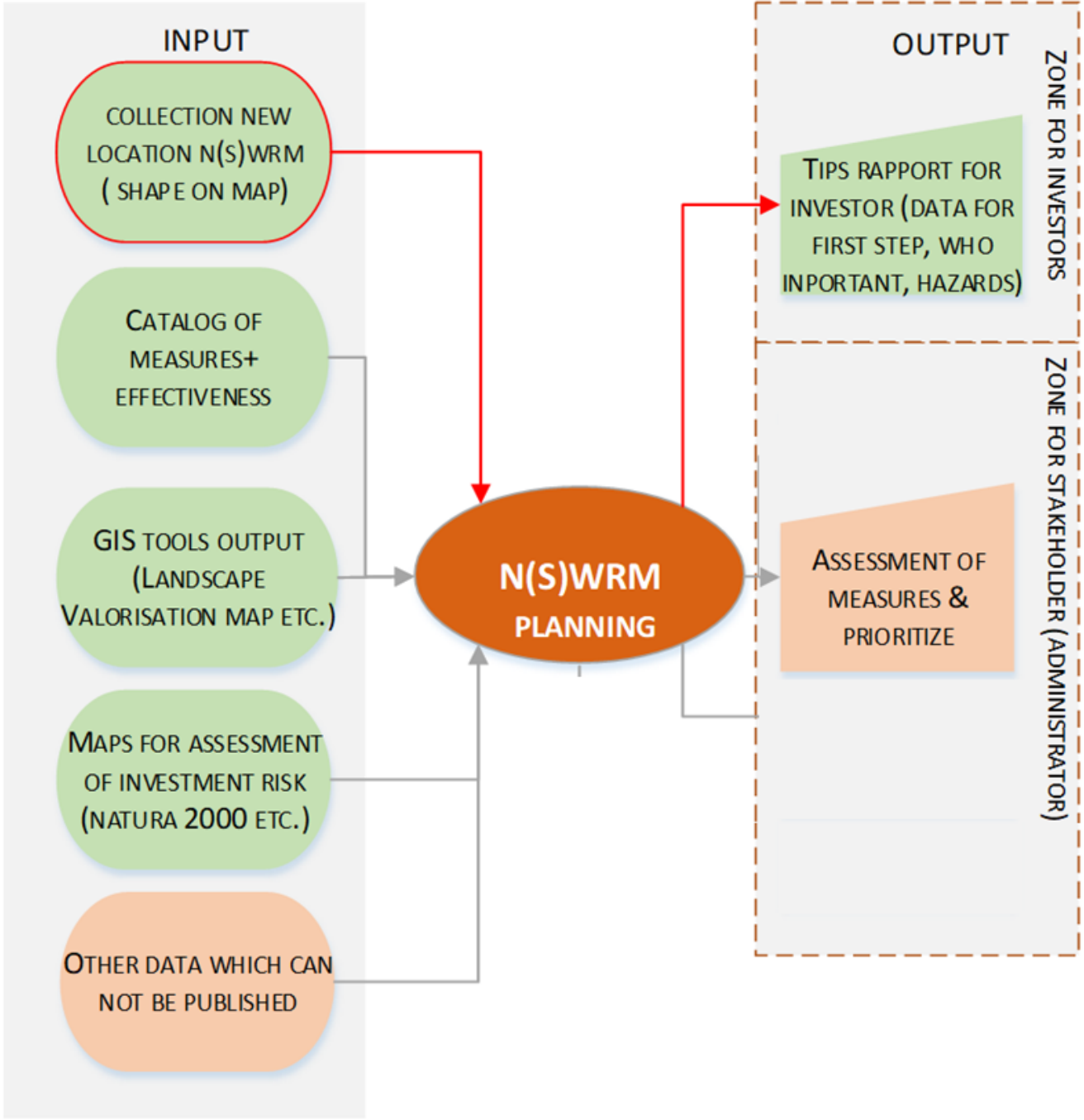


PLANER OF N(S)WRM

The goal of the application is to:

- carry out a survey of local stakeholders preferences for planning measures in the field of water retention for mitigating the effects of drought and floods,
- prepare the data necessary to develop the concept and estimate the investment risk.

LOGICAL ARCHITECTURE PLANER OF N(S)WRM



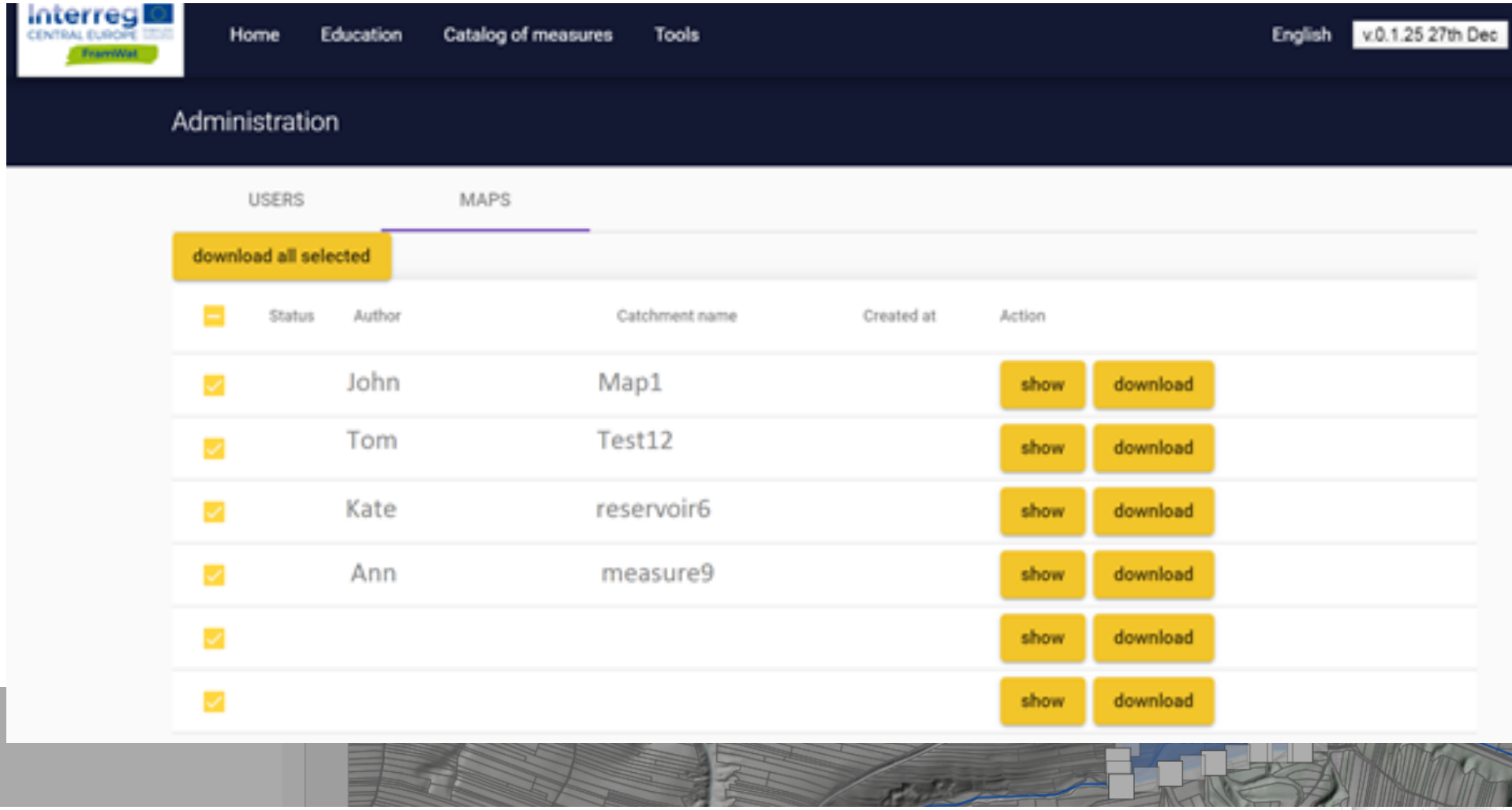
TIPS REPORT FOR INVESTORS-FUNCTIONALITY

Document in format pdf contain a tables, the following attributes are calculated on the basis of the shapes of the polygons input by the user:

- area of a single polygon,
- area of land use,
- name, identifier and area of protected areas,
- parameters obtained from the terrain elevation model (ordinate of the area Min, Average, Max, slope of the area),
- the name of the sub-basin,
- class of valorisation of water retention needs,
- monthly temperature, precipitation and runoff characteristics,
- parcel numbers (if WFS will be available)
- administrative affiliation, district, commune, county, voivodeship

PLANNER OF NSWRM

WEB MAP SURVEY & REPORT OF DATA NECESSARY TO DEVELOP MEASURE



CONCLUSIONS

What for: Support for making decisions in choosing the type of activity and its location, collecting data necessary to develop the concept and permits necessary in the process of implementation.

Users:

- public and private persons involved in the creation of NSWRM
- Water Managment: Autority, Expert, Company, Teachers, Students

Benefits:

- quick introduction to the planning process,
- improving the planning process,
- increasing awareness of the integrated approach to water management,
- improving the use of public data,

The system design was published on the GitLab.com portal in the form of an open source software, which enables further development of the application.

Thank you for your attention
DSS is available online at:
http://Planning.WaterRetention.sggw.pl

and for developers at:
https://gitlab.com/framwat

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