

# GIS.lab: Hydrological modelling on the Web

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## Poster Background

The poster is related to the project presented at FOSS4G Europe 2015 — "Variability of Short-term Precipitation and Runoff in Small Czech Drainage Basins and its Influence on Water Resources Management". The project is focused on the precipitation scenarios analysis from observed data of point gauging stations and radar data in terms of events' return period, rainfall total amount, internal intensity distribution and spatial distribution over the area of the Czech Republic.

The aim of this project is to provide a tool to the public as a stand-alone program and also as a web geo-processing service. The tool uses methods of zonal statistics to compute average values of design 24 hours precipitation for a selected area or for a spot. This value is reduced to the chosen length design rain for selected period of repetition.

The tool for reduction of daily precipitation r.subdayprecip.design has been implemented for GRASS GIS (<http://grass.osgeo.org>) using PyGRASS and Python Scripting Library. It is available as Addon. The tool is also accessible to the public as Web Processing Service (WPS). The service is based on r.subdayprecip.design GRASS module implemented using PyWPS framework.



collect



prepare

GIS.lab Desktop client



publish

GIS.lab QGIS plugin



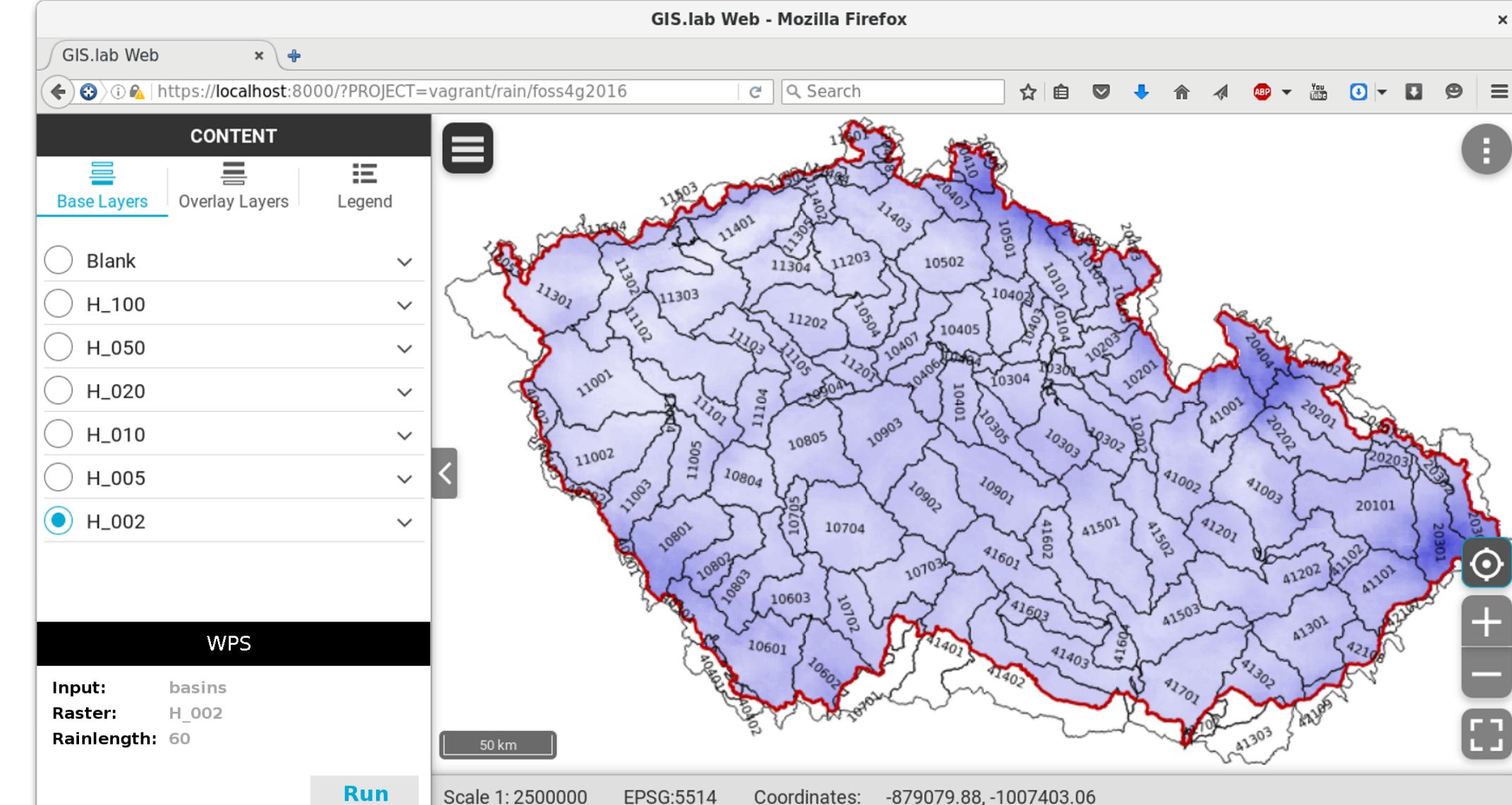
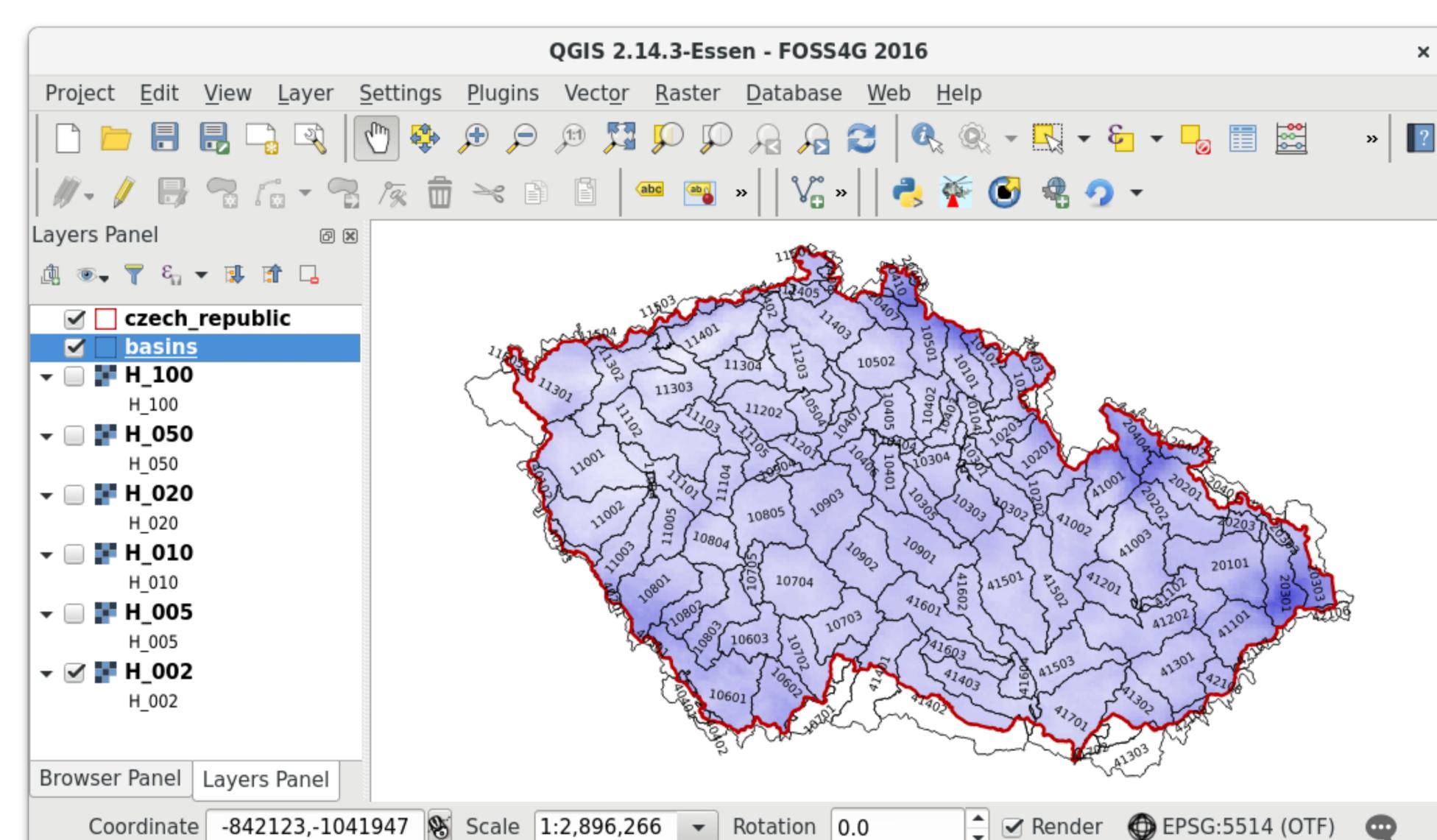
browse & execute

GIS.lab Web client

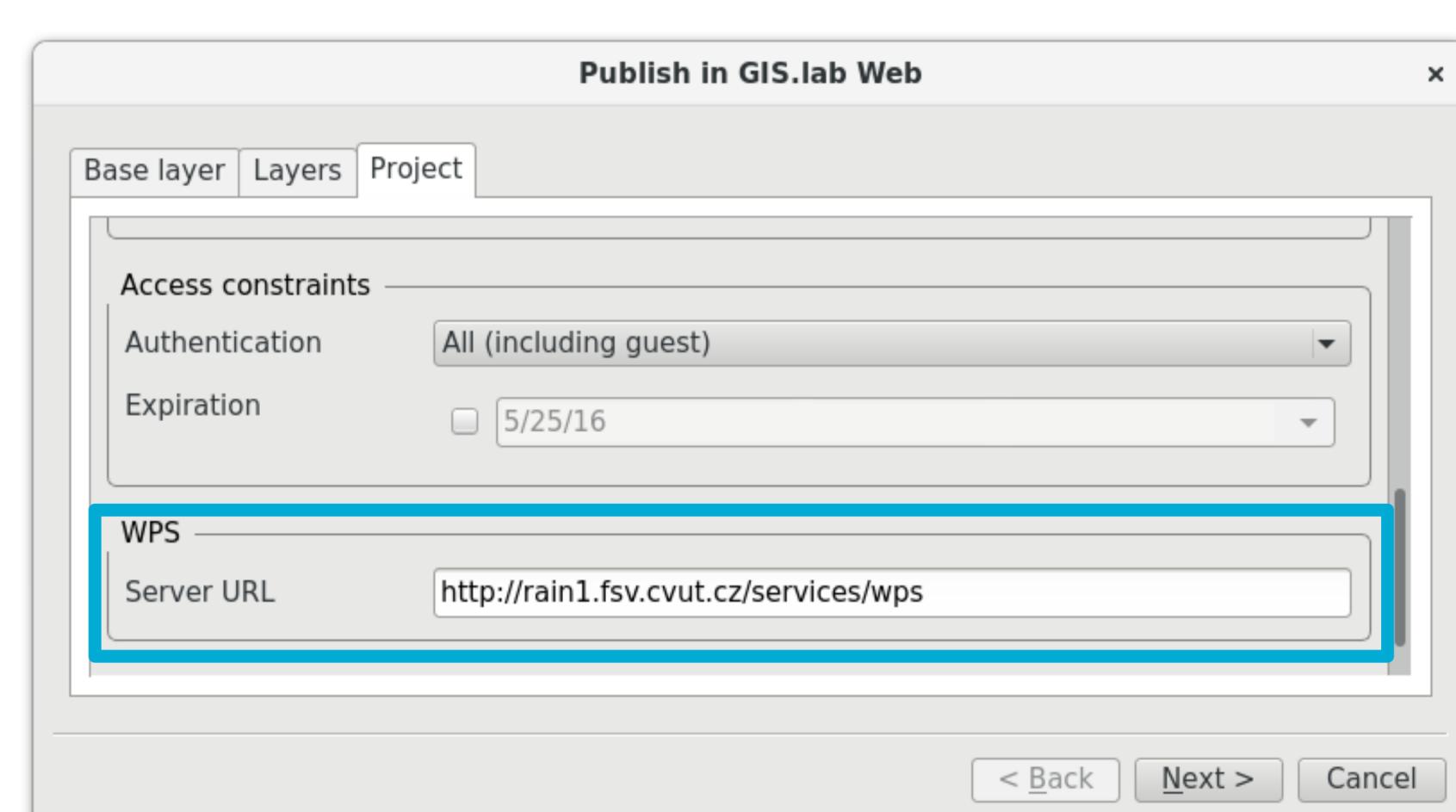
## How to publish data and WPS processes using GIS.lab on the Web?

1. Collect data and WPS processes which are planned to be published on the Web.
2. Prepare QGIS project to symbolize data layers.

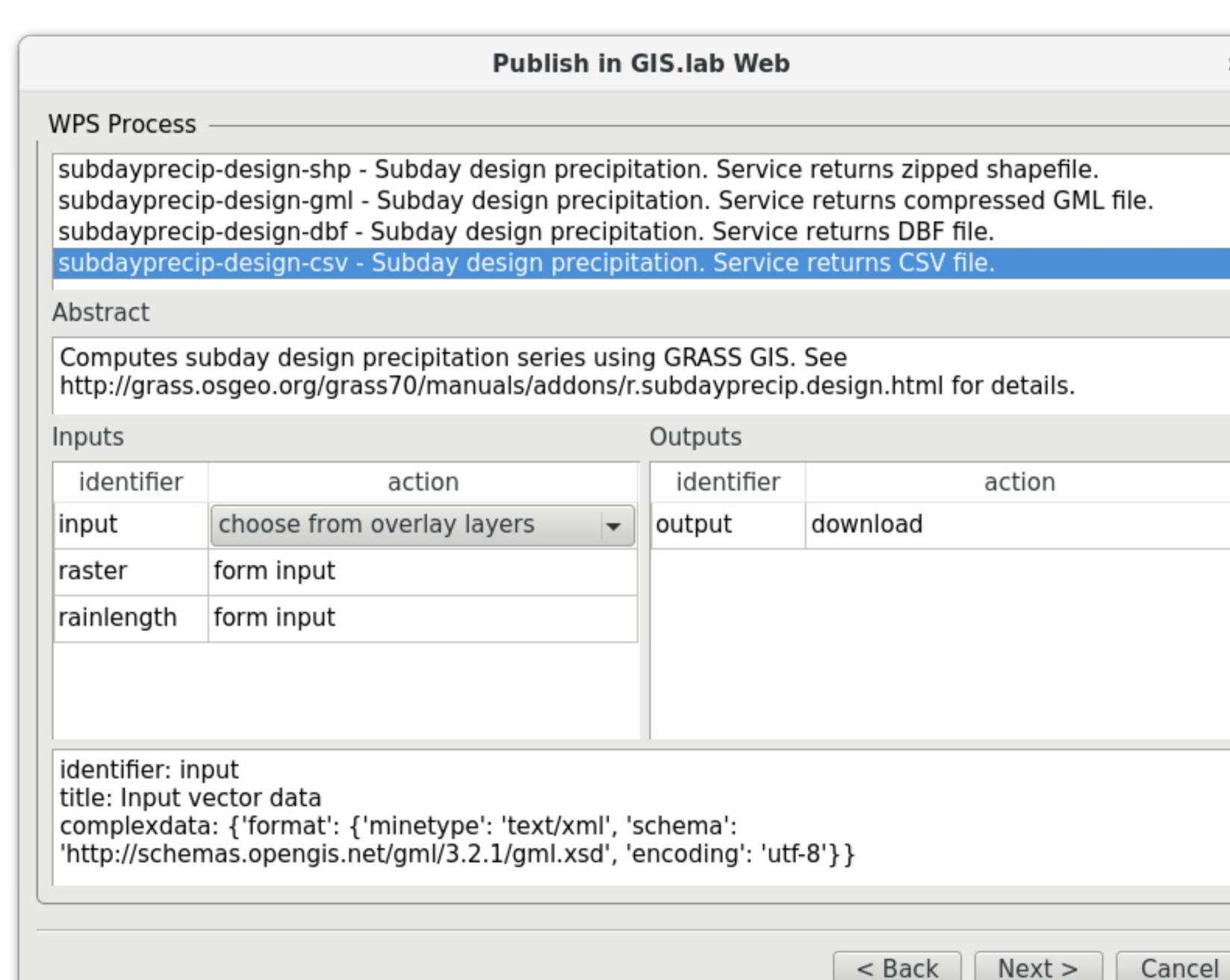
→ Browse data and execute WPS processes using GIS.lab Web client



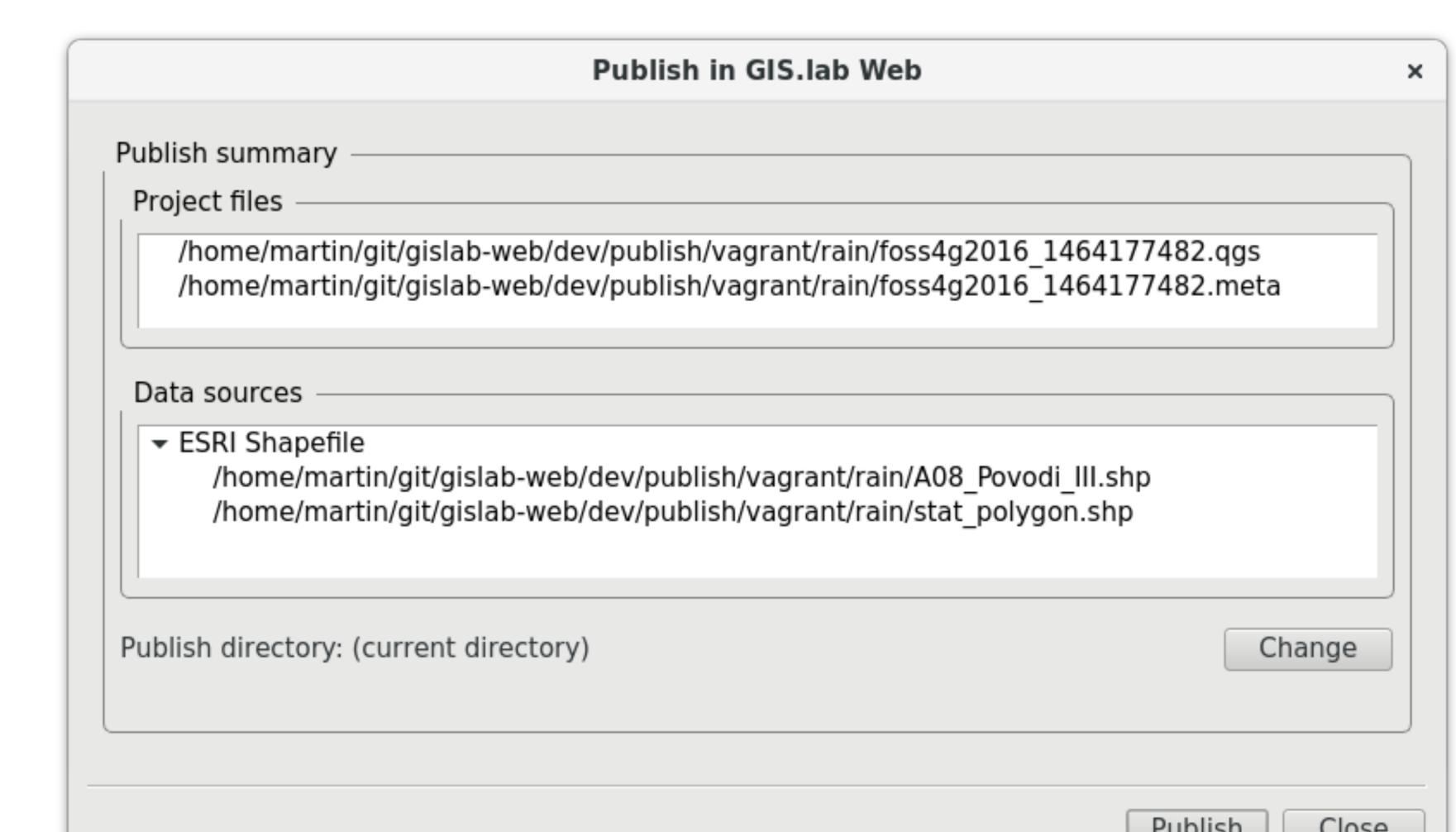
3. Publish QGIS project and customize WPS process using GIS.lab QGIS plugin



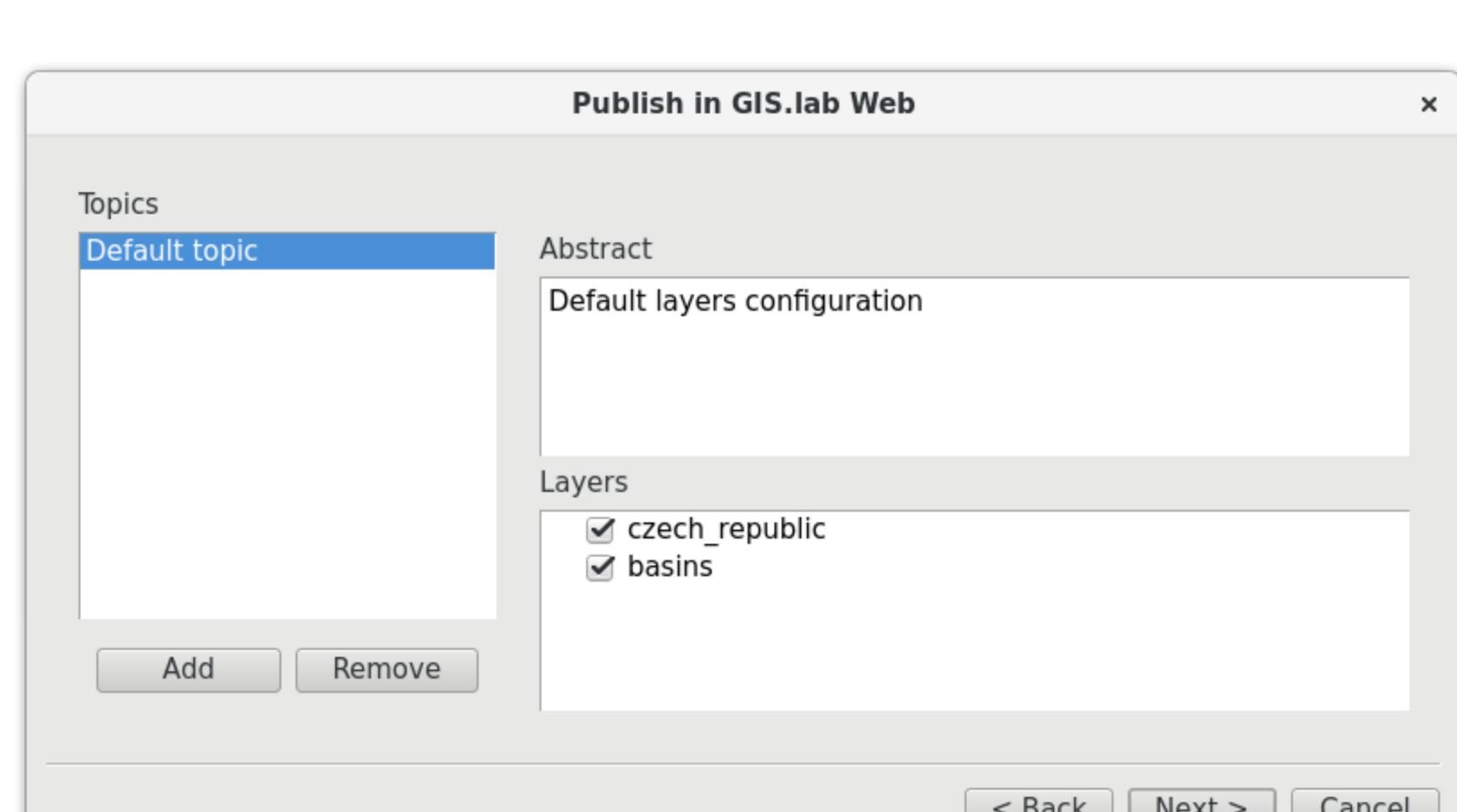
3a. Define project metadata and WPS URL



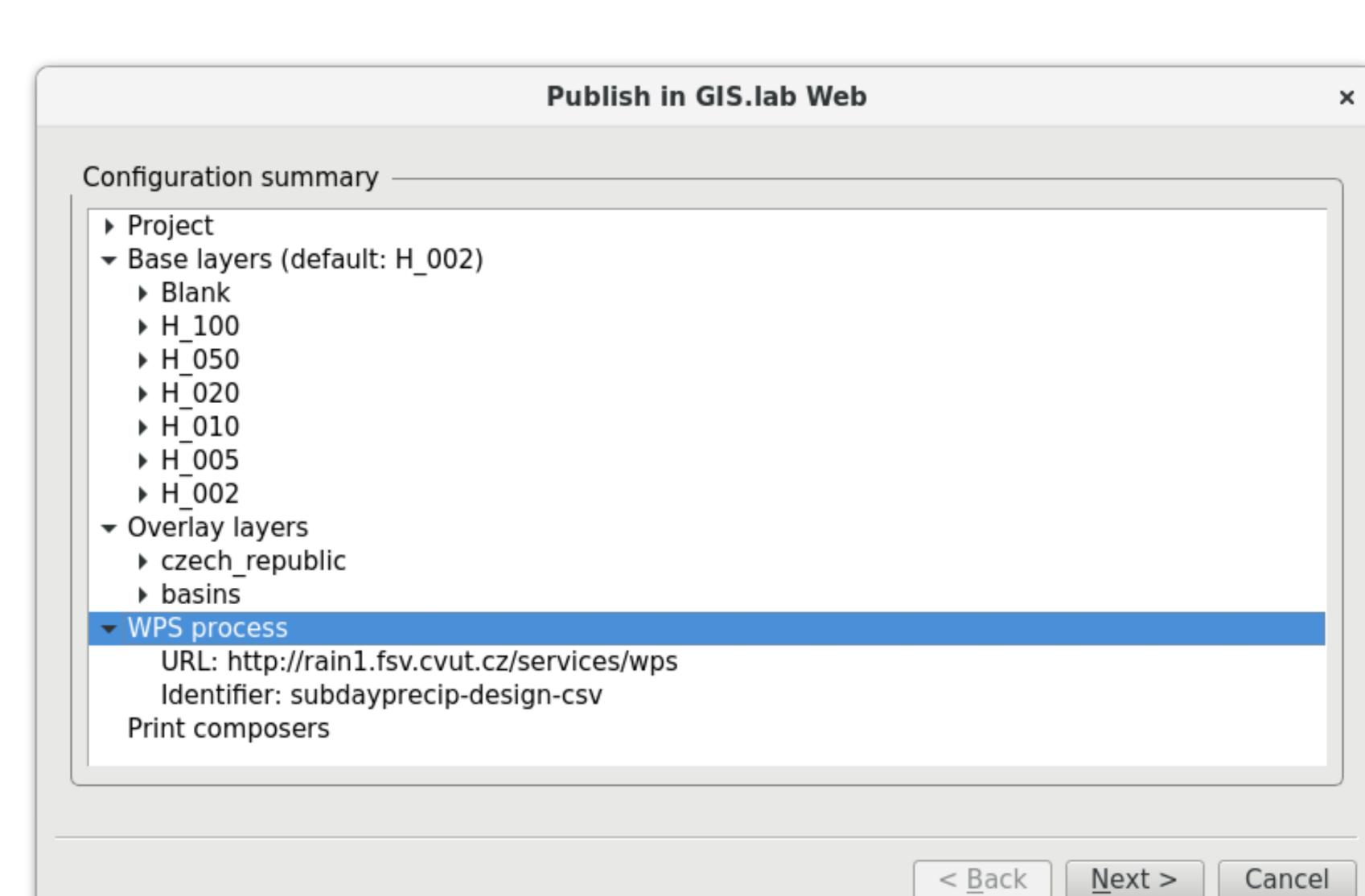
3c. Select WPS process for publishing



3e. Publish the project



3b. Select base and overlay layers for publishing



3d. Confirm publishing project including integrated WPS process



OSGeoREL @ CTU in Prague

This work has been supported by the research project QJ150265 – "Variability of Short-term Precipitation and Runoff in Small Czech Drainage Basins and its Influence on Water Resources Management".

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