

1. Pilot case – Water management

Pilot area: Pohorje, Podravska region, Slovenia

1.1 General description of the case study	<p>Slovenian Case study is located in Podravska Statistical Region (Slovene: Podravska regija). The region is Low-altitude Alpine region of about 35% mountain areas and about 65% lowland. Its name comes from the Drava River and includes land on both banks along its course through Slovenia as well as the Pohorje mountains in the northeast of the region. Region is an alluvial plain of the river Drava, in north-eastern Slovenia. The Drava is used for the production of hydroelectricity and the fertile land around it is used for agriculture. The share of job vacancies in all available jobs is among the highest in Slovenia and the region has a positive net migration rate but a very high natural decrease, which means an overall decrease in the population. The population in 2020 is 325,994. It has a total area of 2,170 km².</p>  <p>REPUBLICA SLOVENIJA STATISTIČNI URAD</p> <p>Figure 1: Podravska region</p> <p>The area is administratively divided among 41 municipalities each one with their individual rights and responsibilities in managing land use and waste waters.</p> <p>The Podravska region generated 12.8% of the national GDP. Leading branched of the economy are tourism, aluminium production and chemical industry, energy, agriculture (arable land, cattle grazing (pastures), vineyards, orchards), forestry and other services. There are 10,990 agricultural holdings and on average 7.2 hectares of utilised agricultural area per agricultural holding. Pohorje on its western part is an important ski region. Due to the soft climate, relatively low height and its importance in world ski cup, in early winter and in early spring, there is used artificial snow. In this area people live in settlements, mostly disposed along Drava river.</p>
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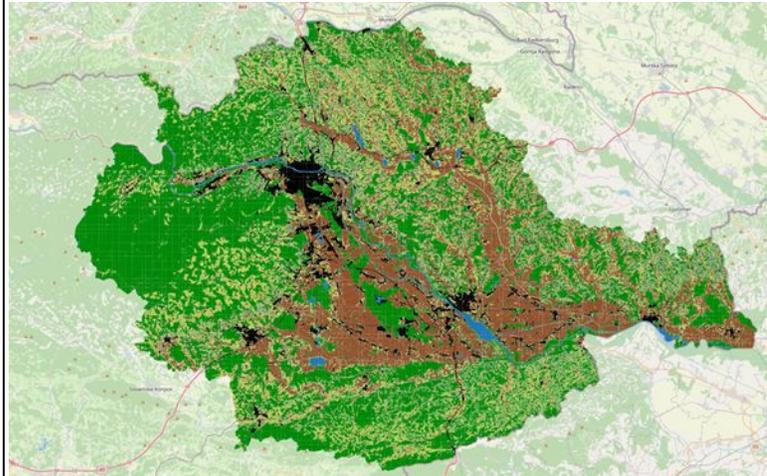


Figure 2: Land use - legend: brown - arable land; dark green – forest; bright green – pastures; pale green - orchards & vineyards (source: ARSO, Ljubljana)

As water is resource of national importance is on general regulated by the state as is in the case of Dravsko polje study area with two decrees on water protection zones (WPZ). Climatological data for case study area is used from four automatic meteorological stations – figure 3 (black triangles on the map) are located in vicinity of both pilot areas (red dots on map). Length of time series: ~20years for oldest automatic stations.

Variables: temperature, precipitation and reference evapotranspiration.

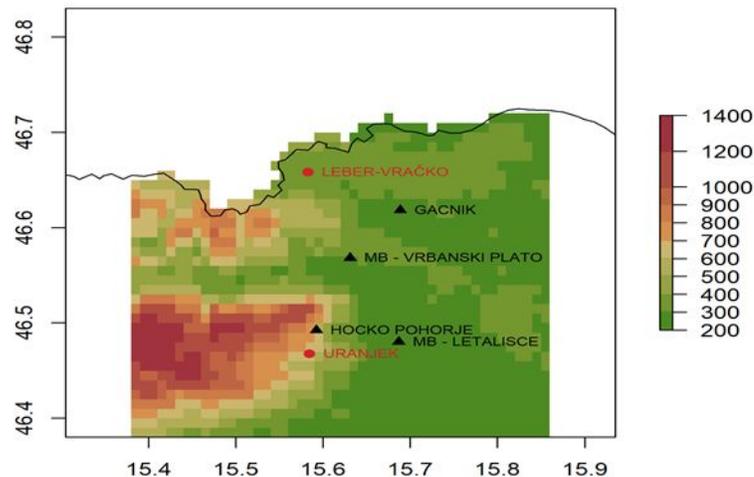


Figure 3: Meteorological stations (source: ARSO, Ljubljana)

The climate has continental characteristics, with an average annual rainfall of about 1000 mm, with hot summers and cold winters.

<p>Pilot area Pohorje, Slovenia</p>	<p>Pilot area Pohorje in Slovenia is focused on monitoring of drought in agriculture production. The existing tools for water monitoring, management and agricultural technics were presented to relevant stakeholders and target groups on the workshops. Tools for water monitoring are the following (ARSO):</p> <ul style="list-style-type: none"> - Agrometeorological forecast for 10 days (meteorological water balance);
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Figure 4: Agrometeorological forecast – „tractor“ in 15 regions in Slovenia (source: ARSO, Ljubljana)

- Crop water use (drought stress);

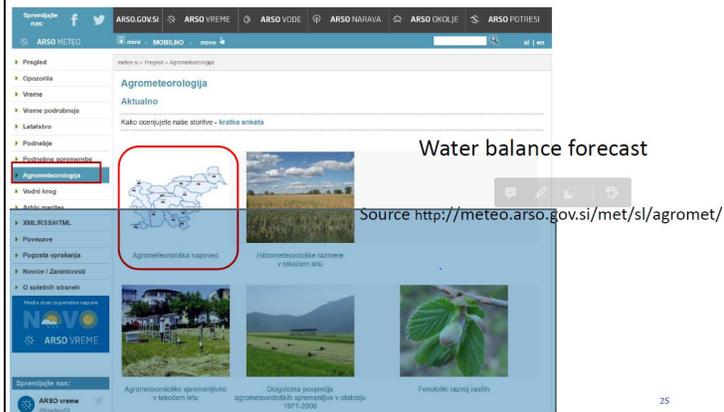


Figure 5: Water balance forecast (source: ARSO, Ljubljana)

- Irrigation forecast;

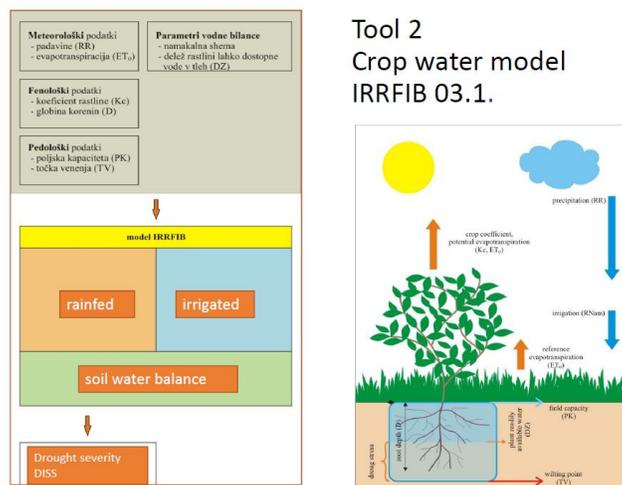


Figure 6: IRRFIB model (source: ARSO, Ljubljana)

- Drought monitoring;

Tool 3 Drought User Service

○ Link:

droughtwatch.eu

○ User manual with catalogue

○ Short info button



Drought Watch of user manual

Figure 7: Drought watch tool (source: ARSO and partners, DriDanube)

- Agricultural soil water conservation techniques:

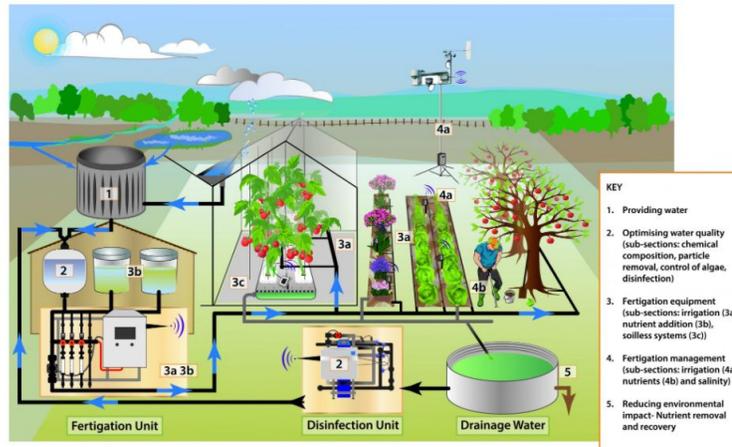


Figure 8: Fertigation Bible (source: <https://www.fertinnowa.com/the-fertigation-bible/>)



Figure 9: Greening the space between rows – red clover (KGZ MB)

The aim of the workshops is to exchange opinions, needs, feedback and suggestions for improvements of the water management tools as well as to provide the basis for

the structure of the toolbox “LESS LAND TAKE”. Awareness raising events will trigger actions in order to promote the most optimal water management tools for sustainable soil protection on the area Pohorje. There is a special focus on how different stakeholders, target groups and policy makers can together support integration of the information derived by tools into daily practice.



Figure 3: Pilot case - Water management, pilot area Pohorje, Slovenia