

DriDanube project

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Motivation for the project

WHY? Current status

Monitoring

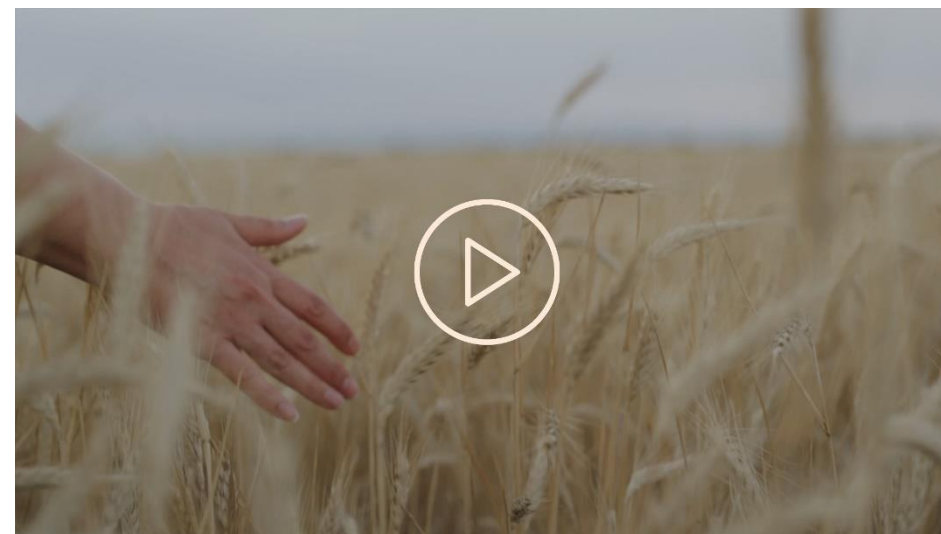
- untimely delivery
- cross-border inconsistencies
- lack of integration of risk and impact data
- increase in the number and duration of droughts in the Danube region in last decades (in 2003, 2007, 2015, 2016, 2017)

Impacts and risk assessment

- no systematic collection of drought impacts
- lack and incomparable drought risk assessment methodologies
- despite the impacts on the economy and welfare of people, mainly in agriculture, drought is still not considered an issue of high priority

Management

- reactive, dealing mainly with losses and damages
- cooperation between key actors is missing
- formal legislation does not exist



Drought is becoming one of the major challenges in water management in the Danube region.



Drought Risk in Danube Region

DriDanube

- Project financed by European fund for regional development (85%)
- Lead partner: ARSO/DMCSEE
- Project budget: 1.974.750,00€
- Duration of project: 30 months (January 2017 – June 2019)

7 EU countries
3 Non-EU countries
15 partners
8 Strategic partners



ICPDR - ASP

Lead Partner:

- Slovenian Environment Agency (ARSO), Slovenia

Partners:

- EODC Earth Observation Data Centre for Water Resources Monitoring GmbH (EODC), Austria
- Global Change Research Institute CAS, (CzechGlobe), Czech Republic
- Global Water Partnership Central and Eastern Europe (GWP CEE), Slovakia
- Hungarian Meteorological Service (OMSZ), Hungary
- Vienna University of Technology (TU Wien), Austria
- Szent Istvan University (SZIU), Hungary
- National Meteorological Administration (NMA), Romania
- Centre of Excellence for Space Sciences and Technologies (SPACE-SI), Slovenia
- Meteorological and Hydrological Service (DHMZ), Croatia
- Slovak Hydrometeorological Institute (SHMU), Slovakia
- Faculty of Agriculture, University of Novi Sad (FAUNS), Serbia
- Republic Hydrometeorological Service of Serbia (RHMS), Serbia
- Institute of Hydrometeorology and Seismology (IHMS), Montenegro
- Republic Hydrometeorological Service of Republic of Srpska (RHMS RS), Bosnia and Herzegovina

Associated Strategic Partners:

- International Commission for the Protection of the Danube River (ICPDR), Austria
- Administration of the RS for Civil Protection and Disaster Relief (URSZR), Slovenia
- The State Land Office (SLO), Czech Republic
- Agricultural Station/Forecasting and Warning Service of Serbia in plant protection (PIS), Serbia
- Environment Agency Austria (EAA), Austria
- Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW), Austria
- Ministry of Environment and Energy, Water management directorate (MZOIE), Croatia
- Ministry of Agriculture (FM), Hungary

Slovenia 2
Austria 2
Czech Republic 1
Slovakia 2
Hungary 2
Romania 1
Croatia 1
Serbia 2
Montenegro 1
Bosnia and Herzegovina 1

Main Outputs

Improved drought emergency response and better cooperation among operational services and decision making authorities in the Danube region.

Drought User Service

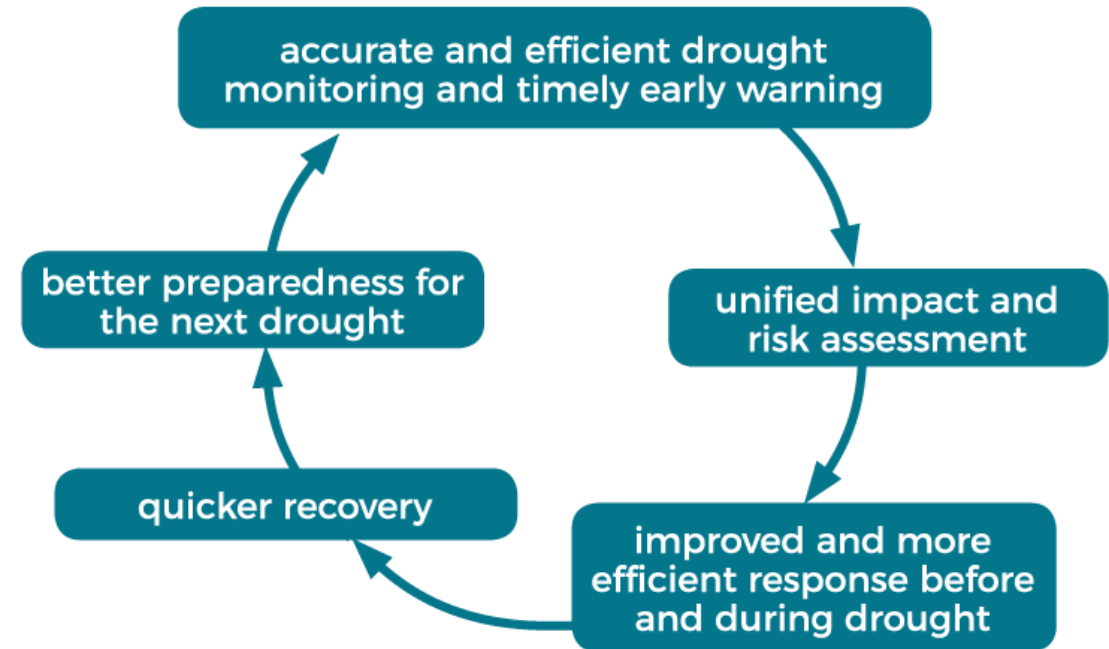
An innovative tool integrating all available data, including large volume of remote sensing products and serving the authorities to monitor, forecast and respond during drought development faster and with higher precision.

Methodologies for drought impact and risk assessment

Unification and cross-border coherence of drought Risk and Impact assessments. Establishment of network of reporters as additional source of information for drought impacts in agriculture.

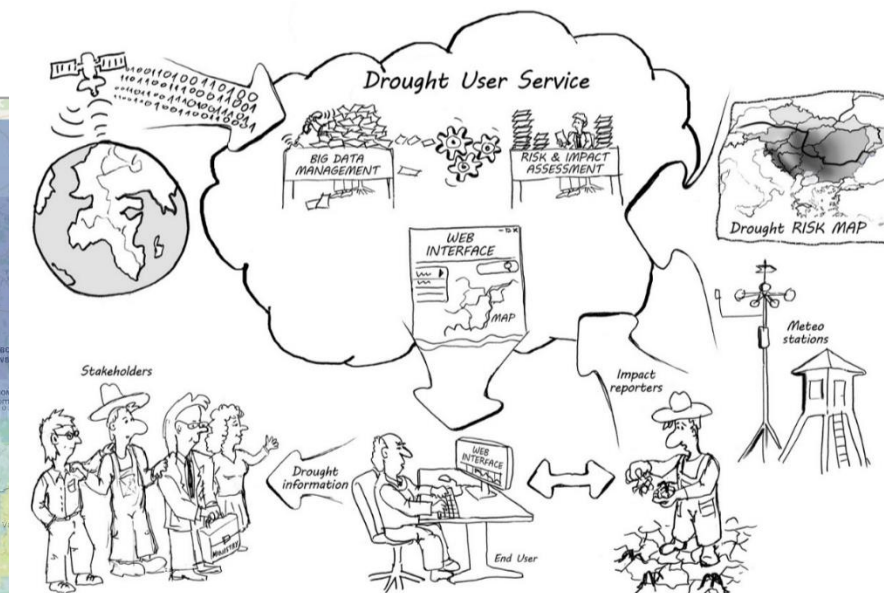
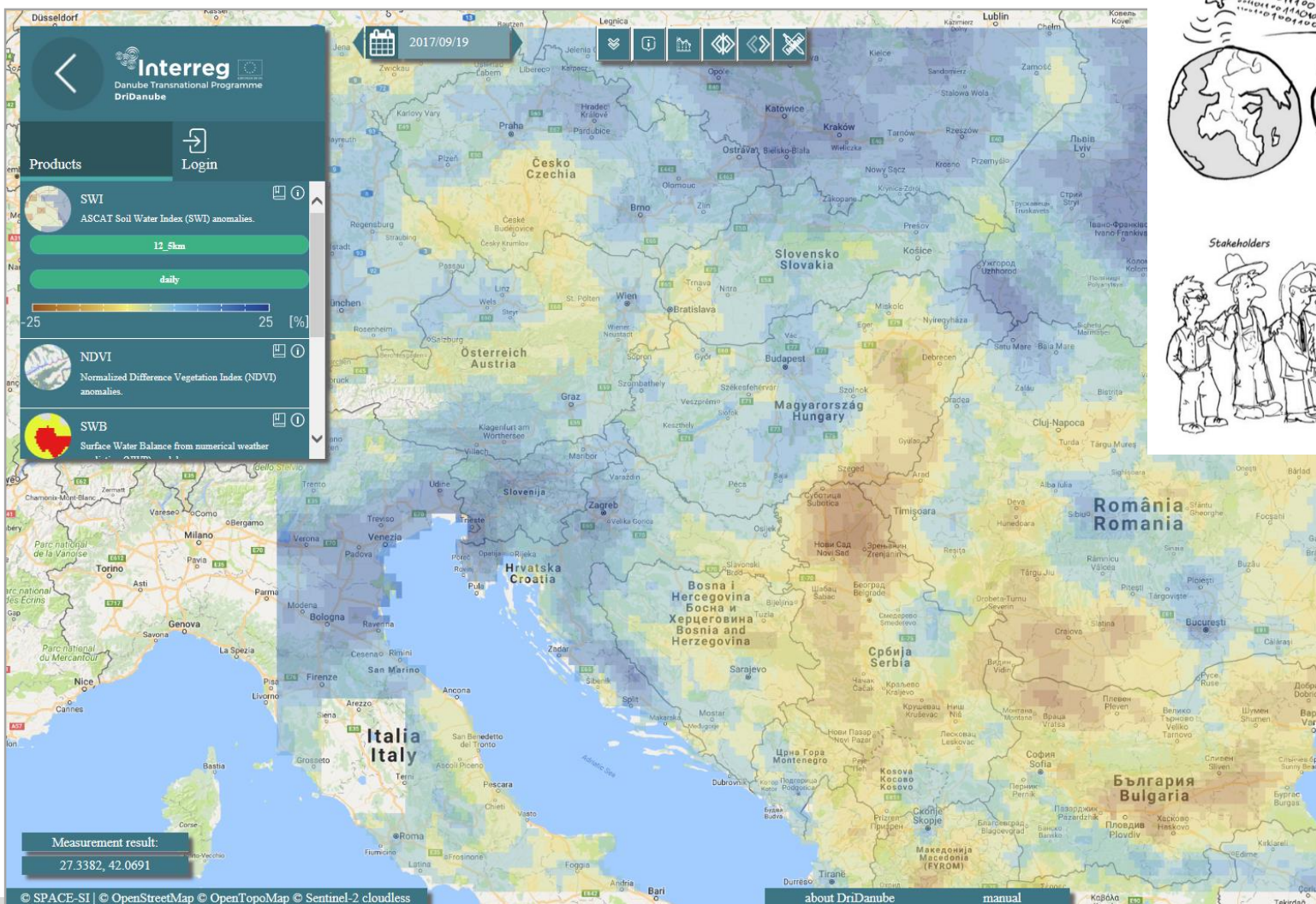
DriDanube Strategy

A clear guidance for overcoming the gaps in the drought decision-making processes and improvement of drought emergency response in the Danube region.



Drought Watch

<http://www.droughtwatch.eu/>
common view on drought development in real time



Some integrated products:

- **SWI anomalies** – product of the SSM used to express amount of water contained in soil (daily)
- **NDVI anomalies** – Vegetation greenness/vigor (decadal)
- **SWB** – Surface Water Balance from numerical weather prediction (NWP) model
- **SWBSLO** – Surface Water Balance from numerical weather prediction (NWP) model for of Slovenia
- **VegCon1** – Relative vegetation condition for crops and grasslands
- **VegCon2** – Relative vegetation condition for all vegetation types

Drought Watch 2018 - testing the tool

- focusing on promotion of project tools use (DW)
- 4-month campaign with bi-weekly Bulletins summarizing the status of soil, vegetation and impact reports
- a separate section on the project webpage
- caught attention of int. organizations dealing with drought – UNCCD, WMO

DROUGHT 2018 WATCH

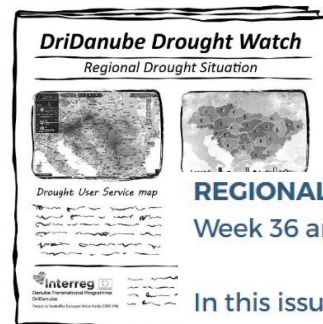
Will Danube region experience drought in 2018 again?
Let's follow its development with DriDanube tools!

Welcome to our DriDanube Drought 2018 Watch section.

This summer we decided to test DriDanube tools, the prototype of our Drought User Service and our constantly growing reporters network, to monitor the drought situation in the Danube region.

We will be regularly publishing the Regional drought bulletins, together with the maps documenting the situation. This current information will be provided by DriDanube partners from 10 countries.

Watch this space to check our Regional drought situation reviews!



Be prepared. Know th

REGIONAL DROUGHT SITUATION REVIEW No.1 Week 22 and 23 (28 May-10 June 2018)

In this issue you will find:

- Summary of the state of soil and vegetation between 28 May-10 June

REGIONAL DROUGHT SITUATION REVIEW No.8 Week 36 and 37 (3 - 16 September 2018)

In this issue you will find:

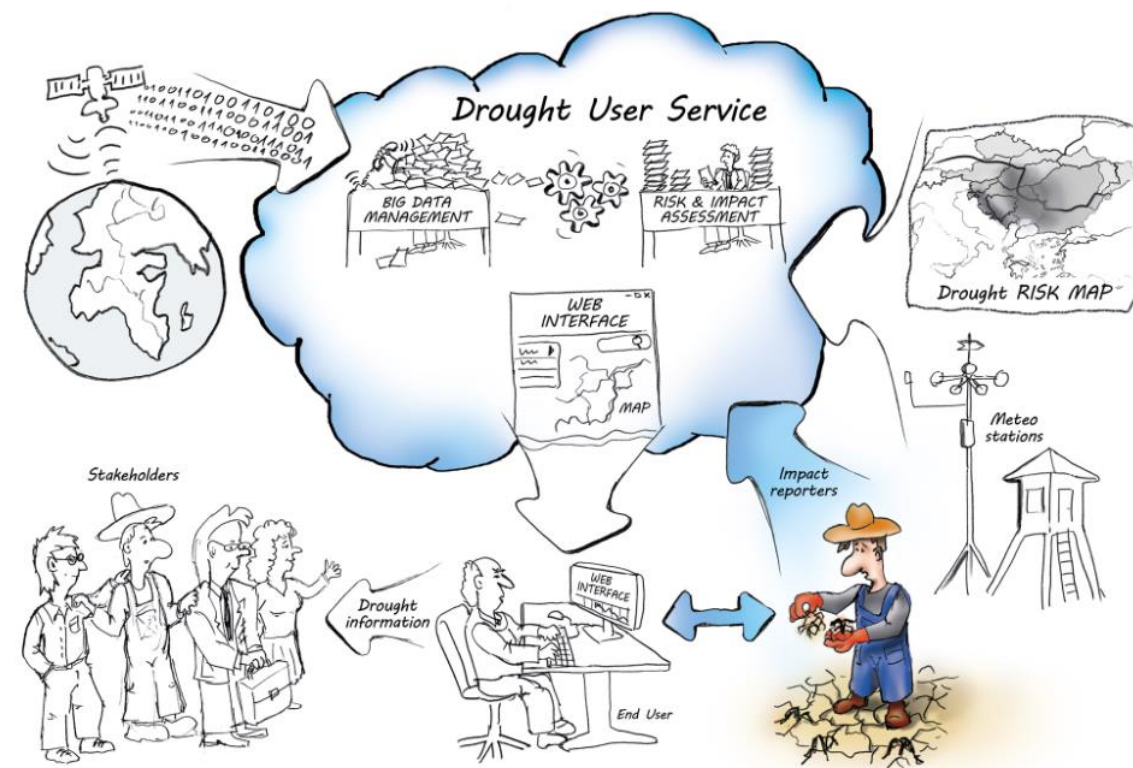
- Summary of the state of soil
- Summary of the impacts on vegetation
- Summary of the impact reports

Click for the full report [HERE](#)

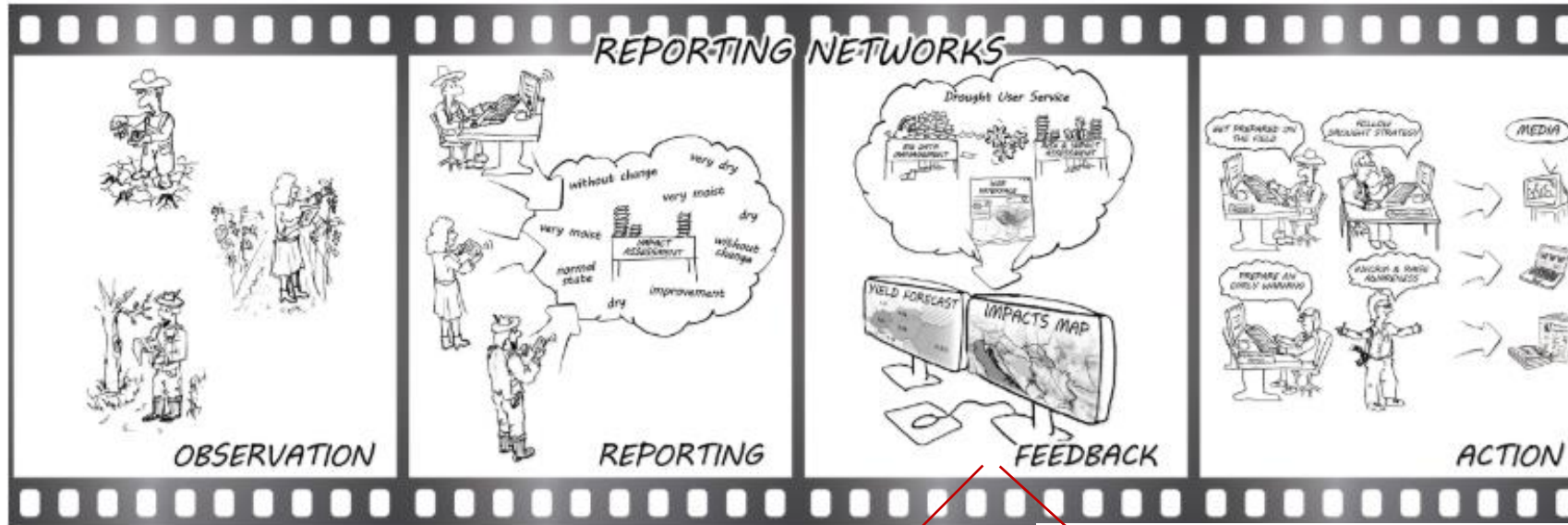


Methodology for drought impact assessment & interactions with impact reporters

- methodology is based on data from drought reporters (National Reporting Network) about the current state of the soil and vegetation
- inputs from reporters transformed by the system into **drought status** and **forecast maps**
- fast growing network – over 200 reporters joined in 2018

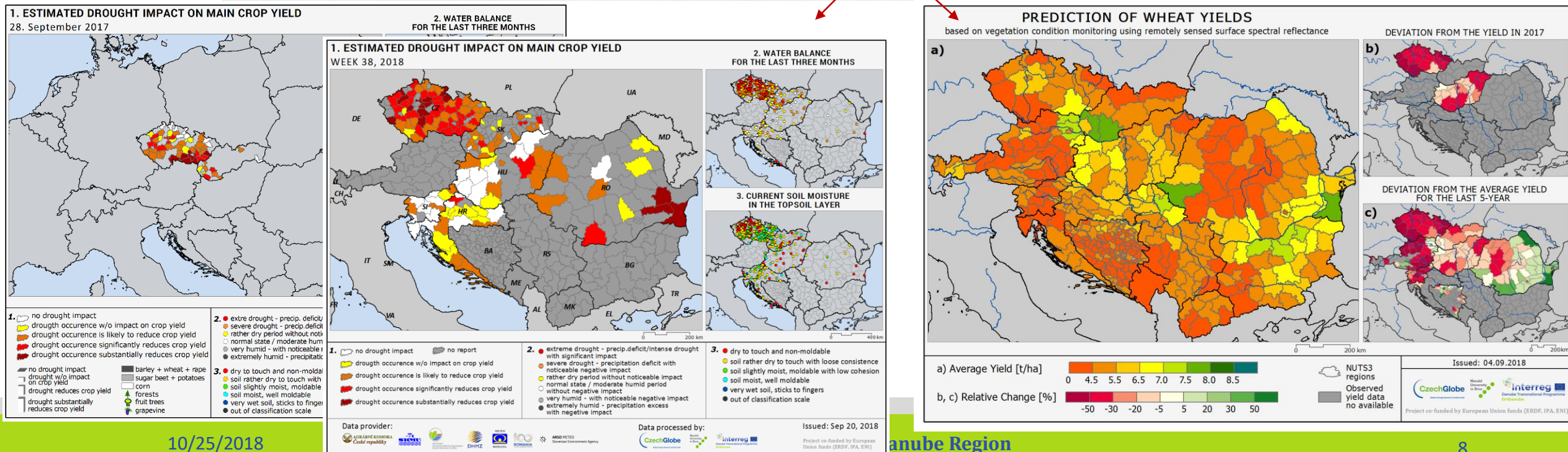


Drought impact assessment & forecasting



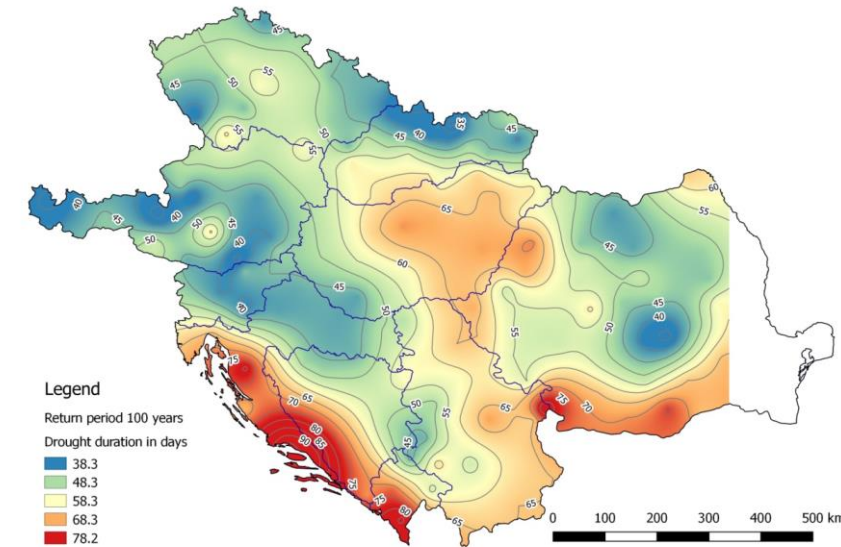
Drought
 impact maps
 Oct 2017 &
 Oct 2018

Yield prediction
 now operational
 for 5 most
 common crops –
 Barley, Maize,
 Potato, Sugar
 Beet, Wheat



Methodology for drought risk assessment

- Risk = hazard impact * probability of occurrence
- More general calculation methods – our focus will be on agricultural impacts
- Requested data are: yield data and meteorological data from PPs
- Final outputs will be risk maps for the whole region per main crops and maps of rainless periods



Maize



Wheat



Rape



Barley

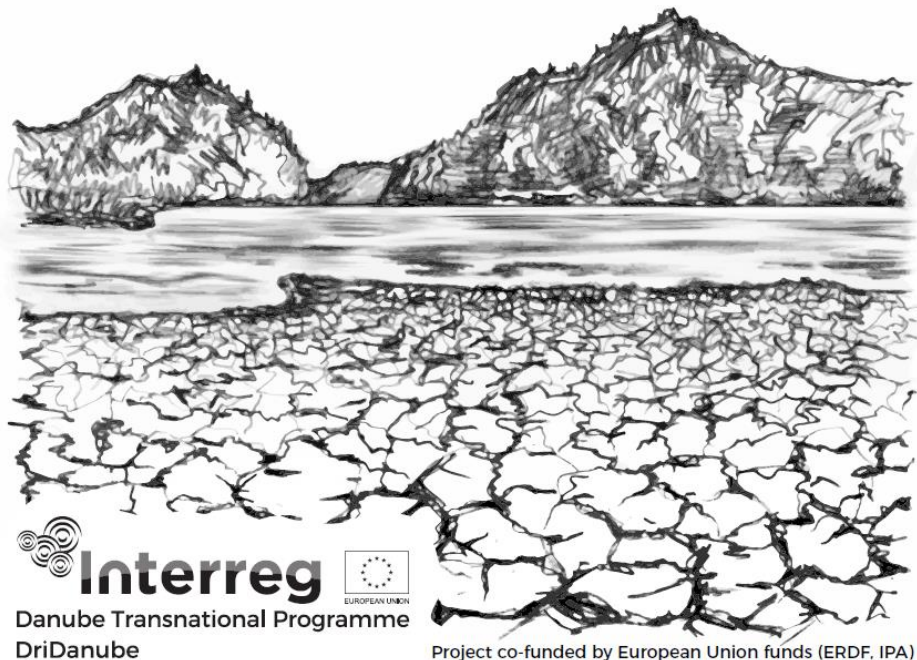
DriDanube Strategy

- aims at going beyond present national mechanisms that regulate drought preparedness and response
- common strategic document to combat current partial and insufficient drought management
- to cover entire region

Optimal Drought Management Model

- to provide a common drought management model for all participating countries
- Pilot actions focus on testing the project results:
 - 1/ testing of DW & NRN (satellite vs. reporters' vs. national data)
 - 2/ testing of ODMM (institutional cooperation in practice) – cooperation with JoinTisza

Be prepared. Know the risks. Take action.



Thank you for your attention

get more info at www.interreg-danube.eu/dridanube

