



**ARSO METEO**  
Slovenian Environment Agency



**DMCSEE**  
*Drought Management Centre  
for Southeastern Europe*



**Global Water  
Partnership**  
Central and Eastern Europe

# Drought activities in Central and Southeast Europe

Dr Andreja Sušnik  
Slovenian Environment Agency

Sabina Bokal  
Global Water Partnership CEE





# Drought Management Centre for Southeastern Europe - DMCSEE

- „Top-down“ initiative, triggered jointly by WMO, UNCCD and ICID
- Delegates prepared Framework for the preparation of a project proposal on the establishment of a Drought Management Centre for South-Eastern Europe (DMCSEE) within the context of the UNCCD
- **September 2006: Decision on DMCSEE host institution (2016 was 10 year anniversary !)**
- DMCSEE activities supported by the Government of Slovenia (reestablished after crisis), majority of activities executed in frame of international projects



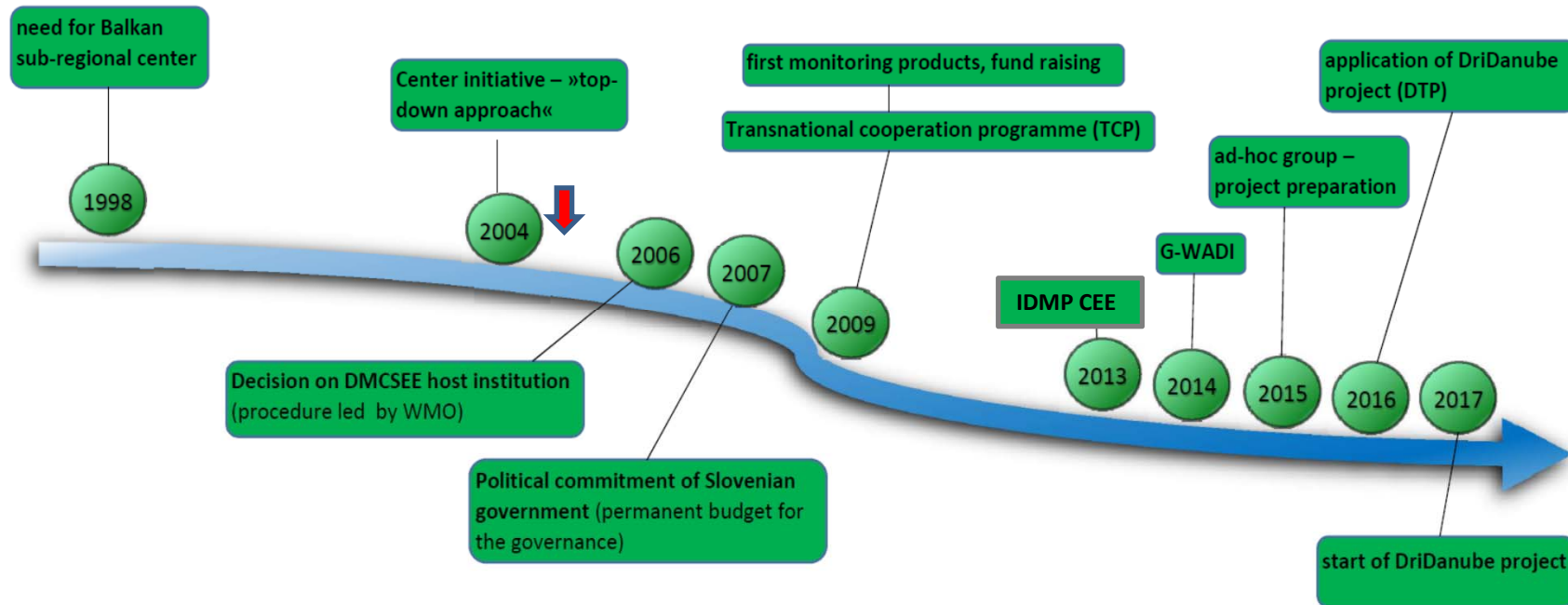




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for Southeastern Europe



## DMCSEE activities 2006 - 2017





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# DMCSEE

*Drought Management Centre  
for Southeastern Europe*



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## Drought Management Centre for Southeastern Europe - DMCSEE

Drought is a normal part of climate in virtually all regions of the world. South Eastern Europe is no exception; in past decades the drought-related damages have had large impact on the economy and welfare. Therefore the need to establish a Drought Center for SE Europe to alleviate the problems caused by drought in the area became evident at the end of the past century. The idea was further elaborated by International Commission on Irrigation and Drainage (ICID) and UN Convention to Combat Desertification (UNCCD). The UNCCD national focal points and national permanent representatives with the World Meteorological Organization have agreed upon the core tasks of the Drought Management Center for South Eastern Europe (DMCSEE) and the proposed project document.

The mission of the proposed DMCSEE is to coordinate and facilitate the development, assessment and application of drought risk management tools and policies in South-Eastern Europe with the goal of improving drought preparedness and reducing drought impacts. Therefore, DMCSEE will focus its work on monitoring and assessing drought and assessing risks and vulnerability connected to drought.

[DMCSEE Project Proposal](#)

### Latest news

Drought bulletin 19th October 2017  
(19.10.2017)

Drought bulletin 22nd September 2017  
(22.09.2017)

Drought bulletin 21st August 2017  
(21.08.2017)

### Links

- » [UNCCD](#)
- » [WMO](#)
- » [SEE TCP](#)

### Founding countries:

- Albania
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- FYROM
- Greece
- Hungary
- Moldova
- Romania
- Slovenia
- Turkey
- Montenegro
- Serbia

### Founding agencies:

- WMO
- UNCCD

[www.dmcsee.org](http://www.dmcsee.org)

Web-  
based  
platform



# Why DMCSEE?

- **Status of drought development** – SEE regional overview
- Common **tools/methodologies** for drought analysis,
- **Standardized protocols** for data collection & processing; DMCSEE server for data access to regional drought information;
- **Project work**: upgrade with new developments (remote sensing);
- Drought info **dissemination** – stakeholders/drought channels;
- **Trainings/workshops** (secondment of staff);
- **International collaboration**
  - WMO, UNCCD (founding organizations)
  - Joint Research Centre / European Drought Observatory group
  - NDMC/NIDIS (mainly via IDMP)
  - FAO, UNEP, ICPDR, EUSDR
  - GWP



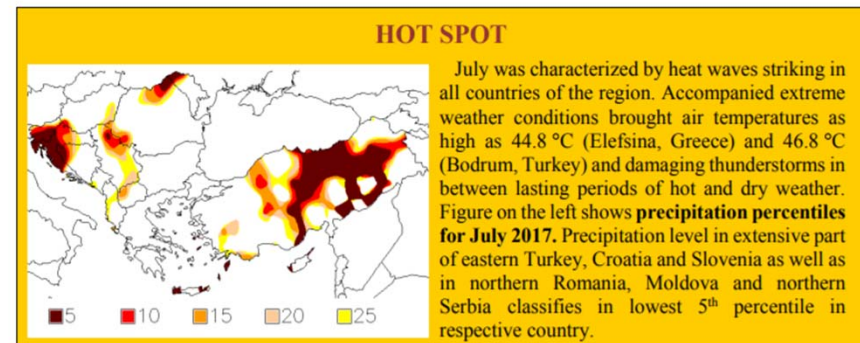


# Monthly drought bulletin

- **Hot spot** - short summary, short insight of possible circumstances of drought at the time of issue.
- Additional and auxiliary information (such as methodology used, more detailed information on water balance or temperature situation)
- **Report on drought impacts** (more info about drought impacts is missing!)
- **Outlook**

## DROUGHT MONITORING BULLETIN

21<sup>st</sup> August 2017



### IMPACT REPORTS

Hellenic National Meteorological Service issued heat wave alert in late June (29<sup>th</sup> June to 3<sup>rd</sup> July), available in pdf online, for the first heat wave this summer. General Secretariat for Civil Protection in Greece issued additional daily heat wave alerts [2, 3] as well as several extreme fire risk alerts over the month [3]. One death was reported due to extreme heat stress. Indirect consequence of hot and dry weather in Greece this July were several wildfires that hit extensive

### OUTLOOK

Comparison of 60 Days Accumulated Water Balance  
Time Period 30 Jun – 28 Aug 2017 with Historical Percentile Classes

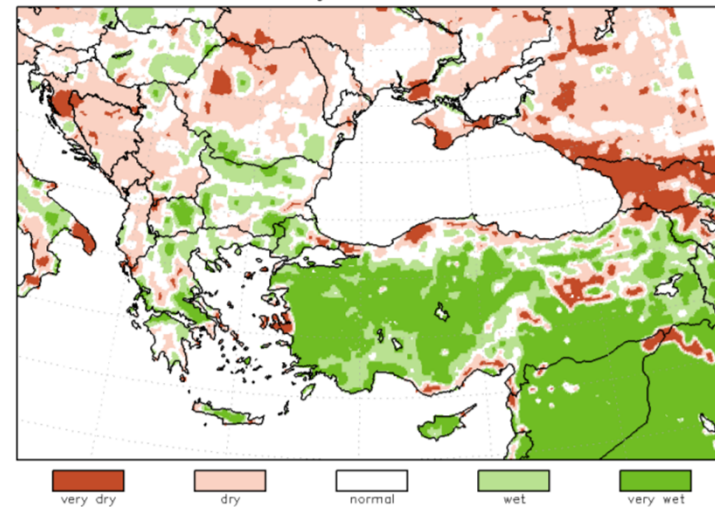


Figure presents the model simulations of the **60-day water balance anomaly** (mm) for the time period from 30<sup>th</sup> June to 28<sup>th</sup> August 2017. Water balance conditions will improve across

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[pdf](#)



# DMCSEE project work – way how to maintain sustainability

- Most of work done through international projects
  - DMCSEE (2009-2012, financed by EU ERDF)
  - IDMP CEE (2013-2015, financed by GWP)
  - WMO DRR (2012-2014)
  - **Current project: DriDanube (2017–2019, financed by EU ERDF/Danube Transnational Programme)**
- DriDanube **Drought User Service** (DUS) is planned to become main data platform of DMCSEE
- Sustainable funding for maintenance of DUS beyond 2019 is being discussed?

# The Global Water Partnership for a water secure world



Our mission is to support the sustainable development and management of water resources at all levels

13 Regional Water Partnerships  
85 Country Water Partnerships  
3000+ Partners in 178 countries

The GWP CEE region





# Integrated Drought Management Programme (IDMP)



- Joint initiative of GWP and WMO
- Launched in 2013 at the High-Level Meeting on National Drought Policies (HMNDP) in Geneva

Increase the capacity of the CEE region to adapt to climate variability by enhancing resilience to drought.

## **IDMP CEE**

1<sup>st</sup> phase: started in March 2013 – 2015 (40 organizations from 10 CEE countries)

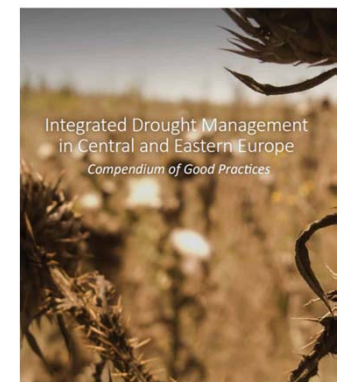
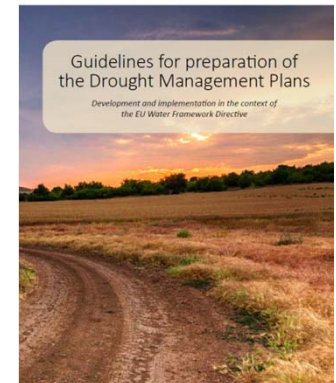
2016 – *preparation of project proposals and 3-year workplan*

2nd Phase: 2017 - 2019

# Main achievements 2013 - 2015



- **Overview** of the situation regarding drought management in CEE
- **Guidance document** for preparation of the Drought Management Plan
- **Communication links** between the experts and policy makers
- **Increased capacity** of the key actors to prepare Drought Management Plan (National Consultation Dialogues)
- **Connections and exchange** of information and results, with organizations in the region (DMCSEE, ICPDR, EUSDR, etc.)
- **Demonstration of new, innovative approaches** in drought management linked to: Natural Small Water Retention Measures (*Guidelines, case studies*), soil water holding capacity, drought in forests, remote sensing data, etc.



# IDMP CEE & DMCSEE & EDO



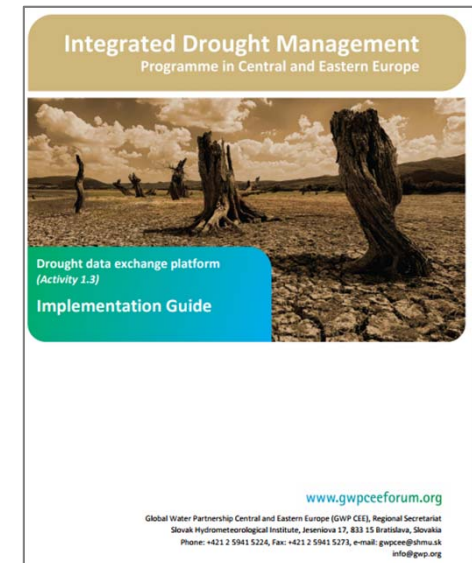
**Collection** of existing drought monitoring approaches and the establishment of a link with European database and monitoring service (EDO, DMCSEE)

Providing additional products to EDO from CEE countries

Preparation of the Implementation Guide:

- explanation of EDO functionalities to users
- how to integrate new data into EDO

	Product
Bulgaria	Monthly weather bulletin Precipitation anomaly SMI SPI
Czech Republic	Amount of usable water in loam soils in Czech Republic Basic water balance of grasslands in the Czech Republic Potential evapotranspiration of grassland, comparison with the long-term average 1961 - 2010 Weekly amount of precipitation, measured values
Hungary	Agro-meteorological maps Monthly integrated water balance report and forecast WAHASTRAT
Lithuania	Seljaninov hydrothermal coefficient (HTC)
Moldova	Atlas. Climatic resources of the Republic of Moldova
Poland	SPI: Standardized Precipitation Index
Romania	Agrometeorological Bulletin Seasonal Meteorological Forecast Soil Moisture map SPI Index Map Weather warnings
Slovakia	Forecast of forest fire risk index
Slovenia	Agriculture Soil Water Balance Bulletin in Slovenia Drought Bulletin for SE Europe Precipitation Percentiles map Standardized Precipitation Index map SPI maps for cadastral municipalities in Slovenia
Ukraine	SPI

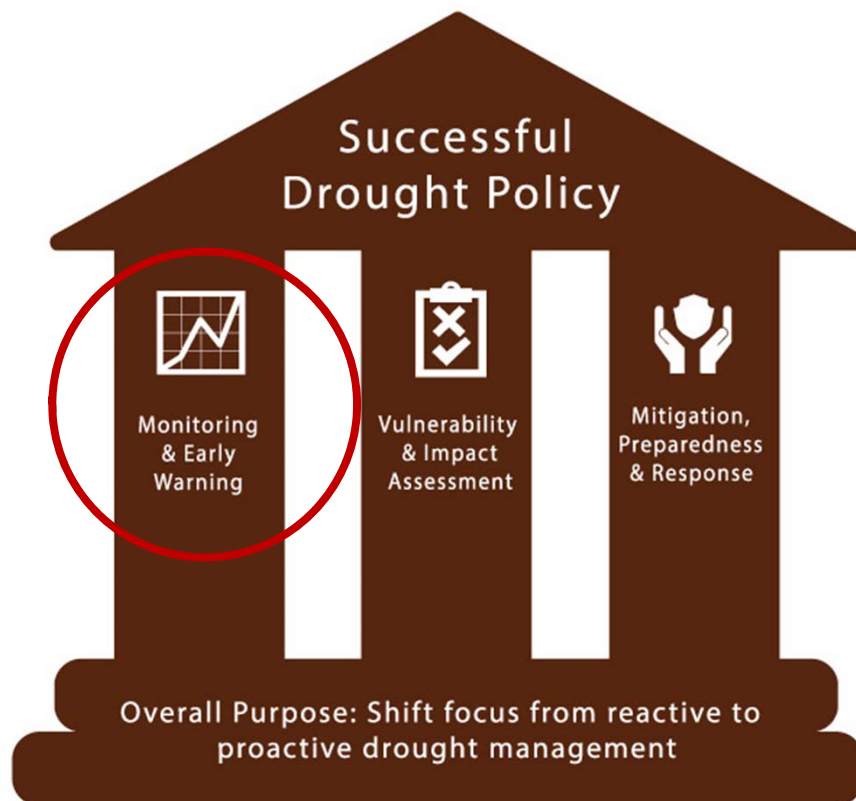


26 new products was added into EDO



# IDMP CEE 2017 - 2019

the **Three Pillars** of drought management



- **Improvement of the drought monitoring**
- Unification of drought impacts and risk assessment
- Overcoming gaps in decision-making processes in drought management
- Improve dialogue between the scientific and policy-making communities

# 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**

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 a Danube region.**

## Drought User Service

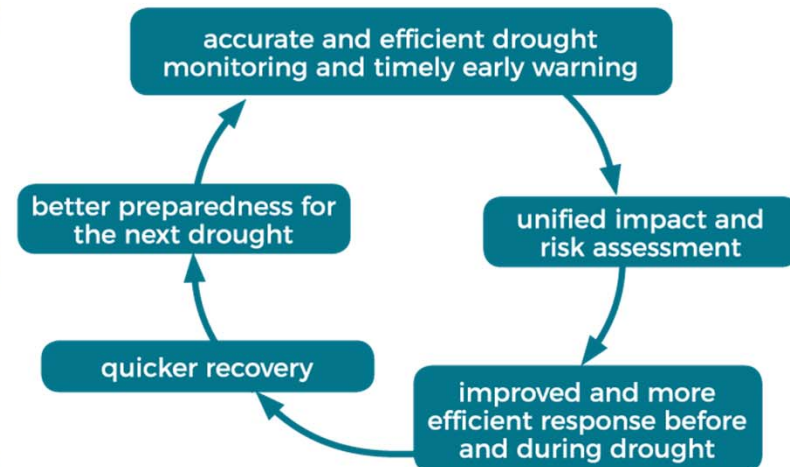
An innovative tool integrating all available data, including large volume of remote sensing products and serving the authorities to monitor, forecast and respond during drought development faster and with higher precision.

## 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

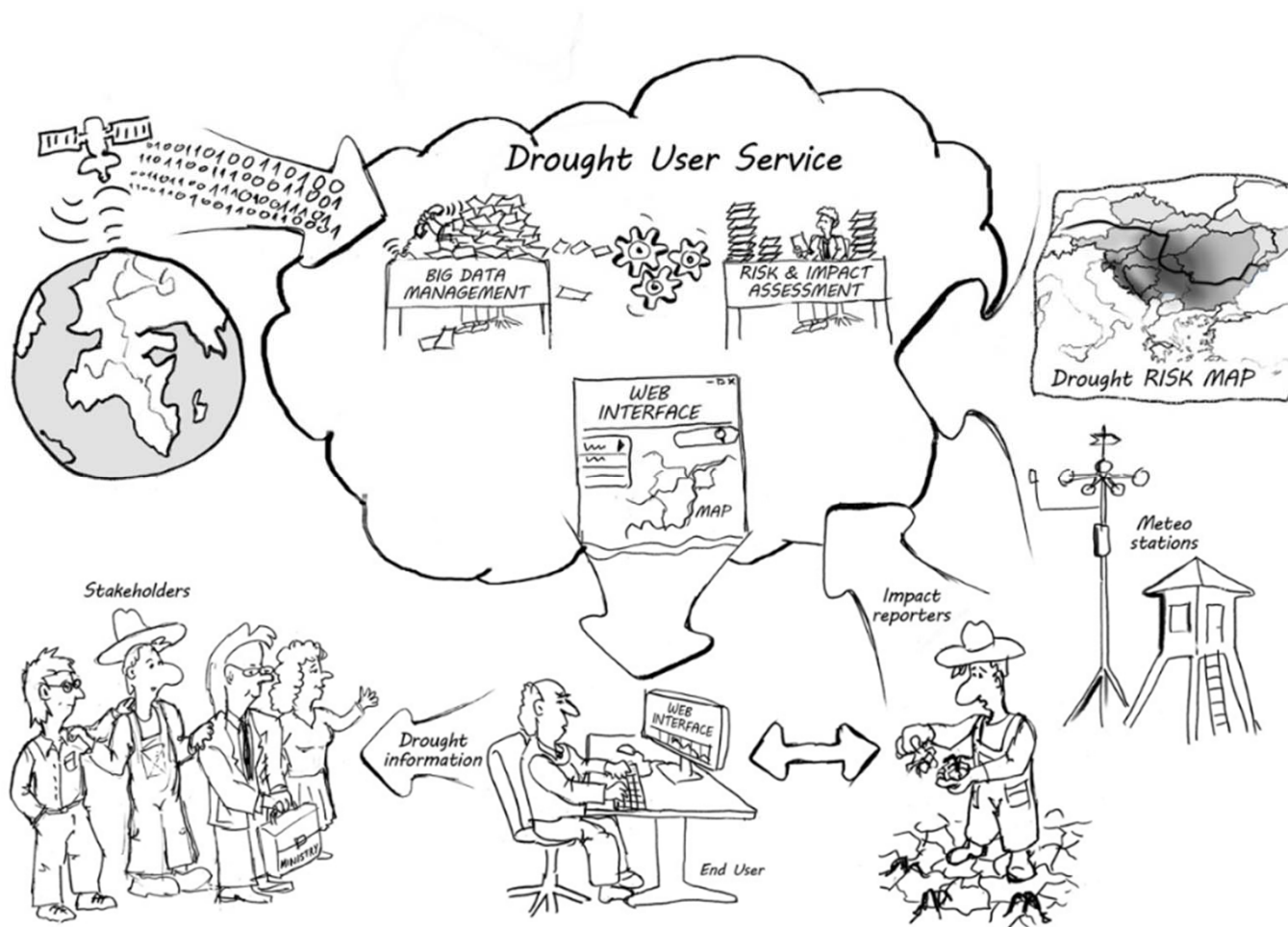
A clear guidance for overcoming the gaps in the drought decision-making processes and improvement of drought emergency response in the Danube region.



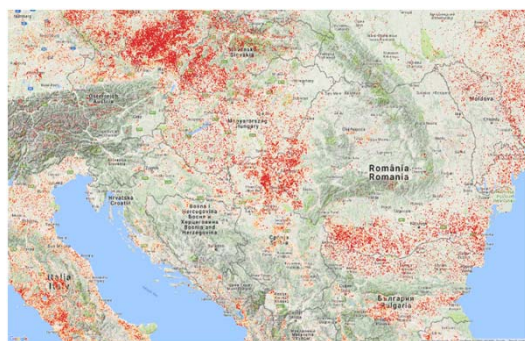
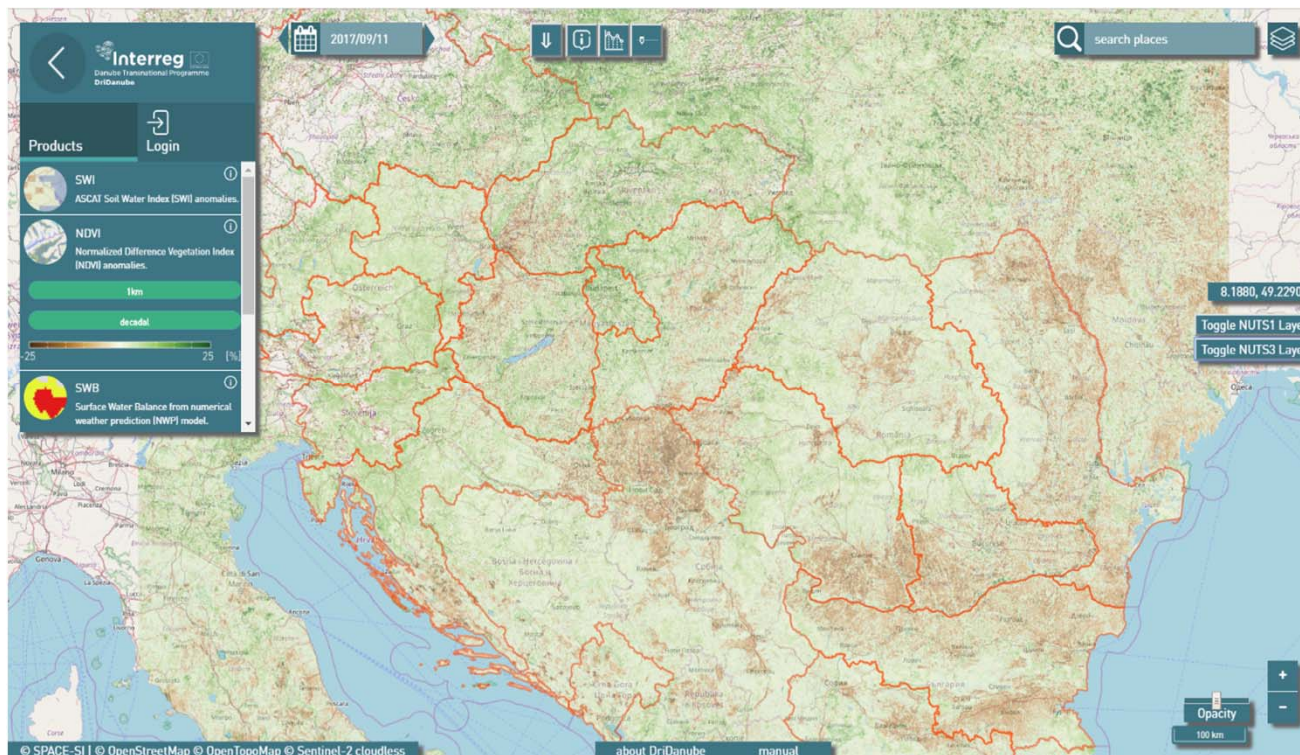


## Drought User Service

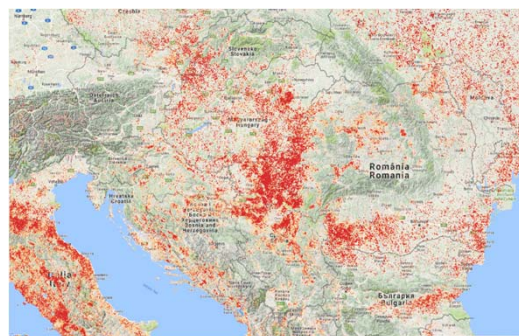
- User interface, combining remote sensing data from CGLS and drought impact assessment models



# Drought User Service



NDVI anomaly, 1.7.2017



NDVI anomaly, 1.8.2017 [www.interreg-danube.eu/dridanube](http://www.interreg-danube.eu/dridanube)



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## Needs and expectations

- **connecting** different initiatives, projects, programmes which are working on drought indicator systems, classification of drought stages, thresholds, early warning, etc.
- **harmonized data collection, methodologies** (INSPIRE directive – protocols), impact & risk on EU level;
- **sustainability** (project to operational work);
- **briefings** EDO-DMCSEE-IDMP - other initiatives;
- integration of drought monitoring into drought management – stronger link with EC and support with the preparation of the **EU Drought Policy**? or other regional policy (EUSDR).