



**ARSO METEO**  
Slovenian Environment Agency



# Positive experiences and difficulties in setting up Drought Management Center for SEE

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Workshop: „Drought Management and Mitigation in CA“  
5 May 2021 | Zoom conference | 14:00 Almaty time



From idea to the operationalisation

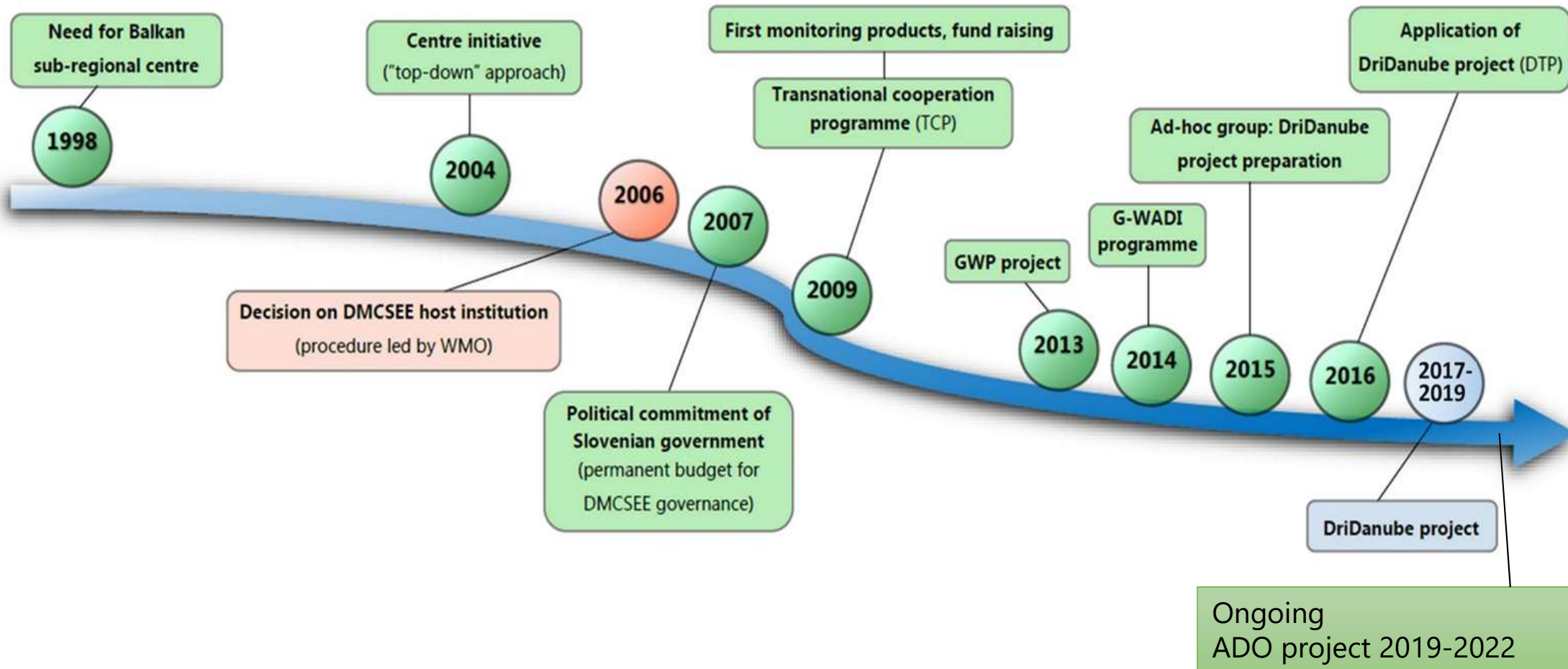
DMCSEE consortium & cooperation scheme

Building operational products

Project work/fund raising for sustainable operations



# From idea to the operationalisation (>20 years)



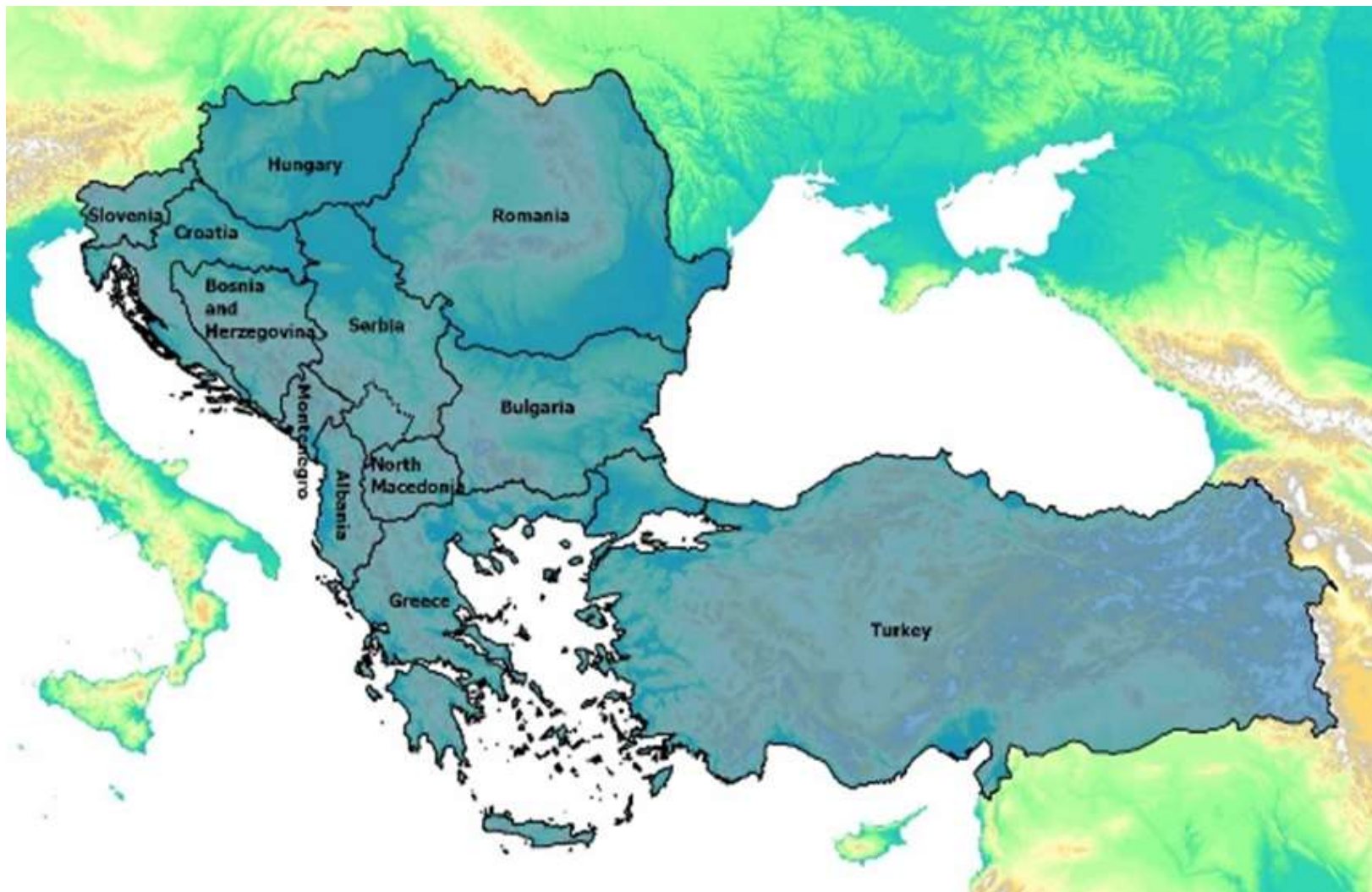


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DMCSEE  
Drought Management Centre  
for Southeastern Europe

# DMCSEE domain



SQ BG HR MK HU RO SI TR SR  
EN

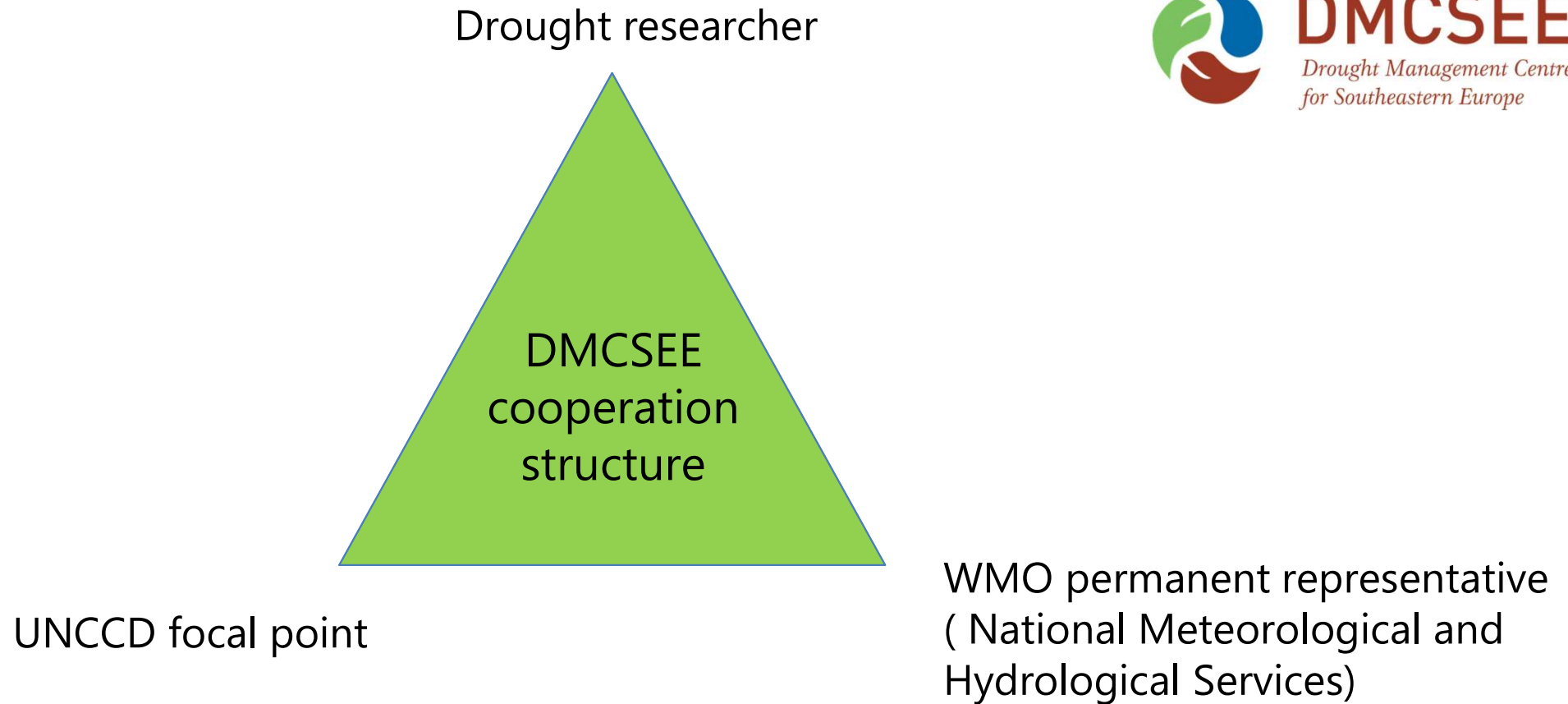


## Founding countries:

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

## Founding agencies:

- WMO
- UNCCD



- ARSO – DMCSEE hosting institution, coordination, fund raising;
- Partnership: UNCCD region CEE + EU countries + non-EU;
- International Steering Committee: meetings till 2016 (rotation protocol turned to advisory body), after 2016 meetings related to the projects;
- List of experts/representatives changes in the countries;
- Commitments by countries in consortium not defined/not obligatory



## 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 - review of season 2020  
(17.03.2021)



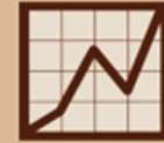
Links

# Web-based platform: [www.dmcsee.org](http://www.dmcsee.org)

- activities funded by projects (limited funds from Slovenian governmental budget), partners don't support work financially (only as partners in the projects);
- wide partnership (WMO, UNCCD, JRC, EDO, IDMP, GWPCEE, UNDRR, NOAA, NIDIS etc).

# Status of drought monitoring & risk assessment (Danube region)

Monitoring  
Early  
Warning



Vulnerability  
& Impact  
Assessment



- regionally **diverse** drought monitoring (as well as risk estimation), variety of indices used (remote sensing will bring new momentum);
- **early warnings** (EWS) are in most countries either not in place or not agreed upon at country level;
- EWS mostly carried out when first signs of drought impacts have already occurred (after drought on-set);
- missing systematic and regular collection of **drought impacts** to complement drought monitoring.

# Drought response status (Danube region)

Mitigation,  
Preparedness &  
Response



- lack of **cooperation** between relevant national institutions & across vulnerable sectors;
- **no clear inter-institutional scheme** of data, responsibility and communication flow → weak response before, during drought (mainly crisis management);
- existing **drought policies** support the adoption of reactive drought response that mainly deals with the treatment of drought impacts;
- **missing** document (**legislation implementation**) on drought management (Water Acts, WFD, Climate Change Adaptation Plans, National Drought Plans);
- **drought still not considered an issue of high priority** (of policy and society).



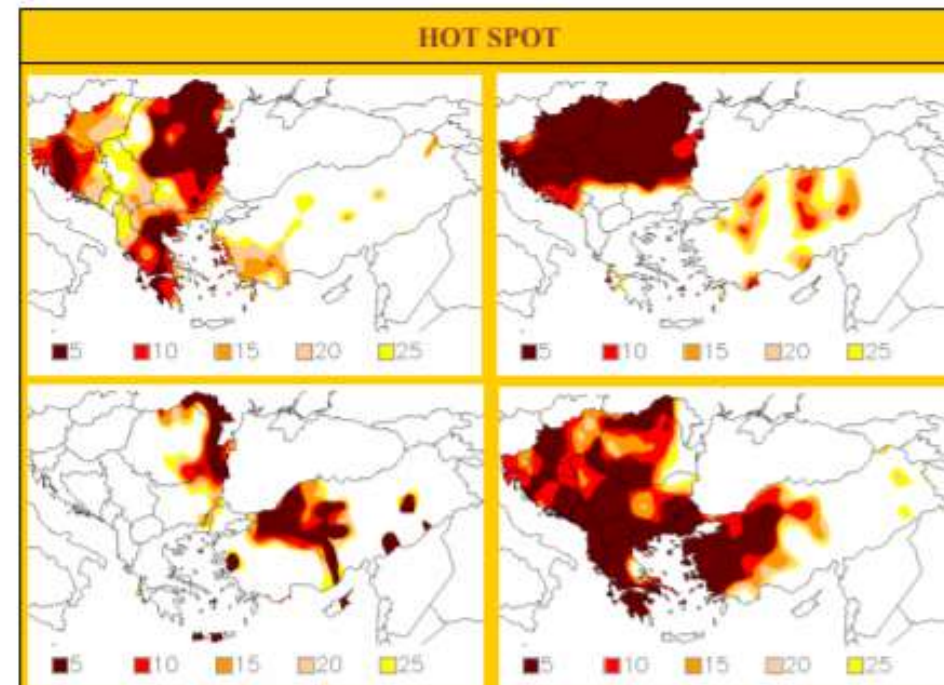
# Operational products development – bulletins, web-based tools

[http://www.dmcsee.org/en/drought\\_bulletin/](http://www.dmcsee.org/en/drought_bulletin/)

- Hot spot - short summary, short insight of possible drought circumstances at the time of issue.
- Additional and auxiliary information (methodology used, detailed info on surface water balance, temperature and SPI situation)
- FVC development Mar-Dec at 13 locations across SEE
- Report on drought impacts (scarce info about drought impacts in the region!)
- Water balance outlook

## DROUGHT MONITORING BULLETIN

Overview from January to October 2020



Precipitation percentiles for January (top left), April (top right), August (bottom left) and November (bottom right) in 2020.

The figures above present the driest four months in 2020 in the region. January, April, August and November, a month in each season of the year, saw greatest rainfall deficits when compared to the multi-decadal local records. January brought widespread lack of rain all across the Balkan Peninsula, with highest relative deficits present in wider part of its north-east, also its north-west and south. In April, the entire northern half of Balkan Peninsula recorded extremely low rainfall rate, the monthly deficit ranked not more than within the driest 10<sup>th</sup> percentile but mostly within the driest 5<sup>th</sup> percentile. In August, very dry conditions were limited to central Turkey and the Peninsula's far north-east, including Bulgaria, Romania and Moldova. With the exception of some short periods of relief, the latter country experienced continuous monthly rainfall deficit since the beginning of 2020. November saw another widespread precipitation deficit all across the region, as most of it experienced the lack of rain as great as to classify in the driest 5<sup>th</sup>, some places in the driest 10<sup>th</sup> percentile.



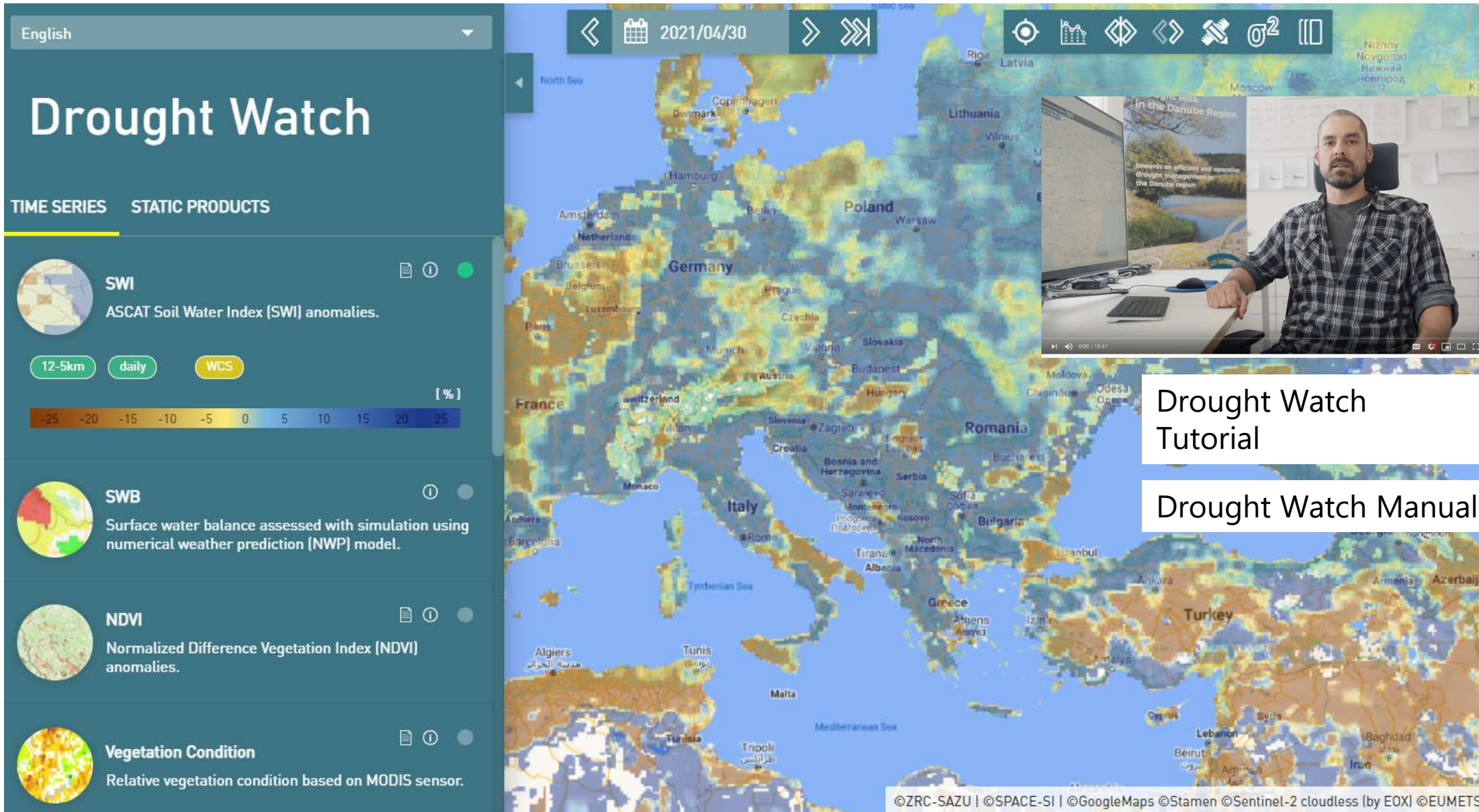
## Regional Drought Watch

- web-based interactive tool for near-real-time drought monitoring through different drought indices;
- enables more accurate and efficient drought monitoring and early warning for the entire Danube region;
- integrates risk and impact maps.

[www.droughtwatch.eu](http://www.droughtwatch.eu)



# Tutorial, manual, catalogue, national reporting networks



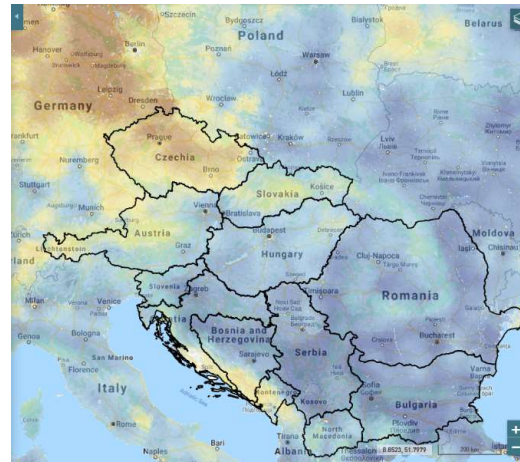
# Drought development in 2018 in 2019 using Drought Watch (SWI index)

2018

*Winter/spring 2018 (1 March)*



*Summer 2018 (24 July)*



*Autumn 2018 (28 October)*

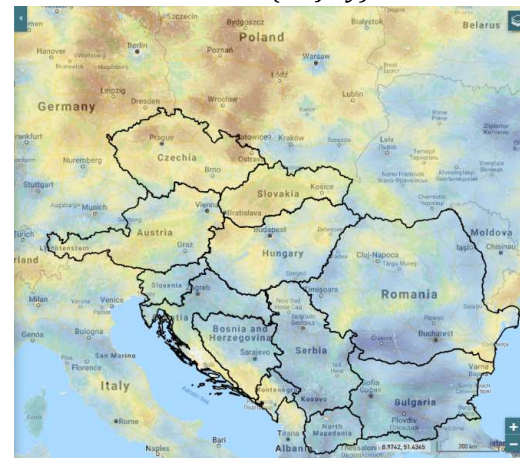


2019

*Spring 2019 (1 April)*



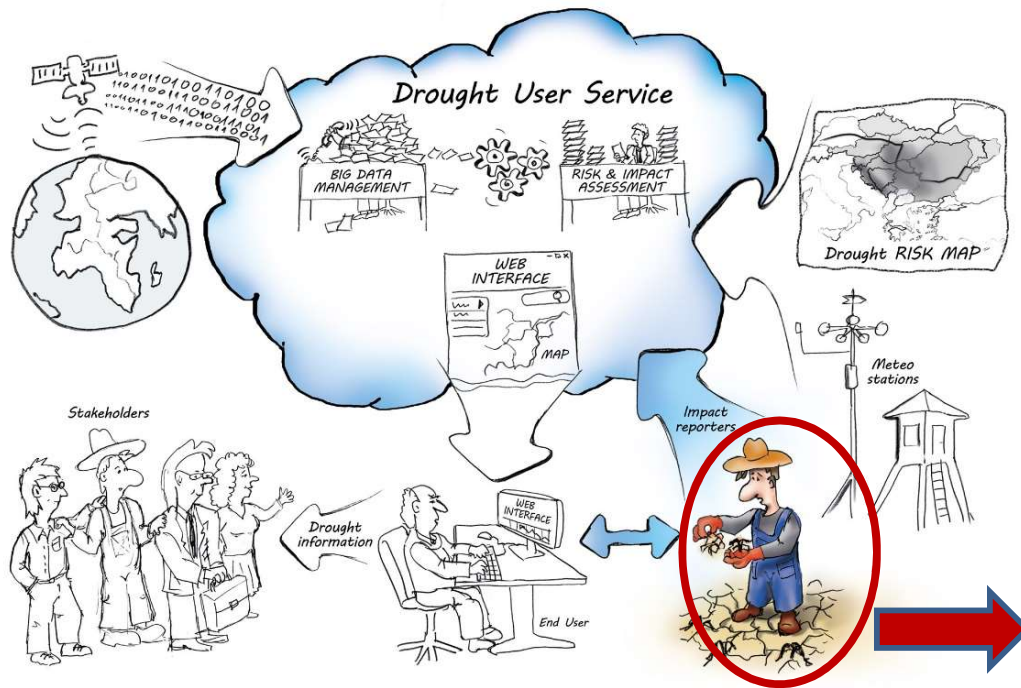
*Summer 2019 (24 July)*



*Autumn 2019 (28 October)*

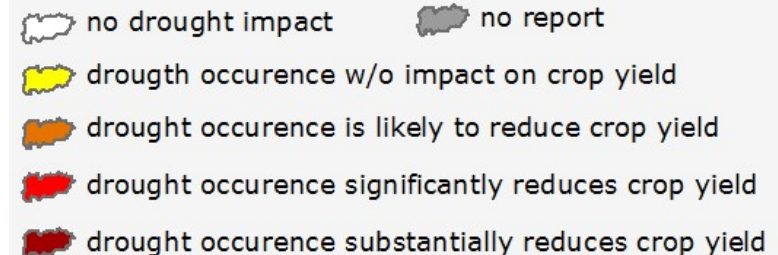
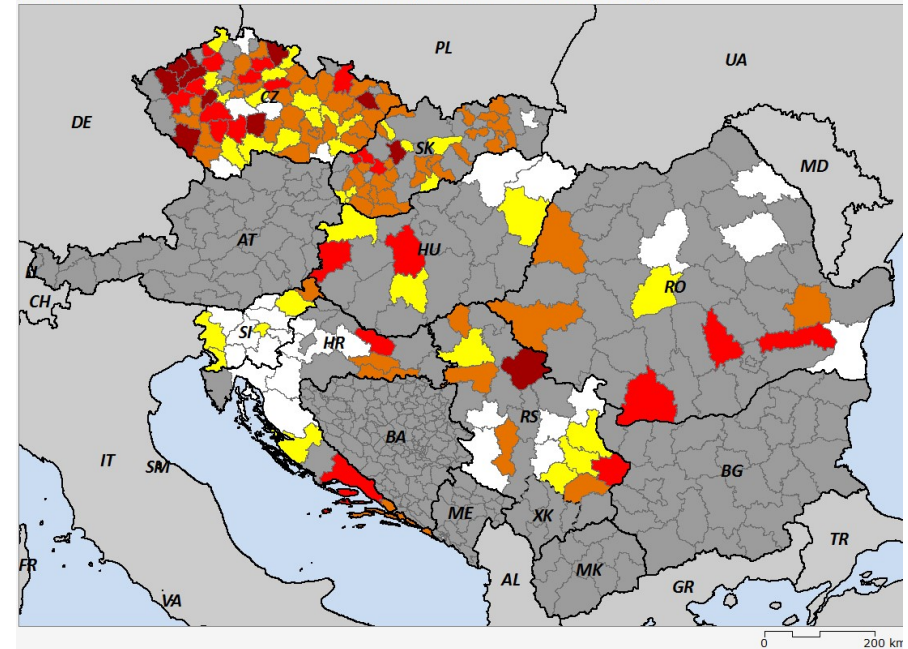


# Regional network of drought reporters – involvement of public/stakeholders



## 1. ESTIMATED DROUGHT IMPACT ON MAIN CROP YIELD

Data collected for week 2019/42 (14.10. - 21.10.2019)



Weekly routine to validate and complement drought indices

Link:  
<http://www.interreg-danube.eu/approved-projects/dridanube/outputs>

# BETTER PREPARED FOR DROUGHT

DANUBE DROUGHT STRATEGY



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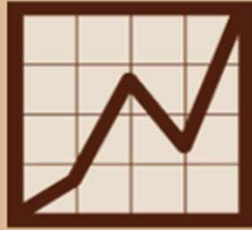
# Recent project work – Alpine Space

<https://www.alpine-space.eu/projects/ado/en/home>



- specialized products for the Alpine Space region, which will contribute to an improved drought preparedness.
- better coordinated governance instruments for a more efficient use of the resource water (e.g. solve conflicts of interest and protect sensitive ecosystems).

**Monitoring  
Early  
Warning**



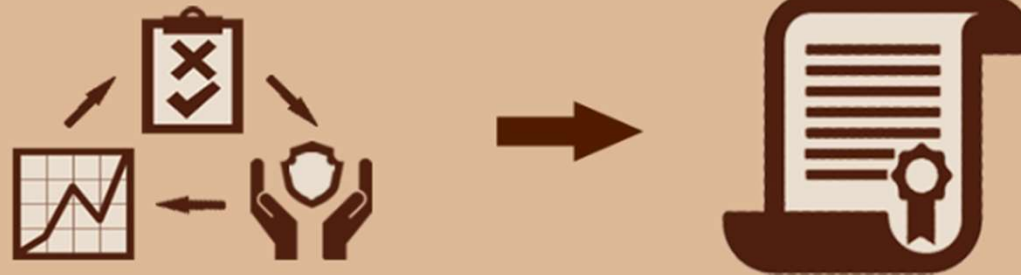
**Vulnerability  
& Impact  
Assessment**



**Mitigation,  
Preparedness &  
Response**



**Drought Policies and Plans**



Courtesy: IDMP

**Foundation of effective proactive drought management.**