

# DMCSEE operational work

Year-round activities & [Open questions](#)

Andreja Moderer

Slovenian Environment Agency

DMCSEE Expert meeting, 13-14 November 2024, Ljubljana



**Drought  
Management  
Centre for  
SE Europe**




LATEST UPDATES:

- Monitoring: Drought bulletin - August 2024
- Monitoring: Drought bulletin - July 2024
- Monitoring: Drought bulletin - June 2024
- Monitoring: Drought bulletin - May 2024
- News: 17 June - World Drought Day
- Monitoring: Drought bulletin - April 2023

Drought  
monitoring >

Projects >

News >

Contribute 

ABOUT US

**The DMCSEE mission is to coordinate and facilitate the development, assessment and application of drought risk management tools and policies in Southeastern Europe with the goal of improving drought preparedness and reducing drought impacts.**



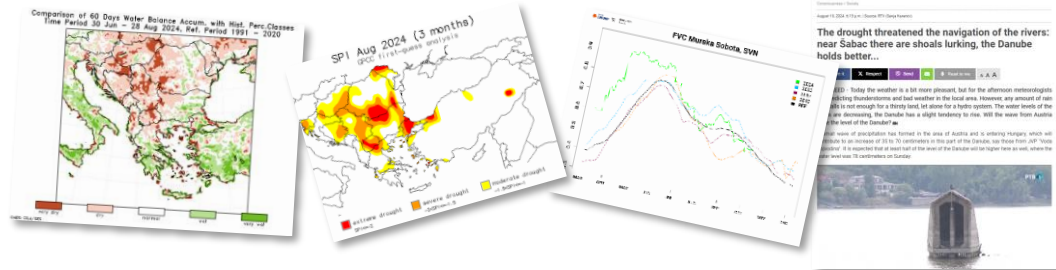
DMCSEE was founded by representatives of national hydrometeorological services from 13 countries in southeastern Europe: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Hungary, Moldova, Montenegro, North Macedonia, Romania, Serbia, Slovenia and Turkey, with the assistance of World Meteorological Organisation and the UN Convention to Combat Desertification.



# Main fields of operation throughout the year

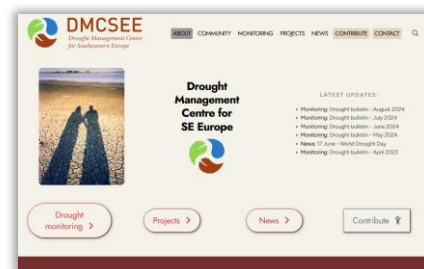
## 1 Regional drought monitoring:

- Maintaining drought monitoring products
- Browsing for drought impact reports
- Preparation of monthly, seasonal bulletins



## 2 Webpage:

- Set-up & maintenance
- Bulletins publishing
- News on activities, events



## 3 Regional activities:

- Regional drought policy advisory (ICPDR, EUSDR, UNCCD)
- Experts capacity building (Drin River basin, Armenia)
- Transnational collaboration (GWP, UNCCD, WMO)



## 4 DMCSEE consortium network:

- Project collaboration (DMCSEE, DriDanube)
- Emailing list of contact persons



## Drought monitoring products:

- Regional overview of weather and vegetation conditions
- Maps of **air temperature**, **precipitation**, **evapotranspiration**, **surface water balance** deviations:



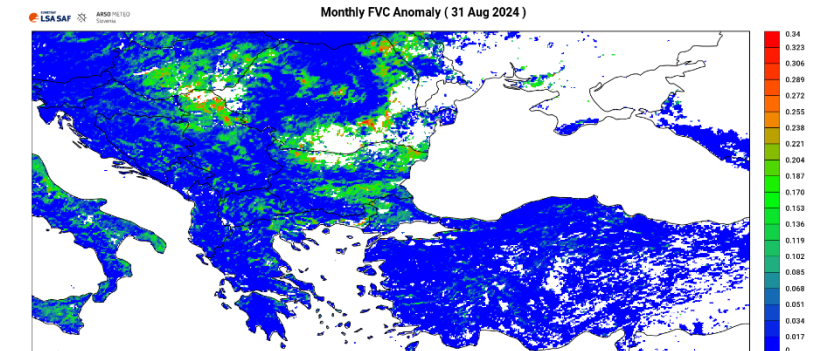
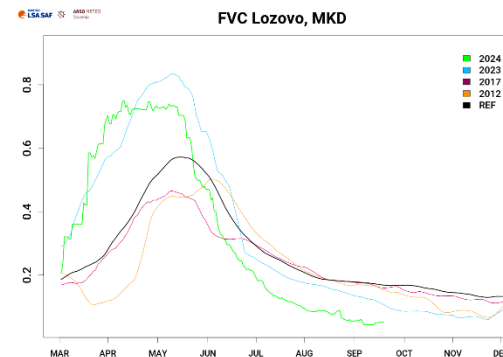
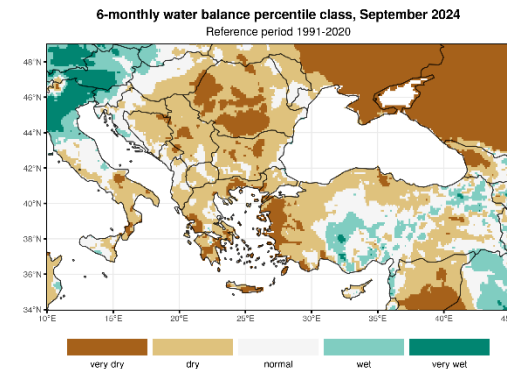
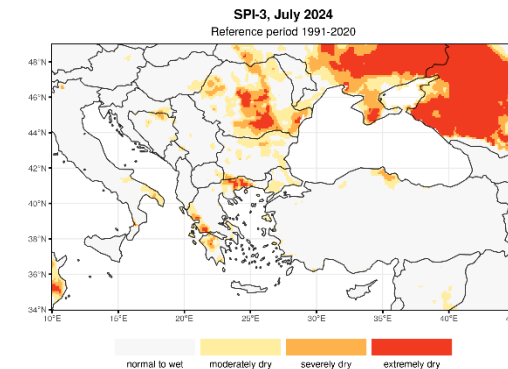
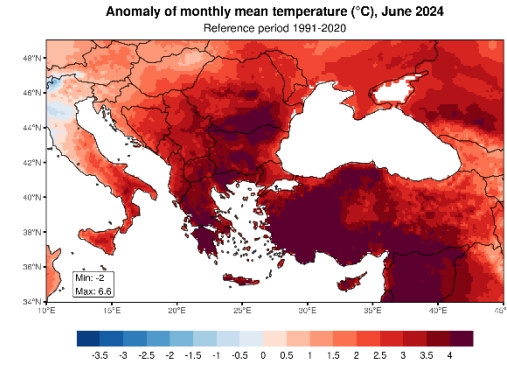
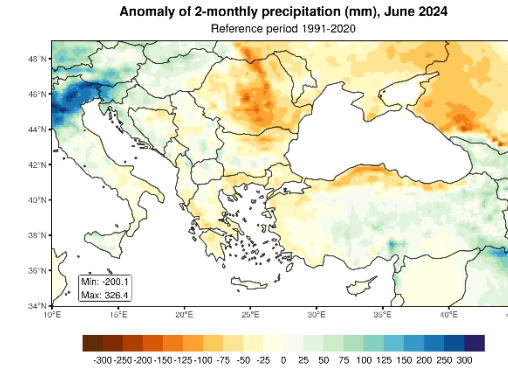
- anomalies [°C, mm], historic ranking [percentile classes]
- various accumulation windows (10 days; 1, 2, 3, 6 months, +12 months)
- STD indices: **SPI**, **SPEI**, **EDDI**
- Up to 2024: GPCP; ERA5 w. Non-hydrostatistical Mesoscale Model applied
- From 2025: ERA5-Land reanalysis (9 km resolution raster), ref. 1991-2020
- Up to 2024: 60-day SWB outlook → from 2025: no SWB outlook
- Updated 10-daily → updated monthly

- Graphs & maps of **vegetation development**:



- FVC index (% of unit covered with healthy vegetation)
- Daily updates
- EUMETSAT Land SAF MSG, ref. 2004-last full year

- Are products in use useful? Any minor changes?
- Wider selection of products regularly available via webgis tool?
- Full calendar months or rolling windows?



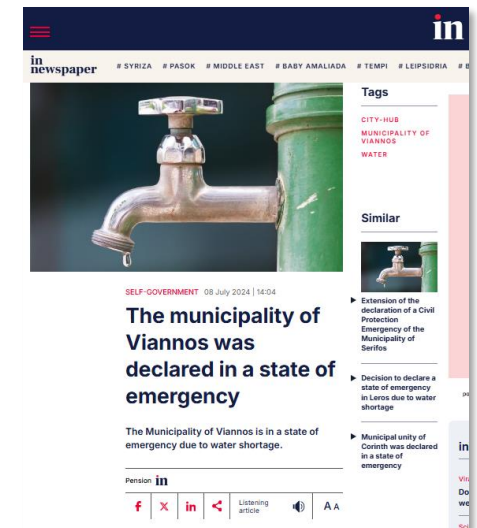
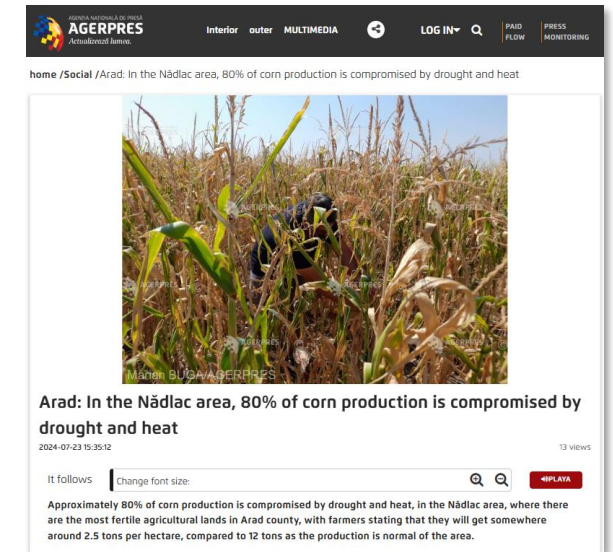
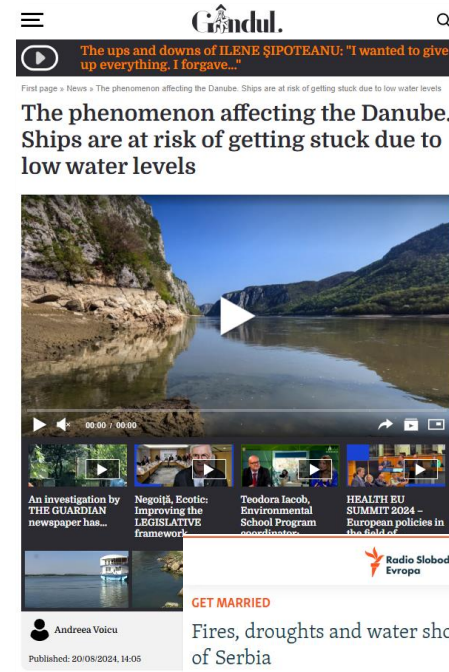


## Drought impacts collection:

- Summary of found reports on impacts of drought:
  - economic sectors | population & livestock well-being | ecosystems
  - direct & indirect/cascadal impacts clearly linked to drought
- Obtained from freely available sources:
  - online national authorities reports, press agencies, newspapers
  - voluntary input from DMCSEE partners
- Ground info on drought extremity
  - validation & complementation of drought indices
  - local details, ground check
  - Textual summary per country per month (not database)

FVC can be low for reasons other than drought

- Usefulness?
- Methodology & frequency of input?
- Active contribution → discussion tomorrow



# 1 Regional drought monitoring

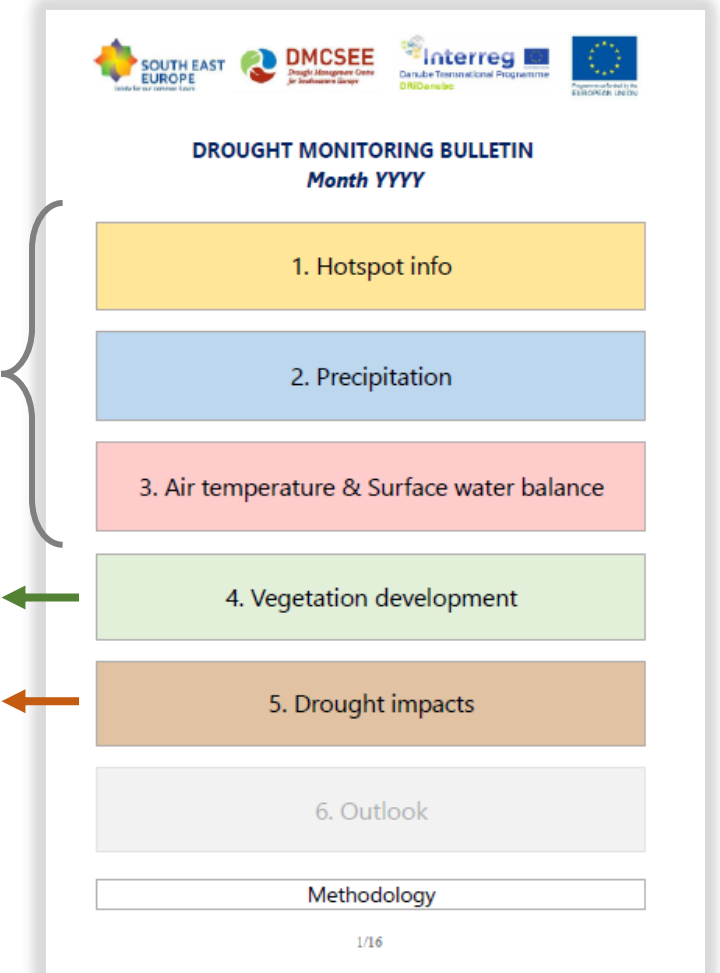
## Bulletin file:

- Monthly bulletins:
  - during vegetation season: April-September (+ March, if dry)
  - issued later in month after the observed month
- Seasonal bulletin:
  - review of vegetation season (+ winter & autumn, if warm/dry)
  - issued in first months of the year after the observed year
- 5 standard chapters
  - weather conditions (hotspot, RR, T & SWB)
  - vegetation development
  - local drought impacts

ERA5-Land reanalysis

EUMETSAT satellite data

Online news/reports



**Bulletin file:**

**1. Hotspot**

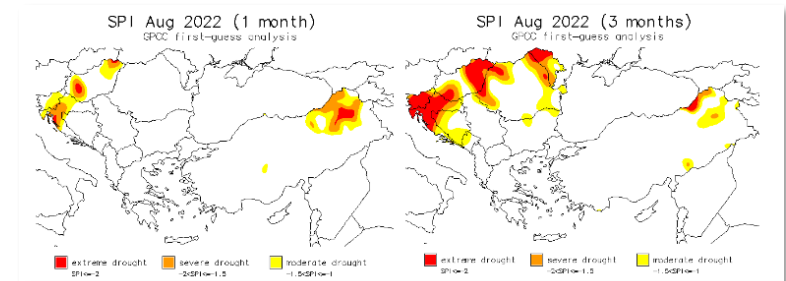
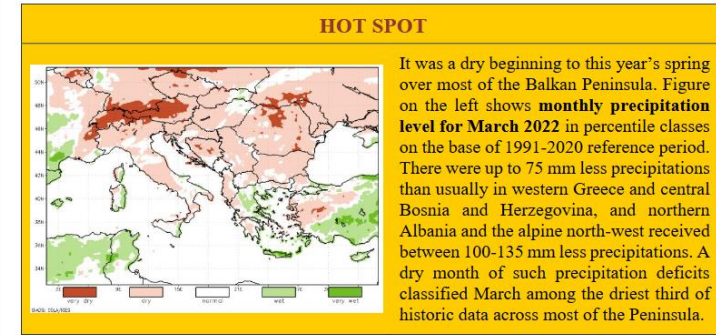
- Most outstanding meteo. info for the observed month or period within it

**2. Precipitation**

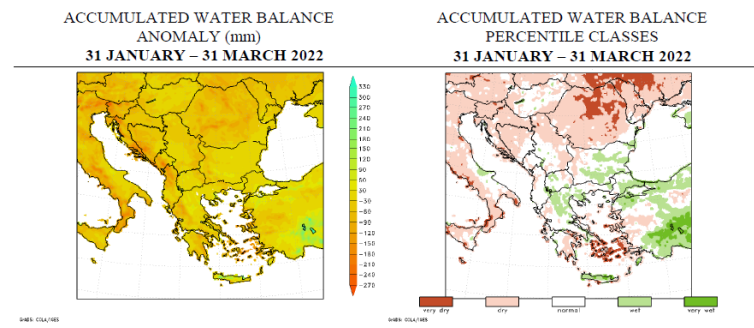
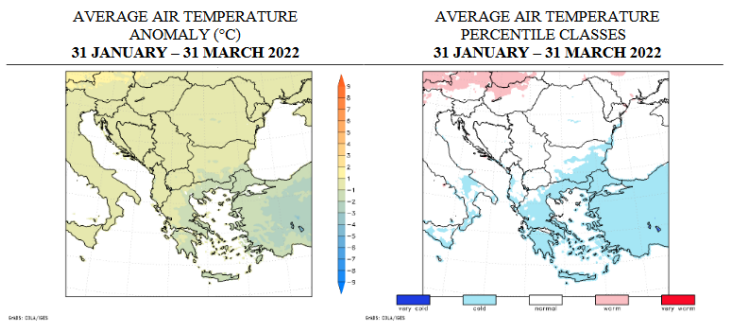
- Areas with considerable neg. deviations/deficit (via SPI)
- 1, 3 months: topsoil, surface waters | 6 months: groundwaters

**3. Air temperature & Surface water balance**

- Dekadal changes throughout the month, monthly deviations -- textually
- 60-day mean T -- maps, textually
- 60-day accumulated SWB (RR minus evapotranspiration) -- maps, textually
- Delayed response of ecosystems



Precipitation level in August was across most of the region either within the long-term normal or heavily increased, except in Hungary and Croatia as well as far northeastern Turkey where considerable lack of rain was present, indicating moderate to severe drought conditions, in localized areas even extreme drought. A longer, 3-month overview of precipitation conditions stretching over the summer months shows vast part of the northern Balkan Peninsula had been experiencing prolonged lack of rain, creating extreme drought conditions. They came mostly on the account of extremely dry June and severe to extreme July. Also over northeastern Turkey, accumulated precipitations over the last 3 months indicate moderate to severe drought as a result of severely to extremely dry July and August.





Bulletin file:

4. Vegetation development

- Veg. development throughout the year at 13 pre-selected locations (permanent, non-cultivated, non-irrigated vegetation)
- Current year, past year, recent drought years + reference line
- Degree of cover with healthy vegetation -- no background reason

can be low for reasons other than drought

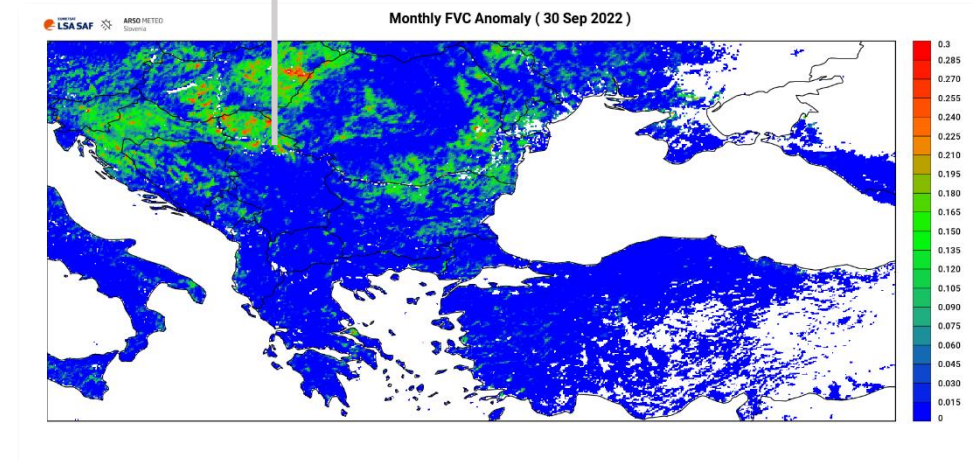
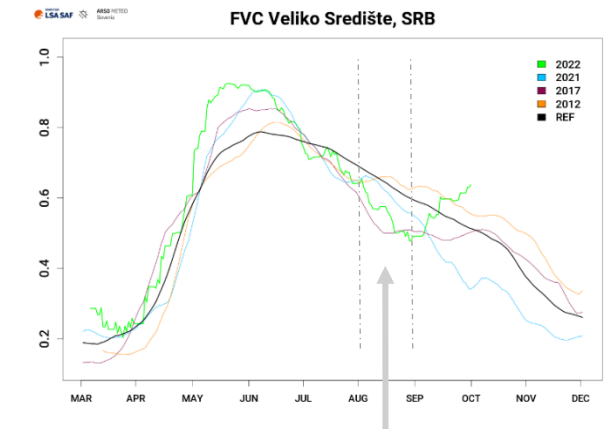
5. Drought impacts

- Summary of online reports on local impacts (w. source online)
- Direct, cascading impacts; clearly linked to drought
- General wrap-up info per country

- Modifications to content?
- Is detailed description in paragraphs useful?

OR

- is short bullet-style description acceptable?



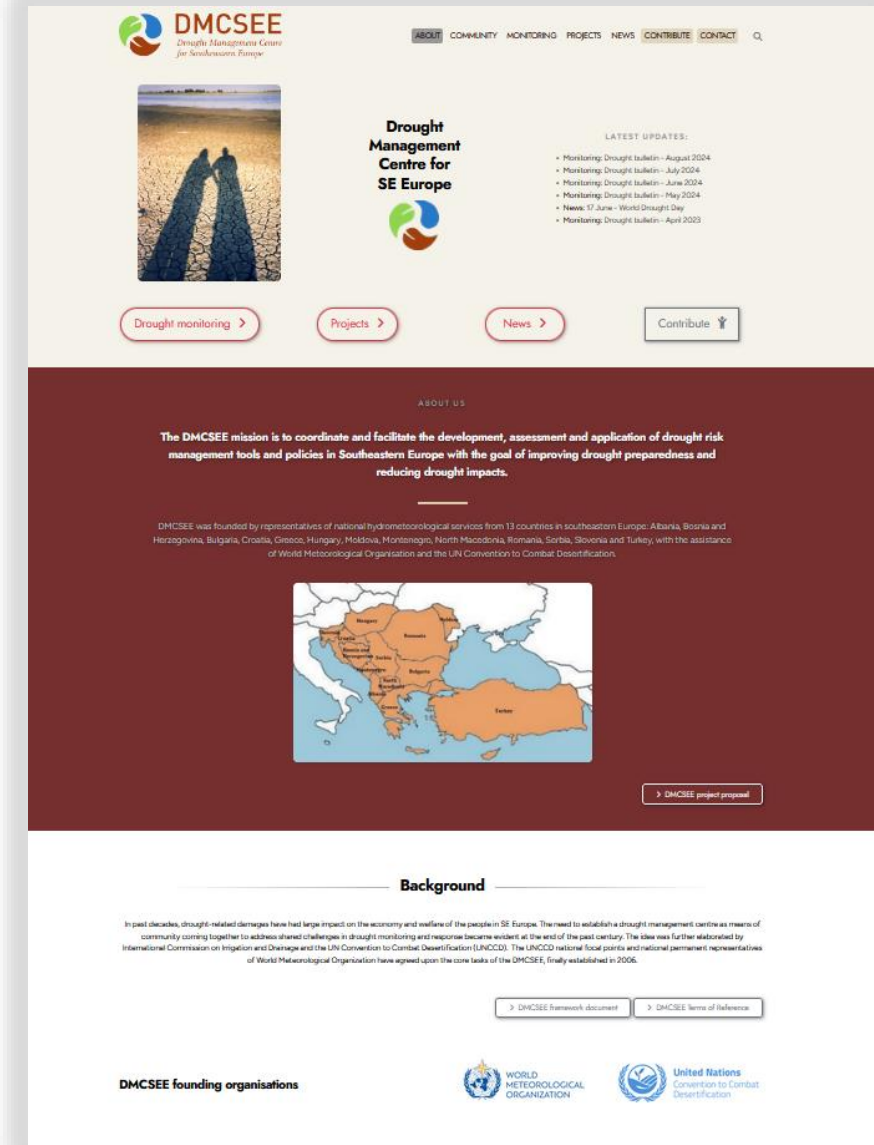
DROUGHT IMPACT REPORTS

**HUNGARY**  
Drought damage has already been reported on more than 550,000 ha in Hungary. With agriculture works not yet completed, a significant number of additional drought reports are expected [1]. Drought caused several problems to livestock keepers. The pastures that burnt due to drought, and a decreased yield of mass and grain fodder forced producers to use purchased fodder and from further afield, altogether resulting in a drastic cost increase [2]. This year's drought did not affect only the crops that had already been harvested or were yet to be so, but it is likely to affect also autumn crops. The soil was reported so dry that it might be difficult to sow the autumn seeds properly and thus ensure ecologically significant secondary planting [3, 4].

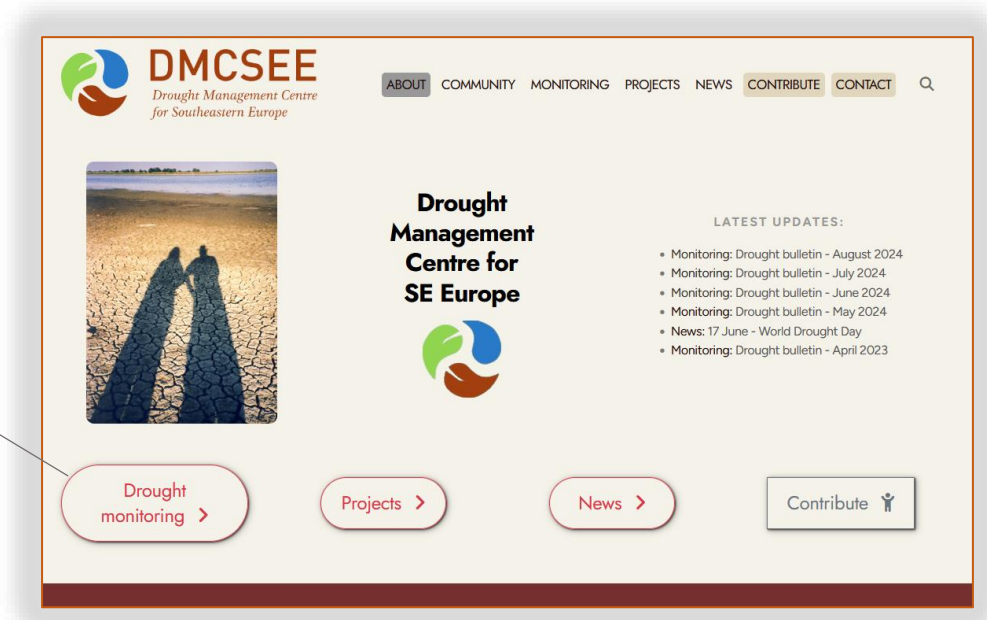
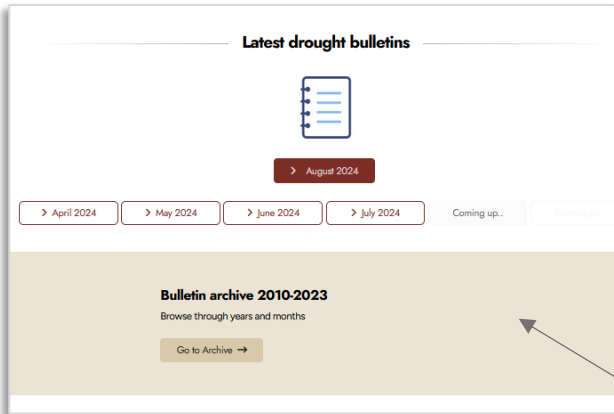
Fish population also suffered from the lack of rain. Several places went for months without noticeable amount of rain, and evaporation due to the scorching heat rapidly dried up the lakes, altogether making water ecosystem hostile to their population and threatening spawning grounds [5].

[1] <https://www.mami.gov.hu/biztonsag/vegveszet/az-aranyhalyok-ekortan-kezoknel-47960-001>  
 [2] <https://www.mapi.hu/magyar-erdesseg/az-erdmenesertum-a-lettorszag-az-alyhalyok-tamogatas-ukarmeny-758234.html>  
 [3] [https://harty.hu/aktualisok/az-aranyhalyok-az-erd-velsege-nek-hat-2552716.htm\\_source=feed&utm\\_medium=csa](https://harty.hu/aktualisok/az-aranyhalyok-az-erd-velsege-nek-hat-2552716.htm_source=feed&utm_medium=csa)  
 [4] [https://www.mapi.hu/aktualisok/az-aranyhalyok-az-erd-velsege-nek-hat-2552716.htm\\_source=feed&utm\\_medium=csa](https://www.mapi.hu/aktualisok/az-aranyhalyok-az-erd-velsege-nek-hat-2552716.htm_source=feed&utm_medium=csa)  
 [5] [https://harty.hu/aktualisok/az-aranyhalyok-az-erd-velsege-nek-hat-2552716.htm\\_source=feed&utm\\_medium=csa](https://harty.hu/aktualisok/az-aranyhalyok-az-erd-velsege-nek-hat-2552716.htm_source=feed&utm_medium=csa)

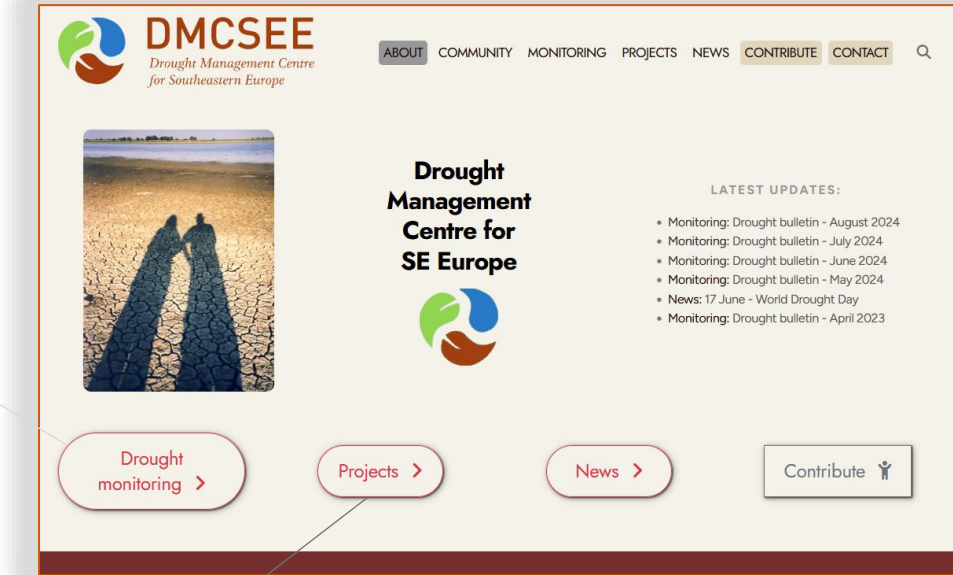
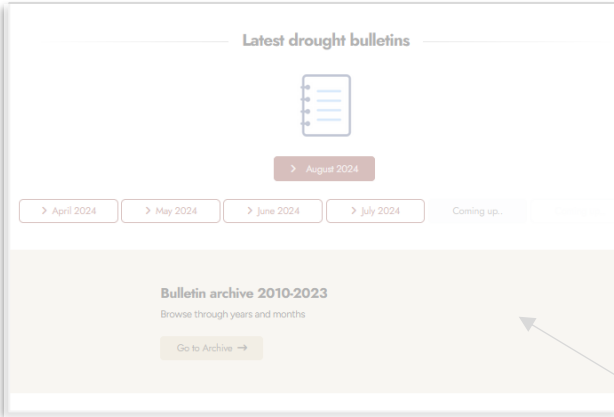
- Collapse of original webpage in early 2023 (outdated security)
- New, modern-looking webpage → up since 2024
- All content moved, except for map browser feature
- Static content







- Latest bulletins published
- Bulletin archive (2010-)
- PDF files → change of format (web content/subpage, bullet-style description)?
- No map browser feature (drought monitoring products/indices) → need/interest for one? Webgis tool?
- Additional content (i,e RCC/SEECOF seasonal forecast..)?



- Joint projects of (part of) DMCSEE community
- Related projects (individual DMCSEE partners involved) → knowledge sharing on research/improvement ( ~ mission)
- New entries welcome 😊 → [andreja.moderc@gov.si](mailto:andreja.moderc@gov.si) or „Contribute“ button

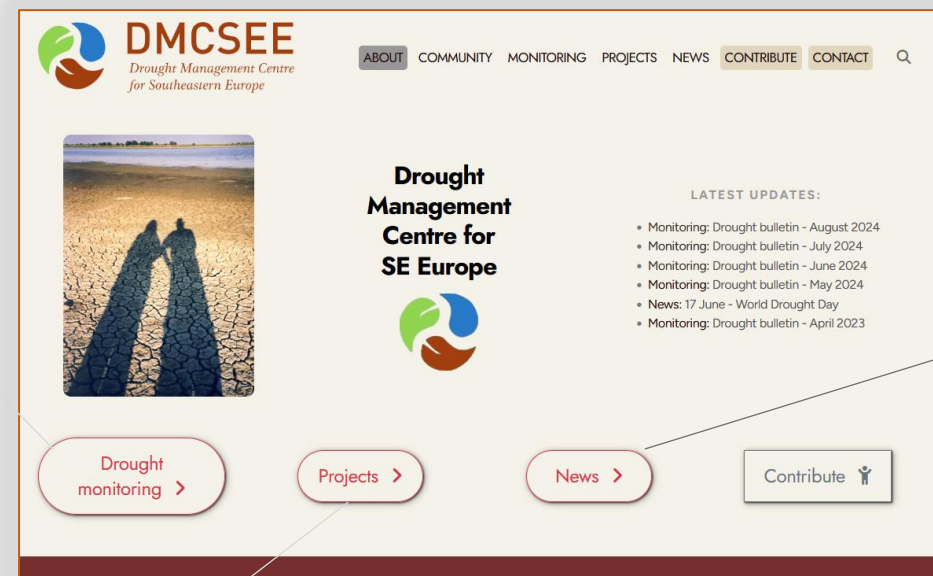
Latest drought bulletins

August 2024

April 2024 May 2024 June 2024 July 2024 Coming up...

Bulletin archive 2010-2023  
Browse through years and months

Go to Archive →



DMCSEE Drought Management Centre for Southeastern Europe

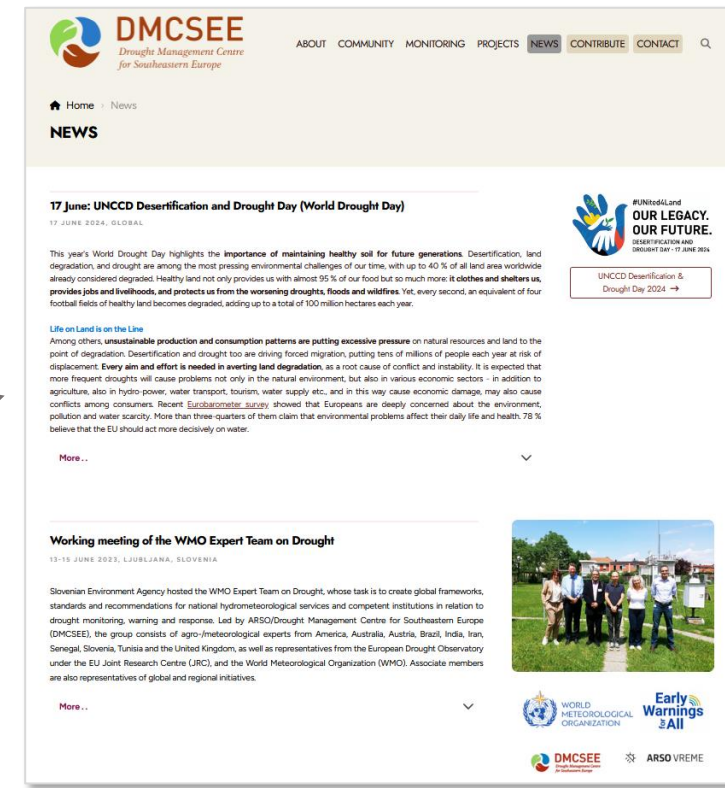
ABOUT COMMUNITY MONITORING PROJECTS NEWS CONTRIBUTE CONTACT

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Drought monitoring > Projects > News > Contribute



DMCSEE Drought Management Centre for Southeastern Europe

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Home News

**NEWS**

**17 June: UNCCD Desertification and Drought Day (World Drought Day)**  
17 JUNE 2024, GLOBAL

#UNited4Land  
**OUR LEGACY. OUR FUTURE.**  
DESERTIFICATION AND DROUGHT DAY - 17 JUNE 2024

UNCCD Desertification & Drought Day 2024 →

This year's World Drought Day highlights the importance of maintaining healthy soil for future generations. Desertification, land degradation, and drought are among the most pressing environmental challenges of our time, with up to 40% of all land area worldwide already considered degraded. Healthy land not only provides us with almost 95% of our food but so much more: it clothes and shelters us, provides jobs and livelihoods, and protects us from the worsening droughts, floods and wildfires. Yet, every second, an equivalent of four football fields of healthy land becomes degraded, adding up to a total of 100 million hectares each year.

Life on Land is on the Line  
Among other, unsustainable production and consumption patterns are putting excessive pressure on natural resources and land to the point of degradation. Desertification and drought too are driving forced migration, putting tens of millions of people each year at risk of displacement. Every aim and effort is needed in averting land degradation, as a root cause of conflict and instability. It is expected that more frequent droughts will cause problems not only in the natural environment, but also in various economic sectors – in addition to agriculture, also in hydro-power, water transport, tourism, water supply etc., and in this way cause economic damage, may also cause conflicts among consumers. Recent Eurobarometer survey showed that Europeans are deeply concerned about the environment, pollution and water scarcity. More than three-quarters of them claim that environmental problems affect their daily life and health; 78% believe that the EU should act more decisively on water.

More ..

**Working meeting of the WMO Expert Team on Drought**  
13-15 JUNE 2023, LJUBLJANA, SLOVENIA

Slovenian Environment Agency hosted the WMO Expert Team on Drought, whose task is to create global frameworks, standards and recommendations for national hydrometeorological services and competent institutions in relation to drought monitoring, warning and response. Led by ARSO/Drought Management Centre for Southeastern Europe (DMCSEE), the group consists of agro-/meteorological experts from America, Australia, Austria, Brazil, India, Iran, Senegal, Slovenia, Tunisia and the United Kingdom, as well as representatives from the European Drought Observatory under the EU Joint Research Centre (JRC), and the World Meteorological Organization (WMO). Associate members are also representatives of global and regional initiatives.

More ..

WORLD METEOROLOGICAL ORGANIZATION Early Warnings 4All

DMCSEE ARSO VREME

PROJECTS

**DMCSEE project**  
APRIL 2009 - MARCH 2011

DMCSEE aimed at coordinated development and application of drought risk management tools and policies. Since definitions and thresholds for drought differed between the countries in the region, the partnership agreed upon an integrated approach combining outputs of meteorological services and information from agricultural institutions. It introduced and continued to provide them with regional information on drought situation.

More

**DRiDanube project**  
JANUARY 2017 - SEPTEMBER 2018

Drought risk in the Danube Region (DRiDanube) project aimed at increasing capacity of Danube region to manage drought-related risk, through improving drought emergency response and strengthening the cooperation among operational services and decision-making authorities in the Danube region at national and regional level. The project presented a continuation of work of the DMCSEE community and was built upon a process started within Integrated Drought Management Programme (IDMP).

More Official website >

Related projects in Europe - knowledge sharing

**Alpine Drought Observatory (ADO)**  
OCTOBER 2019 - JUNE 2022

As water scarcity is becoming a concern in the Alps and in the inland areas that receive Alpine water, it is increasingly urgent for the countries of the region to define common strategies to act on this issue. To contribute to this process, ADO set up a drought observatory based on a combination of meteorological information and hydrological indices and data, including, for instance, figures on snow cover and soil moisture. Alpine local and regional governments could benefit from the approach, as they improved the efficiency of their drought management and their ability to face related risks.

Official website > ADO (monitoring) platform >

**XRisk-CC**  
OCTOBER 2022 - IN PROGRESS

There is scientific evidence that climate change is likely to induce more frequent or intense weather extremes in the Alps with compound and cascading effects on the environment, humans and the economy. This may induce unexpected complex, long-lasting or even irreversible consequences. However, the knowledge and management of cascading impacts and risks under climate change are still insufficient. Therefore, XRisk-CC aims to support risk managers

interreg Alpine Space

- Summary of events, dissemination activities, workshops, special days (UNCCD) related to DMCSEE mission implementation
- Links to the event in full, other material, graphics etc.
- New entries welcome 😊 → [andreja.moderc@gov.si](mailto:andreja.moderc@gov.si) or „Contribute“ button



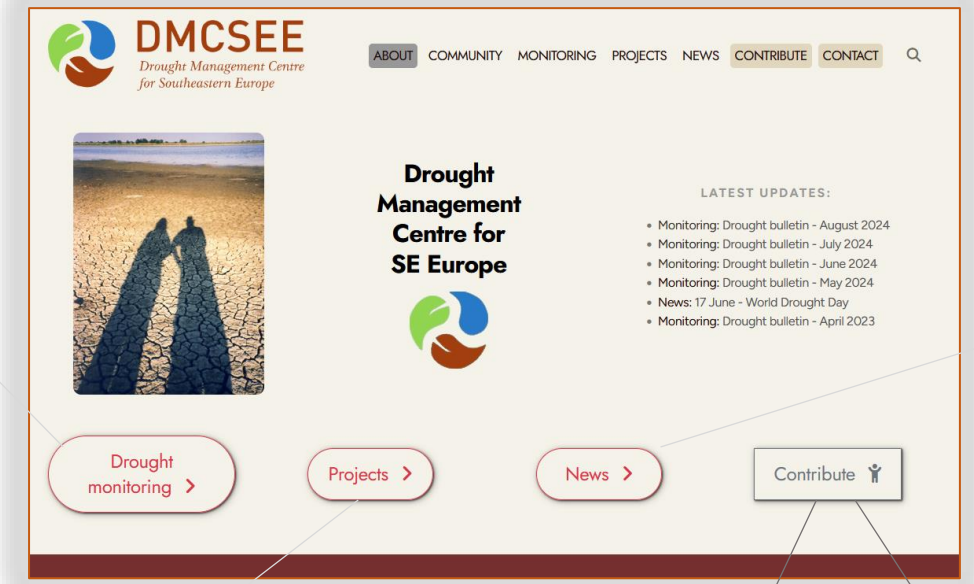
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**Share drought impact**

Contributed info on drought impacts will enrich the upcoming DMCSEE drought bulletin. Given the impact's onset, it will be included in corresponding monthly or seasonal bulletin. Monthly bulletins are aimed at being published in 2nd half of the following month (from the one observed), and seasonal bulletins are published approx. 2 months after the observed calendar year.

Contributing organisation

Your email

Message (i.e. links to drought impacts, summary including evidence etc.)

Browse... No file selected.

Browse... No file selected.

Send message

**Leave feedback or request**

You are welcome to share your thoughts and suggestions for improving community work, website and other.

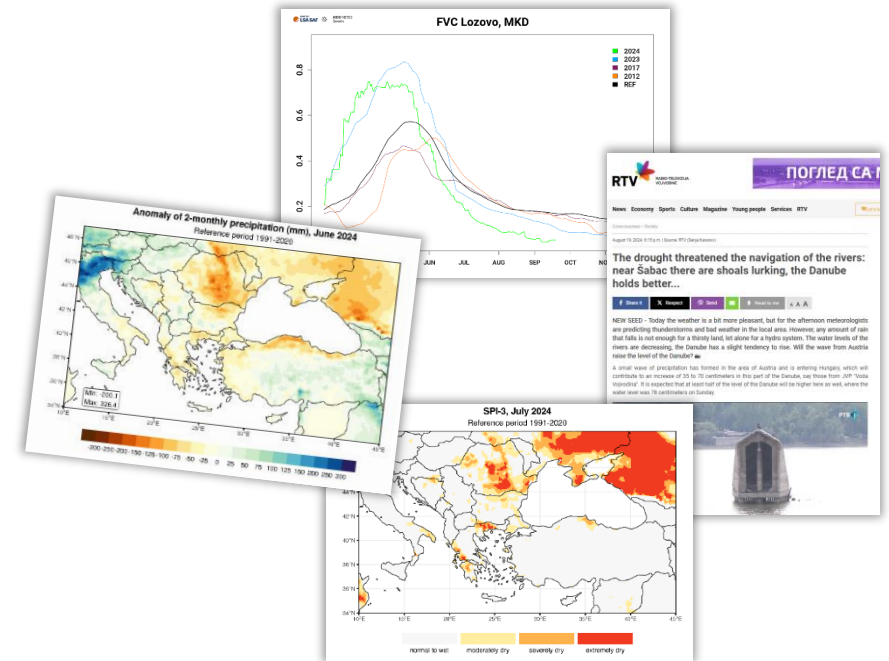
Contact form

- Preferences, proposals?
- Additional content for DMCSEE website

# DMCSEE operational work – open questions

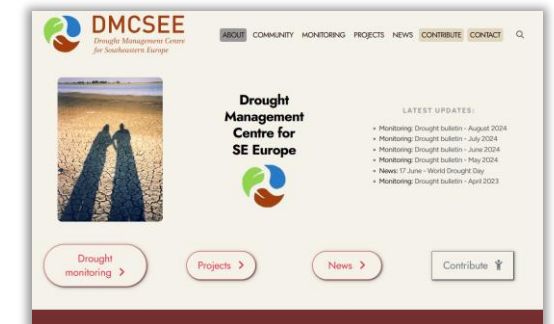
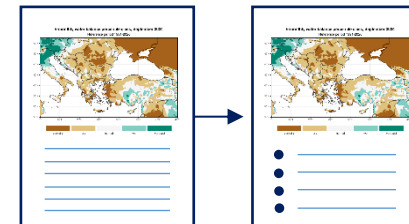
## 1 Regional drought monitoring:

- Do you find **products in use useful** in complementing national drought monitoring?
  - Are any **minor changes** to them desired?
  - *By calendar month or rolling windows? Additional accumulation scales, 10-day mean T?*
- Currently, only a selection of products is available via PDF bulletins; do you consider it a **priority for wider range of products to be regularly available** via webgint tool?
- Any questions/proposals in relation to **impact collection - usefulness, methodology (collecting info), frequency?**
- Active contribution --> discussion tomorrow



## 2 Bulletin & webpage:

- In bulletin text, do you find detailed description in paragraphs useful OR would **bullet-style (highlights) description** also acceptable?
- Any proposals on **additional content or changes** (bulletin, website) – RCC/SEECOF?
- Active contribution --> discussion tomorrow



## 3 Regional activities

## 4 DMCSEE consortium network

Discussion tomorrow