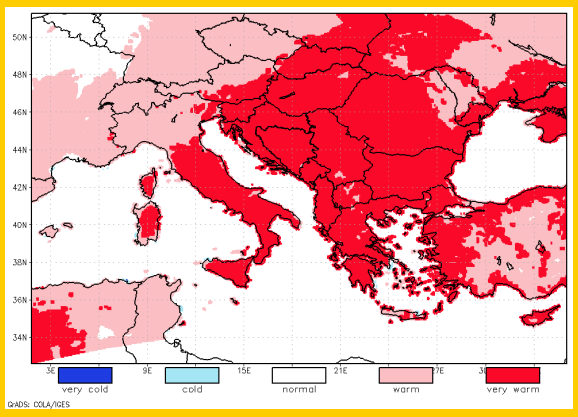
DROUGHT MONITORING BULLETIN

July 2024

HOT SPOT

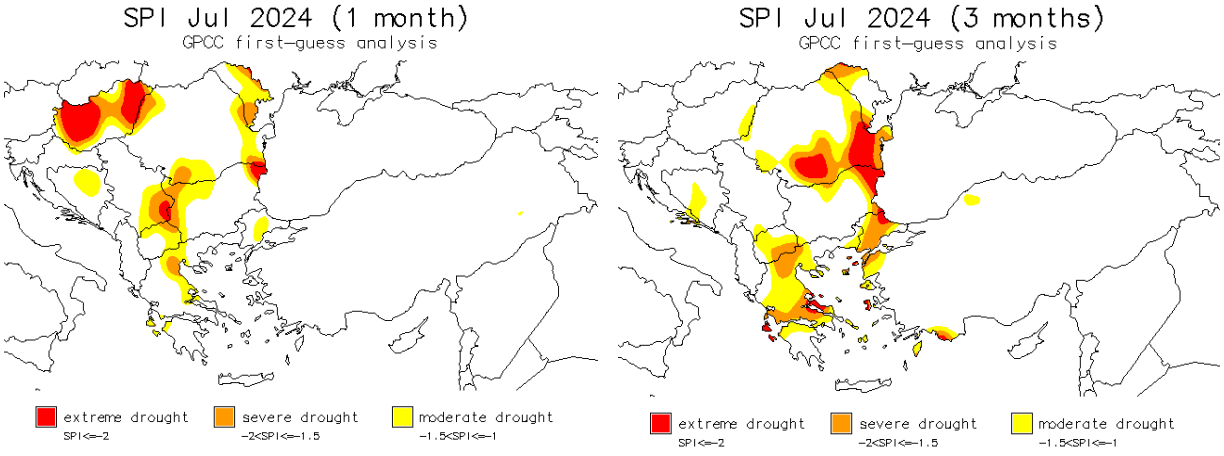


Most prominent this July were very high air temperatures across Balkan Peninsula, especially mid-month when a number of tropical nights and daily maximums nearing 40 °C were recorded across vast part of the peninsula. As a result, monthly mean was at least 2.5 °C higher than normal, though over most of Balkan Peninsula it exceeded the average for 3–4 °C. Figure on the left shows **monthly mean air temperature for July 2024 in percentile classes** in reference to 1991-2020, revealing this July classified among the warmest in local 30-year records.

STANDARDIZED PRECIPITATION INDEX

Drought situation with regard to precipitation level is presented by Standardized Precipitation Index (SPI). The SPI calculation is based on the distribution of precipitation over long time periods (at least 30 years) and can be calculated at various time scales that reflect the impact of drought on the availability of water resources. The long-term precipitation record is fit to a probability distribution, which is then normalised so that the mean (average) SPI for any place and time period is zero. SPI values above zero indicate wetter periods and values less than zero indicate drier periods. Only the dry part of the extreme anomalies is presented on the maps.

Standardized precipitation index for **July 2024** is shown in figures below. SPI for a one-month period indicates possible drought conditions which can have impact on vegetation, while SPI for a three-month period can be indicative also for surface water status.

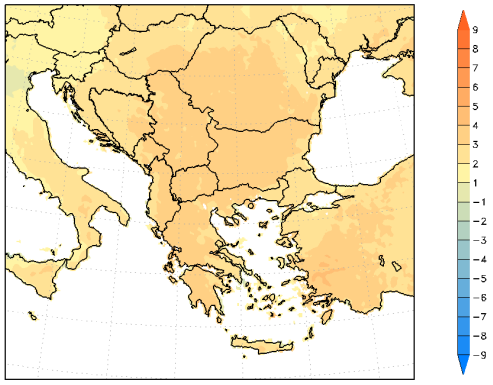


Precipitation-wise, July was very dry across Hungary where noticeable lack of rain suggested extremely dry conditions this month. Considerably underaverage was precipitation level also along eastern Balkan Peninsula, from Moldova to northeastern Bulgaria, and locally across wider central Balkan Peninsula, such as between Serbia and Bulgaria, across Bosnia and Herzegovina, and in northern Greece, where precipitation deficit suggested moderately to severely dry conditions this July. The 3-monthly overview reveal considerable cumulative lack of rain across much of the southern and eastern part of Balkan Peninsula: in central and northern Greece, North Macedonia, and northwestern Turkey, low rainfall rate suggested moderate to severe drought during the May-July period, mostly on the account of extremely dry June, while in parts of Moldova, Bulgaria and southern half of Romania, moderate to severe lack of rain present throughout all three observed months marked the May-July period as extremely dry.

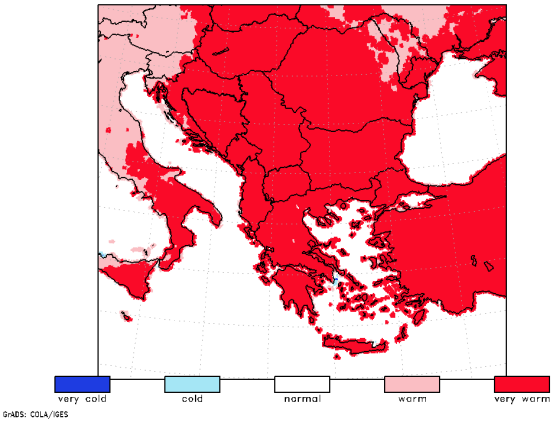
AIR TEMPERATURE AND SURFACE WATER BALANCE

Figures in this section show anomalies of the mean air temperature and accumulated surface water balance (precipitation reduced for evapotranspiration) as well as their absolute values in percentile classes for the given 60-day period.

AVERAGE AIR TEMPERATURE ANOMALY (°C)
31 MAY – 29 JULY 2024

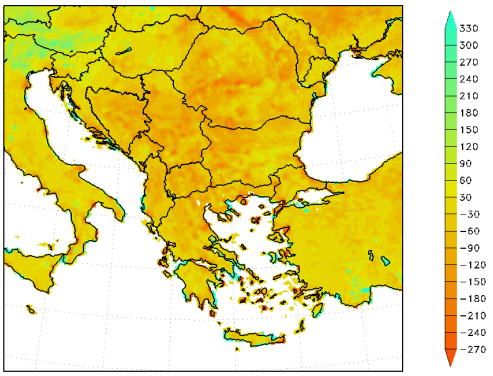


AVERAGE AIR TEMPERATURE PERCENTILE CLASSES
31 MAY – 29 JULY 2024

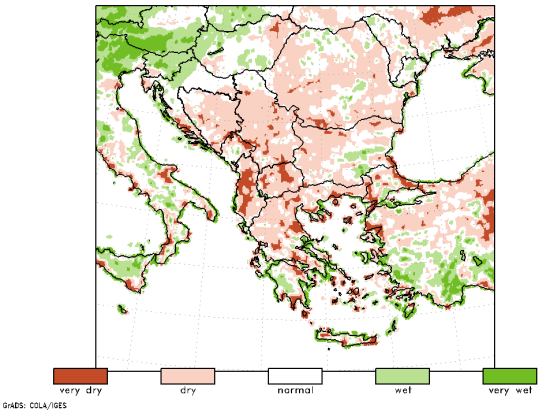


Air temperatures were throughout all July and across the entire region much higher than normal for this time of the year. First and last dekad of the month were 2–3 °C warmer than usual and only scattered localised areas experienced average air temperatures, while in mid-July a spell of much warmer than normal air temperatures spread over Balkan Peninsula and western Turkey. During that time, dekadal mean air temperature was up to 4 °C above the long-term average over western Turkey, but over the entire Balkan Peninsula mean air temperature rose 6–8 °C above the average, across the Pannonian Plain up to 9 °C. The 60-day overview reveals that above-average air temperature persisted in the region throughout June as well as July, as a result of which the June-July period was this year 3–4 °C warmer than normal across the region and classified among the warmest 5 % of local long-term records. Only over Slovenia and locally in Moldova this period was no more than 2 °C warmer, as the pressure of warmer than normal weather was occasionally interrupted by periods of normal air temperatures.

ACCUMULATED WATER BALANCE ANOMALY (mm)
31 MAY – 29 JULY 2024



ACCUMULATED WATER BALANCE PERCENTILE CLASSES
31 MAY – 29 JULY 2024



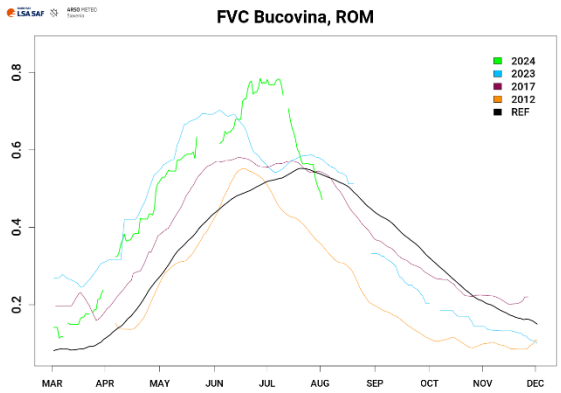
Much of southern half of Greece, Turkey and eastern Bulgaria experienced wetter than normal surface water balance levels this July, while over the the rest of the region especially over central and western Balkan Peninsula, July brought dry to very dry surface water balance levels. Wider central Balkan Peninsula experienced drier than normal surface water levels also in June, thus leaving this part of the region in highest 60-day surface water balance deficit, mostly up to 120 mm, over eastern Romania, northeastern Hungary and North Macedonia up to 150 mm. Towards the outer part of the region, such as Slovenia, western Hungary, Moldova, southern Greece and much of Turkey, the 60-day surface water balance anomalies were smaller, ranging either about the normal values or in deficit of up to 90 mm, which came as a result of opposing effects of surplus and deficit experienced during June and July. Evident surface water balance surplus was present only across Slovenia and southwestern Turkey on the account of noticeable precipitation events.

REMOTE SENSING - FRACTION OF VEGETATION COVER

Fraction of vegetation cover (FVC) *is a vegetation index based on multi-channel remote sensing measurements (data from EUMETSAT's LSA SAF data base is used for products in this bulletin). FVC shows fraction of the total pixel area that is covered by green vegetation, which is relevant for applications in agriculture, forestry, environmental management and land use, it has also proved to be useful for drought monitoring. Values vary according to the vegetation stage and to the damages of possible natural disasters, including drought. FVC values are in general low at the beginning of the growth season, the highest at full vegetation development, then FVC slowly drops with vegetation senescence. Line shape depends on the sort of vegetation at the given location.*

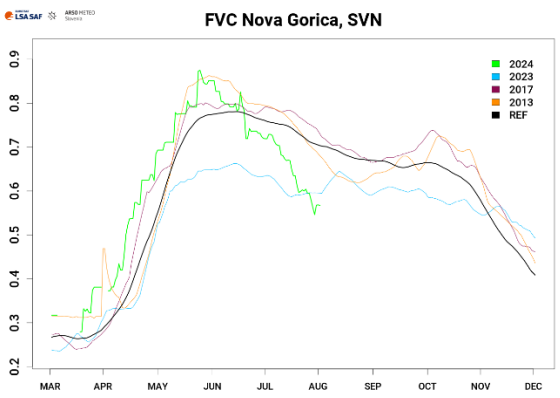
Graphs below present the **vegetation situation** as recorded **on 2 August 2024** at selected locations across southeastern Europe. FVC values for year 2024 are presented in green line. Graphs also include reference line (2004–2023) in black, and lines in light blue (year 2023), magenta (year 2017) and orange (year 2012, or 2013 for Slovenia) for comparison. Missing values or their sharp decline can be linked to prolonged cloudy weather, extreme weather events, snow blanket, human intervention or changes to product by the product provider.

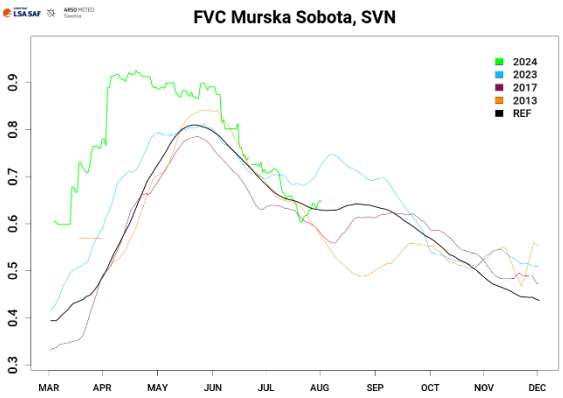
ROMANIA



In Bucovina, northern Romania, vegetation was boosted into growth much earlier than normal, before mid-March, and progressed at its usual growing rate throughout spring, resulting in relevant level of cover continuously about a month ahead of its usual time. Vegetation growth continued into summer, with additional boost in growth observed from late June to early July when FVC was nearly double its usual level for this time of year. However, the level of cover with green canopy was throughout July rapidly brought down, from covering about 80 % of the unit to 45 % within less than a month.

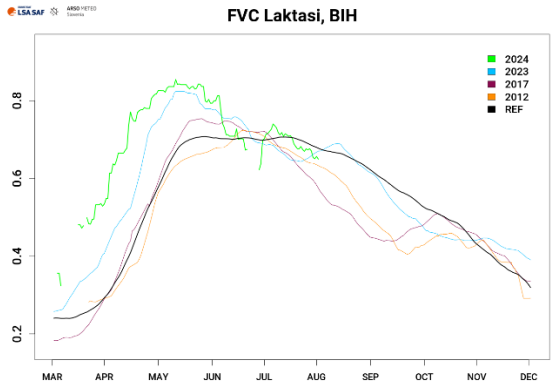
SLOVENIA

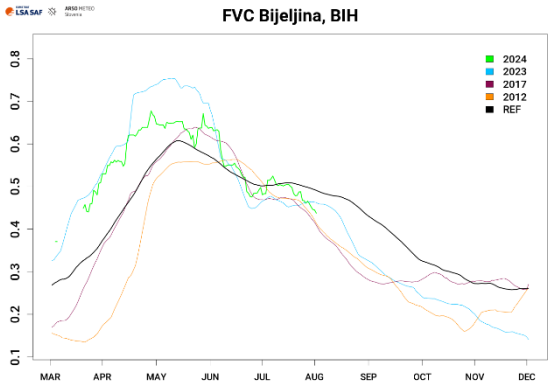


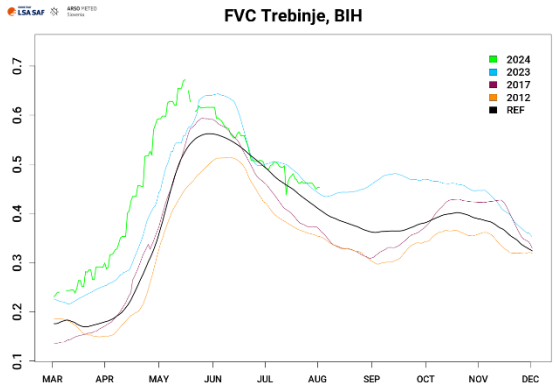


In Murska Sobota, northeastern Slovenia, vegetation season began 3–4 weeks earlier than normal and on the base of about 20 % higher fraction of cover with green vegetation in late winter. Since it also progressed at the slightly higher than normal rate throught spring, the usual seasonal peak level of cover was exceeded in early April already and remained at such high level until early June when the regular senescence phase began. Throughout June and July, FVC values declined at the rate higher than normal, ending up near-average by the end of July. Vegetation season in Nova Gorica, western Slovenia also began earlier than normal, about two weeks, and progressed well throughout spring and thus continued to reach relevant level of cover slightly ahead of its regular time. Favourable weather conditions supported additional boost in growth during seasonal peak in late May, resulting in temporary slightly above-average peak values. However, unfavourable summer weather conditions resulted in continuous faster than normal decline in fraction of vegetation cover since early June. Fraction of cover shrank from up to 90 % down to 55 % within two months, standing at about 15 % below late-July average.

BOSNIA AND HERZEGOVINA (REPUBLIC OF SRPSKA)

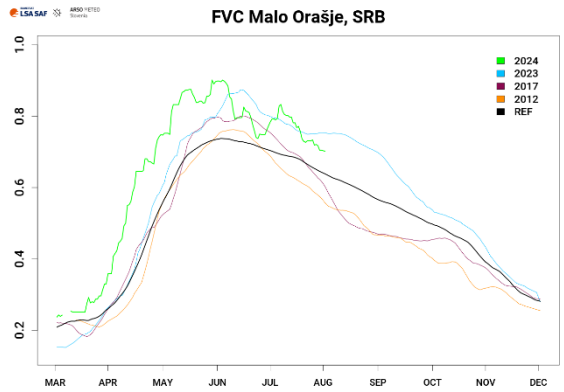


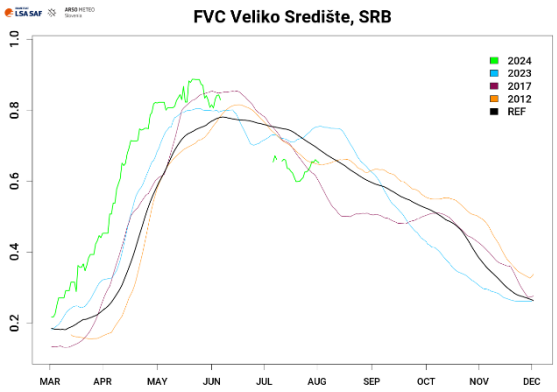




At all three locations in Bosnia and Herzegovina, vegetation season began about a month earlier and due to a longer period of favourable growing conditions the seasonal peak cover reached in first half of May was exceeded by 10-15 %. In Laktasi and Bijeljina, northern Bosnia and Herzegovina, the senescence phase was in general sped up by unfavourable weather conditions especially throughout June, thus the level of cover with green vegetation dropped to below-average before the end of June. Short-living recovery can be observed at the two locations in early July, although throughout the rest of the month FVC values continued to drop again at the rate higher than normal, indicating below-average FVC at the end of July. In Trebinje, southern Bosnia and Herzegovina, senescence phase progressed at the usual rate after reaching its peak in mid-May, and in general slightly slowed down throughout July, indicating just above-average level of cover at the end of July.

SERBIA

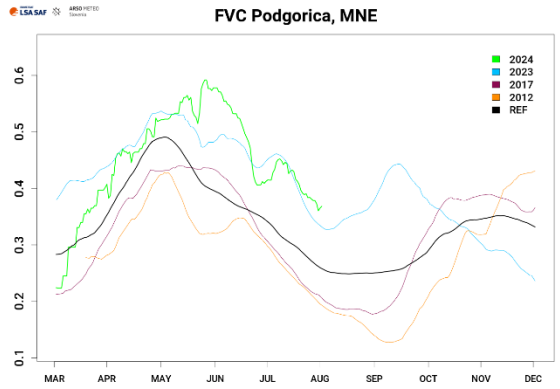




Earlier than normal onset of vegetation season in Malo Orasje, central Serbia, along with favourable spring weather conditions for growth and development resulted in well exceeding the average level of cover with green vegetation throughout spring and early summer. The usual peak level was reached in second half of April already, up to three weeks earlier, after which

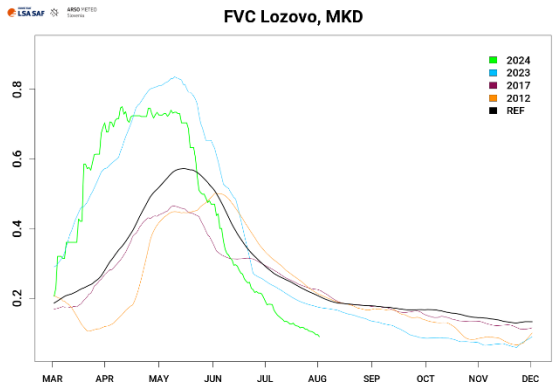
further growth resulted in up to 20 % higher fraction of cover during seasonal peak in late May. FVC values for June indicate rapid but short-living decline, which was restored in mid-July and remained above-average till the end of the month. Vegetation in Veliko Srediste, northeastern Serbia also experienced earlier spring growth and development, for about a month, thus the level of cover was throughout spring well ahead of its time, including reaching the seasonal peak in mid-April already. As weather conditions proved favourable throughout May for further growth and expansion beyond the average seasonal peak level of cover, FVC values show steady decline from June onward, at the rate well higher than during normal senescence period. By late July, level of cover was already up to 15 % below the average for this time of the year.

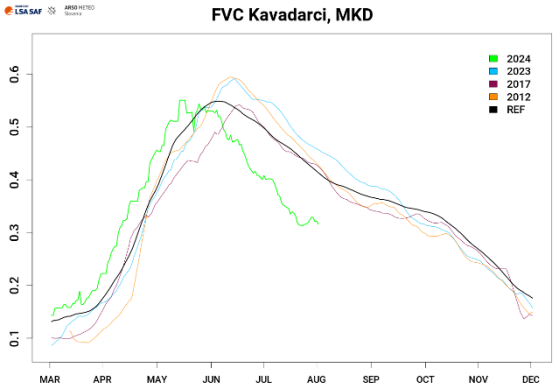
MONTENEGRO



Vegetation season in Podgorica, southern Montenegro began on the base about 10 % lower than usual fraction of cover with green canopy, although favourable weather conditions boosted the onset of growth at the rate higher than normal, resulting in relevant FVC levels reached 1–2 weeks ahead of their regular time during spring. Weather conditions supported further growth even beyond its regular seasonal peak time in late April, as FVC values continued to rise up until late May, reaching seasonal peak cover of 15 % above the long-term average. Much of the above-average level of cover was brought down throughout June, although early July weather caused temporary boost in growth, enough to keep FVC levels up to 10 % above the long-term average at the end of the month.

NORTH MACEDONIA

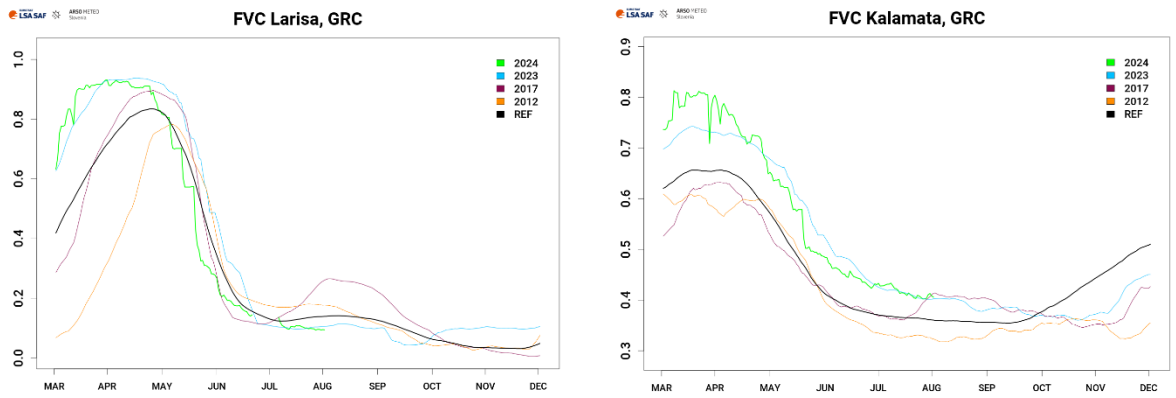




In Lozovo, central North Macedonia, vegetation season began a month earlier than normal and boosted into growth at a well above-average rate, reaching the regular seasonal peak level within a month into the season, up to two months earlier. Spring weather conditions supported further growth until early April, after which the fraction of cover with green vegetation remained about 20 % higher than average seasonal peak in mid-May. In Kavadarci in the south, vegetation season began about a week earlier and continued at the regular vegetation growth rate almost up until the time of seasonal peak, keeping relevant FVC only slightly ahead of their regular time.

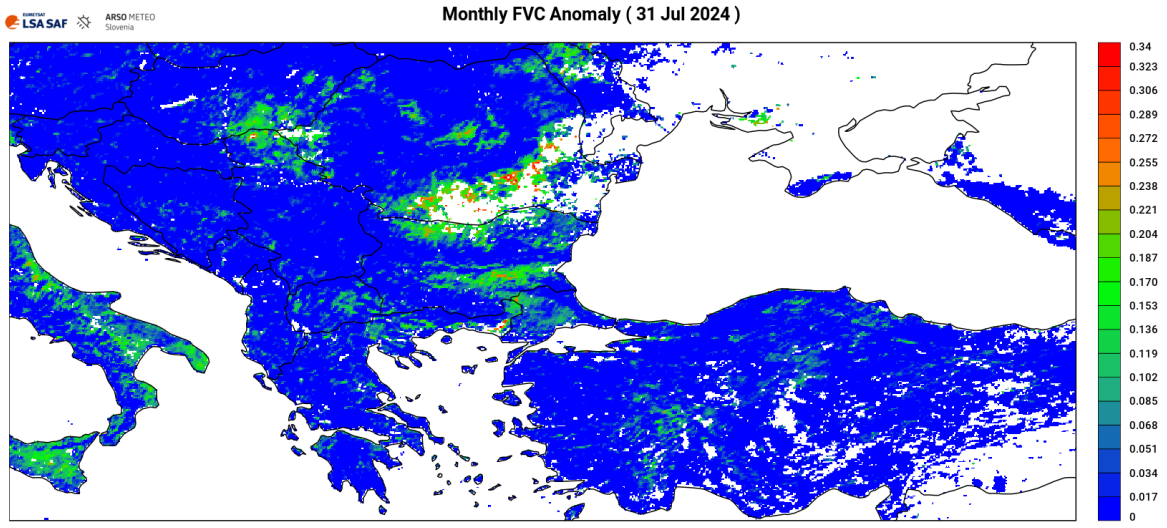
At both locations, vegetation cover experienced stressful second half of the season as weather conditions from mid-May onward resulted in continuous decline in healthy vegetation cover, at the rate higher than normal. Between mid-May and the end of July, FVC level dropped for about 65 % in Lozovo, sitting at half its usual FVC level at the end of July, and in Kavadarci for 20 %, sitting 10 % below the long-term average at the end of July.

GREECE



Spring weather conditions proved favourable for vegetation growth in Larisa, central-eastern Greece as well as in Kalamata, southern Greece. In Larisa, vegetation cover reached its long-term seasonal peak level in mid-March already, a month and a half earlier than normal, and remained about 10 % higher until the senescence onset in early May. Occasionally throughout May and June, the level of cover with green vegetation dropped rapidly, resulting in steady just below-average FVC for most of the time since early May. In Kalamata, favourable growing conditions early in the year resulted in well-exceeding the seasonal peak level of cover with green vegetation in first half of spring. Senescence phase that followed progressed at the regular rate, for the exception of sudden, noticeable drop in mid-May, after which vegetation cover continued to decline at the regular rate and remained in above-average level of cover until the end of July.

Figure below shows negative anomaly of **accumulated 30-day FVC values** as recorded **on 31 July 2024** in comparison to the past 20 years (2004–2023), and is used experimentally.



According to FVC, level of cover at the end of July was across several parts of the region considerably below the long-term average, mostly across the central, eastern and locally in southern parts of the region. Across vast part of southern and southeastern Romania and along northern Bulgaria, FVC index reveals at least 30 % lower than normal extent of cover with green vegetation for this time of the year. Noticeably lower, up to 20 %, was the level of cover in the central Pannonian Plain stretching over the Hungary-Serbia-Romania border area, as well as in central Romania, northern Moldova and over much of the mountainous Bulgaria. In addition to these, at several other locations, mostly local and scattered across southern half of the region, the unit of area appeared to be 10–20 % less covered with green vegetation than normal at the end of July.

DROUGHT IMPACT REPORTS

CROATIA

Favourable distribution of precipitation during spring months in most regions enabled a good start to the growing season, and due to the heat the growing season began 14 days earlier. The **maize** held up well until mid-July when it seemed the yield would be at its maximum, but the heatwave in second half of July accelerated senescence and decimated the crop. Depending on the soil type at individual locations, the yield reduction was between 40 and 80 %, not only on maize but also on **other crops grown without irrigation**.

Along the Adriatic Sea, the **olives** held up well for most of the month due to the available water reserves during spring, but drought in the second half of July led to curled leaves and shriveled fruits and a questionable harvest. Drought in the Neretva valley had a negative effect on the crops of **watermelons, citrus fruits and other vegetables**.

Extracted from:
https://meteo.hr/klima.php?section=klima_pracenje&param=spi&el=prspi
https://meteo.hr/klima.php?section=klima_pracenje&param=ocjena
https://meteo.hr/proizvodi.php?section=publikacije&param=publikacije_publikacije_dhmz&el=bilteni (preliminary report; publication is in preparation)
https://meteo.hr/klima.php?section=klima_pracenje&param=spi&el=karte_suse&Week=231012

ROMANIA

Heat waves and severe drought negatively impacted agricultural crops in Romania. Heavily affected were **corn and sunflower**, Romania's main agricultural crops for export, and the most so along southern and eastern Romania where corn was in mid-July already 90-100 % compromised. Farmers owning also **livestock** were in major difficulties feeding them, given that the crops were heavily compromised [1]. The amount of precipitation was in many places 10 times lower than usual. According to the Ministry of Agriculture and Rural Development, **two million hectares of corn and sunflower crops** were destroyed by the drought and about 100 000 hectares of wheat and rapeseed. **State of emergency in agriculture** was declared, and compensation scheme triggered [2, 3]. Also Nadlac area, the most fertile agricultural land in Arad county in the north-west, recorded approximately 80 % of corn production compromised, with farmers expecting to get around 2.5 tons per hectare, compared to 12 tons which is a normal production level in this area [4].

Olt County, southeastern Romania, did not receive any rain in three weeks. Under these conditions, more than 3000 hectares of **wheat, rapeseed, barley, peas and chickpeas** were destroyed to up

to 70 %. Especially corn crops were nearly fully compensated due to drought and excessive heat on approximately 80 % the cultivated area [5, 6, 7].
Extreme heat affected also **tobacco crops**. In Dolj, southern Romania, the plants did not reach a quarter of the height they normally would by this time in season, and on some surfaces they completely stopped growing. Similar situation was experienced even by farmers who replanted it three times in an attempt to save good production [8].

The water level of **Jiu River** in Dolj county, southwestern Romania dropped so much in some sections that it could be crossed by foot from one bank to the other. Where water used to be, sand and gravel dunes appeared, even grass, and banks were seen to widen from one day to the next. The Jiu flow in Doj was in July less than a third of its usual [9]. Drop of water levels due to drought, and heat waves caused huge losses in **aquatic life and fish farming**, as extremely high temperatures caused the death of thousands of fish in the waters of Iasi and Botosani, northeastern Romania. Water temperature of 32 °C were recorded in some waters, whereas optimal temperature for fish 24–26°, and at 27° feeding is interrupted and a state of stress entered. At the same time, the water level dropped by 10 centimeters in a week. In a lake in Sulita commune, Botosani county, a total of 1.6 tons of fish died. In the recreational lake Ciric in Iasi, dead fish appeared on the surface due to heat wave. To limit the damage in fish farming, many fish farmers sold fish that did not reached the optimal weight. Fishermen estimate that **fish production** will be half that of last year because of unfavourable weather [10, 11]. **Wild animals** also suffered from the heat and drought, as springs dried up and wildlife was left without a water source in many places. In Dolj, the employees of the hunting funds dug artificial fits and filled them with water brought in by tankers. Due to the heat wave, the animals' behavior has changed, experts say. Similar reports came from Galati County, southeastern Romania where authorities went every morning with the tankers to fill up the reservoirs [12, 13, 2].

Residents of several localities in Vrancea County, eastern Romania were faced with introduction of **drinking water distribution regime** due to overall low water availability in public network. Water was distributed in sectors, in certain time intervals or on certain days only. According to the CUP Focsani, the regional operator responsible for the distribution of drinking water in the county, this happened both due to drought, but also due to intensive use of water from the public network for the irrigation of agricultural crops [14]. According to the National Administration Romanian Waters, there were by third dekad of July 449 localities in the centralized system where **water was supplied with restrictions**, and another 251 dry wells in areas with only individual water sources. The most affected localities were those in the counties of Botosani, Vaslui, Iasi, Alba, Gorj, Vrancea, Bacau, Neamt, Galati, Hunedoara, Vaslui, Olt, Prahova, Suceava and Arges, all positioned along eastern, southern but also western Romania [15, 16].

[1] https://www.gandul.ro/actualitate/vremea-extrema-distruge-recoltele-fermierii-romani-sunt-in-pragul-disperarii-20246189
[2] https://stirileprotv.ro/stiri/actualitate/caldura-intensa-afecteaza-grav-agricultura-ze-compromisa-total-din-cauza-arsurii-solare.html
[3] https://www.agerpres.ro/economic-intern/2024/07/17/la-porumb-si-la-floarea-soarelui-vor-fi-pierderi-semnificative-din-cauza-secetei-avem-aproape-doua-milioane-de-hectare-afectate-ministru--1328614
[4] https://www.agerpres.ro/social/2024/07/23/arad-in-zona-nadlac-80-din-productia-de-porumb-este-compromisa-de-seceta-si-arsita--1331385
[5] https://www.agerpres.ro/social/2024/07/12/olt-culturile-de-porumb-din-judet-afectate-total-pe-aproximativ-80-din-suprafata--1326959
[6] https://www.gandul.ro/vremea/culturi-agricole-de-porumb-mazare-si-floarea-soarelui-compromise-de-arsita-in-jumatate-de-tara-20250380
[7] https://www.gandul.ro/actualitate/situatie-critica-in-judetul-olt-culturile-de-porumb-topite-din-cauza-caniculei-si-a-secetei-fermierii-sunt-disperati-ne-a-terminat-de-tot-20254327
[8] https://www.gandul.ro/actualitate/culturile-de-tutun-din-dolj-afectate-de-seceta-plantele-nu-au-atins-nici-macar-un-sfert-din-lungimea-pe-care-trebuiau-sa-o-aiba-pana-acum-20245517
[9] https://www.gandul.ro/actualitate/situatie-critica-pe-raurile-din-oltenia-jiul-a-secat-incat-il-treci-cu-piciorul-de-pe-un-mal-pe-altul-localnicii-sunt-disperati-de-situatie-20257246
[10] https://www.gandul.ro/diverse/mii-de-pesti-morti-din-cauza-caldurii-temperaturile-extrem-de-mari-provoaca-scaderea-concentratiei-de-

oxigen-din-apa-20263210
[11] https://stirileprotv.ro/stiri/actualitate/dezastru-piscicol-din-cauza-caniculei-nivelul-apei-in-mai-multe-zone-tara-a-scazut.html
[12] https://stirileprotv.ro/stiri/actualitate/animalele-salbatice-au-inceput-sa-sufere-din-cauza-caniculei-in-dolj-oamenii-au-sapat-gropi-pe-care-le-au-umplut-cu-apa.html
[13] https://www.gandul.ro/actualitate/disperati-ca-le-mor-animalele-de-sete-localnicii-din-olt-sapa-sa-dea-de-apa-la-izvoarele-secate-20258084
[14] https://www.agerpres.ro/social/2024/07/17/vrancea-apa-potabila-distribuita-sectorizat-din-cauza-secetei-dar-si-a-utilizarii-pentru-irigat--1328730
[15] https://stirileprotv.ro/stiri/actualitate/care-e-nivelul-lacurilor-de-acumulare-de-la-noi-in-plina-seceta-recomandari-de-la-zapele-romane.html
[16] https://www.agerpres.ro/economic-intern/2024/07/22/restrictii-de-apa-in-peste-400-de-localitati-din-cauza-secetei--1330819

GREECE

Ahead of the tourist season, many Greek islands were facing the risk of water scarcity due to the mild winter and drought, which have resulted in insufficient replenishment of water reserves. Given the increased demand during the tourist season, the risk of water supply interruptions is evident. The General Secretariat for Civil Protection has in July declared a state of emergency due to **water shortages** for a number of areas across Attica, southern Greece and various islands [1, 2, 3, 4].

The reduced rainfalls over the past two years, the lack of snowfall, and the ongoing drought have resulted in decreased water quantities in **reservoirs** across the country. There has also been a significant drop in the water level of boreholes, and **intrusion of the sea water** is observed in many areas. The water reserves in Attica, which hosts half of the country's population, were on yellow alert [3, 5]. The continued high temperatures for days combined with the intrusion of sea water into the Delta of the river Evros are said to be the main causes that led to the death of wild horses and affected **island fauna** [6, 7].

Agricultural production is also facing significant problems. In Nevrokopi, **potato production** has decreased because, due to reduced rainfall and snowfall, only 1.8 million cubic meters of water were available this year at the Lefkogeia dam, compared to the approximately 7-8 million cubic meters required annually. Mastic production in Chios has also declined due to high temperatures [8].

According to the satellite data processed by climatebook, on July 2, 2023, the total surface area of the **lake Mornos**, central Greece has since last July shrunk from 16.5 km² to approximately 12.8 km². The same is the case with the water reserves in Mornos which are reduced by 30 % compared to last year [2].

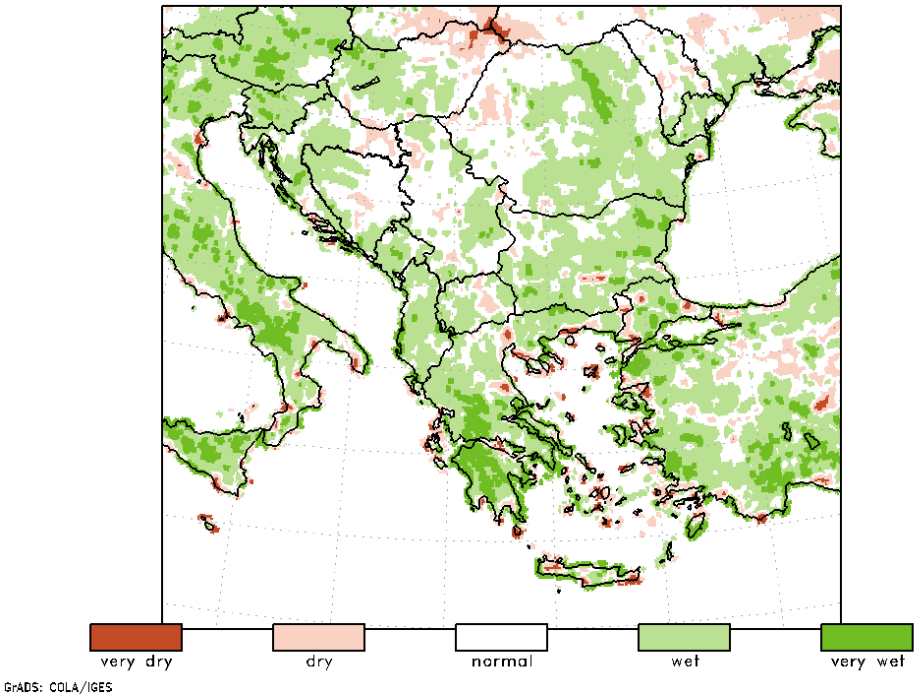
The combination of strong north-easterly winds, drought and high temperatures, put much of the central and southern Greece under high wildfire risk, with a number of **wildfires** already breaking out across the country in mid-July [9, 10].

[1] https://www.in.gr/2024/07/08/politics/aftodioikisi/kiryxthike-se-katastasi-ektaktis-anagkis-o-dimos-viannou/
[2] http://www.polispress.gr/%ce%bb%ce%b5%ce%b9%cf%88%cf%85%ce%b4%cf%81%ce%af%ce%b1-%ce%b7-%ce%b1%cf%84%cf%84%ce%b9%ce%ba%ce%ae-%ce%ba%ce%b1%ce%b9-%cf%84%ce%b1-%ce%bd%ce%b7%cf%83%ce%b9%ce%ac-%ce%ba%ce%b9%ce%bd%ce%b4%cf%85%ce%bd/
[3]https://www.ethnos.gr/greece/article/322691/oefialthsthsleipsydriasepanerxetaisekitrinosynagermohattikhadeiazoynoitamieythrestosxediopoyexetazetai
[4] https://www.skai.gr/news/environment/leipsyndria-entono-to-provlima-sta-nisia-eno-koryfonetai-i-touristiki-periodos
[5] https://www.skai.gr/news/environment/ereyna-skai-meionontai-oi-posotites-nerou-stous-apotamieytires-kampanaki-gia-leipsydria
[6] https://www.amna.gr/macedonia/article/836317/To-chroniko-mias-proanaggeltheisas-periballontikis-krisis-pou-apeilei-tin-panida-sto-Delta-tou-Ebrou
[7] https://en.protothema.gr/2024/07/22/evros-dead-wild-horses-in-the-river-delta-due-to-water-shortage/
[8] https://www.kathimerini.gr/society/563123368/to-skliro-rok-tis-klimatikis-krisis-me-ta-pop-proionta/
[9]http://www.polispress.gr/%CF%87%CF%89%CF%81%CE%AF%CF%82-%CE%B5%CE%BD%CE%B5%CF%81%CE%B3%CF%8C-%CE%BC%CE%AD%CF%84%CF%89%CF%80%CE%BF-%CE%B7-%CF%80%CF%85%CF%81%CE%BA%CE%B1%CE%B3%CE%B9%CE%AC-%CF%83%CF%84%CE%B9%CF%82-%CE%B5%CF%81/

[10] https://www.skai.gr/news/greece/xartis-provlepsis-kindynou-pyrkagias-poies-perioxes-vriskontai-se-portokali-synagermo-sime

OUTLOOK

Figure below shows model simulations of the **60-day accumulated surface water balance** in historical percentile classes for the time period **between 20 July to 17 September 2024**.



The accumulated 60-day surface water balance is in mid-September expected to range within normal values over central-northern Balkan Peninsula and Moldova, while for most of the region it is expected to end up in above-average values reflecting 60-day surplus, which will in central-southern Greece and locally in western third of Turkey, eastern Bulgaria, northern Romania and in far north-western part of the region classify among the local highest surplus levels for this time of the year. However, drier than normal conditions will prevail across northeastern Hungary, locally to the level of very dry conditions.

Methodology

DMCSEE Drought monitoring bulletin is based on numerical weather prediction (NWP) model simulations over SE Europe, SPI index calculations, remote sensing product and public media drought impact reports. Precipitation data is provided by Global Precipitation Climatology Centre (GPCC; https://www.dwd.de/EN/ourservices/gpcc/gpcc.html) shown against the average of the 1961–1990 time period. NWP simulations are performed with Non-hydrostatical Mesoscale Model at ~7 km spatial resolution (NMM; http://www.dtcenter.org/wrf-nmm/users/). Historical model climatology in terms of air temperature and surface water balance is computed with NMM on the base of 1 January 1991 to 31 December 2020 time period, using European Centre for Medium Range Weather Forecast (ECMWF) ERA5 dataset (http://www.ecmwf.int/en/forecasts/datasets/reanalyses-datasets/era5) as input for simulations. Long-term averages (1991–2020), used for comparison of current weather conditions, are obtained from simulated dataset. Comparison of current values against long-term average or in percentile classes (the two extreme classes have a 5-percent range, and each of the middle three classes has a 30-percent range) provides a signal on potentially ongoing drought. Remote-sensing product in the bulletin is based on the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) Land SAF MSG Daily Fraction of Vegetation Cover product (https://landsaf.ipma.pt/en/products/vegetation/fvc/), presented for the checked and confirmed locations and using long-term averages from 2004 to the last full year (currently to 2023). Information on drought impacts are obtained from freely available online reports of national authorities and media newspapers.