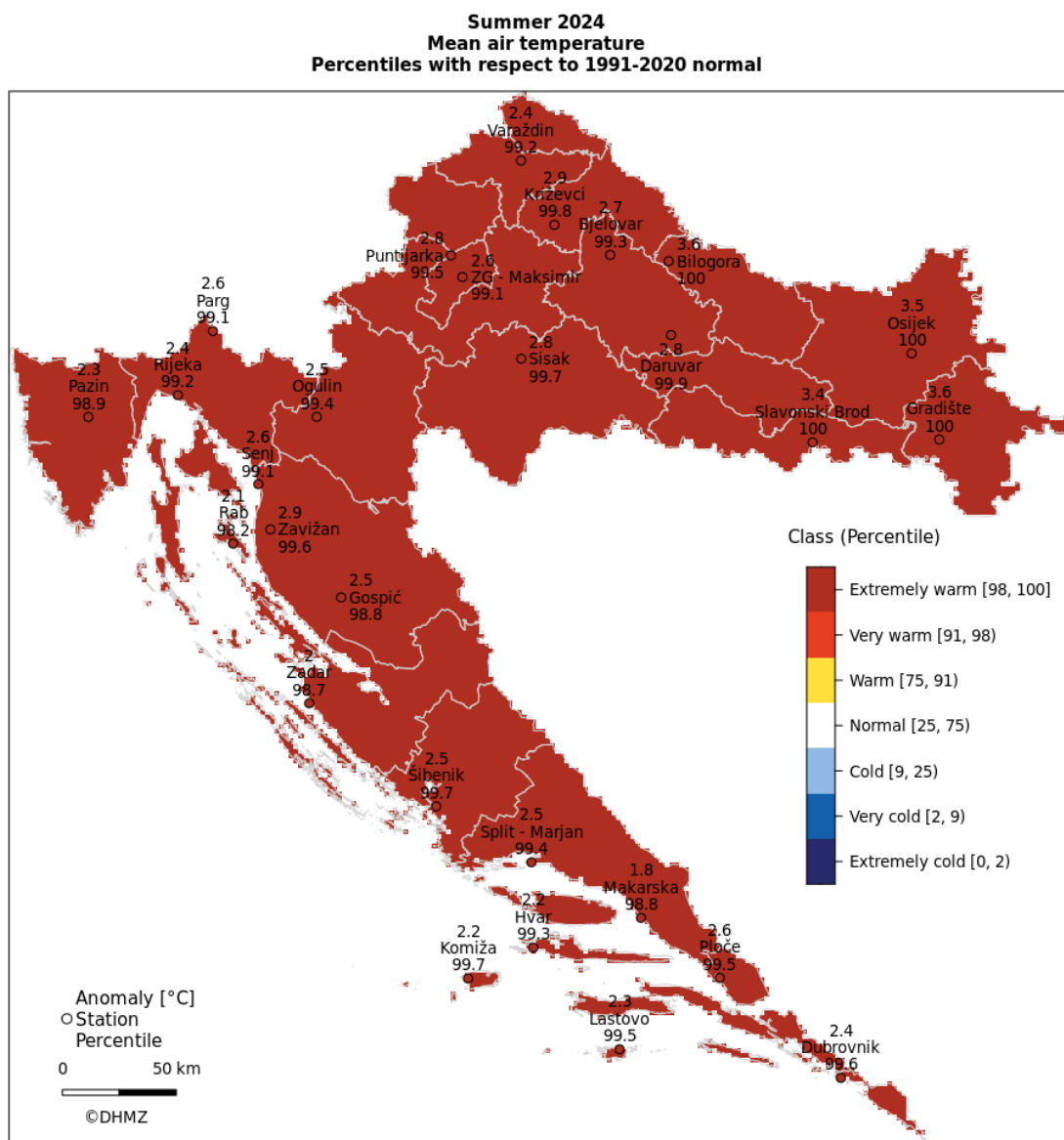


VERIFICATION OF THE SEECOF-31 SUMMER 2024 CLIMATE OUTLOOK AND CLIMATE REPORT FOR CROATIA FOR SUMMER 2024

Air temperature anomalies for Croatia in summer 2024

Anomalies of the mean air temperature for summer 2024 with respect to the normal 1991 - 2020 are in the range from 1,8 °C (Makarska) to 3,6 °C (Bilogora, Gradište).

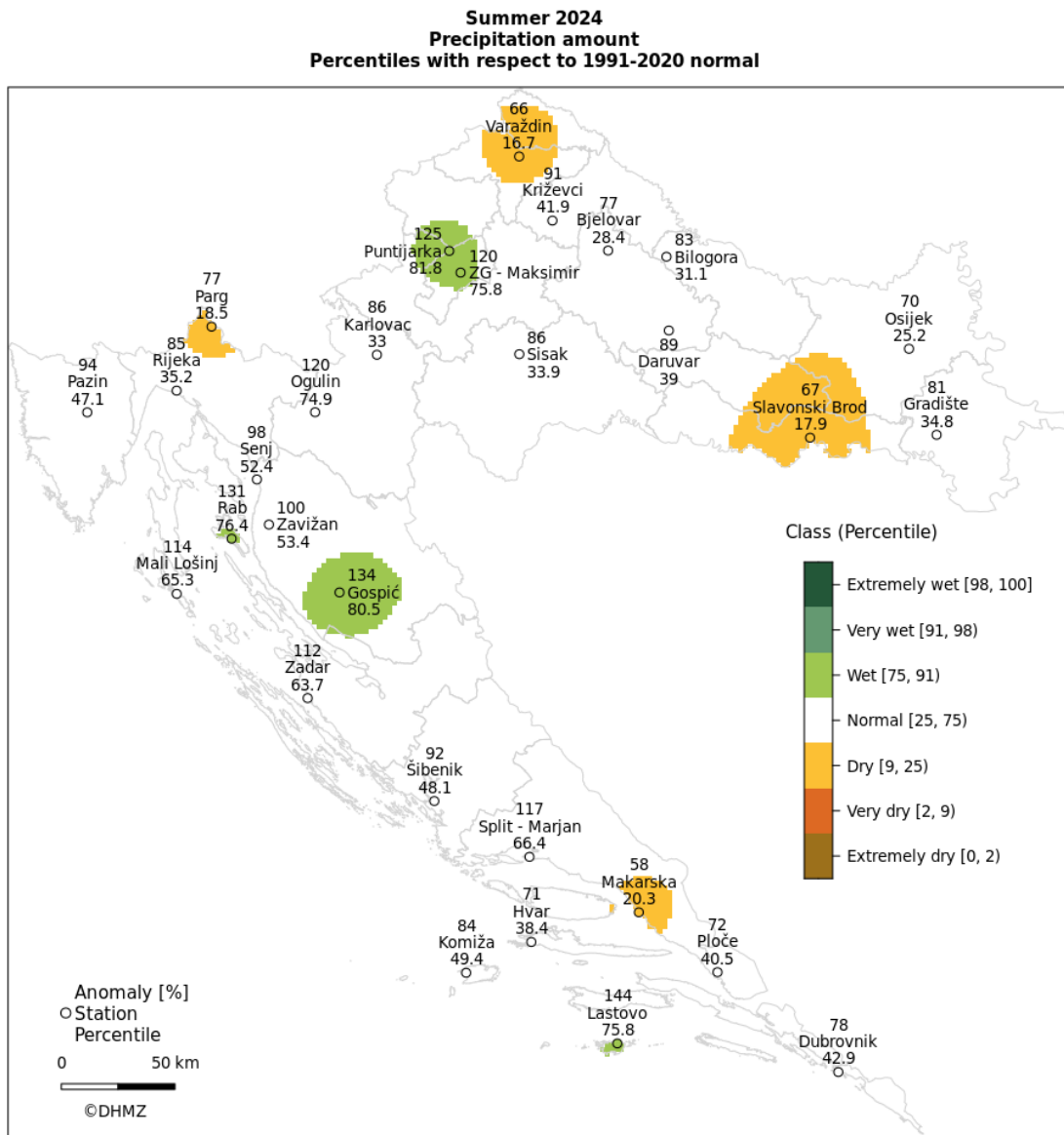
According to the percentile ranks and classification ratings, thermal conditions in whole Croatia for summer 2024 is described as **extremely warm**. At most stations, it is the warmest summer since measurements have been made.



Precipitation amounts for Croatia in summer 2024

The anomalies of the precipitation amount in summer 2024 compared to the normal 1991-2020 are in the range from 58 % of the multi-year average in Makarska (75,5 mm) to 144 % in Lastovo (100,7 mm).

Precipitation conditions are described in more detail in the following categories: **normal** (in most of Croatia), **dry** (at station Slavonski Brod, Varaždin, Parg and Makarska) and **wet** (wider area of city of Zagreb and at station Rab, Gospić and Lastovo).



Air temperature anomalies for Croatia in June 2024

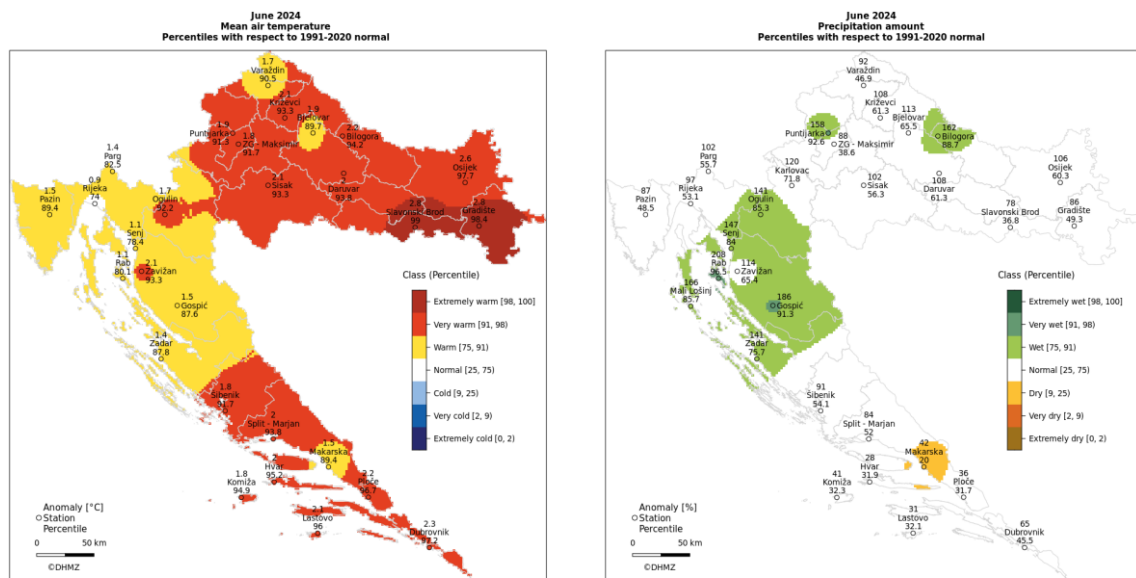
The anomalies of the mean air temperature in June 2024 with respect to the normal 1991 - 2020 were within the range from 0,9 °C (Rijeka) to 2,8 °C (Gradište, Slavonski Brod).

According to the percentile ranks and classification ratings, thermal conditions in Croatia for June 2024 are described in the following categories: **very warm** (most of continental Croatia and most of Dalmatia), **extremely warm** (part of Eastern Slavonia) and **warm** (in the rest of Croatia).

Precipitation anomalies for Croatia in June 2024

Precipitation anomalies expressed as a percentage (%) of the multi-annual average (1991 – 2020) were in June 2024 within the range from 28 % (Hvar, 11,5 mm) to 208 % (Rab, 121,8 mm).

Precipitation conditions in June 2024 are described in more detail in the following categories: **normal** (most of Croatia), **wet** (mountainous Croatia and parts of the northern Adriatic), **very wet** (at station Rab, Gospić and Puntijarka) and **dry** (around Makarska).



Mean air temperature (left) and precipitation amount (right) - June 2024 - percentiles with respect to 1991-2020 normal

Air temperature anomalies for Croatia in July 2024

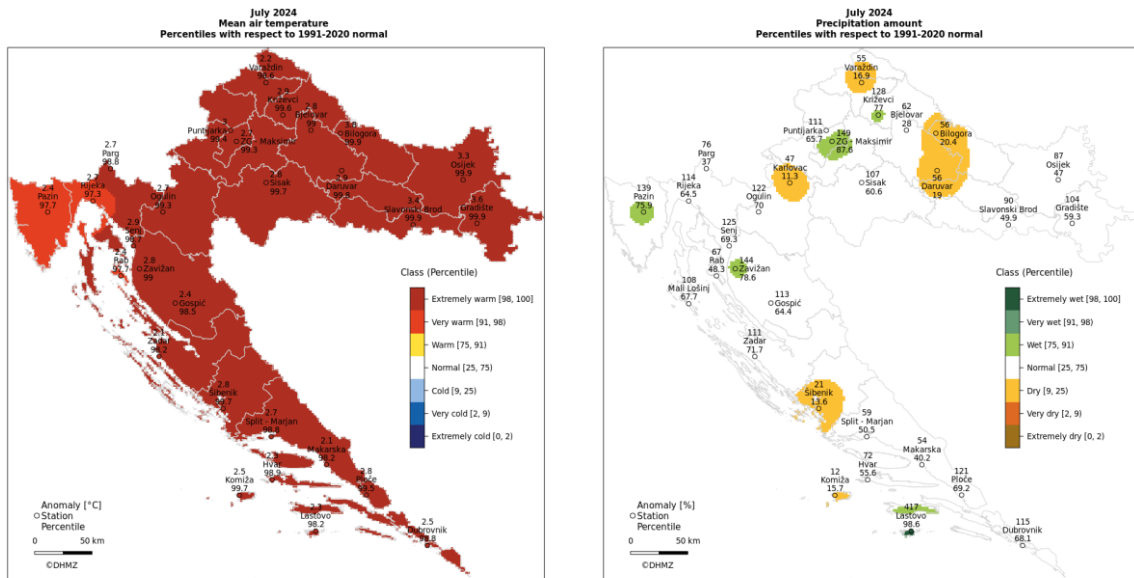
The anomalies of the mean air temperature in July 2024 with respect to the normal 1991 - 2020 were within the range from 2,1 °C (Makarska, Zadar) to 3,8 °C (Bilogora).

According to the percentile ranks and classification ratings, thermal conditions in Croatia for July 2024 are described in the following categories: **extremely warm** (most of Croatia) and **very warm** (part of the Istrian peninsula, Rijeka and part of the Kvarner).

Precipitation anomalies for Croatia in July 2024

Precipitation anomalies expressed as a percentage (%) of the multi-annual average (1991-2020) were in July 2024 within the range from 12 % (Komiža, 2,8 mm) to 417 % (Lastovo, 57,5 mm).

Precipitation conditions in July 2024 are described in more detail in the following categories: **normal** (most of Croatia), **wet** (part of the Istrian peninsula, Zavižan, Križevci and Zagreb), **extremely wet** (island Lastovo) and **dry** (part of continental Croatia and part of Dalmatia).



Mean air temperature (left) and precipitation amount (right) - July 2024 – percentiles with respect to 1991-2020 normal

Air temperature anomalies for Croatia in August 2024

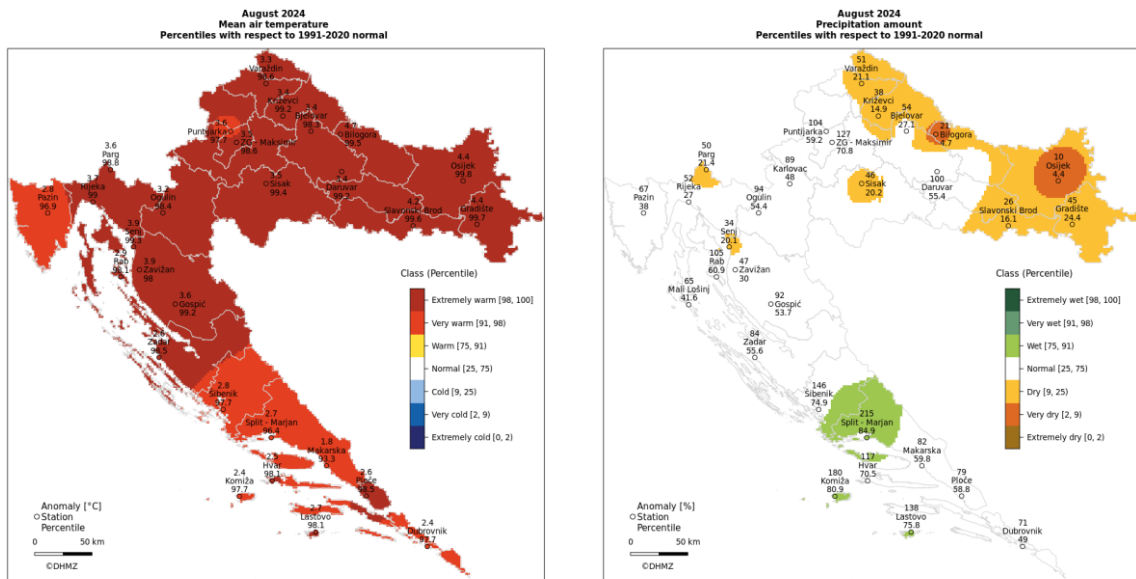
The anomalies of the mean air temperature in August 2024 with respect to the normal 1991 - 2020 were within the range from 1,8 °C (Makarska) to 4,7 °C (Bilogora).

According to the percentile ranks and classification ratings, thermal conditions in Croatia for August 2024 are described in the following categories: **extremely warm** (most of Croatia) and **very warm** (part of the Istrian peninsula, part of Dalmatia).

Precipitation anomalies for Croatia in August 2024

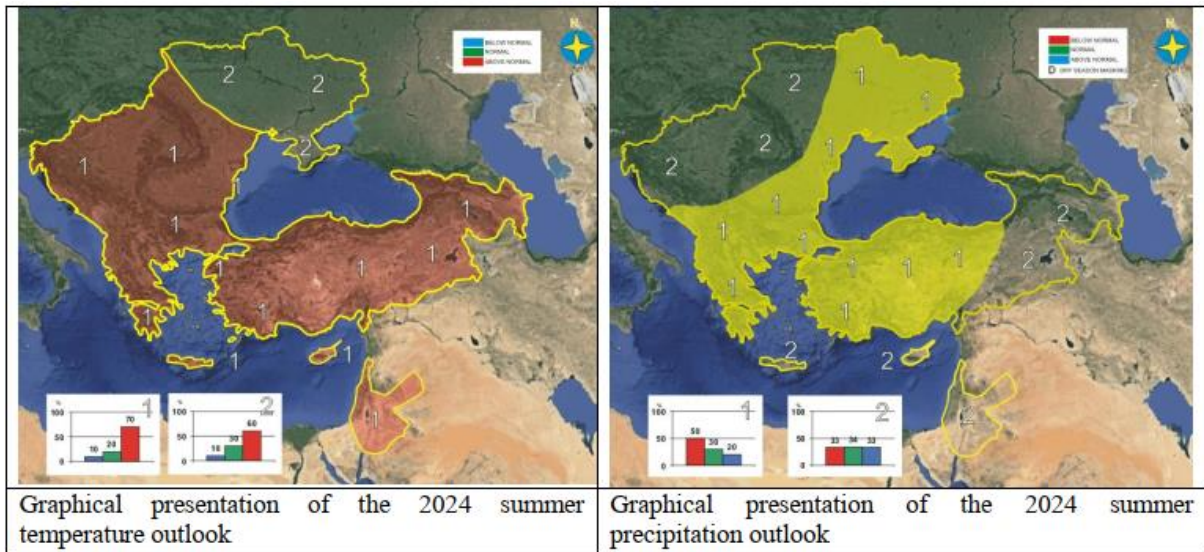
Precipitation anomalies expressed as a percentage (%) of the multi-annual average were in August 2024 within the range from 10 % (Osijek, 7 mm) to 215 % (Split-Marjan (68,2 mm)).

Precipitation conditions in August 2024 are described in more detail in the following categories: **normal** (most of Croatia), **wet** (central Dalmatia), **dry** (part of north and east Croatia, Sisak, Parg and Senj) and **extremely dry** (Osijek and Bilogora).



Mean air temperature (left) and precipitation amount (right) - August 2024 – percentiles with respect to 1991-2020 normal

VERIFICATION OF SEECOF-31 CLIMATE OUTLOOK FOR THE 2024 SUMMER SEASON



Air temperature anomalies for Croatia in summer 2024

According to the SEECOF-31 climate outlook, for all Croatian territory, there were chance for above normal summer temperatures. Probability for exceeding the average summer season temperature was 70 %. Probability of temperature being lower than normal was 10 % and being normal was 20 %.

The summer season in Croatia according to multi-annual average 1991-2020 concerning the temperature for the whole territory was above normal (from 1,8 °C to 3,6 °C).

We can conclude that the outlook for the summer 2024 according the temperature was very good.

Precipitation amounts for Croatia in summer 2024

According to the SEECOF-31 climate outlook, summer precipitation in most part of Croatia had no privileged scenario, which means that climatology (middle tercile) had to be taken as the most likely scenario. Just south part of Dalmatia likely to experience below-normal conditions in terms of summer precipitation sums.

The actual precipitation amounts in the most of Croatia were mainly around average (1991-2020).

We can conclude that the outlook for the summer 2024 according the precipitation was satisfactory in most of Croatia.

Country	Seasonal temperature (JJA)		Seasonal precipitation (JJA)		High Impact Events
	Observed	SEECOF-31 climate outlook for temperature	Observed	SEECOF-31 climate outlook for precipitation	
Croatia	Above normal	Above normal (10,20,70)	Normal (most of Croatia)	No predictive signal (33,34,33) Below normal (part of Dalmatia) (50,30,20)	<p>Summer 2024 was extremely warm. At most stations, it is the warmest summer since measurements have been made.</p> <p>In all three months heat waves were observed (3 in continental part and 4 at Adriatic coast) and they were long lasting.</p> <p>In all three months convective related severe weather phenomena (thunderstorms, hail, heavy rains, flash floods, waterspouts) were observed mostly all over Croatia.</p> <p>In June, relatively often, severe thunderstorms accompanied with large amount of precipitation in short time (Parg 154 mm, June 11) hail and flash floods hit mostly continental part of Croatia. Flood damage and corps damage due to hail were reported and traffic on many local road were interrupted.</p> <p>In July convective activity was very frequent all over Croatia. Urban floods as a result of large amounts of precipitation in a short time were common (Ogulin, July 28, 70 mm in 1 hour). Flood damage and corps and infrastructural damage were also frequent due to large hail (July 13, Međimurje – north Croatia).</p> <p>August - a few convective episodes</p>

					hit almost whole Croatia from August 17 till August 20. In Zagreb on August 20, 89,9 mm of rain was measured. Flash floods and fallen trees caused damage on houses and roads.
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