

Assessment of the SEECOF-10 seasonal climate outlook in Hungary

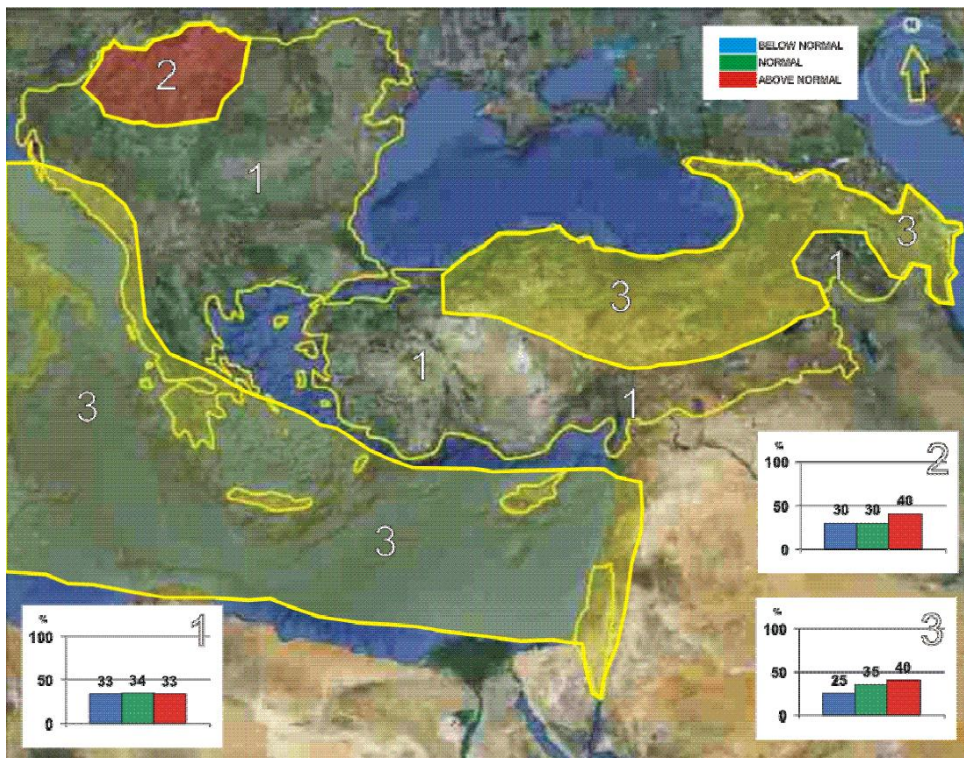
Winter 2013/2014

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The SEECOF-10 climate outlook stated that sea surface temperatures had been near to normal for the autumn season in the Equatorial Pacific, and these conditions were very likely to persist for the following winter season. In addition, there were no clear signals from other sources of predictability.

Temperature

The following map shows the probabilistic consensus forecast for the tercile categories of anomalies for seasonal mean temperature ([Fig. 1.](#)), relative to the period 1981-2010. The area of Hungary is in zone 2, a territory of weak tendency for the upper tercile.

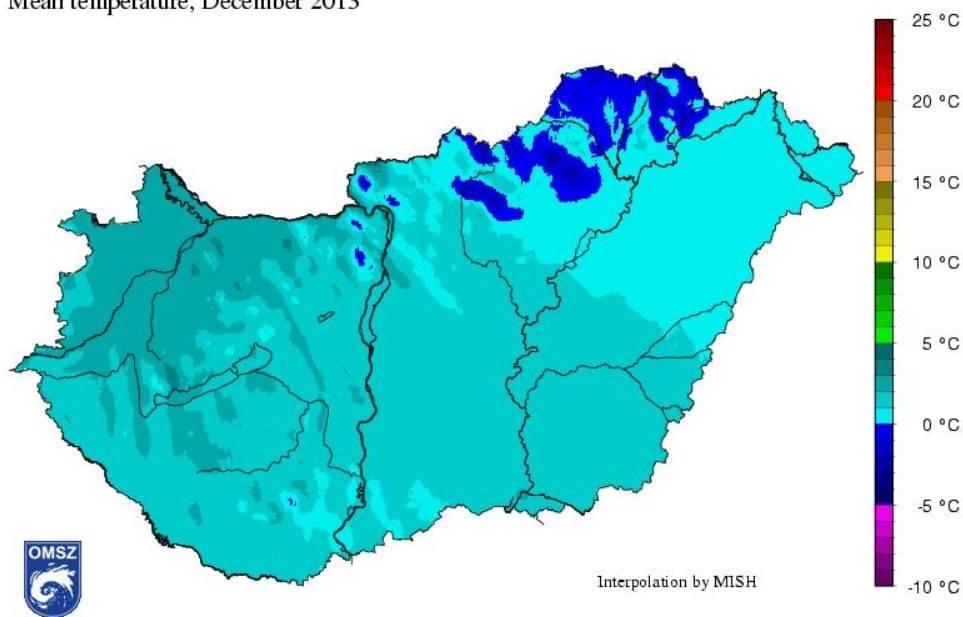


1. figure - SEECOF-10 outlook for the 2013/14 winter temperature

After the winter season, we can evaluate individual winter months, as well as the season as a whole.

December 2013

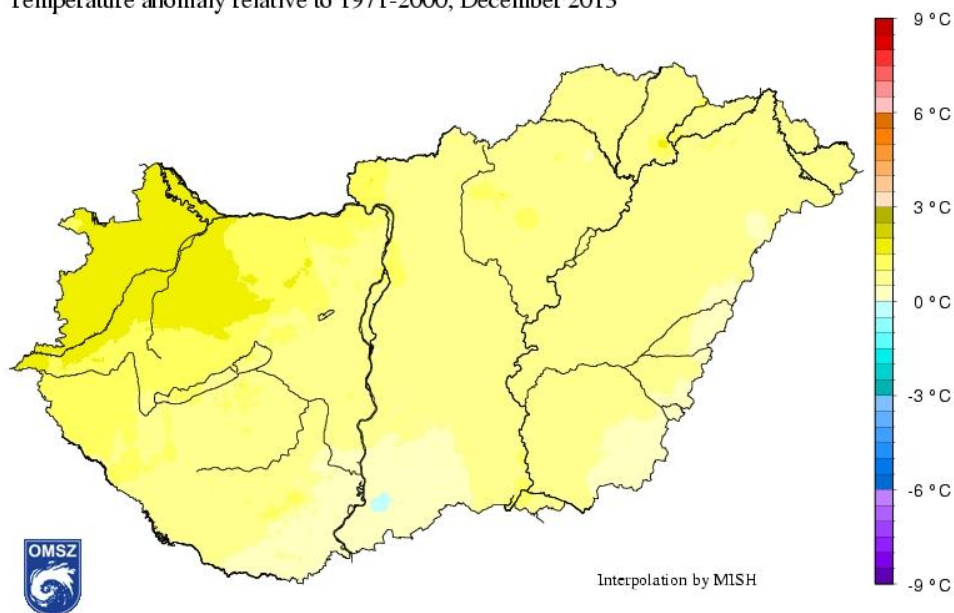
Középhőmérséklet, 2013. december
Mean temperature, December 2013



2. figure - Mean temperature in Hungary, December 2013

The monthly mean temperature of December in Hungary (*Fig. 2.*) was 1.24°C. Positive values were present across the country, except some small areas of higher altitude, and closed valleys of the northeast. The monthly mean value surpasses the 1971-2000 average of 0.39°C by almost one degree (*Fig. 3.*). Only a small region had near-average temperature, other parts of Hungary were warmer than average, especially the northwestern parts.

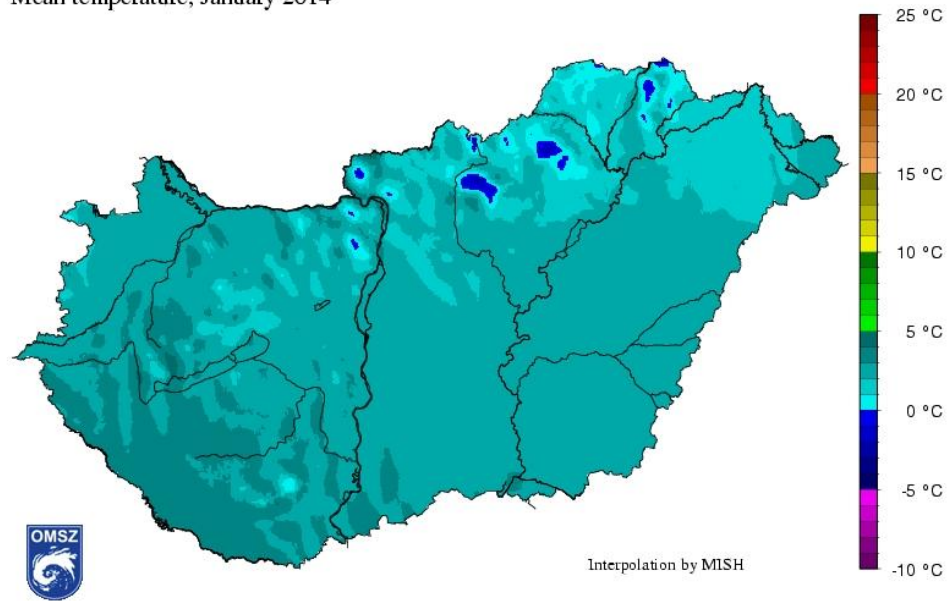
Középhőmérsékleti anomália az 1971-2000 átlaghoz viszonyítva, 2013. december
Temperature anomaly relative to 1971-2000, December 2013



3. figure - Temperature anomaly in Hungary relative to 1971-2000, December 2013

January 2014

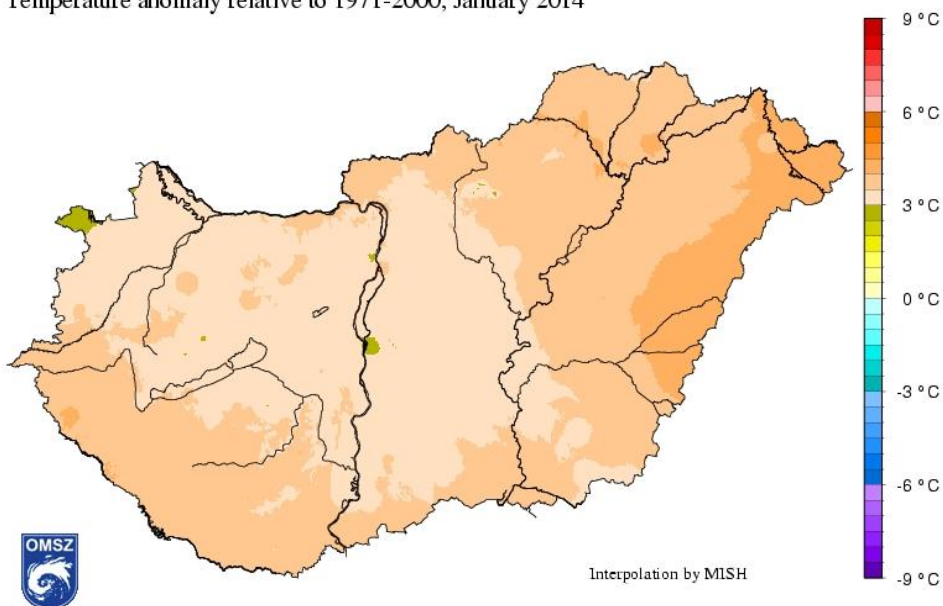
Középhőmérséklet, 2014. január
Mean temperature, January 2014



4. figure - Mean temperature in Hungary, January 2014

On average, January is the coldest month of the year in Hungary, however, in this winter season it was much warmer than the previous December. The country average mean temperature (*Fig. 4.*) was 2.4°C. Only a few mountain areas had negative temperatures, most of the country had much higher values, at some parts as high as 3.5°C. Monthly mean temperatures exceeded the long term average of -1.13°C by more than three degrees across the country (*Fig. 5.*), making this January the 7th warmest January since records began in 1901.

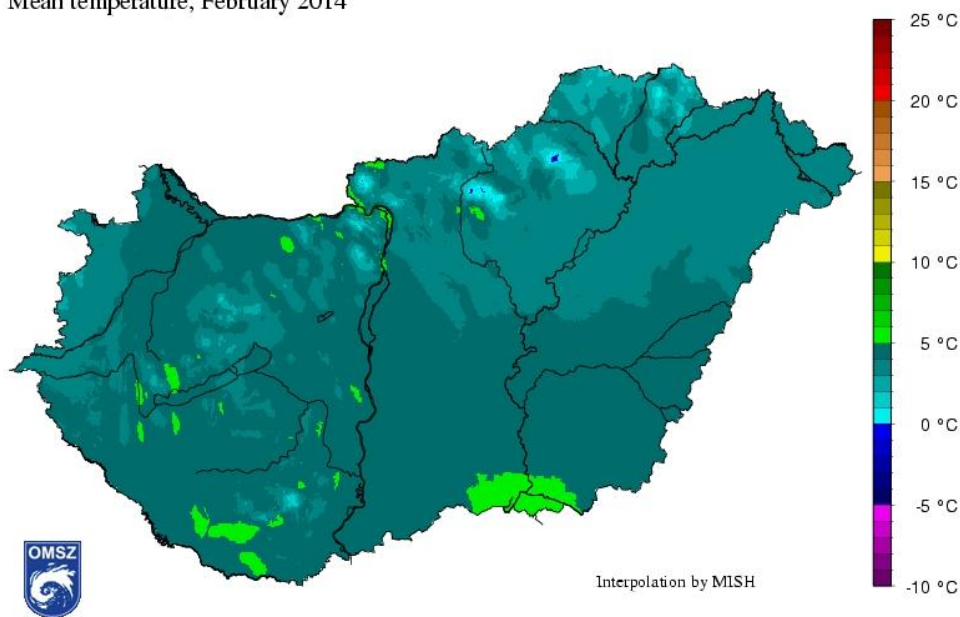
Középhőmérsékleti anomália az 1971-2000 átlaghoz viszonyítva, 2014. január
Temperature anomaly relative to 1971-2000, January 2014



5. figure - Temperature anomaly in Hungary relative to 1971-2000, January 2014

February 2014

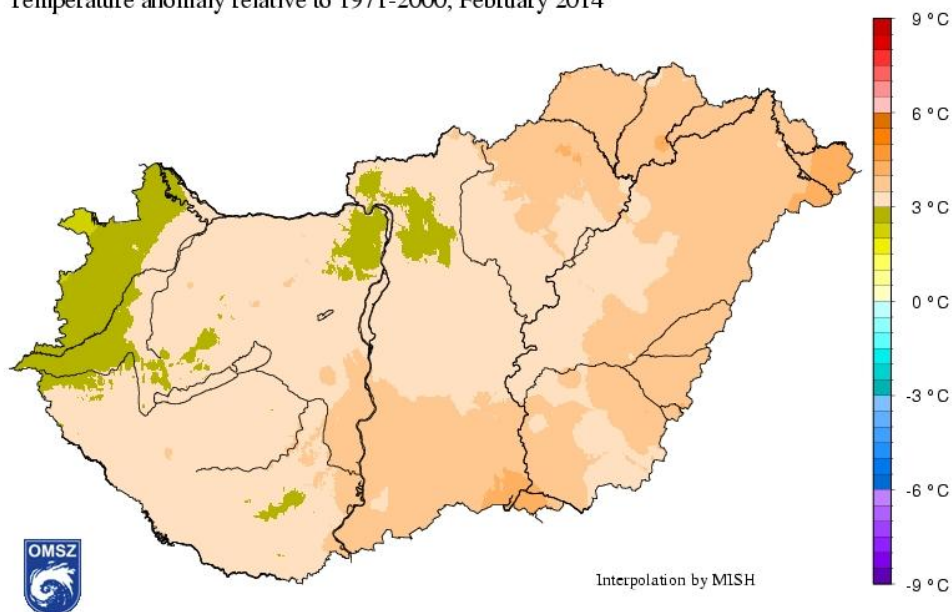
Középhőmérséklet, 2014. február
Mean temperature, February 2014



6. figure - Mean temperature in Hungary, February 2014

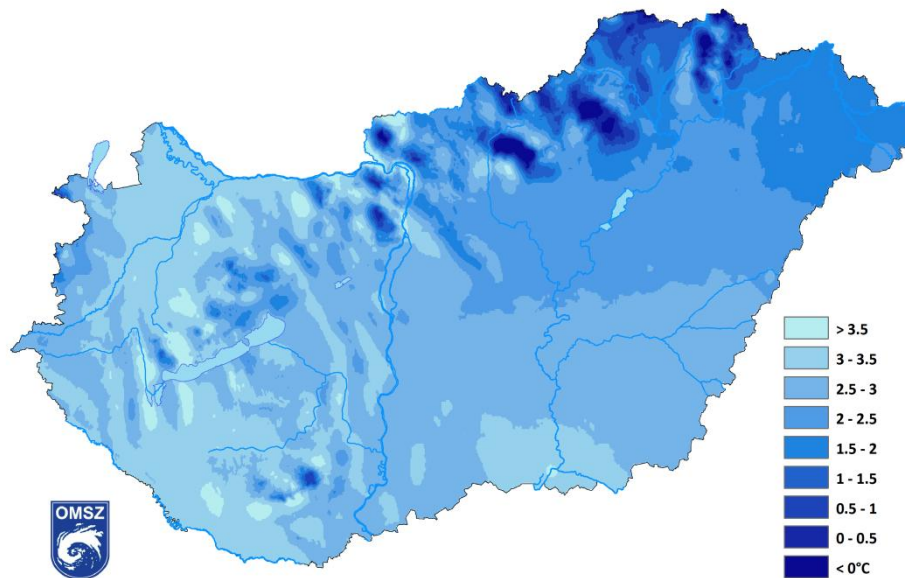
The third winter month was again relatively warm in Hungary (*Fig. 6.*), with some areas in the south experiencing higher than 5°C temperatures. The country average was 4.1°C, which is again much higher than the normal. As seen in *Fig. 7*, the anomalies relative to the 1971-2000 average were mostly above +3°C, contributing to the 9th warmest February on record.

Középhőmérsékleti anomália az 1971-2000 átlaghoz viszonyítva, 2014. február
Temperature anomaly relative to 1971-2000, February 2014



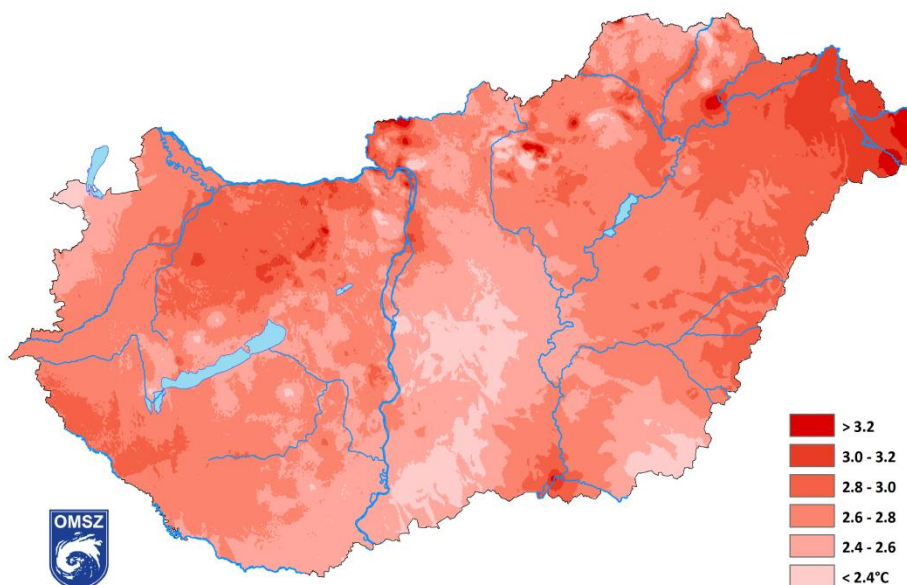
7. figure - Temperature anomaly in Hungary relative to 1971-2000, February 2014

Winter 2013/2014



8. figure - Mean temperature in Hungary, Winter 2013/2014

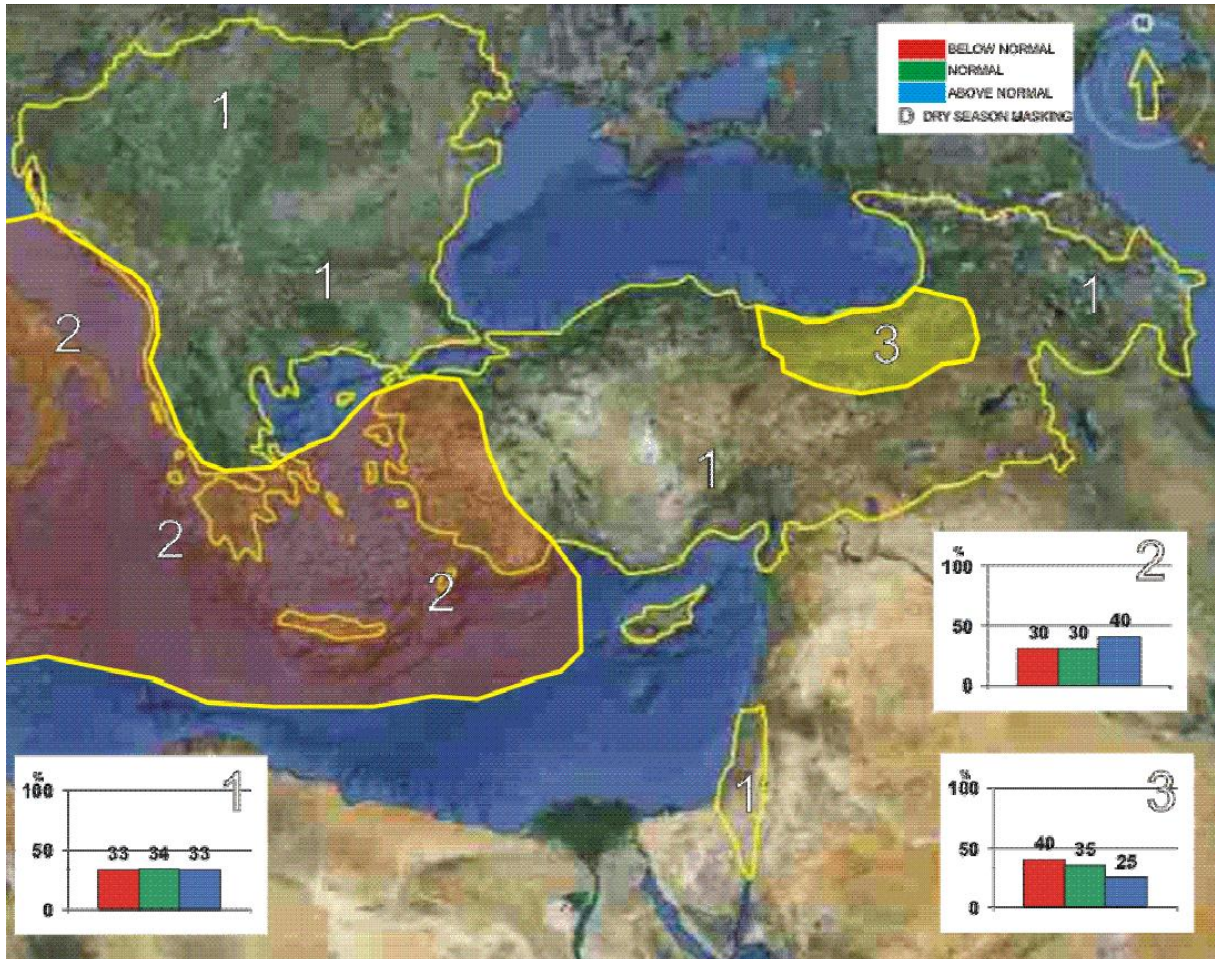
The winter season of 2013/2014 had a mean temperature of 2.58°C. According to [Fig. 8](#), all regions except a few mountains had positive values, which were above 3.0-3.5°C in the west. The anomalies were unusually high throughout the country ([Fig. 9](#)): as a country average, compared to the 1981-2010 period, this winter season had an anomaly of +2.6°C, with lower anomalies in the middle of the country, and as high as +3.0°C in the western and eastern parts of Hungary. After all this winter had become the 3rd warmest winter since measurements began in 1901.



9. figure - Temperature anomaly in Hungary relative to 1981-2010, Winter 2013/2014

Precipitation

The following map shows the probabilistic consensus forecast for the tercile categories of anomalies for seasonal precipitation amount (*Fig. 10.*), relative to the period 1981-2010. The area of Hungary is in zone 1, a domain that shows no preference for any climate defined categories.

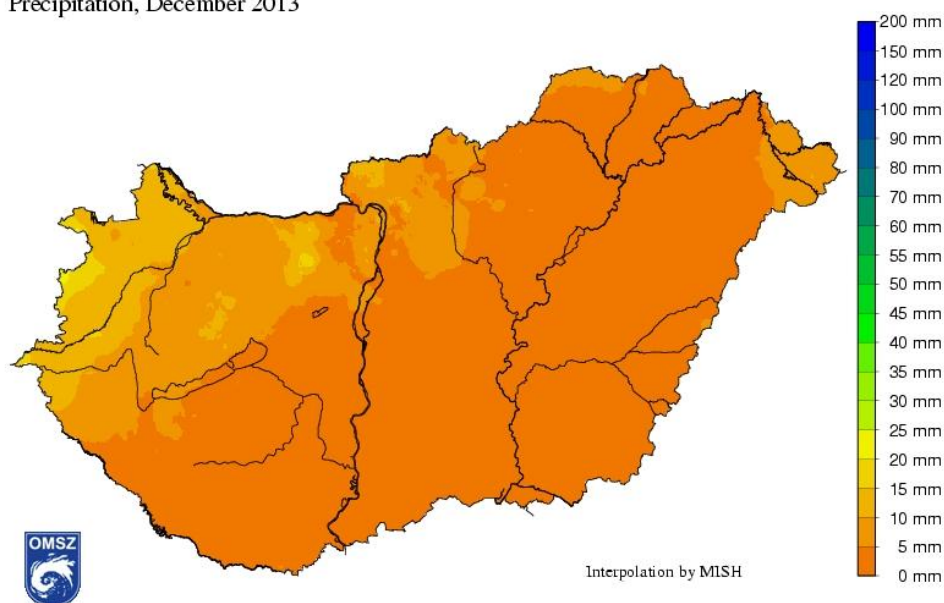


10. figure - SEECOF-10 outlook for the 2013/14 winter precipitation

Measurements show that on country average, the winter season precipitation amount was near normal in Hungary, but with significant anomalies on monthly and sub-country level.

December 2013

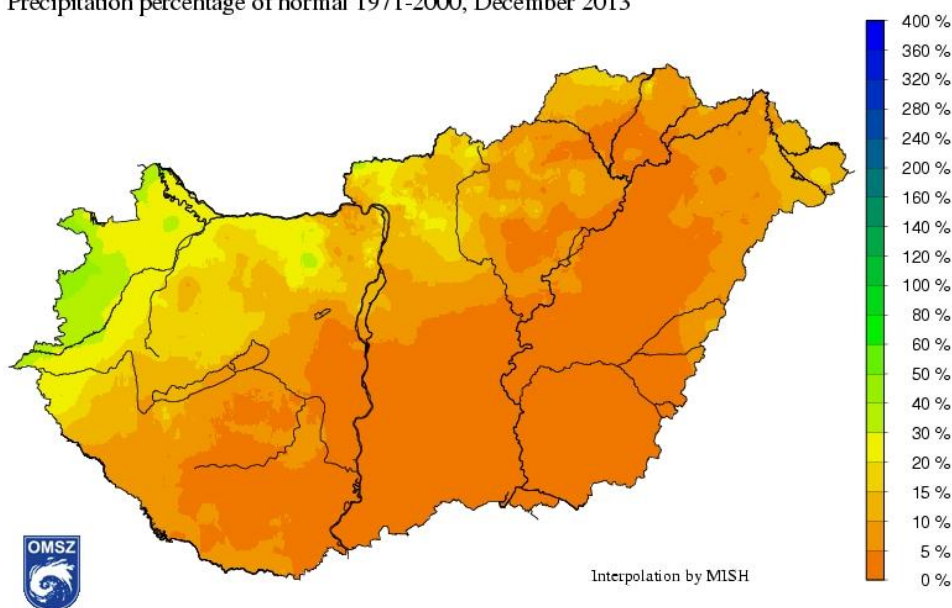
Csapadékösszeg, 2013. december
Precipitation, December 2013



11. figure – Precipitation amount in Hungary, December 2013

December was exceptionally dry this winter season (*Fig. 11.*). The precipitation amount was usually between 0 and 5 mm, only the northwestern parts had little higher values. There were some stations in the eastern part of the country which registered no precipitation at all during the month. Compared to the 1971-2000 normal (*Fig. 12.*) most of the country had less than 10% of the usual amount; only the western regions reached half of the normal. This was the 2nd driest December in Hungary since measurements began in 1901.

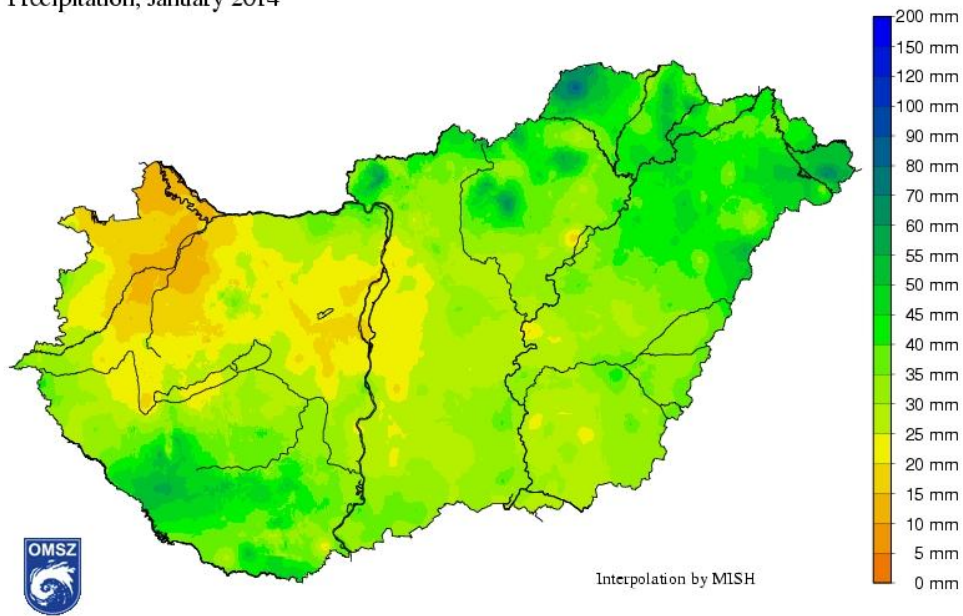
A csapadékösszeg aránya az 1971-2000 átlaghoz viszonyítva, 2013. december
Precipitation percentage of normal 1971-2000, December 2013



12. figure - Precipitation anomaly in Hungary relative to 1971-2000, December 2013

January 2014

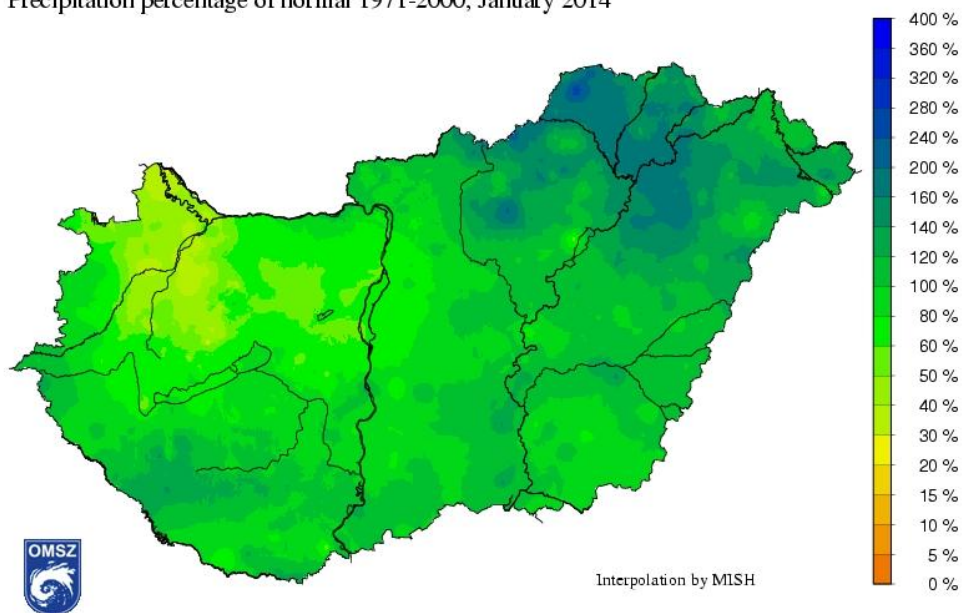
Csapadékösszeg, 2014. január
Precipitation, January 2014



13. figure - Precipitation amount in Hungary, January 2014

After the extremely dry December, January had more precipitation (*Fig. 13.*), much of the country experienced between 20-35 mm monthly amounts. However, the western areas were still ruled by dry conditions, monthly values were only around 5-10 mm in the northwest. The anomalies (*Fig. 14.*) were most between 60% and 100%, with prolonging deficit in the west, and an excess in the east. Altogether the country average of 32.8 mm was near the 1971-2000 normal value of 33.5 mm.

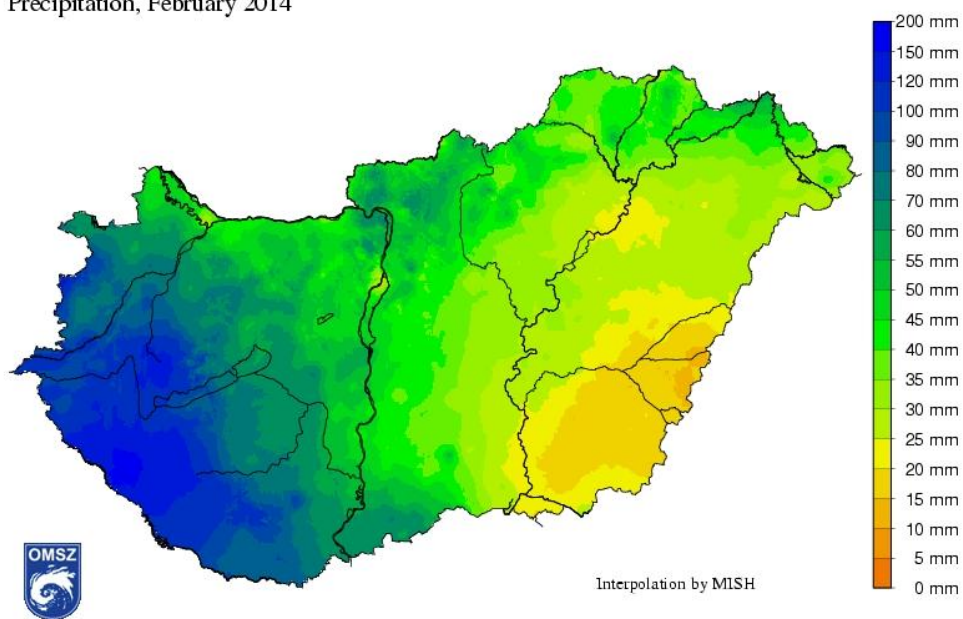
A csapadékösszeg aránya az 1971-2000 átlaghoz viszonyítva, 2014. január
Precipitation percentage of normal 1971-2000, January 2014



14. figure - Precipitation anomaly in Hungary relative to 1971-2000, January, 2014

February 2014

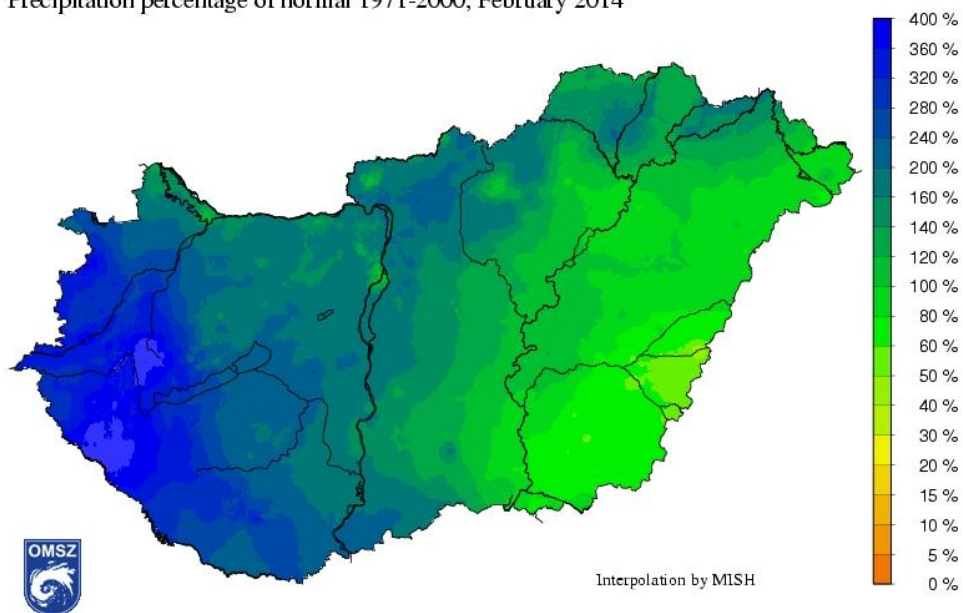
Csapadékösszeg, 2014. február
Precipitation, February 2014



15. figure - Precipitation amount in Hungary, February 2014

February brought a near normal monthly amount on a country average, but with significant differences between regions (*Fig. 15.*). While in the west, precipitation amounts were between 70-150 mm, around the eastern border they barely exceeded 10 mm. This west-east contrast dominates the anomaly map as well (*Fig. 16.*): on a country average, the monthly amount was 180% of the 1971-2000 normal, but some areas in the southwest had almost 400%, while in the east only from 30% to 120%.

A csapadékösszeg aránya az 1971-2000 átlaghoz viszonyítva, 2014. február
Precipitation percentage of normal 1971-2000, February 2014



16. figure - Precipitation anomaly in Hungary relative to 1971-2000, February, 2014

Summary

The SEECOF-10 outlook expected the region of Hungary to have a slight chance for warmer than normal winter season. In the end, all three winter months were much warmer than usual, resulting in the 3rd warmest winter since national records began in 1901.

The precipitation outlook had no preference for any climate defined categories for Hungary, with an equal probability of all three terciles. According to the measurements this has proven to be correct, but the great extremities of individual months and different parts of the country must be emphasized.