

Description of the weather of the summer 2010

The monthly mean temperature in June was generally between 18 and 21 degrees (*Figure 1.*). The higher values were measured in the south region of the country and around the capital. In the hills, such as the Mátra, it was a little cooler, the monthly mean temperature was below 14 degrees. As for the deviation from the average of the 1971-2000 period it can be stated that in a substantial part of our country the monthly mean temperature was higher than the average (*Figure 2.*). The positive anomaly, however, was not significant, in general it has not reached one and a half degrees.

In July the average monthly mean temperature in large parts of the country was between 21 and 24 degrees (*Figure 3.*). However, the higher mountain's regions did not reach 15 degrees in average temperature. The hottest part of the country was the southern Great Plains. The July mean temperature over the whole territory of our country was above the average of the 1971-2000 period (*Figure 4.*). The positive anomaly reached 3 degrees in the northwest, while in the southern and northeastern parts of the country it was only 0.5 to 1 degrees.

In August, the average temperature in large parts of our country was between 19 and 22 degrees (*Figure 5.*). Generally from northwest towards southeast increasing values were observed. Accordingly, the hottest part was the region southeast of the Tisza River. Meanwhile, western and northern part of Transdanubia and in the hills the monthly mean temperature did not reach 15 degrees. Large parts of the country's average monthly mean temperatures were higher than the average (*Figure 6.*). The largest positive deviation was observed at the region east of the river Tisza where the anomaly was close to 1.5 to 2 degrees. The month was slightly cooler than average in the southwest and northwest parts of the country.

The amount of monthly precipitation in June was generally ranged between 100 and 200 mm (*Figure 7.*). Less than 100 mm rainfall was measured along the Körös and Mátraalja. In some parts of Somogy and the Mecsek mountain the monthly amount of rainfall exceeded 200 mm. In large parts of our country the precipitation was above average, in the middle part at some places twice to three times the rate of the average was measured (*Figure 8.*). Along the Körös and at the Western border the precipitation was about average or slightly below.

In July, the monthly precipitation was typically between 20 and 200 mm (*Figure 9.*). The higher amount of the rainfall (100 mm and over) was at north-east Hungary. In particular, little rain fell at the Balaton highlands, the Rábaköz and the Maros region. The monthly precipitation in the greater part of the country was above the usual values (*Figure 10.*). In the northeastern part of the country double amount of the average was observed, at some places in the Nyírség four times higher precipitation was measured. In the meanwhile in the middle part of Transdanubia the monthly precipitation was less than half of the usual quantity.

The August precipitation across the country varied between wide limits, generally were between 35 and 170 mm (*Figure 11.*). Values above 100 mm were observed in most parts of Transdanubia, the Great Sárrett region, and the Zemplén Mountains region. The least precipitation (35-60 mm) fell in the southern part of the country. In August, at large parts of the country more than usual amount of rain fell (*Figure 12.*). The largest positive anomaly was in the middle part of Transdanubia where volumes of 2.5 times the normal rate were not uncommon, while in the south of the country precipitation was below the long-term average quantity.

Verification of the forecasts for the 2010 June-August period.

Figures 13-16. display the observed, forecasted and climate values of the monthly amount of precipitation, monthly mean temperature and the monthly mean of the maximum and minimum temperature for the 2010 June-August period. Forecasts for the individual months represent the median of the ensemble prediction system of the previous months with different lead times valid for June, July and August. On some figures one can see less than six forecasted values which is caused by the fact that forecasts with different lead times predicted the same value of either precipitation or temperature.

In the case of the **precipitation** all the forecasts for every month predicted less than average amount while the observations in all three months show that the measured value was above average (*Figure 13.*). This result again validate the previous experiences that the precipitation forecast is highly unreliable usually underestimating the real outcome.

Results of the temperature forecasts are generally better. **The monthly mean temperature** forecasts predicted the positive anomaly of June and July well, while for August most of them predicted positive anomaly, which in fact was correct, but the scale of it was too high (*Figure 14.*). In the case of the **monthly mean of the maximum temperature** the results are a bit less encouraging. The observed values in June and August were quite close to the climate of the 1971-2000 period and a few forecasted predicted it well but the majority of them predicted lower than average maximum temperatures (*Figure 15.*). For the **monthly mean of the minimum temperature** all the forecasts predicted higher than average minimum temperatures which was confirmed by the observations (*Figure 16.*). In June and July still most of the forecasts were under the measured value while in August most of them predicted too high minimum temperatures.

Temperature figures 2010 June-August

Középhőmérséklet, 2010. június
Mean temperature, June 2010

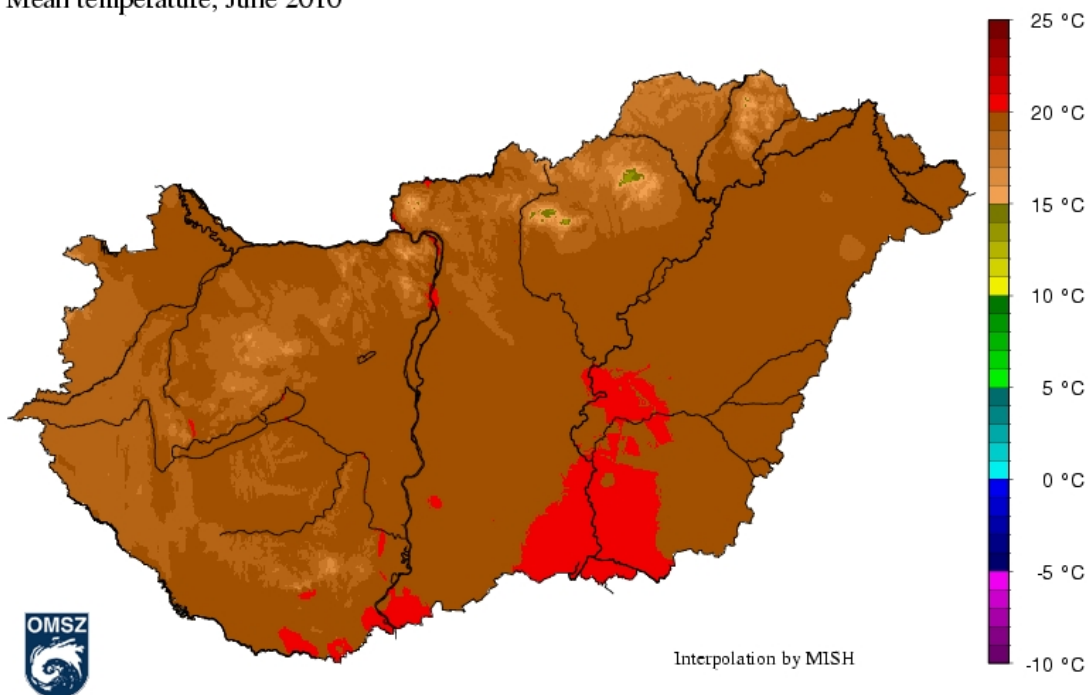


Figure 1. Mean temperature, June 2010.

Középhőmérsékleti anomália az 1971-2000 átlaghoz viszonyítva, 2010. június
Temperature anomaly relative to 1971-2000, June 2010

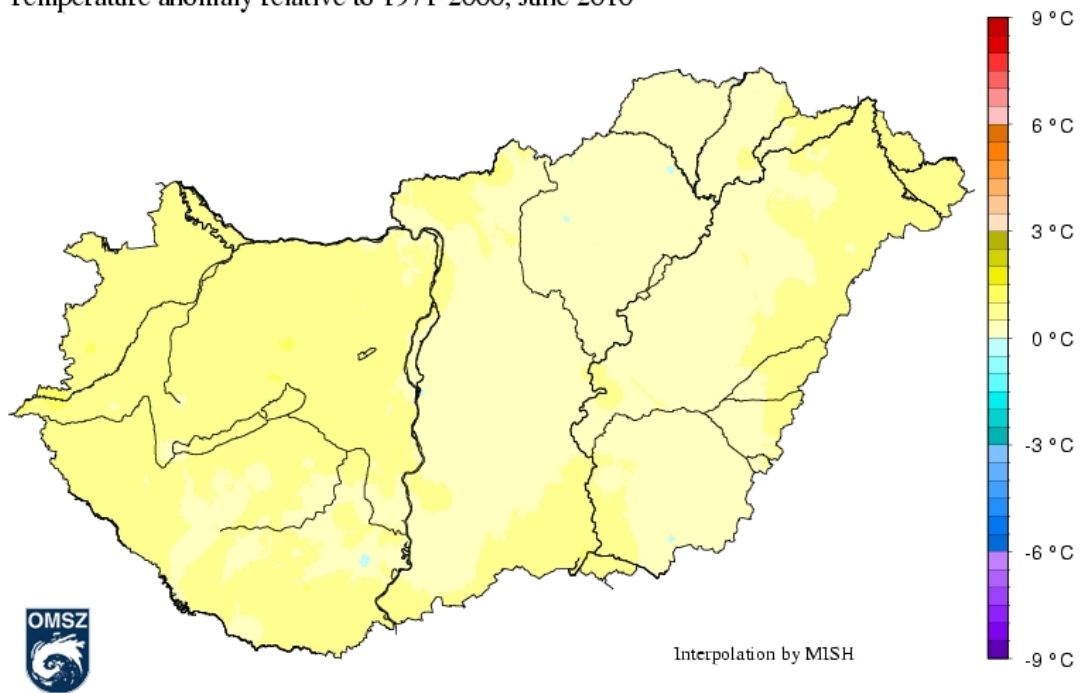


Figure 2. Temperature anomaly relative to 1971-2000, June 2010.

Középhőmérséklet, 2010. július
Mean temperature, July 2010

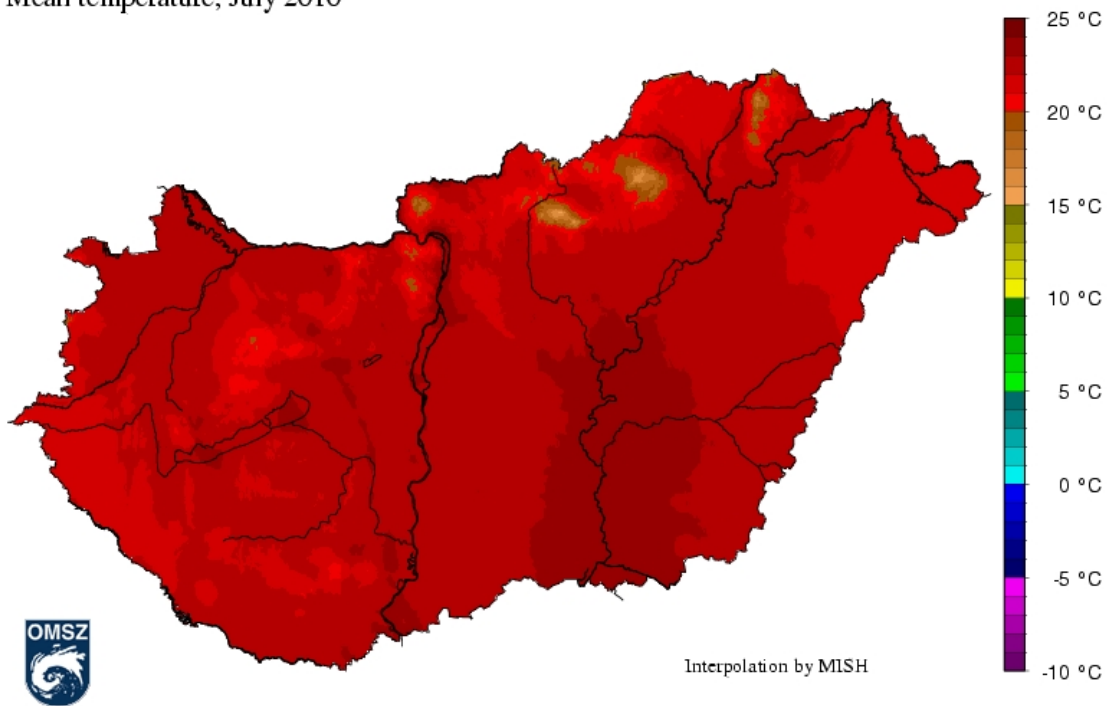


Figure 3. Mean temperature, July 2010.

Középhőmérsékleti anomália az 1971-2000 átlaghoz viszonyítva, 2010. július
Temperature anomaly relative to 1971-2000, July 2010

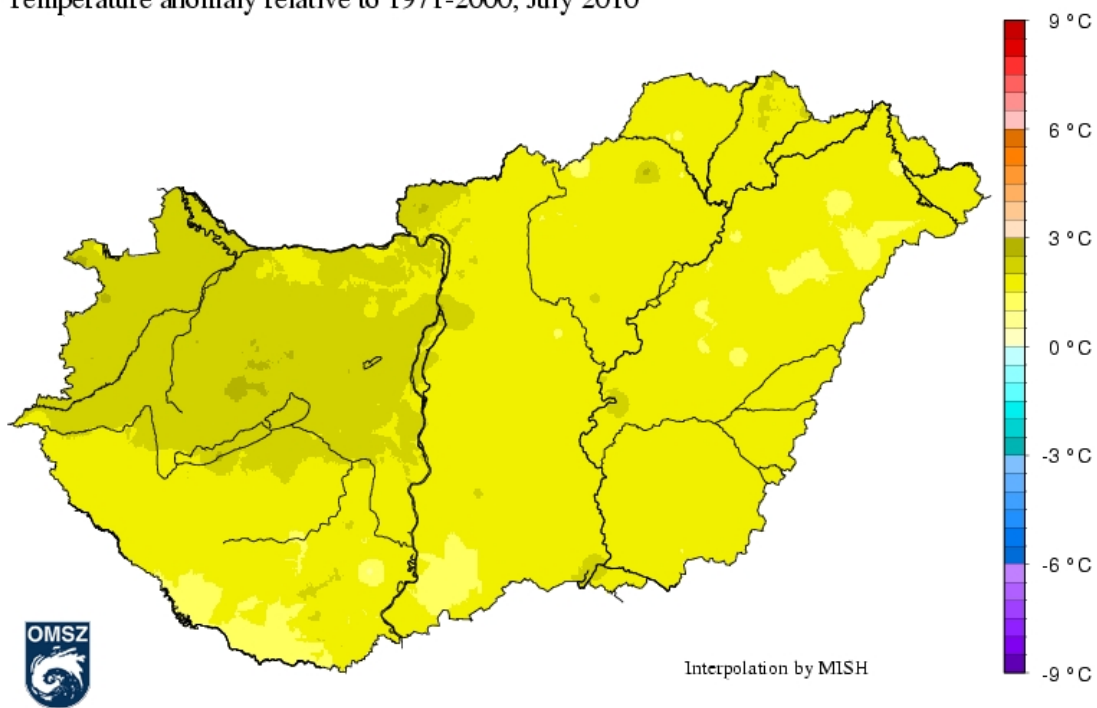


Figure 4. Temperature anomaly relative to 1971-2000, July 2010.

Középhőmérséklet, 2010. augusztus
Mean temperature, August 2010

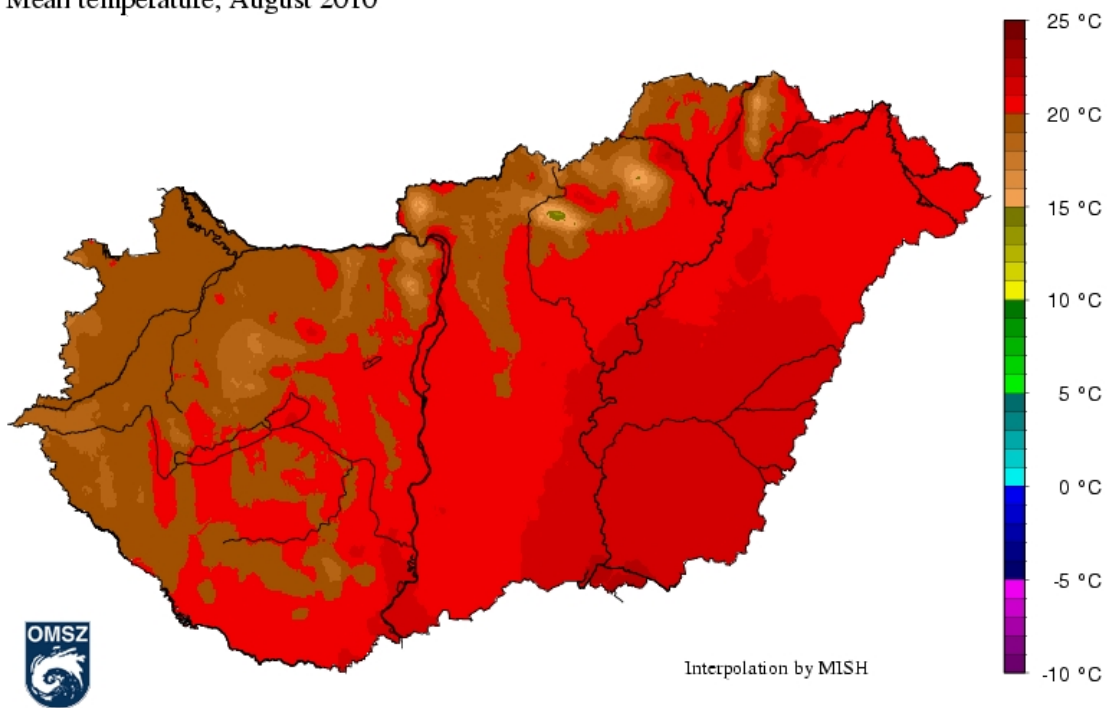


Figure 5. Mean temperature, August 2010.

Középhőmérsékleti anomália az 1971-2000 átlaghoz viszonyítva, 2010. augusztus
Temperature anomaly relative to 1971-2000, August 2010

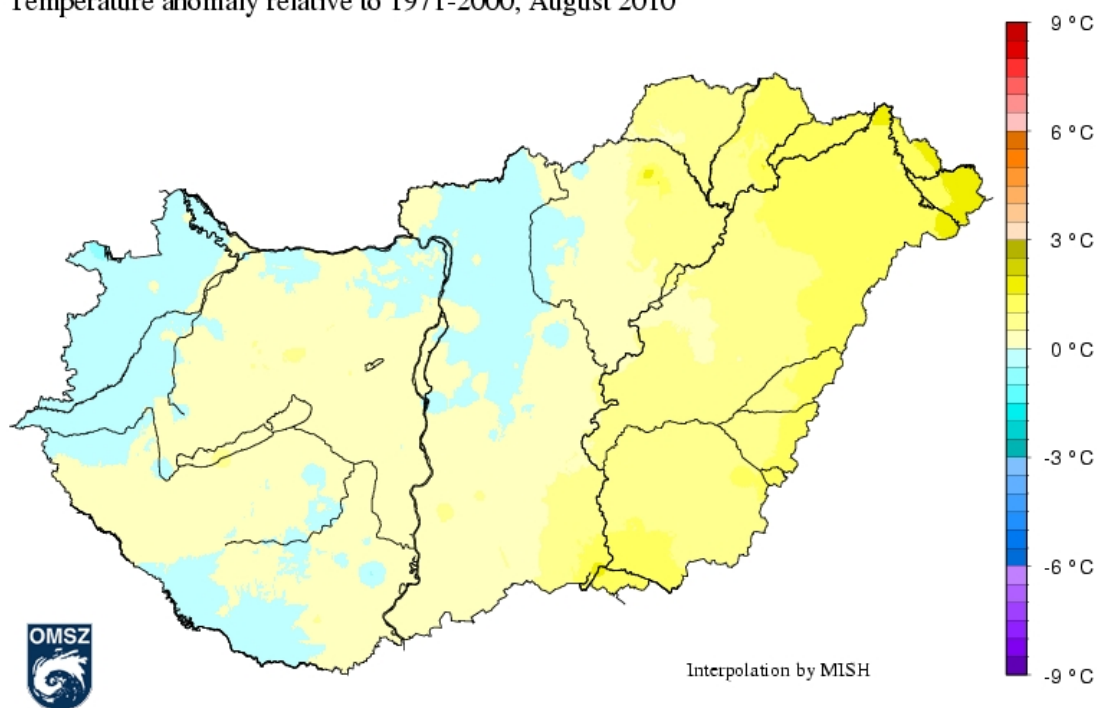


Figure 6. Temperature anomaly relative to 1971-2000, August 2010.

Precipitation figures 2010 June-August

Csapadékösszeg, 2010. június
Precipitation, June 2010

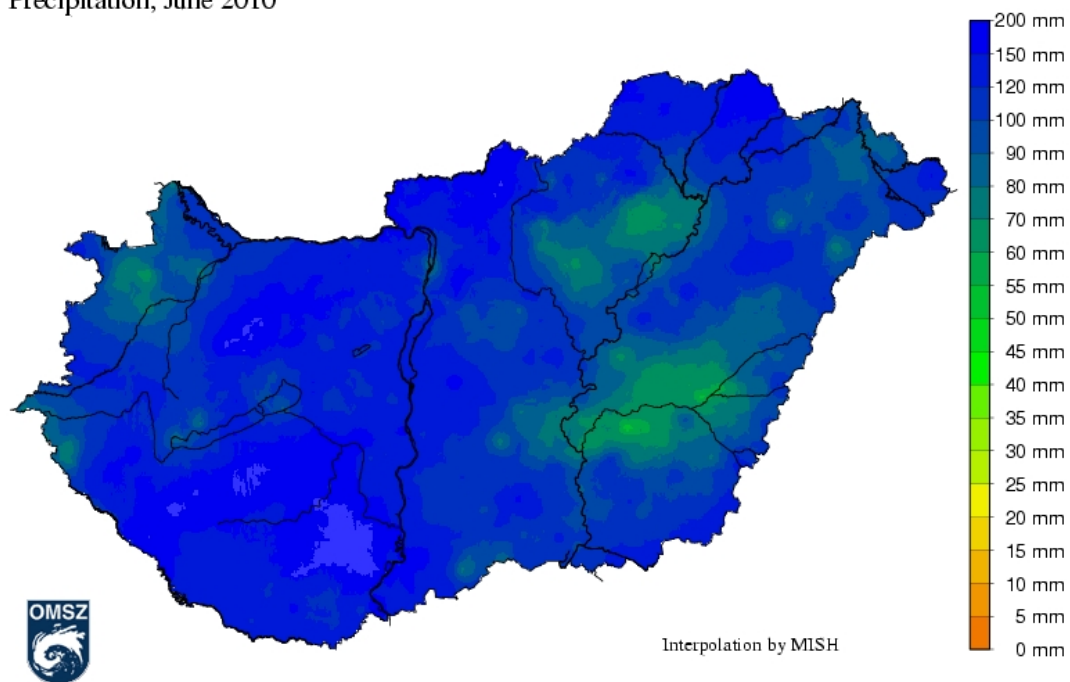


Figure 7. Precipitation, June 2010.

A csapadékösszeg aránya az 1971-2000 átlaghoz viszonyítva, 2010. június
Precipitation percentage of normal 1971-2000, June 2010

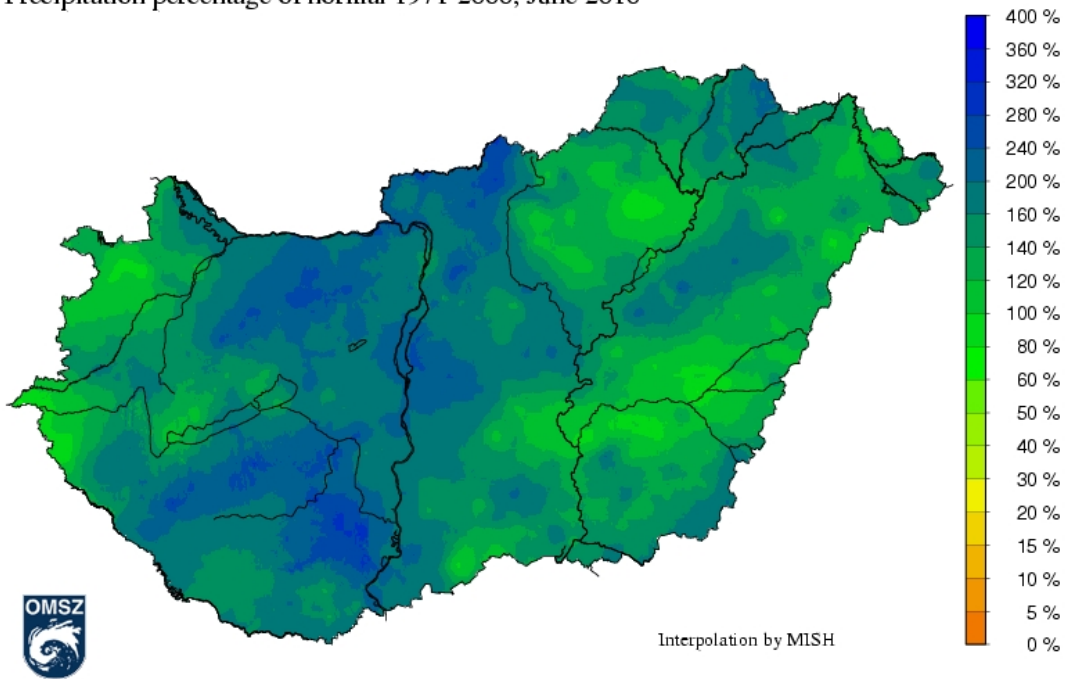


Figure 8. Precipitation percentage of normal 1971-2000, June 2010.

Csapadékösszeg, 2010. július
Precipitation, July 2010

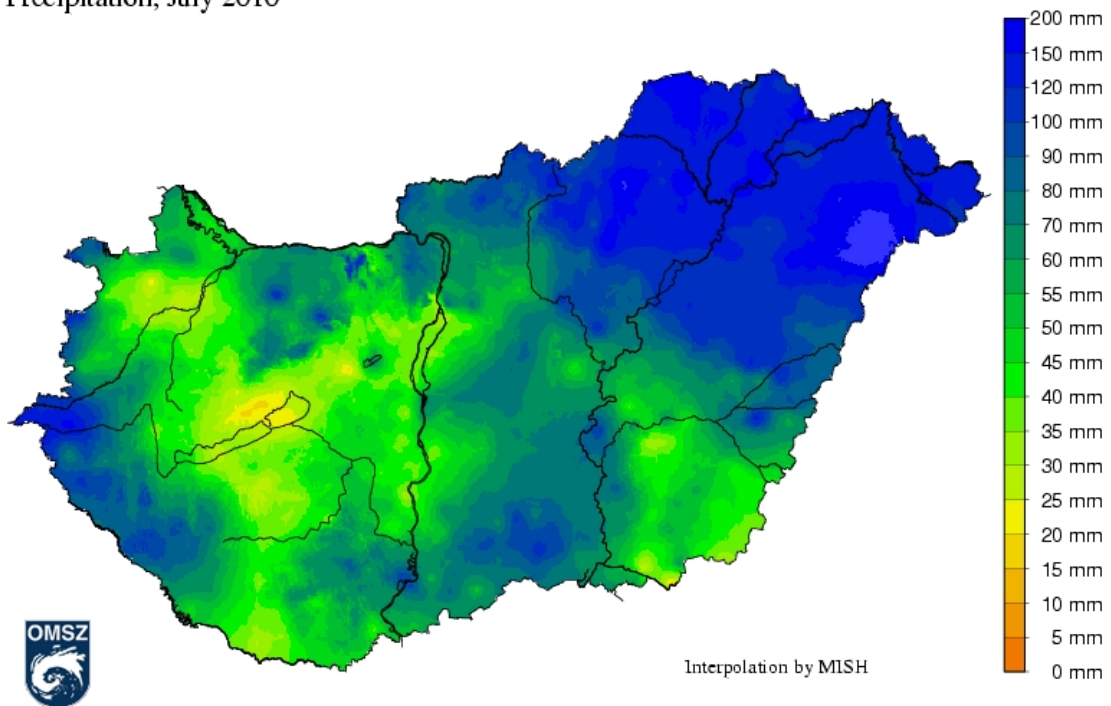


Figure 9. Precipitation, July 2010.

A csapadékösszeg aránya az 1971-2000 átlaghoz viszonyítva, 2010. július
Precipitation percentage of normal 1971-2000, July 2010

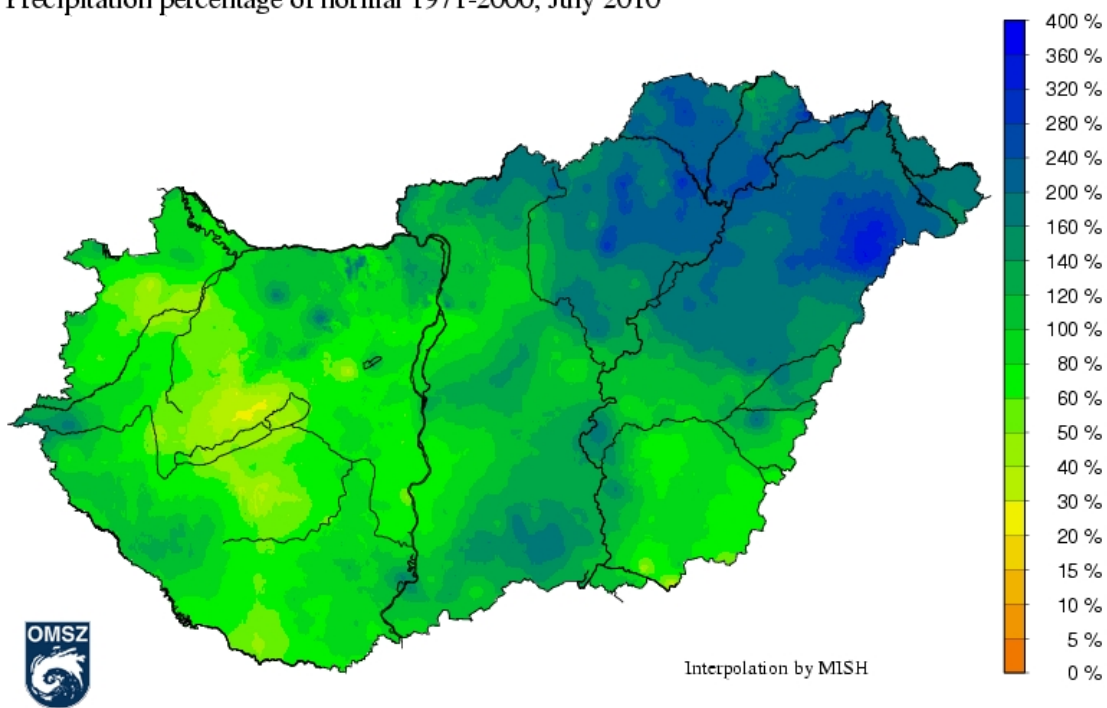


Figure 10. Precipitation percentage of normal 1971-2000, July 2010.

Csapadékösszeg, 2010. augusztus
Precipitation, August 2010

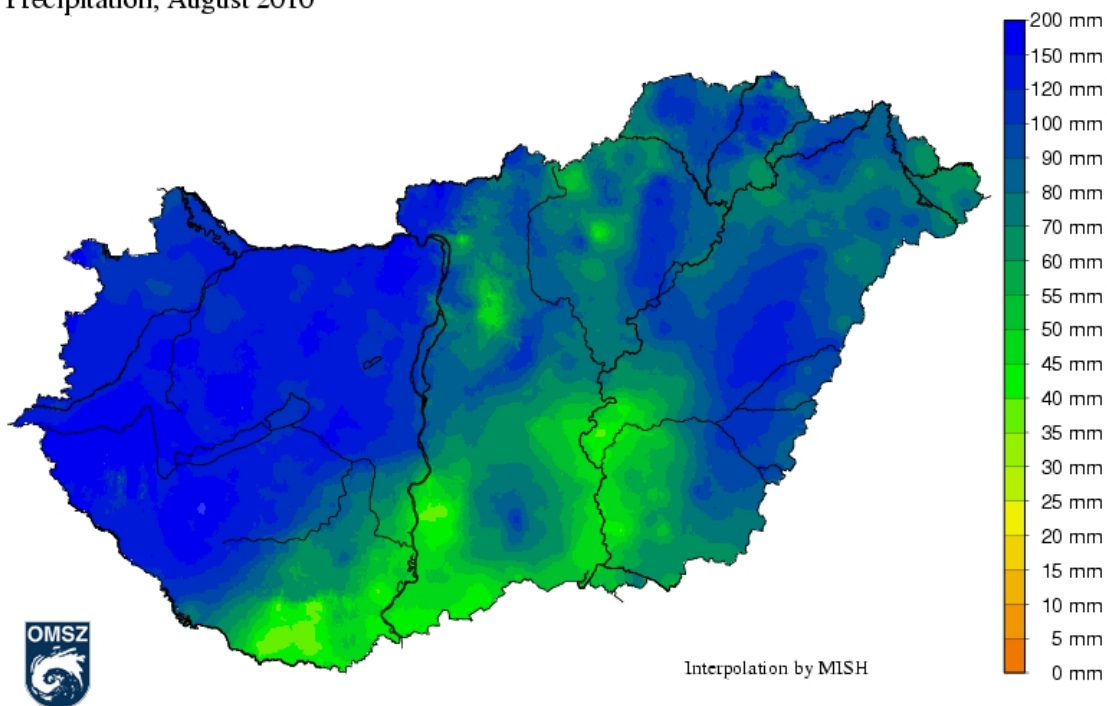


Figure 11. Precipitation, August 2010.

A csapadékösszeg aránya az 1971-2000 átlaghoz viszonyítva, 2010. augusztus
 Precipitation percentage of normal 1971-2000, August 2010

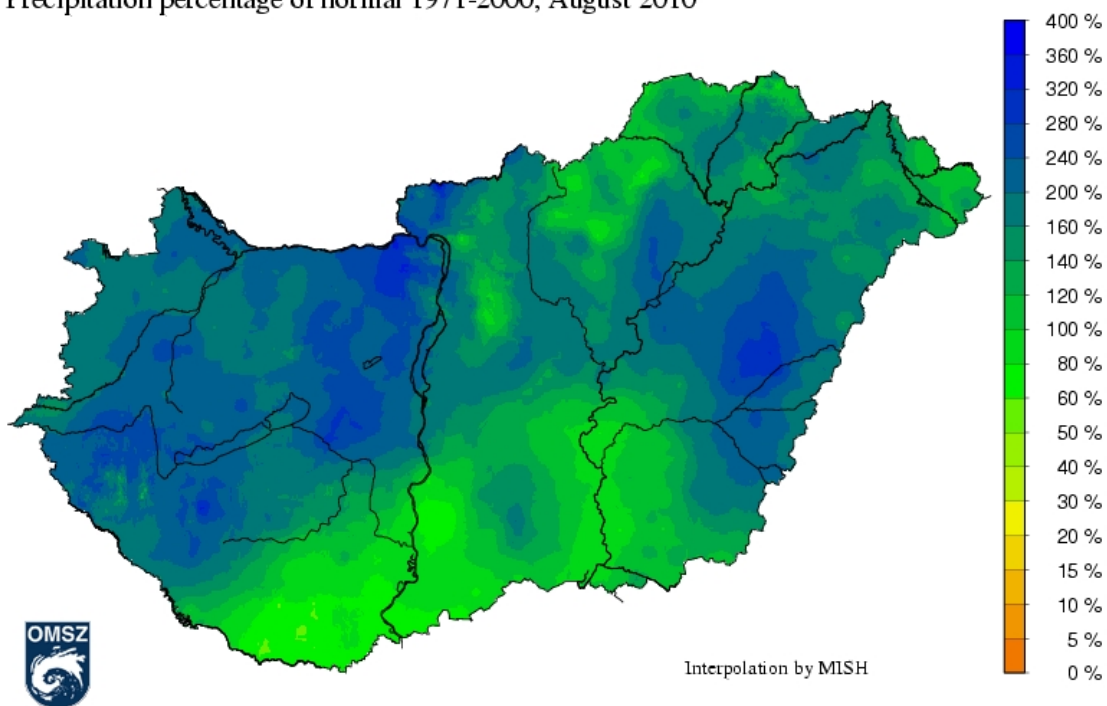


Figure 12. Precipitation percentage of normal 1971-2000, August 2010.

Forecast vs obs vs climate

Observations of the 2010 June – August period compared to the ECMWF System 3 forecasts and the climate of the 1971–2000 period. Amount of the monthly mean precipitation. Country wide mean, Hungary.

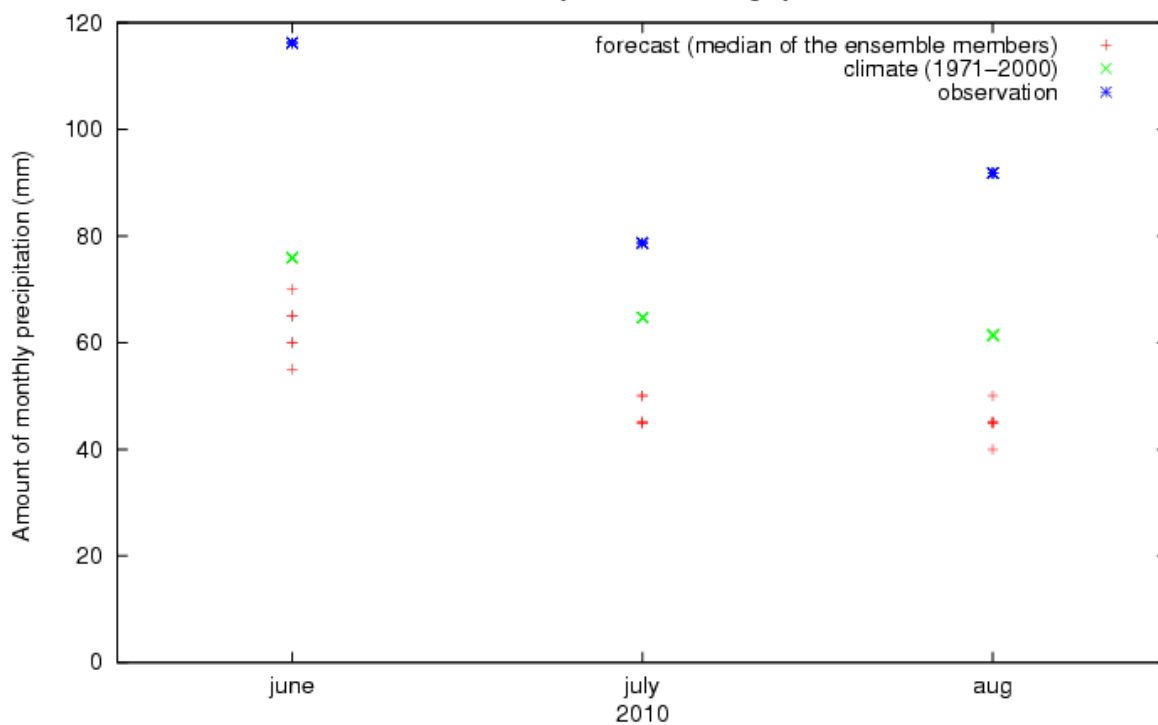


Figure 13. The forecasted, observed and climate values of the monthly amount of precipitation.

Observations of the 2010 June – August period compared to the ECMWF System 3 forecasts and the climate of the 1971–2000 period. Country wide monthly mean temperature, Hungary.

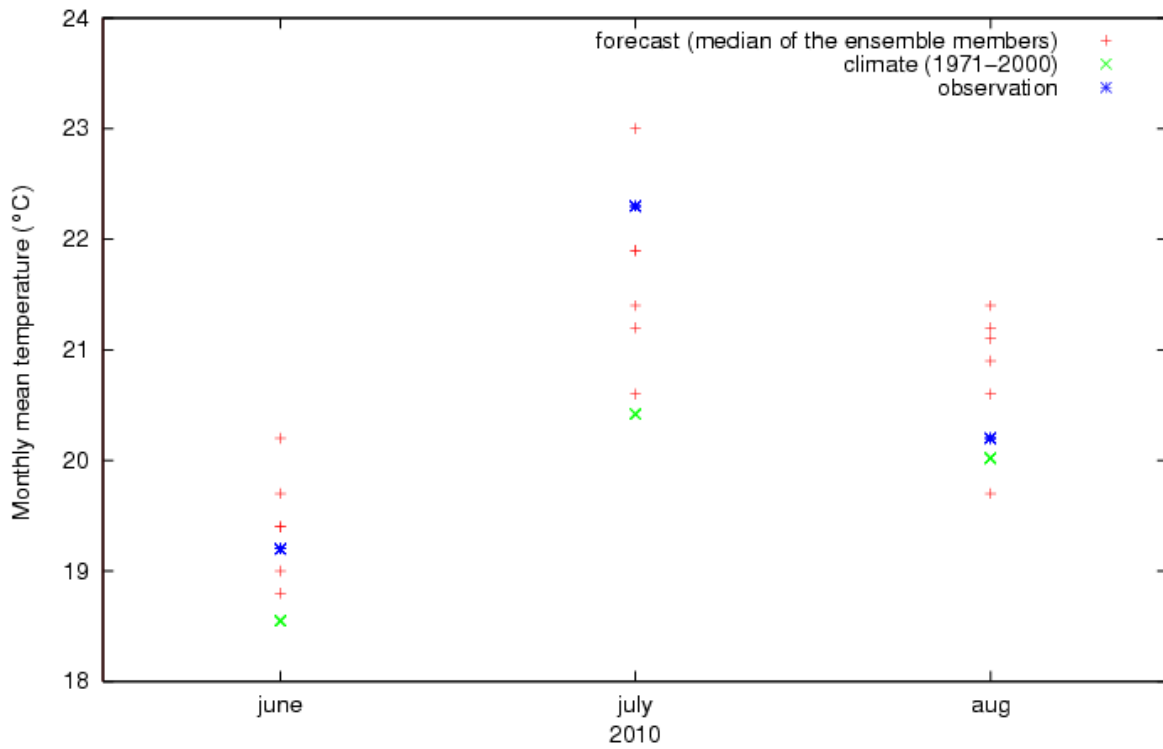


Figure 14. The forecasted, observed and climate values of the monthly mean temperature.

Observations of the 2010 June – August period compared to the ECMWF System 3 forecasts and the climate of the 1971–2000 period. Country wide monthly mean if the maximum temperature, Hungary.

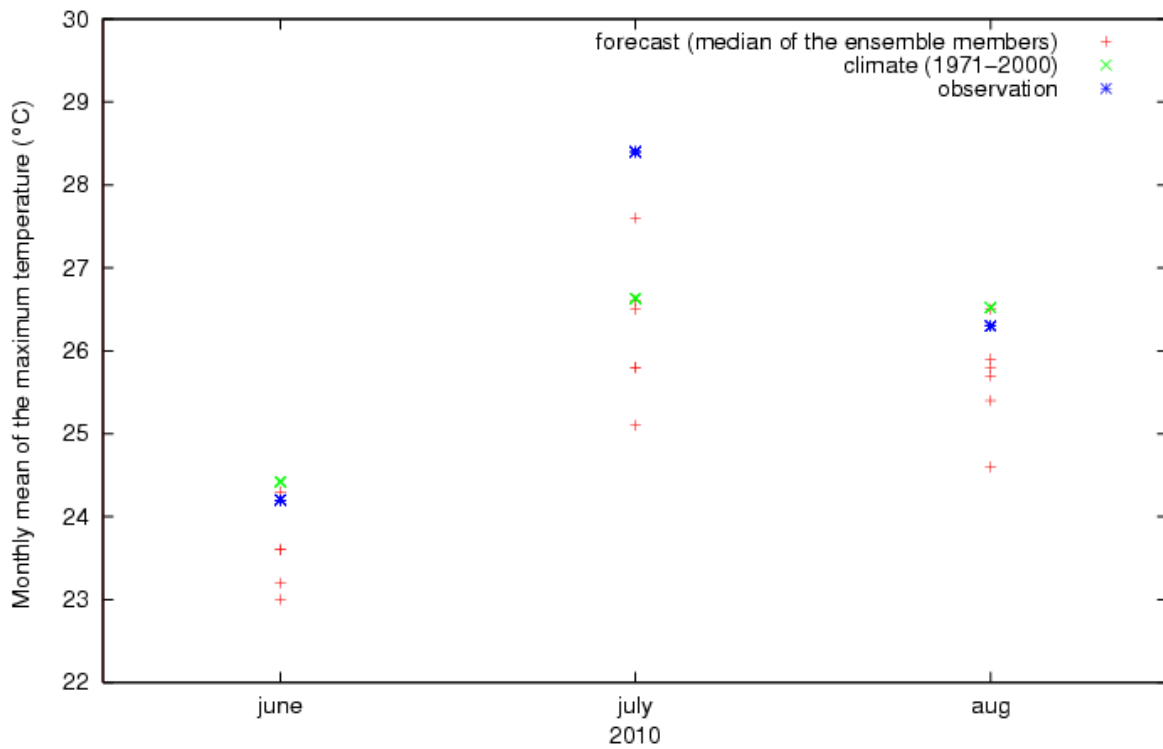


Figure 15. The forecasted, observed and climate values of the monthly mean of the maximum temperature.

Observations of the 2010 June – August period compared to the ECMWF System 3 forecasts and the climate of the 1971–2000 period. Country wide monthly mean of the minimum temperature, Hungary.

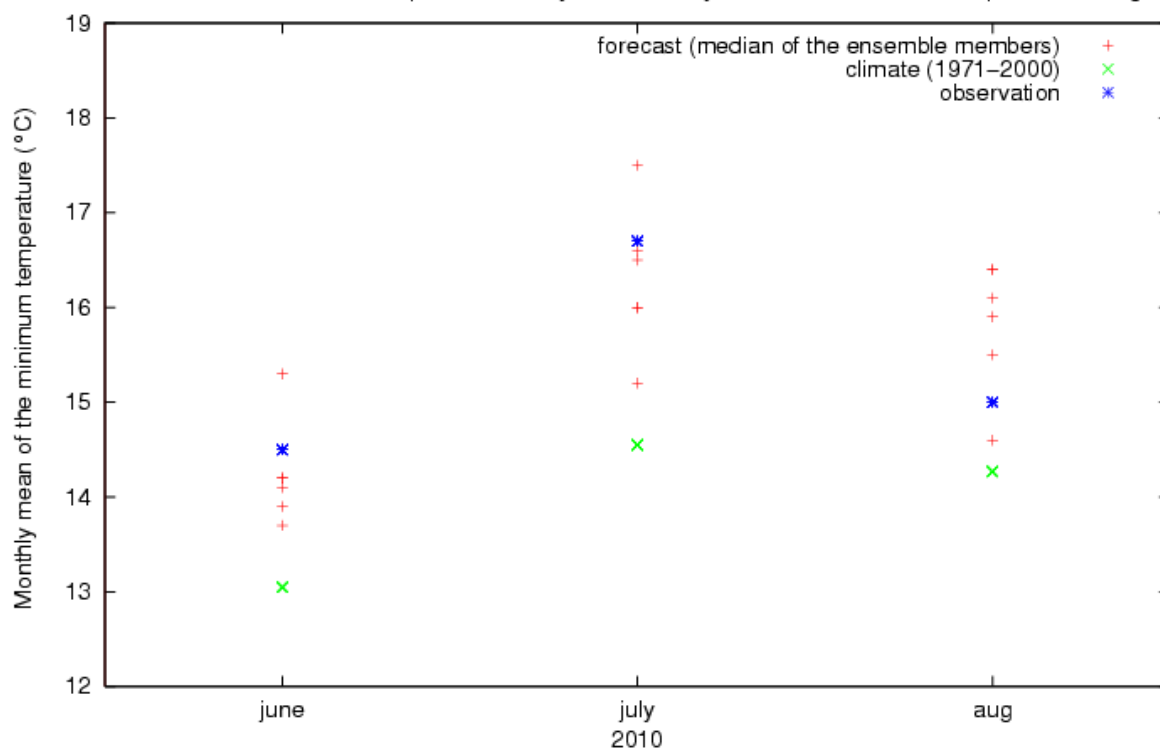


Figure 16. The forecasted, observed and climate values of the monthly mean of the minimum temperature.