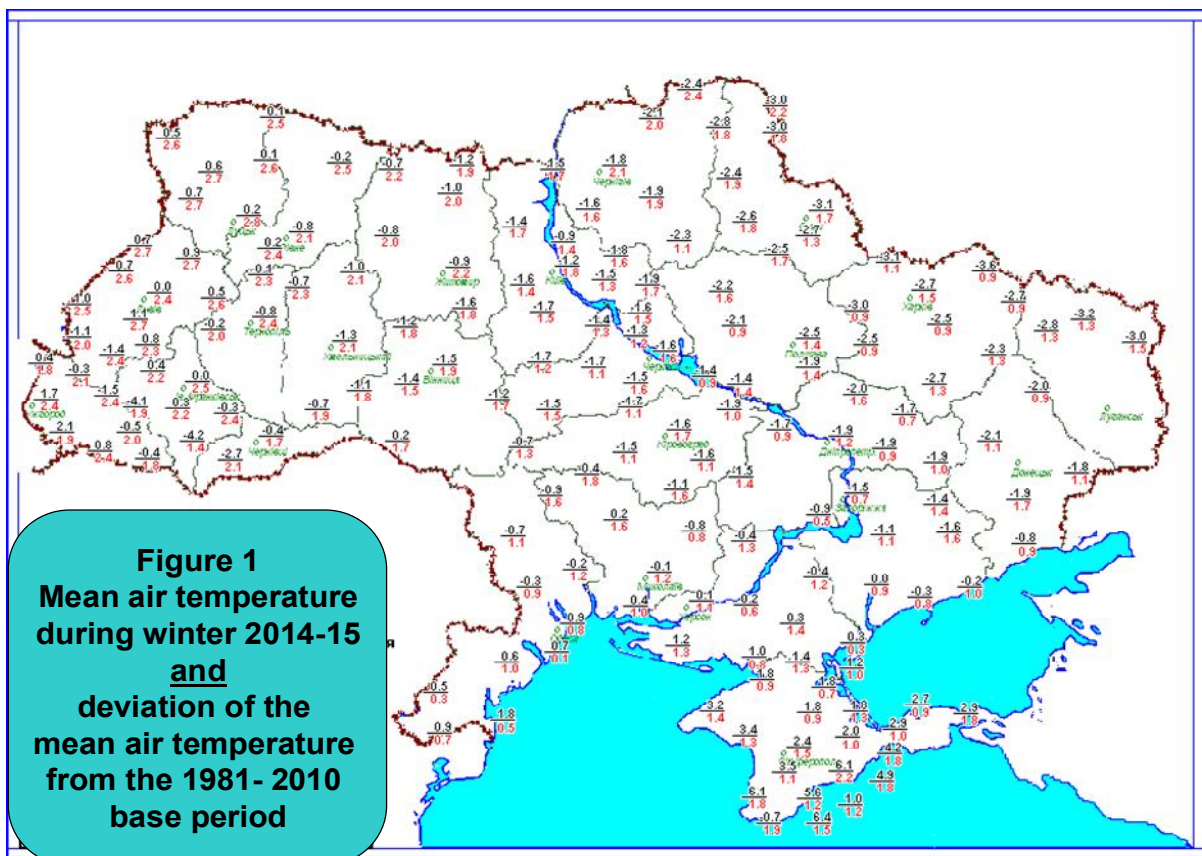


VERIFICATION OF THE SEECOF-12 WINTER 2014-2015 CLIMATE OUTLOOK FOR THE TERRITORY OF UKRAINE COMPARED TO THE 1981-2010 BASE PERIOD

Temperature

According to the Consensus statement of SEECOF-12, mean winter seasonal temperature in Ukraine was expected to be: warmer than average (temperature in the upper tercile) with 35% probability, average with 35% probability and below average with 30% probability, compared to the 1981–2010 climatological base period.

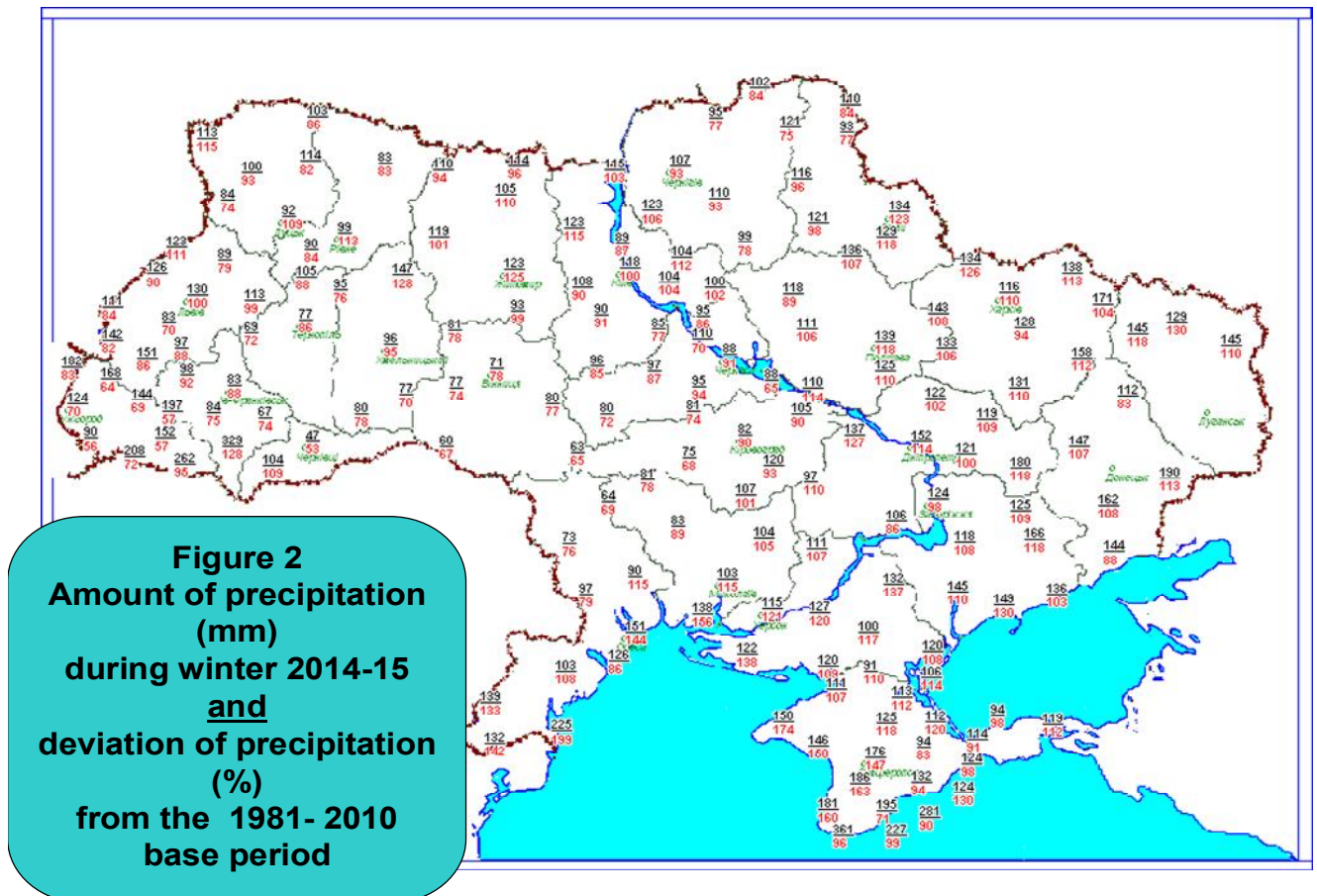
Based on the meteorological monitoring, the deviation of the mean air temperature from the average 1981-2010 base period during winter 2014-15 ranged from $+0.1..0.5^{\circ}\text{C}$ in the south of the Odessa region to $+2.8^{\circ}\text{C}$ in Lutsk of the Volyn region and in the high-lying areas from $+1.4^{\circ}\text{C}$ to $+2.4^{\circ}\text{C}$ in Ukrainian Carpathians and from $+1.2^{\circ}\text{C}$ to $+1.9^{\circ}\text{C}$ in Crimean mountains (*Figure 1, lower figure*). Most stations the deviation of the mean air temperature is $+1..2^{\circ}\text{C}$. Negative deviations were not recorded on the territory of Ukraine.



Precipitation

The SEECOF-12 climate outlook indicated the probabilities for below, near or above-average conditions were expected to be approximately equal to the territory of Ukraine.

Monitoring of precipitation showed normal summer conditions across most of Ukraine (Figure 2). Precipitation were in the range from 47 mm (53%) to 225 (199%) and 329 mm (128%) in Ukrainian Carpathians. The least amount of rainfall recorded in Chernivtsi and largest – in Vylkove, Odessa region and Pozhezhevaska, Ukrainian Carpathians. In most of the Ukraine winter precipitation were in the range 80..120% relative to the average values of the base period 1981-2010.

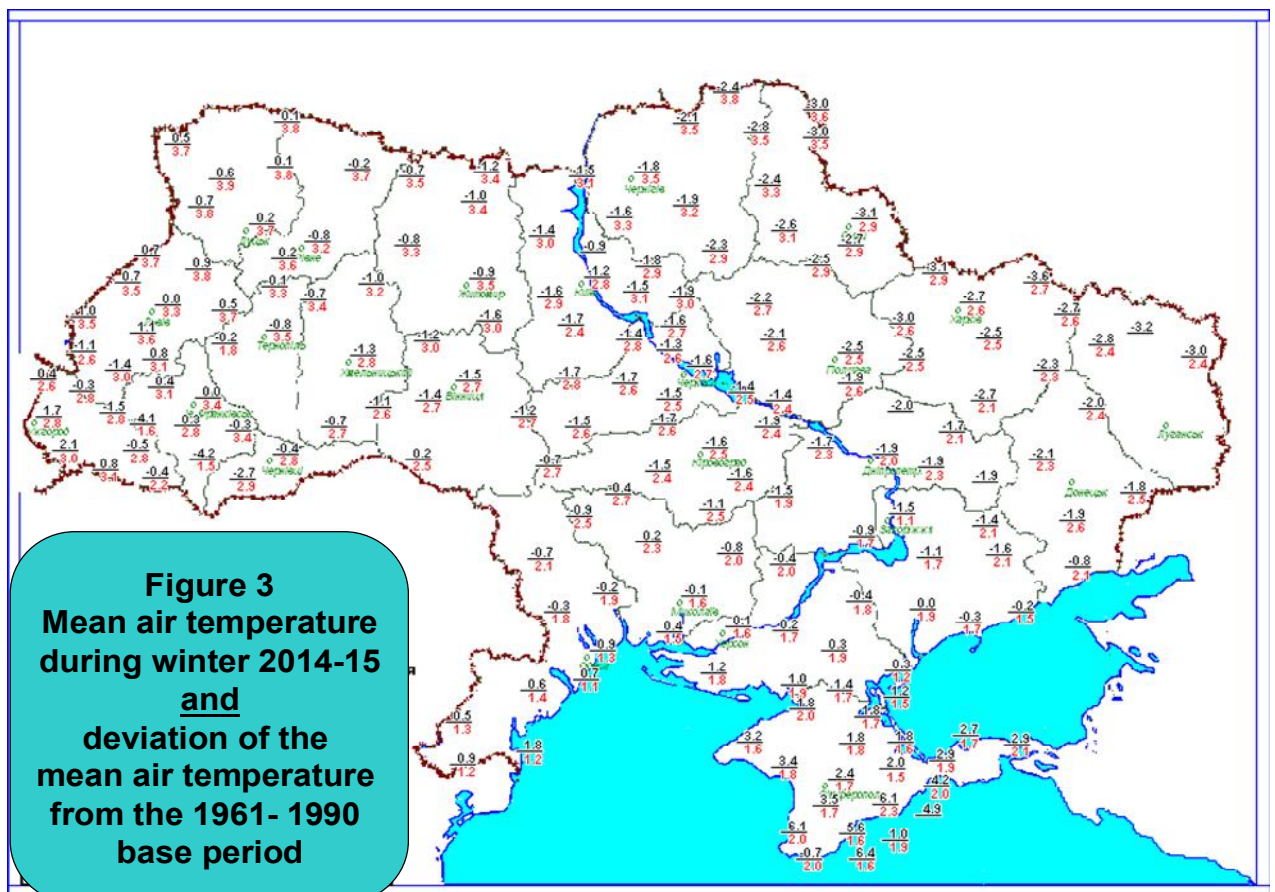


Analysis of the 2014 summer season for Ukraine compared to 1961-1990 base period

Temperature

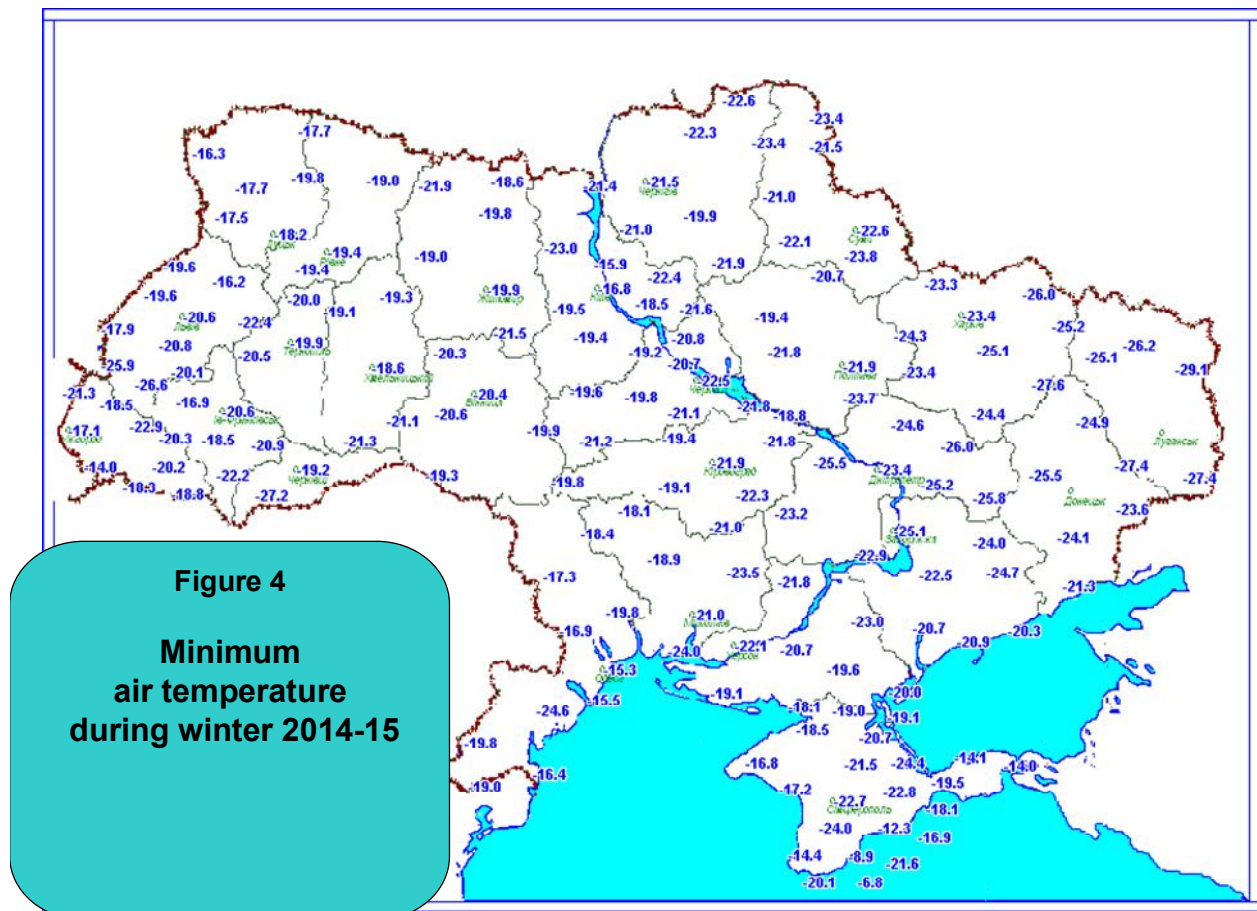
During winter 2014-15, mean air temperature ranged between -3.6°C in the Kharkiv region and $+6.4^{\circ}\text{C}$ in the Crimea region and in the mountain areas from -1.5°C to -4.2°C in Ukrainian Carpathians and from -0.7°C to 1.0°C in Crimean mountains (*Figure 3, upper figure*)

The deviation of the mean air temperature from the normal for the 1961- 1990 base period during winter 2014-15 ranged from 1.1°C in the south (Odessa, Crimea regions) to 3.9°C in the north (Volyn, Chernihiv regions) and in the high-lying areas from 1.5°C to 2.9°C in Ukrainian Carpathians and 2°C in Crimean mountains (*Figure 3, lower figure*).



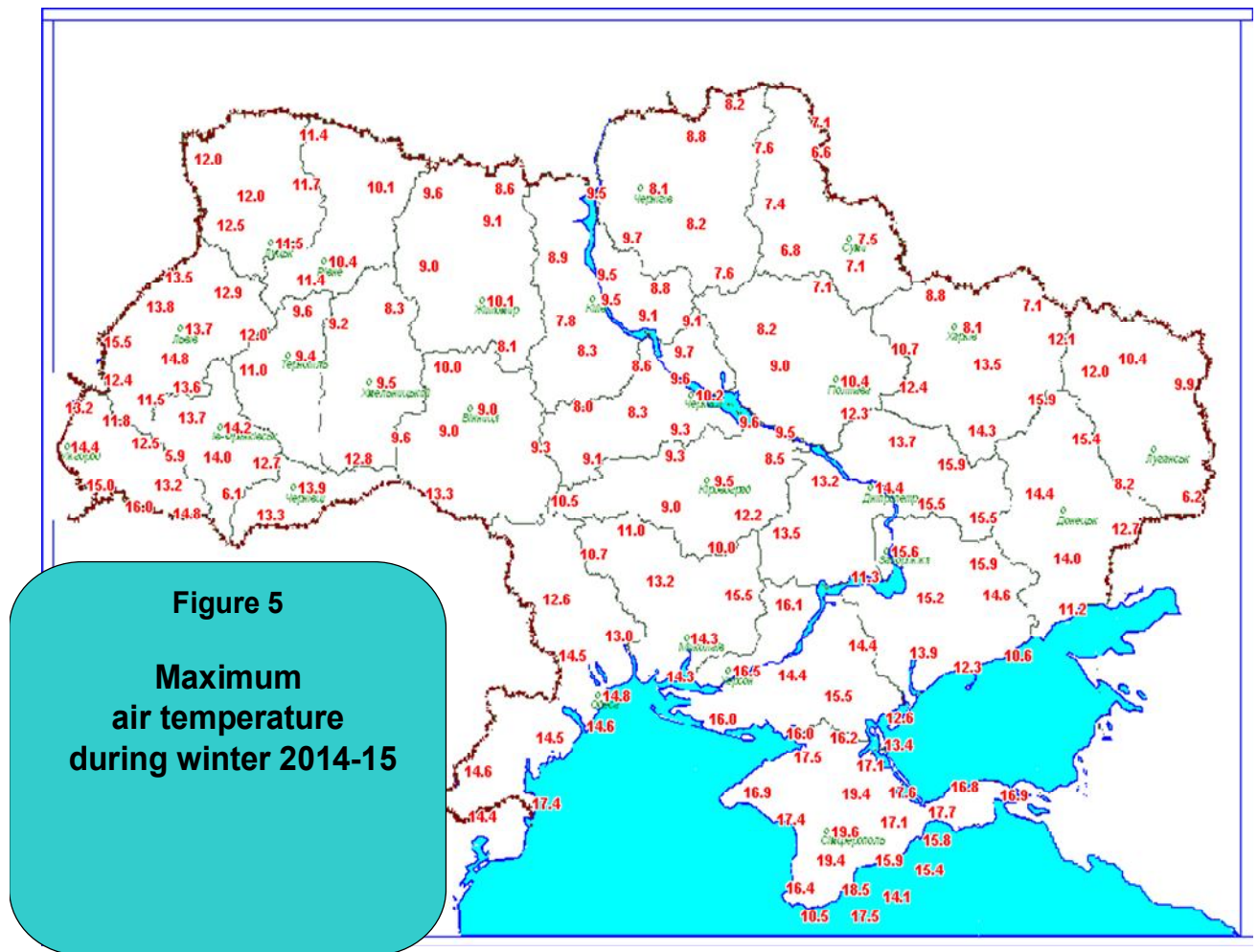
The lowest (minimum) air temperature during the winter of 2014-15 (Figure 4) ranged between -29.1°C in Belovodsk, Luhansk region (east of country) 1.01.2015 and -6.8°C in Yalta, Crimea (south of country) 7.01.2015.

The coldest period was 5-9 January 2015 but record low temperature was not registered on these days. The severe frost -30 - -35°C is considered very dangerous phenomenon for the territory of Ukraine. This was not observed during the winter 2014-15. During the winter there were several periods of minimum temperature of -20 - -29°C , but they were not long and did not cover the entire country.

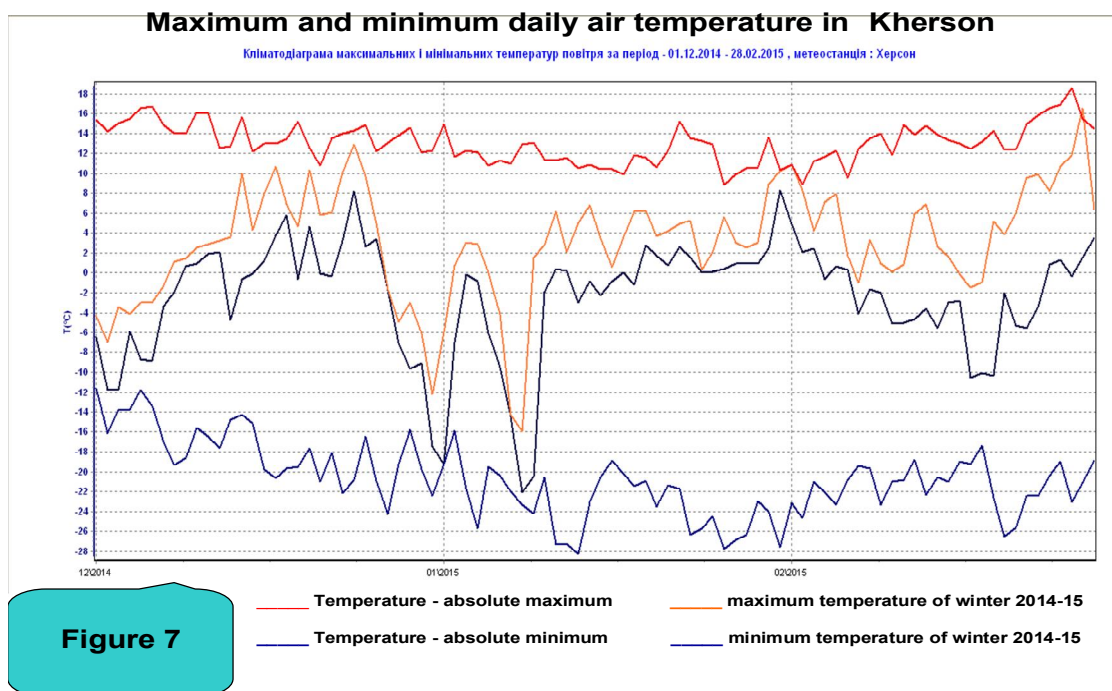
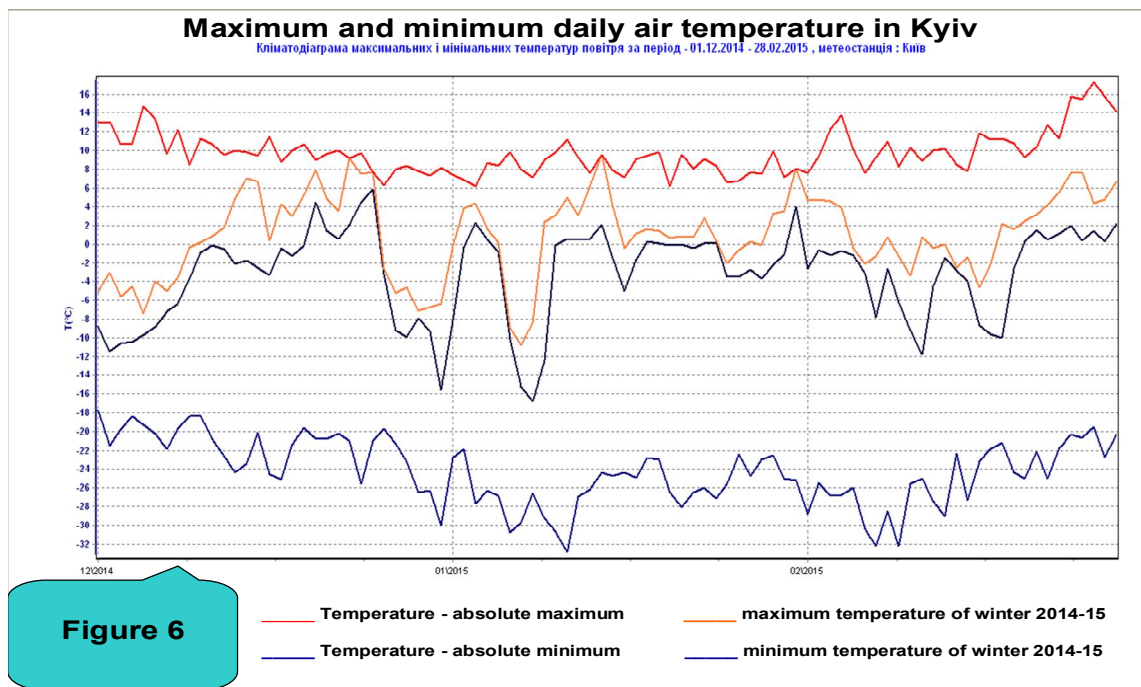


The highest (maximum) air temperature during the winter of 2014-15 (Figure 5) ranged between 6.6°C in Hlukhiv Sumy region (20.12.2014) and 19.6°C in Simferopol Crimea (27.02.2015).

Warmest period was 23-25 December, when were increased (0.2-3.3°C) absolute maximum temperature for this day for the entire observation period in most regions of Ukraine. During the winter thaw periods were long and frequent.



Three-month course of the mean, maximum and minimum daily air temperature in Kyiv (north), Kherson (south), L'viv (west), Kharkiv (east) during winter 2014-15 (Figure 6, 7, 8, 9)



Maximum and minimum daily air temperature in L'viv

Кліматодіаграма максимальних і мінімальних температур повітря за період - 01.12.2014 - 28.02.2015, метеостанція: Львів

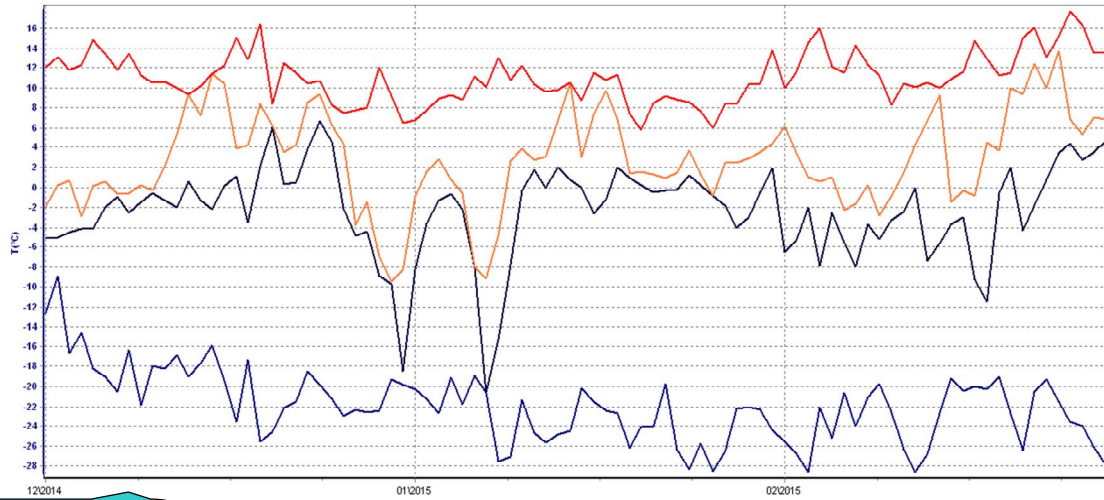


Figure 8

— Temperature - absolute maximum — maximum temperature of winter 2014-15
— Temperature - absolute minimum — minimum temperature of winter 2014-15

Maximum and minimum daily air temperature in Kharkiv

Кліматодіаграма максимальних і мінімальних температур повітря за період - 01.12.2014 - 28.02.2015, метеостанція: Харків

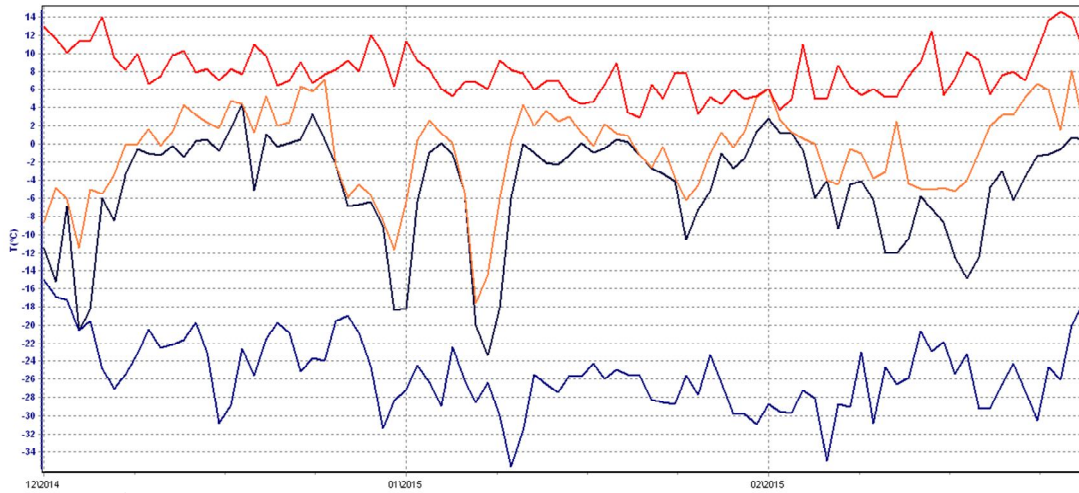


Figure 9

— Temperature - absolute maximum — maximum temperature of winter 2014-15
— Temperature - absolute minimum — minimum temperature of winter 2014-15

Precipitation

During winter 2014-15, precipitation sums were close to the average values (compared to the normal for the 1961 – 1990 base period) in most of Ukraine with the exception Chernivtsi (46%) and Vylkove, Odessa region (170%). (Figure 10).

The maximum daily amount of precipitation of 69 mm was registered in Vylkove, Odessa region on 29-th of December. The amount of 329 mm observed in Pozhezhevsk of Ivano-Frankivsk region (Carpathians) was the record breaking precipitation total registered during winter 2014-15.

