



Twelfth Session of the SOUTH EAST EUROPEAN CLIMATE OUTLOOK FORUM

SEECOF-12 MEETING

DRAFT VERSION

ANALYSIS AND VERIFICATION OF THE SEECOF-11 CLIMATE OUTLOOK FOR THE 2014 SUMMER SEASON FOR SOUTH-EAST EUROPE (SEE)

CLIMATE OUTLOOK FOR THE 2014 SUMMER SEASON FOR THE SEE REGION

As stated in the SEECOF-11 Consensus Statement on the Seasonal Climate Outlook for the 2014 summer season over South-Eastern Europe (document: <http://www.seevccc.rs/SEECOF/SEECOF-11/STEP%203/Consensus%20Statement%20SEECOF-11.pdf>), in almost the whole of the SEECOF region there was likelihood for above-average temperature. There was less probability for the average temperature to be exceeded in most of the Pannonia plain, the western, central and eastern parts of the Balkan Peninsula, in Jordan, and in the central parts of the Caucasus region (zone 2 in Figure 1), while there was higher probability for the occurrence of above-average conditions in other parts of the SEECOF region (zone 1 in Figure 1). In some parts of continental Turkey (zone 3 in Figure 1) uncertainty was large: probabilities for below-, near- or above- average conditions were approximately equal.

Uncertainties in regional predictions were larger for precipitation than for temperature. Along the coasts of the Caspian Sea summer season precipitation totals were likely to be near or below average (zone 2 in Figure 2). In the Pannonia plain, the western, central and eastern part of the Balkan Peninsula, as well as in the continental part of the Caucasus region (zone 3 in Figure 2) the uncertainty was large: probabilities for below-, near- or above- average conditions were approximately equal. On the other hand, in the rest of the SEECOF region summer season totals were likely to be near or above average (zone 1 in Figure 2). It must be emphasized that it was possible that some parts, especially mountainous ones, might locally have near- or above- normal summer season totals, due to the episodes of enhanced convection with high intensity rainfall. Along the

southern coasts of the eastern Mediterranean, and in Israel and Jordan, it was not possible to forecast summer season precipitation due to dry season masking.

The Climate outlook for the 2014 summer season for the SEE region is presented in Figure 1.

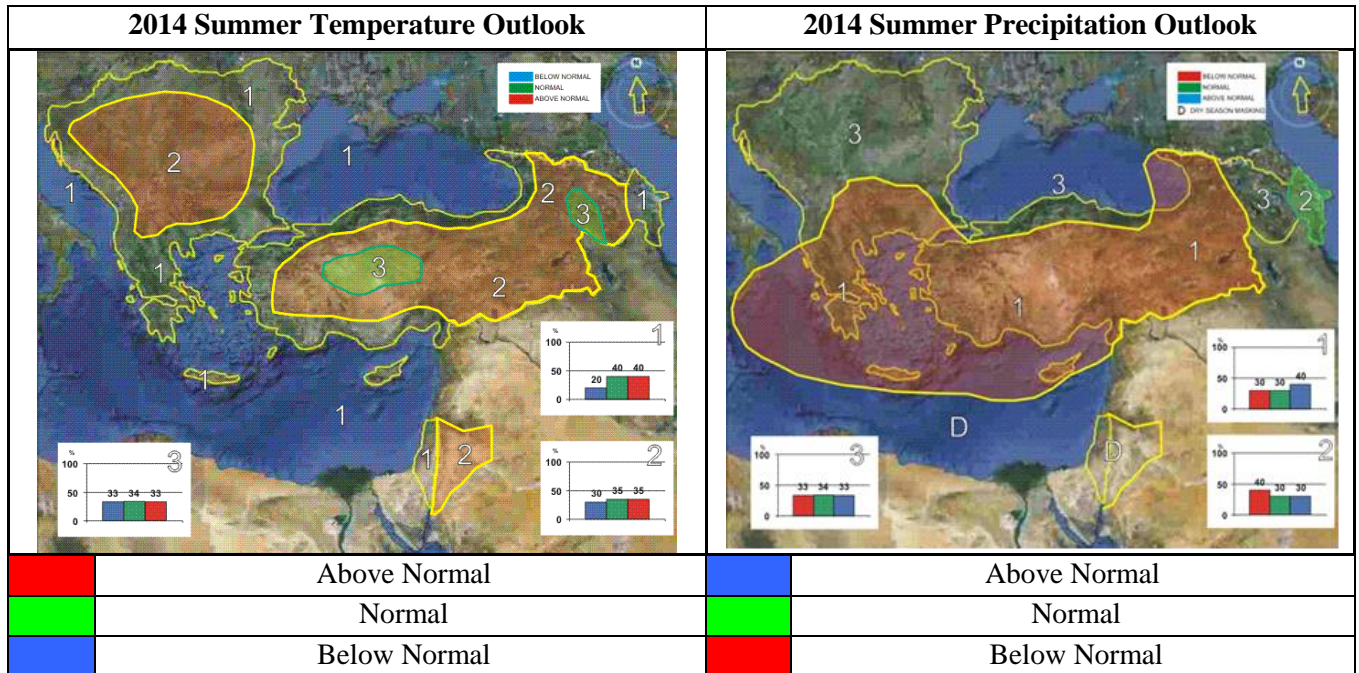


Figure 1. Graphical presentation of the climate outlook for the 2014 summer season for the SEE region

SHORT ANALYSIS OF THE 2014 SUMMER SEASON FOR THE SEE REGION

Analyses of the summer season temperature and precipitation anomalies are based on:

- operational products of the European Climate System Monitoring – ECSM (the ECSM system is a technical platform of the DWD, WMO RA VI RCC Node on Climate Monitoring, <http://www.dwd.de/ecsm;>
- seasonal bulletin on climate in the WMO region VI for the summer of 2014, (ECSM, DWD, WMO RA VI RCC Node on Climate Monitoring, [http://www.seevccc.rs/SEECOF/SEECOF-12/Pre-COF/Climate-Report-summer-season-2014-exp-RCC-CM.pdf;](http://www.seevccc.rs/SEECOF/SEECOF-12/Pre-COF/Climate-Report-summer-season-2014-exp-RCC-CM.pdf)
- climate monitoring products of the South East European Virtual Climate Change Center – SEEVCCC (Member of the WMO RA VI Pilot RCC Node on Climate Monitoring, http://www.seevccc.rs/imgsrc/clim_mon/201408/), and
- national climate monitoring reports of the following SEECOF-12 participating countries: Armenia, Bulgaria, Bosnia and Herzegovina (the Federation of Bosnia and Herzegovina and the Republic of Srpska), Croatia, Cyprus, Georgia, Greece, Israel, Montenegro, the FYR of Macedonia, the Republic of Moldova, Serbia,

Turkey and Ukraine (documents available on: <http://www.seevccc.rs/SEECOF/SEECOF-12/Pre-COF/>).

In most of the SEECOF region summer season temperatures were within normal values. The exception was in the central parts of Turkey, the area along the eastern and south-eastern coasts of the Black Sea, western coasts of the Caspian Sea with their hinterland, in the western parts of the Balkan Peninsula, in the northern and northeastern parts of the SEECOF region including Ukraine, as well as along the coasts of Israel, where the summer of 2014 was above normal.

In the north and northeast of the SEECOF region (Moldova and Ukraine) at the end of July and in the first half of the August, summer was accompanied by the appearance of heat waves, and the previously recorded number of summer days and tropical nights was reached or surpassed in most locations. During August, the observed maximum air temperature in Moldova reached 39.0°C, which happens once in every 15 years. During this period temperatures between 35°C and 40°C were also observed in Ukraine where absolute maximum air temperatures were repeated in L'viv and in Kherson. In the rest of the SEECOF region summer 2014 was less warm and dry.

Summer season temperatures in the lowlands of most of the SEECOF area mostly ranged between 18°C and 23°C; along the coasts of the Mediterranean, Ionian and Aegean Sea, as well as in the southern parts of the Balkans and Turkey, in most of Israel, in the northwestern and southern parts of Jordan, temperatures were between 25°C and 28°C, in some locations in western Jordan and in the far south of Turkey the average reaching even 33°C. On the other hand, at some higher elevations in the central parts of the Balkan Peninsula summer season temperatures were below 13°C. Summer season temperatures are presented in Figure 2 (left panel).

In most of the SEECOF region anomalies ranged between 1°C and 2°C; in some parts of central Turkey, along the north-eastern coasts of the Black Sea, in Azerbaijan, in most of Georgia, in the eastern parts of Armenia and along the coasts of Israel, they reached 3°C above normal. The exception occurred in the western, central and eastern part of the Balkan Peninsula, along the eastern and southeastern coast of the Aegean Sea with inland and in the south of Turkey, where anomalies ranged between -1°C and 1°C.

In most of the SEECOF region June had near normal conditions, except in the Pannonia Plain, western and eastern Balkans, along the coasts of the Adriatic and Ionian Sea, in the eastern Mediterranean, along the eastern coasts of the Black Sea and in the south Caucasus region. Near normal temperature conditions in most of the Balkan Peninsula were the consequence of the warm period from the first decade of June traced with a several days long heat wave.

July was warmer than normal in the south Caucasus region, along the coasts of the Black Sea, in the inland of Turkey, along the eastern coasts of the eastern Mediterranean, as well as in the north and northeast of the SEECOF region (the Pannonia Plain, northern

parts of the Carpathian region, Ukraine), while in the rest of the SEECOF region it was near normal.

In the Pannonia Plain, the western part of the Balkan Peninsula, along most of the coasts of the Adriatic Sea, as well as in the western parts of the Carpathian region, August mean temperatures were near normal, while warmer than normal conditions occurred in most of the SEECOF region.

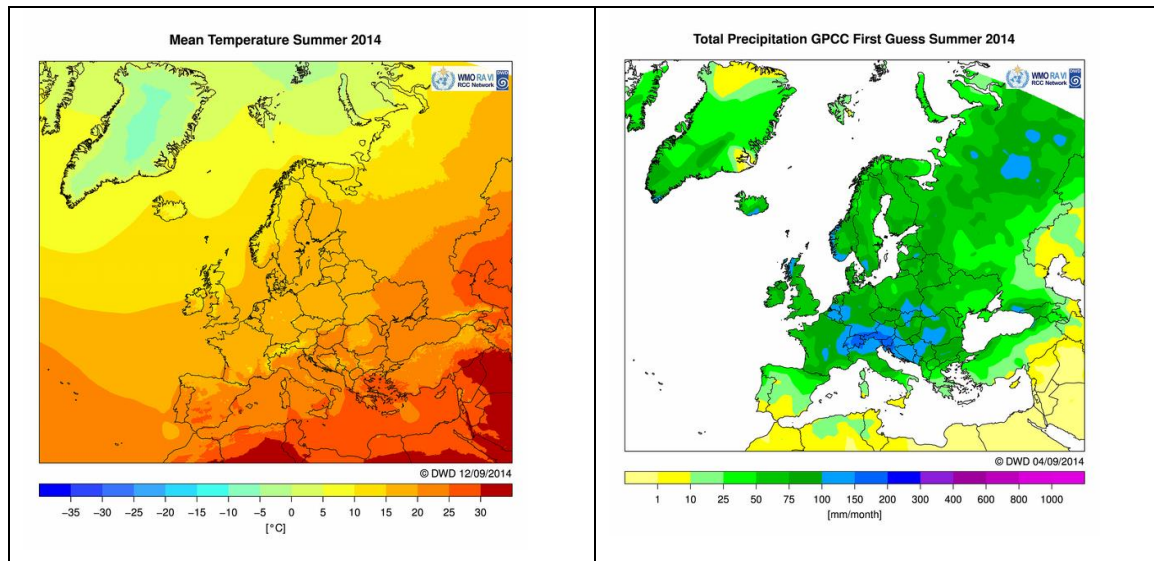


Figure 2. Summer season 2014 observed temperatures (left panel) and summer season observed precipitation in mm per month (right panel). Source: <http://www.dwd.de/ecsm>

The summer precipitation totals were increasing from the southeast to the northwest of the SEECOF region, ranging from less than 10 mm in the Eastern Mediterranean, Israel, Jordan, far southern parts of Turkey and along the western coasts of the Caspian Sea and its inland, up to 150 mm along the Dinaric Alps, in some parts of the Carpathian region and the central Balkans, and even much higher on the local level.

Precipitation anomalies were very diverse within the SEECOF area. It was considerably drier than normal (<75% of the long-term average) in the eastern part of the South Caucasus, in the western parts of Cyprus and in some parts in the south and east of Turkey. It was normally wet in most of the South Caucasian region, in some parts of the Pannonia Plain, in some parts of the eastern Balkans, in some parts of the eastern and southern Turkey and in most locations in Ukraine, while in the rest of the SEECOF region it was considerably wetter than normal (>125% of the long term average). Summer season precipitation anomalies are presented in Figure 3 (right panel).

During June in western Turkey, most of the Balkan Peninsula, especially along the coasts of the Black Sea in Romania and Bulgaria, as well as in the mountainous region of Cyprus, it was considerably wetter than normal, except in the northern parts of the Pannonia Plain and Carpathian region, along the eastern coasts of the Black Sea with its hinterland, as well as along the western coasts of the Caspian Sea with its hinterland,

where it was considerably drier than normal. In the rest of the SEECOF region June monthly totals were within normal values. The second decade of June brought several events of very heavy to extremely heavy precipitation, wind gusts and hail in the central and eastern Mediterranean and in the Balkan Peninsula. Many stations received 50 mm or more precipitation during the period from June 14 to 19. Some stations received more than 100 mm over that period. At Varna 178 mm of precipitation was recorded, which is close to 5 times the mean monthly total for this station. In Varna it caused flooding on 19 June with huge damages and at least 5 fatalities, while in the western and central Balkans flash floods in this period caused a disruption of power supply and temporary problems with road traffic. In Dubrovnik (South Adriatic) an absolute maximum of rain was recorded with the value of 191 mm (since the beginning of measurements in 1961). It was similar in Komiza (island Vis, Central Dalmatia) – 178.0 mm, the biggest amount since the beginning of measurements in 1981.

The same tendency of June precipitation was also observed during July. In most of the Balkan Peninsula, along the northwestern coasts and in the eastern parts of Turkey, as well as in the mountainous region of Cyprus, July mean precipitation totals were considerably wetter than normal due to the events of heavy rain with thunderstorm and hail caused by convective activity. Absolute daily maximum rain was recorded in Zadar (Central Dalmatia) on 10 July with 44.7 mm/hour, 109.5 mm/day. Absolute monthly maximum (since 1961) was recorded in Zadar, too, with 341.3 mm of rain, which was approximately 10 times more than the average for July (JJA total – 305.2 mm), but also in Gospic (highland) – 246.1 mm (measurements since 1872), as well as on the islands in the Northern and Central Adriatic (Rab - 198.2 mm (since 1978), Ist - 294 mm (since 2006), Silba - 412.5 mm (since 1898, half of the annual average). On the other hand, most of the Turkey inland and its southern part, coasts of the Caspian Sea, as well as central and southern Ukraine, were drier than normal, while in the rest of the SEECOF region it was near normal.

August was considerably wetter than normal in the Pannonia Plain, in the western and some parts of the eastern Balkans, along the eastern coasts of the Aegean Sea and in most of continental Turkey, the mountainous region of Cyprus, except along the coasts and inland of the Ionian, Caspian and South Adriatic Sea, as well as in the Eastern Mediterranean, where it was considerably dry. In the rest of the SEECOF region it was near normal.

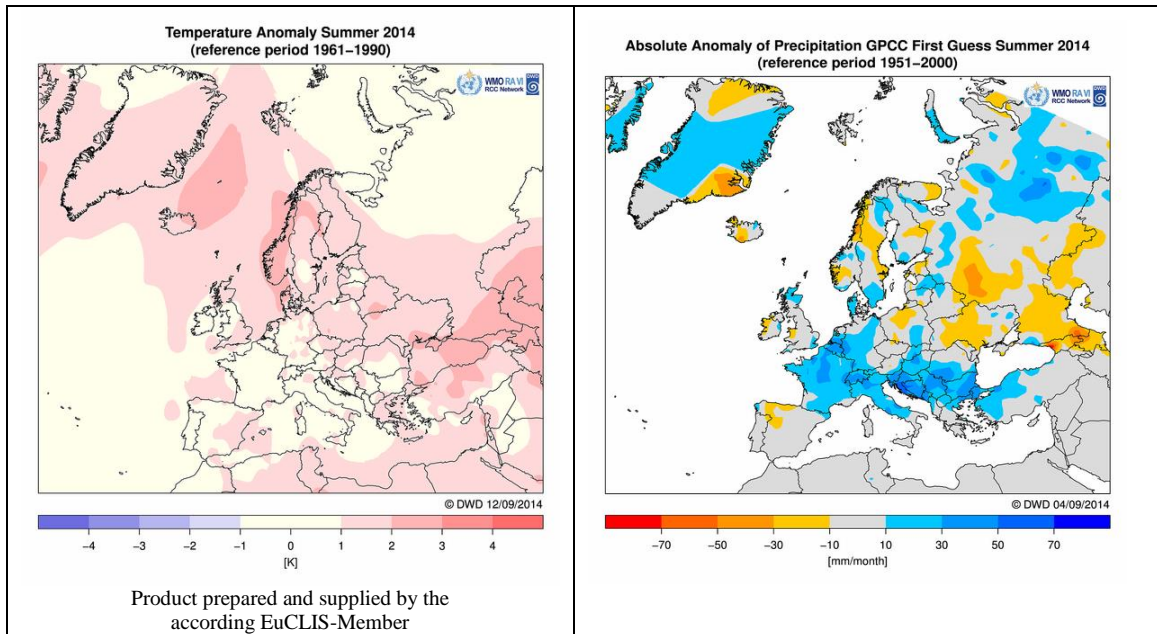


Figure 3. Summer season 2014 observed temperature anomalies (left panel) and summer season observed precipitation anomalies in mm per month (right panel). Source: <http://www.dwd.de/ecsm>

VERIFICATION OF THE CLIMATE OUTLOOK FOR THE 2014 SUMMER SEASON

The SEECOF-11 climate outlook for the 2014 summer season concluded that in the almost whole of the SEECOF region there was likelihood for near- or above-average temperatures. It was also outlined that there was less probability for the average summer season temperature to be exceeded in most of the Pannonia Plain, the western, central and eastern parts of the Balkan Peninsula, in Jordan and in the central parts of the Caucasus region, while higher probabilities were predicted for above-average conditions in the other parts of the SEECOF region. In the some parts of continental Turkey and in the south of the Caucasus region the uncertainty was large with equal probabilities for below-, near-, or above- average conditions. On the basis of the aforementioned regional, sub-regional and national climate monitoring products, it turned out that the monitored anomalies of mean summer season air temperatures were above normal along the coasts of Israel, along the western coasts of the Caspian Sea, and the eastern and southeastern coasts of the Black Sea with their hinterland, while they were near-normal in most of the SEECOF region. It means that the climate outlook for the summer season air temperature was correct for the area along the western coasts of the Caspian Sea and in the eastern part of the Black Sea with their inland; while the outlook for the rest of the SEECOF region was acceptable.

According to SEECOF-11, it was predicted that the uncertainties in regional predictions should be larger for precipitation than for temperature. Along the coasts of the Caspian Sea and its hinterland, it was predicted that summer season precipitation totals should be below-average, while in the western part of Turkey and along the northeastern coasts of

Greece they should be above-normal, which was eventually monitored. Also, it was emphasized that in the northern, western, central and eastern part of the Balkan Peninsula, as well as in Israel and Jordan, it was not possible to predict summer season precipitation totals due to dry season masking, and that there were equal chances for below-, near-, or above-normal conditions. The above mentioned regions thus have not been taken into consideration for the verification of summer season precipitation, which was not the case in the rest of the SEECOF region.

APPENDIX A: Contributors to the pre Pre-COF of SEECOF-12

- World Meteorological Organization
- Deutscher Wetterdienst, the Federal Republic of Germany
- South East European Virtual Climate Change Center hosted by the Republic Hydrometeorological Service of Serbia, the Republic of Serbia
- Royal Netherlands Meteorological Institute, the Netherlands
- Armenian State Hydrometeorological and Monitoring Service, the Republic of Armenia
- National Institute of Meteorology and Hydrology, the Republic of Bulgaria
- Meteorological and Hydrological Service, the Republic of Croatia
- Meteorological Service, the Republic of Cyprus
- Department of Hydrometeorology, the Republic of Georgia
- Hellenic National Meteorological Service, the Republic of Greece
- Israel Meteorological Service, the State of Israel
- Republic Hydrometeorological Institute, the Former Yugoslav Republic of Macedonia
- State Hydrometeorological Service, the Republic of Moldova
- Hydrological and Meteorological Service of Montenegro, the Republic of Montenegro
- Federal Hydrometeorological Service of the Federation of Bosnia and Herzegovina, the Federation of Bosnia and Herzegovina, Bosnia and Herzegovina
- Republic Hydrometeorological Service of the Republic of Srpska, Bosnia and Herzegovina
- Republic Hydrometeorological Service of Serbia, the Republic of Serbia
- Turkish State Meteorological Service, the Republic of Turkey
- Ukrainian Hydrometeorological center, Ukraine

APPENDIX B: Analysis and verification of the SEECOF-11 climate outlook for the 2014 summer season:

Verification summary based on the national reports and contributions of the participants of Pre-COF of the SEECOF-10 meeting

Country	Seasonal temperature (JJA)		Seasonal precipitation JJA		High Impact Events
	Observed	SEECOF-11 climate outlook for temperature	Observed	SEECOF-11 climate outlook for precipitation	
Armenia (1)	Above normal Normal in some parts in the south and southeast of the country	No clear signal	Below normal in the northeastern, southern and southwestern parts of the country Normal in most of the country	No clear signal	No comment.
Federation of Bosnia and Herzegovina, Bosnia and Herzegovina (1)	Above normal in most of the country Normal in the southwestern part of country	Above normal to normal	Above normal in most of the country Normal in the westernmost part and in some parts in the east of the country	No clear signal	No comment.

<p>Republic of Srpska, Bosnia and Herzegovina (5)</p>	<p>Normal</p>	<p>Above normal to normal</p>	<p>Above normal</p>	<p>No clear signal</p>	<p>The rainiest summer month was August (+125.6%). That precipitation amount caused floods, which, in some parts of the territory, were more severe than the May ones. The period April-August 2014 was the wettest on record. Floods in May and August caused about 25 human victims, 10 people missing (about 600.000.000 € material damage was estimated).</p> <p>Severe floods were observed on 6 and 7 August with 4 human casualties and great material damage, especially in the agronomy sector.</p>
<p>Bulgaria (1)</p>	<p>Above normal in the western and northeastern parts, as well as in some areas of the central part of the country</p> <p>Normal in most of the territory</p> <p>Below normal in some areas in the central and southern part of the country</p>	<p>Above normal to normal</p>	<p>Above normal in most of the country</p> <p>Normal in some parts in the northwest of the country</p>	<p>No clear signal</p>	<p>The summer of 2014 was marked by frequent heavy rain events. It has been the wettest summer in Bulgaria since 2005. The spring of 2014 was also very wet (the wettest since 1978) which contributed to soil moisture conditions favoring floods and river overflows after big summer rain events. The summer season of 2014 also ranks among the strongest since 1950 in terms of thunderstorm and hailstorm activity. The most significant floods and hailstorms are listed below:</p> <p>7-8 June: Widespread hailstorms mostly hit the northeastern part of the country where they caused significant damage to the fruit trees.</p> <p>19-20 June: Widespread hailstorms occurred again. The hail stones in Sofia, the capital city, were as big as hazelnuts. The northeast experienced the heaviest rains with 24-hour amounts reaching above 100 mm. Parts of Varna were flooded and there were at least 5 fatalities.</p> <p>16 June: A water spout was observed beneath a thunder cloud near Sozopol at the Black Sea coast.</p> <p>8 July: Heavy thunderstorm with severe hail struck Sofia, the capital city. Hail stones as big as tennis balls damaged cars and building walls and windows across the city.</p> <p>11 July: Heavy rain and hailstorms hit the central part of the country. There was flood in a part of the town of Lovech.</p> <p>15-16 July: A severe thunderstorm and heavy rain (24-hour</p>

					<p>amounts above 200 mm) occurred onshore near the Black Sea coastal resort town of Primorsko and flooded the region amid the peak of the vacation season.</p> <p>19-20 July: Heavy rain with thunderstorms hit the Black Sea coastal cities of Varna and Burgas. There were interruptions of rail transport services in both cities.</p> <p>28-29 July: Heavy rain with thunderstorms and hailstorms hit again the central part of the country. In the region of Gabrovo and other towns there were partial floods and damaged house roofs.</p> <p>31 July: The northwestern and central parts of the country experienced heavy rain with overflow of rivers in the region of Vratsa where the 24-hour amounts of precipitation exceeded the 100 mm mark.</p> <p>1-3 August: The town of Mizia near the Danube was flooded by the overflowed river Skut after a series of severe rain events in the previous couple of days in the river's watershed.</p>
Croatia (1, 5)	Above normal to normal	Above normal to normal	<p>Above normal</p> <p>Normal in the eastern part and in the hinterland of Istra and the North Adriatic</p>	No clear signal	<p>In all three months convective related severe weather phenomena (thunderstorms, hail, heavy rainfall, flash floods, water spouts) were observed mostly all over Croatia. Some absolute daily and monthly maxima were recorded.</p> <p>In June, the absolute monthly maximum of rain was recorded in Dubrovnik (South Adriatic) – 191.0 mm (since the beginning of measurements in 1961). It was similar in Komiza (Vis Island, Dalmatia) – 178.0 mm, the largest amount since the beginning of measurements in 1981.</p> <p>Even more maxima were recorded in July. The thunderstorm which caused heavy rainfall in Zadar (Central Adriatic) on 10 July was very extreme – during 1 hour 44.7 mm of rain was observed, 109.5 mm/24 h. Absolute monthly maximum (since 1961) was recorded too, with 341.3 mm of rain, which was approximately 10 times more than the average for July, and above the previous record (2002) for the</p>

					<p>entire summer season (305.2 mm).</p> <p>Absolute daily maxima of rain were recorded: - on 14 July in Pula (Istra, North Adriatic) (since 1963) – 96.6 mm/24 h - on 28 July in Komiza (Vis Island, Dalmatia) (since 1981) – 47.5 mm/24 h - on 30 July in Rab (island, North Adriatic) (since 1978) – 92.3 mm/24 h; Ist (island, Central Adriatic) (since 2006) – 294 mm/24 h and Silba (island, Central Adriatic) (since 1989) – 217.5 mm/24 h.</p> <p>Absolute monthly maxima of rain were recorded: - in Gospić (Lika, highland) (since 1872) – 264.1 mm - Zavizan (highland) (since 1953) – 275.3 mm - Rab (island, North Adriatic) (since 1978) – 198.2 mm - Ist (island, Central Adriatic) (since 2006) – 294.0 mm - Silba (island, Central Adriatic) (since 1989) – 412.5 mm – this amount is approximately half the annual average (annual average is 872.4 mm, measurements since 1989).</p> <p>In August, both daily (109 mm/24 h on 14 August) and monthly (248 mm) maxima of rain were recorded in Krapina (measurements since 1993) in the north-western part of Croatia.</p>
Cyprus (5)	Above Normal	Above normal to normal	<p>Below normal in the inland and central areas of Cyprus</p> <p>Above normal in the mountainous region</p>	<p>Below normal to normal</p>	<p>JUNE: An extreme maximum of 43.1°C was recorded over the Athalassa station. An extreme minimum of 8.1°C was recorded over the Prodromos station. Hospitals were in the state of alert.</p> <p>The inland stations recorded precipitation well above normal, while the coastal ones recorded practically zero precipitation. The accumulated precipitation was the result of a medium level baroclinic wave (unusual for June), during the period from 6 to 9 June, which affected Cyprus and initiated isolated</p>

				<p>thunderstorms. The resulting accumulated precipitation was well above normal for June, for inland stations. Precipitation was also encountered during the period from 11 to 12 June, more as a result of low level thermal instability than as a result of upper level dynamic instability. During this period hail was reported at the stations of Saittas (mountainous station) and Kellaki (semi-mountainous station), with the accumulated precipitations reaching 61.5 mm at Kellaki and 36.3 mm at Saittas. June encountered 240% (14.4 mm) of mean normal precipitation, while extreme accumulated precipitation was recorded at the Kellaki station – 700% of normal. There were temporary problems in road traffic.</p> <p>July: Extreme maxima were recorded at the Athalassa station – 40.1°C, and at the mountainous station of Prodomos – 32.5°C.</p> <p>Athalassa’s accumulated precipitation was well above normal, as a result of thundery activity in the period from 20 to 21 July. Prodomos (a representative mountainous station) recorded precipitation below normal, but the Saittas station (another mountainous station) recorded precipitation above normal due to thundery activity on 20 July. The above is explained by the fact that thundery activity may result in high accumulated precipitation. Nevertheless, since the phenomenon is very local and isolated (when developed from thermal instability), a lot of differences in accumulated precipitation may be observed even in neighbourhood stations (e.g. Prodomos – Saittas).</p> <p>August: An extreme maximum temperature of 41.1°C was recorded at the Athalassa station. Similar or less extreme maximum values were recorded at all stations as a result of a heat wave that lasted for several days during the last third of August. It is also worth to mention the extreme low over the</p>
--	--	--	--	---

					<p>Prodromos station departing almost 4°C from normal.</p> <p>Regarding the accumulated precipitation, it is observed that Prodromos recorded precipitation well above normal, while other stations recorded zero. Prodromos precipitation was a result of thundery activity (a very isolated weather phenomenon), which is among August's characteristics.</p>
Georgia (1)	Above normal	Above normal to normal	<p>Normal in most of the territory</p> <p>Below normal in some parts in the southeast and in the west of the country</p>	<p>Above normal in the westernmost parts of the country</p> <p>No clear signal in the rest of the territory</p>	<p>Absolute maximum air temperature was exceeded in Telavi on 19 August, with the value of 41.6°C, and in Langodekhi on 19 August, with the value of 43.4°C.</p> <p>The highest summer temperature was recorded in Kutalaisi on 18 August, with the value of 42.0°C.</p>
Greece (1, 2, 5)	Above normal to normal in almost the whole of the country	Above normal to normal	Above normal	Above normal	No comment.
Israel (5)	Above normal	Above normal to normal	No comment	Dry season masking	No high impact events.
FYR of Macedonia (1)	Normal	Above normal to normal	Above normal	No clear signal	<p>Record-breaking summer precipitation sums occurred in Berovo (329.6 mm). During July, extremely wet conditions were observed in Berovo, 284% of the average monthly precipitation sums.</p> <p>July has been the second and August the third wettest month ever record in Berovo. The highest daily precipitation amount of 99.8 mm during July was registered in Berovo on 24 July,</p>

					breaking the previous daily precipitation record for July.
Republic of Moldova (1, 2)	Above normal	Above normal	Normal in most of the territory Below normal in some parts of the central and southeastern areas of the country	No clear signal	<p>From July 26 to August 16 the weather was hot throughout the country. The average daily air temperature in those days mostly ranged from 24 to 30°C, 4-8°C above normal, which is observed for this period on average once every 10-25 years. The average air temperature for the first decade of August was +23.2..+26.3°C, which is 2.8–4.4°C above the norm, and is observed on average once every 10-20 years for the entire observation period, and averagely once in every 3-5 years over the last 20 years.</p> <p>During July, there were heavy and strong rains, with isolated hail events, causing flooding, damage to houses, objects, national economy and agriculture, disruption of electricity supply, and in the districts of the northern part of the country complications with the harvesting of cereal crops. However, these weather conditions were also favourable for the growth and development of fruit and weeding crops.</p>
Montenegro (1)	<p>Above normal in the northern region and in the central part of the coastal region of the country</p> <p>Normal in most of the country</p>	Above normal to normal	<p>Above normal in the coastal and central region of the country</p> <p>Normal in the northern region of the country</p> <p>Below normal in some locations in the far east of the country</p>	No clear signal	<p>On the scale of highest summer temperatures in Montenegro, summer 2014 is among the top 10 values, but is cooler than summer 2012.</p> <p>14 June 2014 – In Danilovgrad and surrounding villages (Zetsko-Bjelopavlici region) hail with the size of up to 2 cm affected agriculture, especially the crops such as tomato, pepper and maize, while it also had a pretty large impact on vineyards. The storm lasted around 1 hour.</p> <p>17 June 2014 – A storm in Ulcinj and its surroundings (southern coastal part) caused pretty large material losses: there were floods in the streets; a water spout uprooted trees and damaged the roofs of restaurants and weekend houses. A torrent of water flowing from the surrounding hills got into several business objects and flats, and flooded the streets. The rescue service intervened in one nearby village where the houses were flooded. Distribution of electricity was also</p>

					<p>affected.</p> <p>19 June 2014 – A storm in Herceg Novi (northwestern coastal part) followed by hail destroyed plantations of citruses, olives, palms and ornamental plants. Due to a torrent of water and deposits of sand the traffic on the main and local roads was impeded. The level of water on the streets in Kumbor was between 30 and 50 cm.</p> <p>28-31 July 2014 – A strong storm with high waves and heavy rain occurred. Many streets in the coastal towns were inundated. In Herceg Novi 25 mm of rain fell in 10 minutes. There were landslides on the roads. Due to the storm sailing out from the Port of Bar was forbidden by the Port Authority.</p> <p>13-24 August 2014 – There were periods of strong storms with high waves along the coastal region, heavy precipitation and thundering. Electrical lines were damaged and power supply was cut off. The landslides on the road in the vicinity of Petrovac impeded traffic. Rainfall was heavy and some cellars and ground floors were flooded. Torrents of water caused floods on the streets of Budva and the commercial yard of the Hotel Palas. The settlement of Velji Vinogradi in Budva was flooded, and several cars were trapped in the flooded garages.</p>
Serbia (1, 2, 5)	Normal	Above normal to normal	<p>Above normal in most of the country</p> <p>Normal in the northwest of the country</p>	No clear signal	<p>Serbia experienced only one heat wave during summer 2014, with the exception of Vranje and Dimitrovgrad where none heat waves occurred. At most locations the heat wave lasted from 6 to 13 June.</p> <p>Record-breaking summer precipitation sums occurred in Nis (289.8 mm). During August, extremely rainy conditions were observed in Zajecar, 301% from the average monthly precipitation sums. Record-breaking maximum daily precipitation totals for August (85.8 mm) were observed at the main meteorological station Crni Vrh. July was the second wettest month ever recorded in Belgrade, Valjevo and Banatski Karlovac (391%). On 16 July, Cuprija received 58.4 mm of precipitation, thereby breaking the previous record for July. The maximum number of days with precipitation was</p>

					exceeded in Novi Sad, while it was equalled with the values of historical maximum number of days with precipitation at several other stations. The highest daily precipitation amount of 50.7 mm during June was registered in Kraljevo on June 18, thereby breaking the previous daily precipitation record for June.
Turkey (2)	<p>Above normal in most of the country</p> <p>Normal in the southern parts, in some locations in the continental part of Turkey and along the coasts of the Aegean Sea with belonging hinterland</p>	<p>Above normal to normal in most of the territory</p> <p>No clear signal in the central parts of the country</p>	<p>Above normal in the western and southern parts and in the inland of the country</p> <p>Near normal in most of the country</p> <p>Below normal in some locations in the east and south of the country</p>	<p>Above normal in most of the territory</p> <p>No clear signal along the north and northwestern coasts of the Black Sea and in the hinterland</p>	<p>In June 2014, storms affected the cities of Samsun, Zonguldak, Konya and Isparta, damaging the trees and houses. Heavy rain also affected the western and northern coastal part of Turkey, as well as the inner and eastern areas. Floods occurred and transportation was disrupted in İzmir, Zonguldak, and Çankırı. The most notable event was the occurrence of a tornado in İstanbul, where trees and houses were damaged.</p> <p>In July 2014, heavy rain was observed in Marmara, the Aegean region, and in the northwestern part. Floods and hail were observed in Marmara.</p> <p>In August 2014, heavy rain and storms hit Marmara, the Aegean region and some areas of the Black sea region. Hail occurred and affected agriculture in the Aegean region.</p>
Ukraine (1)	<p>Above normal in most of the country</p> <p>Normal in the far east of the country</p>	<p>New member</p> <p>Not predicted</p>	<p>Normal in most of the country</p> <p>Above normal in some locations in the east and south of the country</p>	<p>New member,</p> <p>not predicted</p>	<p>The highest daily air temperature during the summer, with the value of 40°C, was observed on 15 August in Askania Nova of the Kherson region.</p> <p>Absolute maximum temperature values were repeated in early August in Lv'iv, and in early June and August in Kherson.</p> <p>The maximum daily amount of precipitation of 103 mm was registered in Klepnino on 3 June.</p> <p>The amount of 575 mm observed in Nyzhniy Studeniy in the Carpathian region was the record breaking precipitation total registered during summer 2014.</p>

Note:

- 1 – Basic climatological period (1961-1990)
- 2 – Basic climatological period (1971-2000)
- 3 – Basic climatological period (1951-2000)
- 4 – Basic climatological period (1980-2009)
- 5 – Basic climatological period (1981-2010)
- 6 – No information about the basic climatological period