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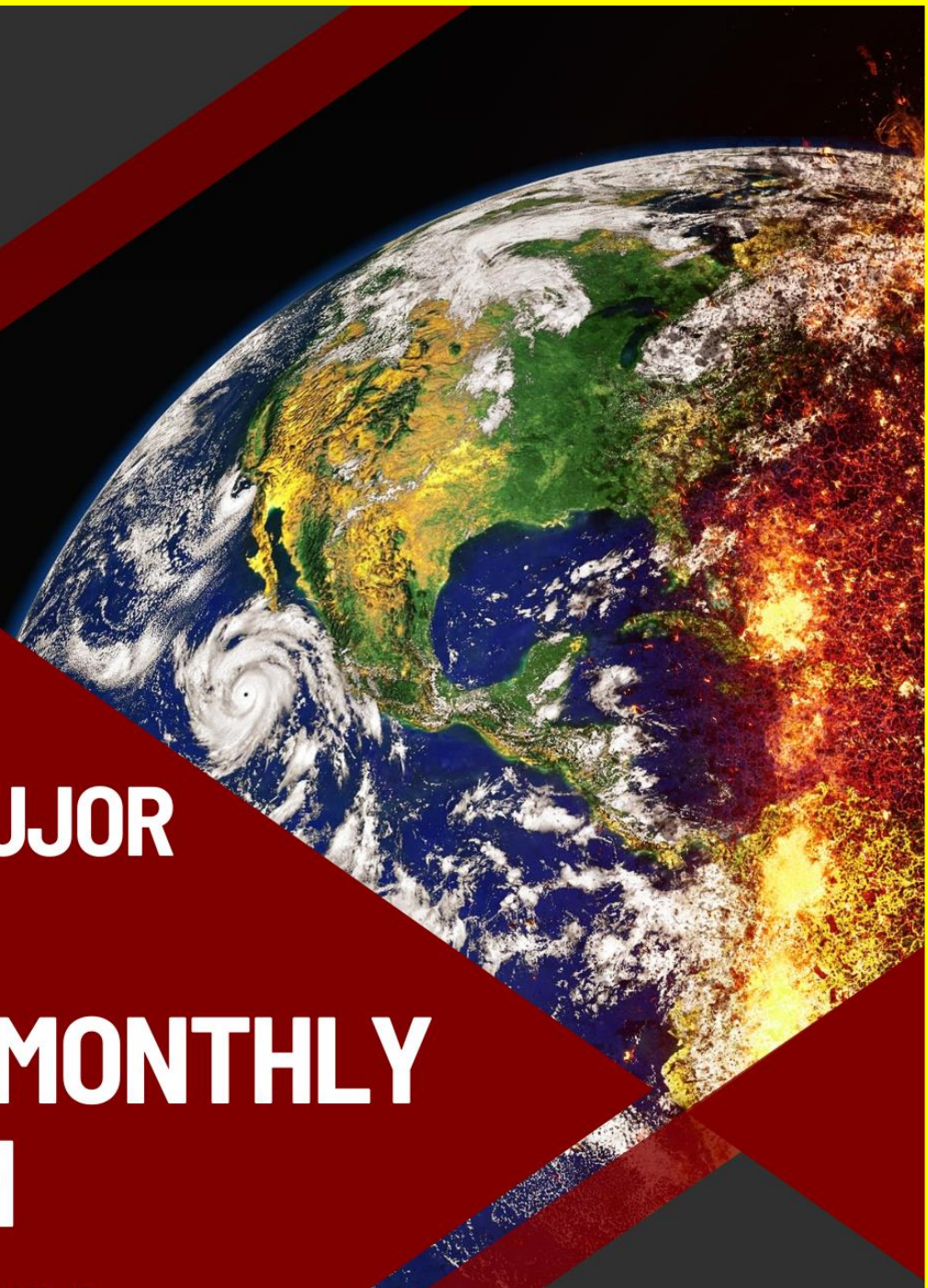

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PËRMBAJTJA / CONTENTS

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HYRJE

Muaji korrik 2024 shënoi në tërësinë e tij një ndër muajt më të ngrohtë në historinë vrojtimeve meteorologjike për Shqipërinë. Temperaturat mesatare u karakterizuan nga një anomali prej +4.4°C, ndërsa shmangien më të theksuar ndaj normës e shënuan temperaturat maksimale të ajrit me +5.8°C. Gjithësesi duhet thënë se nuk u shënuan thyerje të rekordeve historike në lidhje me temperaturat maksimale të regjistruara më parë. Ky muaj e përfshiu vendin tonë në atë pjesë të kontinentit ku u vrojtuan dhe anomalitë më të larta të temperaturave maksimale të ajrit.

Gjithë kjo situatë u krijua për shkak si të mbizotërimit të masave ajrore të nxehta me origjinë nga kontinenti Afrikan ashtu dhe e një vranësirë mjaft më të ulët se norma, që mundësoi nivele të larta të rrezatimit diellor.

Ndëkohë muaji korrik i këtij viti u karakterizua me reshje mjaft të ulta dhe të vrojtuara në një numër ditësh më të vogël se vlerat mesatare shumëvjeçare.

Një vëmendje e veçantë në këtë buletin i kushtohet dhe karakteristikave agrometeorologjike të muajit korrik 2024 dhe situatës së krijuar nga temperaturat e larta, krahas disa analizave më të detajuara në vijim mbi ecurinë e anomalive të temperaturave mesatare, maksimale, minimale e amplitudave të tyre; parë në kontekstin e ndryshimeve klimatike si dhe padyshim një trajtim të veçantë kanë reshjet dhe numrin e ditëve me reshje mbi pragun 1.0 mm.

Në këtë buletin përfshihet dhe një artikull shkencor me titull: “A new approach about air and water quality control in the context of climate change” , i prezantuar gjatë këtij muaji në një konferencë ndërkombëtare shkencore të organizuar në datat 4 dhe 5 korrik 2024 në Tiranë, nga Akademia e Shkencave të Shqipërisë dhe “George Mason” Univeristy i SHBA me titull: "Air and Water Quality Control: Important Factors in Protecting Human Health and Premises for Sustainable Development".

INTRODUCTION

The July 2024 marked in its entirety one of the warmest months in the history of meteorological observations for Albania. Average temperatures were characterized by an anomaly of +4.4°C, while the most pronounced deviation from the norm was marked by maximum air temperatures of +5.8°C. However, it must be said that there were no historical records broken in relation to the previously recorded maximum temperatures. This month included our country in that part of the continent where the highest anomalies of maximum air temperatures were observed.

All this situation was created due to both the predominance of hot air masses originating from the African continent and a much lower than normal cloudiness, which enabled high levels of solar radiation.

Meanwhile, the month of July of this year was characterized by very low rainfall and observed in a number of days lower than the average values of multiannual period.

A special attention in this bulletin is also devoted to the agrometeorological characteristics of the month of July 2024 and the situation created by the high temperatures, in addition to some more detailed analyzes below on the progress of anomalies of average, maximum, minimum temperatures and their amplitudes; first, in the context of climate change, as well as undoubtedly, a special treatment is given to precipitation and the number of days with precipitation above the 1.0 mm threshold.

This bulletin also includes a scientific article entitled: "A new approach about air and water quality control in the context of climate change", presented during this month at an international scientific conference organized on July 4 and 5, 2024 in Tirana, from the Academy of Sciences of Albania and "George Mason" University of the USA with the title: "Air and Water Quality Control: Important Factors in Protecting Human Health and Premises for Sustainable Development".

RREZATIMI DIELLOR

Rrezatimi diellor gjatë muajit korrik 2024 në territorin e Shqipërisë ishte në vlera të larta. Një nga faktorët që ndikoi në këtë drejtim ishte dhe një nivel më i ulët i vranësirave të vrojtuara gjatë këtij muaji.

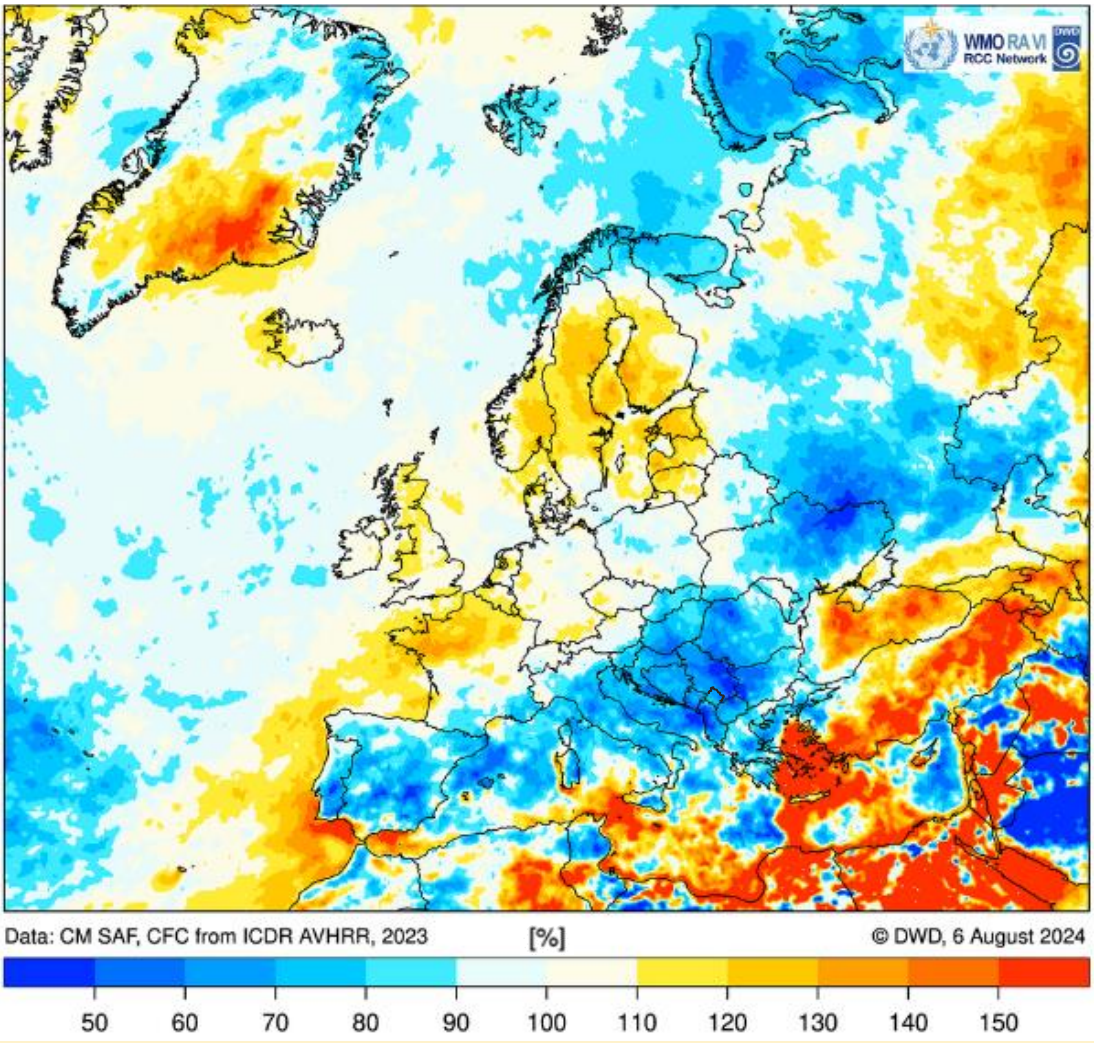
Në figurën Nr.1 në vijim jepet harta me vlerat në % të mbulimit me re në kontinentin Europian, ku siç evidentohet qartë territori i vendit tonë është karakterizuar me vlera nga 50 deri 60 % të vranësirës kundrejt madhësive mesatare shumëvjeçare. Për rrjedhoje një sasi më e madhe e rrezatimit diellor mbërriti deri pranë sipërfaqes së tokës, duke mundësuar natyrisht dhe temperatura më të larta të masave ajrore.

SOLAR RADIATION

Solar radiation during the month of July 2024 in the territory of Albania was at high values. One of the factors that influenced in this direction was a lower level of cloudiness observed during this month.

In figure No.1 below, the map with the values in % of the cloud cover in the European continent is given, where, as is clearly evident, the territory of our country is characterized by values from 50 to 60% of cloud cover compared to the annual averages. Consequently, a greater amount of solar radiation reached the surface of the earth, naturally enabling higher temperatures in the air masses.

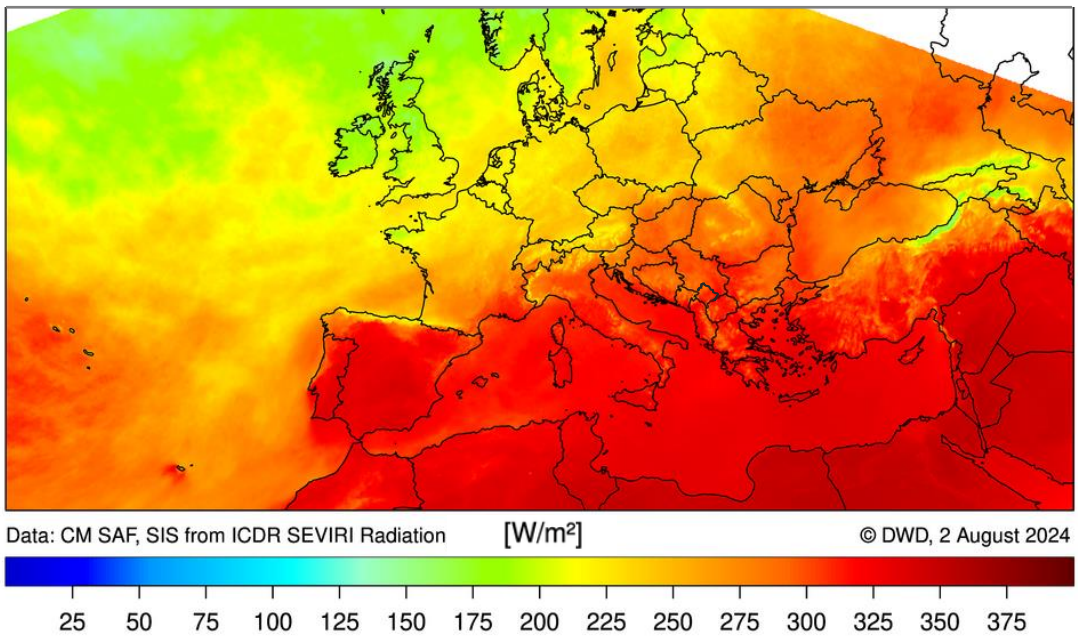
Figure Nr.1 – ***Vlerat në % të pjesës së mbulimit me re për muajin korrik 2024 kundrejt periudhës 1991-2020***
Cloud Fractional Cover for July 2024 in percent versus the average of the period 1991-2020



Sa i takon vlerave të rrezatimit global (në W/m^2) për muajin korrik 2024 në shkallë kontinentale ato janë paraqitur në hartën e dhënë në figurën Nr.2.

As for the values of global radiation (in W/m^2) for the month of July 2024 on a continental scale, they are presented in the map given in figure No.2.

Figure Nr.2 – Vlerat Mesatare të Rrezatimit Global (në W/m^2) për muajin korrik 2024 në Europë.
The Monthly Mean of Global Radiation (in W/m^2) for July 2024 in Europe.



Në lidhje me treguesin e diellzimit ky muaj shënoi vlera mjaft të larta, të cilat për territorin e Shqipërisë janë paraqitur në hartën e dhënë në vijim në figurën Nr.4. Vlerat më të larta u regjistruan në pjesën e Ultësirës Perëndimore të vendit.

Nga një përpunim i të dhënave të marra nga disa prej vendmatjeve meteorologjike (paraqitur në figurën Nr.5), në paraqitjet grafike të figurës Nr.6/a,b,c jepen të dhënat e ecurisë ditore të orëve me diell për vendmatjet meteorologjike të Belshit, Fierit dhe Konispolit. Vlerat e rrezatimit diellor për këtë muaj mundësuan dhe një performancë të mirë nga sistemet fotovoltaike për prodhim energjie elektrike si dhe nga ato që shërbejnë për ngrohje uji (figurë Nr.3/a,b).

Duhet thënë se përgjithësisht 1/3 faturës së konsumit të energjisë në familje shkon për ngrohje uji.

Regarding the sunshine indicator, this month marked very high values, which for the territory of Albania are shown in the map given below in figure No.4. The highest values were recorded in the Western Lowland part of the country.

From a processing of the data obtained from some of the meteorological stations (presented in figure No.5), in the graphic representations of figure No.6/a,b,c, the data of the daily progress of sunny hours for the meteorological stations of Belshit, Fier and Konispoli. The solar radiation values for this month enabled a good performance from photovoltaic systems for electricity production as well as from those used for water heating (figure No.3/a,b).

It should be said that generally 1/3 of the household energy consumption bill goes to water heating.

Figure Nr.3

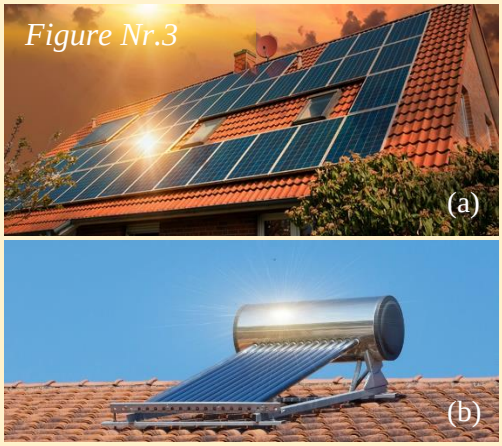
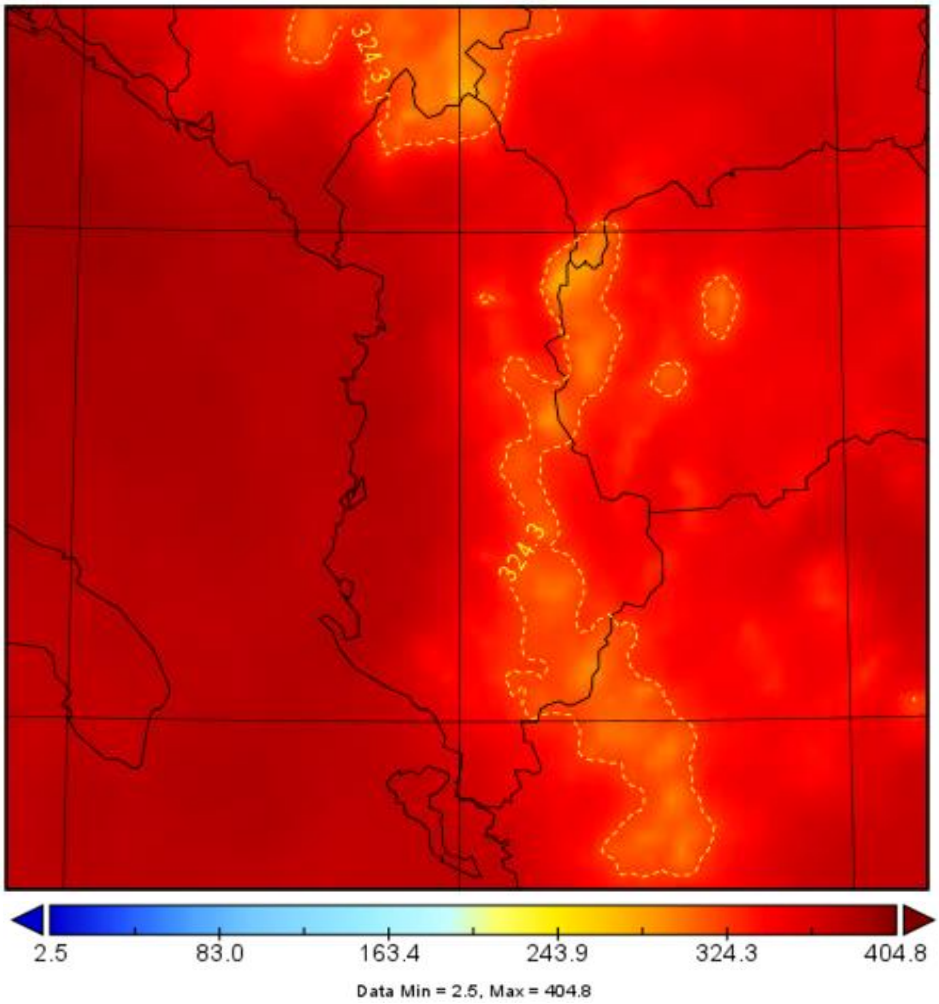


Figure Nr.4 – Kohëzgjatja e diellzmit për muajin korrik 2024 për Shqipërinë.
Sunshine duration for July 2024 for Albania.



Diellzimi / Sunshine (në orë / in hours)

Diellzimi në vendmatjet meteorologjike të Sistemit Kombëtar te Monitorimit Meteorologjik të Shqipërisë matet me heliograf, pajisje e tipit Campbell–Stokes, siç ilustrohet me pamjen e figurës Nr.5, që mundëson regjistrimin në diagrama të posaçme të orëve me diell për çdo ditë. Këto më pas përpunohen duke mundësuar vlerësimin e orëve me diell jo vetëm sipas ditëve, por dhe muajve, stinëve apo vjetore.

The sunshine in the meteorological stations of the National Meteorological Monitoring System of Albania is measured with a heliograph, a Campbell-Stokes type device, as illustrated by the view of figure No.5, which enables the recording of sunny hours for each day in special diagrams. These are then processed, enabling the evaluation of sunny hours not only by day, but also by month, season or year.

Figure Nr.5

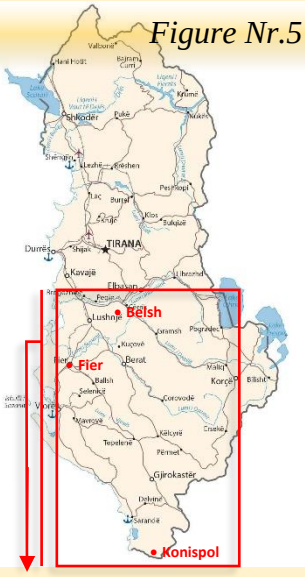
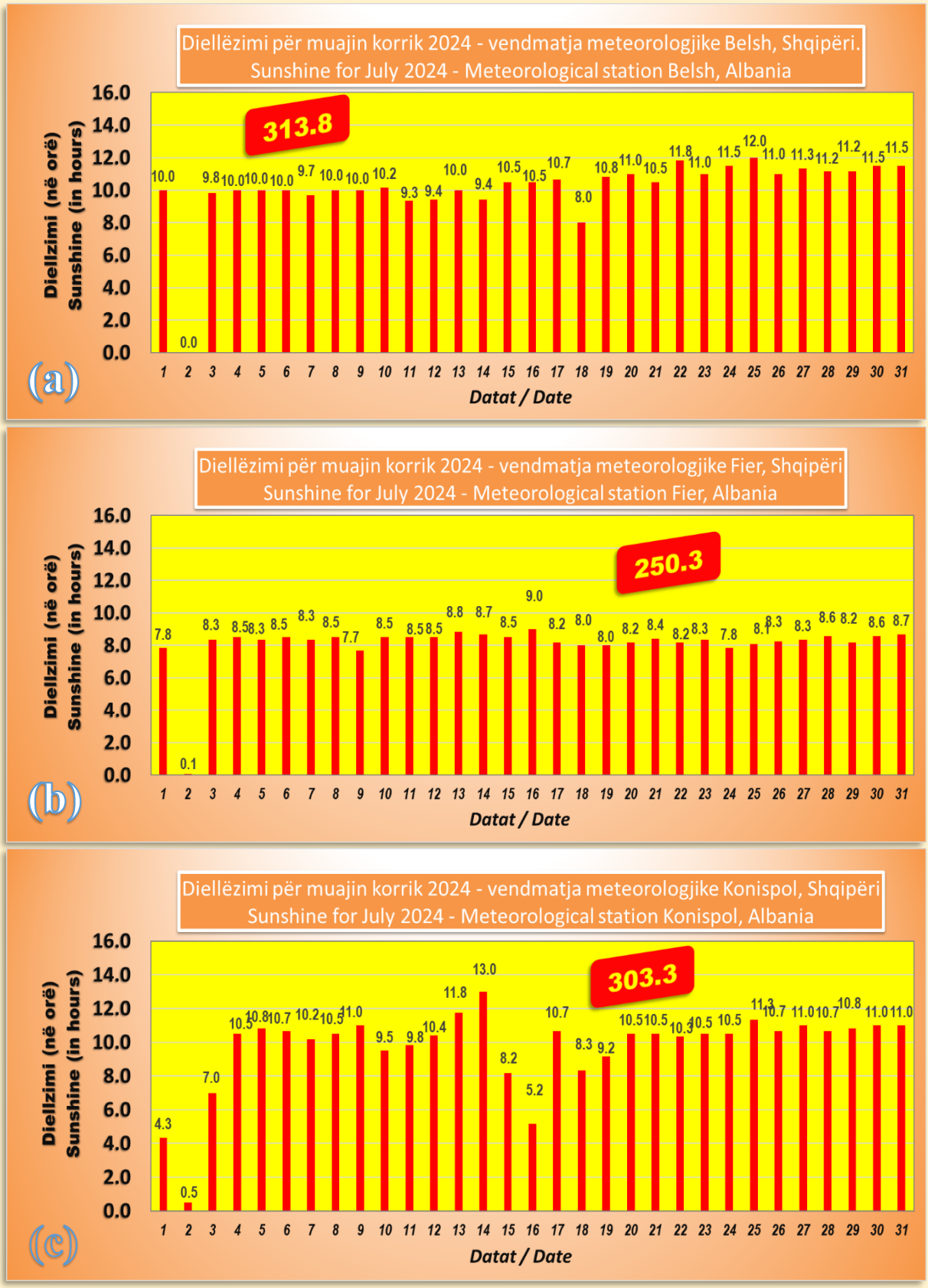


Figure No. 6/a,b,c – Ecuria ditore e treguesit të orëve me diell për vendmatjet meteorologjike të Belsh, Fier dhe Konispol për muajin korrik 2024.
Daily sunshine data for the meteorological stations of Belsh, Fier and Konispol for July 2024.



TEMPERATURAT E AJRIT

Në shkallë globale muaji korrik 2024 ishte muaji i dytë më i ngrohtë në serinë e vrojtimeve sipas “ERA5” me temperaturë 16.91°C ose +0.68°C më i ngrohtë se vlera e periudhës 1991-2020 si dhe vetëm -0.04°C më i ulët se vlera e rekordit të mëparshëm korrik 2023. Ndonëse ky muaj nuk ishte aq i ngrohtë sa ai i vitit të shkuar duhet thënë se gjatë korrikut 2024 u vrojtuan dy ditët me temperatura më të larta në shkalle globale me vlera 17.16°C dhe 17.15°C në datat 22 dhe 23. Në vijim në figurat Nr.7 dhe Nr.8 paraqiten hartat me të dhënat e temperatura-ve në shkallë globale dhe për Europën si

AIR TEMPERATURES

On a global scale, July 2024 was the second warmest month in the series of observations according to "ERA5" with a temperature of 16.91°C or +0.68°C warmer than the value of the period 1991-2020 and only -0.04°C warmer lower than the value of the previous record July 2023. Although this month was not as warm as that of last year it must be said that during July 2024, the two days with the highest temperatures on a global scale were observed with values of 17.16°C and 17.15°C on the 22nd and 23rd. Below, in figures No.7 and No.8, maps with the data are presented of temperatures on a global scale and for

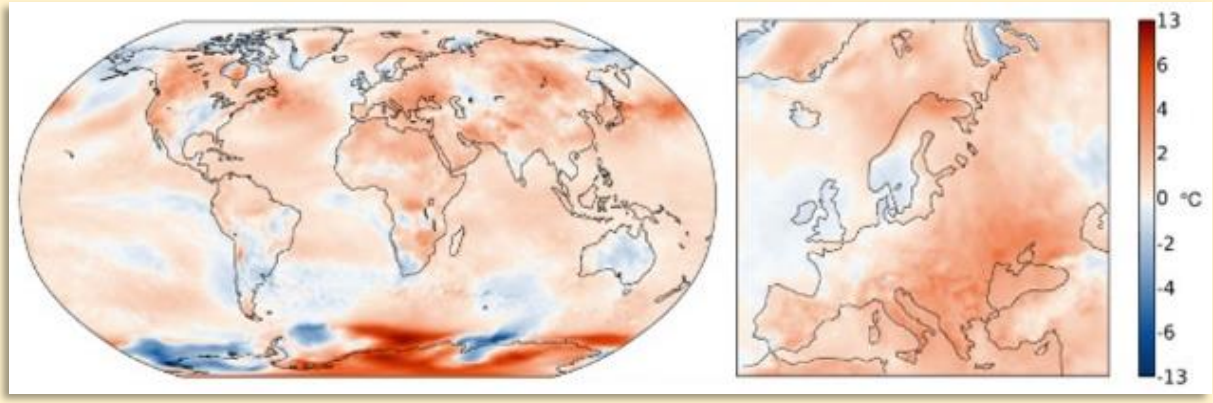


Figure Nr.7 - Anomalitë e temperaturës së ajrit pranë sipërfaqes për muajin korrik 2024 kundrejt periudhës 1991÷2020 në shkallë globale dhe për kontinentin Europian.
Surface air temperature anomaly in global scale and for the European continent for July 2024 compared to the period 1991÷2020 (Copernicus, ECMWF, etc.).

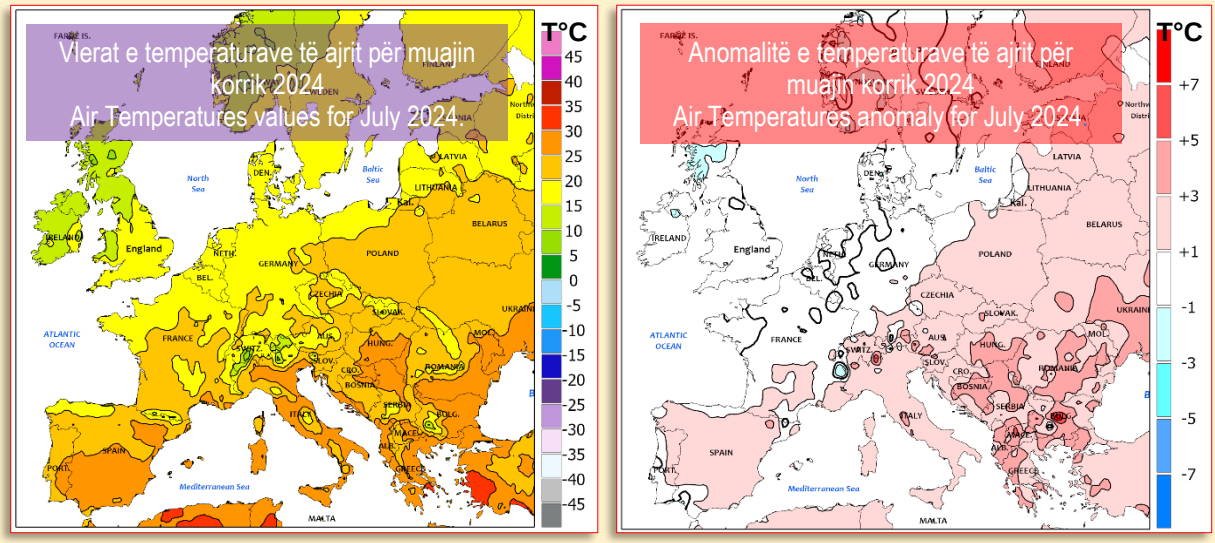


Figura Nr.8. - Vlerat e temperaturave mesatare të ajrit dhe anomalive të tyre për kontinentin Europian për muajin korrik 2024, sipas NOAA-s.
Values of mean air temperatures and their anomalies for the European continent for the month of July 2024, according to NOAA.

anomalitë e tyre. Gjithashtu rezulton sipas "ERA5" se temperatura e 12 muajve të periudhës korrik 2023 deri korrik 2024 ishte +0.76°C mbi mesataren 1991-2020 dhe +1.64°C mbi vlerën mesatare të periudhës para-industriale 1850-1900.

Sa i takon kontinentit Europian temperaturat mesatare për muajin korrik 2024 ishin +1.49°C mbi mesataren e periudhës 1991-1990, duke e bërë këtë muaj më të ngrohtë se atë të mëparshëm rekord, që mbahej nga muaji korrik 2010.

Përgjithësisht në shkallë kontinenti temperaturat ishin më të larta dhe mbi normë në pjesën JL dhe Lindore, ndërsa pranë normës ose paksa nën të në pjesën VP të Europës.

Temperatura mesatare e ajrit për Europën për muajin korrik 2024 ishte +1.49°C më e lartë se ajo e periudhës 1991-1990, ndërkohë që ky muaj ishte i dyti më i ngrohtë duke u renditur pas atij të mëparshëm rekord të korrikut 2010, i cili ishte +1.73°C më i lartë se periudha e referencës në fjalë.

Gjithashtu duhet thënë se mesatarja e periudhës 12 mujore gusht 2023 deri korrik 2024 ishte me +1.46°C më e ngrohtë se periudha 1991-2020 duke e bërë këtë vlerën më të lartë sa i takon periudhave 12 mujore në historinë e vrojtimeve meteorologjike. Për referencë duhet shtuar se viti 2020 mbahet si viti kalendarik më i ngrohtë me shmangien +1.19°C mbi mesataren e periudhës 1991-2020.

Situata më e detajuar e ecurisë së anomalive të temperaturave mesatare të ajrit në shkallë kontinenti për muajin korrik 2024 sipas javëve është paraqitur në hartat e dhëna në figurën Nr.9. Shqipëria dallon për një mbizotërim të anomalive të larta pozitive, të cilat në periudha të caktuara kanë kapur vlerat më të larta në shkallë kontinenti.

Bazuar në të dhënat e disa prej vendmatjeve meteorologjike të Sistemit Kombëtar të Monitorimit Meteorologjik të Shqipërisë në figurën Nr.10 janë paraqitur grafikisht të dhënat e temperaturave mesatare të ajrit për muajin korrik 2024 si dhe vlerat përkatëse të normës referuar

Europe as well as their anomalies. It also results according to "ERA5" that the temperature of the 12 months from July 2023 to July 2024 was +0.76°C above the 1991-2020 average and +1.64°C above the average value of the pre-industrial period 1850-1900.

As for the European continent, the average temperatures for the month of July 2024 were +1.49°C above the average of the period 1991-1990, making this month warmer than the previous record, which was held from July 2010.

In general, on the continental scale, the temperatures were higher and above the norm in the South and Eastern parts, while close to the norm or slightly below it in the Northwest part of Europe.

The average air temperature for Europe for the month of July 2024 was +1.49°C higher than that of the period 1991-1990, while this month was the second warmest being ranked after the previous record of July 2010, which was +1.73°C higher than the reference period in question.

It should also be said that the average of the 12-month period August 2023 to July 2024 was +1.46°C warmer than the period 1991-2020, making this value the highest for 12-month periods in the history of meteorological observations. For reference, it should be added that the year 2020 is considered the warmest calendar year with a deviation of +1.19°C above the average of the period 1991-2020.

The most detailed situation of the progress of average air temperature anomalies on a continental scale for the month of July 2024 according to weeks is presented in the maps given in figure No.9. Albania stands out for a predominance of high positive anomalies, which in certain periods have reached the highest values on a continental scale.

Based on the data of some of the meteorological stations of the National Meteorological Monitoring System of Albania, in figure No.10, the data of the average air temperatures for the month of July 2024 as well as the corresponding values of the norm referred to the period

periudhës 1961-1990. Një anomali prej +4.4°C në shkallë vendi evidentohet për këtë muaj.

1961-1990 are presented graphically. An anomaly of +4.4°C at the country level is recorded for this month.

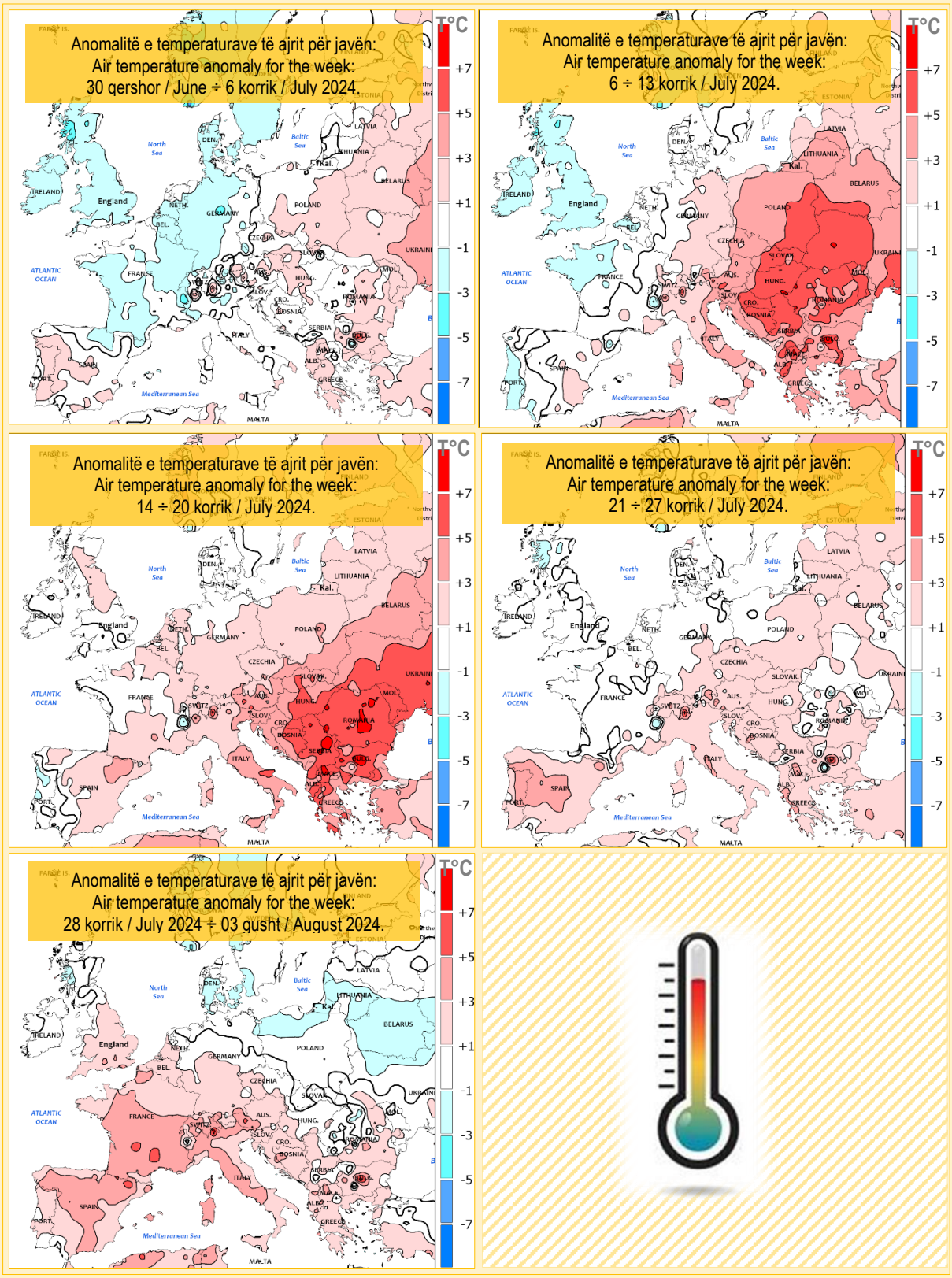


Figura Nr.9. -Vlerat e anomalive të temperaturave mesataret e ajrit për kontinentin Europian për 5 javët e muajit korrik 2024, sipas NOAA-s.
Anomaly values of average air temperatures for the European Continent for the 5 weeks of July 2024, according to NOAA.

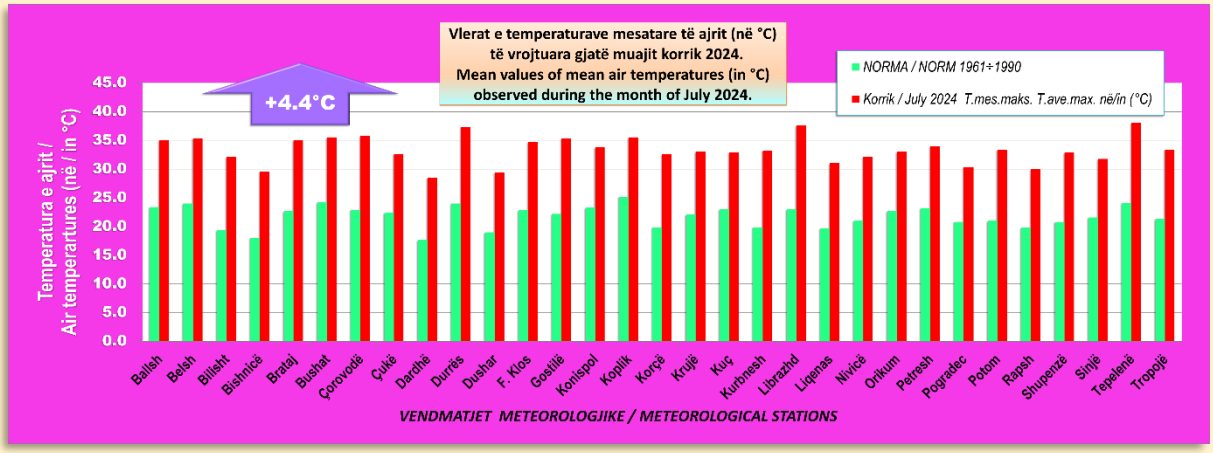


Figure Nr.10. - Vlerat e temperaturave mesatare të ajrit për disa vendmatje meteorologjike të muajit korrik 2024 për Shqipërinë.
Values of mean air tempertaures for some meteorological stations of July 2024 for Albania.

Duke qenë një situatë e veçantë kjo e muajit korrik 2024, në këtë buletin janë paraqitur grafikisht në figurën Nr.11/1-33 të dhënat e ecurisë ditore të temperaturave maksimale e minimale të ajrit si dhe vlerat e reshjeve 24 orëshe për disa nga vendmatjet meteorologjike të vendit tonë.

Mungesa e reshjeve atmosferike apo vlerave të pakta të tyre krahas një rrezatimi më të madh diellor, i lidhur me një vranësirë më të pakët, siç u përmend më lart, krahas pranisë së masave ajrore me origjinë nga Afrika, mundësuan pikërisht dhe këto nivele të larta të temperatureve të ajrit, pothuajse në mbarë vendin, duke e bërë këtë korrik një muaj mjaft të nxehtë, krahasuar dhe në shkallë kontinenti.

Në këtë kontekst vlen të përmenden ecuritë e temperaturave maksimale të ajrit, të cilat shënuan vlera mjaft të larta, si në shkallë kontinenti ashtu dhe për vendin tonë.

Në vijim për një sërë vendmatjesh meteorologjike të Shqipërisë janë paraqitur grafikisht në figurën Nr.12, të dhënat e temperaturave maksimale të ajrit dhe vlerat përkatëse të normës referuar periudhës 1961-1990.

Siç shihet vendi ynë gjatë muajit korrik 2024 është karakterizuar me një anomali mjaft të lartë prej +5.8°C, të cilat janë në nivele të larta edhe në shkallë kontinenti, ku përjashtim bëjnë veçse disa pjesë në Spanjën JP dhe në Turqinë JP.

Being a special situation for the month of July 2024, in this bulletin the data of the daily progress of the maximum and minimum air temperatures as well as the 24-hour rainfall values for some of the meteorological stations of our country are presented graphically in figure No.11/1-33.

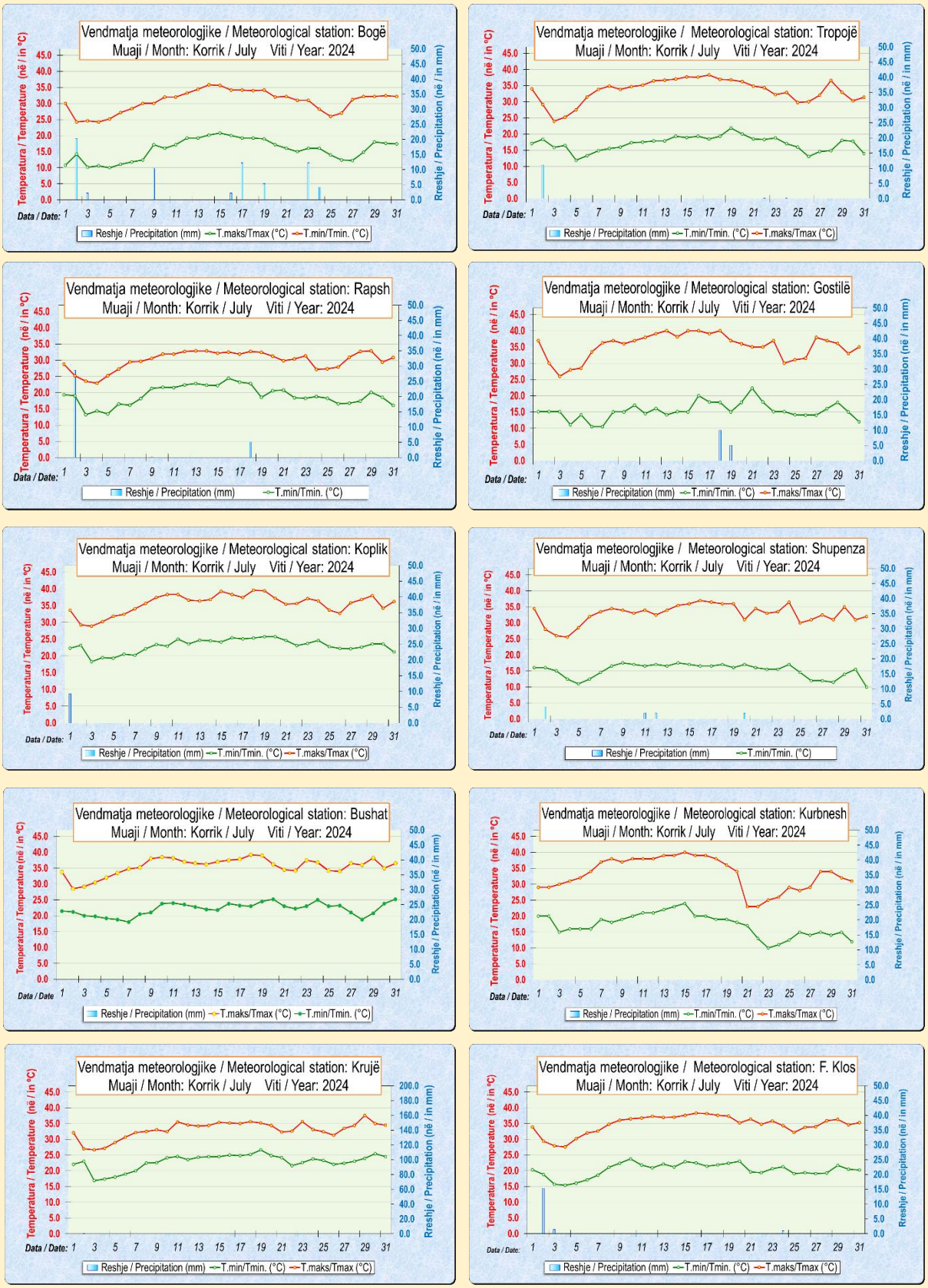
The lack of atmospheric precipitation or their low values in addition to a greater solar radiation, associated with a denser cloudiness, as mentioned above, in addition to the presence of air masses originating from Africa, precisely made these high levels possible of air temperatures, almost all over the country, making this July a very hot month, compared to the continental scale.

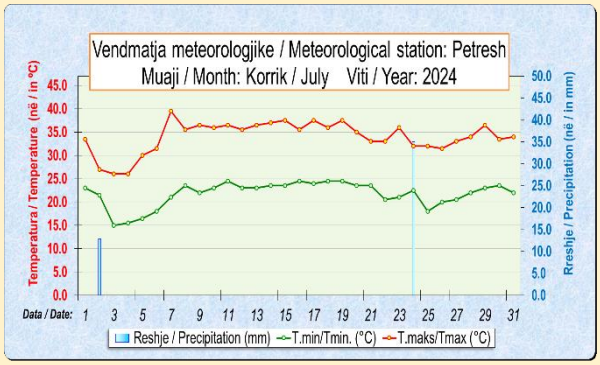
In this context, it is worth mentioning the progress of the maximum air temperatures, which marked very high values, both on a continental scale and for our country.

In the following, for a series of meteorological stations in Albania, the maximum air temperature data and the corresponding norm values are presented graphically in figure No.12, referring to the period 1961-1990.

As can be seen, our country during the month of July 2024 is characterized by a rather high anomaly of +5.8°C, which are at high levels even on a continental scale, with the exception of some parts in SW Spain and SW Turkey.

Figure Nr.11/1÷33 - Temperaturat dhe reshjet ditore për disa vendmatje meteorologjike për muajin korrik 2024 në Shqipëri.
The daily temperatures and precipitation for some meteorological stations for July 2024 in Albania.

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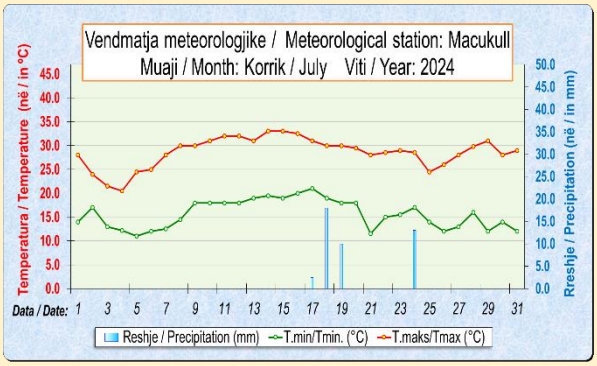
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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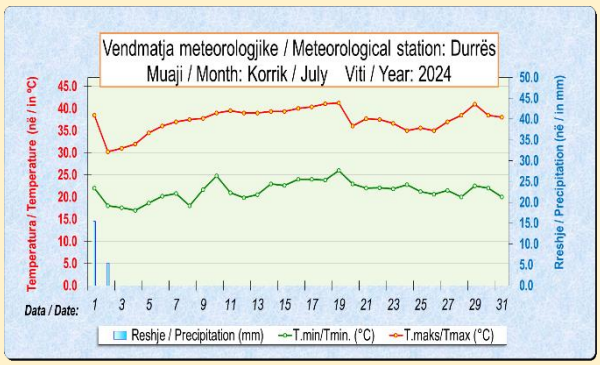
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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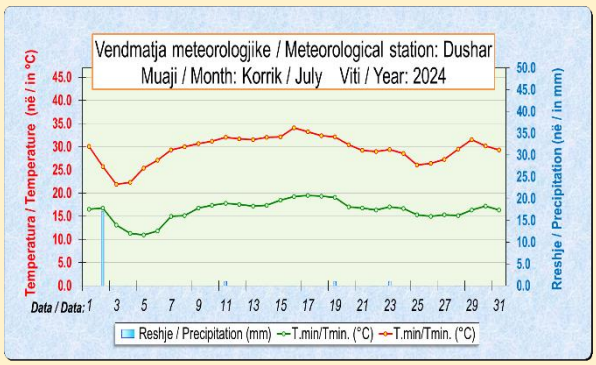
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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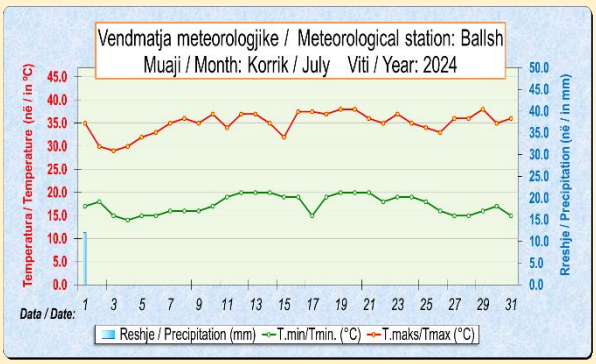
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.min/Tmin. (°C)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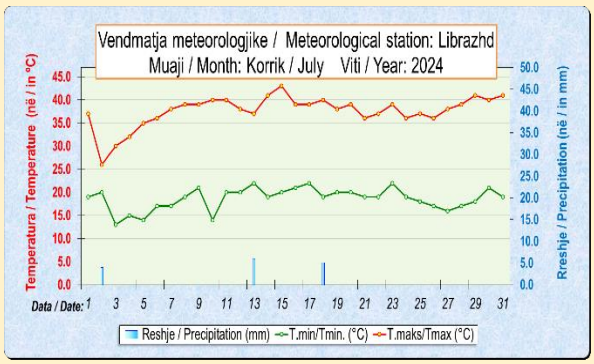
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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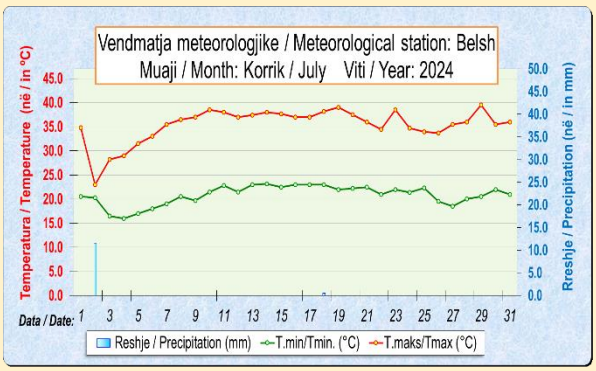
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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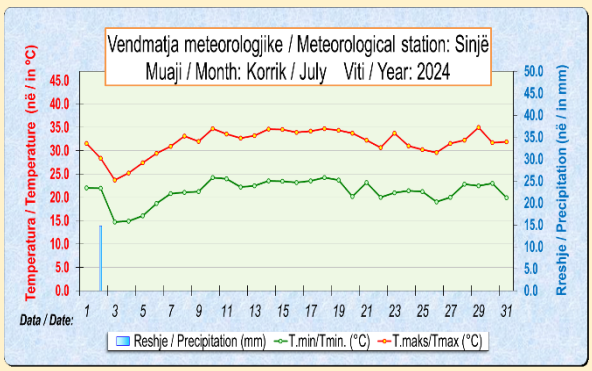
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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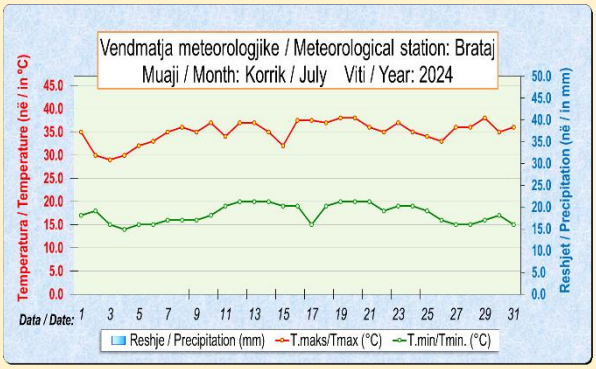
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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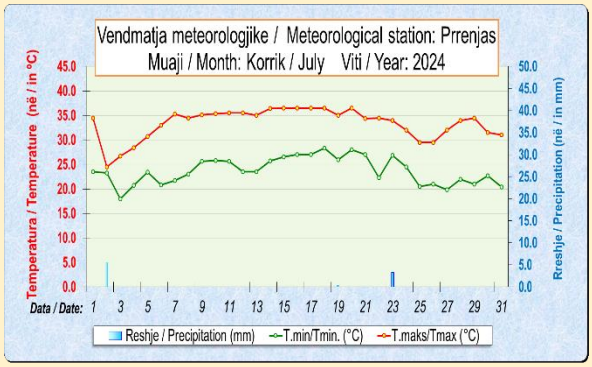
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Reshjet / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.maks/Tmax (°C)
T.min/Tmin. (°C)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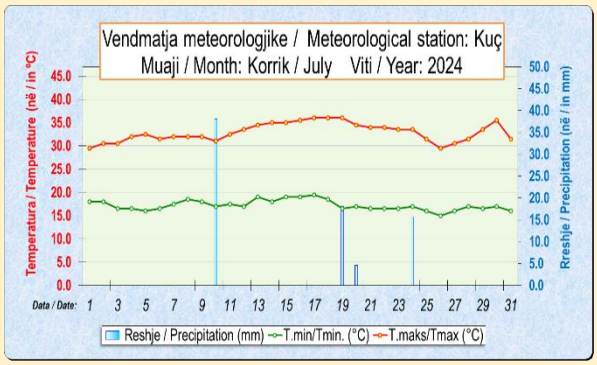
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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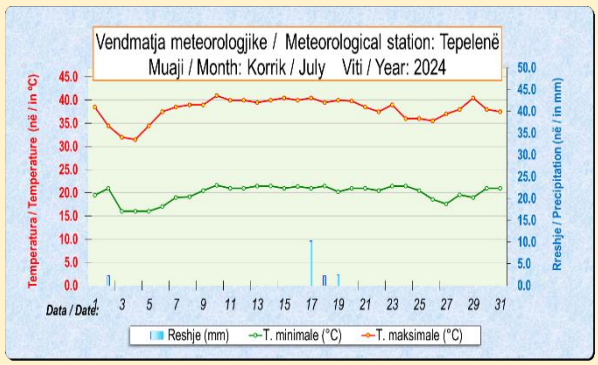
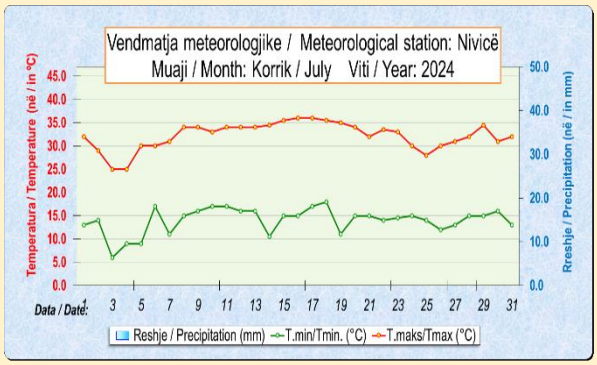
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)


Vendmatja meteorologjike / Meteorological station: Tepelenë
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje (mm)
T. minimale (°C)
T. maksimale (°C)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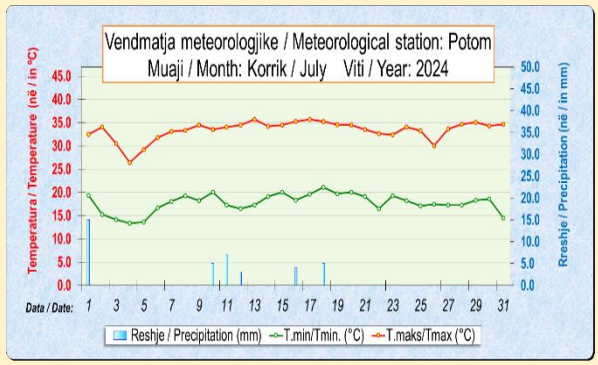
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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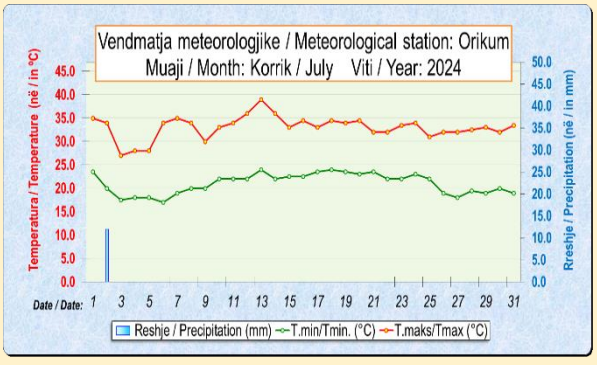
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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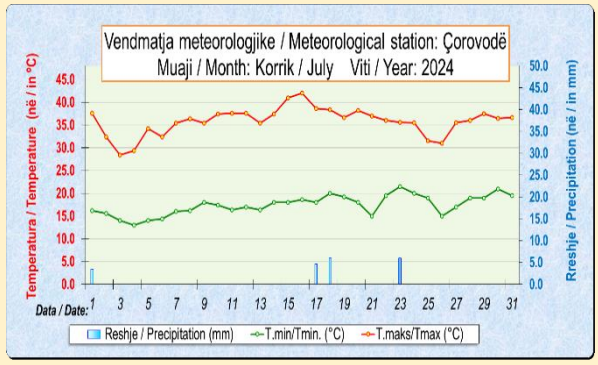
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Date / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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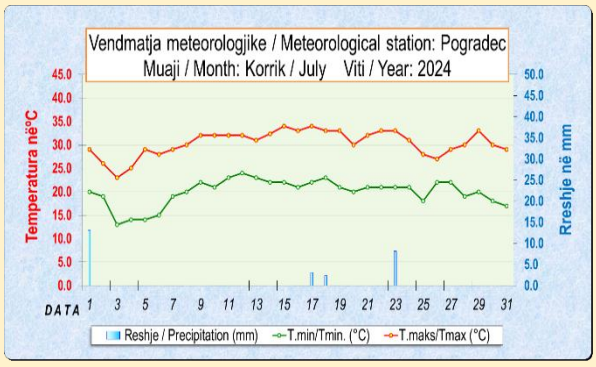
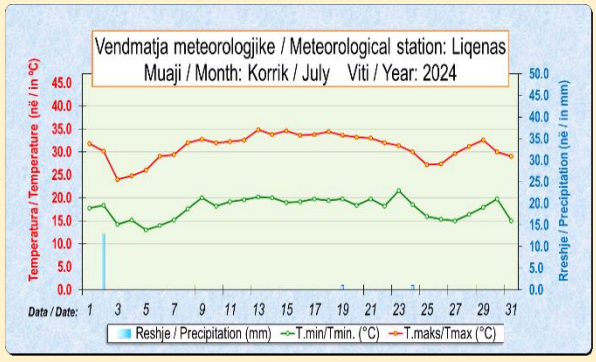
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)


Vendmatja meteorologjike / Meteorological station: Pogradec
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura në°C
Rreshje në mm
DATA
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)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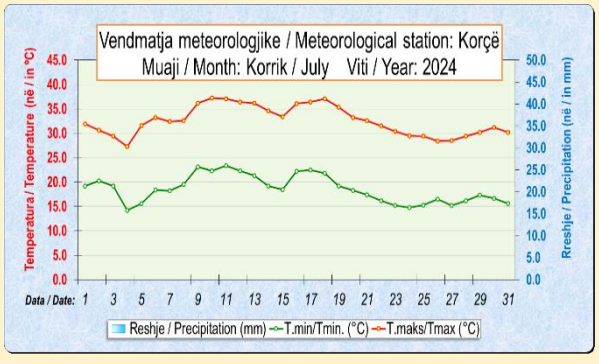
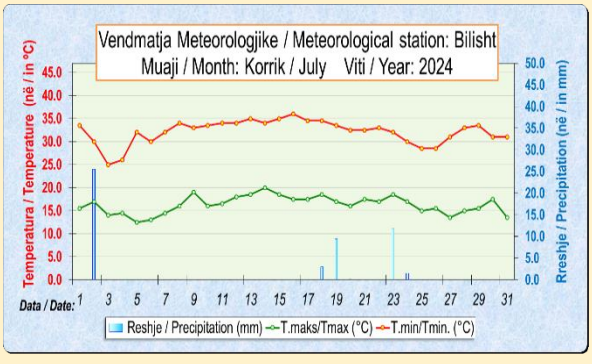
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)


Vendmatja meteorologjike / Meteorological station: Korçë
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.min/Tmin. (°C)
T.maks/Tmax (°C)


Vendmatja Meteorologjike / Meteorological station: Bilisht
Muaji / Month: Korrik / July Viti / Year: 2024
Temperatura / Temperature (në / in °C)
Rreshje / Precipitation (në / in mm)
Data / Date:
Reshje / Precipitation (mm)
T.maks/Tmax (°C)
T.min/Tmin. (°C)

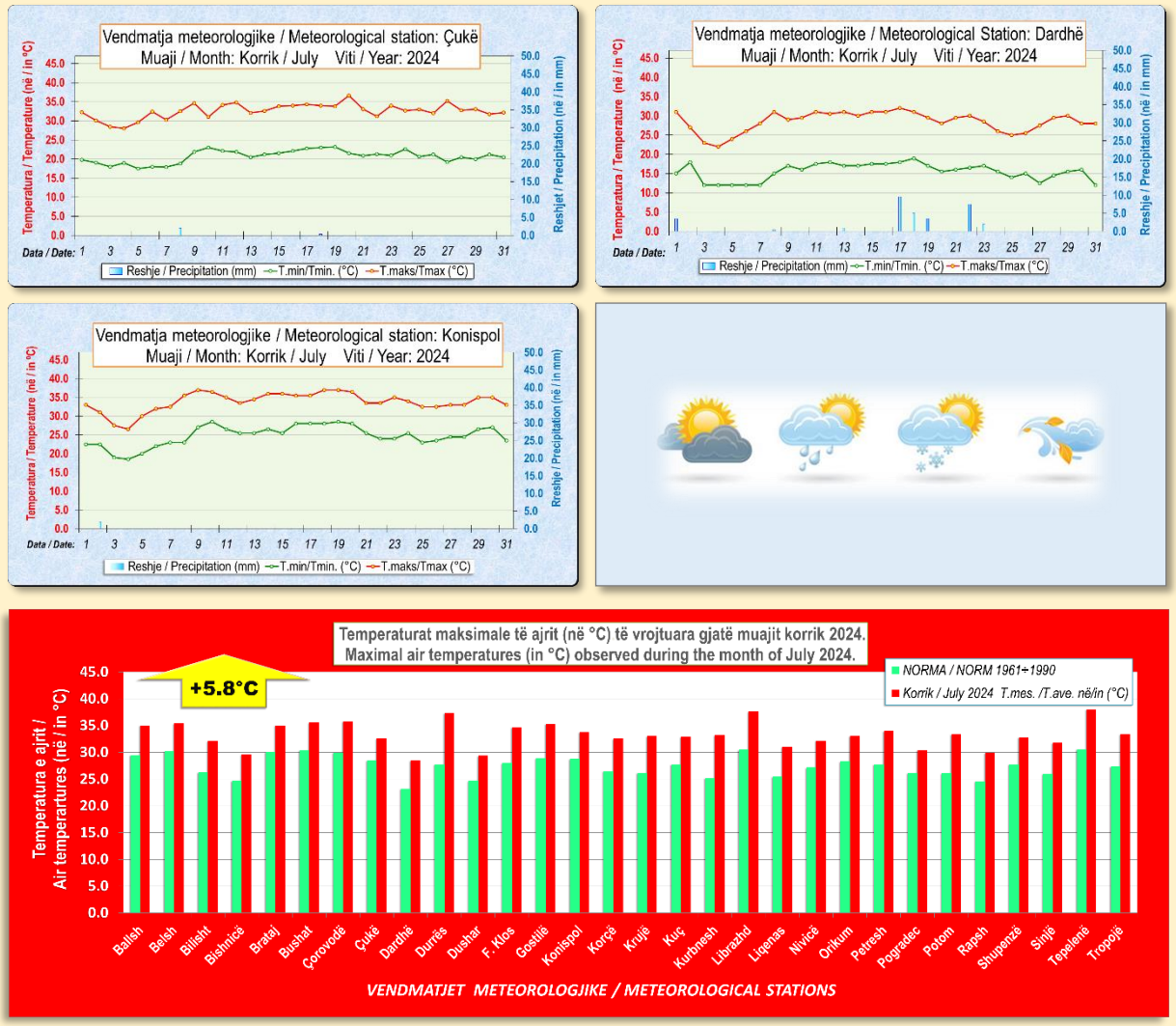


Figure Nr.12. - Vlerat e temperaturave mesatare maksimale të ajrit për disa vendmatje meteorologjike të muajit korrik 2024 për Shqipërinë.
Values of mean maximal air temperatures for some meteorological stations of July 2024 for Albania.

Në figurën në vijim Nr.13 janë paraqitur sipas javëve vlerat e temperaturave maksimale të ajrit të vrojtuara në shkallë kontinenti për muajin korrik 2024.

Gjithashtu në një analizë më të detajuar për territorin e Shqipërisë pas përpunimit të të dhënave meteorologjike, në figurën Nr.14 janë paraqitur grafikisht të dhënat e temperaturave maksimale absolute të ajrit për muajin korrik 2024, për një sërë vendmatjesh meteorologjike.

Këto vlera gjatë këtij muaji siç shihet dhe në grafikët përkatës kanë arritur deri pranë pragjeve +40°C apo +41°C, por duhet thënë se nuk u shënua ndonjë thyerje e rekordeve historike të mëparshme të vrojtuara në vendmatjet meteorologjike të vendit tonë.

In the following figure No.13, the values of the maximum air temperatures observed on a continental scale for the month of July 2024 are presented by week.

Also, in a more detailed analysis for the territory of Albania after the processing of meteorological data, in figure No.14, the data of absolute maximum air temperatures for the month of July 2024, for a set of meteorological measurement sites, are presented graphically.

These values during this month, as can be seen in the respective graphs, have reached close to the thresholds of +40°C or +41°C, but it must be said that there was no breaking of the previous historical records observed in the meteorological measurement sites of our country.

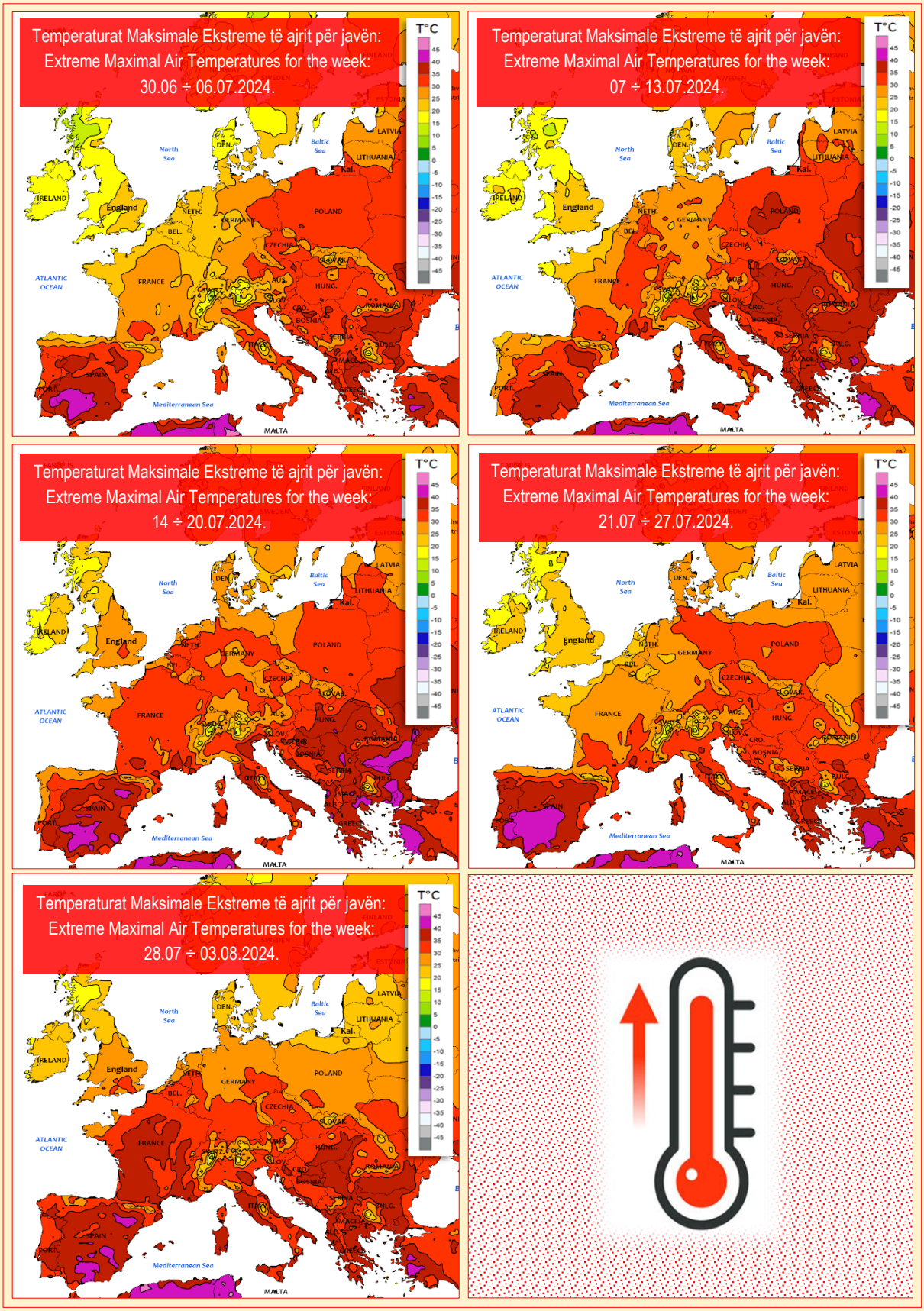


Figura Nr.13. - Vlerat e temperaturave maksimale ekstreme të ajrit për kontinentin Europian për 5 javët e muajit korrik 2024, sipas NOAA-s.
Extreme maximal values of air temperatures for European Continent for the 5 weeks of July 2024, according to NOAA.

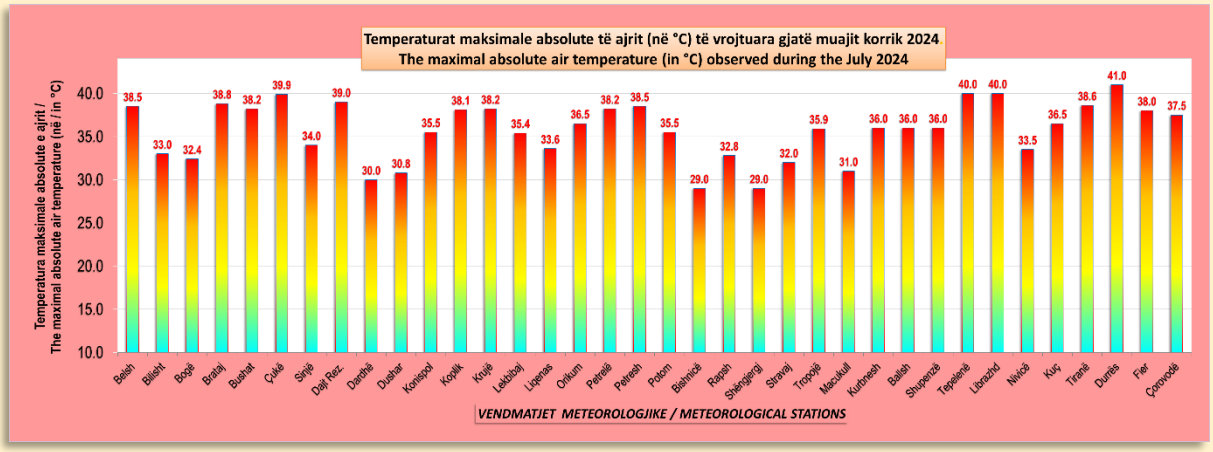


Figure Nr.14. - Vlerat e temperaturave maksimale absolute të ajrit për disa vendmatje meteorologjike të muajit korrik 2024 për Shqipërinë.
Values of absolute maximal air temperatures for some meteorological stations of July 2024 for Albania.

Situata e veçantë e temperaturave të larta në Europë për periudhën 12 deri 19 korrik 2024 paraqitet dhe në hartën e dhënë në vijim në figurën Nr.15, ku pjesa e Europës qendrore e lindore përfshirë dhe Gadishullin e Ballkanit janë karakterizuar nga vlera mjaft të larta të temperaturave të ajrit në mesditë.

The special situation of high temperatures in Europe for the period from July 12 to 19, 2024 is also shown on the map given below in figure No.15, where the part of Central and Eastern Europe including the Balkan Peninsula is characterized by very high values midday air temperatures.

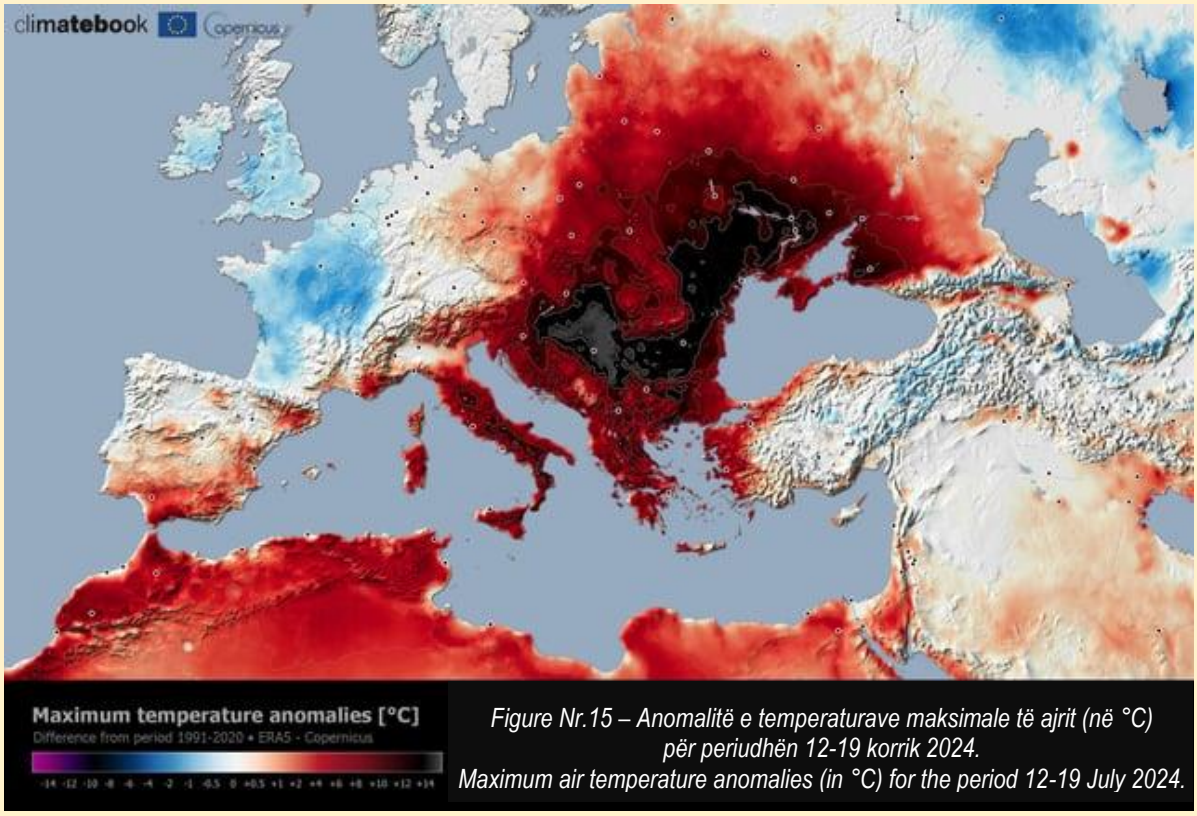


Figure Nr.15 – Anomalitë e temperaturave maksimale të ajrit (në °C) për periudhën 12-19 korrik 2024.
Maximum air temperature anomalies (in °C) for the period 12-19 July 2024.

Natyrisht gjatë muajit korrik 2024 edhe vlerat e temperaturave minimale të ajrit shënuan nivele mbi normë.

Of course, during the month of July 2024, the values of the minimum air temperatures also marked levels above the norm.

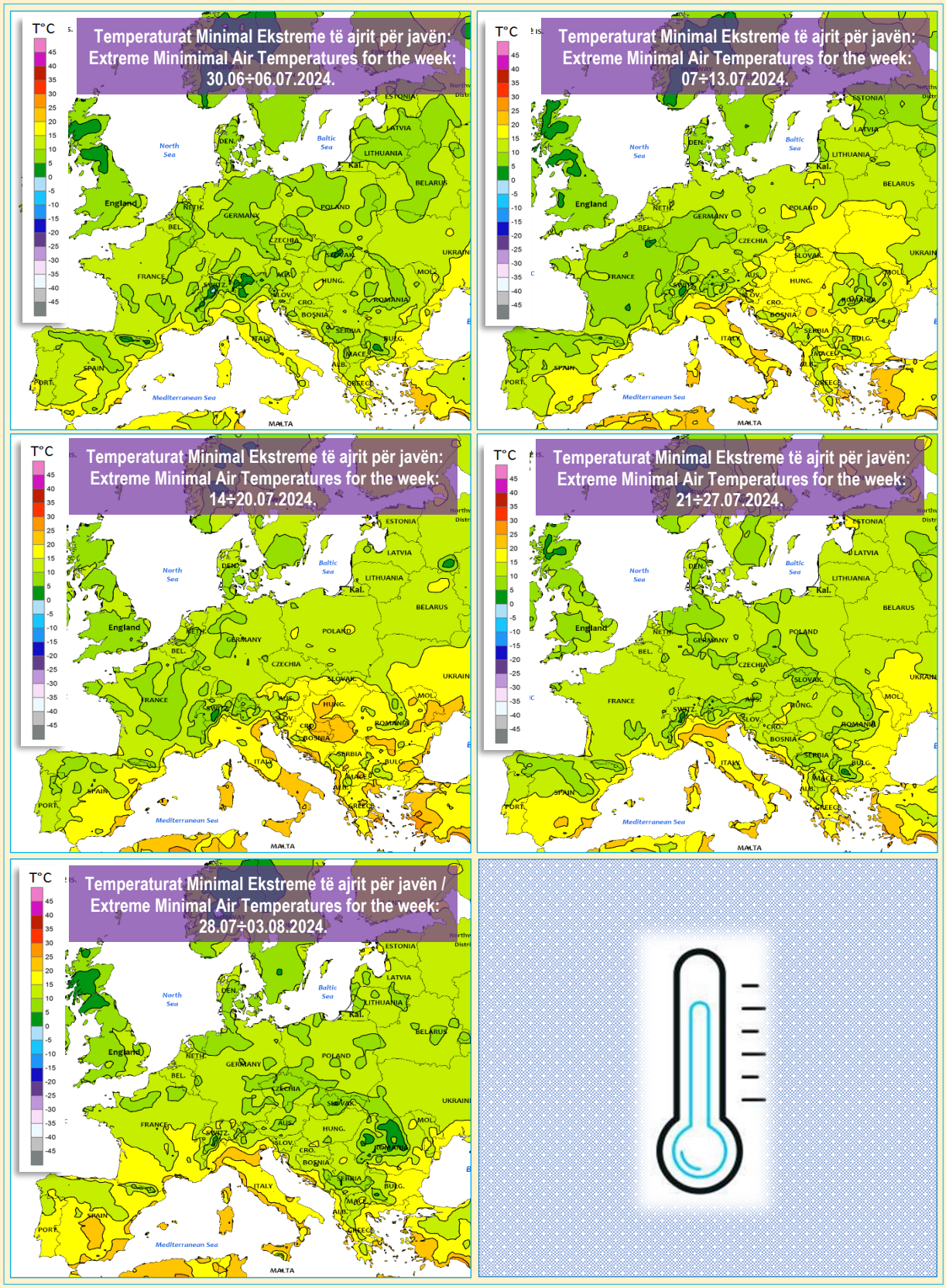


Figura Nr.16. - Vlerat e temperaturave minimale ekstreme të ajrit për kontinentin Europian për 5 javët e muajit korrik 2024, sipas NOAA-s.
Extreme minimal values of air temperatures for European Continent for the 5 weeks of July 2024, according to NOAA.

Në shkallë kontinentale të dhënat e temperaturave minimale ekstreme janë paraqitur

On a continental scale, the data of minimum extreme temperatures are presented by

sipas javëve në figurën Nr.16.

Në paraqitjet grafike të dhëna në vijim për disa nga vendmatjet meteorologjike të Shqipërisë në figurën Nr.17 janë dhënë krahas të dhënave të këtyre vlerave për muajin korrik 2024 edhe ato të normës referuar periudhës 1991-2020.

Siç shihet qartë një anomali prej +3.0°C ka karakterizuar këto vlera për vendin tonë gjatë këtij muaji. Natyrisht gjatë këtyre ditëve nuk munguan as netë tropikale. Nëtë tropikale konsiderohen ato netë kur temperatura e ajrit nuk zbret gjatë natës nën pragun 20.0°C.

week in figure no.xx.

In the graphic representations given below for some of the meteorological sites of Albania in figure No.17, in addition to the data of these values for the month of July 2024, those of the norm referred to the period 1991-2020 are also given. As can be clearly seen, an anomaly of +3.0°C has characterized these values for our country during this month. Of course, during these days there were also tropical nights. Tropical nights are considered those nights when the air temperature does not drop below the 20.0°C threshold during the night.

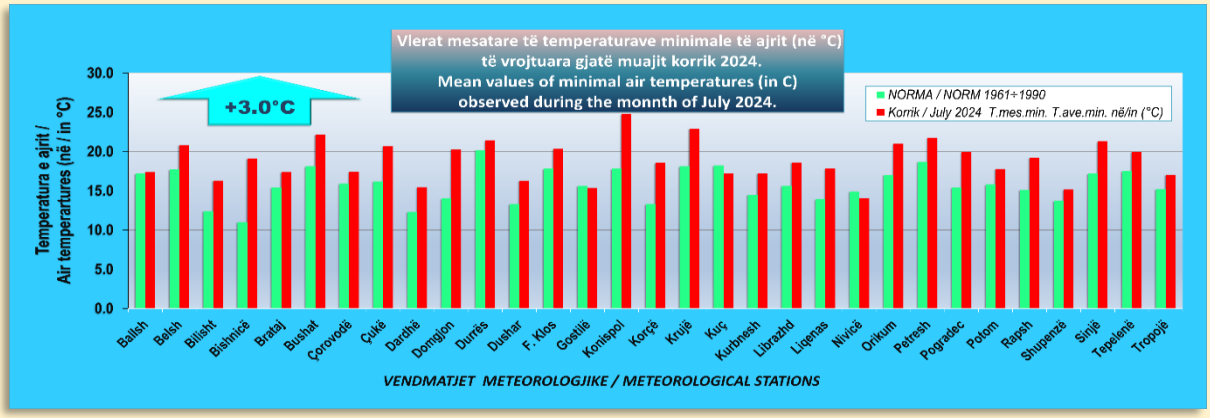


Figure Nr.17. - Vlerat e temperaturave mesatare minimale të ajrit për disa vendmatje meteorologjike të muajit korrik 2024 për Shqipërinë.
Values of mean minimal air temperatures for some meteorological stations of July 2024 for Albania.

Në vijim në figurën Nr.18 paraqiten grafikisht dhe të dhënat e vlerave të temperaturave minimale absolute të ajrit, të vrojtuara gjatë muajit korrik 2024 për disa nga vendmatjet meteorologjike të vendit tonë.

Below, figure No.18 presents graphically and the data of the minimum absolute air temperatures, observed during the month of July 2024 for some of the meteorological measurement sites of our country.

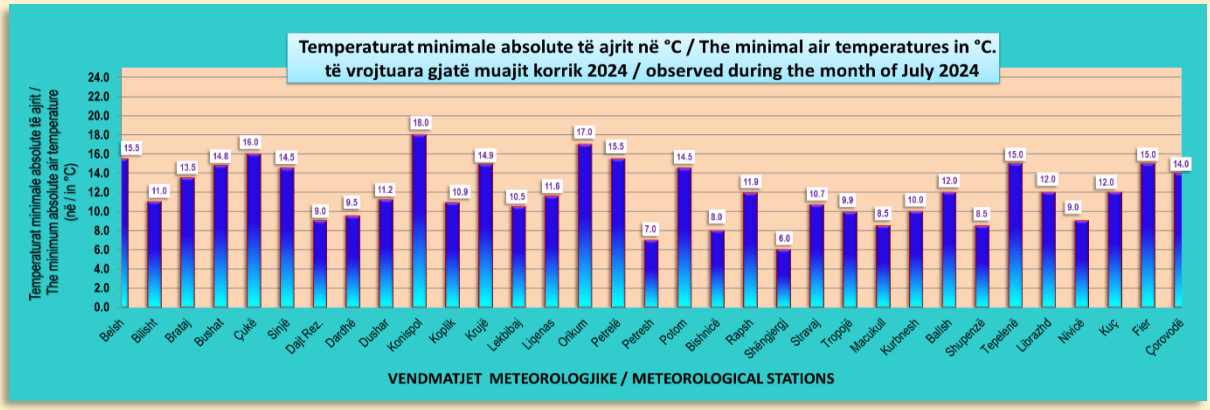


Figure Nr.18. - Vlerat e temperaturave minimale absolute të ajrit për disa vendmatje meteorologjike të muajit korrik 2024 për Shqipërinë.
Values of absolute minimal air temperatures for some meteorological stations of July 2024 for Albania.

RESHJET ATMOSFERIKE

Muaji korrik 2024 u karakterizua me një shpërndarje jo homogjene të reshjeve, të cilat në tërësi ishin jo të larta. Në mjaft vende të Europës mbizotëroi situata me reshje tepër të pakta dhe me thatësirë. Në vijim në hartat e dhëna në figurën Nr.19 paraqiten të dhënat e reshjeve në shkallë kontinenti si dhe vlerat e tyre të shprehura në përqindje kundrejt periudhës së 1991-2020.

ATMOSPHERIC PRECIPITATION

The month of July 2024 was characterized by a non-homogeneous distribution of rainfall, which was generally not high. In many countries of Europe, the situation with too little rain and drought prevailed. In the following, the maps given in figure No.19 show the rainfall data on a continental scale, as well as their values expressed in percentages against the period of 1991-2020.

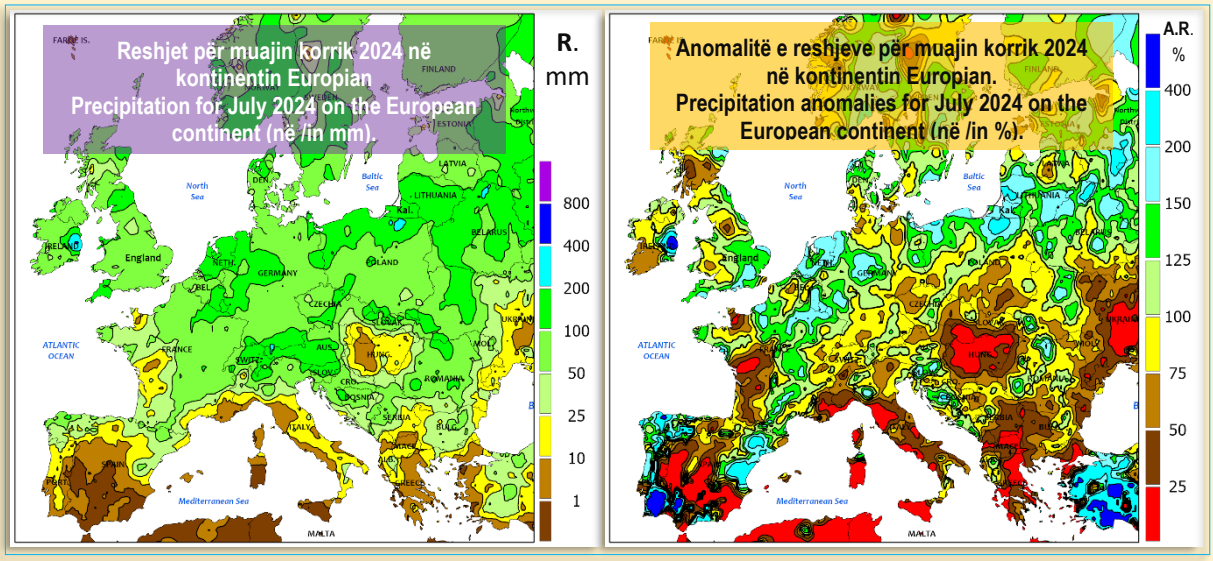


Figura Nr.19 - Reshjet për muajin korrik 2024 në kontinentin Europian dhe anomalitë kundrejt periudhës 1991÷2020, sipas NOAA-s.
Rainfall for July 2024 at the European continent and their anomalies referring to the period 1991÷2020 according to NOAA.

Në territorin e Shqipërisë gjatë këtij muaji korrik 2024 u vrojtuan reshje të pakta. Në vijim në figurën Nr.20 janë paraqitur grafikisht të dhënat e reshjeve të

In the territory of Albania during this month of July 2024, little rainfall was observed. Next, in figure No.20, the rainfall data are presented graphically

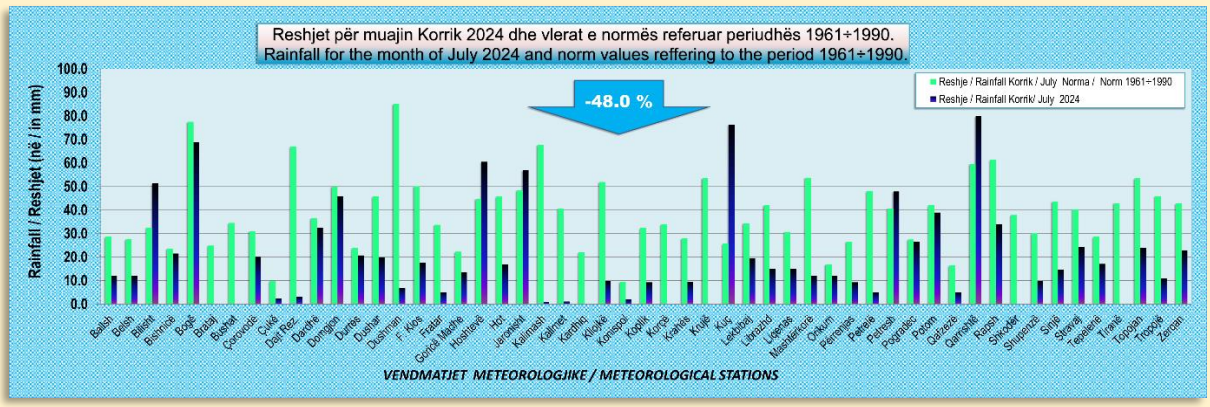


Figura Nr.20. - Lartësia e reshjeve për disa vendmatje meteorologjike të muajin korrik 2024 për Shqipërinë.
The amount of precipitations for some meteorological stations of July 2024 for Albania.

vrojtuara në një sërë vendmatjesh meteorologjike të vendit tonë si dhe vlerat përkatëse të normës. Një rënie e theksuar e lartësisë së reshjeve atmosferike vihet re në mbarë vendmatjet meteorologjike, e cila në shkallë vendi vlerësohet të jenë rreth vlerës -48%.

Gjithashtu duhet theksuar se dhe treguesi i numrit të ditëve me reshje shënoi një rënie të konsiderueshme. Në mbarë vendin mesatarisht u vrojtuan -42.5% ditë me reshje më pak se vlerat e normës. Të dhënat për këtë tregues paraqiten grafikisht në figurën Nr.21.

for a series of meteorological stations of our country, as well as the corresponding values of the norm. A marked decrease in the height of atmospheric elements is observed in all meteorological stations, which at the national scale is estimated to be around the value of -48%.

It also seems to be emphasized that the indicator of the number of days with rain marked a significant decrease. In the whole country, on average, -42.5% of days with precipitation less than the normal values were observed. The data for this indicator are presented graphically in figure No.21.

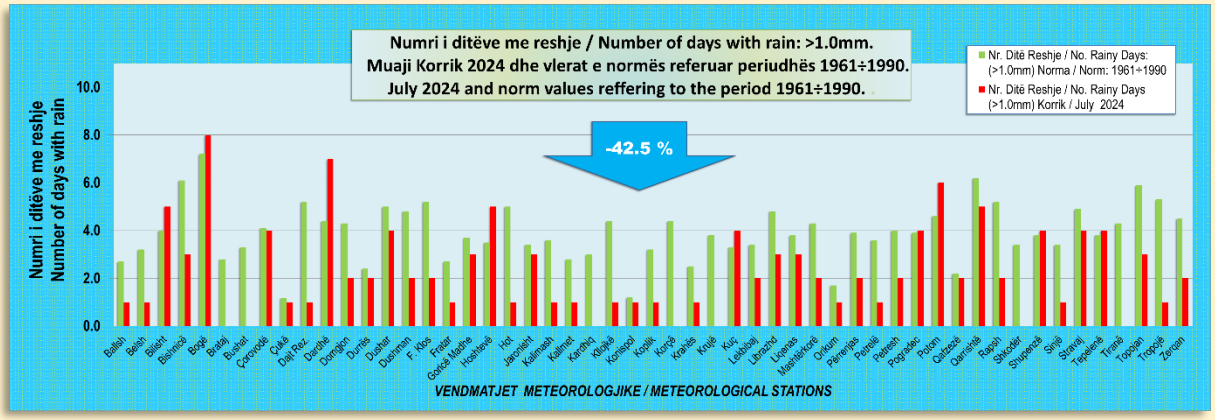


Figure Nr.21 - Numri i ditëve me reshje >1.0 mm gjatë muajit korrik 2024 në Shqipëri.
The rainy days number >1.0 mm during July 2024 in Albania.

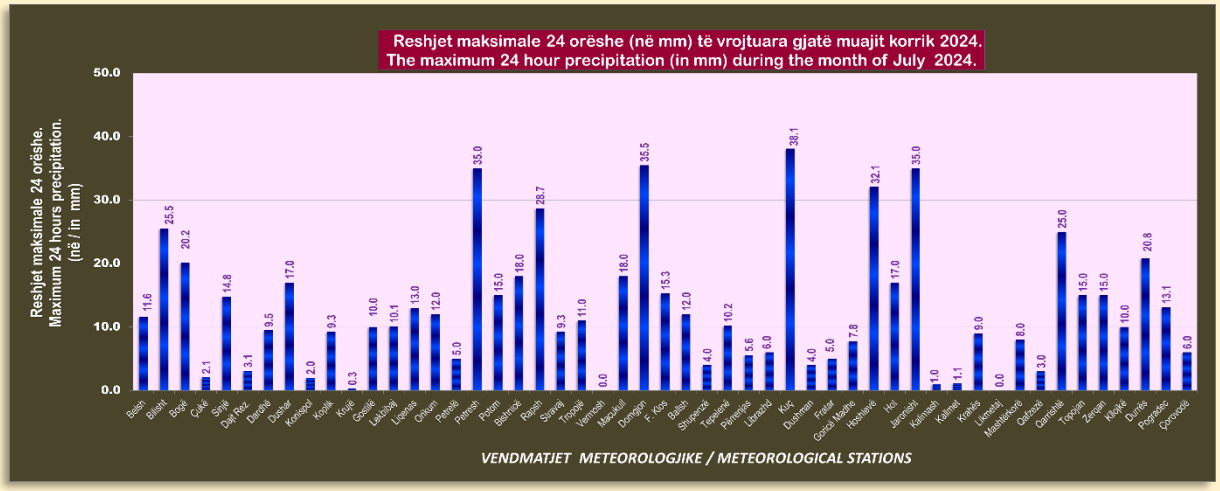


Figure Nr.22. - Lartësia e reshjeve maksimale 24 orëshe për disa vendmatje meteorologjike të muajit korrik 2024 për Shqipërinë.
The amount of maximal 24 hours of precipitations for some meteorological stations of July 2024 for Albania.

Reshjet maksimale 24 orëshe janë paraqitur grafikisht në figurën Nr.22 për disa vendmatje meteorologjike të Shqipërisë për mujain korrik 2024.

The maximum 24-hour rainfall is presented graphically in figure No. 22 for several meteorological measuring sites in Albania for the month of July 2024.

AGROMETEOROLOGJI

Gjatë muajit korrik 2024 një nivel i lartë i avullimit paraqitur grafikisht për një sërë vendmatjesh meteorologjike të Shqipërisë në grafikun e figurës Nr.23 ishte një prej karakteristikave kryesore agrometeorologjike, që natyrisht përcolli padyshim dhe një defiçit të lartë hidrik për këtë muaj.

AGROMETEOROLOGY

During July 2024, a high level of evaporation presented graphically for a series of meteorological stations in Albania in the graph of figure No.23 was one of the main agrometeorological characteristics, which of course undoubtedly conveyed a high water deficit for this month.

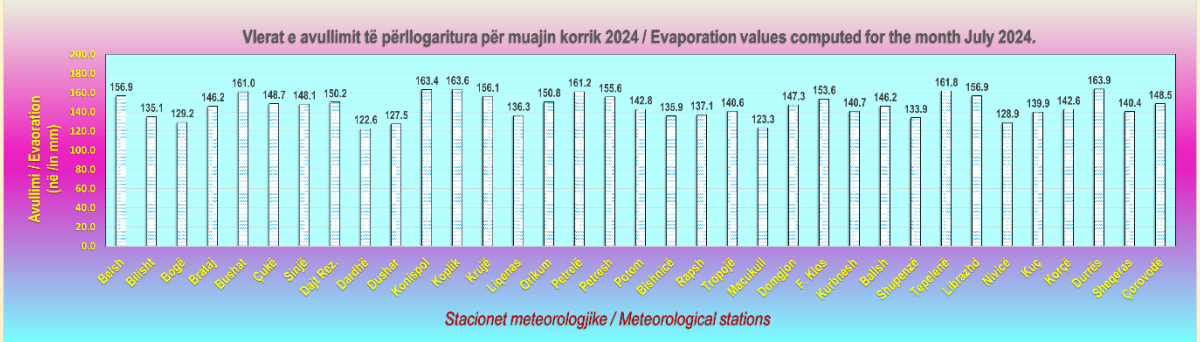


Figure Nr.23 – Vlerat e treguesit të avullimit (në mm) për disa vendmatje meteorologjike të muajit korrik 2024 për Shqipërinë.
The values of evaporation (in mm) for some meteorological stations in July 2024 for Albania.

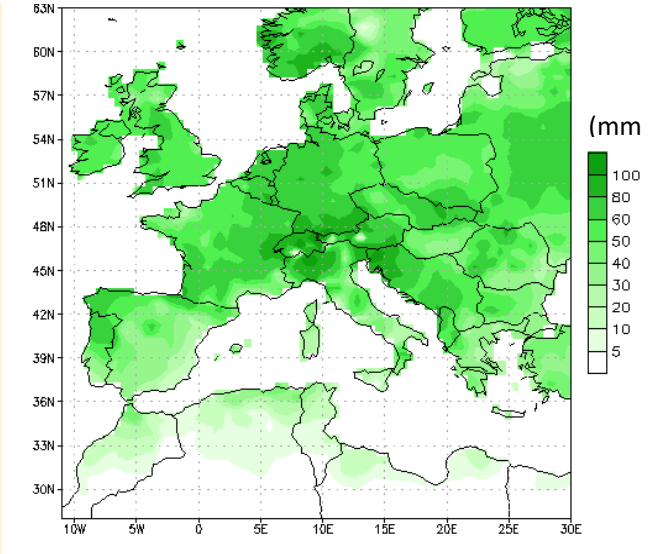
Niveli i vlerave të avullimit përgjithësisht për këtë muaj vlerësohet të jetë nga 4 deri 5 mm në ditë (24 orësh). Pavarësisht nga ndryshimet metodologjike të përpunimit në vijim në hartën e dhënë në shkallë kontinentale (figurë Nr.24) jepet dhe një vlerësim i përllogaritur për këtë tregues për muajin korrik 2024.

Ndërkohë duhet theksuar se gjatë këtij muaj falë vlerave relativisht të larta të temperaturave të ajrit madhësitë e treguesit agrometeorologjik të shumës së temperaturave aktive mbi pragun 10°C shënuan një rritje kundrejt muajit të mëparshëm qershor.

The level of evaporation values in general for this month is estimated to be from 4 to 5 mm per day (24 hours). Regardless of the methodological changes of the following processing in the given map on a continental scale (figure No.24), a calculated estimate for this indicator is given for the month of July 2024.

Meanwhile, it should be noted that during this month, thanks to the relatively high values of air temperatures, the magnitude of the agrometeorological indicator of the sum of the active temperatures above the 10°C threshold marked an increase compared to the previous month of June.

Figure Nr.24 – Vlerat e përllogaritura të avullimit (në mm/ muaj) për muajin korrik 2024.
Calcuated Evaporation values (in mm/mon) for July 2024



Në figurën Nr.25 janë paraqitur grafikisht të dhënat e këtij treguesi për këtë muaj.

In figure No.25, the data of this indicator for this month are presented graphically.

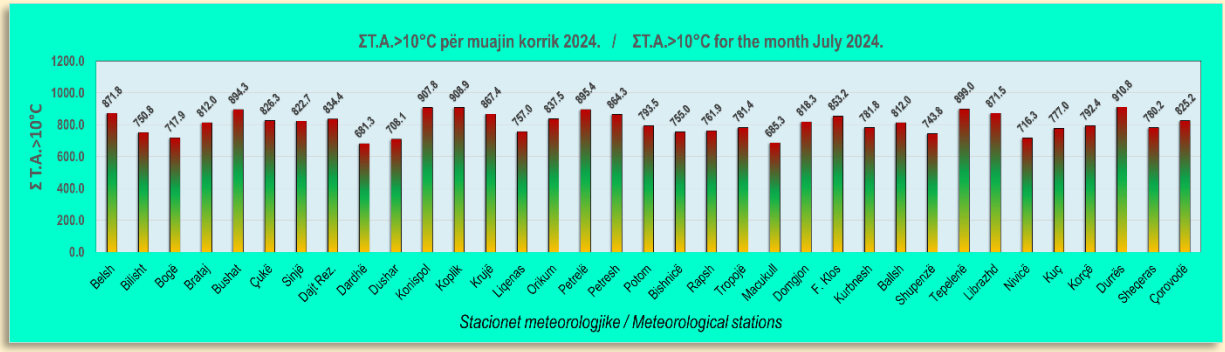
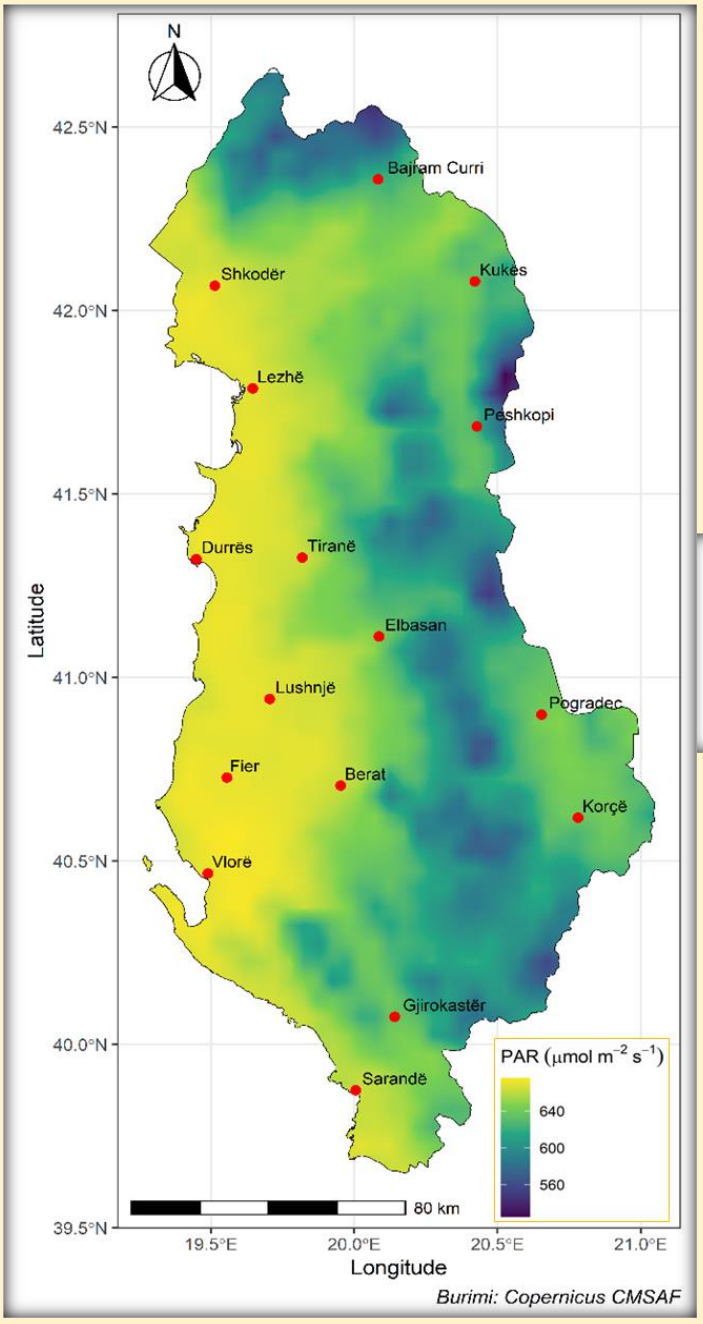


Figure Nr.25. – Vlerat e treguesit të shumës së temperaturave aktive mbi pragun 10°C për disa vendmatje meteorologjike të muajit korrik 2024 për Shqipërinë.
The values of the indicator for the sum of the active temperatures above the threshold of 10°C for some meteorological stations in July 2024 for Albania.



Muaji korrik ashtu si dhe të gjithë muajt e tjerë të stinës së verës karakterizohen dhe nga një nivel i lartë i rrezatimit aktiv fotosintetik (RAF). Ky tregues duhet thënë se në territorin e vendit tonë përgjithësisht gjatë gjithë periudhës së vegjetacionit paraqitet në nivele optimale për realizimin e proçeseve fiziologjike të rritjes dhe zhvillimit të bimësisë në tërësi dhe kulturave bujqësore në veçanti. Ai nuk shënon nivele as me mungesë dhe as me tepri, që mund të bëheshin kufizuese për jetën e bimëve.

Figure Nr.26 – Vlerat mesatare të RAF për muajin korrik 2024 për Shqipërinë.
The mean values of PAR for July 2024 for Albania.

The July, like all the other months of the summer season, is characterized by a high level of active photosynthetic radia-tion (PAR). This indicator should be said that in the territory of our country, in general, during the entire vegetation period, it appears at optimal levels for the realization of the physiological processes of growth and development of plants in general and agricultural crops in particular. It does not mark levels neither with deficiency nor with excess, which could become limiting for the life of plants.

Shpërndarja e vlerave të treguesit të RAF për territorin e Shqipërisë për muajin korrik 2024 janë paraqitur në hartën e dhënë në figurën Nr.26. Vlerat më të larta natyrisht dhe për shkak të orografisë karakterizojnë pjesën e Ultësirës Perëndimore të vendit.

Vlerat e RAF përfaqësojnë atë pjesë të spektrit të rrezatimit diellor që shfrytëzohen për proçeset fotosintetike nga bimësia, siç ilustrohet dhe në figurën Nr.27.

Treguesi i vegjetacionit i paraqitur në hartat e dhëna në figurën Nr.28 evidenton në shkallë vendi një nivel të lartë të këtij parametri. Gjithësesi në se do shihet me vëmëndje në pjesën J e JP të vendit, kryesisht në Ultësirën Perëndimore, për shkak të shfaqjes së dukurive të thatësirës si pasojë e reshjeve të pakta të këtij muaji, nivelit të lartë të avullimit dhe evapotranspiracionit, që kanë përcjell dhe një stres termik në bimësi, është reflektuar në rënien e vlerave të këtij treguesi, përkundrejt zonave më në veri e VL të vendit e po ashtu dhe përkundrejt muajit të mëparshëm qershor 2024.

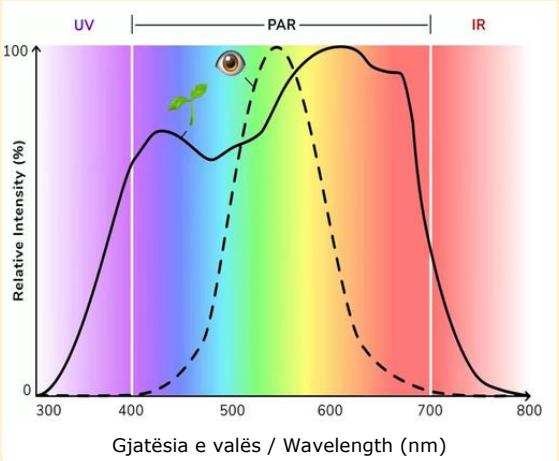


Figure Nr.27 – Paraqitje e pjesës së spektrit të rrezatimit diellor që përfshihet nga RAF.
Representation of the part of the solar radiation spectrum that is included by the PAR.

The distribution of the values of the RAF indicator for the territory of Albania for the month of July 2024 are presented in the map given in figure No.26. The highest values naturally and due to the orography characterize the part of the Western Lowlands of the country.

The RAF values represent that part of the solar radiation spectrum that is used for photo-synthetic processes by vegetation, as illustrated in figure No.27.

The vegetation indicator presented in the maps given in figure No.28 shows a high level of this parameter at the country level. However, it will be seen with attention in the S and SW part of the country, mainly in the Western Lowlands, due to the appearance of drought phenomena as a result of the low rainfall this month, the high level of evaporation and evapotranspiration, which have caused and a thermal stress in the plant, is reflected in the decrease in the values of this indicator, compared to the areas in the north and northeast of the country and also the compare to the previous month, June 2024.

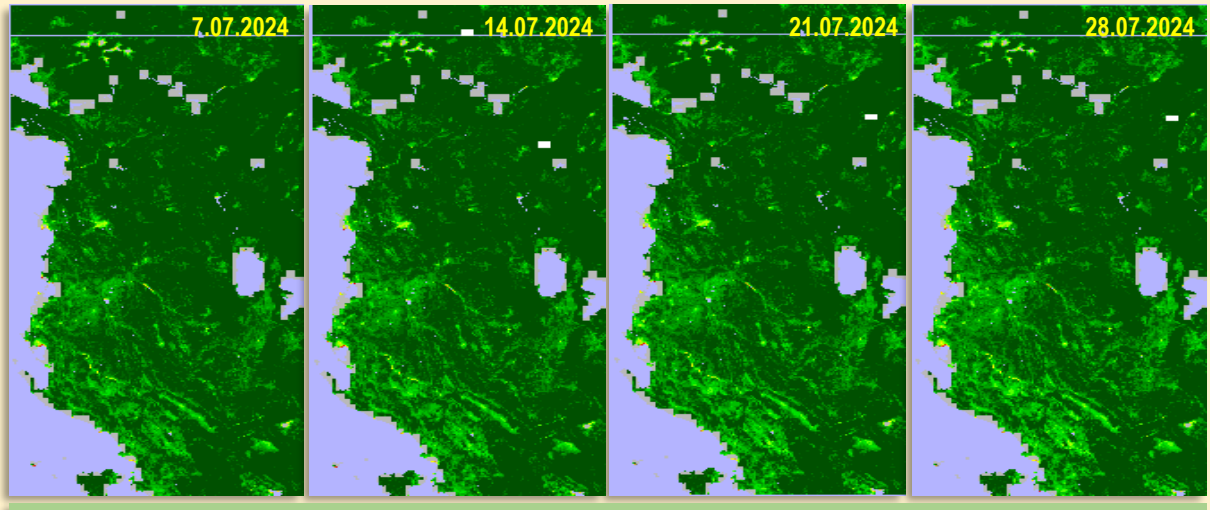


Figure Nr.28 - Treguesi i vegjetacionit NDVI për muajin korrik 2024.
Vegetation Index NDVI for July 2024.

NDRYSHIMET KLIMATIKE

Në kontekstin e ndryshimeve klimatike në vijim nëpërmjet një informacioni në shkallë vendi, të përpunuar duke u bazuar në të dhënat e një sërë vendmatjeve meteorologjike sipas zonave e nën-zonave klimatike të Shqipërisë janë paraqitur grafikisht në figurën Nr.29(a) vlerat e anomalive të temperaturave mesatare të ajrit për muajin korrik. Kjo shmangie ndaj vlerave të normës referuar periudhës shumëvjeçare 1961-1990 mesatarisht në 8 vitet e fundit (të periudhës 2017-2024) rezulton të jetë në +2.8°C, ku shmangia më e lartë me +4.4°C i takon pikërisht korrikut të këtij viti.

CLIMATE CHANGE

In the context of the following climate changes, through information at the country level, processed based on the data of a series of meteorological stations according to the climate zones and sub-zones of Albania, the values of the anomalies of average air temperatures for the month of July are presented on figure No.29(a). This deviation from the values of the norm referred to the multi-year period 1961-1990 on average in the last 8 years (of the period 2017-2024) turns out to be +2.8°C, where the highest deviation with +4.4°C belongs precisely to this July the year.

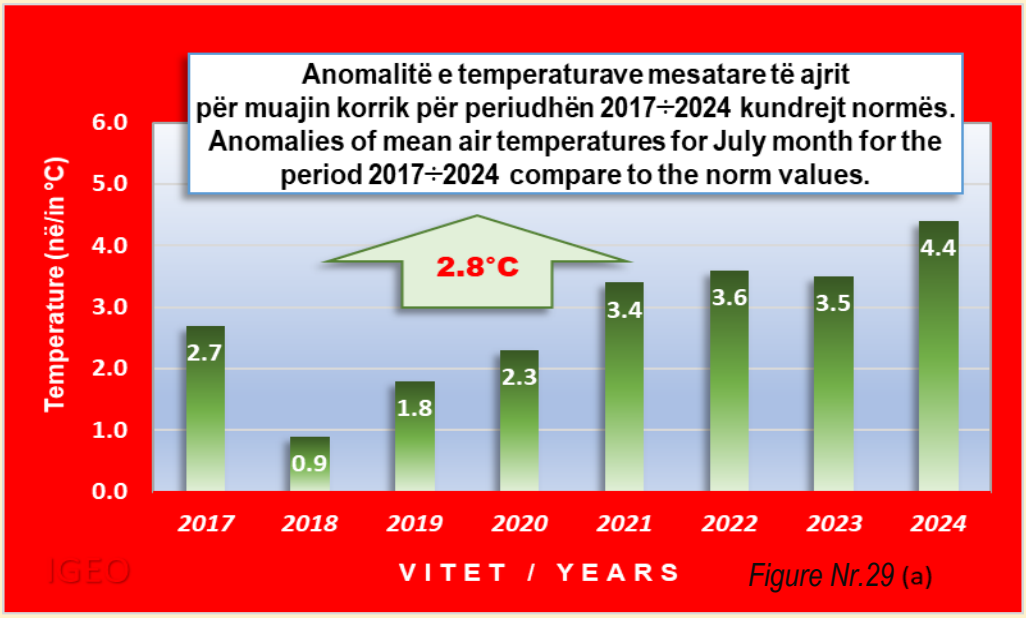


Figure Nr.29 (a)

Anomalitë më të theksuara në vitet e fundit i kanë shënuar vlerat e temperaturave maksimale të ajrit. Në figurën Nr.29(b) janë paraqitur devijimet që kanë shënuar vlerat mesatare të temperaturave maksimale të ajrit përgjatë 8 viteve të fundit, ku qartë dallohen dy vitet e fundit me një anomali prej +5.8°C.

Njëkohësisht dhe temperaturat mesatare të vlerave minimale gjatë muajit korrik janë karakterizuar me anomali pozitive (paraqitur në figurën Nr.29(c), të cilat mesatarisht kanë qenë në nivelin e +2.0°C, ku viti i fundit shënon dhe anomalinë më të lartë me +3.0°C.

Ndërkohë dhe amplitudat e temperaturave të ajrit gjithashtu janë

The most pronounced anomalies in recent years have marked the values of the maximum air temperatures. Figure No.29(b) shows the deviations that marked the average values of the maximum air temperatures during the last 8 years, where the last two years with an anomaly of +5.8°C are clearly distinguished.

At the same time, the average temperatures of the minimum values during the month of July were characterized by positive anomalies (shown in figure No.29(c), which on average were at the level of +2.0°C, where the last year marks the highest anomaly with +3.0°C.

Meanwhile, the air temperature amplitudes are also characterized by

karakterizua nga vlera në rritje. Në figurën Nr.29(d) janë paraqitur vlera e këtij treguesi për 8 vitet e fundit, ku në dy vitet e fundit shënohen dhe shmangiet më të larta në vlerë +2.8°C.

increasing values. Figure No.29(d) shows the value of this indicator for the last 8 years, where in the last two years the highest deviations in the value of +2.8°C are noted.

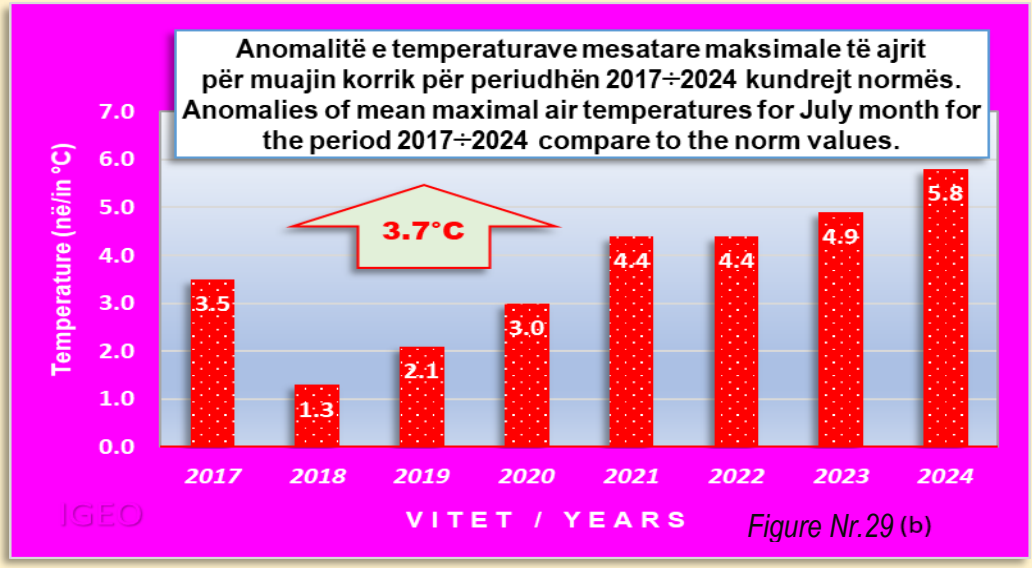


Figure Nr.29 (b)

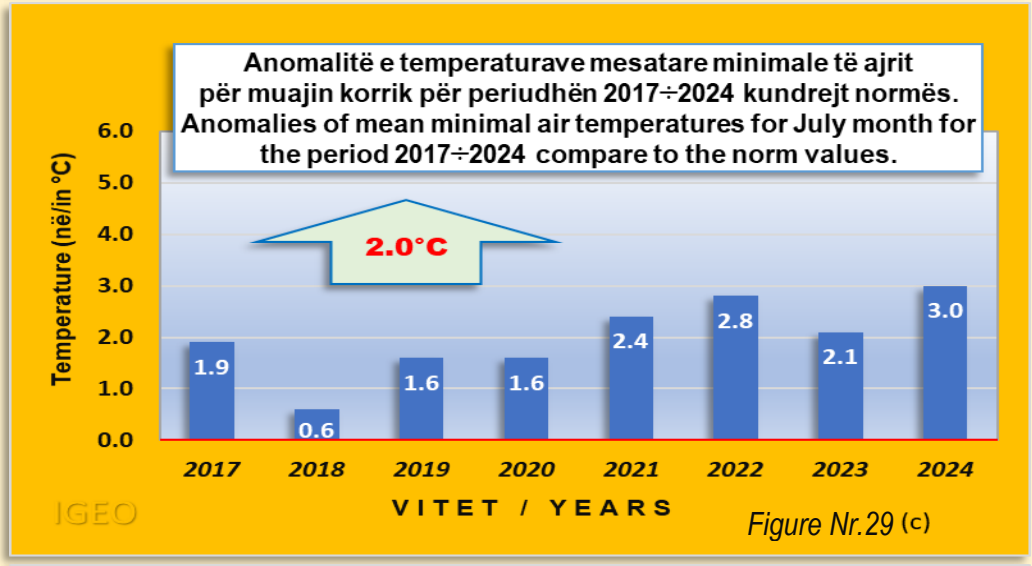


Figure Nr.29 (c)

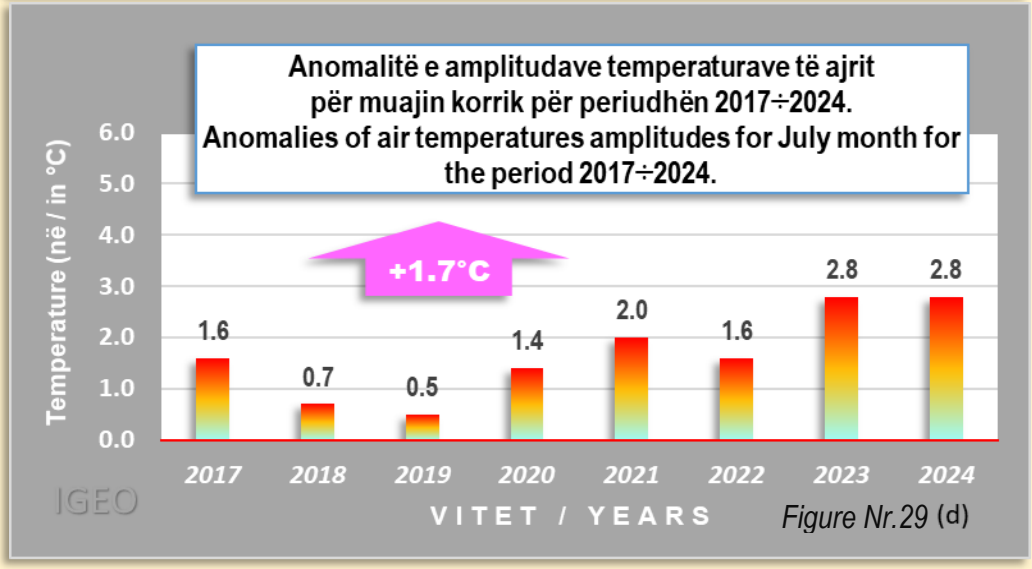


Figure Nr.29 (d)

Nga pikëpamja klimatike reshjet atmosferike në këtë muaj shënojnë dhe vlerat më të ulta në ecurinë vjetore. Në vijim në figurën Nr.30/a janë dhënë vlerat e tyre në % kundrejt normës për 8 vitet e fundit 2017-2024, ku korriku 2024 shënon dhe vlerat më të ulta të reshjeve, që kanë arritur vetëm në nivelin 52% të mesatares shumëvjeçare.

Ndërkohë, treguesi tjetër, ai i numrit të ditëve me reshje mbi pragun 1.0 mm, që është paraqitur grafikisht në figurën Nr.30/b evidenton një rënie përgjatë këtyre viteve. Për këtë periudhë mesatarisht ai vlerësohet në nivelin e 84.8%. Rënia më e theksuar ka karakterizuar muajin korrik të tre viteve të fundit.

From the climatic point of view, the atmospheric precipitation in this month marks the lowest values in the annual progress. In the following figure No.30/a, their values are given in % against the norm for the last 8 years 2017-2024, where July 2024 also marks the lowest values of precipitation, which have only reached the level of 52% of the long-term average .

Meanwhile, the indicator of rainy days above the threshold of 1.0 mm, which is presented graphically in figure No.30/b, shows a decrease throughout these years. For this period, on average, it is estimated at the level of 84.8%. The most pronounced decline has characterized the month of July in the last three years.

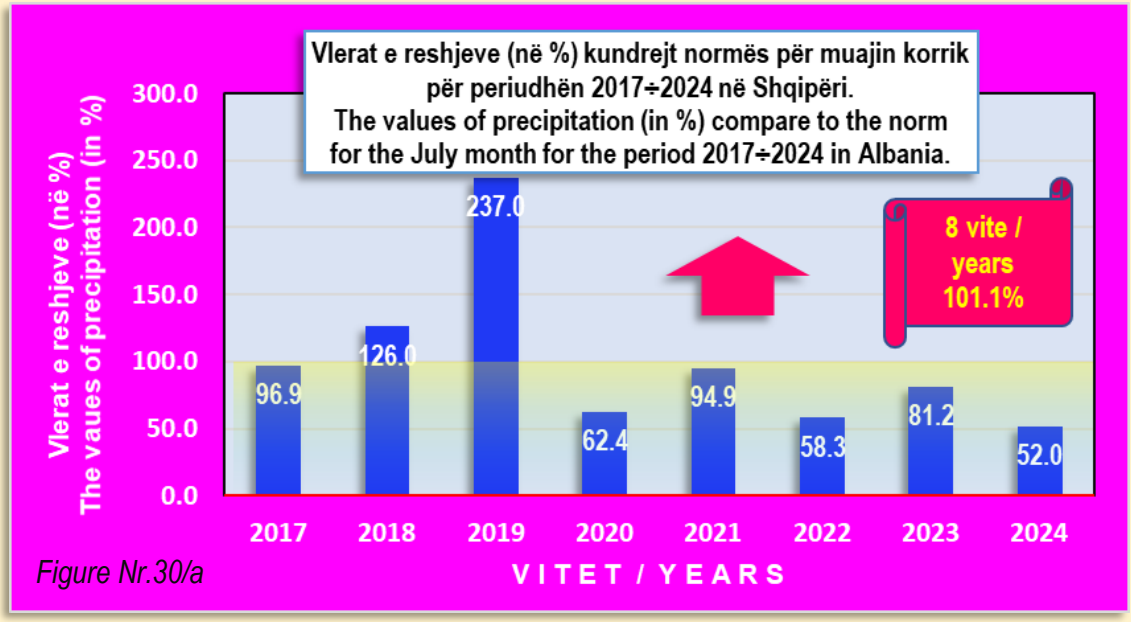


Figure Nr.30/a

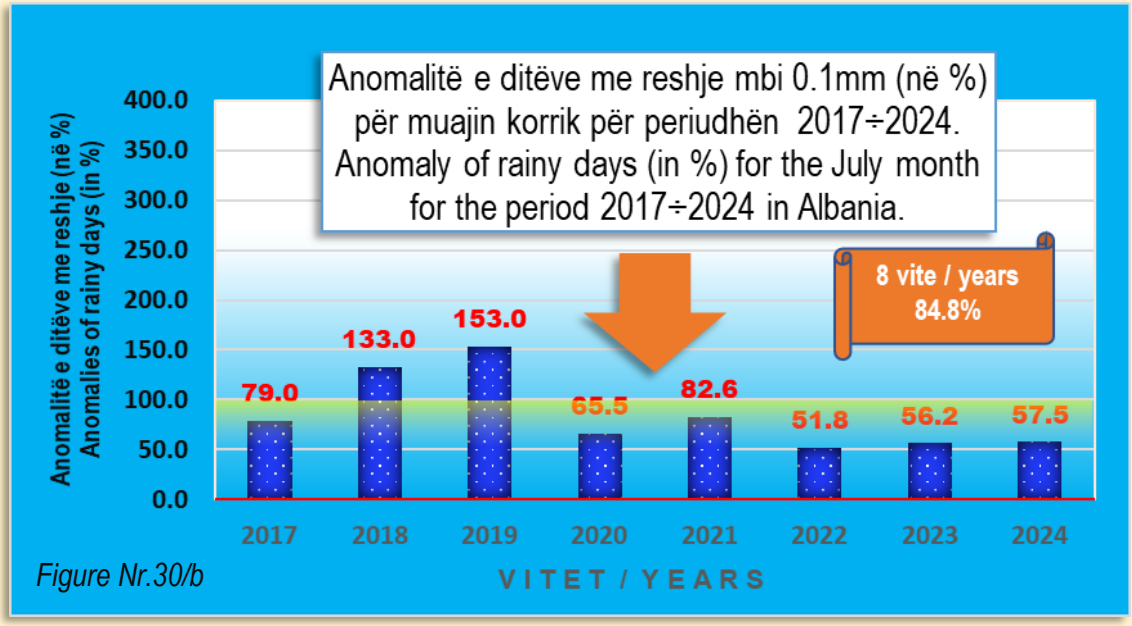


Figure Nr.30/b

ARTIKULL SHKENCOR

Në datat 4 dhe 5 korrik 2024 në Tiranë, u zhvillua një konferencë ndërkombëtare nga Akademia e Shkencave të Shqipërisë dhe “George Mason” Univeristy i SHBA me titull: **"Air and Water Quality Control: Important Factors in Protecting Human Health and Premises for Sustainable Development"**.

Në këtë veprimtari shkencore u prezantua një kumtesë shkencore dhe artikulli përkatës me titull: **“Një përqasje e re mbi kontrollin e cilësisë së ajrit dhe ujit në kontekstin e ndryshimeve klimatike”** i përgatitur nga Petrit Zorba, Elsuida Hoxha dhe Arjan Korpa është paraqitur në vijim. Pamje nga kjo konferencë është paraqitur në figurën Nr.31.

Figure Nr.31

SCIENTIFIC PAPER

On July 4 and 5, 2024 in Tirana, an international conference was held by the Academy of Sciences of Albania and "George Mason" University of the USA with the title: **"Air and Water Quality Control: Important Factors in Protecting Human Health and Premises for Sustainable Development"**.

In this scientific event, a scientific paper was presented and the corresponding article titled: **"A new approach on air and water quality control in the context of climate change"** prepared by Petrit Zorba, Elsuida Hoxha and Arjan Korpa is presented below.

View from this conference is presented in figure Nr.31.

“A new approach about air and water quality control in the context of climate change”

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Abstract

The health of both human populations and ecosystems is intricately linked to the quality of air and water resources. Within this context, various forms of pollution stemming from different sectors of the economy have distinct impacts on life quality, particularly manifesting in illnesses related to vital human body systems such as the respiratory, cardiovascular, and cerebral systems***. Particles suspended in the air with a diameter smaller than 1 µm serve as carriers for toxic chemicals, delivering them into the human respiratory system.***

Aerosols and their interactions with clouds and radiation exert a profound influence on both human health and global climate dynamics.

In contemporary times, numerous practices and emerging technologies associated with weather modification significantly influence the composition of the atmosphere. These alterations occur in diverse forms and patterns over densely populated areas, often purportedly to mitigate the effects of climate change.

This presentation aims to shed light on the profound impact of specific nanoparticles utilized in various weather modification methodologies or geoengineering practices, which detrimentally affect public health. Drawing upon multiple observations and information sources, we seek to raise awareness among relevant governmental and national security institutions regarding such phenomena occurring within the territory of Albania. Our objective is to prompt increased vigilance and action to halt these practices within our atmosphere.

Through the presentation of documented evidence, including imagery depicting these situations, and by correlating them with instances of hospitalizations among specific population

groups in particular regions and timeframes within Albania, we endeavor to underscore the urgency of this issue. Additionally, we offer examples of reactions from other countries to support our case. Ultimately, our goal is to contribute to the pursuit of a better quality of life and a healthier future for upcoming generations.

Keywords: Pollution, Nanoparticle, Aerosols, Weather modification, Climate change, Health.

Introduction

Nowadays, the topic of climate change is well-known, and international policies focus on efforts to minimize its negative impact and mitigate the effects of extreme weather events.

In mean time and on that context on international level are running from many years a series of geoengineering practices which aims to contribute in diminishing the global warming by trying to reduce the upcoming solar radiation. These type of technologies of course are accompanied like the other technologies in other sector with some negative impact on the life's people and in general life over the entire planet.

Almost the entire global population breathes air that exceeds WHO air quality limits and threatens our health. A record number of over 6000 cities in 117 countries are now monitoring air quality, but the people living in them are still breathing unhealthy levels of fine particulate matter and nitrogen dioxide, with people in low and middle-income countries suffering the highest exposures.

Normally in our country like in all the countries are done frequently measurements about pollution by monitoring the particles of 10 microns or 2.5 microns, and base to them are prepared yearly report accompanied with analyses, conclusions and suggestions.

With main objective related to climate change and the impact from global warming is thought that by decreasing the incoming solar radiation up to land surface it can be a cooling process and minimize the global warming. This referee to Solar Radiation Management program that aims to reduce a part of energy that come from the sun by reflecting it back using different type of geoengineering practice and patent's methodologies.

Data analysis

Based to the daily meteorological monitoring of weather and special analyzes every month done and presented by the Monthly Climate Bulletin for the territory of Albania, it can be found out also some specific cases during the last 8 years of the period 2017-2024, that the sky and cloud cover is not like before, but frequently far away from what has to be by nature itself, without these type of geoengineering interventions.

On recent years it is noted a higher frequency of some sky artificial cloud cover let say produced by geoengineering operation over our sky that is documented by various images for different space time locations part of Albanian territory, especially over those that have higher density of population.

Hospitalization of people or increase of certain epidemics or type of illness for different category of population is another approach that we try to bring up and show the relation with such type of atmospheric intervention. On such context are evidenced also the reactions related to this topic in other countries.

Climate Change situation in Albania

Firstly let have briefly a general look over climate of Albania in now days and how is the situation in the context of climate change and future scenario. So, in following figure No.1 are presented shortly by different graph the situation of climate and climate change in Albania

for the main parameter temperature and precipitation - how they are actually and what's expected for the near future. Referring to meteorological data of National Meteorological Monitoring System of Albania that have been elaborated for the last 7 years 2017-2023 resulted based to a monthly analyzes, that in overall the country is observed an increase of air temperature which compare to the norm of the years 1961-1990 is +1.9°C, and referring to the period 1991-2020 is about +1.0°C.

Regarding the precipitation they shows up a decrease by 3.4% on the annual values (30-60 mm depending from the zone) and as well a decrease of rainy days by 10.8%, that for in more detailed form are given on figure No.2 & No.3 for each month, emphasizing some specificity in particular month.

The scenario based to some information published by the Word Bank (2021) shows that in a near future in Albania it is expected a decrease of precipitation by 2.8 mm for the year 2039[5]. How important is this 2.8mm for Albania with an average of precipitation of 1600 mm per year is elaborated particularly at the Monthly Climate Bulletin No.78, 2023[1].

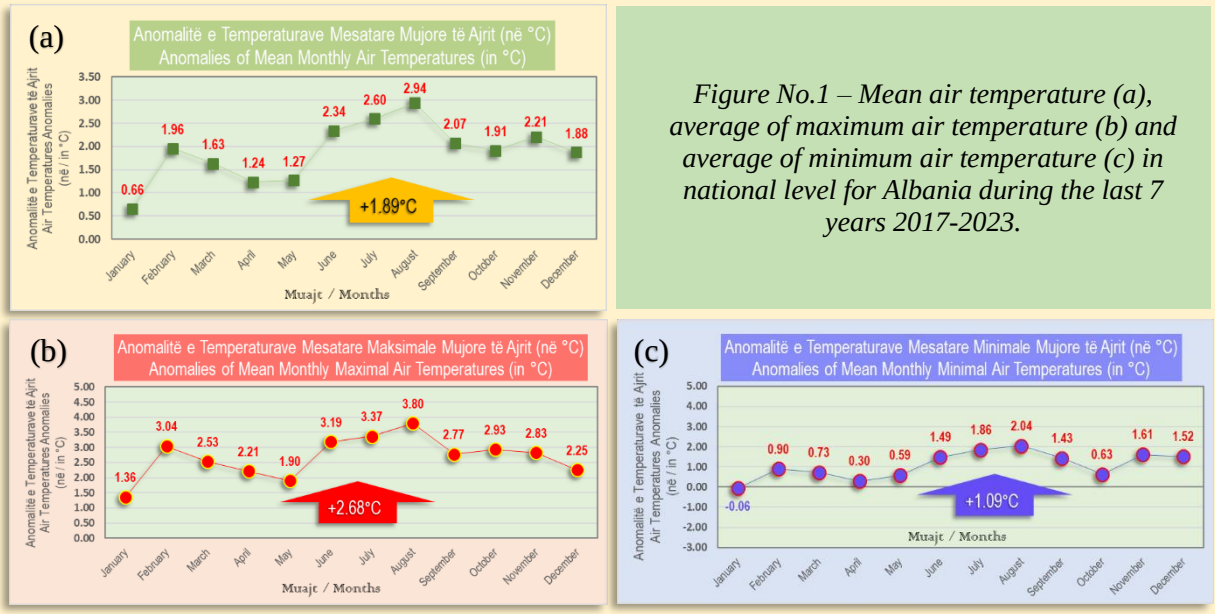
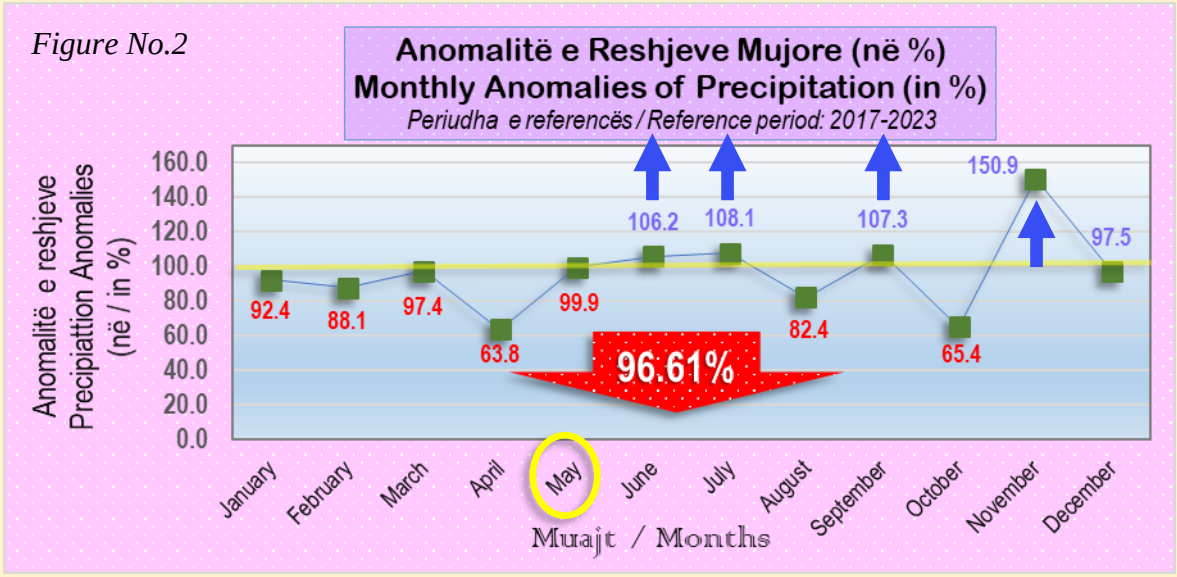


Figure No.1 – Mean air temperature (a), average of maximum air temperature (b) and average of minimum air temperature (c) in national level for Albania during the last 7 years 2017-2023.

Figure No.2



Nanoparticle and weather modification

In now days is very know that Nano technology are used in different sectors of economy of each country with good purposes and for a better performance of economy in general. One of them was proposed also on a recent event of Academy of Science of Albania about the assessment of the antiviral (SARS-CoV-2) and antibacterial activity of environmentally friendly, Nano coated, cement-based composite tiles and panels [8]. Nano technologies has been proposed and used also in weather modification.

Figure No.3

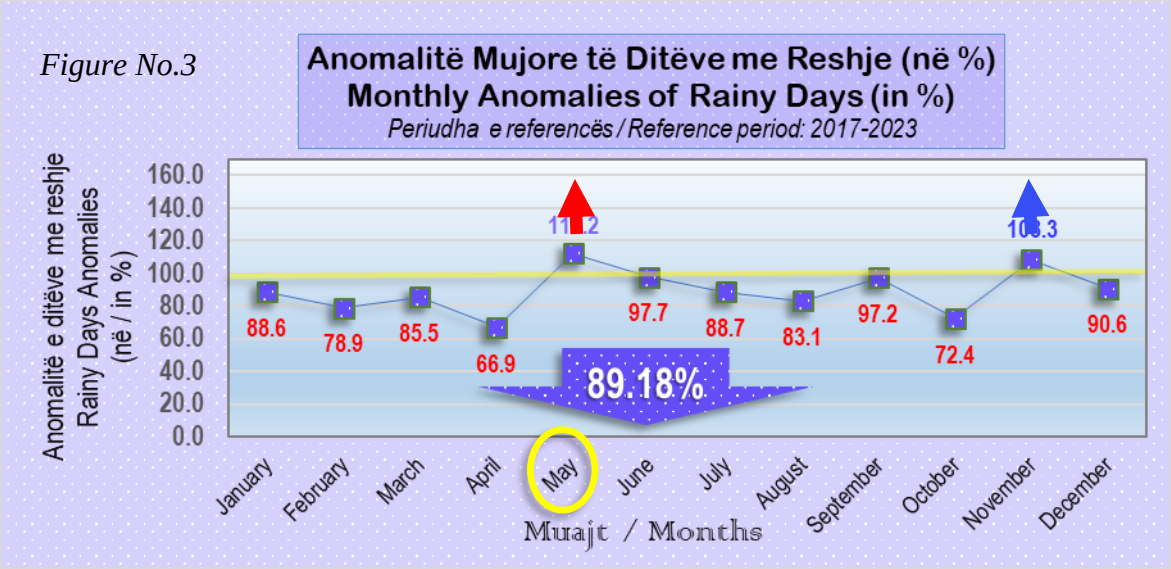


Figure No.4 – Different characteristic of shape and composition of nanoparticles.

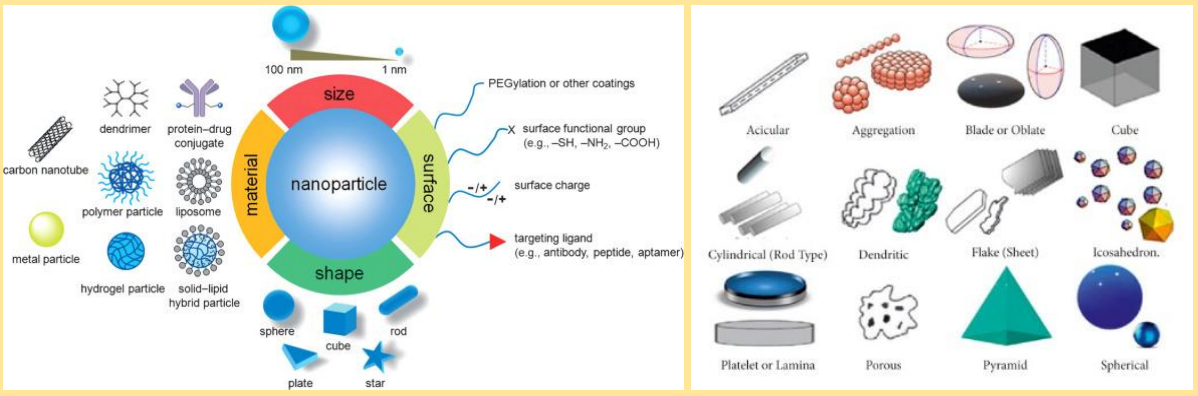
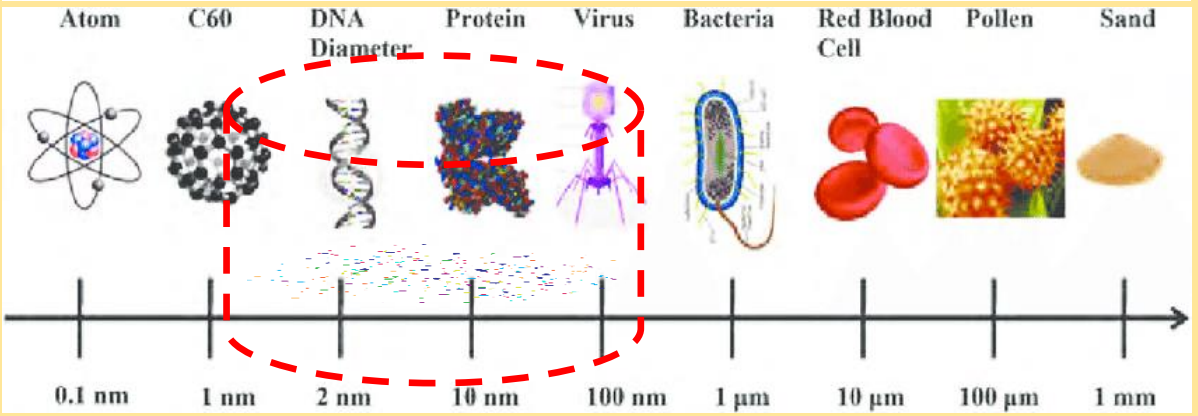


Figure No.5 – In red dot line is the area where are included the nanoparticles.



But, as it was mentioned also in a presentation on the recent workshop of NanoAlb[6] about Nano fertilizer, Nano insecticide, Nano pesticide, Nano fungicide, etc., they are used also in agriculture and still remain unclear the adverse impact that they may have on human health, after the agricultural plants treated by these products are used as a food for the population. Furthermore is to be added the fact that this type on Nano product are used in practice, but still not officially registered. So, the new technology has to be seen in both side – in those positive aspect that they may bring to the society and as well to the adverse effects that may accompany them and based to such analyses and balance we can proceed further for a final decision-making regarding their use.

Many papers, analyses, etc., are done for many years around the globe about air and water pollution and the respective particle of pm10 and pm 2.5; but nothing or few information about nanoparticles is presented. In all countries don't exist monitoring about those elements that as can be explained in this paper are too dangerous for the life of human body, but as well for the entire life on the planet earth.

The size of nanoparticle is too small (1-100nm) compare to other particle that in now day are monitoring and known by terminology of pm 10 and pm 2.5. They have different type of shape and composed by different elements, as illustrated in following figure No.4.

It is important to know and see the dimensions of nanoparticles by comparing them with some other references element like atoms, virus, DNA, etc., as is shown on the figure No.5.

Nanoparticles are spread in higher level of troposphere and stratosphere by airplane as presented also on the figure No.6, which are composed by Aluminum, Barium, Titanium and Strontium or less expensive Al_2O_3, etc.

Figure No.6

By adding these type of nanoparticle of 1 to 100 nm dimensions is increased in exponential way the toxicity of atmosphere. They help to destroy the ozone layer of atmosphere.

They arrive to block up to 60/70/80 % of solar radiation. Main idea is that by using such technology will be reduced the solar radiation that get the land surface and so will help to mitigate the climate change and decrease the global warning as illustrated on figure No.7.

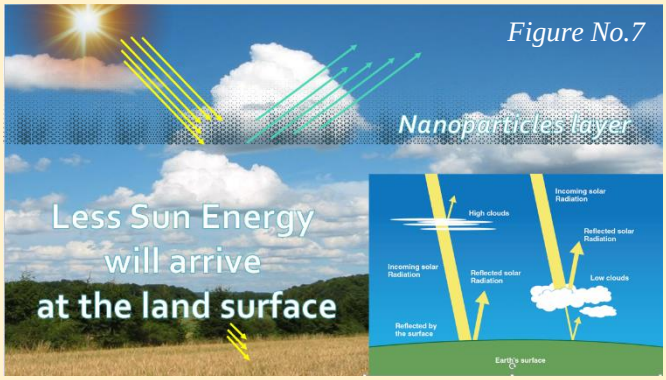


Figure No.7

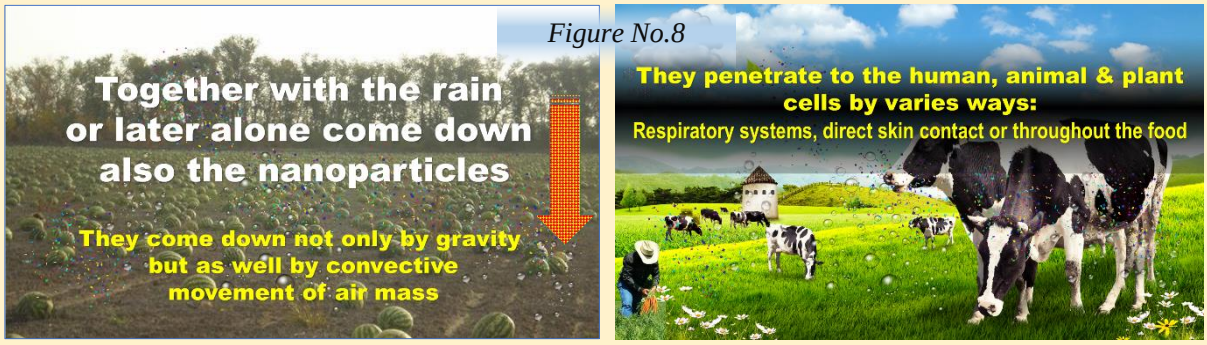
Although aluminum is generally considered benign in the environment, it is concerning that 10-20 million tons of nanoparticles are injected into the atmosphere annually as aerosols. These injections include heavy metals and polymers. In addition to aluminum and strontium, they also contain barium, titanium and magnesium.

It is known that nanoparticles generate reactive oxygen species, that stimulate and help growth the cancers and dementia. From test precipitation done by NOA lab results the presence of Aluminum, Barium and Strontium. Aluminum is present in precipitation, which in normal condition has to be 0.

Nanoparticle of Aluminum don't exist in nature. They are a powerful desiccant absorbing the atmospheric moisture, so decreasing the relative humidity. They are not only toxic but absorbs very well the gigahertz frequencies. The size of nanoparticle is of 40 / 60 or less than 70 nanometers or equal to virus dimensions as shown on the above figure No.5.

Nanoparticles come down in different ways and forms as part of rain or later alone by convective moving of air mass as shown on figure No.8.

Figure No.8



When they arrive near land surface they will be in contact with water and lad surface, but as well with trees and animals. So, in contact with human or plants cell, normally by entering thorough the respiratory system or directly in contact with surface cells or by food they in a second phase get also to the level of mitochondria considered as the source of energy for the cells, illustrated by the image presented on figure No.9.

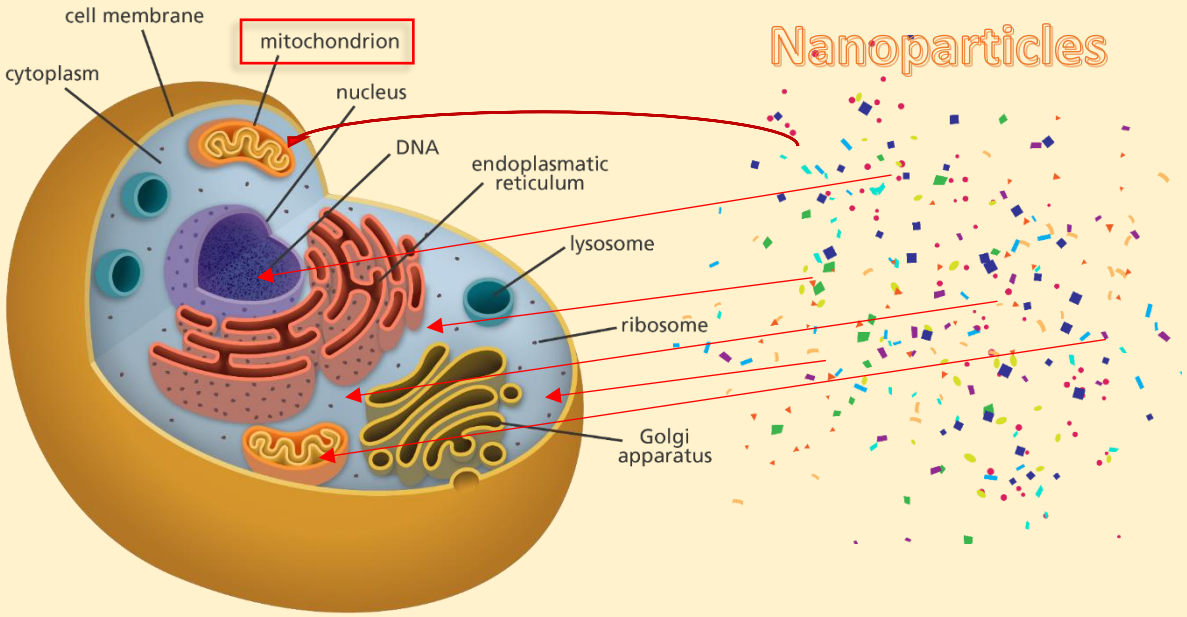


Figure No.9 – How the nanoparticles penetrates the membrane cells and enter as well into mitochondria.

Aluminum nanoparticle AL^{+3} normally miss electrons, so in contact with proteins that has free electrons they create very strong bond in the cell, and as consequence the cell start to be dysfunctional. If no more energy produced by mitochondria for the cell they start to have difficulty to work. On such cases we fill tired without understanding what's happening.

But in case that a certain energy is transmitted to the environment via different telecommunications antenna what's will happen? Aluminum nanoparticles resonate with electromagnetic radiation.

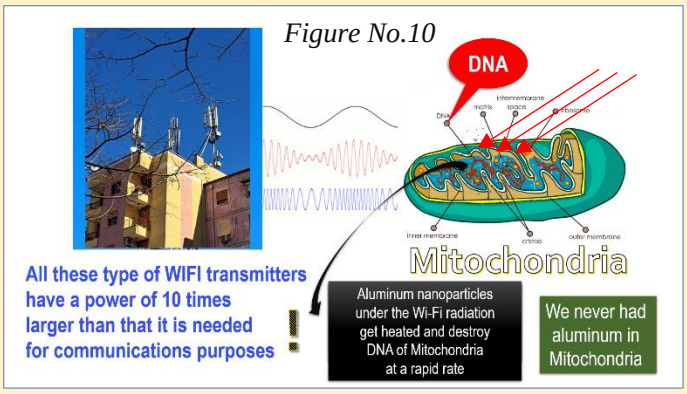


Figure No.10

So, is a high synergy between the metals dispersed in our body and Wi-Fi environment making our body a resonant antenna and of course with 2, 3, 4 or 5G amplitude of energy delivered in our system the impact is higher. Aluminum nanoparticles under the Wi-Fi radiation get heated and destroy DNA of Mitochondria at a rapid rate as illustrated on figure No.10.

Over to all this injections can be also applied an extraordinary powerful radio frequency microwave transmissions that in another side and context can heat the higher layers of ionosphere by influencing in weather systems and wind flows. Microwave radiations interact with air moisture. Low frequency calm it down and high exit it and heat it up, by conditioning the air movements directions.

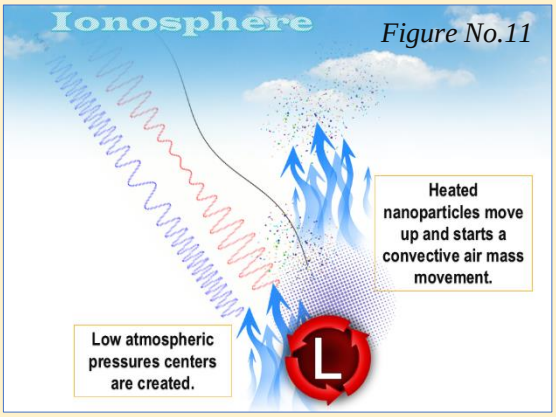


Figure No.11

Also saturating atmosphere with electrically conductive light scattering particles and polymers make possible that, these particles are then manipulated with extraordinary powerful radio frequency microwave transmissions that can heat the upper layers of the atmosphere like ionosphere. If theses EMF are **tuned to the exact frequency** that matches **the size of nanoparticles** – and this is the key that generate the weather systems. The illustration for that process is shown on figure No.11. Of course vice versa like

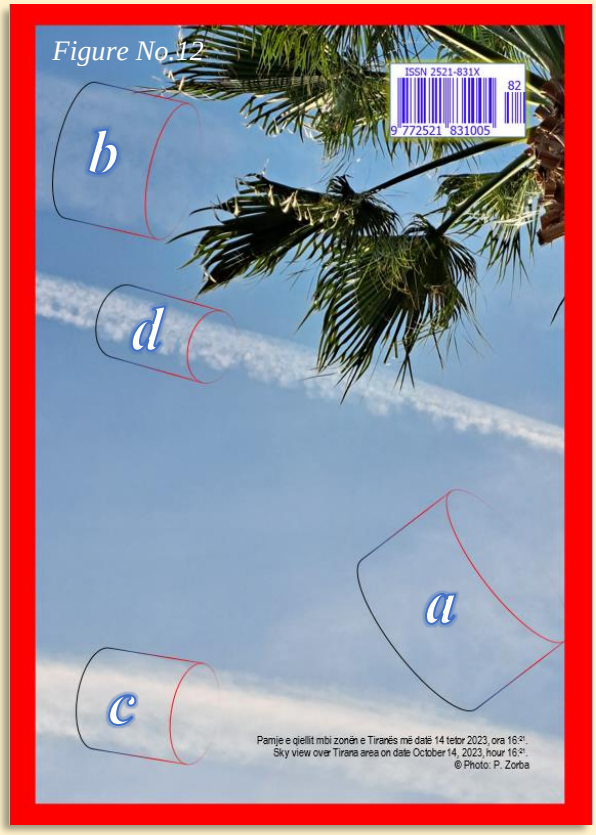


Figure No.12

Figure No.13

Figure No.15

Tirana, Albania - Date: 14.03.2023, Hour: 11:21' AM
© Photo: P. Zorba

Tirana, Albania - Date: 16.06.2023, Hour: 18:40'
© Photo: P. Zorba

Figure No.16

shown on figure No.11 with air mass that move up can be created also convective movement of air mass that move down together with nanoparticles that can be cooled and as well in the same time can impact the air mass around starting a convective process by bringing down on the land surface the cool air mass and also the nanoparticles. In a normal conditions without the rain presence only by gravity these type of nanoparticles may be need more than 2-3 days to come down to land surface. All these methods would regulate the distribution of heat in different parts of the earth's atmosphere. So, in summary this is the basis of global weather control.

Based to our daily monitoring of the atmosphee from meteorological point of view and skay observations in following are presented some of many images taken in particular days when on the sky are observed such let's say aerosol injections. Mainly of these photo are for the central part of Albania and presented on the following figure No.12-16, where also the densicity of population is higher. Anyway its important to note that this type of phenoma has

Figure No.14

Tirana, Albania - Date: 24.10.2023, Hour: 20:27' © Photo: P. Zorba

not to be confused with contrails, that are normal condensation of aircraft engine exhaust that on low temepraturs and high altitude provide such trials formation[2], that do not linger dissipate and go into cloud cover or can't be seen anymore after 4 – 5 seconds. In other side the chemical trail that each one can see on the atmosphere stay there for hours and move with air mass by getting greater and creating an shade of the sky or even for the Sun. This is ilustraed by figure No.12 where trails created in different time (a, b, c and d) get enlarged gradually covering a part of the sky.

Impacts and learning lesson - What to do?

Impacts of primary importance are related to health of people and plant and animal life. Different source of information shows up that this type of injections particularly with nanoparticles of Aluminum, Strontium, Barium, polymers, heave metals etc. are main reason of an increased number of patients with Alzheimer's disease, Parkinson, neurodegenerative disease, advance aging, dementia, withheld cancer, etc., which are quadrupled on the recent years[4].

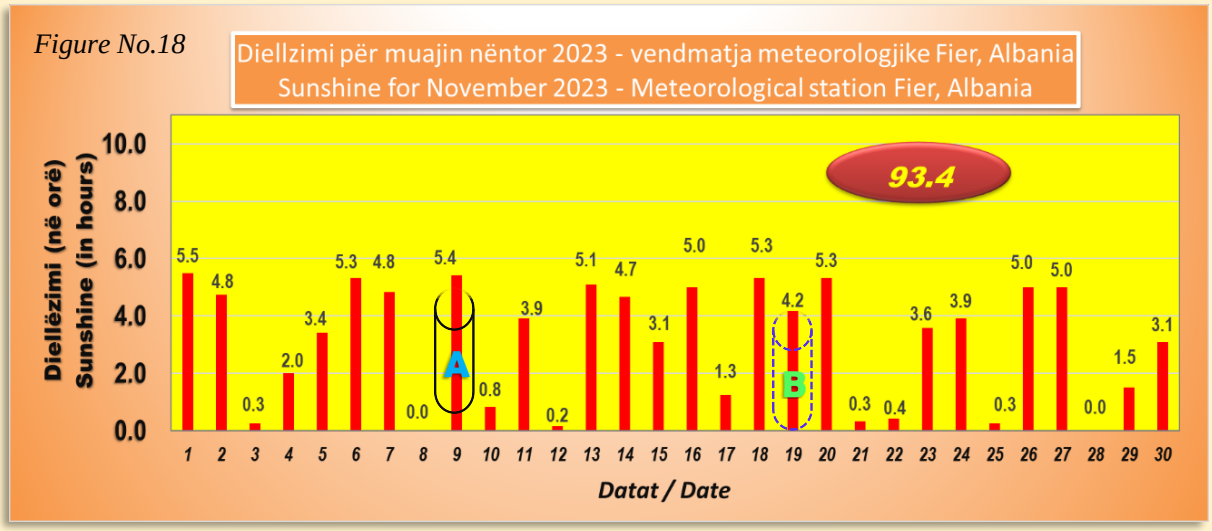
A typical spreading process is shown by the view presented on figure No.17 over Tirana sky on date November 19, 2023. In such contexts it is very important to make an analysis and correlate the data between those phenomena and the people that are presented in medical centers 2 or 3 days later for various type of symptom, virus epidemic, or other health problem.

But as it is evidenced an important impact is observed also to the source of renewable energy like that produced by photovoltaic systems, eolic system and hydropower. On figure No.17 is presented a sky cover over Tirana, Albania on date November 19, 2023 characterized with intensive injections on the atmosphere. Following a more detailed analyses of this moth presented on the Monthly Climate Bulletin Nr.83, 2023[1] results that in two specific days November 9 and 19 on November 2024 (point A and B) where are observed high intensive spreading of different type of injections in the atmosphere is reduced the solar radiation arrived in surface.

That is evidenced also by the sunshine hours observed on the meteorological station of Fier in Albania, shown on following figure No.18, but as well as confirmed by literature and other information by satellite information.

On such cases a reduction by 10 to 40% is observed in electrical energy produced by photovoltaic systems. So, in other side this artificial man made intervention open the discussion

Figure No.18



of performance of such system; if this kind of intervention on atmosphere for example will happen more and more frequently during the coming years.

So, it is an important topic to be considered in the strategic development of such industry and a factor that should be calculated to get the right potential power, that can be less than that expected on a normal weather conditions. In a cloudy weather is very known that the performance of solar panels decrease as is illustrated also on figure No.19.

Figure No.19

To be emphasized for the readers of this paper during this month of November 2023 no natural clouds are observed during these specific 2 days analyzed 9 and 19, as it was confirmed also by observers and by satellite images.

Another indirect analysis is done thought the monitoring platform of aviation like flightradar24, which make possible to show on real time the airplanes that are at any moment

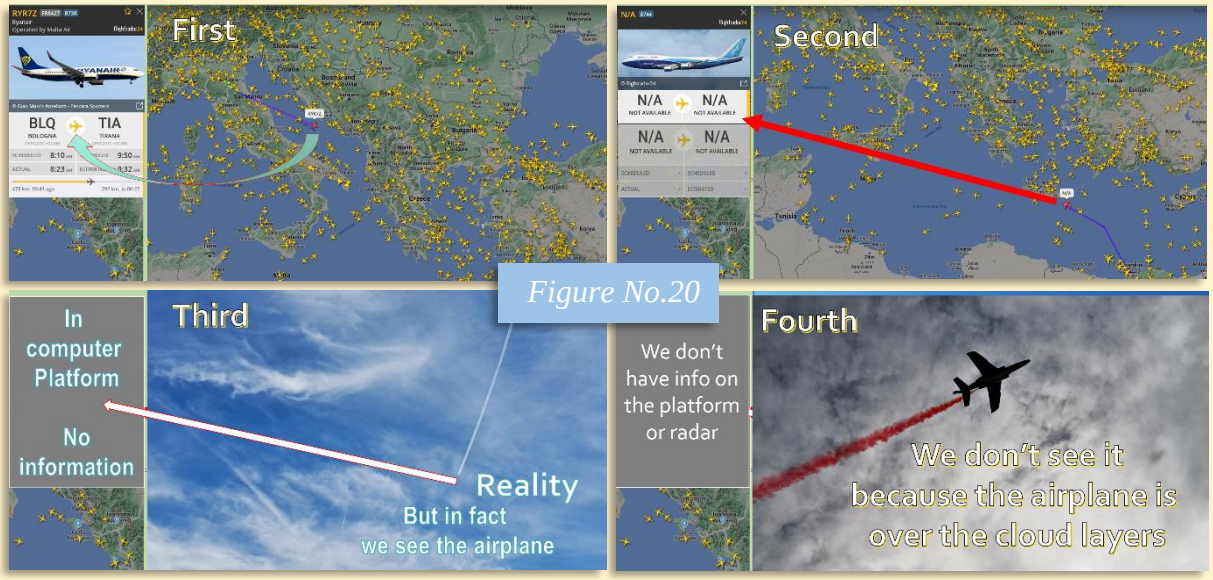


Figure No.20

of time over the globe and based to GPS system shows on the map their location, as illustrated by figure No.20. Based to some cases analyzed results that those airplanes that do such injection on atmosphere don't appears on the platform, as mention in second, third or fourth option of figure No.20 compare to the normal flight as it is presented on first option. The hidden information for such cases as it results also for other aspects related to weather modification technologies or to get the right answer and correlation for some specific illness of people related to such phenomena lead to the idea that this topic is very important and need to be treated seriously and as soon as possible by the responsible institution of the country.

International reactions

In now day in many countries are started official reactions to halt such type of injections in atmosphere or other weather modification techniques. So, in January 13, 2023 the government in Mexico has decided to stop such activity on their country. In other side 11 states until now June 2024, in USA has decided to bone the geoengineering in their state considering them with a negative impact for the life on their areas. The respective lows referring to different state are presented on the table No.1.

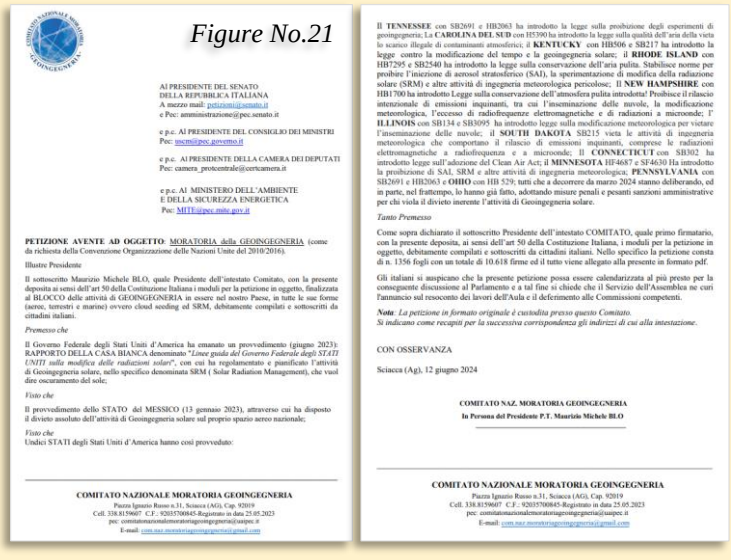
Table No.1 - The 11 US states that have passed various laws prohibiting the practice of geoengineering related to weather modification, including radio frequency and microwave

- **TENNESSEE** with SB2691 and HB2063 introduced **the law on the prohibition of geoengineering experiments**;
- **SOUTH CAROLINA** introduced H5390 **Air Quality Act prohibiting illegal discharge of air contaminants**;
- **KENTUCKY** with HB506 and SB217 introduced **the law against weather modification and solar geoengineering**;
- **RHODE ISLAND** with HB7295 and SB2540 introduced **the Clean Air Conservation Act. Establishes rules to prohibit stratospheric aerosol injection (SAI), solar radiation modification (SRM) experimentation, and other hazardous meteorological engineering activities**;
- **NEW HAMPSHIRE** with HB1700 Clean Atmosphere Conservation Act introduced! **Prohibits the intentional release of polluting emissions, including cloud seeding, weather modification, excess electromagnetic radio frequency and microwave radiation**;
- **ILLINOIS** with SB134 and SB3095 **introduced weather modification legislation to prohibit cloud seeding**;
- **SOUTH DAKOTA** SB215 **prohibits weather engineering activities that result in the release of polluting emissions, including radio frequency and microwave electromagnetic radiation**;
- **CONNECTICUT** with SB302 **introduced legislation on the adoption of the Clean Air Act**; the
- **MINNESOTA** HF4687 and SF4630 **Introduced the prohibition of SAI, SRM and other meteorological engineering activities**;
- **PENNSYLVANIA** with SB2691 and HB2063 and
- **OHIO** with HB 529; all of whom have been deliberating since March 2024, and in part, in the meantime, have already done so, **adopting criminal measures and heavy administrative sanctions for those who violate the ban relating to solar geoengineering activities**.

On June 12 of 2024 in Italy[10] is in process a petition related to these activities observed on sky of Italy aiming to stop them as soon as possible and blame them for a number of negative impacts on life of human and plants health. For illustration on figure No.21 is presented the recent petition that is on an undergoing process of signatures.

Based to air mass circulation and knowing that generally they come over our country manly from the Apennine peninsula this type of petition and hoping that it will get the positive reaction also by the respective institutions there will help also our area. But if we join as well these type of efforts we will help also our self and as well the other highborn countries.

Figure No.21



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PETIZIONE AVENTE AD OGGETTO: MORATORIA della GEOINGEGNERIA (come da richiesta della Convenzione Organizzazione delle Nazioni Unite del 2010/2016).

Illustre Presidente

Il sottoscritto Maurizio Michele BLO, quale Presidente dell'intestato Comitato, con la presente deposita ai sensi dell'art 50 della Costituzione Italiana i moduli per la petizione in oggetto, finalizzata al BLOCCO delle attività di GEOINGEGNERIA in essere nel nostro Paese, in tutte le sue forme (aereo, terrestri e marino) ovvero cloud seeding ed SRM, debitamente compilati e sottoscritti da cittadini italiani.

Premesso che

Il Governo Federale degli Stati Uniti d'America ha emanato un provvedimento (giugno 2023): RAPPORTO DELLA CASA BIANCA denominato "*Linee guida del Governo Federale degli STATI UNITI sulla modifica delle radiazioni solari*", con cui ha regolamentato e pianificato l'attività di Geoingegneria solare, nello specifico denominata SRM (Solar Radiation Management), che vuol dire oscuramento del sole;

Visto che

Il provvedimento dello STATO del MESSICO (13 gennaio 2023), attraverso cui ha disposto il divieto assoluto dell'attività di Geoingegneria solare sul proprio spazio aereo nazionale;

Visto che

Undici STATI degli Stati Uniti d'America hanno così provveduto:

COMITATO NAZIONALE MORATORIA GEOINGEGNERIA

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Il **TENNESSEE** con SB2691 e HB2063 ha introdotto la legge sulla proibizione degli esperimenti di geoingegneria; La **CAROLINA DEL SUD** con H5390 ha introdotto la legge sulla qualità dell'aria della vieta lo scarico illegale di contaminanti atmosferici; il **KENTUCKY** con HB506 e SB217 ha introdotto la legge contro la modificazione del tempo e la geoingegneria solare; il **RHODE ISLAND** con HB7295 e SB2540 ha introdotto la legge sulla conservazione dell'aria pulita. Stabilisce norme per proibire l'iniezione di aerosol stratosferico (SAI), la sperimentazione di modifica della radiazione solare (SRM) e altre attività di ingegneria meteorologica pericolose; Il **NEW HAMPSHIRE** con HB1700 ha introdotto Legge sulla conservazione dell'atmosfera pulita introdotta! Proibisce il rilascio intenzionale di emissioni inquinanti, tra cui l'inseminazione delle nuvole, la modificazione meteorologica, l'eccesso di radiofrequenze elettromagnetiche e di radiazioni a microonde; l' **ILLINOIS** con SB134 e SB3095 ha introdotto legge sulla modificazione meteorologica per vietare l'inseminazione delle nuvole; il **SOUTH DAKOTA** SB215 vieta le attività di ingegneria meteorologica che comportano il rilascio di emissioni inquinanti, comprese le radiazioni elettromagnetiche a radiofrequenza e a microonde; Il **CONNECTICUT** con SB302 ha introdotto legge sull'adozione del Clean Air Act; il **MINNESOTA** HF4687 e SF4630 Ha introdotto la proibizione di SAI, SRM e altre attività di ingegneria meteorologica; **PENNSYLVANIA** con SB2691 e HB2063 e **OHIO** con HB 529; tutti che a decorrere da marzo 2024 stanno deliberando, ed in parte, nel frattempo, lo hanno già fatto, adottando misure penali e pesanti sanzioni amministrative per chi viola il divieto inerente l'attività di Geoingegneria solare.

Tanto Premesso

Come sopra dichiarato il sottoscritto Presidente dell'intestato COMITATO, quale primo firmatario, con la presente deposita, ai sensi dell'art 50 della Costituzione Italiana, i moduli per la petizione in oggetto, debitamente compilati e sottoscritti da cittadini italiani. Nello specifico la petizione consta di n. 1356 fogli con un totale di 10.618 firme ed il tutto viene allegato alla presente in formato pdf.

Gli italiani si auspicano che la presente petizione possa essere calendarizzata al più presto per la conseguente discussione al Parlamento e a tal fine si chiede che il Servizio dell'Assemblea ne curi l'annuncio sul resoconto dei lavori dell'Aula e il deferimento alle Commissioni competenti.

***Nota**: La petizione in formato originale è custodita presso questo Comitato.*
Si indicano come recapiti per la successiva corrispondenza gli indirizzi di cui alla intestazione.

CON OSSERVANZA

Sciacca (Ag), 12 giugno 2024

COMITATO NAZ. MORATORIA GEOINGEGNERIA
In Persona del Presidente P.T. Maurizio Michele BLO

COMITATO NAZIONALE MORATORIA GEOINGEGNERIA

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Taking into account that such important topic are treated also before in some presentations at the Academy of Security on 2021[9] by the presentations entitled: "Extreme weather and cybernetic security in Albania" and "Extreme meteorological phenomena, origin, forecast and impact on life, economy and

national security"; it is important to emphasize that this type of problem and phenomena has to be taken in consideration as soon as can be possible and should be analyzed by the national security institutions. Of course a specific monitoring for nanoparticles with the right instrument should be of primary importance to be done by the scientific institution or various projects that may be proposed on such context.

Conclusions

- To set up a monitoring system about nanoparticles in the territory of our country.
- A new legal approach is needed urgently to be undertaken regarding the banning of these practices over the territory of Albania.
- To study and tray to find out relation of different illness and diseases observed to people of various age and to plant and animals in different area of the country.
- This is a problem that should be taken in consideration and analysed by the national security institutions.

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