

**REPUBLIQUE DU CAMEROUN**

*Paix-Travail-Patrie*

**OBSERVATOIRE NATIONAL SUR  
LES CHANGEMENTS CLIMATIQUES**

**DIRECTION GENERALE**

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**BULLETIN N°165**

**Forecasts and Dekadal Climate Alerts for the  
Period of 21<sup>st</sup> to 30<sup>th</sup> September 2023**



**21<sup>st</sup> September, 2023**

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## I Introduction

This dekadal climate **early warning bulletin n° 165** is obtained by exploiting spatial data collected from major international centres involved in day-to-day followup of climate science, notably: the International Research Institute for Climate and Society (IRI) of the University of Columbia (USA); the National Oceanic and Atmospheric Administration (NOAA, USA); AccuWeather (American Weather Forecasting Agency, USA); the African Centre of Meteorological Applications for Development (ACMAD); Spatial data from 1979 to 2018, relating to Ocean Surface Temperature (OST) in the Atlantic and Pacific, El-Niño/La Nina episode intensities in the Pacific, rainfall and temperature data from local stations. Finally, NOCC would like to express its gratitude to all these international Institutions as well as the National Center for Meteorology for the goodwill demonstrated in sharing data.

This bulletin highlights the historical climatic conditions from 1979 to 2018, as well as the climatic forecasts for all the five Agro-ecological zones of Cameroon, for the period from **21<sup>st</sup> to 30<sup>th</sup> September 2023**. This early warning brief further underscores the risks, threats and potential impacts expected in the different socio-economic development sectors of Cameroon. It also makes an assessment of the forecasts made for the previous dekad from **11<sup>th</sup> to 20<sup>th</sup> September 2023**.

## II. Forecast Summary

### II.1. For Temperature

**II.1.1. Maximum Temperature:** The following localities have a high probability of experiencing an increase in mean maximum temperature compared to historical averages for the same period from 1979 to 2018. They include:

- Tibati, Betare Gongo, Yimbere, Banyo and Nass Arao, in the **Adamawa region**;
- Yoko, Mbalmayo, Bafia, Nanga-Eboko, Monatele, Nkoteng, Obala, Ngoro, Ntui, Mbandjock and Akonolinga in the **Centre region**;
- Libongo, Mambele, Moloundou, Kika, Garoua-Boulai, Ngoyla, Koso, Abong-Mbang, Mbalam, Mintoum, Belabo, Yokadouma, Lomie, Batouri, Betare-Oya and Kongolo, in the **East region**;
- Minkoumou, Zoetele, Ambam, Sangmelima, Nyabizan, Djoum and Kribi in the **South region**;
- Esu, Furu-Awa, Munkep, Audu, Nwa and Ako, in the **North-West region**;
- Foubot, Bafang, Maniou, Makenene, Makam and Fouban, in the **West region**;
- Kumbe Balue, Bamusso, Idenau, Mamfe, Kumba, Mundemba, Dikome Bafaw, Etuku and Buea, in the **South-West region**;
- Douala, Loum, Ndokama, Mouanko, Manjo, Mbanga, Melong, Dibombari, Nkongsamba, Penja, Yabassi, Dizangue, Nkondjock and Ndokiti, in the **Littoral region**.

### II.1.2. Minimum Temperature

The following localities have a high probability of experiencing a decrease in minimum temperature compared to the historical mean recorded during the same period from 1979 to 2018. They include:

- Gamboura, Yagoua, Maga, Bogo, Kaele, Mindif, Mora and Mokolo, in the **Far North region**;
- Touboro, Poli, Guider, Dembo, Garoua, Rey-Bouba and Tchollire, in the **North region**;
- Banyo, Mbe, Mbakaou, Meiganga, Tignere, Dota, Ngaoundere, Ngaou Mbol, Kognoli and Ngaoundal, in the **Adamawa region**;
- Garoua-Boulai, in the **East region**.

**Nb1: This dekad from 21st to 30th September 2023 will be marked by persistent cold nights in many localities in the Far North (Mora, Mokolo etc), Adamaoua (Dota, Tchabal Djalingo, Ngaoundere, Mbe, Banyo and Meiganga), West (Foubot, Bazou, Bafoussam, Dschang, Makam and Fouban), North-West (Nkambe, Esu, Bamenda, Ndop, Nwa etc.), Centre (Yaounde, Akonolinga, Mbalmayo, Nkoteng, Bafia, Ndikinimeki, Nanga Eboko etc.), South (Lolodorf, Ebolowa, Ambam, Kye-Ossi, Sangmelima, Djoum, etc.) and East (Garoua-Boulai, Betare Oya, Ndokayo, Gargasali etc.) regions due to minimum temperatures ranging between 13°C and 20°C.**





## II.2. For Rainfall

This dekad from 21<sup>st</sup> to 30<sup>th</sup> September 2023 will be marked by a decrease in rainfall amounts in the Sudano-Sahelian and Guinea high savannah zones and around the average for the rest of the national territory, as compared to the previous dekad.

-NB 2: This dekad, from 21<sup>st</sup> to 30<sup>th</sup> September 2023 will be marked by:

- An effectiveness of the long rainy season in the Bimodal rainforest zone (Centre, South and East regions);
- Abundant rainfall in the Monomodal rainforest zone (Littoral and South West regions);
- Abundant rainfall amounts in the Highlands zone (West and North-West regions);
- Rainfall amounts below those observed during the previous dekad in the Guinea High Savannah zone (Adamawa region);
- Rainfall amounts below those observed during the previous dekad awaited in the Sudano-Sahelian zone (North and Far North regions).

NB 3: Despite the decrease predicted, rainfall amounts for the dekad from 21<sup>st</sup> to 30<sup>th</sup> September 2023 could lead to floods in areas at risk in the Sudano-Sahelian zone (especially in the Benoue basin and the Logone plain), the coastal strip and large agglomerations in the monomodal rainforest zone (especially Douala, Limbe, and Nkongsamba, etc). In addition, landslides could occur in many localities in the Highlands and Monomodal rainforest zones, due to the saturation of the soil by water.

## III. Climate forecasts for the five agro-ecological zones for the period from 21<sup>st</sup> to 30<sup>th</sup> September 2023

### 1) For Rainfall

#### a) In the Sudano-Sahelian zone

This dekad from 21<sup>st</sup> to 30<sup>th</sup> September 2023 will be marked by rainfall amounts ranging between:

- \*30 and 95mm in the localities of Lagdo, Pitoa, Garoua, Poli, Rey Bouba, Touboro, etc, in the **North region**;
- \*30 and 95mm in the localities of Maga, Bogo, Kaele, Yagoua, Maroua, Mindif, Mora, etc, in the **Far North region**.

#### b) In the Guinea high savannah zone

This dekad from 21<sup>st</sup> to 30<sup>th</sup> September 2023 will experience rainfall amounts ranging between **30 and 115mm** in the localities of Kongolo, Tibati, Meiganga, Betare Gongon, Mbakaou, Dota, Ngaoundere, Banyo and Tignere in the Adamawa region;

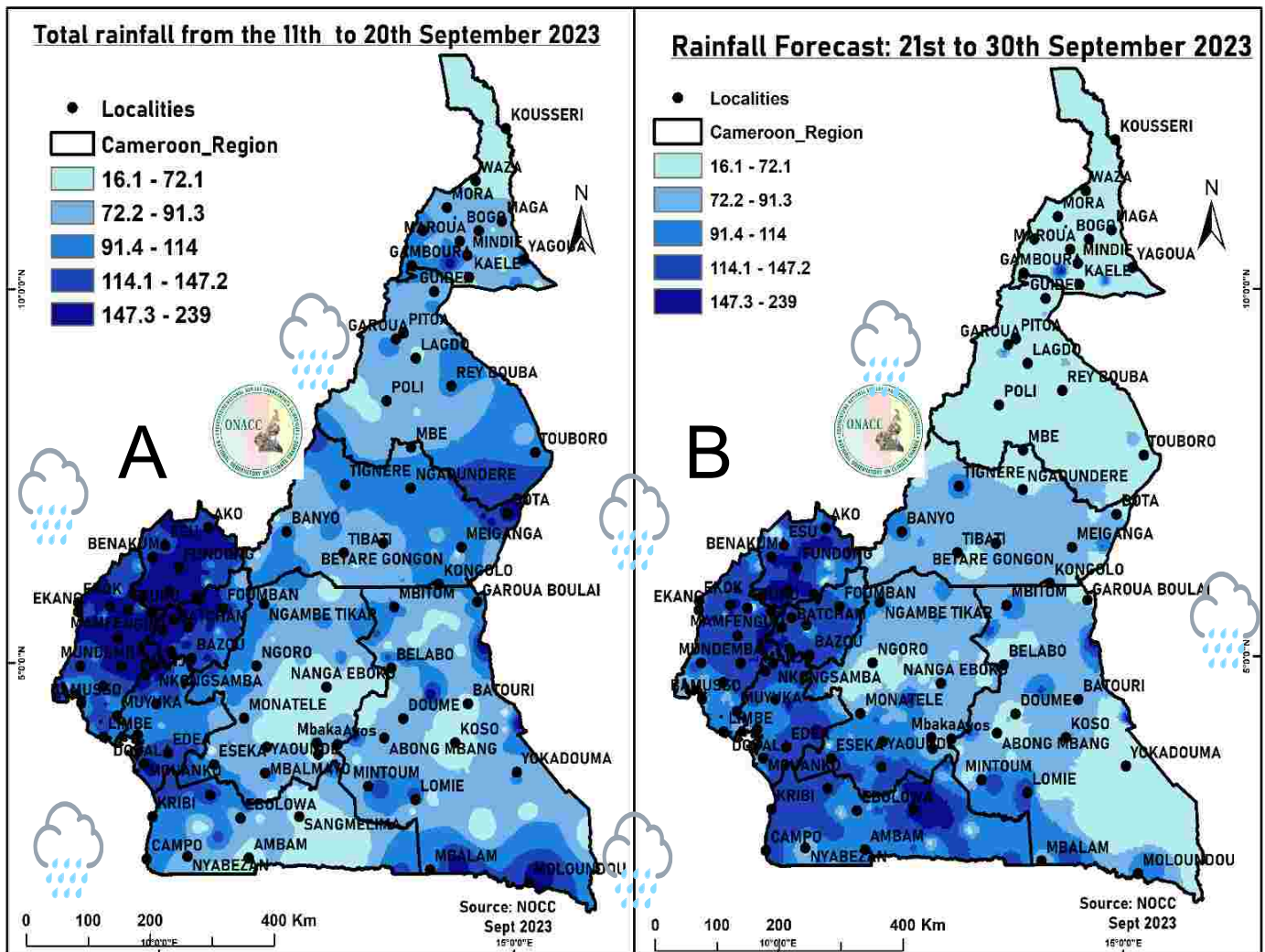


Figure 1: Variations in rainfall amounts during the current dekad (b) compared to that recorded during the period September 11-20, 2023 (a)  
Source : NOCC, September 2023

### c) In the Bimodal rain forest zone

For the dekad from 21<sup>st</sup> to 30<sup>th</sup> September 2023, we expect rainfall amounts ranging between:

- \* **30 and 150mm** in Ngoro, Nanga Eboko, Ngambe Tikar, Nkoteng, Ntui, Eseka, Yaounde, Mbalmayo, Nkolmetet, Nkolafamba, Monatele and Mfou in the **Centre region**;
- \* **30 and 150mm** in Mbalam, Koso, Batouri, Doume, Mindourou, Messamena, Ngoyla, Abong-Mbang, Motcheboun, Atok, Nguelemendouka, Bagofit, Angossas, Lomie, Libongo, Mambele, Mbalam and Moloundou in the **East region**;
- \* **70 and 240mm** in Nyabizan, Ebolowa, Campo, Lolodorf, Kribi, Ambam, Sangmelima, Akom II and Zoetele in the **South region**;

### d) In the Western highlands zone

The dekad from 21<sup>st</sup> to 30<sup>th</sup> September 2023 will experience highly abundant rainfall amounts ranging between:

- \* **70 and 240mm** in Dschang, Bazou, Bafoussam, Foubot, Tonga, Mbouda, Bafang, Bangangte, Batcham in the **West region**;
- \* **70 and 240mm** in Benakuma, Fundong, Kumbo, Esu, Ako, Bamenda and Santa in the **North West region**;

### e) In the Monomodal rain forest zone

This dekad from 21<sup>st</sup> to 30<sup>th</sup> September 2023 will be marked by very abundant rainfall amounts between:

- \* **70 and 240mm** in Mutengene, Mundemba, Idenau, Bamusso, Tiko, Kumba, Buea, Limbe, Mamfe, etc in the **South West region**;
- \* **90 and 150mm**, in Loum, Penja, Mbanga, Baptek, Yabassi, Nkongsamba, Edea, Mouanko, Douala, Dizangue and Manjo, in the **Littoral region**.

**NB 4: This dekad, from 21st to 30th September 2023 will be marked by:**

- **An effectiveness of the long rainy season in the Bimodal rainforest zone (Centre, South and East regions);**
- **Abundant rainfall in the Monomodal rainforest zone (Littoral and South West regions);**
- **Abundant rainfall amounts in the Highlands zone (West and North-West regions);**
- **Rainfall amounts below those observed during the previous dekad in the Guinea High Savannah zone (Adamawa region);**
- **Rainfall amounts below those observed during the previous dekad awaited in the Sudano-Sahelian zone (North and Far North regions).**

### 2) For Temperature

This dekad from 21st to 30th September 2023 will be marked by persistent cold nights in many localities in the Far North (Mora, Mokolo etc), Adamaoua (Dota, Tchabal Djalingo, Ngaoundere, Mbe, Banyo and Meiganga), West (Foubot, Bazou, Bafoussam, Dschang, Makam and Fouban), North-West (Nkambe, Esu, Bamenda, Ndop, Nwa etc..), Centre (Yaounde, Akonolinga, Mbalmayo, Nkoteng, Bafia, Ndikinimeki, Nanga Eboko etc.), South (Lolodorf, Ebolowa, Ambam, Kye-Ossi, Sangmelima, Djoum, etc.) and East (Garoua-Boulai, Betare Oya, Ndokayo, Gargasali etc.) regions due to minimum temperatures ranging between 13°C and 20°C.

### a) For Maximum Temperature

Based on the historical average of maximum temperatures recorded during this same dekad over the period 1979 to 2018, notably 36°C in the Far North Region; 36.2°C in the North Region; 29.6°C in the Adamawa Region; 29°C in the Centre Region; 28.8°C in the South Region; 28°C in the East Region; 25.5°C in the West Region; 26°C in the North West Region; 28°C in the South West Region and 28.2°C in the Littoral Region, for the dekad from 21st to 30th September 2023, we expect maximum temperatures:

- Around the historical average recorded from 1979 to 2018 in Bogo, Maroua, Gamboura, Mokolo and Mora in the **Far North region**;
- Around the historical average recorded from 1979 to 2018 in Tchollire, Rey-Bouba, Guider, Garoua, Lagdo, Pitoa, Dembo and Touboro; below the said average in Poli, in the **North region**;
- Above the historical average recorded from 1979 to 2018 in Tibati, Betare Gongo, Yimbere, Banyo and Nass Arao; below the average in Ngaoundere, Ngaou Mbol, Kognoli, Mbakaou, Ngaoundal, Meiganga and Tignere; around the average in Mbe and Dota, in the **Adamawa region**;



- Above the historical average recorded from 1979 to 2018 in Yoko, Mbalmayo, Bafia, Nanga-Eboko, Monatele, Nkoteng, Obala, Ngoro, Ntui, Mbandjock and Akonolinga; around the average in Ngambe Tikar, Eseka and Yaounde, in the **Centre region**;
- Above the historical average recorded from 1979 to 2018 in Libongo, Mambele, Moloundou, Kika, Garoua-Boulai, Ngoyla, Koso, Abong-Mbang, Mbalam, Mintoum, Belabo, Yokadouma, Lomie, Batouri, Betare-Oya and Kongolo; around the average in Bertoua, Mindourou, Dimako and Doume, in the **East region**;
- Above the historical average recorded from 1979 to 2018 in Minkoumou, Zoetele, Ambam, Sangmelima, Nyabizan, Djoum and Kribi; around the average in Akom II, Ebolowa, Lolodorf and Campo, in the **South region**;
- Above the historical average recorded from 1979 to 2018 in Esu, Furu-Awa, Munkep, Audu, Nwa and Ako; around the average in Wum, Ndop, Widikum, Kumbo, Santa, Nkambe, Bambalang, Fundong, Bamenda, Benakuma and Bali, in the **North West region**;
- Above the historical average recorded from 1979 to 2018 in Foumbot, Bafang, Maniou, Makenene, Makam and Fouban; around the average in Koutaba, Batcham, Bafoussam, Fongo-Tongo, Bafou, Dschang, Bazou, Tonga, Bangangte and Mbouda, in the **West region**;
- Above the historical average recorded from 1979 to 2018 in Kumbe Balue, Bamusso, Idenau, Mamfe, Kumba, Mundemba, Dikome Bafaw, Etuku and Buea; around the average in Ekok, Dikome Balue, Muyuka, Eyumojock, Ekondo Titi, Babong, Fontem, Tiko, Limbe, Nguti and Bakogo, in the **South-West region**;
- Above the historical average recorded from 1979 to 2018 in Douala, Loum, Ndokama, Mouanko, Manjo, Mbanga, Melong, Dibombari, Nkongsamba, Penja, Yabassi, Dizangue, Nkondjock and Ndokiti; around the average in Bapteck and Edea, in the **Littoral region**.

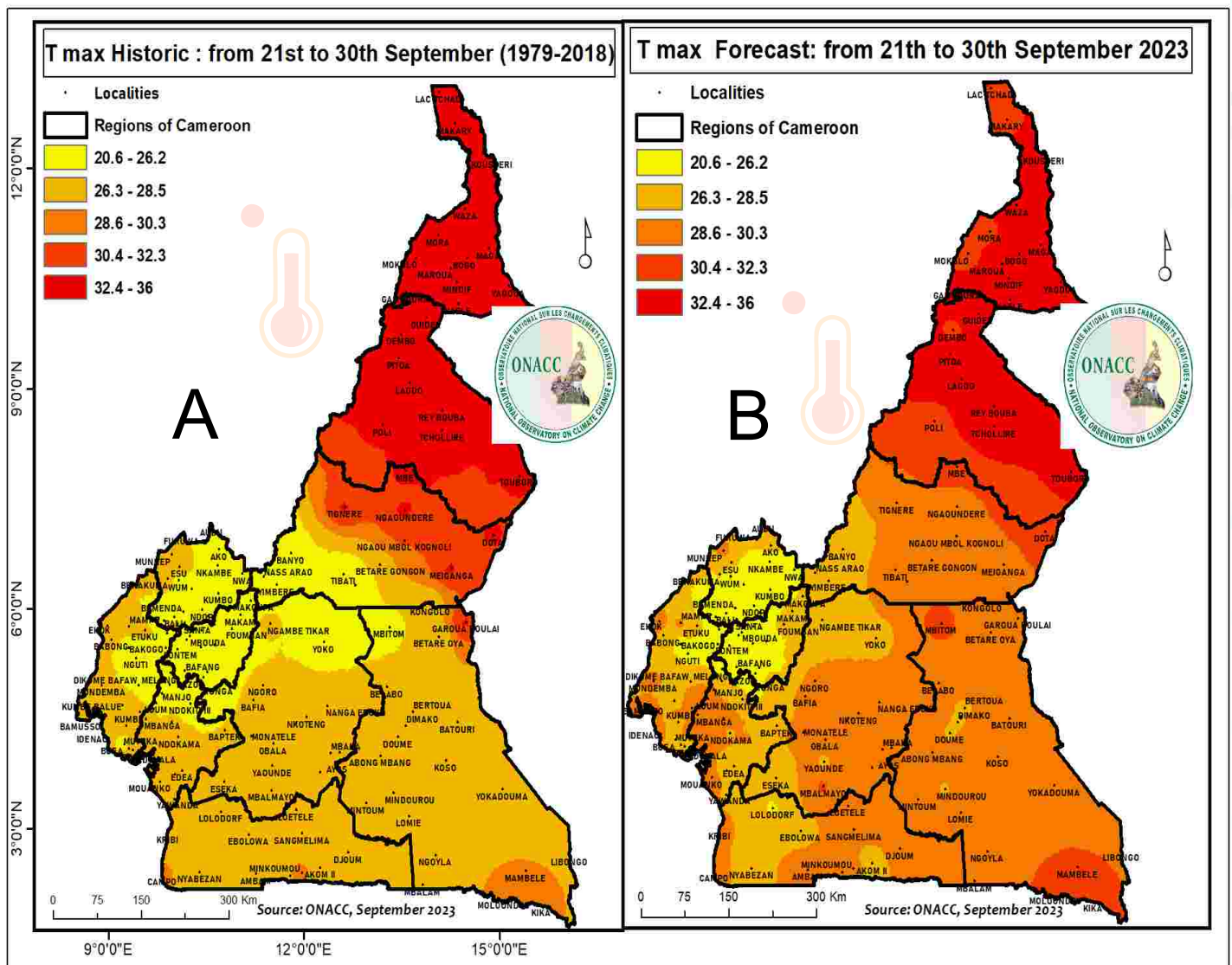


Figure 2: Variations in mean maximum temperatures for the current dekad (b) compared to those registered for the same period from 1979 to 2018; (a) Source: NOCC, September 2023



Based on the difference between the mean maximum temperatures recorded during the dekad from 11th to 20th September 2023, for the dekad from 21st to 30th September 2023, we expect maximum temperatures:

- Above the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Gamboura, Maroua, Mokolo and Mora; around the average in Yagoua, Kousseri, Makary, Waza, Kaele, Maga, Mindif and Bogo, in the **Far North region**;
- Above the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Dembo and Poli; around the average in Rey-Bouba, Lagdo, Pitoa, Garoua, Guider, Touboro and Tchollire, in the **North region**;
- Above the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Ngaoundere; around the average in Ngaou Mboul, Tignere, Dota, Meiganga, Tibati, Betare Gongo, Ngaoundal, Mbakaou, Kognoli, Mbe, Yimbere, Nass Arao and Banyo, in the **Adamawa region**;
- Above the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Moloundou, Mambele, Kika, Abong-Mbang and Mbitom; around the average in Kongolo, Garoua-Boulai, Betare-Oya, Koso, Dimako, Belabo, Doume, Mintoum, Mbalam, Libongo, Batouri, Yokadouma, Lomie, Mindourou, Ngoyla, and Bertoua, in the **East region**;
- Around the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Yaounde, Monatele, Yoko, Nkoteng, Nanga-Eboko, Ayos, Ntui, Bafia, Mbalmayo, Akonolinga, Mbandjock, Ngoro, Obala, Eseka and Ngambe Tikar, in the **Centre region**;
- Around the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Zoetele, Ambam, Minkoumou, Kribi, Djoum, Ebolowa, Lolodorf, Nyabizan, Campo, Akom II and Sangmelima, in the **South region**;
- Around the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Idenau, Bamusso, Fontem, Dikome Bafaw, Ekok, Mundemba, Eyumojock, Ekondo Titi, Dikome Balue, Tiko, Limbe, Muyuka, Kumba, Kumbe Balue, Buea, Bakogo, Mamfe, Nguti, Etuku and Bakogo, in the **South-West region**;
- Around the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Douala, Dibombari, Loum, Nkongsamba, Manjo, Melong, Penja, Yabassi, Ndokama, Mouanko, Dizangue, Nkondjock, Ndokiti, Baptek, Mbanga and Edea, in the **Littoral region**;
- Around the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Munkep, Furu-Awa, Nwa, Widikum, Kumbo, Santa, Nkambe, Bambalang, Bamenda, Fundong, Bali, Ndop, Esu, Benakuma, Audu and Ako; below the average in Wum, in the **North West region**;
- Around the average recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Foumban, Bazou, Foumbot, Tonga, Bangangte, Maniou, Makenene, Makam, Koutaba, Batcham, Bafoussam, Dschang and Bafang; below the average in Mbouda, in the **West region**.

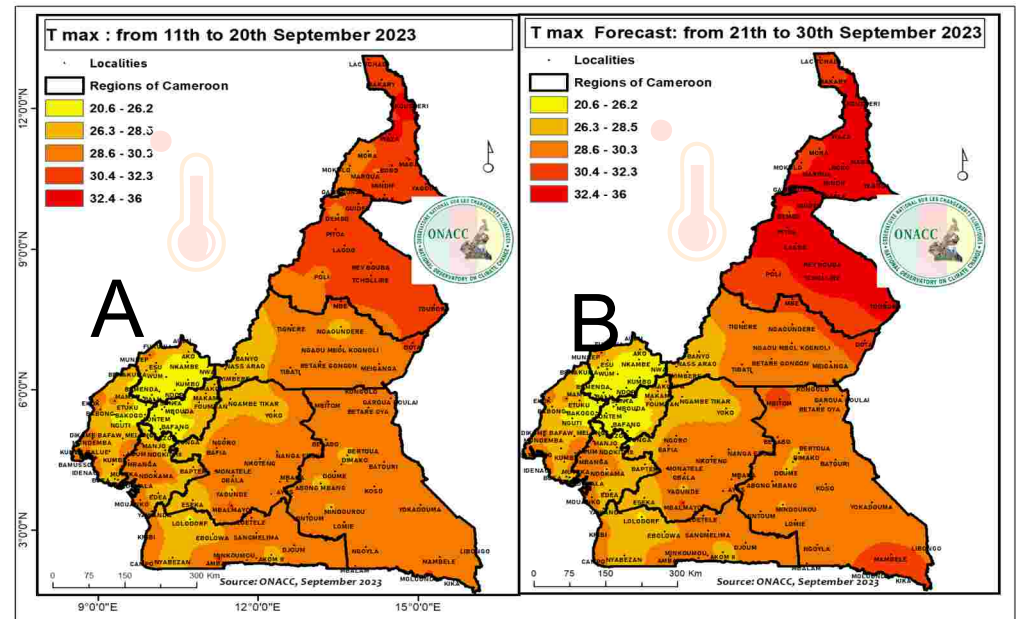


Figure 3: Variation in mean maximum temperatures for the dekad from 21st to 30th 2023 (b) compared to those recorded for the dekad from 11th to 20th September 2023 (a).

Source: NOCC, September 2023

## Alerts for maximum temperature

During this dekad from 21st to 30th September 2023, particular attention should be paid to localities that have a very high probability of experiencing an increase in maximum temperature compared to their historical averages for the same period from 1979 to 2018. They include:

- Tibati, Betare Gongo, Yimbere, Banyo and Nass Arao, in the **Adamawa region**;
- Yoko, Mbalmayo, Bafia, Nanga-Eboko, Monatele, Nkoteng, Obala, Ngoro, Ntui, Mbandjock and Akonolinga in the **Centre region**;
- Libongo, Mambele, Moloundou, Kika, Garoua-Boulai, Ngoyla, Koso, Abong-Mbang, Mbalam, Mintoum, Belabo, Yokadouma, Lomie, Batouri, Betare-Oya and Kongolo, in the **East region**;
- Minkoumou, Zoetele, Ambam, Sangmelima, Nyabizan, Djoum and Kribi in the **South region**;
- Esu, Furu-Awa, Munkep, Audu, Nwa and Ako, in the **North-West region**;
- Foumbot, Bafang, Maniou, Makenene, Makam and Foumban, in the **West region**;
- Kumbe Balue, Bamusso, Idenau, Mamfe, Kumba, Mundemba, Dikome Bafaw, Etuku and Buea, in the **South-West region**;
- Douala, Loum, Ndokama, Mouanko, Manjo, Mbanga, Melong, Dibombari, Nkongsamba, Penja, Yabassi, Dizangue, Nkondjock and Ndokiti, in the **Littoral region**.





### b) Minimum Temperature

Based on the historical average of minimum temperatures recorded from 1979 to 2018, notably 19.1°C in the Far North Region; 19.5°C in the North; 15.8°C in the Adamawa region; 17.1°C in the Centre region; 17.5°C in the South region; 17.5°C in the East region; 15°C in the West region; 15°C in the North West region; 20.3°C in the South West region and 21.3°C in the Littoral region, for the dekad from 21st to 30th September 2023, we expect minimum temperatures:

- Below the historical mean recorded during the same period from 1979 to 2018 in Gamboura, Yagoua, Maga, Bogo, Kaele, Mindif, Mora and Mokolo; around the mean in Waza, Kousseri, Makary, in the **Far North region**;
- Below the historical mean recorded during the same period from 1979 to 2018 in Touboro, Poli, Guider, Dembo, Garoua, Rey-Bouba and Tchollire; around the mean in Lagdo, Pitoa, in the **North region**;
- Below the historical mean recorded during the same period from 1979 to 2018 in Banyo, Mbe, Mbakaou, Meiganga, Tignere, Dota, Ngaoundere, Ngaou Mbol, Kognoli and Ngaoundal; around the mean in Betare Gongon; above the mean in Tibati, Nass Arao and Yimbere, in the **Adamawa region**;
- Around the historical mean recorded during the same period from 1979 to 2018 in Ngambe Tikar; above the mean in Yaounde, Yoko, Bafia, Mbalmayo, Obala, Nkoteng, Akonolinga, Mbandjock, Nanga Eboko, Eseka, Monatele and Ngoro, in the **Centre region**;
- Below the historical mean recorded during the same period from 1979 to 2018 in Garoua-Boulai; around the mean in Kongolo, Betare-Oya; above the mean in Moloundou, Mbitom, Mbalam, Mambele, Kika Koso, Libongo, Lomie, Abong-Mbang, Dimako, Ngoyla, Yokadouma, Bertoua, Mindourou, Belabo, Batouri and Doume, in the **East region**;
- Above the historical mean recorded during the same period from 1979 to 2018 in Lolodorf, Campo, Akom II, Sangmelima, Ambam, Nyabizan, Ebolowa, Minkoumou, Kribi, Zoetele and Djoum, in the **South region**;
- Around the historical mean recorded during the same period from 1979 to 2018 in Mbouda, Bagam, Bafou, Batie, Bazou, Bangoum, Bangangte, Bafoussam and Dschang; above the mean in Bandjoun, Makenene, Meniou, Bafang, Batcham, Magba, Babadjou, Bamendjing, Tonga, Fouban, Foubot, Makam and Koutaba, in the **West region**;

- Around the historical mean recorded during the same period from 1979 to 2018 in Nkambe, Munkep, Ndop, Kumbo, Bali, Benakuma, Santa, Bamenda and Bamessing; above the mean in Nwa, Furu-Awa, Esu, Wum, Audu and Ako, in the **North West region**;
- Around the historical mean recorded during the same period from 1979 to 2018 in Idenau, Fontem, Limbe, Eyumojock, Kumba, Dikome Bafaw, Bakogo, Buea, Dikome Balue, Ekang, Tiko, Bamusso, Mundemba, Etuku, Ekok, Nguti, Mamfe and Babong, in the **South-West region**;
- Around the historical mean recorded during the same period from 1979 to 2018 in Nyanon, Ngambe, Mbanga, Ndokama, Douala, Edea, Mouanko, Manjo, Yabassi, Loum, Dizangue, Penja and Nkongsamba; above the mean in Ndokiti and Bapteke, in the **Littoral region**.

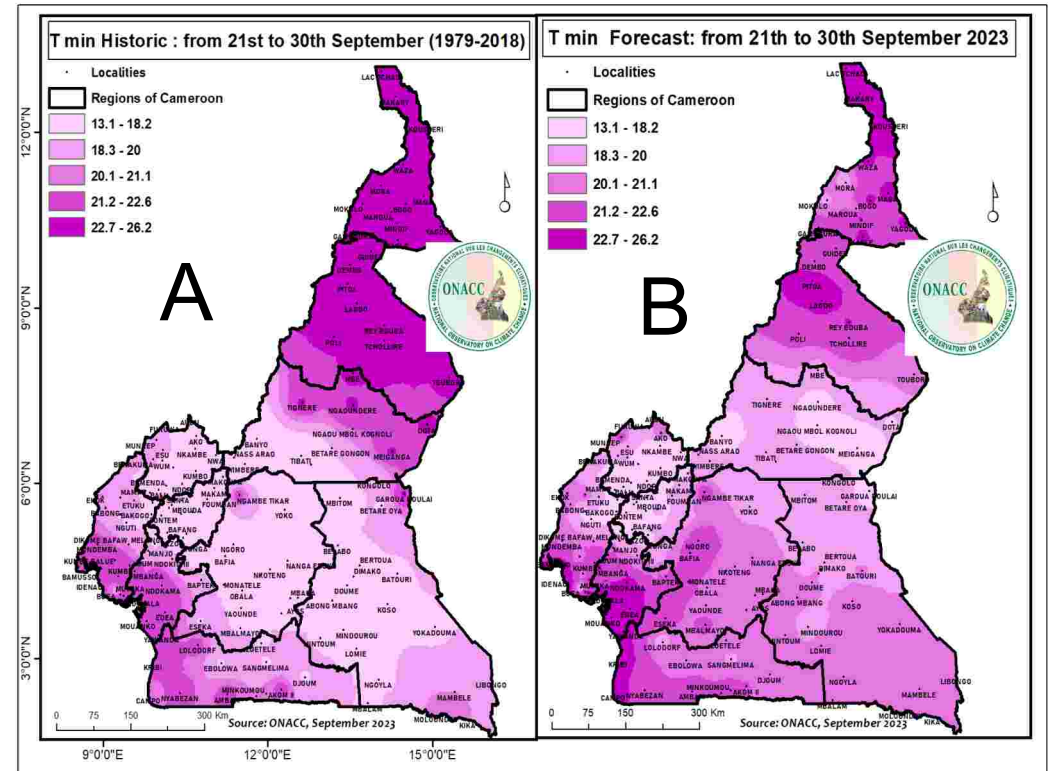
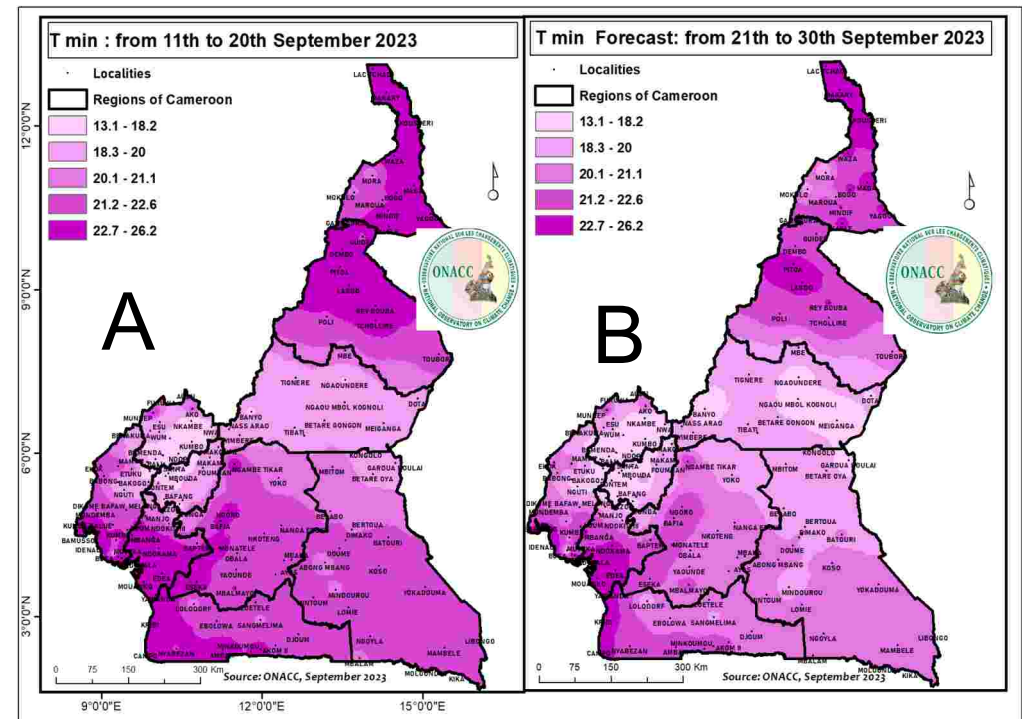


Figure 4: Variation in mean minimum temperatures for the current dekad (21-30 September) (b) compared to historical averages from 1979 to 2018 (a). Source: NOCC, September 2023

- **Based on the difference between the average minimum temperatures recorded during the dekad from 11th to 20th September 2023, for the dekad from 21st to 30th September 2023, we expect minimum temperatures:**

- Below the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Maga, Mindif, Gamboura, Maroua, Mora, Mokolo, Kaele, Bogo and Yagoua; around the mean in Waza, Kousseri and Makary, in the **Far North region**;
- Below the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Guider, Dembo, Poli, Rey-Bouba, Tchollire, Garoua and Touboro; around the mean in Lagdo and Pitoa in the **North region**;
- Below the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Ngaoundere, Banyo, Kognoli, Ngaou Mbol and Meiganga; around the mean in Nass Arao, Dota, Mbakaou, Betare Gongo, Tignere, Yimbere, Tibati and Mbe, in the **Adamawa region**;
- Around the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Ngoro, Bafia, Nanga Eboko, Mbalmayo, Yaounde, Ayos, Akonolinga, Mbandjock, Mbaka Yoko, Nkoteng, Obala, Eseka, Ngambe Tikar and Monatele, in the **Centre region**;
- Below the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Garoua-Boulai, Abong-Mbang, Bertoua, Mbalam, Belabo, Moloundou, Libongo, Doume, Koso, Lomie, Mintoum, Yokadouma, Dimako, Mambele, Kika, Ngoyla, Mindourou, Batouri and Mbitom; around the mean in Kongolo and Betare-Oya, in the **East region**;
- Below the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Campo, Kribi, Djoum, Akom II, Lolodorf, Ebolowa, Zoetele and Sangmelima; around the mean in Nyabizan, Ambam and Minkoumou, in the **South region**;
- Below the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Bafang, Fongo-Tongo, Bafou, Bagam, Dschang and Kekem; around the mean in Batie, Bazou, Mbouda, Bafoussam, Bandjoun, Bangangte, Batcham, Magba, Babadjou, Bamendjing, Tonga, Foumban, Fombot, Makam, and Koutaba, in the **West region**;

- Around the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Bamenda, Bali, Nwa, Munkep, Kumbo, Ndop, Nkum, Santa, Furu Awa, Bamessing, Benakuma, Audu, Ako, Wum and Esu, in the **North West region**;
- Around the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Dizangue, Penja, Douala, Nyanon, Ngambe, Loum, Ndokama, Nkongsamba, Yabassi, Edea, Mouanko, Baptek, Mbanga, Ndokiti, Yingui and Manjo, in the **Littoral region**;
- Around the mean recorded during the dekad from 11<sup>th</sup> to 20<sup>th</sup> September 2023 in Kumba, Ekok, Mundemba, Buea, Dikome Bafaw, Fontem, Limbe, Etuku, Bamusso, Eyumojock, Dikome Balue, Idenau, Ejang, Tiko and Mamfe; above the mean in Bakogo and Nguti, in the **South-West region**.



**Figure 5: Variations in minimum temperatures for the current dekad (b) compared to those recorded in the dekad from 11th to 20th September (a).**

• **Source: NOCC, September 2023**





## Alerts for minimum temperatures

During this dekad from 21st to 30th September 2023, particular attention should be paid to the localities that have a very high probability of experiencing a decrease in minimum temperature compared to their historical values for the same period from 1979 to 2018, which could lead to cold nights. They include:

- Gamboura, Yagoua, Maga, Bogo, Kaele, Mindif, Mora and Mokolo, in the **Far North region**;
- Touboro, Poli, Guider, Dembo, Garoua, Rey-Bouba and Tchollire, in the **North region**;
- Banyo, Mbe, Mbakaou, Meiganga, Tignere, Dota, Ngaoundere, Ngaou Mbol, Kognoli and Ngaoundal, in the **Adamawa region**;
- Garoua-Boulai, in the **East region**;



## IV. Risks and potential impacts on socio-economic sectors



**a) In the agricultural sector:** A risk of recording:

Cases of lodging in orchards in the Monomodal rain forest zone (South West and Littoral regions), the Highlands (North West and West regions), the Guinea high savannah, and the Sudano-Sahelian (notably in the North region) zones due to heavy rains accompanied by violent winds;

cases of tuber rot (cassava, cocoyam, etc.) in certain localities in the Monomodal rainforest, Highlands and Bimodal rain forest zones, due to the saturation of the soil with water;

a degradation in the quality of groundnut and tubers (cassava, cocoyam, taro, etc.) production in many localities in the Monomodal rain forest (Littoral and South West regions) and Highlands (North West and West regions) zones, due to the saturation of soils with water.



**b) In the health sector: A high risk of recording:** A high risk of recording:

new cases of cholera in epidemic health districts in the Littoral region, as well as monitored and high-risk districts in the Far North, North and South-West regions, etc; an increase in the number of breeding sites and malaria vectors in many localities in the Monomodal rain forest, Bimodal rain forest and the Highlands zones.

cases of death by drowning due to floods that could be observed in risky areas of certain localities in the Sudano-Sahelian zone (Far North and North regions), Monomodal rain forest zone (Littoral and South West regions), or landslides that could be observed in risky areas of certain localities in the West and North West regions and even in the northern part of the Littoral region;

Cases of death due to the collapse of buildings as a result of heavy rainfall in certain localities in the Monomodal rainforest and Highlands zones.

## V. Risks and potential impacts on socio-economic sectors

### **c) In the environment and biodiversity sector:**


A high risk of recording:

floods in certain agglomerations in the **South West** (Limbe, Tiko, Mutengene, Buea, etc.) and **Littoral regions** (Douala, Mouanko, Melong, Manjo, Mbanga, Nkongsamba, Loum, Edea, etc.) the Bimodal rain forest zone (Yaounde, Obala, Ngoro etc.), the North-West (Bamenda), the North (certain areas of Garoua), the Far North and the coastal strip (Kribi, Londji), due to concentrated and abundant rains within a very short period of time;

a high risk of landslides in the steeply sloping areas of **Nkongsamba (Littoral region), Limbe, Buea, (South West region), Fouban, Dschang, Bafoussam, Bafang, etc. (West region)** due to the progressive saturation of the soil with water;

fog, especially in the early morning in the **bimodal rain forest, Monomodal rain forest and the Highland zones**, with a consequent increase in the number of road accidents.

### **d) In the water and energy sector:**

 A high risk of recording cases of:

destruction of electricity transmission infrastructure (wooden poles, transformers) in many localities in the **Monomodal rain forest and the Highlands zones**, due to heavy rains;

contamination of water catchment points by polluted runoff from floods in the **Monomodal rain forest (South West and Littoral regions), Sudano-Sahelian, Guinea high savannah and Highland zones**.

### **e) In the livestock sector:**

A high risk of recording cases of:

loss of livestock in some localities in the **Far North, North and North West regions**, due to floods;

epizootics, due to the persistence of cold spells at night in many localities in the **West, North West and South West regions** during this period;

poultry and pig loss in certain localities of the **Monomodal rainforest, Sudano-Sahelian and Highland zones** due to floods.

### **f) In the public works sector:**

A high risk of recording:

- degradation and destruction of buildings in many localities in the **Guinea High Savannah zone (Adamawa region), the Monomodal rain forest zone (Littoral and South West regions), the Highlands zone (West and North West regions)**, due to heavy rains accompanied by violent winds and even hail.

degradation or destruction of crossing structures (bridges, culverts, embankments etc.) on paved and heavily trafficked roads in the **Monomodal rain forest, Highlands, Sudano Sahelian and Guinea High Savannah zones and even motorways**, due to heavy rains and abundant rains predicted for this dekad.





## ALERT!!! RISKS OF FLOODS AND LANDSLIDES

Some Hydrometeorological and Geomorphological risks: 21<sup>st</sup> -30<sup>th</sup> september 2023

Risk type	Region	Locality to be likely affected	September	Rainfall	Risk type	Region	Locality to be likely affected	September	Rainfall				
 <b>Flooding</b>	Littoral	Douala	22 - 29	90-150mm	 <b>Landslides</b>	Southwest	Limbe	22 - 27(26)	70-240mm				
		Melong	23 - 25				Mundemba	22 - 26					
		Manjo	23 - 25				Buea	22 - 26(25)					
		Nkongsamba	24 - 25				Tiko	28 - 30					
	Far North	Maroua	25 - 26	30-95mm		South	Ambam	25-28	70-240mm				
		Mora	23 - 26				Kribi	24 - 27					
		Bogo	25 - 26				Ebolowa	24 - 26					
		Kaele	25 - 26			Centre	Yaounde	22-27	30-150mm				
		Mokolo	23 - 27				Mbalmayo	26 - 28					
	North	Maga	25 - 26	30-95mm		West	Bafoussam	22 - 28	70-240mm				
		Yagoua	25 - 26				Haut -Nkam	23 - 28					
		Northwest	Lagdo				23 - 26	30-95mm		Northwest	Bamenda	21 - 28	70-240mm
			Poli				23 - 26				Boyo	21 - 30	
	Pitoa		25 - 26	Bui		21 - 30							
	Garoua		24 - 26	Widikum		21 - 28							
	Adamawa	Ngaoundere	22 - 24	30-115mm		Southwest	Fontem	21 - 28	70-240mm				
		Tignere	28 - 29				Buea	21 - 27					
	West	Bafoussam	24&29-30	70-240mm		Wabane	21 - 28						
Santchou		23 - 25	Limbe		23 - 30								
Northwest	Bamenda	23 - 25	70-240mm	Njungo	23 - 27								
		23 - 25		Nsuke-Tombel	22 - 28								
		23 - 26		Nkongsamba	21 - 29								
Northwest	Babessi	23 - 25	70-240mm	Littoral	Manjo	22 - 29	90-150mm						
		23 - 26			Logbessou	21 - 29							

## VI. Key Messages

**Message 1: Risk of floods due to heavy rains in** Douala, Nkongsamba, Manjo, Mbanga, Limbe, Tiko, Kumba, Mutengene, Buea, Limbe, Yaounde, Bamenda;

**Message 2: High risk of landslides due to the progressive saturation of the soil, coupled with steep slopes in the localities** of Bafoussam, Dschang, Foumban, Bamenda, Santa, Widikum, Mamfe, Tiko, Idenau, Bamusso, Nkongsamba.;

**Message 3: Very high risk of an increase in cholera cases in certain large agglomerations** agglomerations in the Monomodal rain forest (Littoral and South West regions), due to the contamination of water points and foodstuffs by contaminated run-off;

**Message 4: Risk of an increase in the number of deaths linked to the collapse of houses**, due to the heavy rains announced in certain localities in the Bimodal rain forest, Monomodal rain forest and the Highland zones;

**Message 5: Risk of recording cases of death by drowning due to floods that could be observed in certain localities of the Monomodal rain forest** (Littoral and South West Regions), or landslides that could be observed in certain localities of the South, West and North West regions and even in the northern part of the Littoral region;

**Message 6: Very high risk of an increase in cases of destruction of electricity transmission infrastructure (wooden poles, transformers)** in many localities in the Bimodal rain forest, Monomodal rain forest, and the Highlands zones, due to the heavy rains predicted, accompanied by violent winds and even lightning;

**Message 7: High risk of increased degradation or destruction of crossing structures (bridges, culverts, embankments, etc.) on heavily trafficked paved roads, and even motorable roads**, in the Bimodal rain forest, Highlands and Sudano Sahelian zones, due to the heavy and abundant rains predicted for this dekad.

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## VII. Some Recommendations



### ***In the Agriculture sector, to:***

It is recommended that the populations of the monomodal rain forest, the Bimodal rain forest and the Highlands zones refer to the 2023 agricultural calendar for the second cropping season, in the southern part of the country for the continuation of their agricultural operations.



### ***In the Health sector, continue to***

- Raise awareness on the need to scrupulously observe basic hygiene prescribed by the Minister of Public Health against cholera in his circular of 9th April 2023, notably the systematic washing of hands with clean water and soap before meals and after the use of latrines, the washing of food with potable water before any consumption, the treatment of water before drinking it and the proper cooking of food;

- Strengthen community surveillance at the level of health centres for the rapid detection of suspected cases of cholera with a view to their immediate treatment;
- Avoid the accumulation of household waste in neighbourhoods;
- Regularly put on warm clothes and drink hot drinks like tea, etc. to protect oneself against the cold;



### ***In the Water and Energy sector, to continue:***

- Regular sampling, analyses and treatment of drinking water at catchment points and water supply points before distribution to households;
- Regular use of basic techniques (filtering, boiling, etc.) to make drinking water potable at the household level.