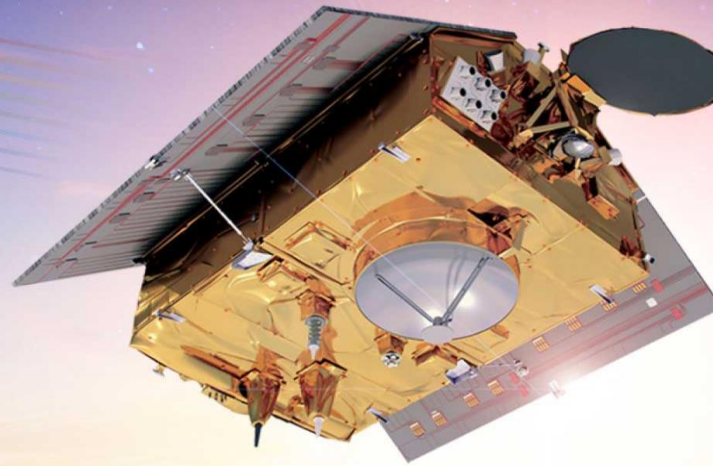


# African Centre of Meteorological Applications for Development (ACMAD)

## Continental Multi-Hazard & Advisory Bulletin

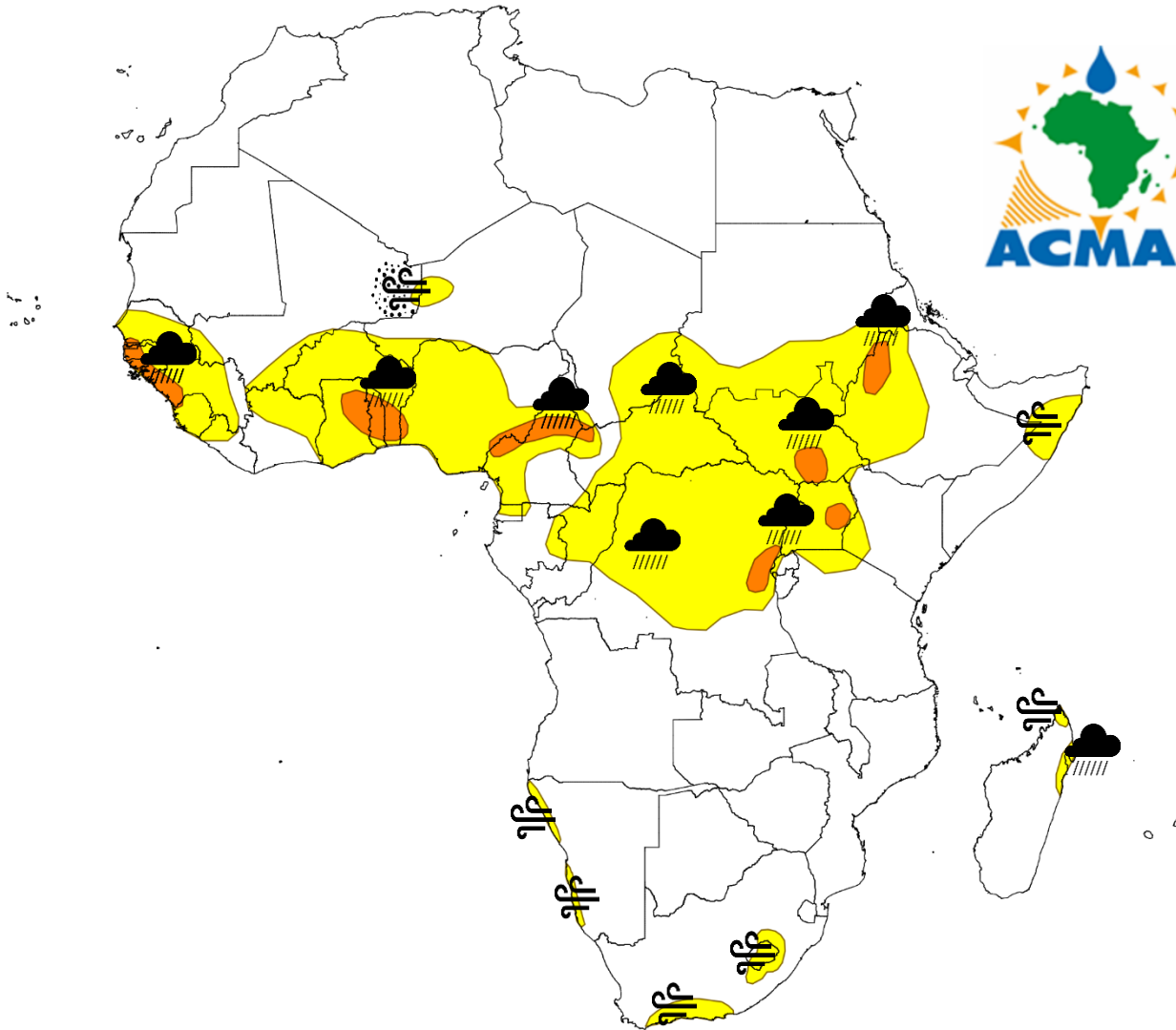


**Issued on: September 4<sup>th</sup> 2023**  
**Validity period: September 5<sup>th</sup> to 9<sup>th</sup>, 2023**

# MULTI-HAZARD OUTLOOK

**Validity: 2023-09-05**

issued on 2023-09-04

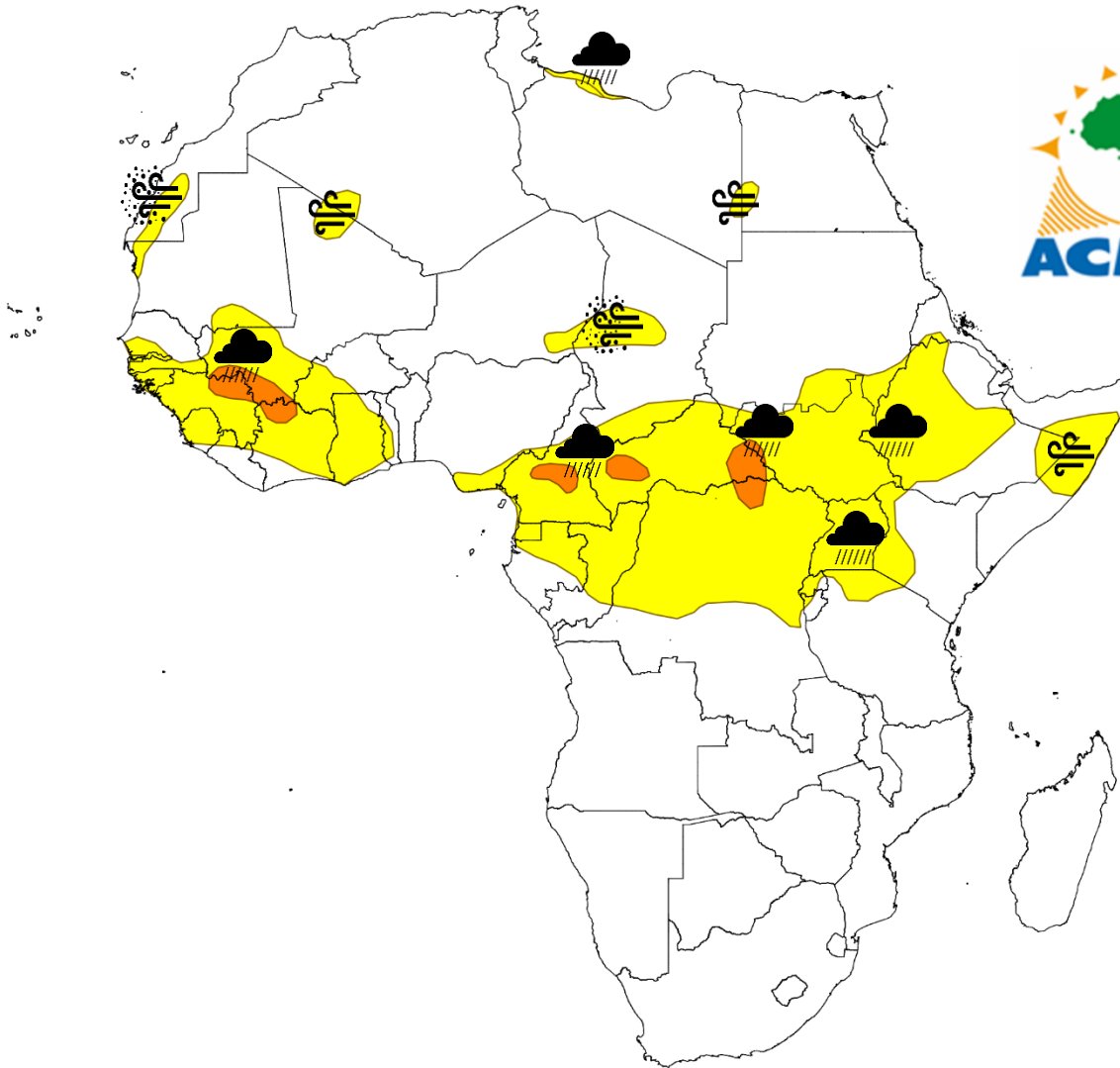


| <br>Rain | <br>Wind | <br>Dust | <br>Meningitis |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Very heavy<br>>100mm                                                                        | Very strong<br>>80kmh <sup>-1</sup>                                                         | Very heavy<br>>1000µg m <sup>-3</sup>                                                       | Very likely                                                                                       |
| Heavy<br>50-100mm                                                                           | Strong<br>>65kmh <sup>-1</sup>                                                              | Heavy<br>>600µg m <sup>-3</sup>                                                             | Likely                                                                                            |
| Moderate<br>10 - 49mm                                                                       | Moderate<br>>50kmh <sup>-1</sup>                                                            | Moderate<br>>400µg m <sup>-3</sup>                                                          | Less likely                                                                                       |
| Light<br>1 - 10mm                                                                           | Light<br><50kmh <sup>-1</sup>                                                               | Light<br><200µg m <sup>-3</sup>                                                             |                                                                                                   |

# MULTI-HAZARD OUTLOOK

**Validity: 2023-09-06**

issued on 2023-09-04

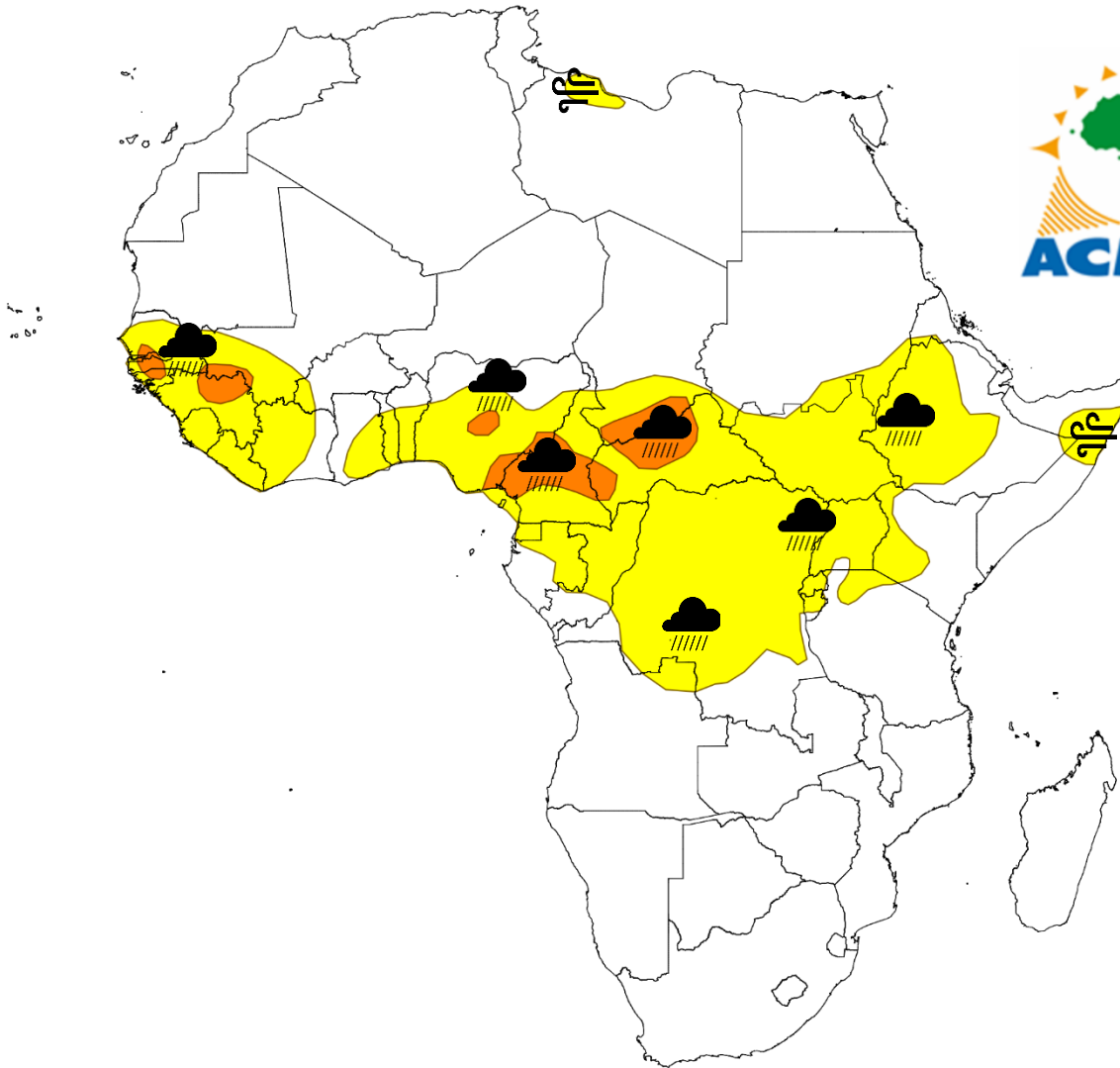


| <br>Rain | <br>Wind | <br>Dust | <br>Meningitis |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Very heavy<br>>100mm                                                                        | Very strong<br>>80kmh <sup>-1</sup>                                                         | Very heavy<br>>1000µg m <sup>-3</sup>                                                       | Very likely                                                                                       |
| Heavy<br>50-100mm                                                                           | Strong<br>>65kmh <sup>-1</sup>                                                              | Heavy<br>>600µg m <sup>-3</sup>                                                             | Likely                                                                                            |
| Moderate<br>10 - 49mm                                                                       | Moderate<br>>50kmh <sup>-1</sup>                                                            | Moderate<br>>400µg m <sup>-3</sup>                                                          | Less likely                                                                                       |
| Light<br>1 - 10mm                                                                           | Light<br><50kmh <sup>-1</sup>                                                               | Light<br><200µg m <sup>-3</sup>                                                             |                                                                                                   |

# MULTI-HAZARD OUTLOOK

**Validity: 2023-09-07**

issued on 2023-09-04

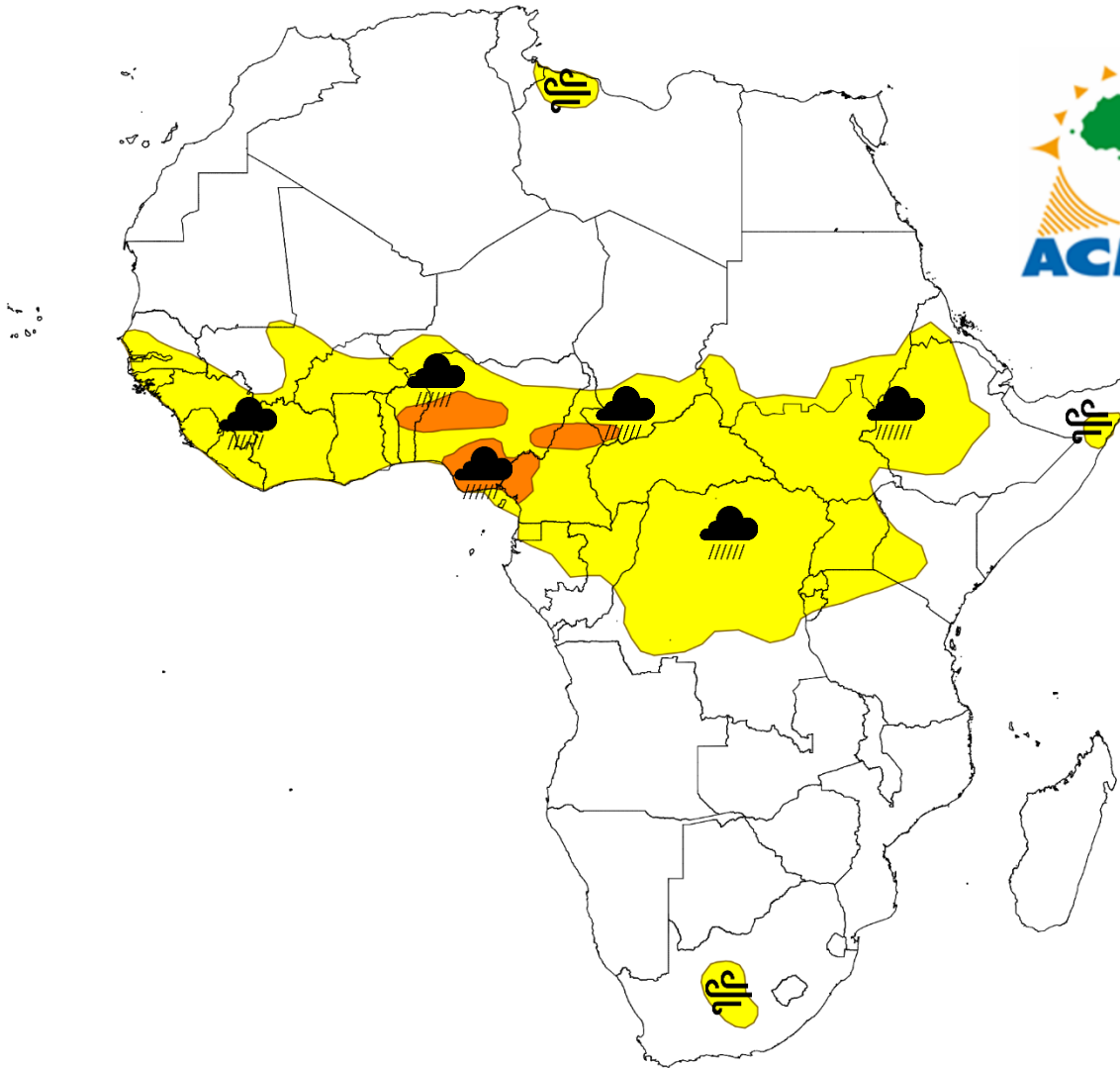


| <br>Rain | <br>Wind | <br>Dust | <br>Meningitis |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Very heavy<br>>100mm                                                                        | Very strong<br>>80kmh <sup>-1</sup>                                                         | Very heavy<br>>1000µg m <sup>-3</sup>                                                       | Very likely                                                                                       |
| Heavy<br>50-100mm                                                                           | Strong<br>>65kmh <sup>-1</sup>                                                              | Heavy<br>>600µg m <sup>-3</sup>                                                             | Likely                                                                                            |
| Moderate<br>10 - 49mm                                                                       | Moderate<br>>50kmh <sup>-1</sup>                                                            | Moderate<br>>400µg m <sup>-3</sup>                                                          | Less likely                                                                                       |
| Light<br>1 - 10mm                                                                           | Light<br><50kmh <sup>-1</sup>                                                               | Light<br><200µg m <sup>-3</sup>                                                             |                                                                                                   |

# MULTI-HAZARD OUTLOOK

**Validity: 2023-09-08**

issued on 2023-09-04

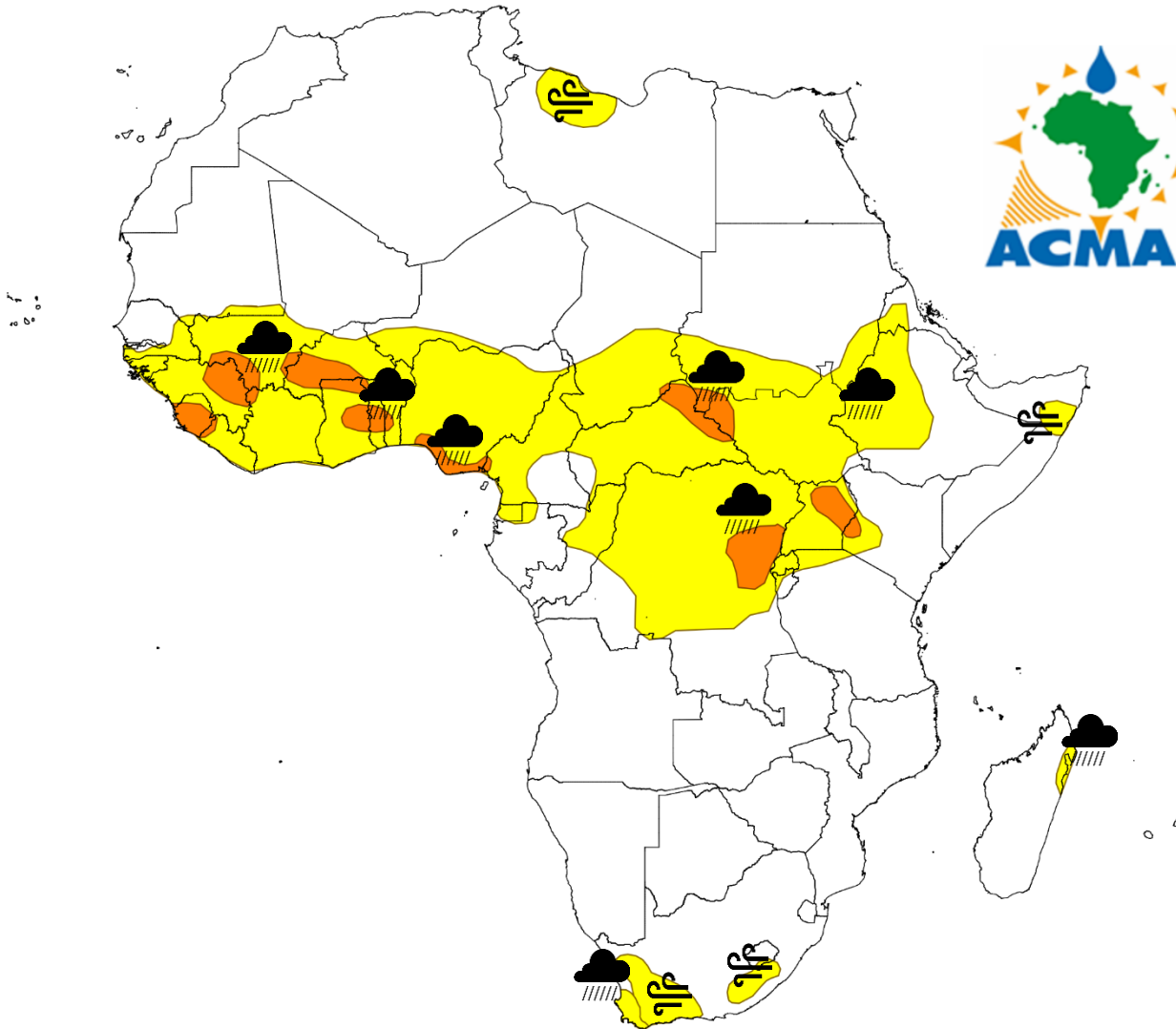


| <br>Rain | <br>Wind | <br>Dust | <br>Meningitis |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Very heavy<br>>100mm                                                                        | Very strong<br>>80kmh <sup>-1</sup>                                                         | Very heavy<br>>1000µg m <sup>-3</sup>                                                       | Very likely                                                                                       |
| Heavy<br>50-100mm                                                                           | Strong<br>>65kmh <sup>-1</sup>                                                              | Heavy<br>>600µg m <sup>-3</sup>                                                             | Likely                                                                                            |
| Moderate<br>10 - 49mm                                                                       | Moderate<br>>50kmh <sup>-1</sup>                                                            | Moderate<br>>400µg m <sup>-3</sup>                                                          | Less likely                                                                                       |
| Light<br>1 - 10mm                                                                           | Light<br><50kmh <sup>-1</sup>                                                               | Light<br><200µg m <sup>-3</sup>                                                             |                                                                                                   |

# MULTI-HAZARD OUTLOOK

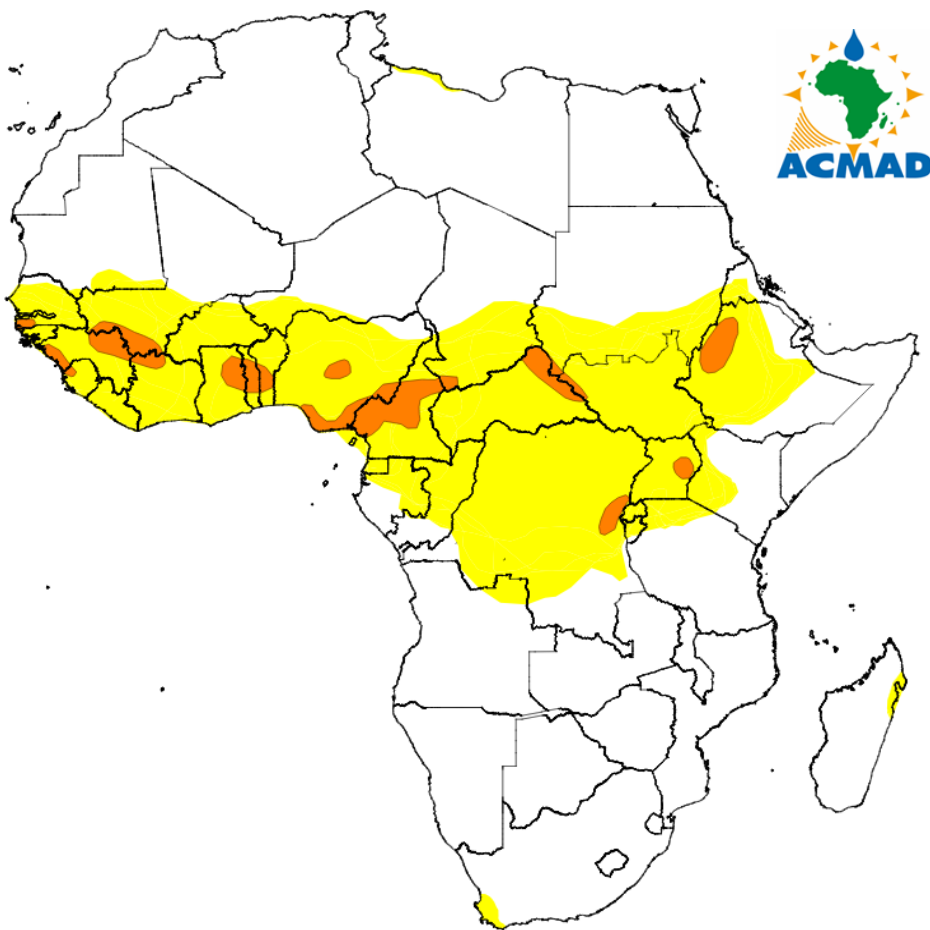
**Validity: 2023-09-09**

issued on 2023-09-04



| <br>Rain | <br>Wind | <br>Dust | <br>Meningitis |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Very heavy<br>>100mm                                                                        | Very strong<br>>80kmh <sup>-1</sup>                                                         | Very heavy<br>>1000µg m <sup>-3</sup>                                                       | Very likely                                                                                       |
| Heavy<br>50-100mm                                                                           | Strong<br>>65kmh <sup>-1</sup>                                                              | Heavy<br>>600µg m <sup>-3</sup>                                                             | Likely                                                                                            |
| Moderate<br>10 - 49mm                                                                       | Moderate<br>>50kmh <sup>-1</sup>                                                            | Moderate<br>>400µg m <sup>-3</sup>                                                          | Less likely                                                                                       |
| Light<br>1 - 10mm                                                                           | Light<br><50kmh <sup>-1</sup>                                                               | Light<br><200µg m <sup>-3</sup>                                                             |                                                                                                   |

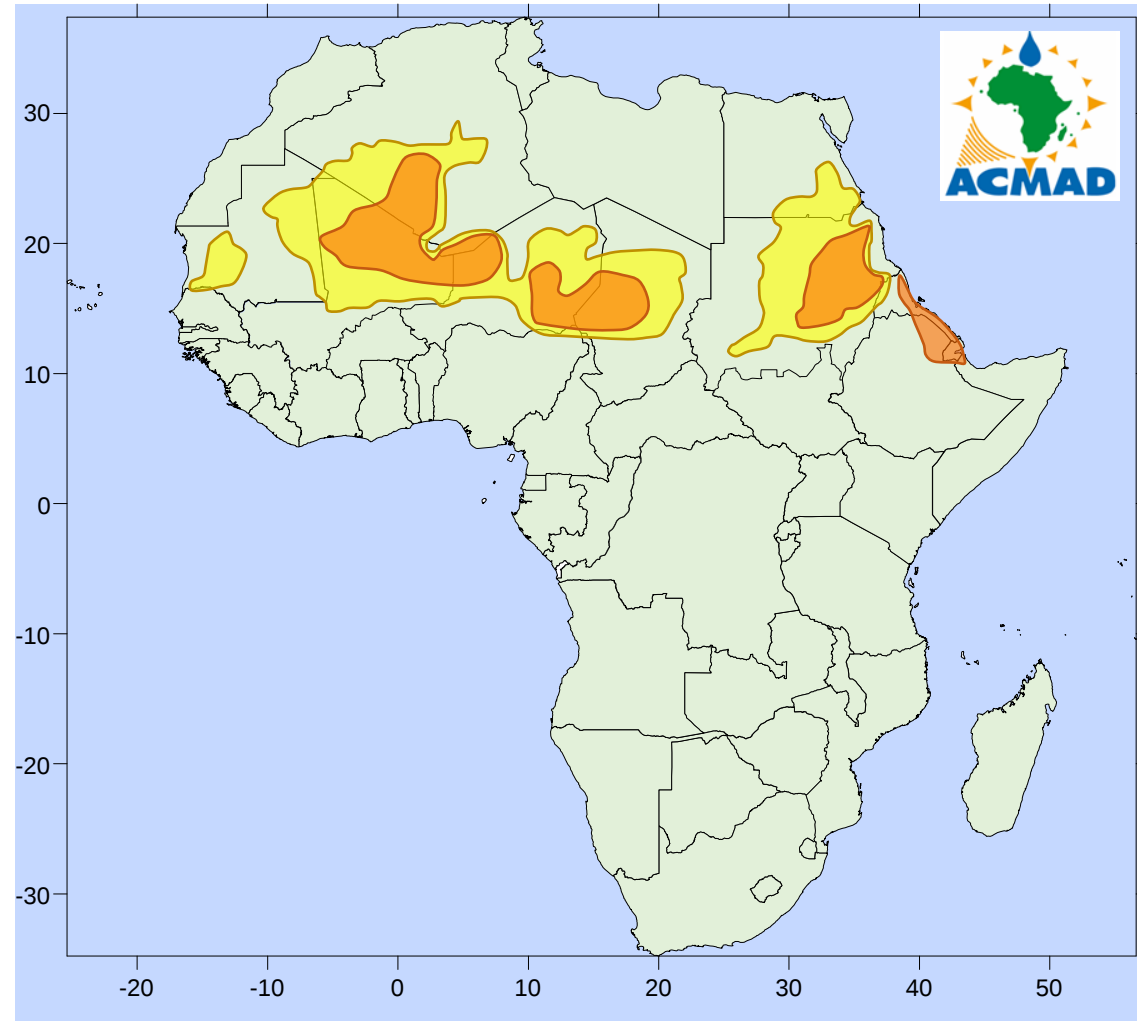
**HIGHLIGHT:** Heavy rainfall is expected in Senegal, Guinea, Sierra Leone, Mali, Cote d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, Chad, C.A.R , D.R.C, Ethiopia and Uganda



|  | Phenomenon                                                        | Hazard                                                                                                                                  | Potentials Impacts                                                                                                                                | DRM Measures / Advices                                                                                                                                                                                                                                                  |
|--|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | In next 5 days accumulated rainfall (50-100mm) is likely,         | Moderate rainfall, flash flood, riverine flooding, landslides, soil erosion and lightning likely                                        | Displacements of people due to floods, outbreak of water borne diseases, damage of infrastructures (roads, bridges, ...)                          | DRM authorities to keep informed about the development of the meteorological situation and raise awareness, taking action is more likely, the situation needs to be monitored closely with NHMSs                                                                        |
|  | In next 5 days accumulated rainfall (100 – 150mm) is very likely, | Heavy rainfall, flash flood, riverine flooding, landslides, soil erosion and lightning, strong winds,                                   | Displacements of people due to floods, outbreak of water borne diseases, damage of infrastructures (roads, bridges, ...)                          | Update Flood contingency plans, Improve water management in reservoirs and dams, DRM authorities be ready to take adequate actions, DRM to be continuously in touch with NHMSs to be informed of the detailed expected meteorological conditions.                       |
|  | In next 5 days accumulated rainfall (>150mm) is very likely,      | Extreme heavy precipitation, flash flood, riverine flooding, landslides, soil erosion and lightning, strong winds, severe thunderstorms | Loss of lives, Injuries, Displacements of people due to floods, outbreak of water borne diseases, damage of infrastructures (roads, bridges, ...) | Civil Protection service and DRM authorities to activate contingency plan for disaster preparedness and emergency response (awareness, assistance to victims, search & rescue operations ), and be in close touch with NHMS for further accuracy at the national level. |

**Disclaimer:** The presentation of country boundaries on the map does not imply any opinion whatsoever on the part of ACMAD concerning the legal status of any country, territory or area, or concerning the delimitation of frontiers or boundaries.

**HIGHLIGHT:** Moderate heat wave is expected in Mali, Algeria, Niger, Chad, Sudan, Eritrea, Ethiopia and Djibouti.



|  | Phenomenon                                                                  | Hazard                                                                                      | Potentials Impacts                                                                                                                                                                                | DRM Measures / Advices                                                                                                                                                                     |
|--|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | In next 5 days apparent temperature >40°C to 44°C are expected for two days | Heat wave<br>Conditions persists on 2days                                                   | Moderate temperature heat is tolerable for general public but moderate health concern for vulnerable people(people chronic diseases, infants and elderly)                                         | Civil Protection Services in Mauritania, Ghana, Togo, C.A.R, and Egypt monitor closely the heat wave situation with NHMSs.                                                                 |
|  | apparent temperature 40°C to 44°C are expected for more than 2 days         | Moderate heat wave conditions are likely to persist for 3days ore more with varied severity | High temperature<br>Increased likelihood of heat illness symptoms in people who are either exposed to sun for a prolonged period or doing heavy work<br>High health concern for vulnerable people | Civil Protection services in Senegal, Mali, Burkina Faso, Benin, Niger, Nigeria, Cameroon, Chad, and Sudan to take adaptive and preventive measures to the heat wave situation with NHMSs. |
|  | Apparent temperatures >45°C are expected for more than 2 days               | Severe heat wave is very likely to persist for more than 2 days,                            | Very high likelihood of developing heat illness and heat stroke in all ages                                                                                                                       | Civil Protection services in Chad to take adaptive and preventive measures to the strong heat wave situation with NHMSs.                                                                   |

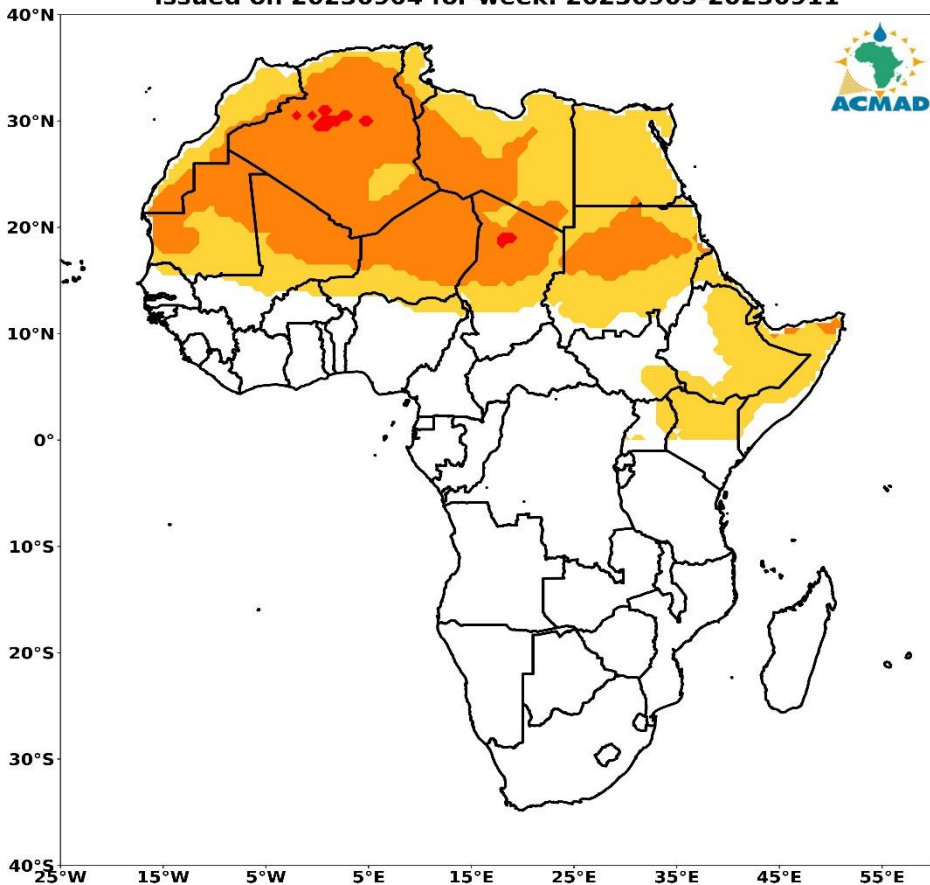
### Disclaimer:

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**HIGHLIGHT:** Emergence of Meningitis cases is very likely and epidemics status possible in Algeria and Chad

Emergence of Meningitis cases likely in Mauritania, Morocco, Mali, Niger, Libya and Sudan.

**VIGILANCE MAP FOR MENINGITIS OUTBREAKS IN AFRICA**  
issued on 20230904 for week: 20230905-20230911



|  | Phenomenon                                                                                                                                                                                    | Hazard                                                                 | Potentials Impacts                                         | Advisory / Measures                                                                          |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"> <li>- Dust concentration below 150µg/m<sup>3</sup></li> <li>- Relative humidity above 40%</li> <li>- Temperature below 27°C</li> </ul>                     | Emergence of Meningitis cases not likely                               | Potential pressure on the health system                    | Routine surveillance systems at regional and national levels                                 |
|  | <ul style="list-style-type: none"> <li>- Dust concentration between 150 to 400µg/m<sup>3</sup></li> <li>- Relative humidity between 20 &amp; 40%</li> <li>- Temperature above 27°C</li> </ul> | Emergence of Meningitis cases very likely                              | Loss of life, high potential pressure on the health system | Activation of surveillance systems at regional and national levels                           |
|  | <ul style="list-style-type: none"> <li>- Dust Concentration at least 400µg/m<sup>3</sup> and above</li> <li>- Relative humidity less than 20%</li> <li>- Temperature above 30°C</li> </ul>    | Emergence of Meningitis cases very likely and epidemic status possible | Loss of life, increased pressure on the health system      | Strengthen and increase meningitis surveillance systems at both regional and national levels |

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## Contributors

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| Dr. Pierre Kamsu         | Senior Expert Forecaster          | 04-09-2023 |

## Versions

| Version | Date       | By               | Descriptions                                                      |
|---------|------------|------------------|-------------------------------------------------------------------|
| V0      | 04-09-2023 | WWFD forecasters | First draft for « Briefing », with all forecaster's contributions |
| Last    | 04-09-2023 | Dr. Pierre Kamsu | Final Review                                                      |



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part of implementation of the WMO's Global  
Framework for Climate Services**



**ClimSA**

INTRA-ACP CLIMATE SERVICES AND RELATED APPLICATIONS PROGRAMME



An initiative of the Organisation of African, Caribbean  
and Pacific States funded by the European Union



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