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January 2025 FEWS NET Seasonal Forecast Review

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Overview

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8. Ukraine - 145





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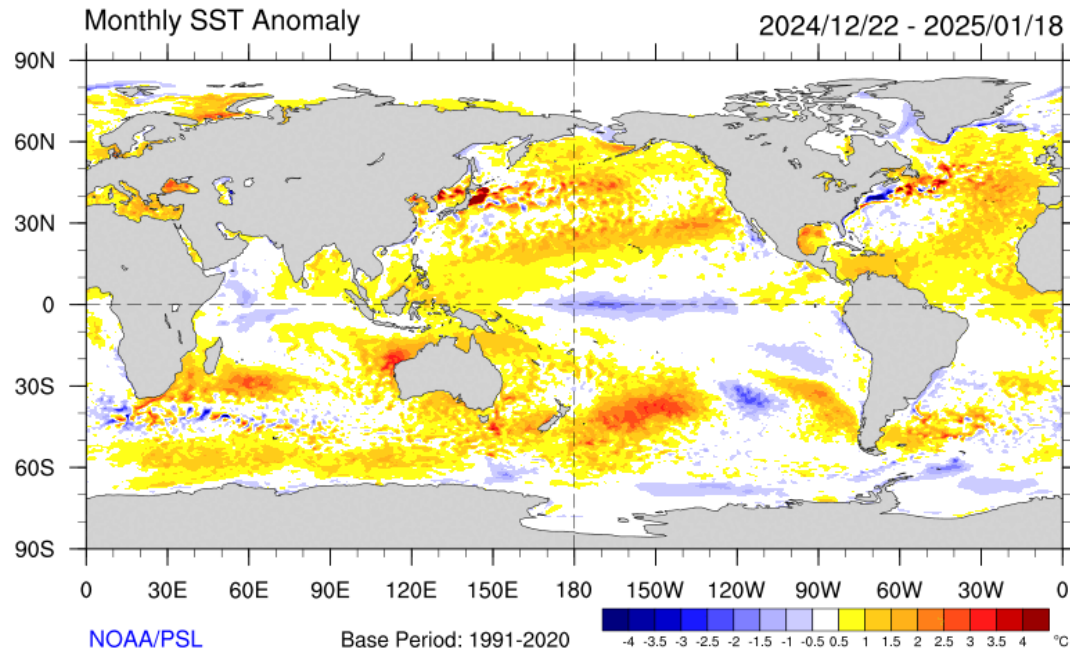


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State of the Global Climate

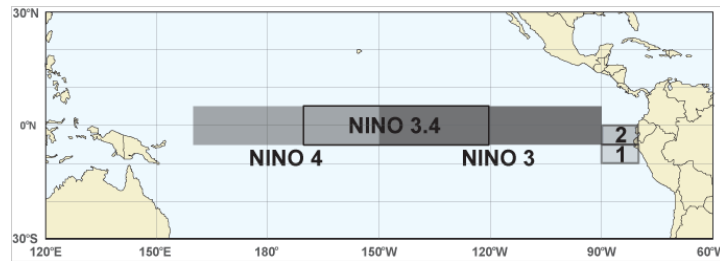
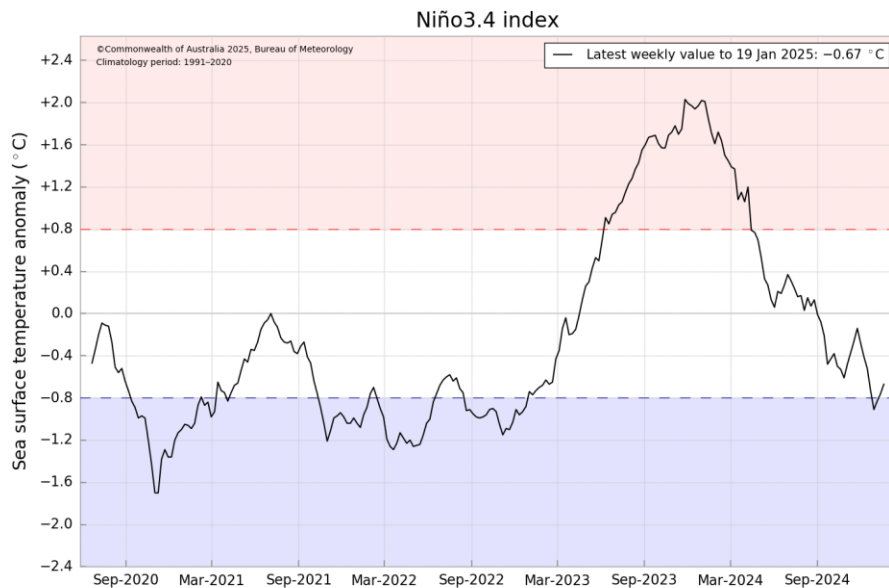
Sea Surface Temperatures and Climate Modes

La Nina, IOD neutral, and positive SIOD conditions observed



Current ENSO State

Signs indicative of La Niña conditions



Australia Bureau of Meteorology:
'In recent observations, both ocean and atmosphere indicators are now showing signs of stronger coupling, that is more consistent with a La Niña event.'



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ENSO Diagnostic Discussion

EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

issued by

CLIMATE PREDICTION CENTER/NCEP/NWS
9 January 2025

ENSO Alert System Status: [La Niña Advisory](#)

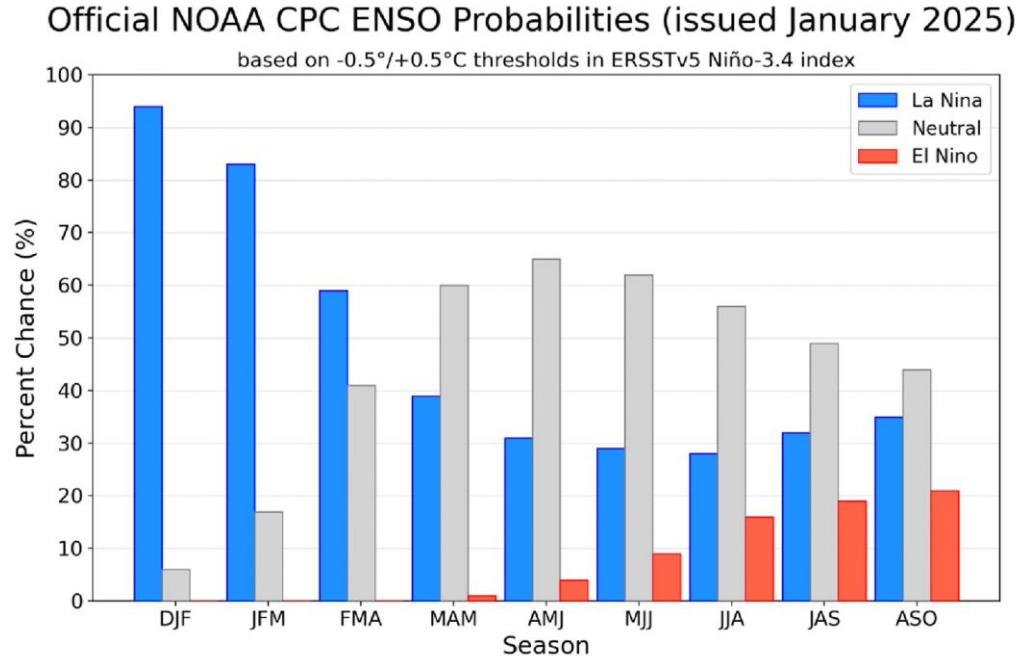
Synopsis: La Niña conditions are present and are expected to persist through February-April 2025 (59% chance), with a transition to ENSO-neutral likely during March-May 2025 (60% chance).

La Niña conditions emerged in December 2024 and were reflected in below-average sea surface temperatures (SSTs) across the central and east-central equatorial Pacific Ocean (Fig. 1). The latest weekly indices were -0.7°C in Niño-3.4 and -0.6°C in Niño-4, with values close to zero in Niño-1+2 and Niño-3 (Fig. 2). Subsurface cooling in the equatorial Pacific Ocean strengthened significantly (Fig. 3), with below-average temperatures dominating the central and eastern equatorial Pacific Ocean (Fig. 4). Low-level wind anomalies were easterly over the



ENSO Forecast

La Niña conditions forecast to persist until spring 2025



Current IOD State

IOD remains neutral

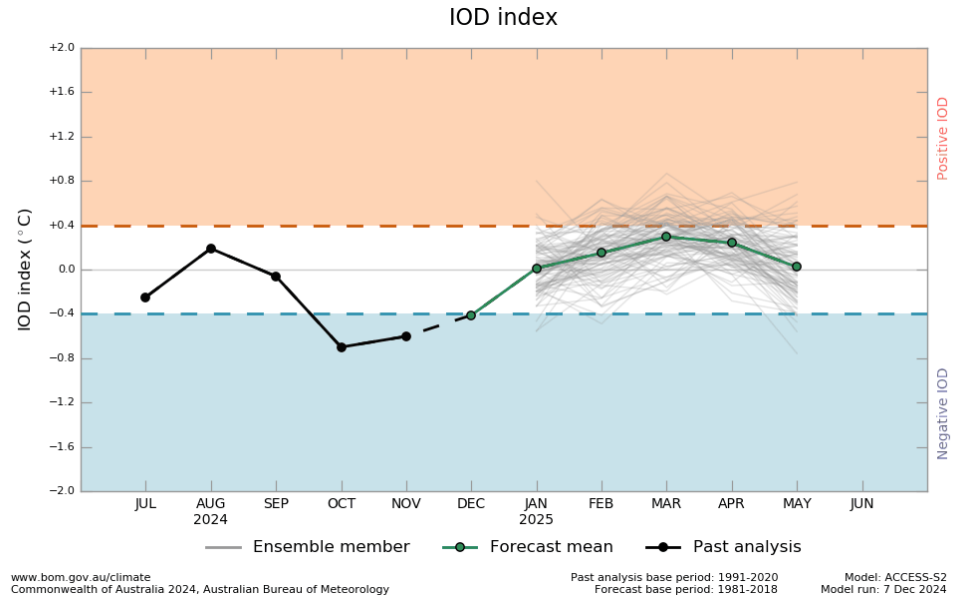


IOD Forecast

IOD forecast to remain neutral through May 2025

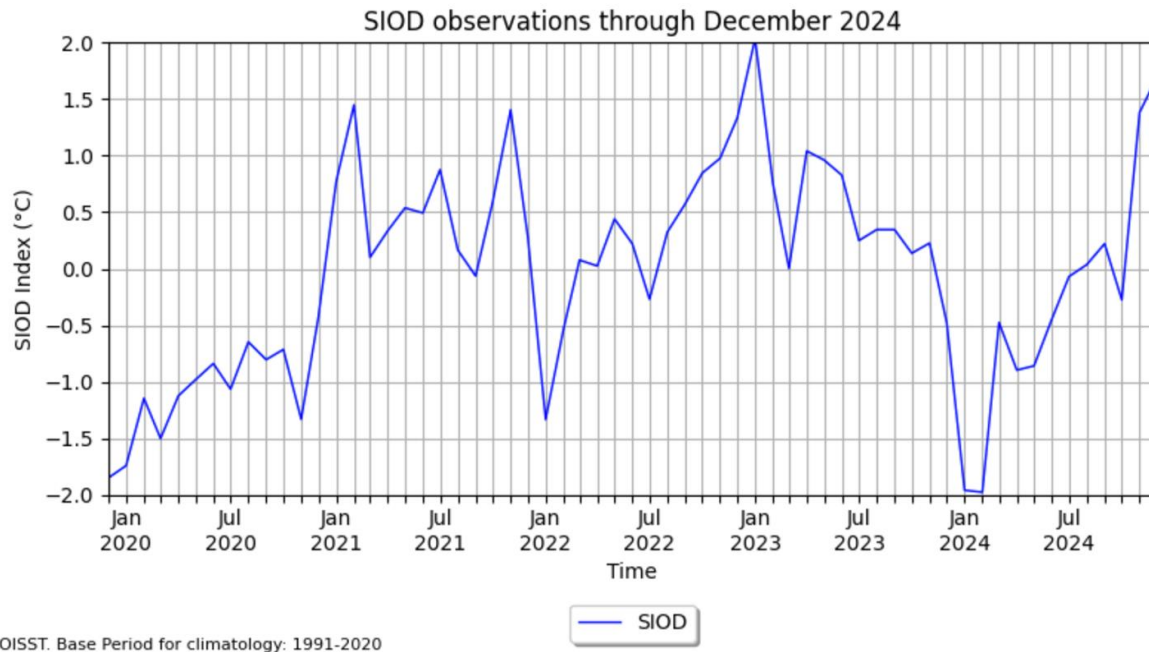
Australia Bureau of Meteorology

The Bureau's model forecasts that the IOD will remain neutral throughout the forecast period to May 2025.



Current SIOD State

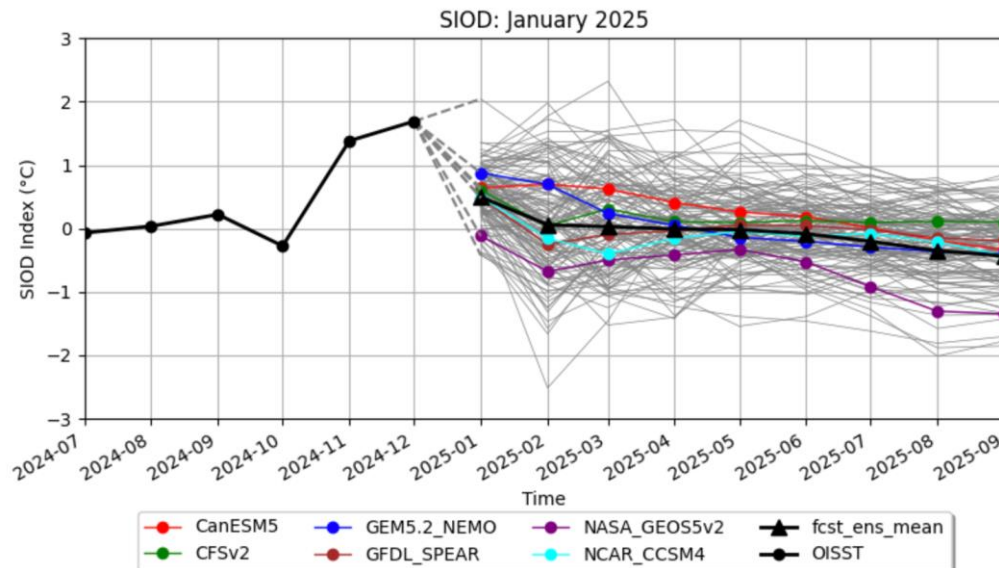
SIOD has recently transitioned to positive



OISST. Base Period for climatology: 1991-2020

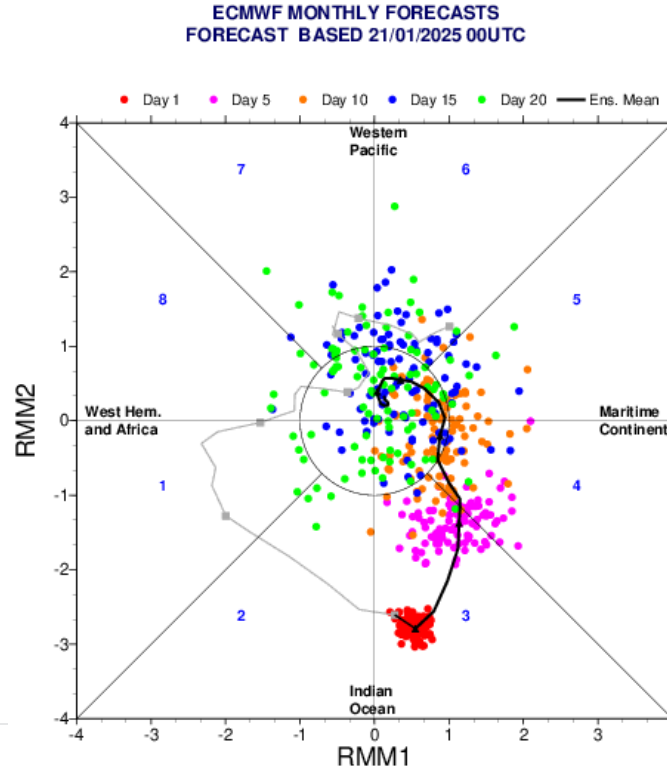
SIOD

Strongly positive, but forecast to be neutral by March



Madden-Julian Oscillation Forecast

A strong MJO event is expected to weaken as it propagates into the Maritime Continent



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Assumption 1 of 4

~~ENSO-neutral~~ La Niña conditions are present in January 2025, ~~La Niña is most likely to emerge with a close to 60 percent chance~~ and it are is expected to persist through March 2025. ~~some models forecasting through September 2025.~~ Thereafter, neutral ENSO conditions are most likely.



Assumption 2 of 4

The Indian Ocean Dipole (IOD) remains neutral through mid-2025. ~~The IOD index, below the negative threshold (-0.40 0C) for about 16 consecutive weeks.~~



Assumption 3 of 4

The subtropical Indian Ocean dipole (SIOD) is ~~neutral~~ positive but forecast to return to neutral in March 2025, and is likely to remain so through southern hemisphere summer.



Assumption 4 of 4

A moderate to strong MJO event is underway, and its evolution from the ~~Indian Ocean western hemisphere~~ to the ~~Maritime Continent Indian Ocean~~ will continue in the coming weeks.





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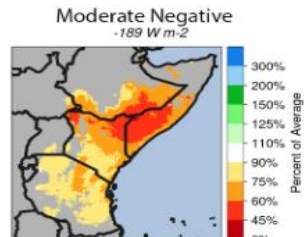
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East Africa

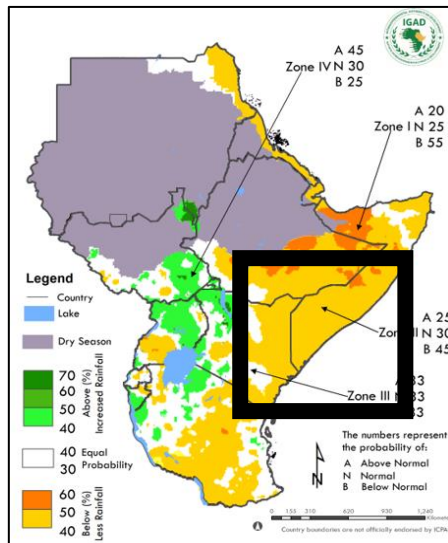
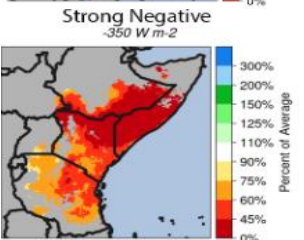
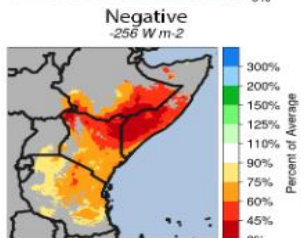
October - December 2024 Retrospective

Guidance from fall 2024 matched observed outcome in key areas

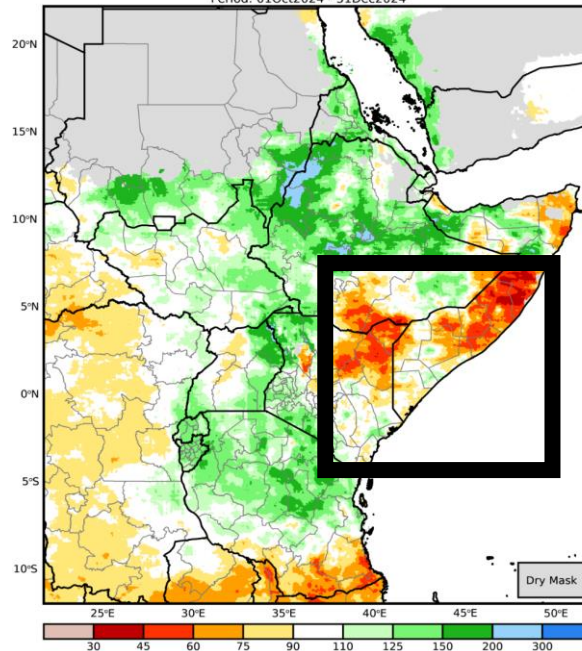
Aug



Sep

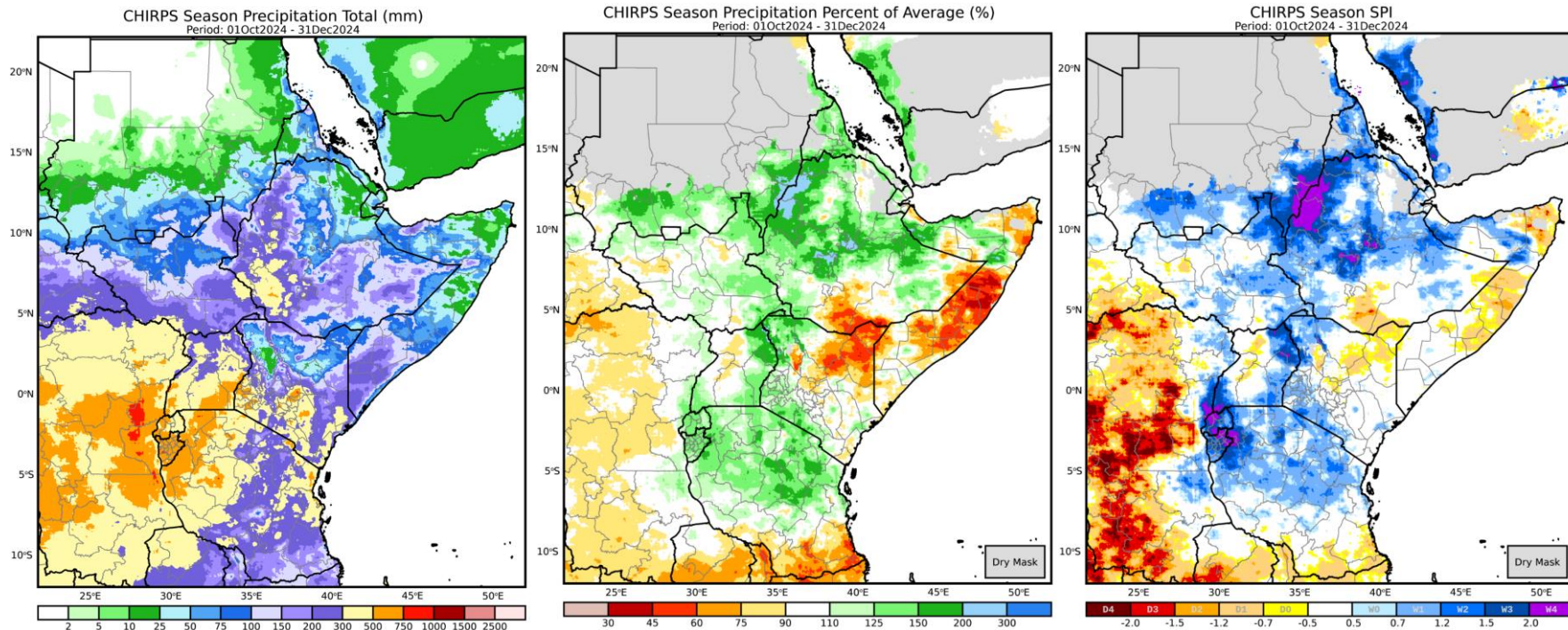


CHIRPS Season Precipitation Percent of Average (%)
Period: 01Oct2024 - 31Dec2024



October - December 2024 Precipitation

Mixed performance with substantial deficits in central Somalia and northeastern Kenya



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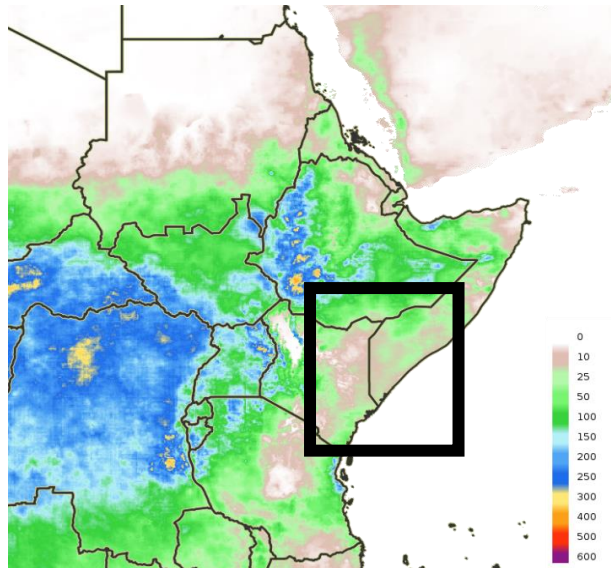


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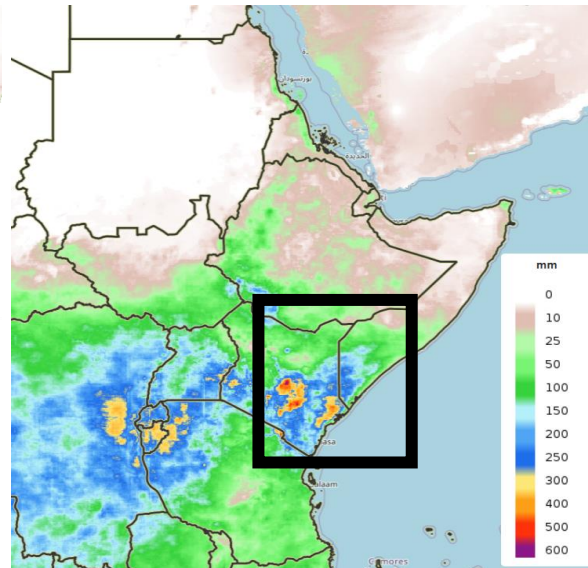
Within season precipitation evolution

Erratic, with impacts on crops and rangeland

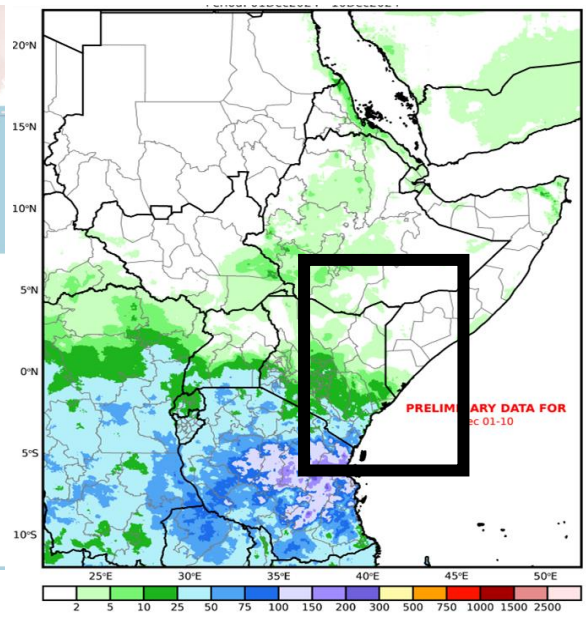
October



November



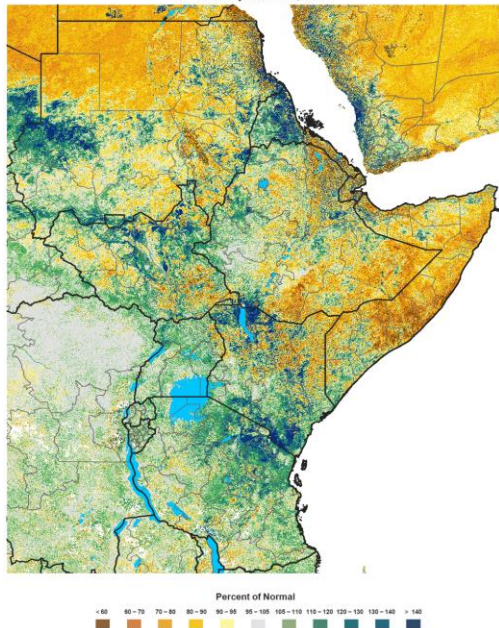
December



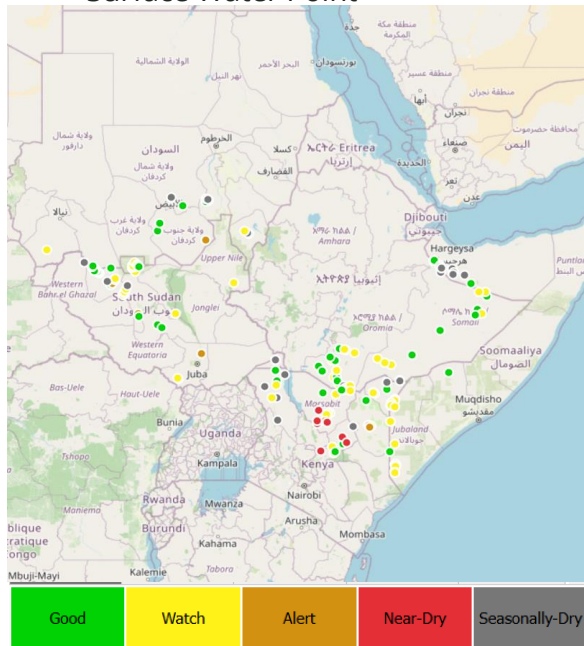
OND 2024 Precipitation Impacts

Poor cropping and vegetation conditions, surface water depletion

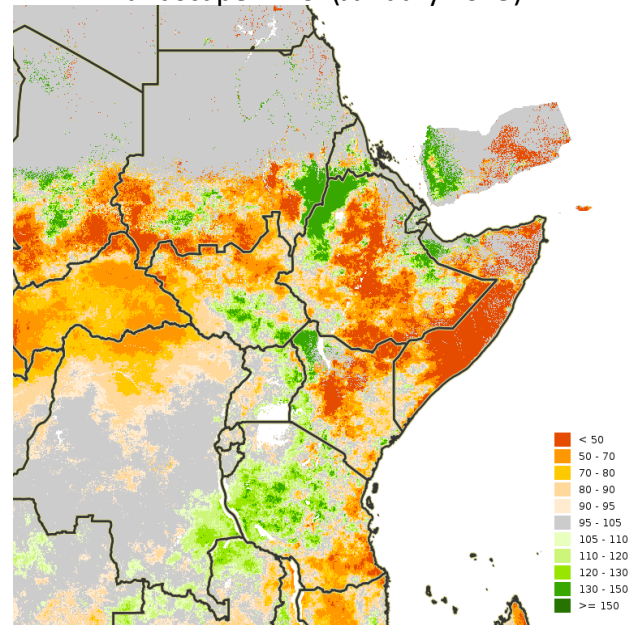
East Africa Percent of Mean NDVI
2025 / Mean (2012 - 2021)
Period 03 / Jan 06 - 15, 2025



Surface Water Point



Landscape WRSI (January 2025)

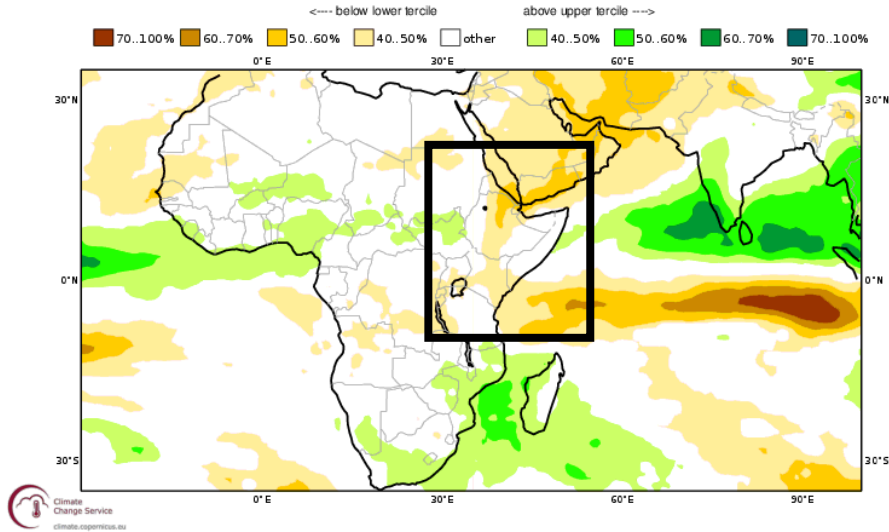


February - April 2025 Precipitation

Tilt to below average in Ethiopia, Kenya, southern Somalia

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
 Prob(most likely category of precipitation) FMA 2025

Nominal forecast start: 01/01/25
 Unweighted mean

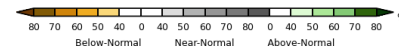
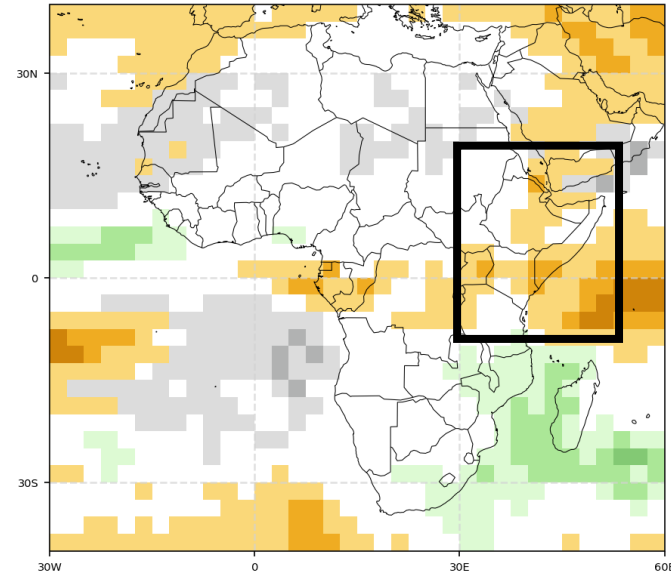


Probabilistic Multi-Model Ensemble Forecast

CMCC, CPTec, ECMWF, Exeter, Melbourne, Montreal, Moscow, Offenbach, Seoul, Tokyo, Toulouse, Washington

Precipitation : FMA2025

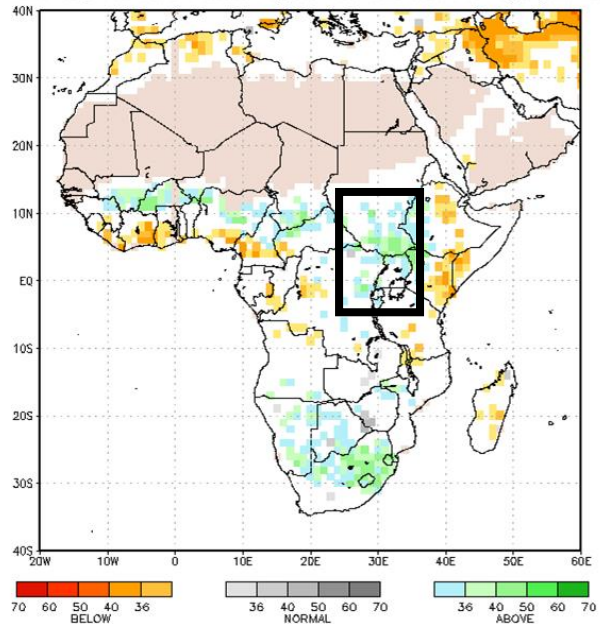
(issued on Jan2025)



March - May 2025 Precipitation

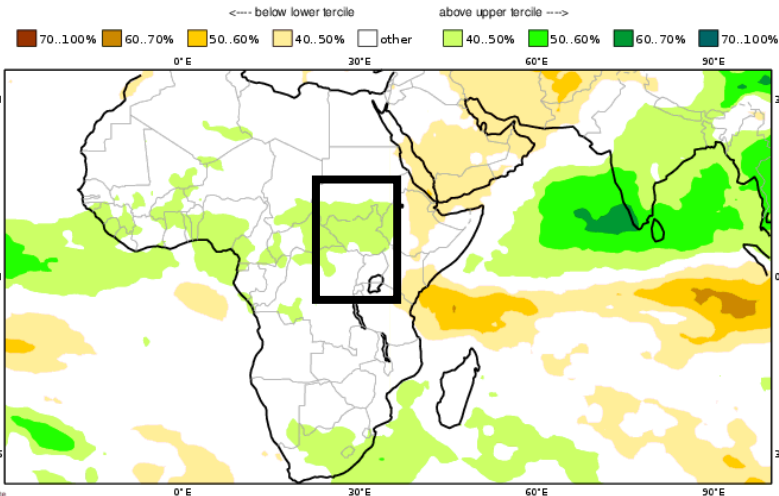
Consistent tilt towards above average in South Sudan

NMME Precip Prob. Jan1C Mar2025-May2025 Fcst Sand color: Mar-May DryClim Mask



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of precipitation) MAM 2025

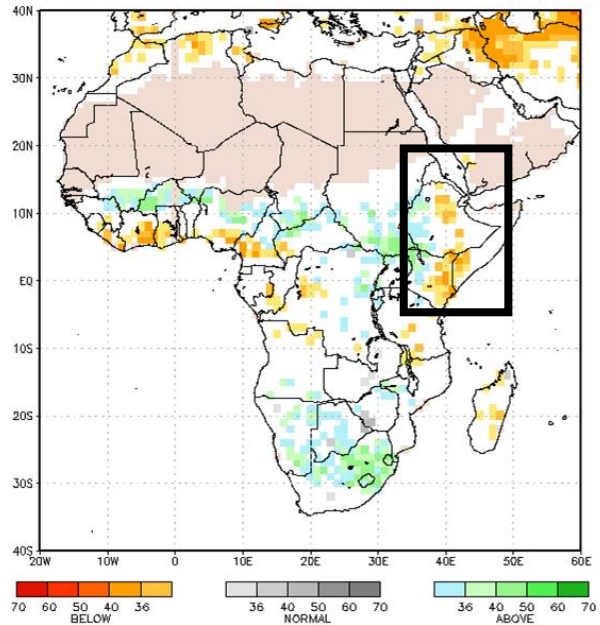
Nominal forecast start: 01/01/25
Unweighted mean



March - May 2025 Precipitation

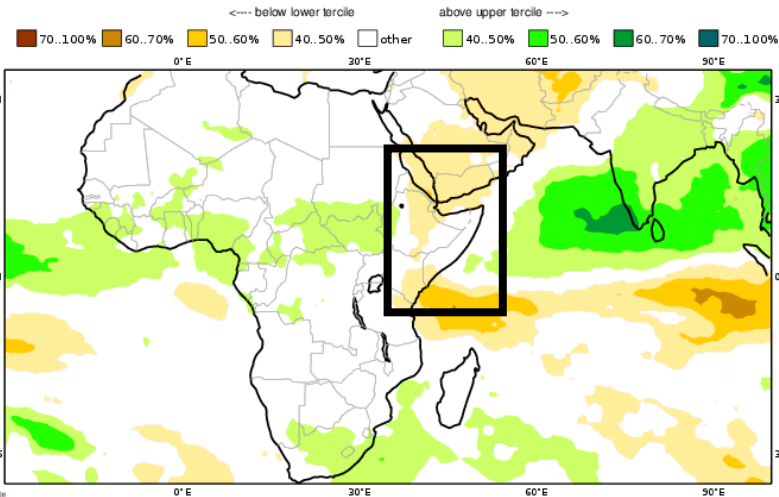
Tilt towards below average in parts of Ethiopia, Somalia, and Kenya

NMME Precip Prob. Jan1C Mar2025-May2025 Fcst Sand color: Mar-May DryClim Mask



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of precipitation) MAM 2025

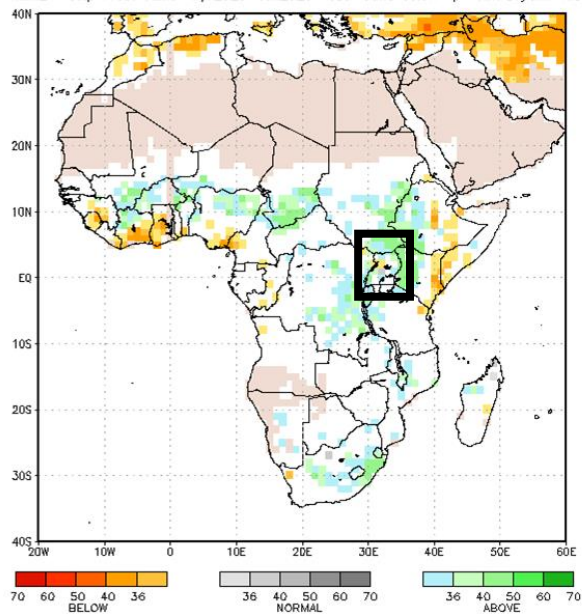
Nominal forecast start: 01/01/25
Unweighted mean



April - June 2025 Precipitation

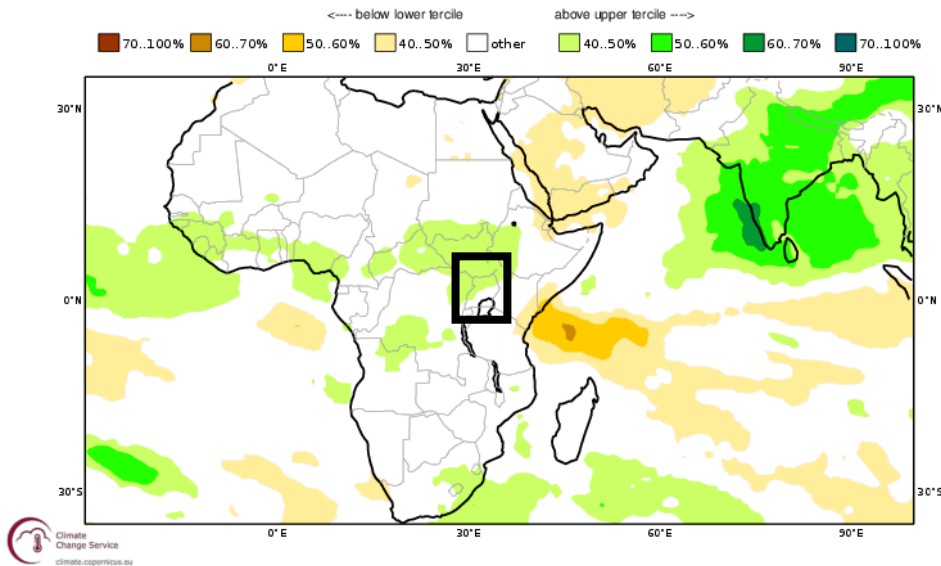
Weak tilt to above average in Karamoja, Uganda

NMME Precip Prob. Jan1C Apr2025-Jun2025 Fcst Sand color: Apr-Jun DryClim Mask



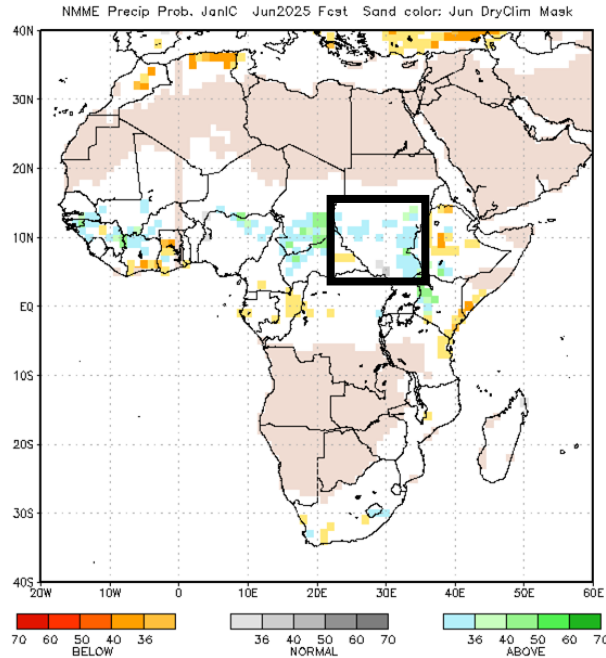
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of precipitation)
Nominal forecast start: 01/01/25
Unweighted mean

AMJ 2025



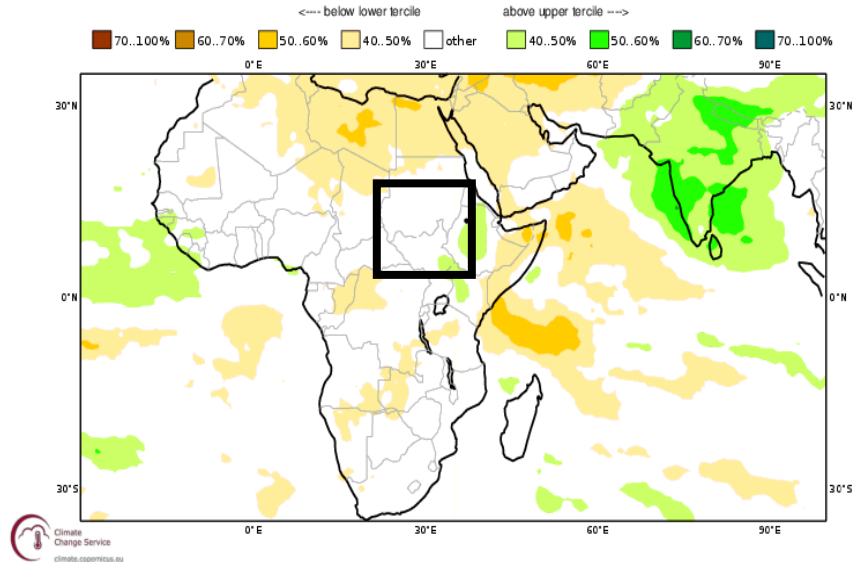
June 2025 Precipitation

No tilt in the odds over Sudan, unimodal South Sudan



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of precipitation)
Nominal forecast start: 01/01/25
Unweighted mean

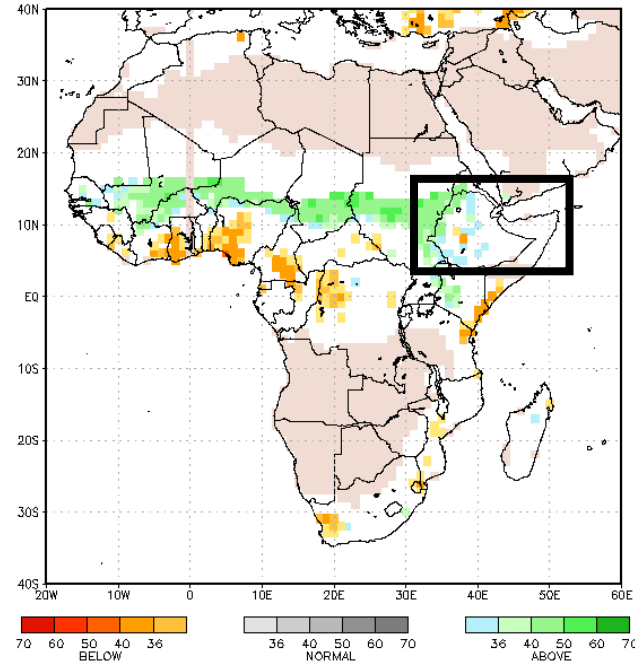
JUN 2025



June - September 2025 Precipitation

Little tilt in the odds over Ethiopia, northwestern Somalia

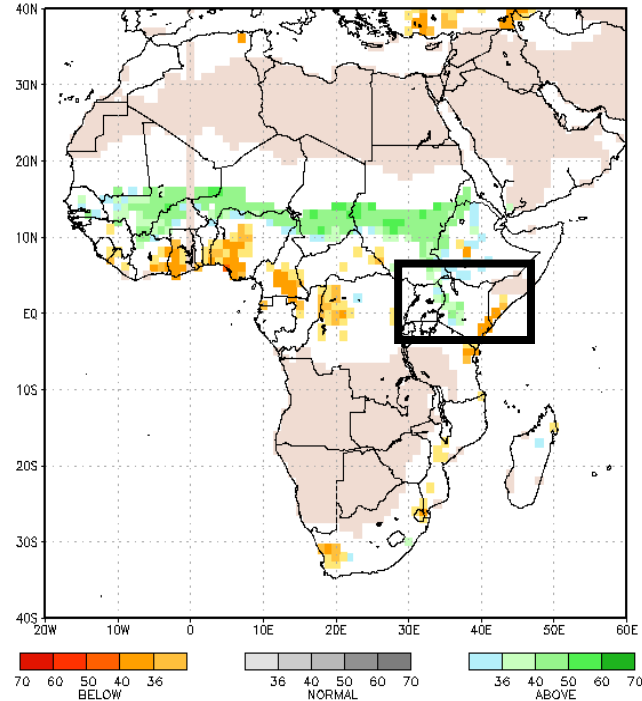
NMME Precip Prob. Jan1C Jun2025-Aug2025 Fest Sand color: Jun-Aug DryClim Mask



June - September 2025 Precipitation

Tilt towards below average in southern Somalia

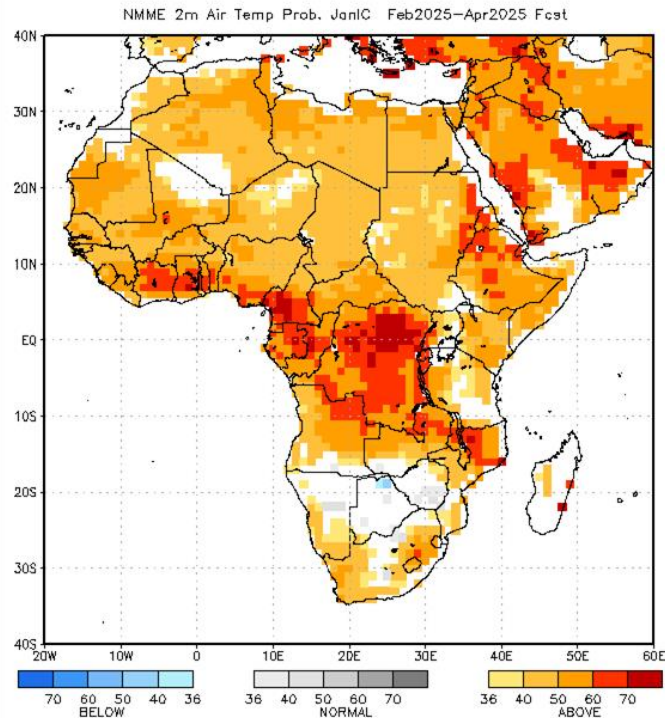
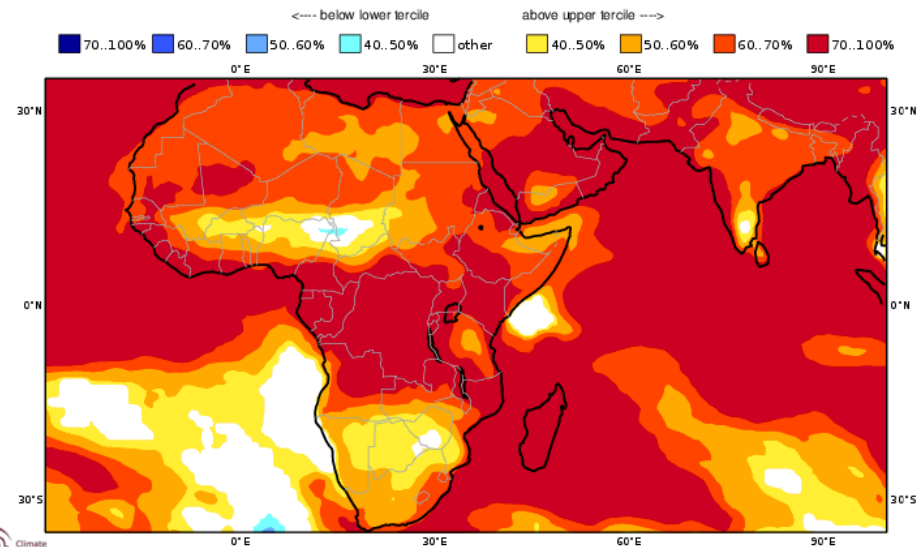
NMME Precip Prob. Jan1C Jun2025-Aug2025 Feet Sand color: Jun-Aug DryClim Mask



February - April 2025 Temperature

Above average most likely over Eastern Horn

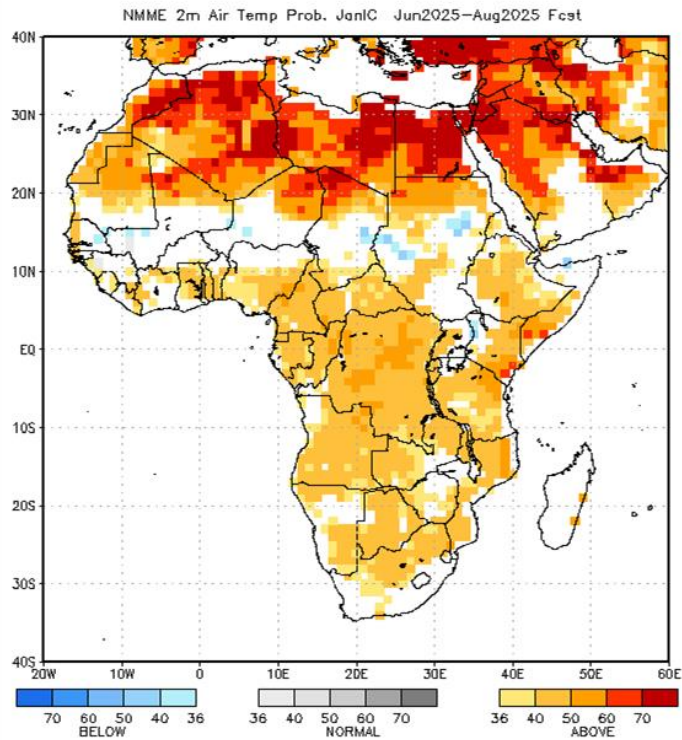
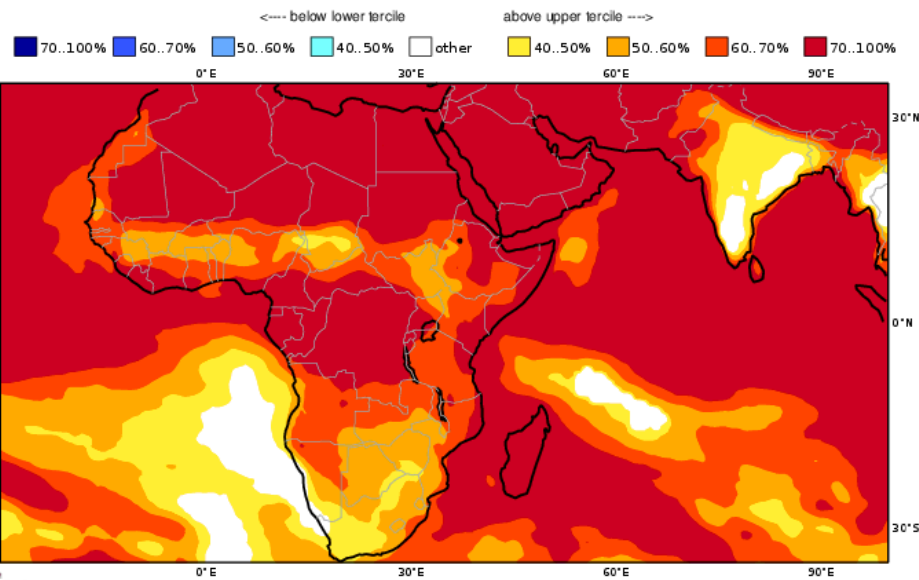
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of 2m temperature) FMA 2025
Nominal forecast start: 01/01/25
Unweighted mean



April - June 2025 Temperature

Above average most likely over most regions

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of 2m temperature) AMJ 2025
Nominal forecast start: 01/01/25
Unweighted mean



Assumption 1a of 3

Early 2025 seasons

The February-May 2025 belg rainy season in Ethiopia is likely to be below average. **No Change**



Assumption 1 b of 3

Early 2025 seasons

The March-May 2025 long rains/gu/genna season in northern and eastern Kenya, Somalia, and southern/southeastern Ethiopia is most likely to be below average. ~~Between November and April, hotter-than-normal temperatures will contribute to desiccation, further eroding pasture and water availability in the eastern Horn.~~



Assumption 1c of 3

Early 2025 seasons

The March-May 2025 diraac/sugum rains in northern pastoral areas of Ethiopia are likely to be below average. **No Change**



Assumption 1d of 3

Early 2025 seasons

1d. Based on the NMME and C3S forecasts, the March to May 2025 first-season rains in **bimodal South Sudan**, ~~bimodal Uganda and Burundi~~ are likely to be above average. *Average rainfall is anticipated for bimodal Uganda and Burundi, due to a high level of uncertainty from model forecasts.*



Assumption 2a of 3

mid-2025 seasons

The June to September kiremt rainfall season in western Ethiopia will likely be average. **No Change**



Assumption 2b of 3

mid-2025 seasons

Based on expectations for ENSO Neutral conditions, the June to September karan/karma rainfall season in northeastern Ethiopia and northwestern Somalia is assumed to be average, though there is uncertainty given the long-range nature of the forecast. Change



Assumption 2c of 3

mid-2025 seasons

The start of the June to September rainy season in **Sudan** is likely to be **above average with tendencies to average**, though there is uncertainty given the long-range nature of the forecast. **Change**



Assumption 2d of 3

mid-2025 seasons

The start of the June to September rainy season in unimodal South Sudan is likely to be average. However, there is uncertainty given the long-range nature of the forecast. **No Change**



Assumption 2e of 3

mid-2025 seasons

Based on the NMME forecast, the April-September 2024⁴⁵ unimodal rainfall season in Karamoja, Uganda, is likely to be slightly above-average, though there is uncertainty given the long-range nature of the forecast. **No Change**



Assumption 2f of 3

mid-2025 seasons

The July to September haggaa rains in southern Somalia are assumed to be ~~below~~ average. However, notable uncertainty exists given the long lead time.

Change



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Assumption 3 of 3

Non-rainfall assumptions

Above-average temperatures are most likely through at least ~~September~~
~~August~~ 2025 for most of the Eastern Horn.





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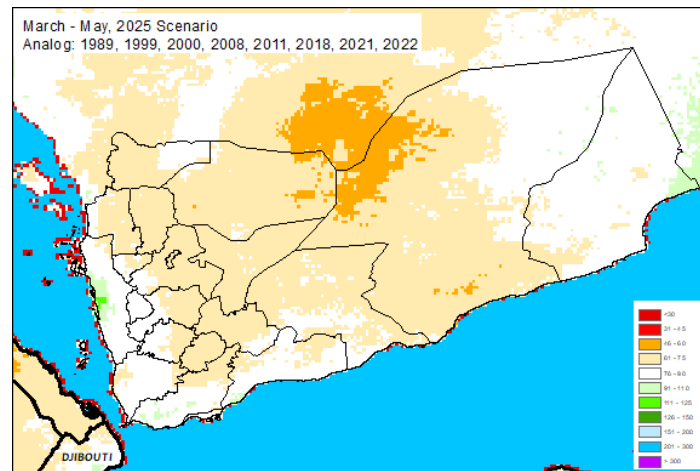
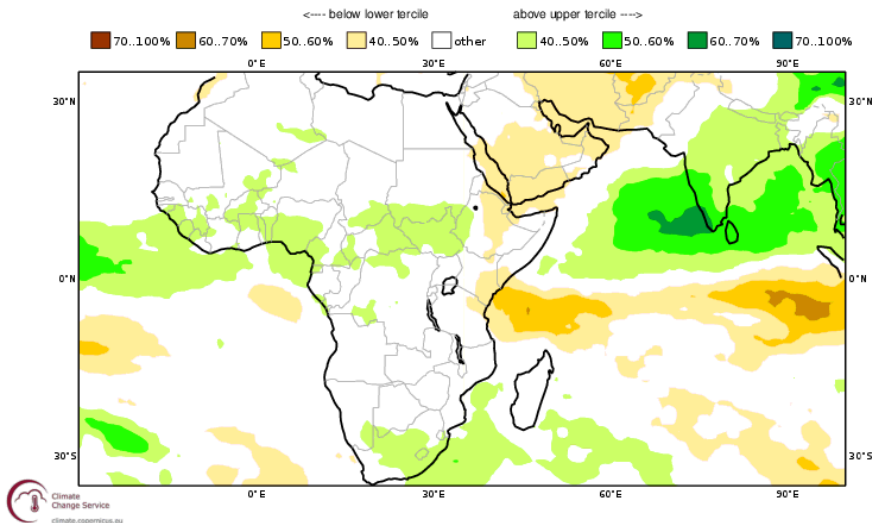
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Yemen

March - May 2025 Precipitation

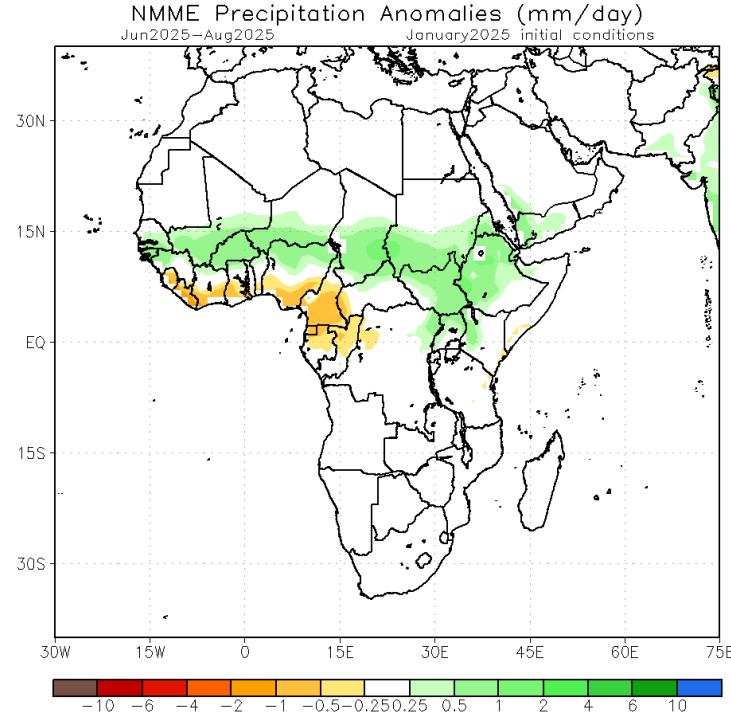
Consistent tilt towards below average

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECMWF
Prob(most likely category of precipitation) MAM 2025
Nominal forecast start: 01/01/25
Unweighted mean



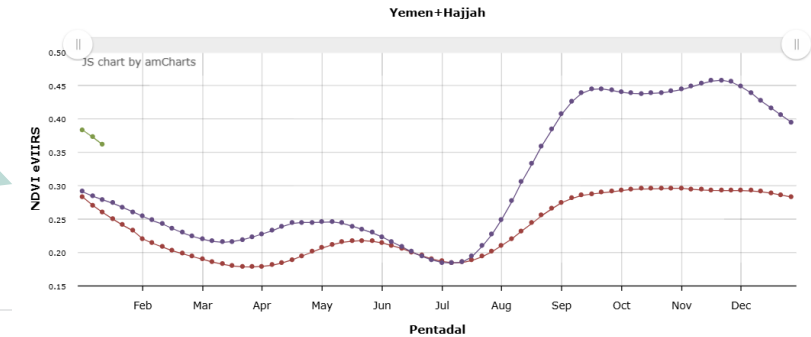
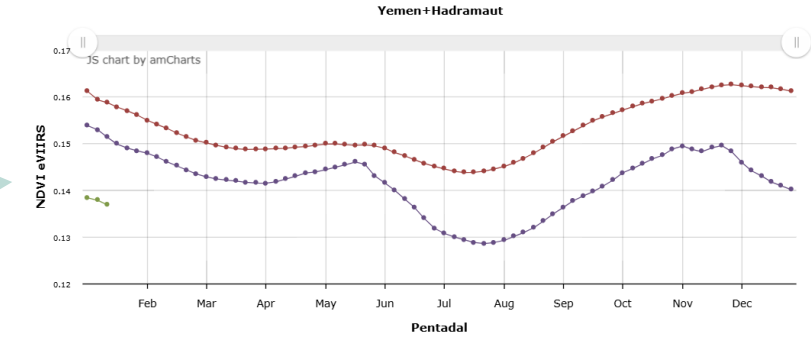
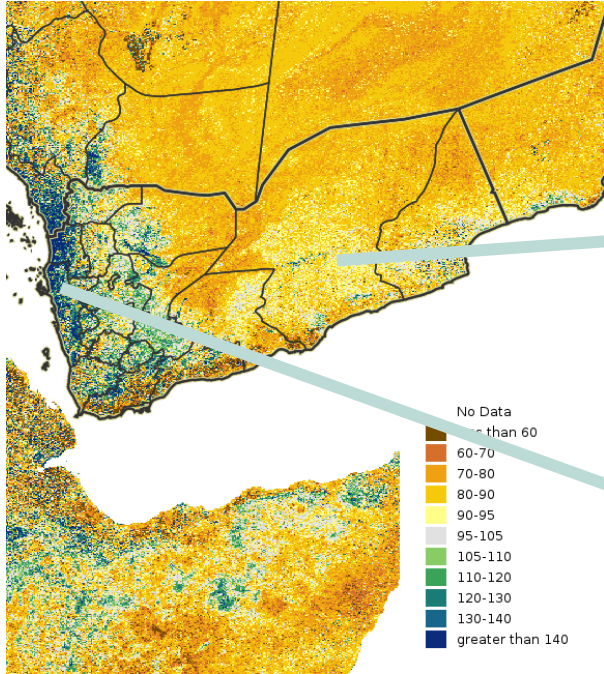
June - August 2025 Precipitation

Tilt in the odds to above average



Vegetation Conditions

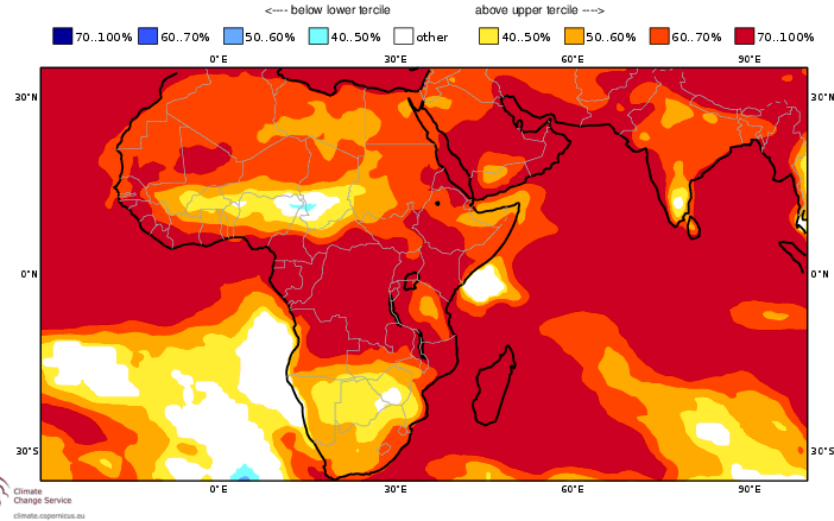
Mixed, with declines expected during dry season



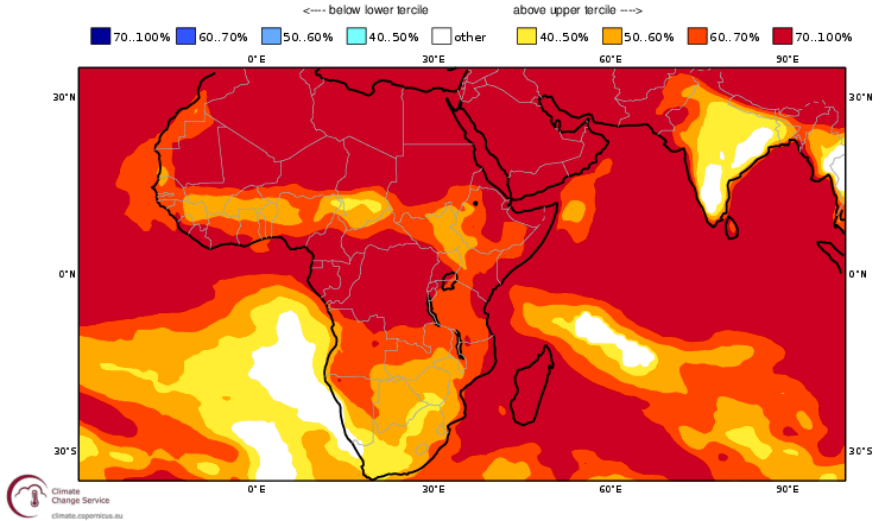
February - June Temperature Forecast

Above average most likely

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of 2m temperature) FMA 2025
Nominal forecast start: 01/01/25
Unweighted mean



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of 2m temperature) AMJ 2025
Nominal forecast start: 01/01/25
Unweighted mean



Assumption 1 of 3

No Change

Based on ensemble forecasts and historical trends, below-average cumulative rainfall is most likely in Yemen's March to May 2025 first rainy season, followed by average rainfall in the July to October second rainy season.



Assumption 2 of 3

~~Although currently above average, through February 2025,~~ vegetation conditions are expected to decline ~~seasonally~~ rapidly during the typical dry period, approaching levels closer to average in highland areas and average to below-average in lowland areas given that above-average temperatures will likely accelerate typical seasonal deterioration. Vegetation conditions will then slightly improve during Yemen's March to May 2025 first rainy season and the July to September 2025 second rainy season, resulting in average ~~to slightly below~~

Assumption 3 of 3

No Change

Above-average temperatures are most likely across the country through September 2025.





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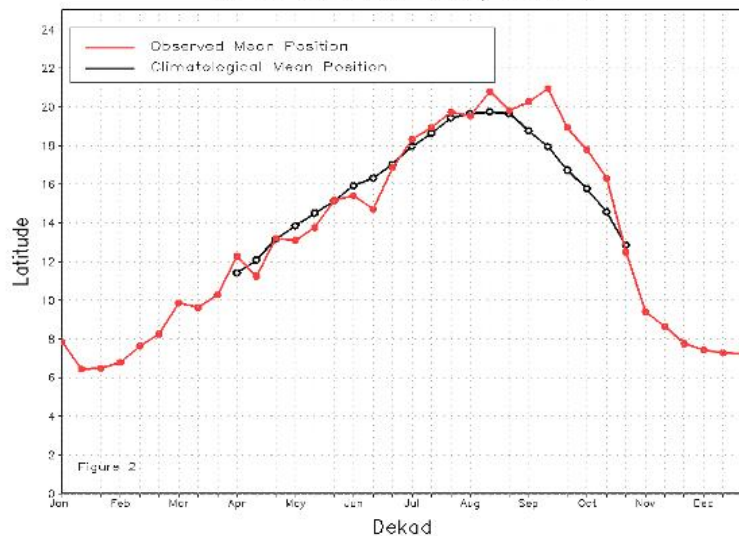
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West Africa

Western ITF

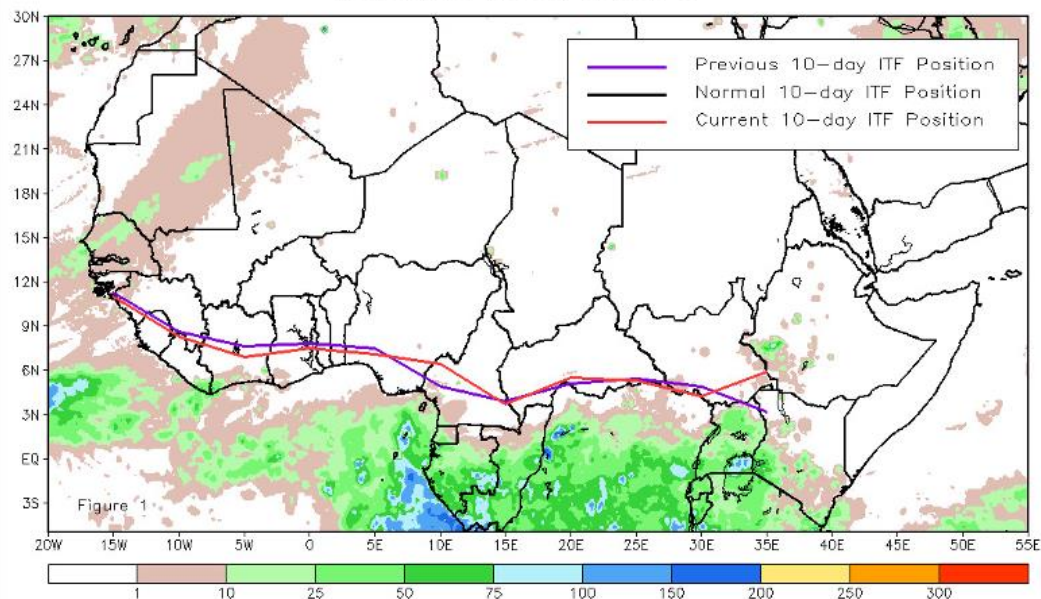
Reaching its southernmost extent

Mean Western Portion of the ITF: Averaged 10W to 10E
As of: December 2024, Dekad 3



Current vs. Normal Dekadal ITF Position
and RFE Accumulated Precipitation (mm)

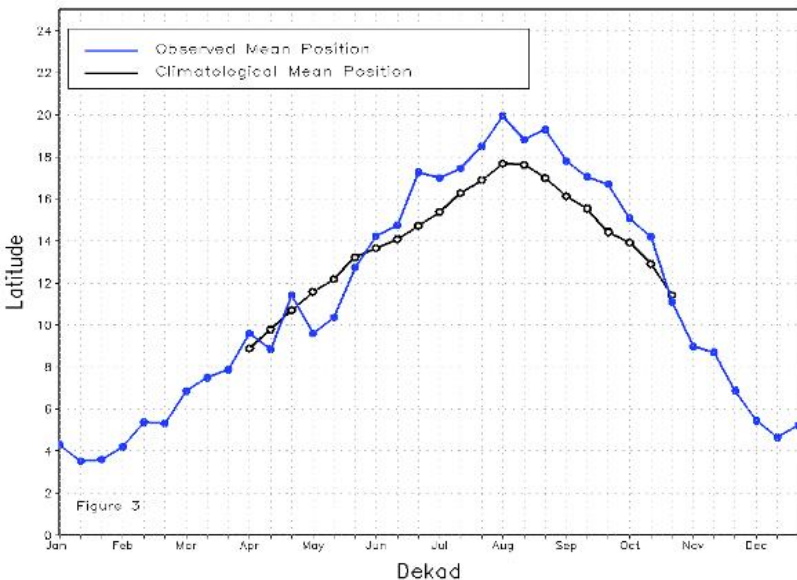
December 2024, Dekad 3



Eastern ITF

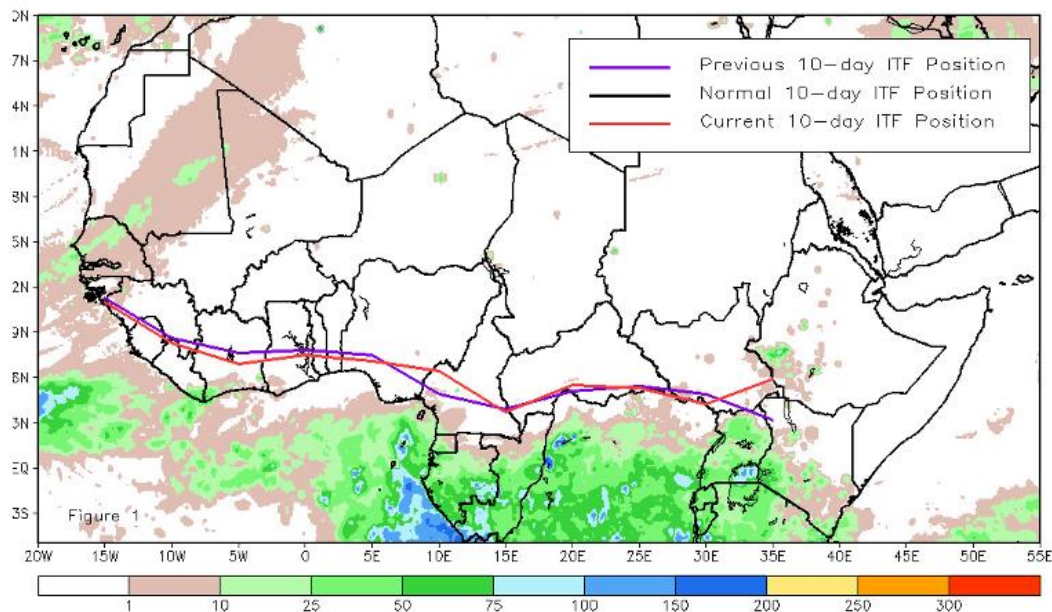
Initial shift northward

Mean Eastern Portion of the ITF: Averaged 20E to 35E
As of: December 2024, Dekad 3



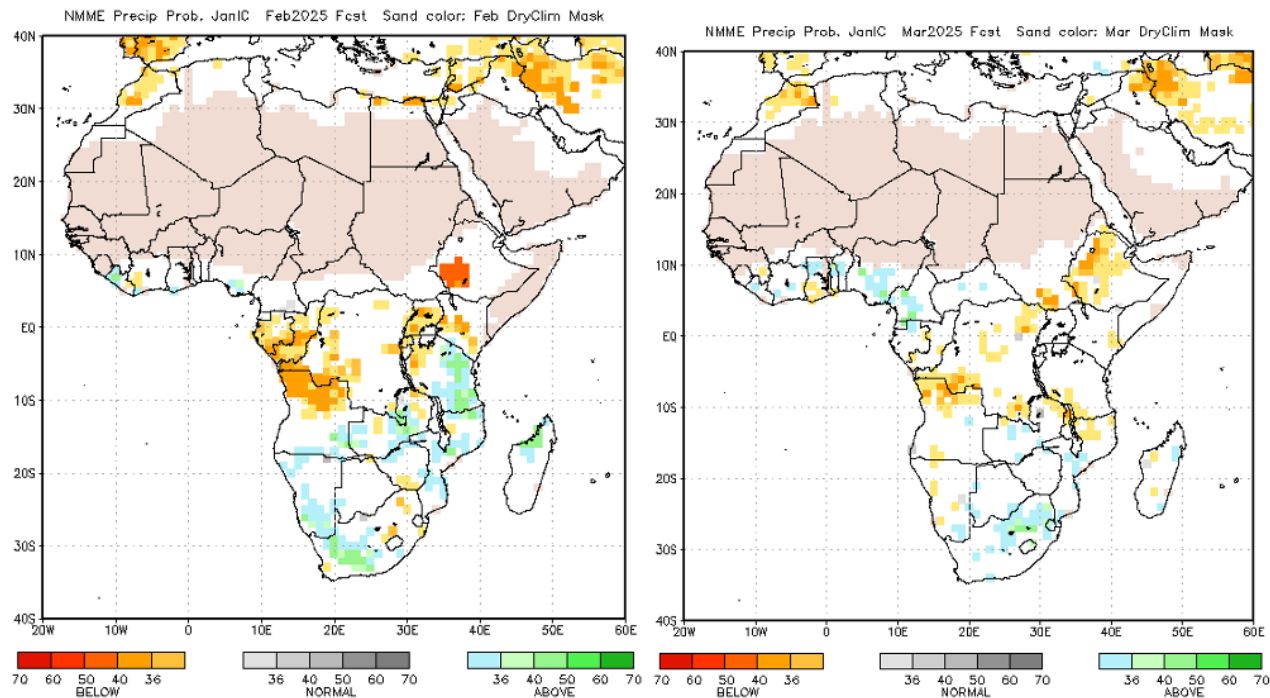
Current vs. Normal Dekadal ITF Position
and RFE Accumulated Precipitation (mm)

December 2024, Dekad 3



Start of Season

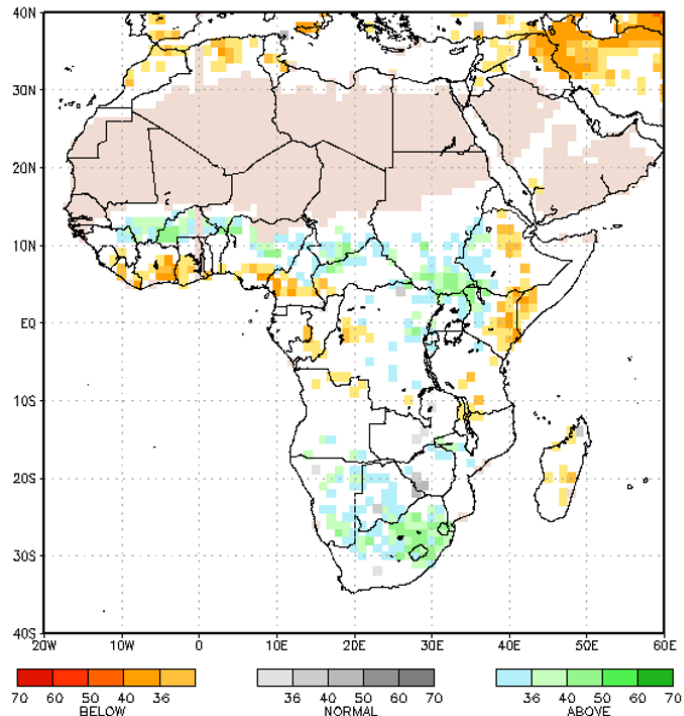
No tilt in the odds



March - May 2025 Precipitation Forecast

Tilt to below average in Gulf of Guinea and bimodal zones

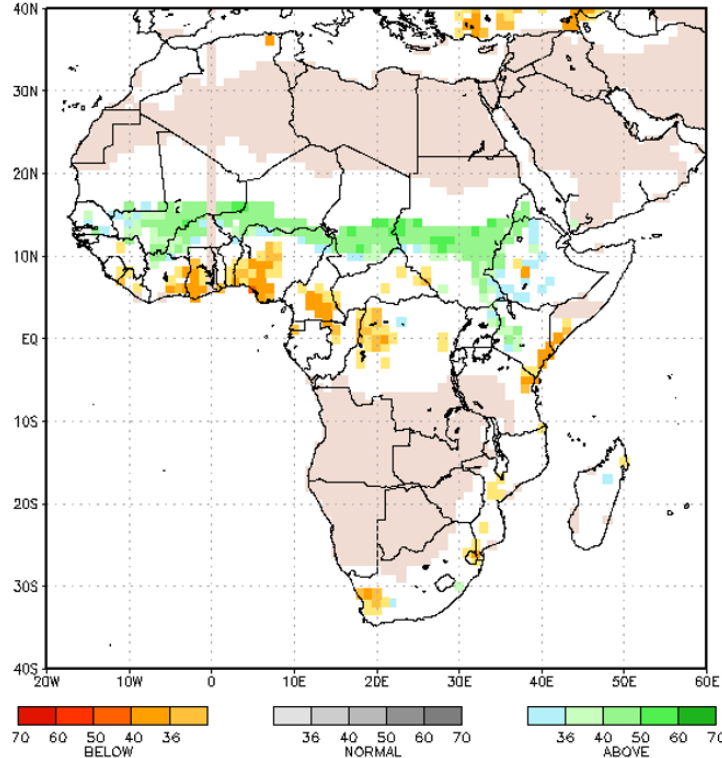
NMME Precip Prob. Jan1C Mar2025-May2025 Fcst Sand color: Mar-May DryClim Mask



June - August 2025 Precipitation Forecast

High probability of above average to average in the Sahel

NMME Precip Prob. Jan10 Jun2025-Aug2025 Fcst Sand color: Jun-Aug DryClim Mask



Assumption 1 of 3

Start of the 2025 Season

- A. The 2025 rainy season is anticipated to begin on time, following the timely ascent of the ITCZ. **No Change**

- B. Rainfall is expected to begin in March in bimodal areas. **No Change**



Assumption 2 of 3

March-May 2025 Rainfall

- A. March-May 2025 rainfall is anticipated to be below average in the Gulf of Guinea and bimodal zones, including **Sierra Leone, Liberia**, southern Côte d'Ivoire, Ghana, southern Nigeria, and bimodal Cameroon. **Change**
- B. In northern Nigeria, rainfall is anticipated to begin on time in May 2025.

No Change



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Assumption 3 of 3

June-August 2025 Rainfall

Average to above average rainfall is forecast over the Sahel from June to August, however, long lead time reduces confidence in the forecast.

No Change





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USGS
science for a changing world

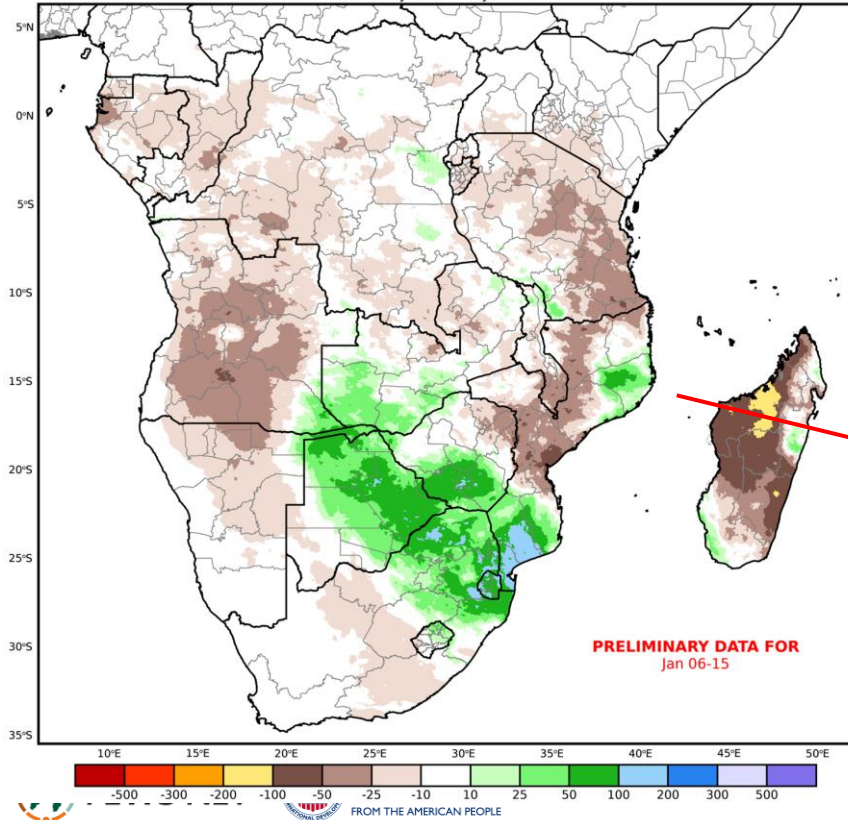


Climate
Hazards
Center
UC SANTA BARBARA

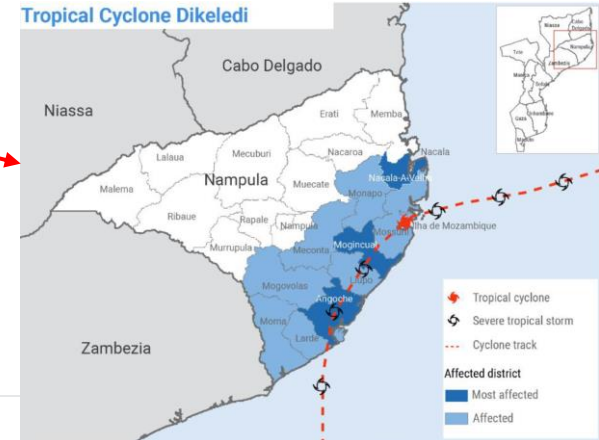
Southern Africa

TC Dikeledi

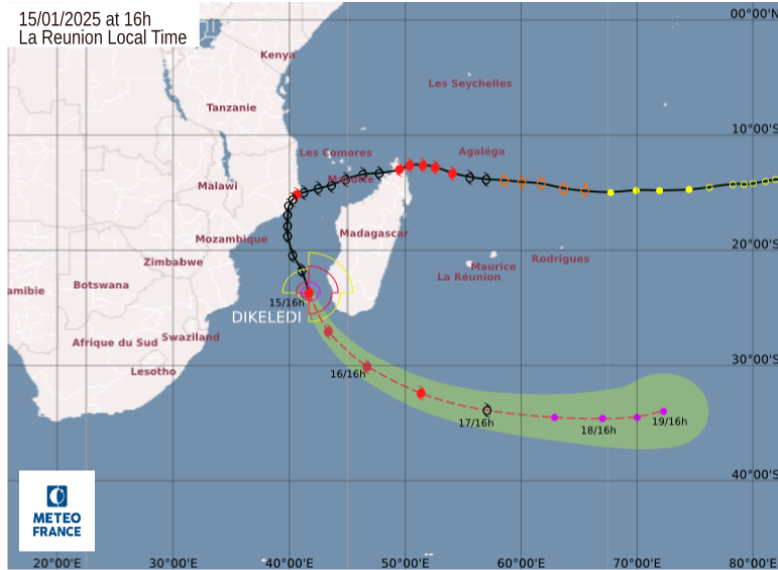
CHIRPS 2-Pentad Total Rainfall Anomaly (mm)
Period: 06Jan2025 - 15Jan2025



- Rainfall: 6 – 15 Jan
- Rainfall generally consistent with earlier patterns
- Some improvement in the central areas
- TC Dikeledi affected MZ and MG

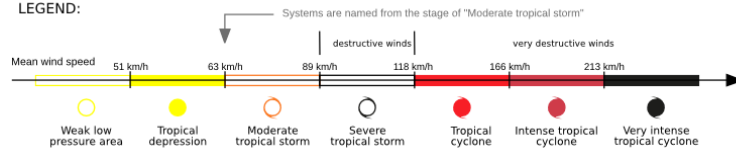


TC Dikeledi

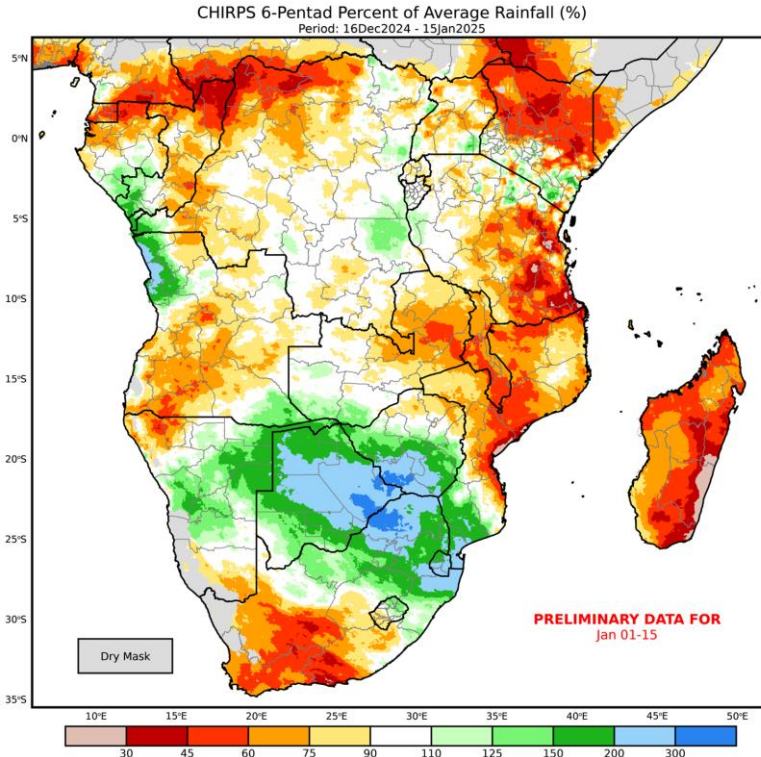


- Affected northern and southern Madagascar; northern Mozambique

LEGEND:



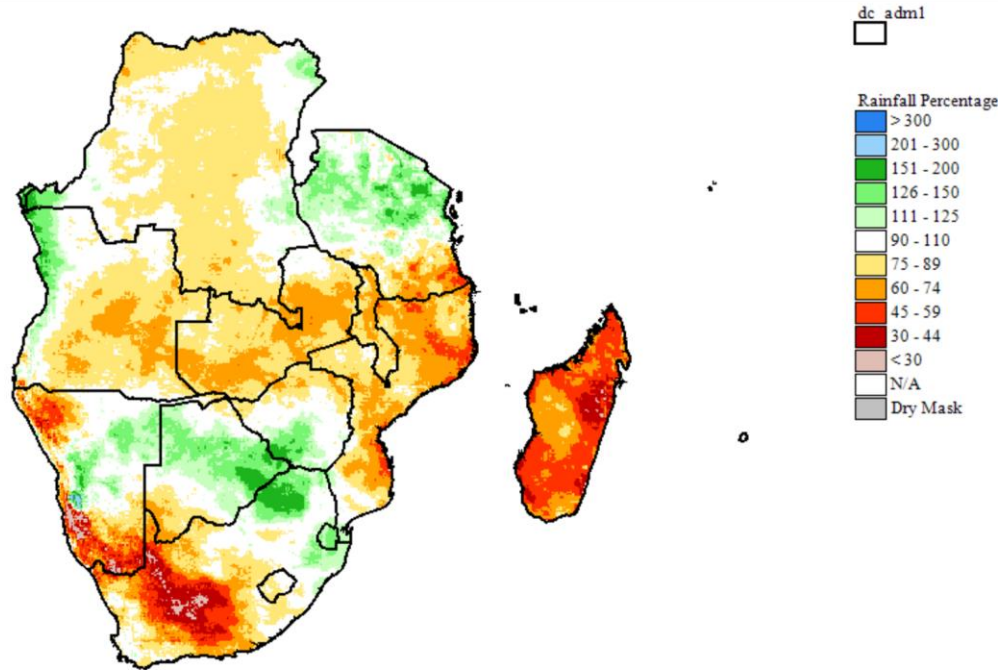
Recent precipitation



- Rainfall: 16 Dec – 15 Jan
- Significant rainfall received in southern areas. Reports of flooding in some areas
- Rainfall was still low in north-eastern areas

1 August - 10 January Precipitation

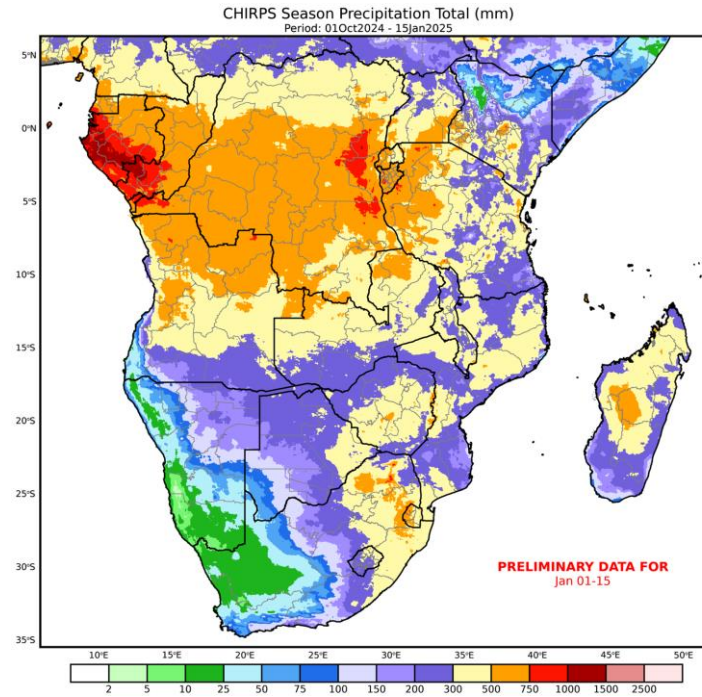
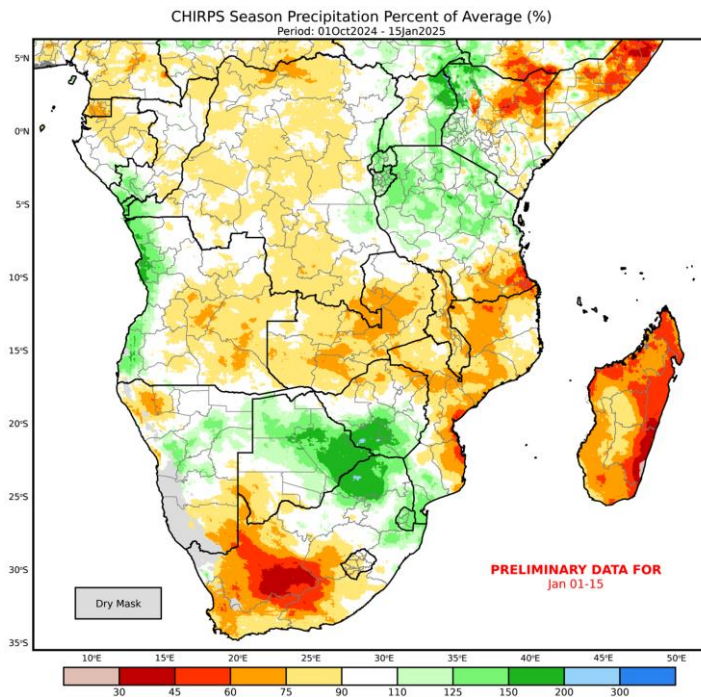
Weak negative anomalies for DRC



Sadc Percent of Mean Rainfall for 1 August 2024 to 10 January 2025

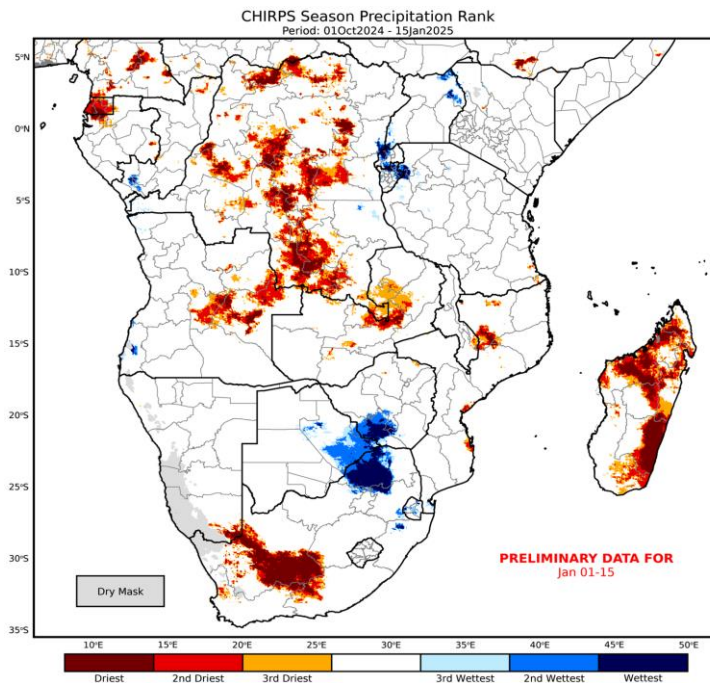
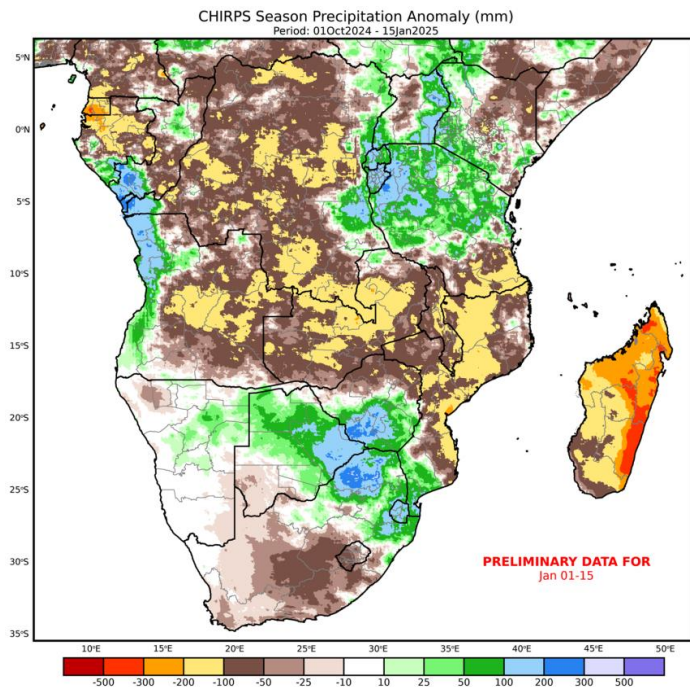
October - mid January Precipitation

Mixed performance with wet and dry extremes observed



October - mid January Precipitation

Mixed performance with wet and dry extremes observed

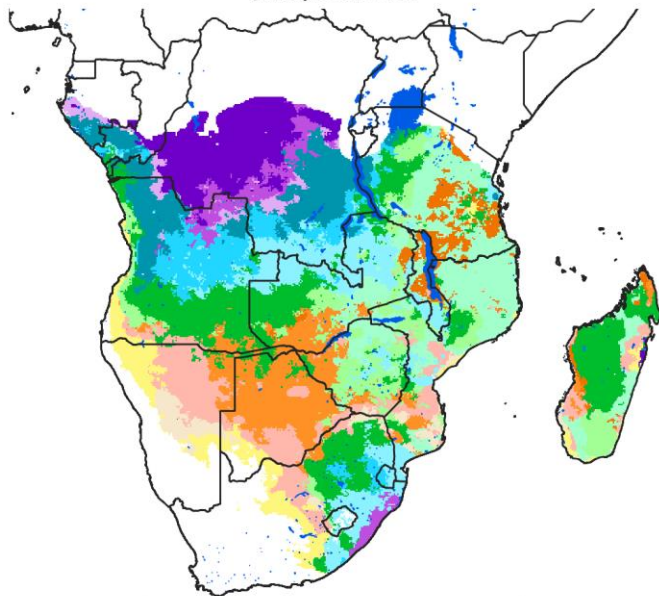


Onset of rains late and/or erratic in many areas

Delayed by >30 days in some areas

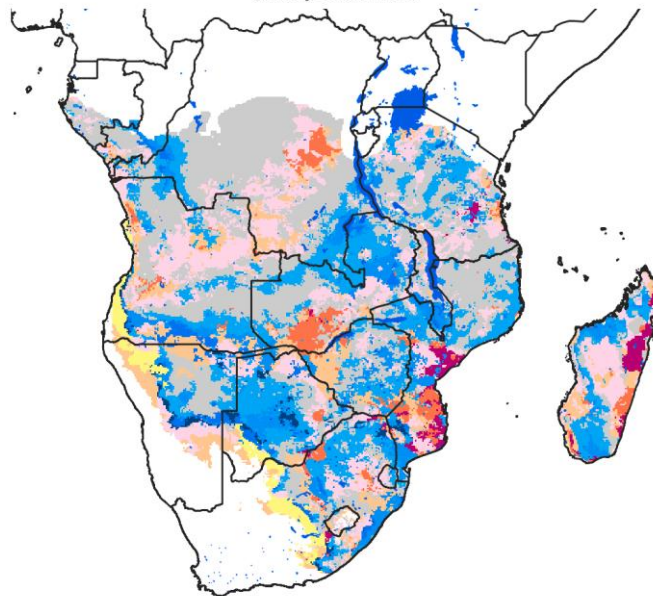
Onset of Rains Current

January Dekad 1 2025



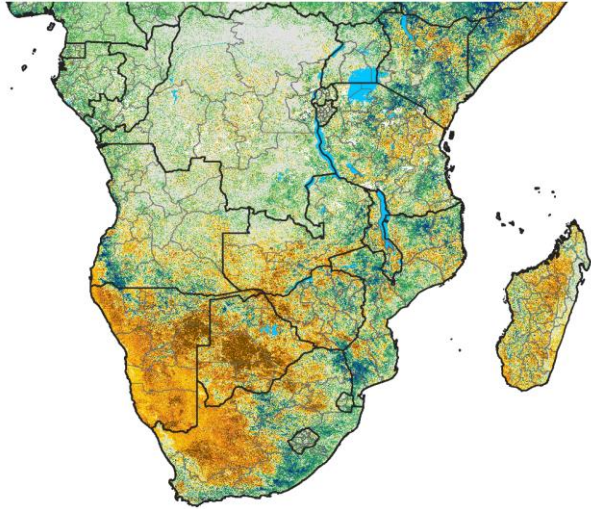
Onset of Rains (SOS) Anomaly

January Dekad 1 2025

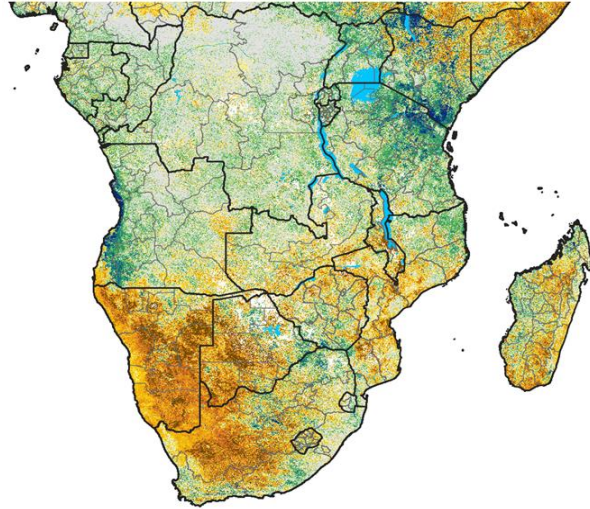


Improvement in vegetation where rains received.

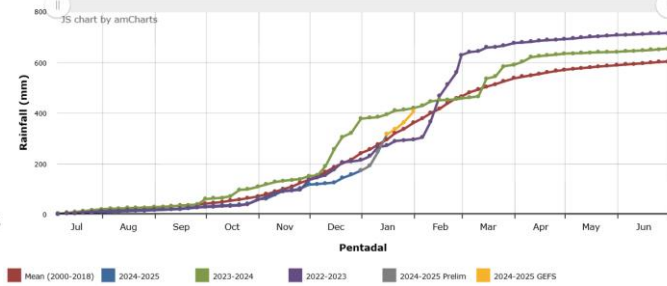
Southern Africa
Percent of Mean NDVI
 2024 / Mean (2012 - 2021)
 Period 68 / Dec 01 - 10, 2024



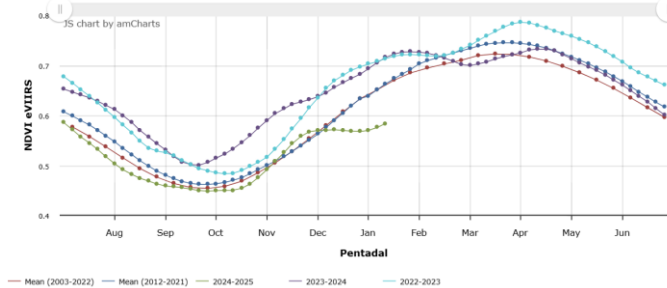
Southern Africa
Percent of Mean NDVI
 2025 / Mean (2012 - 2021)
 Period 03 / Jan 06 - 15, 2025



Mozambique+Gaza



Mozambique+Gaza



Map Produced by USGS/EROS

Source: eVIIRS 375m



Map Produced by USGS/EROS

Source: eVIIRS 375m

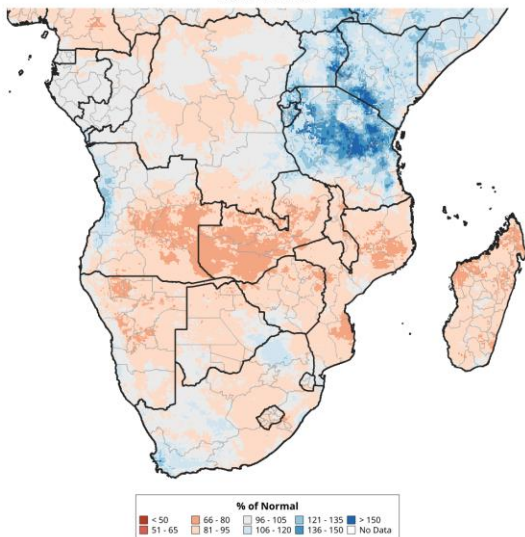


Soil moisture and WRSI

Lower values where precipitation deficits are greatest

Soil Moisture (0-100 cm) Percent Anomaly

December 2024



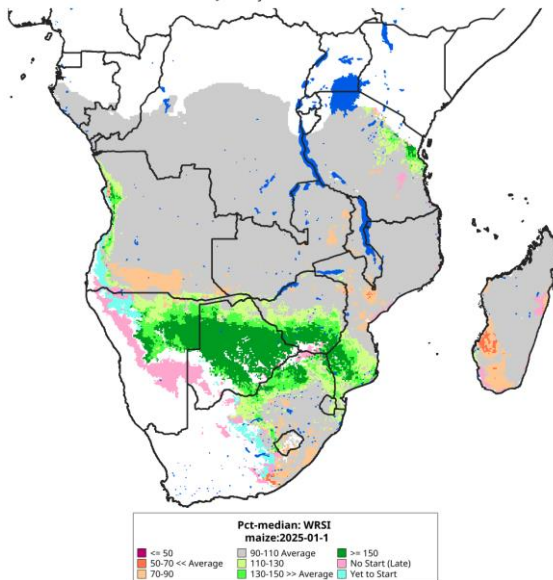
Map Produced by USGS/EROS

Source: version [orelim](#)

Extended WRSI: Percent of Median

WRSI Extended Anomaly (% Median)

January Dekad 1 2025

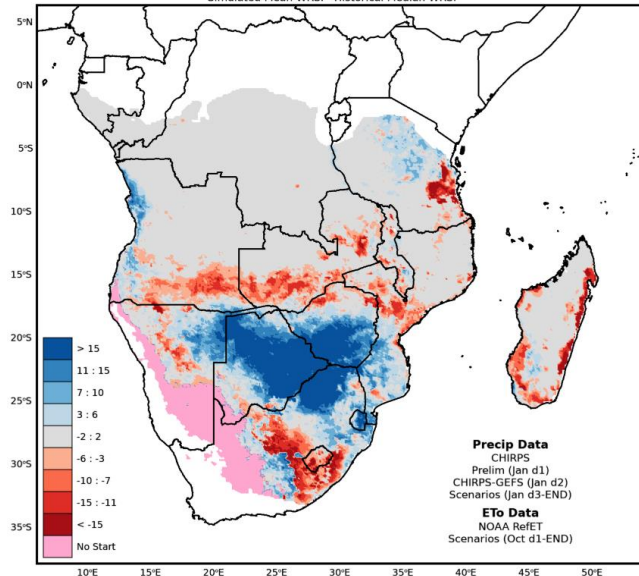


Map Produced by USGS/EROS

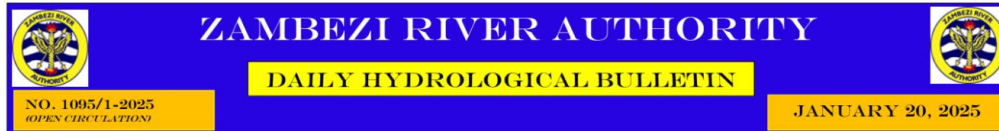
Source: version [orelim](#)

WRSI Outlook Anomaly: Difference from Median

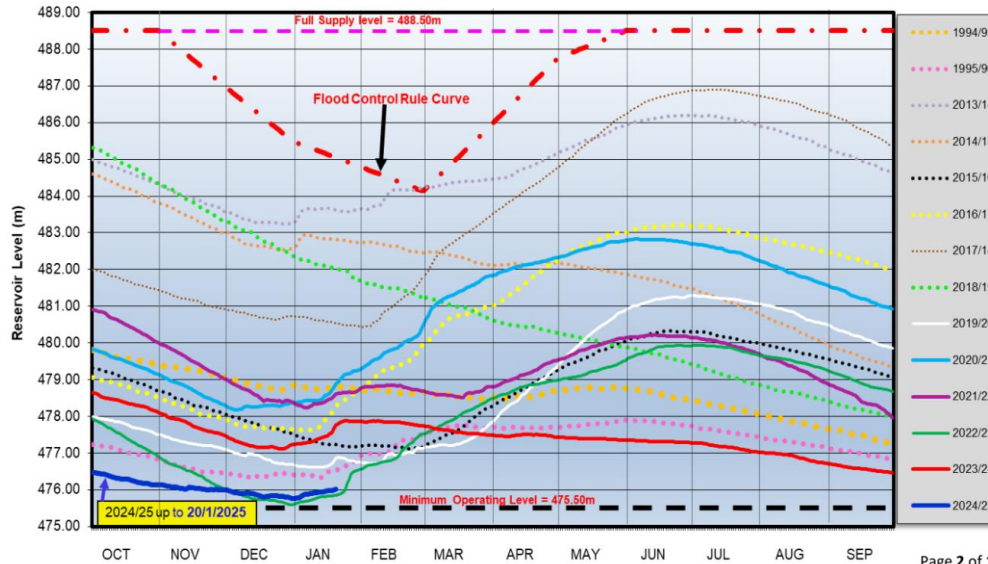
2024 WRSI Outlook Anomaly
Simulated Mean WRSI - Historical Median WRSI



Kariba close to minimum operating levels



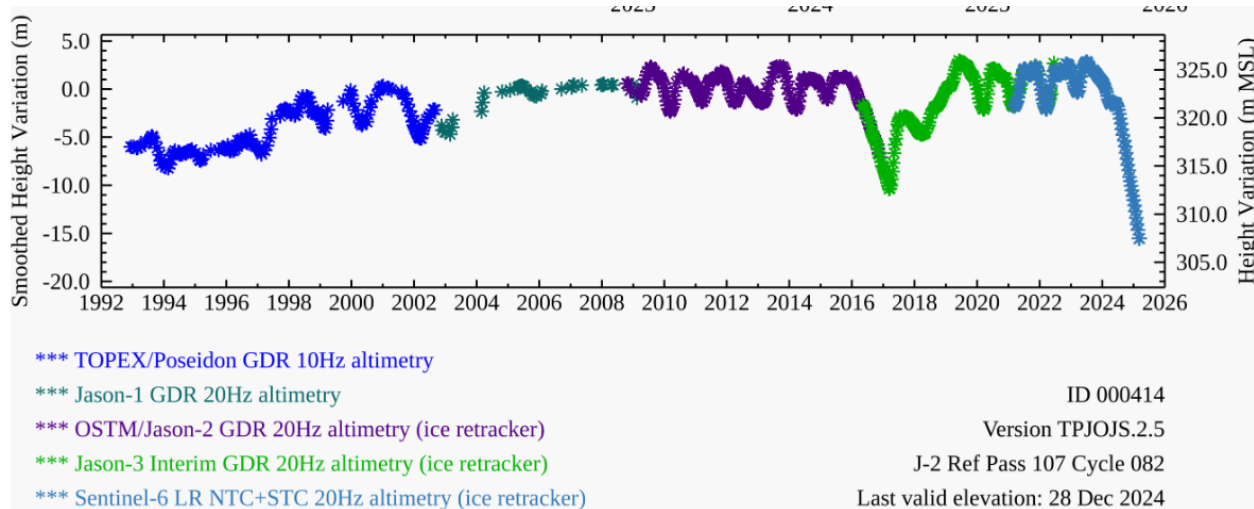
KARIBA RESERVOIR
 Comparison of Daily Reservoir Levels
(Faint-lined / Dashed Hydrographs added to provide Historical Benchmarking)



Low levels affecting electricity generation Zambia and Zimbabwe ☐ irrigation

Disclaimer: This Daily Hydrological Bulletin is privileged information for those intended. If you are not the intended recipient or wish to share this bulletin in part or whole, please seek permission from the Chief Executive, Zambezi River Authority at info@zambezi.org or Telephone # +260 211 226950 / 220241. The Authority takes no responsibility for incorrect data or information circulated by any means whatsoever without this engagement.

Cahora Bassa at record lows

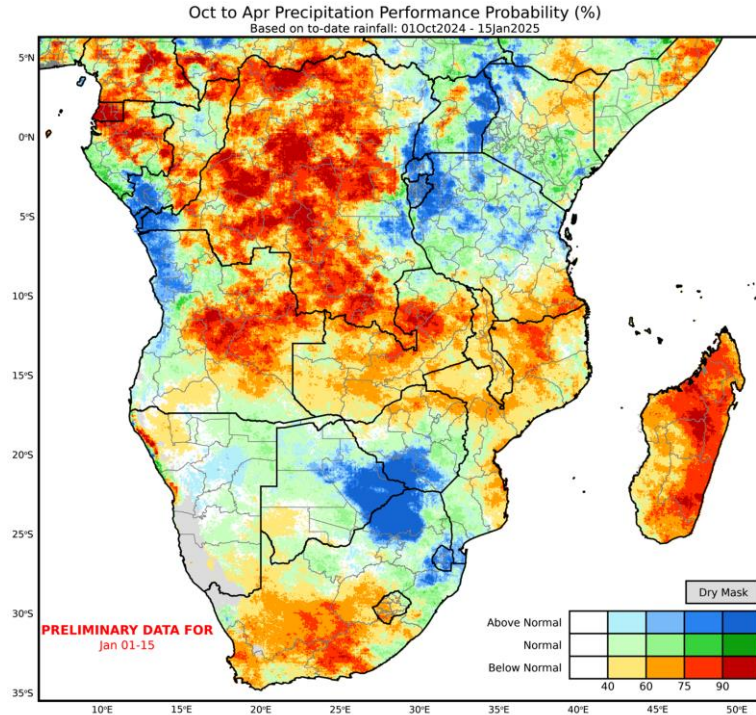


Cahora Bassa major supplier for Mozambique, which exports to 7 countries in southern Africa

Source: USDA FAS G-REALM

Oct - April 2025 Performance based on precipitation to date

Influence of recent precipitation is evident



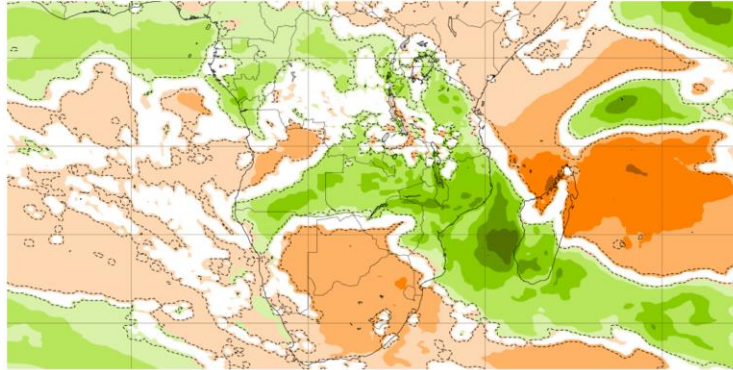
Weekly Precipitation Forecast

Relief in northern and central regions, dry in the south

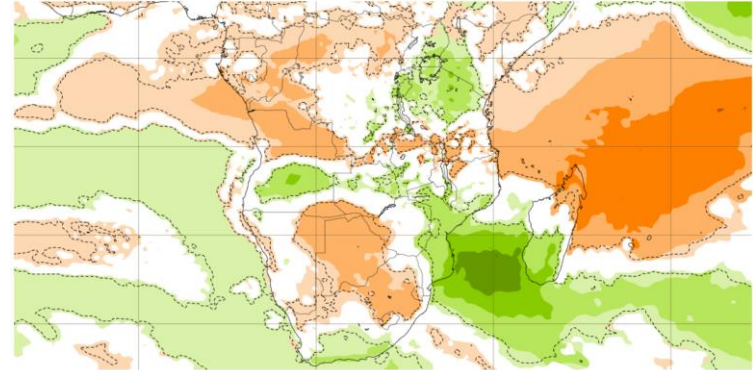
20-27 Jan 2025

27 Jan – 3 Feb 2025

Base time: Mon 20 Jan 2025 Valid time: Mon 20 Jan 2025 - Mon 27 Jan 2025 (+168h) Area : Southern Africa



Base time: Mon 20 Jan 2025 Valid time: Mon 27 Jan 2025 - Mon 03 Feb 2025 (+336h) Area : Southern Africa



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Created at 2025-01-21 10:42:48 (UTC)



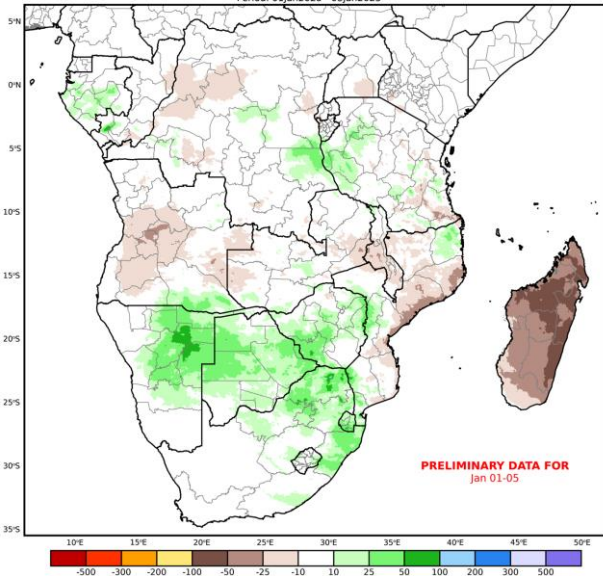
© 2025 European Centre for Medium-Range Weather Forecasts (ECMWF)
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Created at 2025-01-21 10:42:48 (UTC)



January - March 2025 Precipitation Outlook

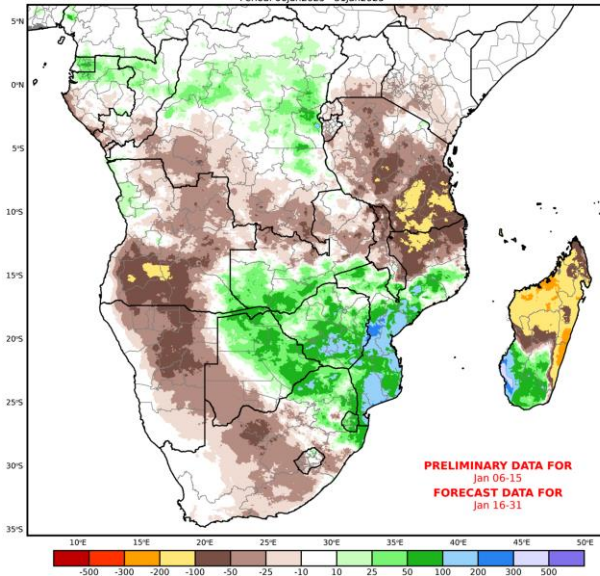
Dry in Angola, eastern and central Madagascar

CHIRPS 1-Pentad Total Rainfall Anomaly (mm)
Period: 01Jan2025 - 05Jan2025



1 - 5 Jan 2025

CHIRPS 5-Pentad Total Rainfall Anomaly (mm)
Period: 06Jan2025 - 31Jan2025



6 - 31 Jan 2025

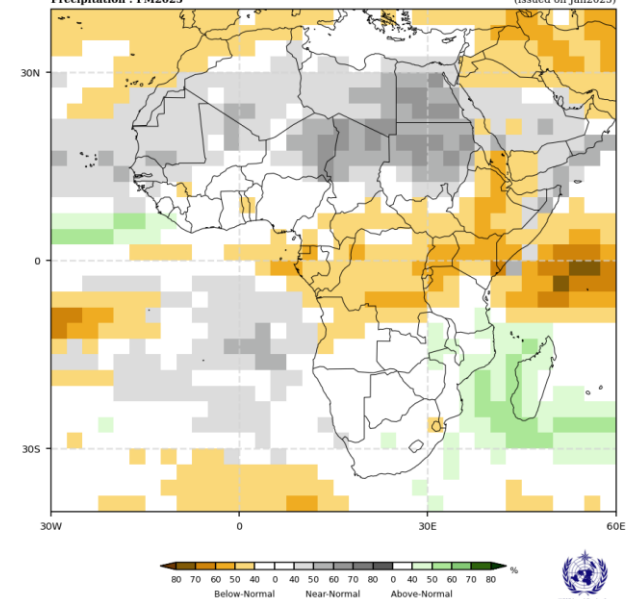
Source: CHC

Probabilistic Multi-Model Ensemble Forecast

CMCC,CMCC,CNRM,ECMWF,ECMWF,Echam5,Eastex,Melbourne,Melbourne,Montreal,Moscow,Offenbach,Seoul,Tokyo,Tokyo,Tokyo

Precipitation : FM2025

(issued on Jan2025)



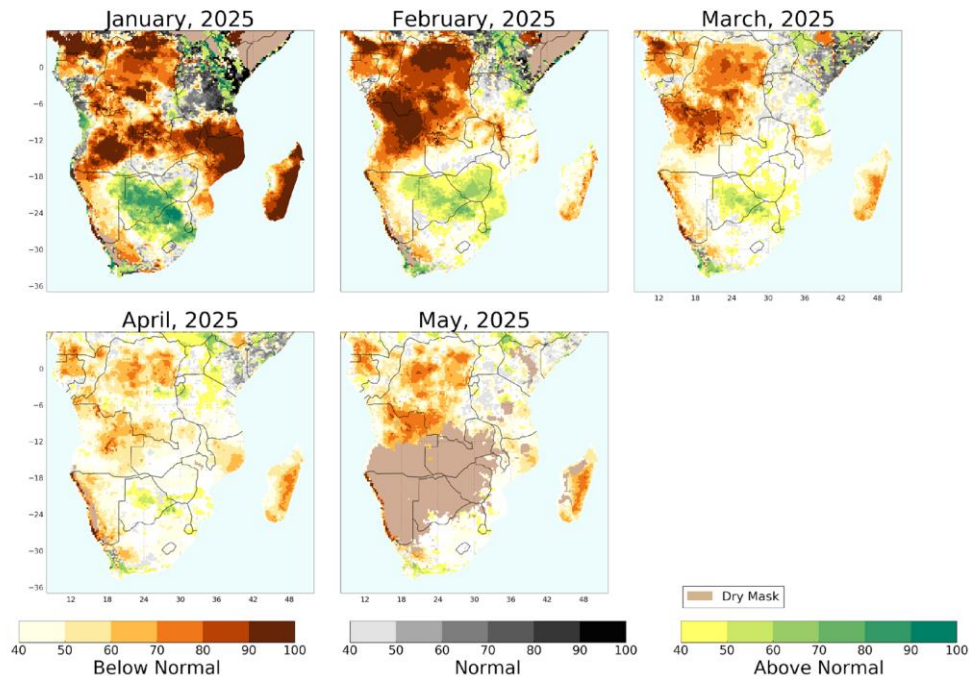
1 Feb - 31 Mar 2025

Source: WMO PMME

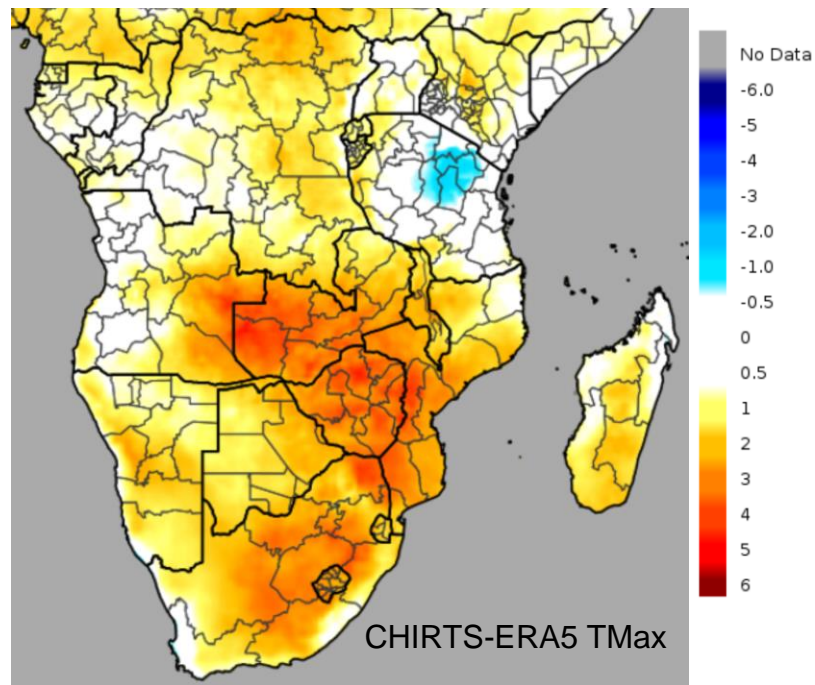
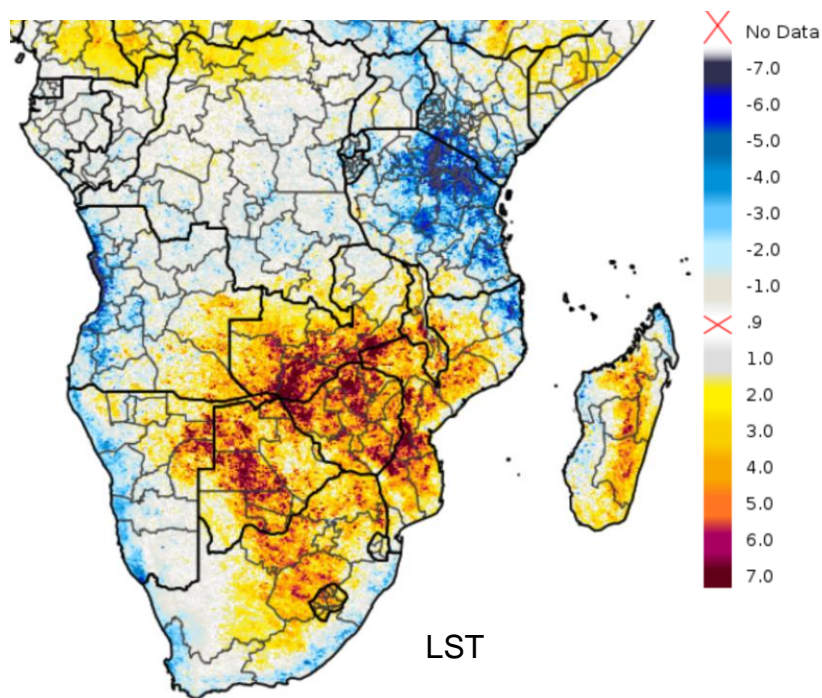
Soil Moisture Forecast

Anomalous dryness greatest in Madagascar, northern Mozambique

NMME Based RootZone-SM Forecasts, Initialized on January 01, 2025



Very warm temperatures observed in December 2024

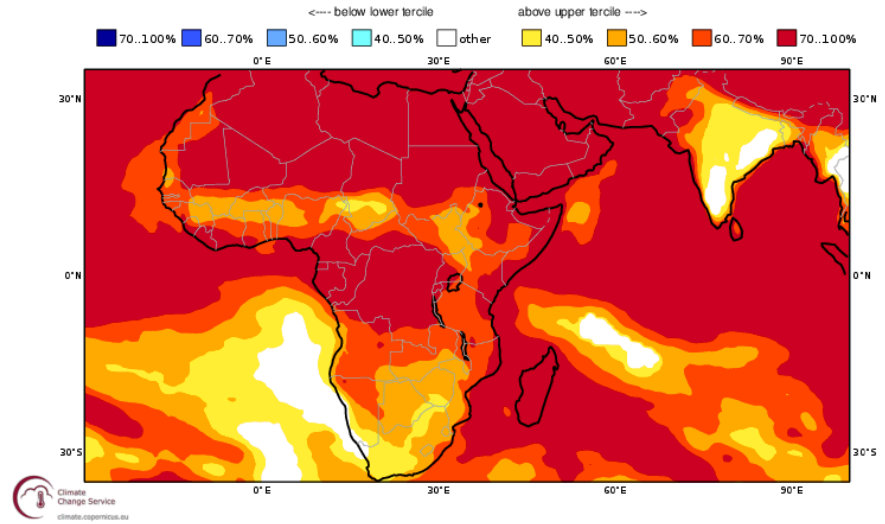
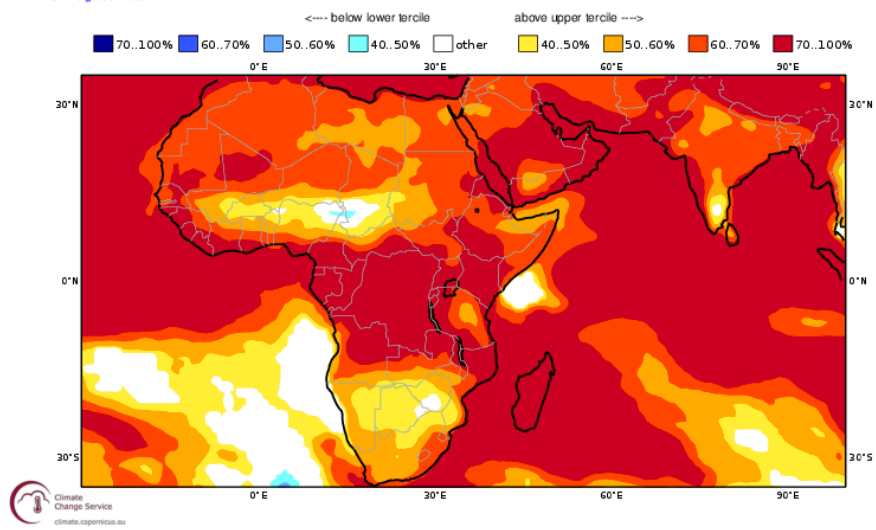


February - June 2025 Temperature

Above average forecast in most areas

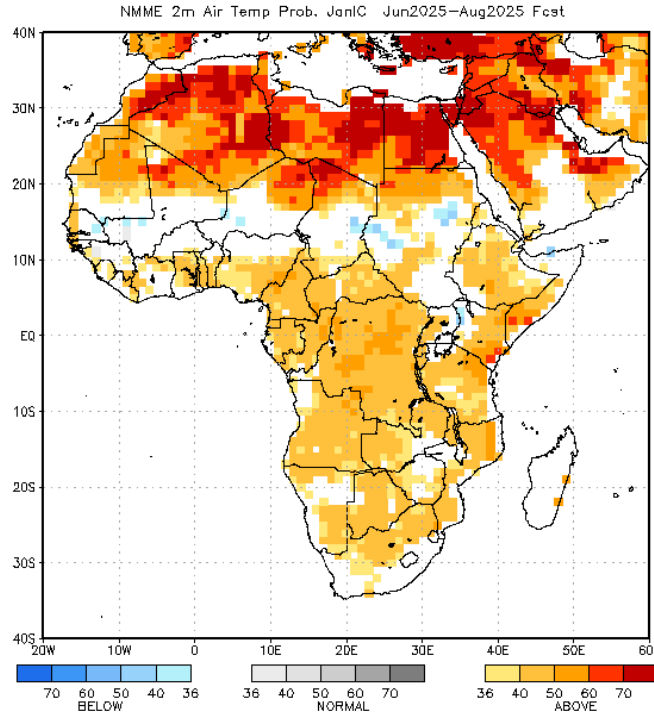
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
 Prob(most likely category of 2m temperature) FMA 2025
 Nominal forecast start: 01/01/25
 Unweighted mean

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
 Prob(most likely category of 2m temperature) AMJ 2025
 Nominal forecast start: 01/01/25
 Unweighted mean



June - August 2025 Temperature

Above average forecast, long lead time reducing confidence

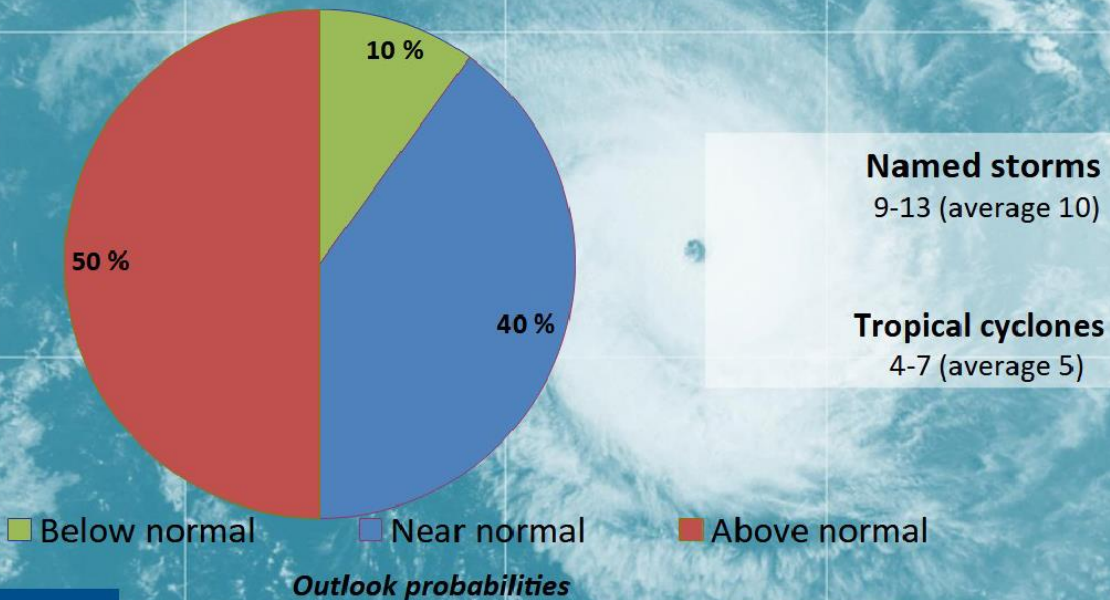


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Seasonal outlook for Tropical cyclones season 2024-2025



Be prepared:
Visit http://www.meteo.fr/temps/domtom/La_Reunion/webcmrs9.0/anglais/index.html

Likely tropical cyclone distribution TC season 2024-2025 / South-West Indian Ocean

equator

Slightly below normal
TC formation
(0 to 2 named storms)

Near normal
TC formation
(3 to 4 named storms)

Above normal
TC formation
(5 to 7 named storms)

10 S

20 S

50 E

70 E

90 E



Source: Meteo France La Reunion

Tropical Cyclones/Storms in 2024/25



Chido

Ancha

Bheki

Dikeledi

Source: Wikipedia

Question:

DRC Flooding Outlook

“Streamflow forecasts from FLDAS for DRC indicate widespread below-average streamflows across the country through May 2025. Are there any analog years that might help us better understand the anticipated levels of flooding in the Congo River Basin and other flood prone areas of the country? This is really crucial for our analysis in areas where severe seasonal flooding is the primary driver of acute food insecurity. Thank you! “



Question:

DRC Flooding Outlook. Key Issues:

- widespread below-average streamflows through May 2025.
- analog years
- anticipated levels of flooding
- flood prone areas (incl Congo River Basin)
- areas severe seasonal flooding is driver of acute FiS

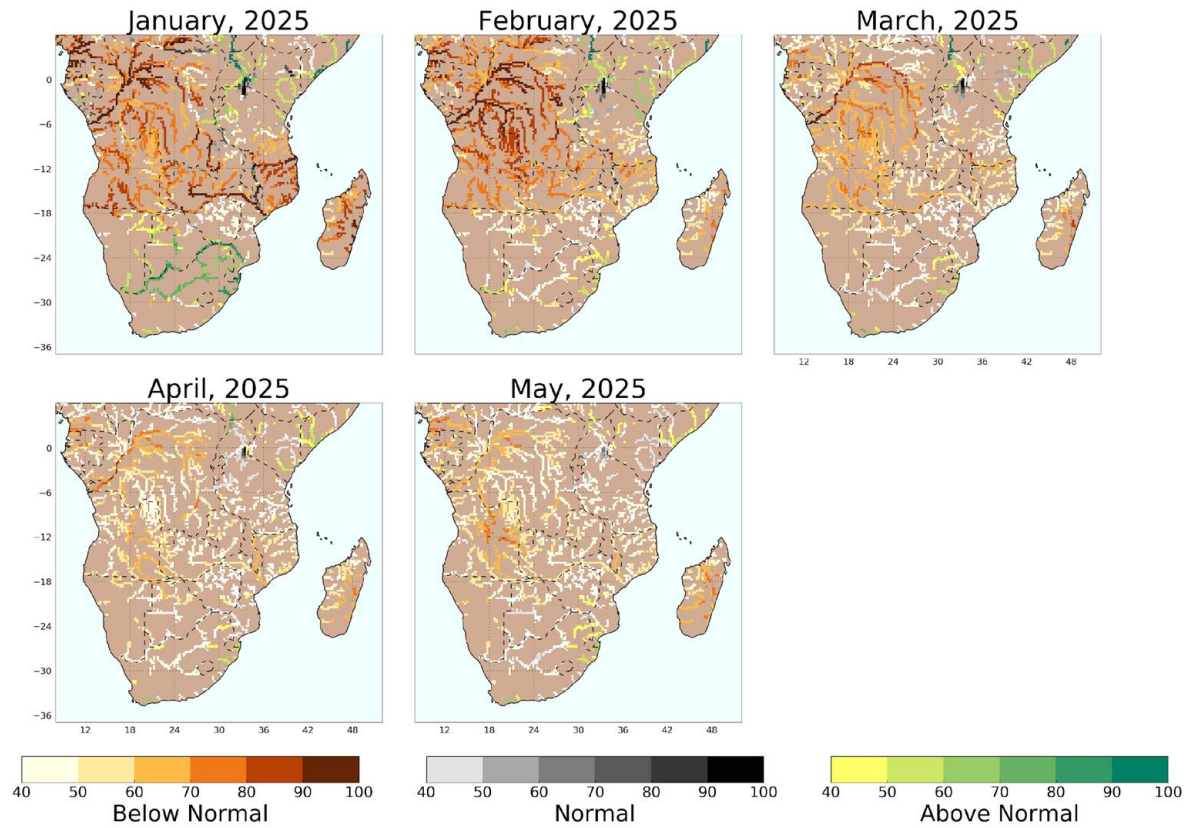


OCHA 2024 report of flood update

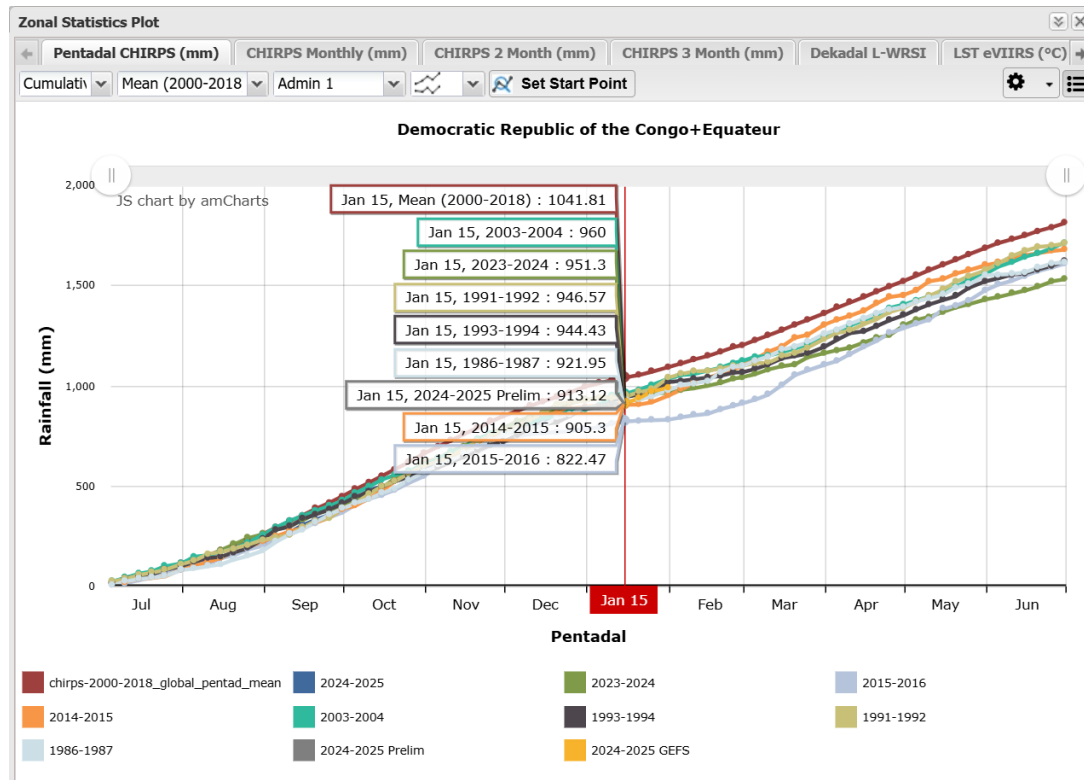
PROVINCE+C2:F22	IMPACTED POPULATION		Collapsed houses
	HOUSEHOLD	PERSONNES	
ÉQUATEUR	129.949	649.745	37.466
TSHOPO	120.200	601.000	8.742
SUD-UBANGUI	69.380	346.900	13.876
NORD-UBANGUI	28.717	143.585	6.338
TANGANYIKA	18.004	90.020	9.090
MONGALA	18.000	90.000	
KINSHASA	11.284	78.988	1.177
TSHUAPA	7.066	35.330	2.973
SUD-KIVU	6.785	40.710	5.379
BAS-UÉLÉ	7.014	35.072	5.658
HAUT-UÉLÉ	6.454	32.270	3.665
MANIEMA	4.266	21.330	
NORD-KIVU	3.176	15.882	1.969
KASAI CENTRAL	1.200	6.000	455
KONGO CENTRAL	571	2.855	521
LOMAMI	567	2.835	
KWILU	552	2.760	708
HAUT-KATANGA	256	1.280	282
TOTAL	433.442	2.196.562	98.299

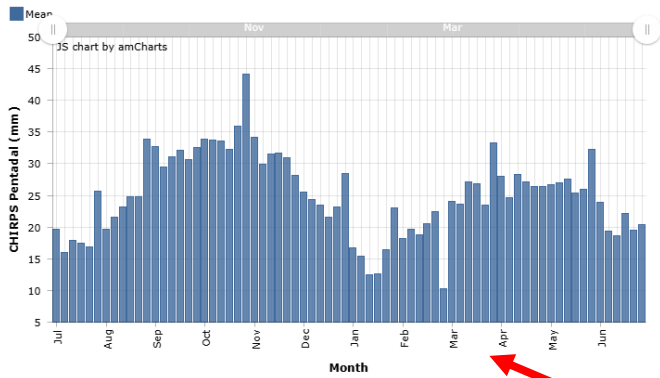


NMME Based Streamflow Forecasts, Initialized on January 01, 2025

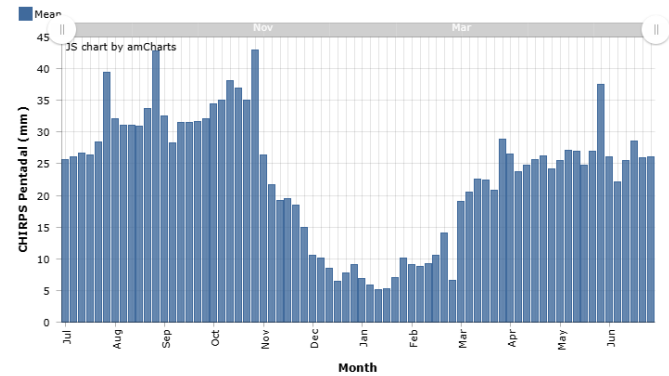


Possible analog years: below average Jul-Jan

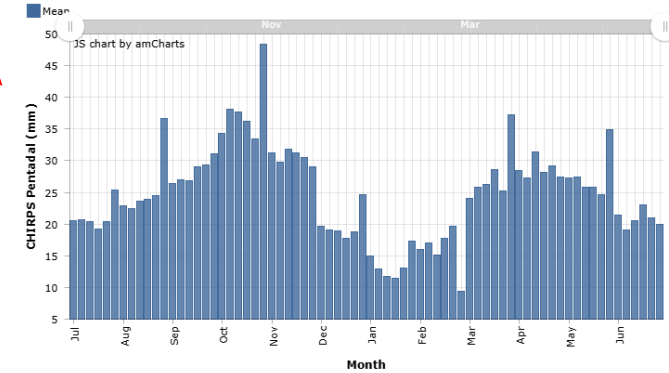
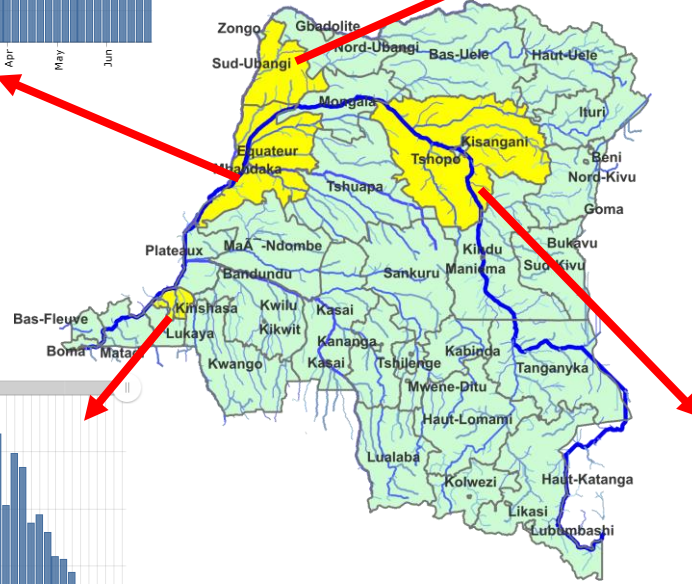




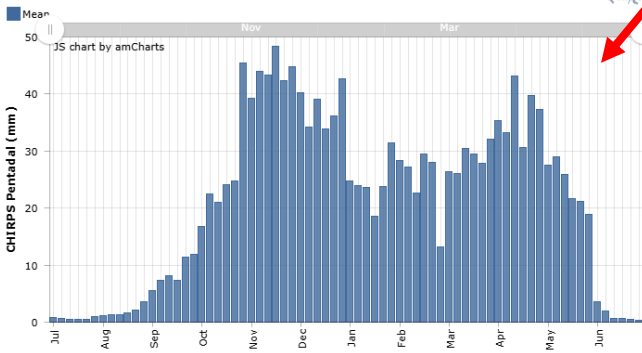
Equateur



Sud Ubangi



Tshopo



Kinshasa

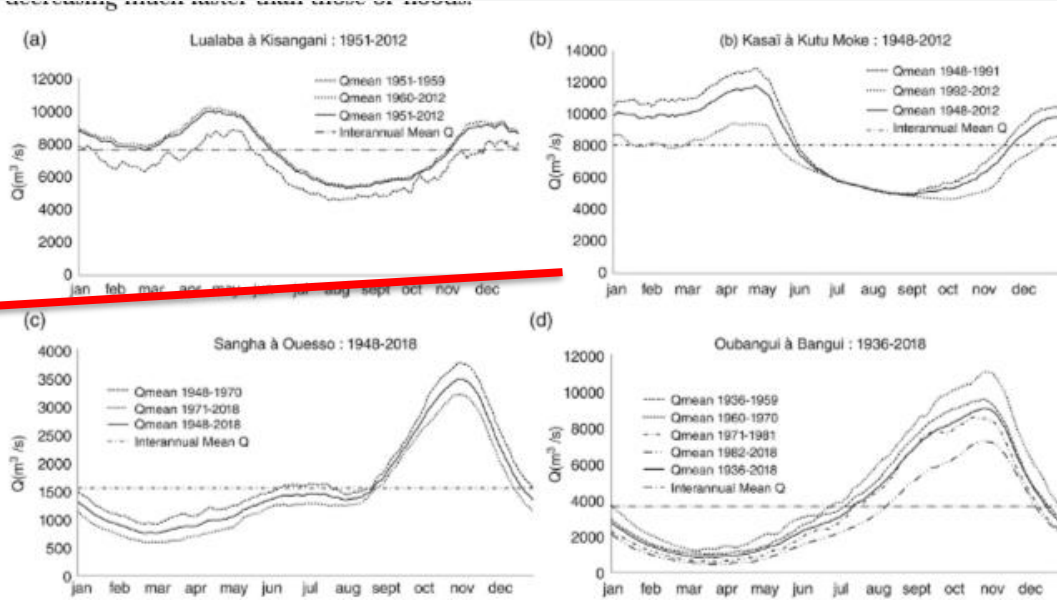
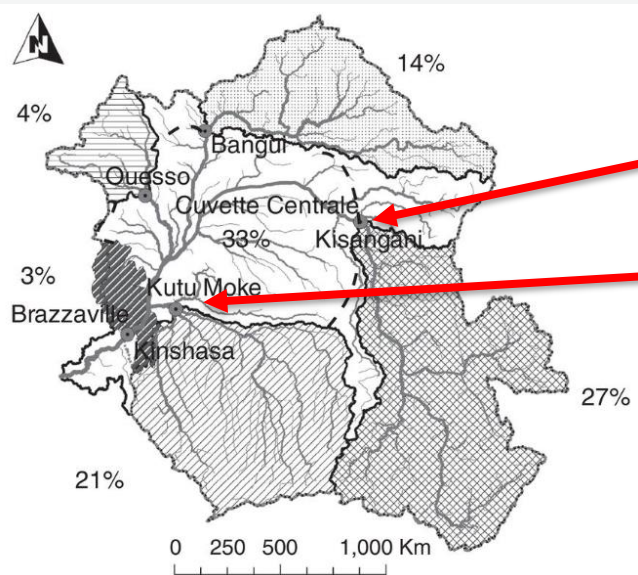
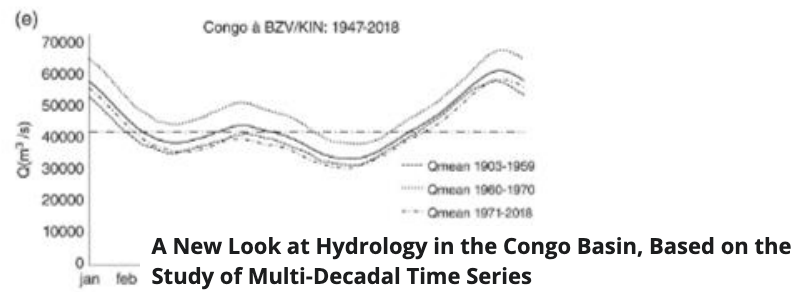


Table 8.2 Hydro-climatic characteristics by drainage system for common rainfall and flow periods.

Drainage system (basin)	Reference station	Period	Module m^3/s	Precipitation mm/an	Water drained mm/an	Flow deficit
Lualaba	Kisangani	1951-1999	7,742	1,308	251.1	1,056.9
Kasai	Kutu-Moke	1948-1999	8,246	1,445	347.4	1,097.6
Sangha	Ouessou	1948-1999	1,596	1,638	316.2	1,321.8
Oubangui	Bangui	1940-1999	3,809	1,499	243.6	1,255.4
Congo	Brazzaville/Kinshasa	1940-1999	41,301	1,447	356.6	1,090.4

Note: The available rainfall is for the period 1940 to 1999.



A New Look at Hydrology in the Congo Basin, Based on the Study of Multi-Decadal Time Series

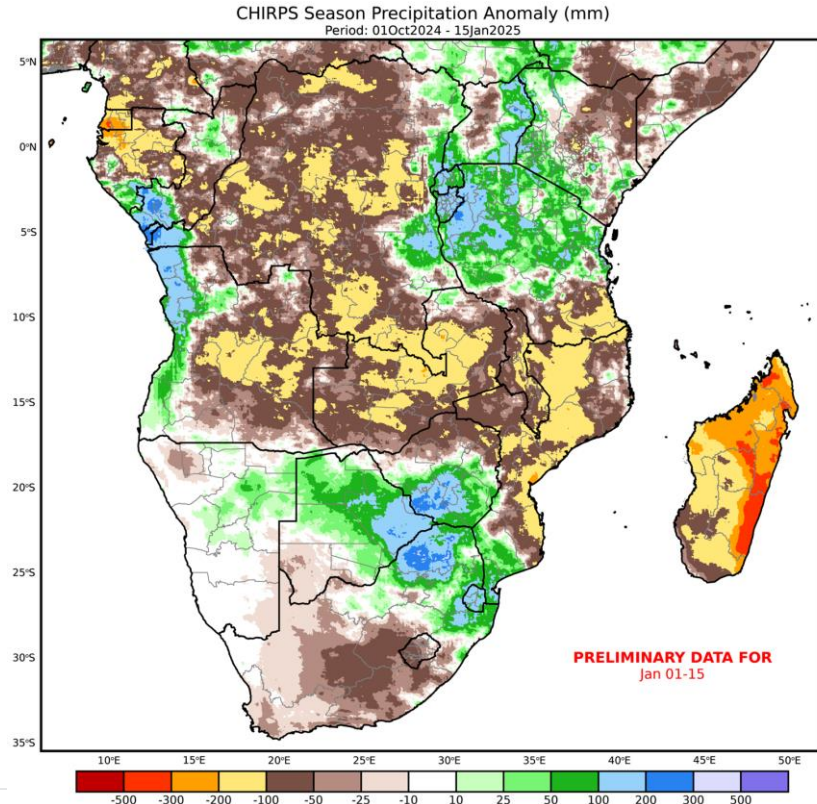
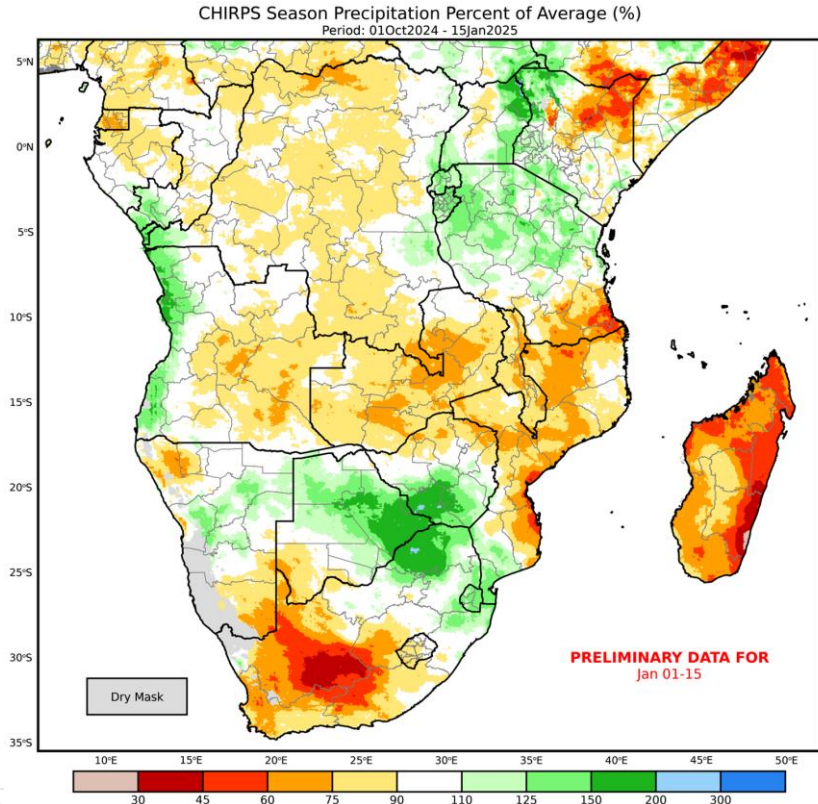
Guy D. Moukandi N'kaya, Alain Laraqe, Jean-Emmanuel Paturel, Georges Gulemvuga Guzanga, Gil Mahé, Raphael M. Tshimanga

Book Editor(s): Raphael M. Tshimanga, Guy D. Moukandi N'kaya, Douglas Alsdorf

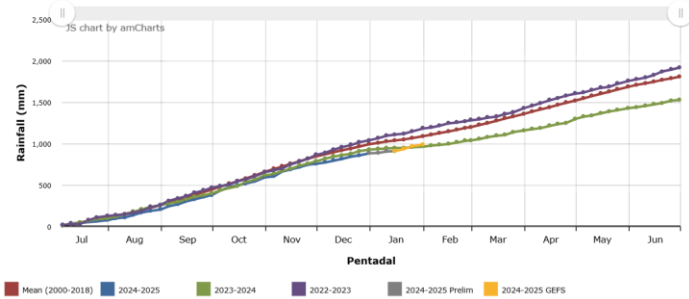
First published: 18 February 2022 | <https://doi.org/10.1002/9781119657002.ch8> | Citations: 1

Book Series: Geophysical Monograph Series

Rainfall has been below average in DRC

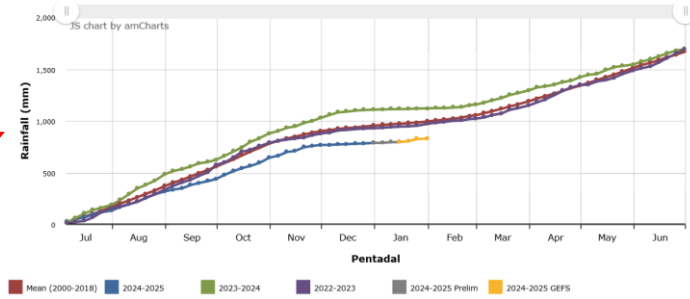


Democratic Republic of the Congo+Equateur

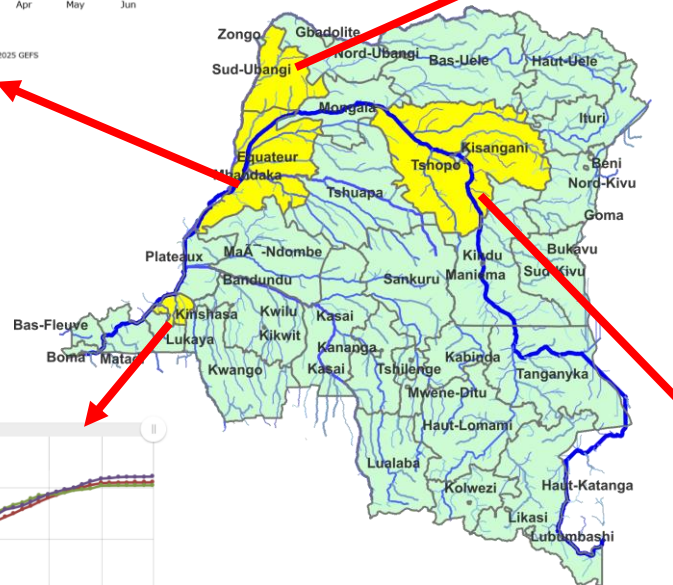


Equateur

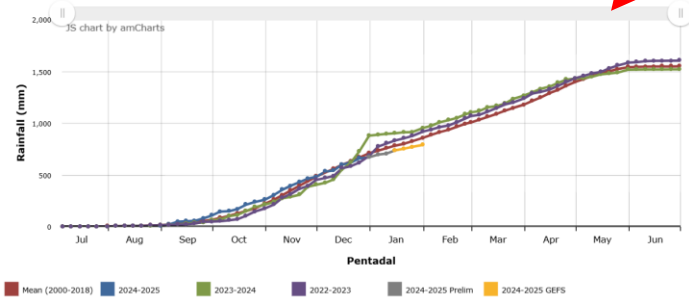
Democratic Republic of the Congo+South Ubangi



Sud Ubangi

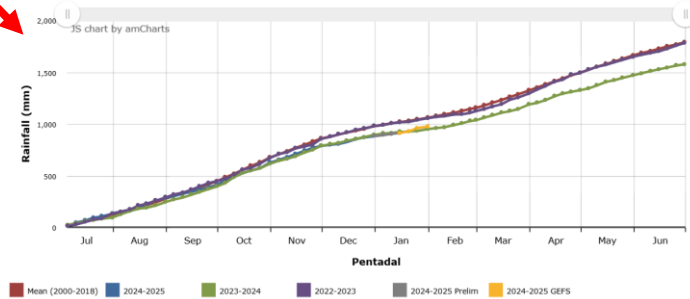


Democratic Republic of the Congo+Kinshasa



Kinshasa

Democratic Republic of the Congo+Tshopo



Tshopo

FMA rainfall forecasts

Uncertain, slight tilt to below average in DRC

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC

Prob(most likely category of precipitation)

Nominal forecast start: 01/01/25

Unweighted mean

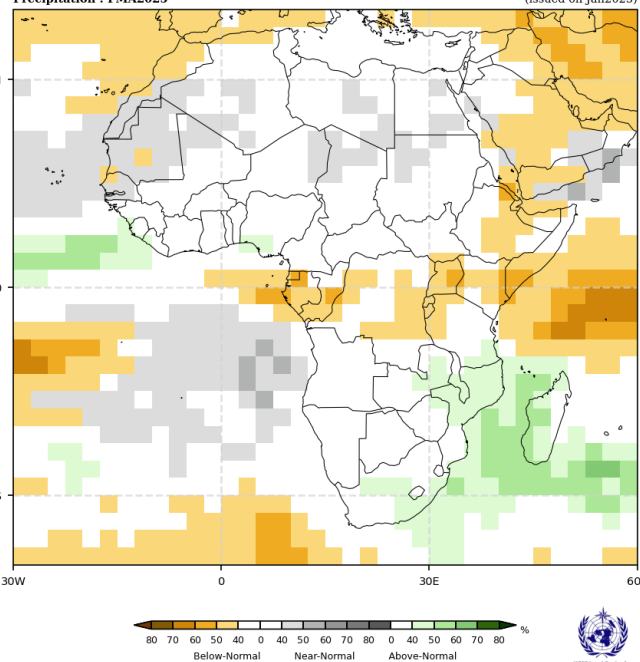
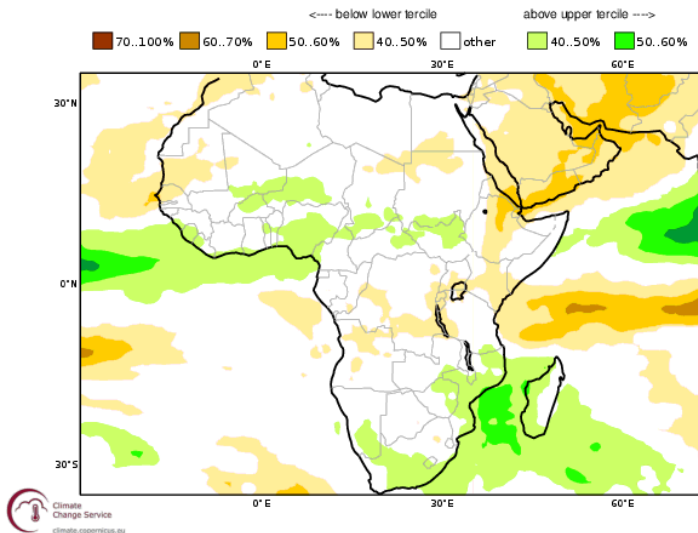
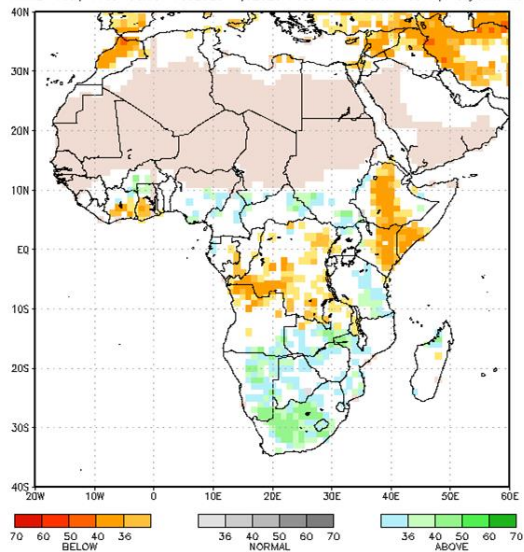
Probabilistic Multi-Model Ensemble Forecast

CMCC, CPTEC, ECMWF, Exeter, Melbourne, Montreal, Moscow, Offenbach, Seoul, Tokyo, Toulouse, Washington

Precipitation : FMA2025

(issued on Jan2025)

NMME Precip Prob. Jan16 Feb2025-Apr2025 Feat Sand color: Feb-Apr DryClim Ma



Flood reports between Oct 2024 – Jan 2025...

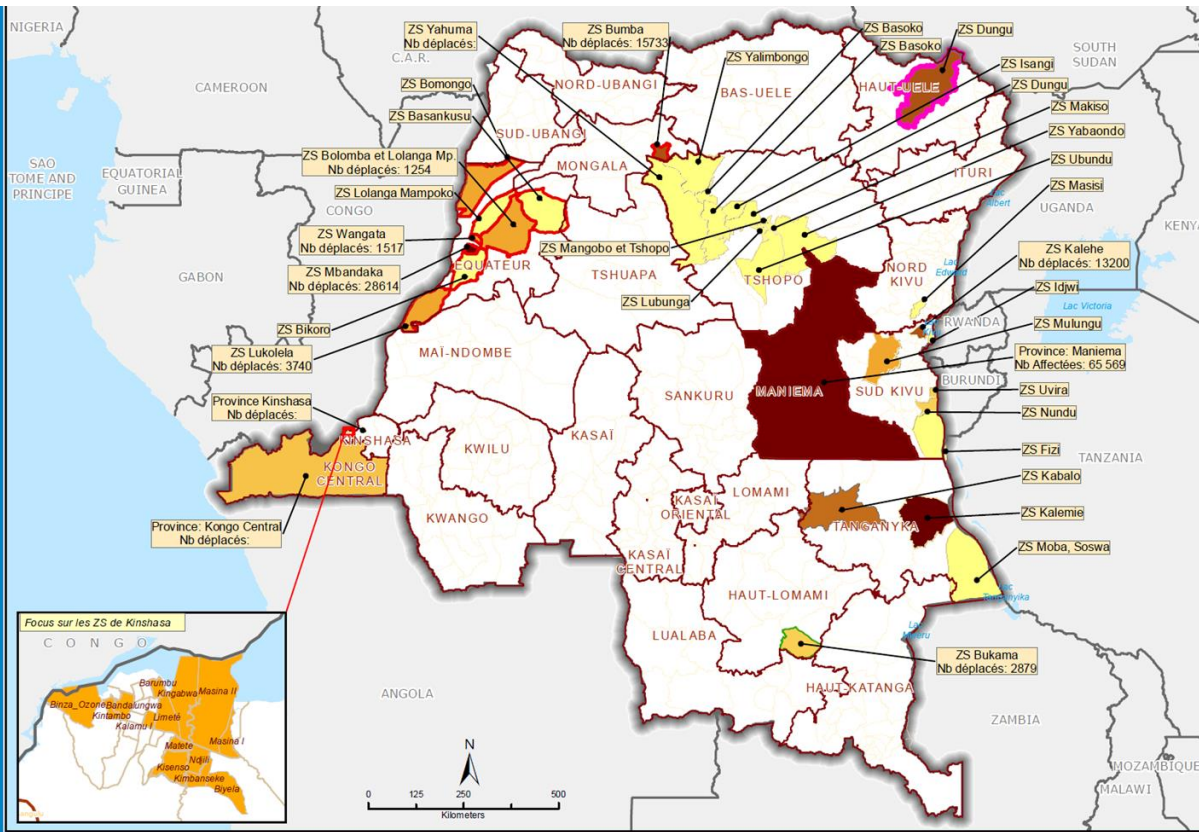
... despite below average rainfall

Date	Location	
14/01/2025	Kinshasa	https://www.radiookapi.r
Between August and November 2024.	Mahagi/Ituri	https://www.radiookapi.r inondation ;
December 2024	Uvira(South Kivu)	https://phoenix-browser .
November 2024	Boma(Kongo central)	https://www.radiookapi.r
November 2024	Kinshasa	https://www.radiookapi.r
November 2024	Mbanza ngungu(Kongo central)	https://www.radiookapi.r mbanza ;
November 2024	Kalemie(Tanganyika)	https://www.radiookapi.r
November 2024	Kalehe(Sud Kivu)	https://www.radiookapi.r
November 2024	Zongo(Sud Ubangi)	https://www.radiookapi.r
October 2024	Bumba(Mongala)	https://www.radiookapi.r
October 2024	Isangi(TSHOPO)	https://www.radiookapi.r



République Démocratique du Congo

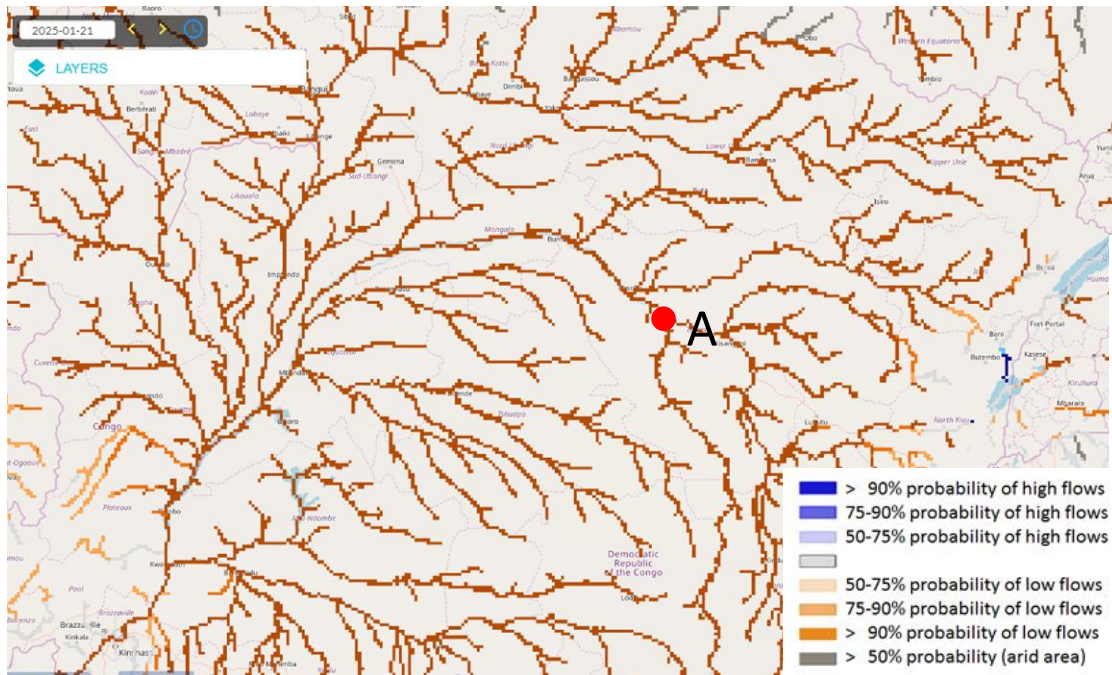
Zones de Santé Inondées - de Oct. 2015 à Janv. 2016



Date Created: 28 Jan 2016
 Website: www.wfp.org
 Prepared by:
 Log Cluster - Kinshasa/RDC
 CO DRC

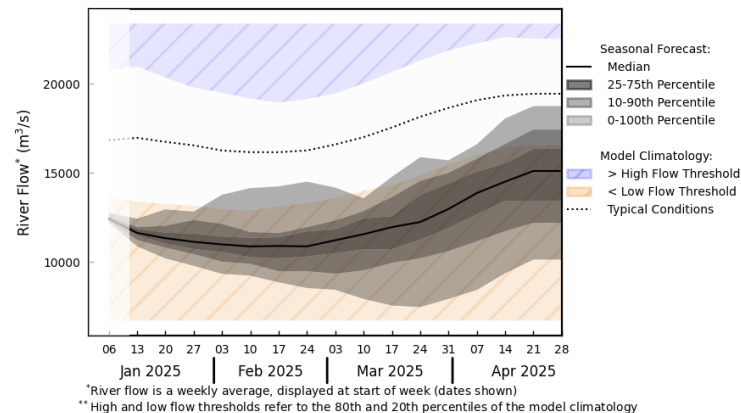
Map Reference:
 COD_EP_NHR_Floods_201512_A4L

GloFAS Seasonal Forecast



GloFAS seasonal forecast (Jan - Apr 2025)

@ point A: Upstream Congo River



GloFAS monthly forecast (Jan - Apr 2025)

- In agreement with FLDAS for below average streamflow forecast for Jan-Apr, 2025.

Responses to Science Question

- Flooding in DRC has been reported before even during periods of below average seasonal rainfall totals (e.g. 2023/24)
 - DRC is a very high rainfall country, and even “below average” rainfall can result in high streamflows and flooding, depending on the timing of the rainfall
 - flash flooding is still a risk during intense rainfall events, even during low seasonal total rainfall years
- Analog years to consider: 1986-1987, 1991-1992, 1993-1994, 2003-2004, 2014-2015, 2015-2016, 2023-2024
- Rainfall forecasts for FMA have considerable uncertainty, suggestion of below average in some regions
- Streamflow forecasts are for below normal in Jan-Mar, but in Apr-May, climatology (equal chances, greater uncertainty) □ “normal”
 - The average streamflow peak is around Apr-May in several areas, when 2025 streamflow forecasts are for equal chances

Conclusion: Assume normal likelihood of flooding in flood-prone areas



Assumption 1a of 5

Cumulative rainfall for 2024/25 rainy season is expected to be:

Below average across central, **eastern**, and southern Angola with average rainfall in the rest of the country.



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Assumption 1b of 5

Cumulative rainfall for 2024/25 rainy season is expected to be:

Below average in unimodal southeastern DRC. In the rest of DRC, bimodal areas, cumulative rainfall during the August 2024 to January 2025 rainy season is expected to be below average. Cumulative rainfall during the upcoming March to mid-June 2025 rainy season is also expected to be ~~near below~~ average. Flooding from April to May, the peak of this second rainy season, is also expected to be ~~near significantly below~~ average, with ~~positive-negative~~ implications for cropping conditions in the most flood-prone areas of the Congo River basin. ~~However, below~~ average rainfall is unlikely to have negative impacts on cropping conditions in either unimodal or bimodal DRC, as rainfall is still expected to be sufficient for crop development due to the country's typically high cumulative

Assumption 1c of 5

Cumulative rainfall for 2024/25 rainy season is expected to be:

Below average in Lesotho. **No Change**



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Assumption 1d of 5

Cumulative rainfall for 2024/25 rainy season is expected to be:

Below average across Malawi. **No Change**



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Assumption 1e of 5

Cumulative rainfall for 2024/25 rainy season is expected to be:

Below average across most of Madagascar with below-average rainfall expected in the ~~Ground-Grand~~ South. Along the eastern coast of Madagascar, despite the likelihood of average rainfall from January to March, historically low levels of rainfall are most likely for the 2024/25 season **due to preceding record dry conditions**. Given the above-average expectation for cyclone strikes this season, rainfall events are likely to be erratic in time and space throughout the season.



Assumption 1f of 5

Cumulative rainfall for 2024/25 rainy season is expected to be:

Below average in northern Mozambique along with Tete **and Inhambane**

Province, with **near** average ~~to above average~~ rainfall across the rest of the country.



Assumption 1g of 5

Cumulative rainfall for 2024/25 rainy season is expected to be:

Below average in northern Zimbabwe, with average to above average rainfall expected in the rest of the country. **No Change**



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Assumption 2 of 5

During the peak of the rainy season, January to March, rainfall is most likely to be **above-average in central and eastern parts** ~~across most~~ of the region, including southern Madagascar, Zimbabwe, and Mozambique, **southern Zambia and southern Malawi** . ~~However, below-average rainfall is most likely in Malawi.~~ Rainfall is expected to be below average in Angola and eastern and central Madagascar. In **eastern/northern** Madagascar and **parts of** northern Mozambique, where rainfall deficits to date are severe, anticipated rainfall during this period is likely to only moderately reduce rainfall deficits, with dry conditions persisting.



Assumption 3 of 5

Rainfall for October to mid-January has been below average across Mozambique, Malawi, and Madagascar Mozambique. The eastern coast and areas of northern Madagascar, as well as areas of northern Mozambique, have faced among the driest October to January on the historical record. Due to the poor rainfall to date and the poor 2023/24 season for many countries, most of the region is facing below-average soil moisture, with dry soils in eastern Madagascar. Soil moisture is expected to moderately improve through the rest of the season across the region; however, will most likely remain below average.



Assumption 4 of 5

Above-average temperatures are most likely across the region through September 2025. **No Change**



Assumption 5 of 5

Between November 2024 and April 2025, there is an increased likelihood of an above-average number of tropical storms/cyclone strikes in Malawi, Madagascar, and Mozambique. These events are likely to cause localized flooding and crop damage, depending on the magnitude and trajectory of potential storms. **No Change**





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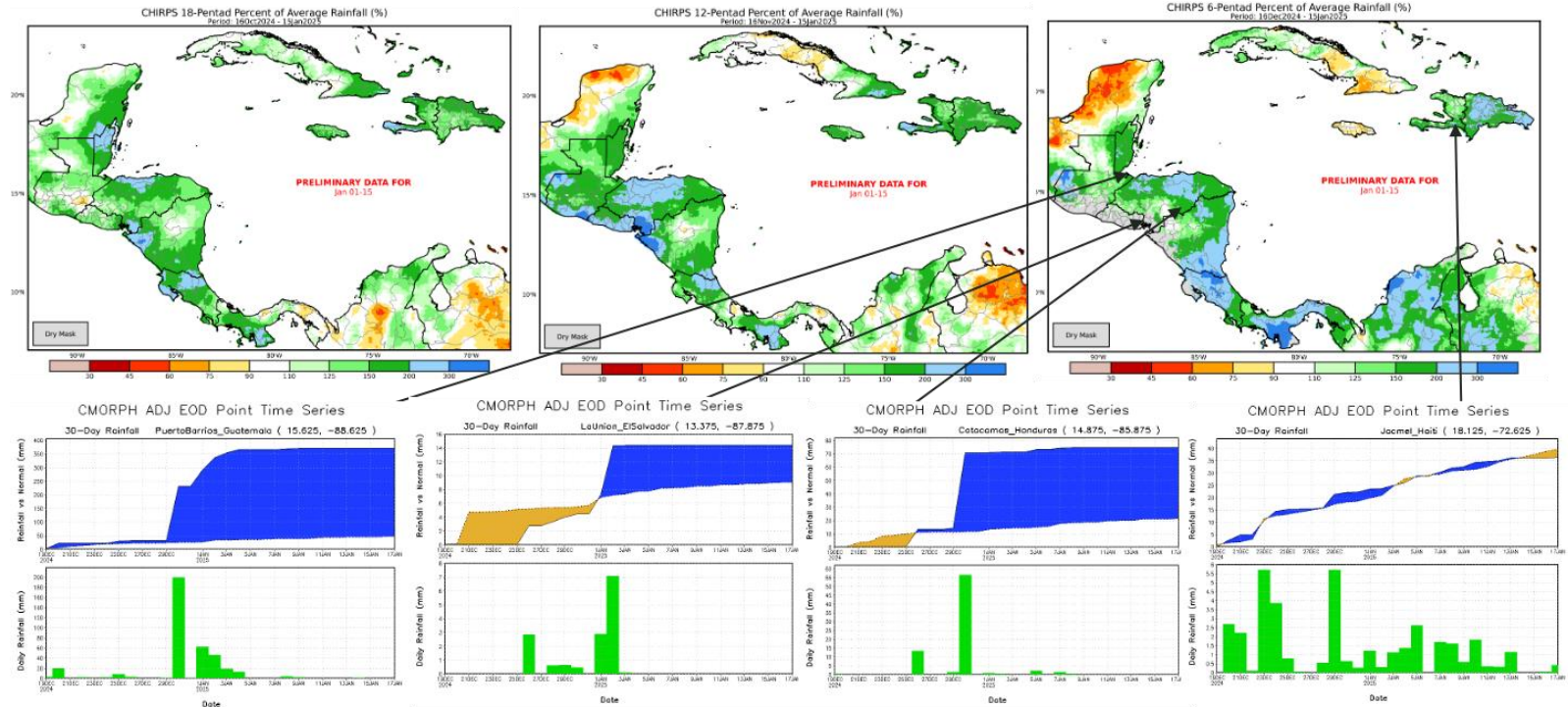


Climate
Hazards
Center
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Latin America and the Caribbean

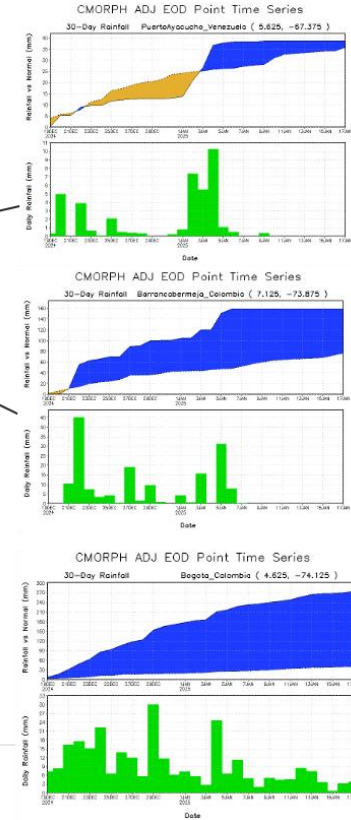
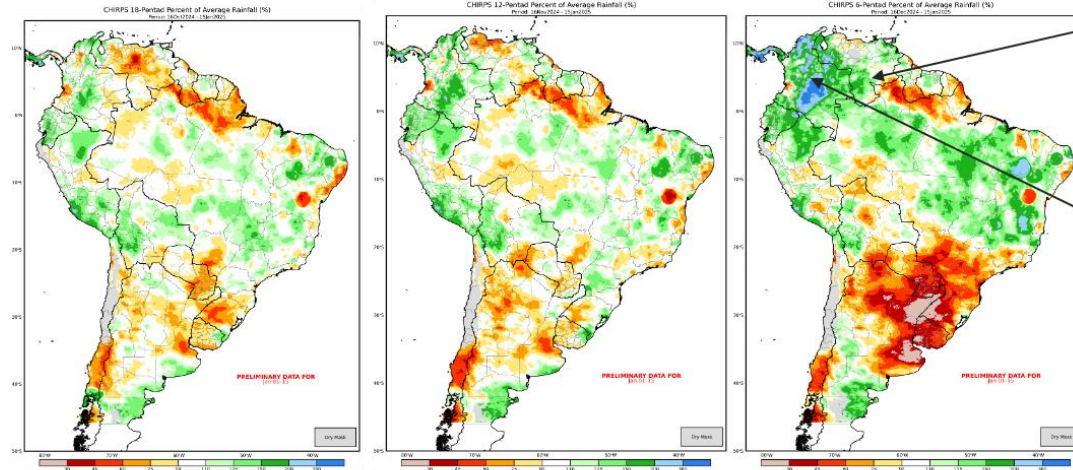
Recent precipitation

Above average over central America, erratic



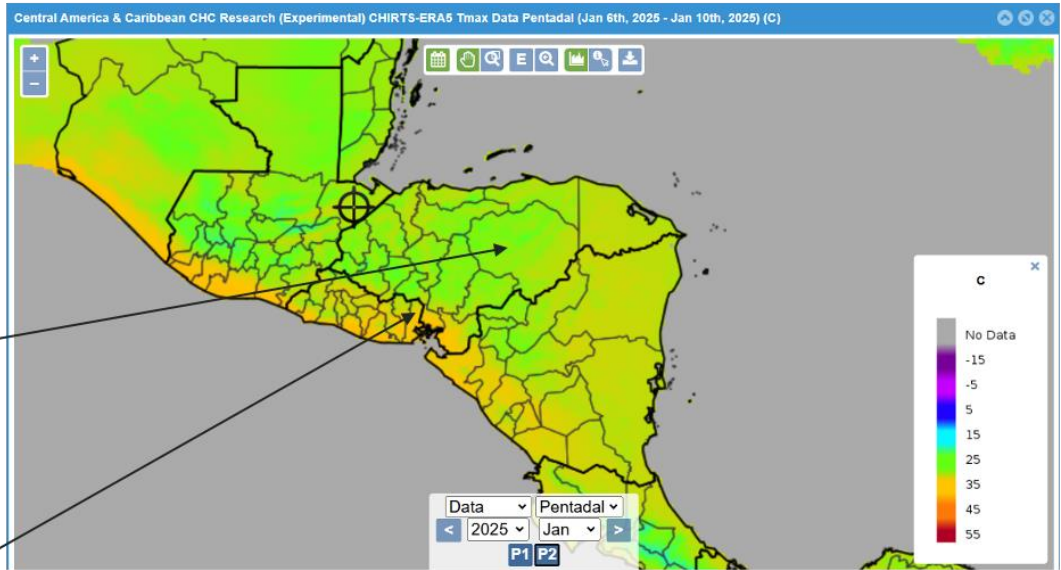
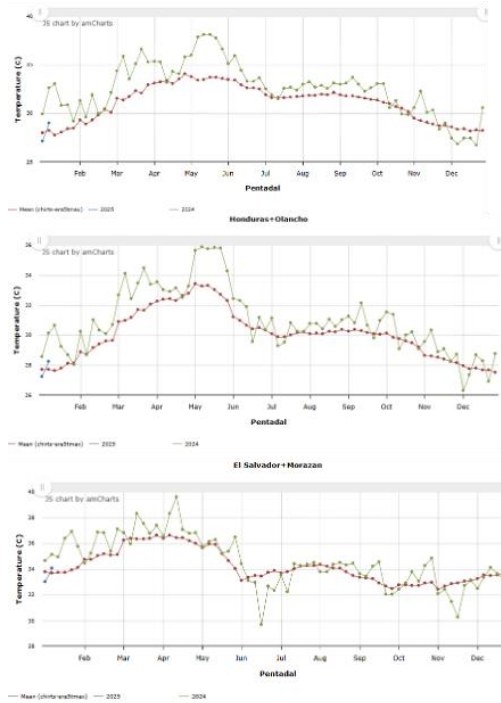
Recent precipitation

Increase in rainfall over southern Colombia and Venezuela



Recent Temperatures

Below average coinciding with enhanced precipitation



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NDVI

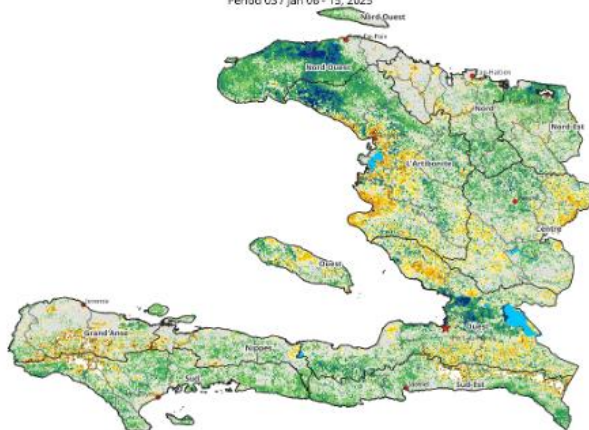
Central America Percent of Mean NDVI

2025 / Mean (2012 - 2021)
Period 03 / Jan 06 - 15, 2025



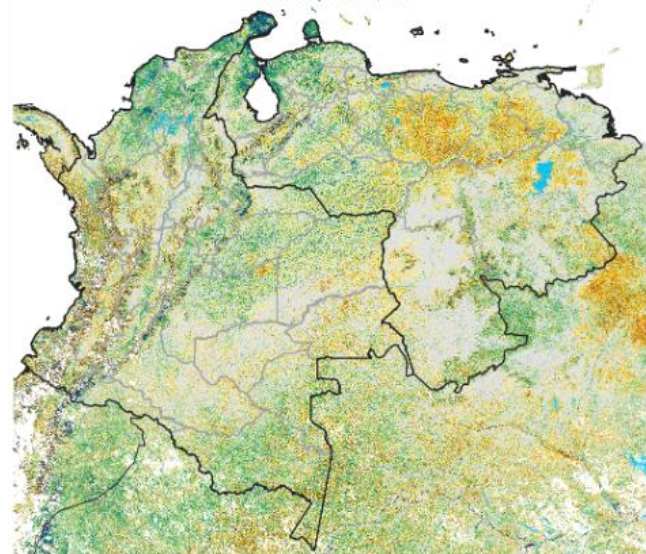
Haiti Percent of Mean NDVI

2025 / Mean (2012 - 2021)
Period 03 / Jan 06 - 15, 2025



Colombia-Venezuela Percent of Mean NDVI

2025 / Mean (2012 - 2021)
Period 03 / Jan 06 - 15, 2025



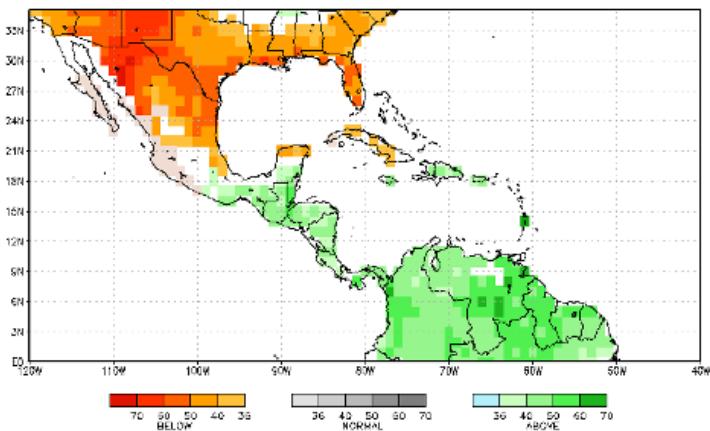
Fires



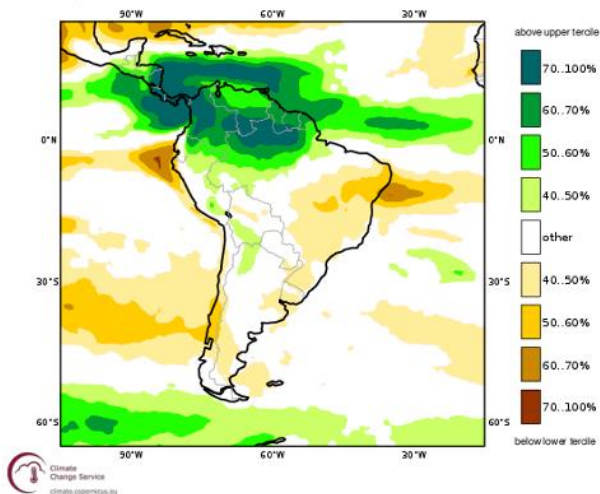
February - April 2025 Precipitation Forecast

Above average most likely

NMME Precip Prob, Jan10 Feb2025-Apr2025 Fcst Sand color: Feb-Apr DryClim Mask

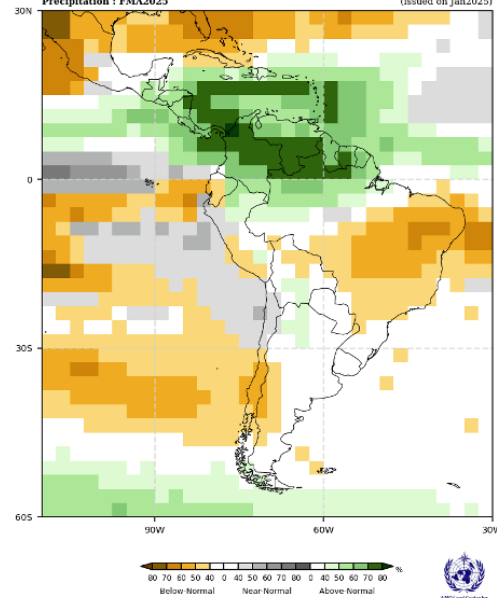


C3S multi-system seasonal forecast
 Prob(most likely category of precipitation)
 Nominal forecast start: 01/01/25
 Unweighted mean



FMA 2025

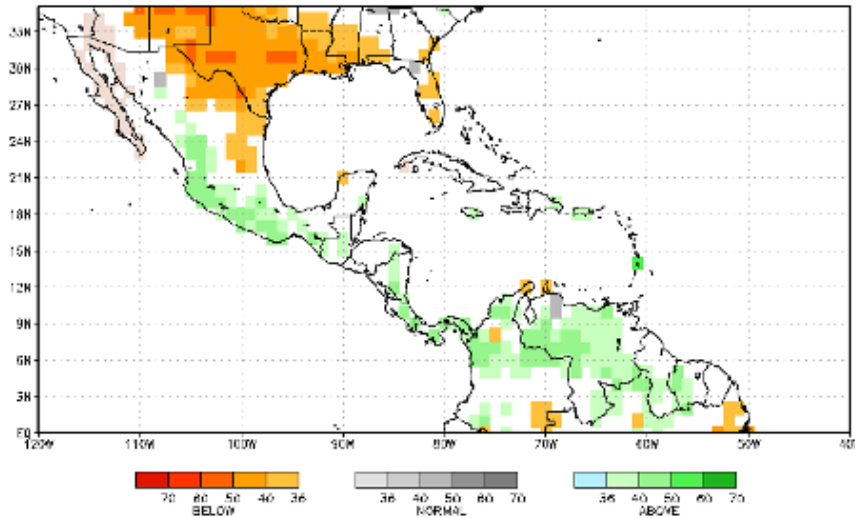
Probabilistic Multi-Model Ensemble Forecast
 (CMCC-CM5FS, ECMWF-Ensemble, MeteoSwiss, MeteoFrance, MeteoUK, Moscow, Orléans, Seoul, Tokyo, Toulouse, Washington)
 Precipitation : FMA2025 (issued on Jan2025)



April - June 2025 Precipitation Forecast

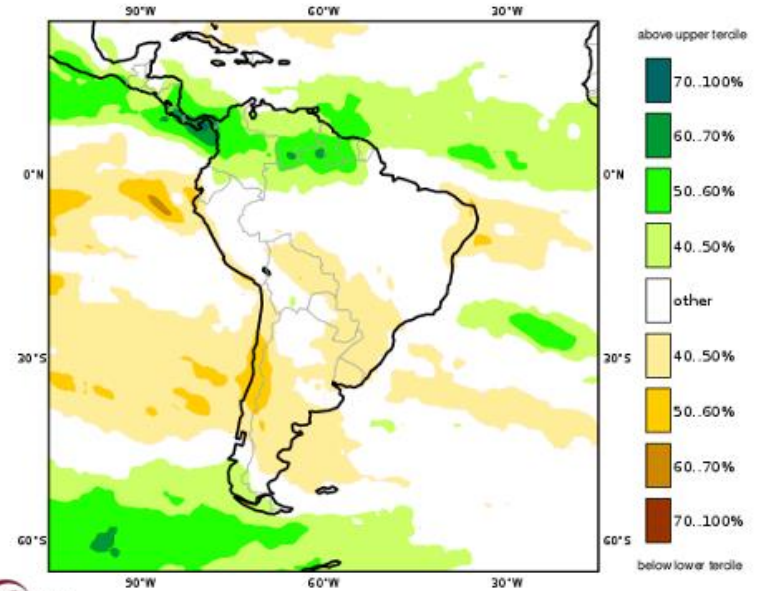
Weaker tilt in the odds, some regions favoring above average

NMME Precip Prob. Jan16-Apr2025-Jun2025 Fcst Sand color: Apr-Jun DryClim Mask



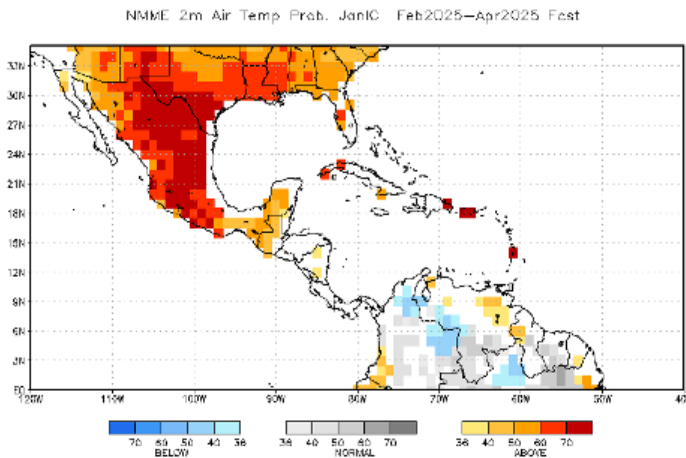
C3S multi-system seasonal forecast
Prob(most likely category of precipitation)
Nominal forecast start: 01/01/25
Unweighted mean

AMJ 2025

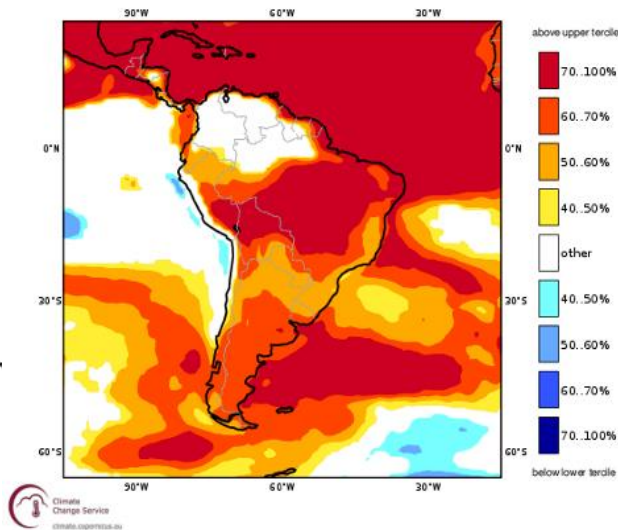


February - April 2025 Temperature Forecast

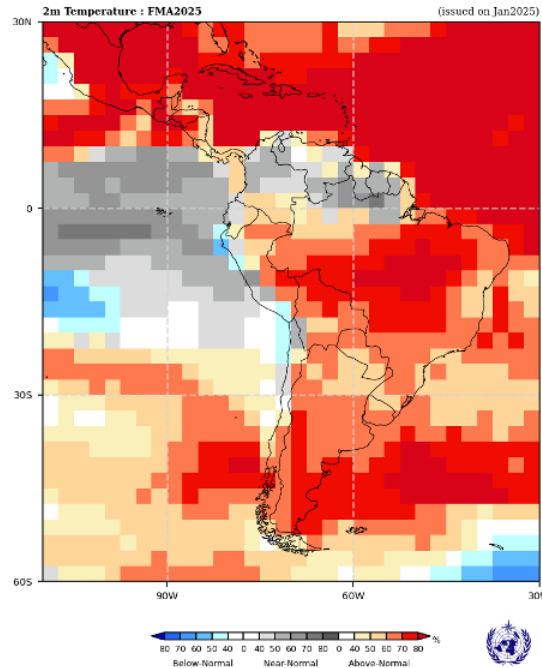
Above average likely in Guatemala, Haiti



C3S multi-system seasonal forecast
 Prob(most likely category of 2m temperature)
 Nominal forecast start: 01/01/25
 Unweighted mean



Probabilistic Multi-Model Ensemble Forecast
 CMCC, CFSR, ECMWF, ECHAM5, GISS, HadAM3, HadAM3R, HadAM3P, HadAM3Q, HadAM3R2, HadAM3R3, HadAM3R4, HadAM3R5, HadAM3R6, HadAM3R7, HadAM3R8, HadAM3R9, HadAM3R10, HadAM3R11, HadAM3R12, HadAM3R13, HadAM3R14, HadAM3R15, HadAM3R16, HadAM3R17, HadAM3R18, HadAM3R19, HadAM3R20, HadAM3R21, HadAM3R22, HadAM3R23, HadAM3R24, HadAM3R25, HadAM3R26, HadAM3R27, HadAM3R28, HadAM3R29, HadAM3R30, HadAM3R31, HadAM3R32, HadAM3R33, HadAM3R34, HadAM3R35, HadAM3R36, HadAM3R37, HadAM3R38, HadAM3R39, HadAM3R40, HadAM3R41, HadAM3R42, HadAM3R43, HadAM3R44, HadAM3R45, HadAM3R46, HadAM3R47, HadAM3R48, HadAM3R49, HadAM3R50, HadAM3R51, HadAM3R52, HadAM3R53, HadAM3R54, HadAM3R55, HadAM3R56, HadAM3R57, HadAM3R58, HadAM3R59, HadAM3R60, HadAM3R61, HadAM3R62, HadAM3R63, HadAM3R64, HadAM3R65, HadAM3R66, HadAM3R67, HadAM3R68, HadAM3R69, HadAM3R70, HadAM3R71, HadAM3R72, HadAM3R73, HadAM3R74, HadAM3R75, HadAM3R76, HadAM3R77, HadAM3R78, HadAM3R79, HadAM3R80, HadAM3R81, HadAM3R82, HadAM3R83, HadAM3R84, HadAM3R85, HadAM3R86, HadAM3R87, HadAM3R88, HadAM3R89, HadAM3R90, HadAM3R91, HadAM3R92, HadAM3R93, HadAM3R94, HadAM3R95, HadAM3R96, HadAM3R97, HadAM3R98, HadAM3R99, HadAM3R100



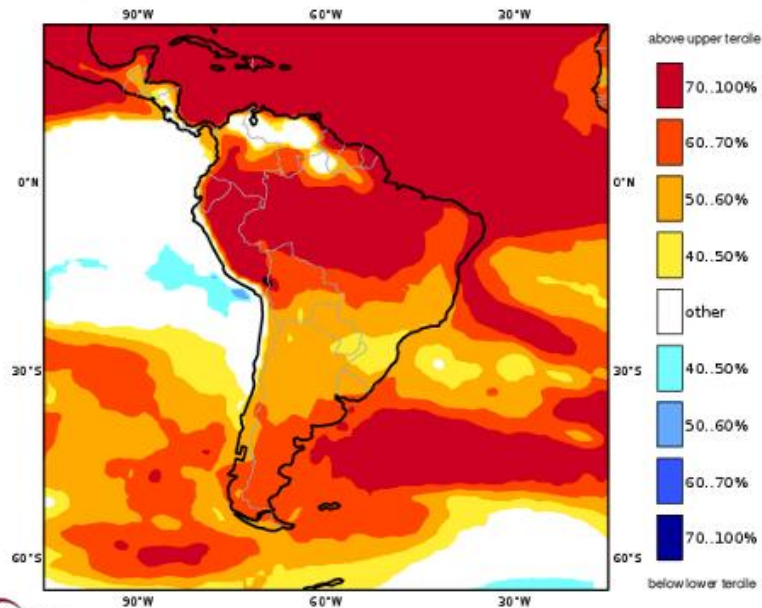
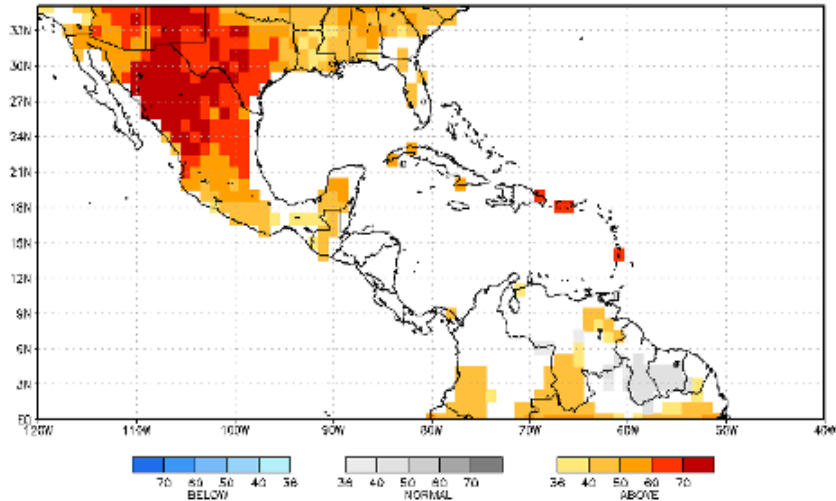
April - June 2025 Temperature Forecast

Above average likely in Guatemala, Haiti, Venezuela

C3S multi-system seasonal forecast
Prob(most likely category of 2m temperature)
Nominal forecast start: 01/01/25
Unweighted mean

AMJ 2025

NMME 2m Air Temp Prob. Jan10-Apr2025-Jun2025 Fcst



Assumption 1 of 4

Regional

- A. Despite a reduction in temperature in most of Central America and South America to average ranges, above-average precipitation in most parts of the region, along with above-average temperatures in Haiti and Guatemala are expected to raise the risk of crop pests and diseases through September 2025.

- B. The first rainy season of 2025 is expected to have a normal start in all areas.



Assumption 2 of 4

Haiti

Above-average rainfall in early 2025 is likely to facilitate the sowing activities for the Printemps season. Rainfall is expected to return to average ranges for the remainder of the first rainy season and the beginning of the second rainy season although rainfall distribution may still be erratic in both time and space, potentially leading to localized crop damage and losses.



Assumption 3 of 4

Central America

- A. Below average vegetation health, dry conditions, and increased wind speed between January and March are likely to increase the instances of forest fires in affected areas.
- B. Despite above average rainfall through May 2025 – which may benefit planting and the early phenological stages of crops – forecasts indicate that rainfall during the Primera season will be within average ranges. Crop development is likely to be normal; however, rainfall is expected to be erratic in both time and space.
- C. The canicula is expected to be average in intensity and duration.



Assumption 4 of 4

South America

- A. Above average rainfall is likely across both Colombia and Venezuela for the remainder of the dry season before a shift to average rainfall becomes likely around March 2025. However, in some areas, above average temperatures are driving conditions conducive to forest fires, increasing their risk through the end of the dry season.
- B. Through September 2025, localized flash floods and landslides are expected during heavy rainfall over a short number of days. This erratic rainfall is likely even as rainfall is likely to normalize to average levels between April and September 2025.
- C. Precipitation and soil moisture are expected to be sufficient for the normal development of crops for subsistence farmers and small-scale producers throughout both countries.





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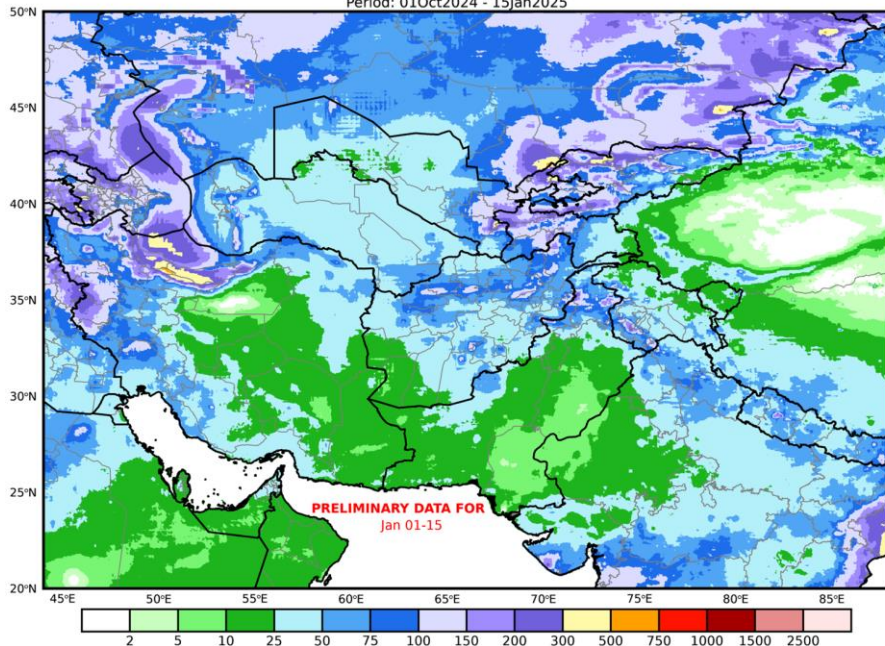
Climate
Hazards
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Central Asia, Afghanistan, and Lebanon

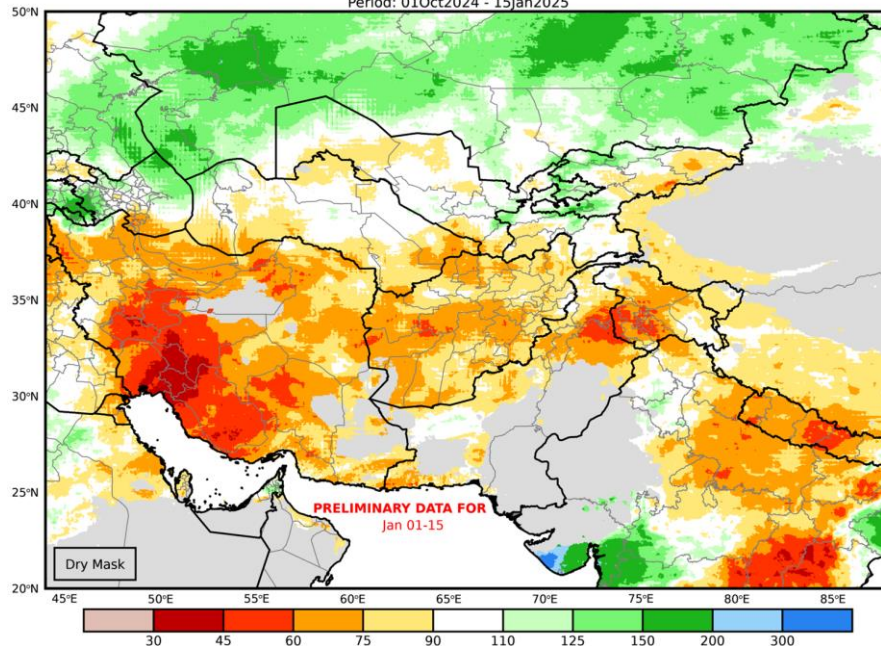
October 2024 - January 2025 Precipitation

Near- and below-average precipitation to begin the 2024-25 wet season

CHIRPS Season Precipitation Total (mm)
Period: 01Oct2024 - 15Jan2025

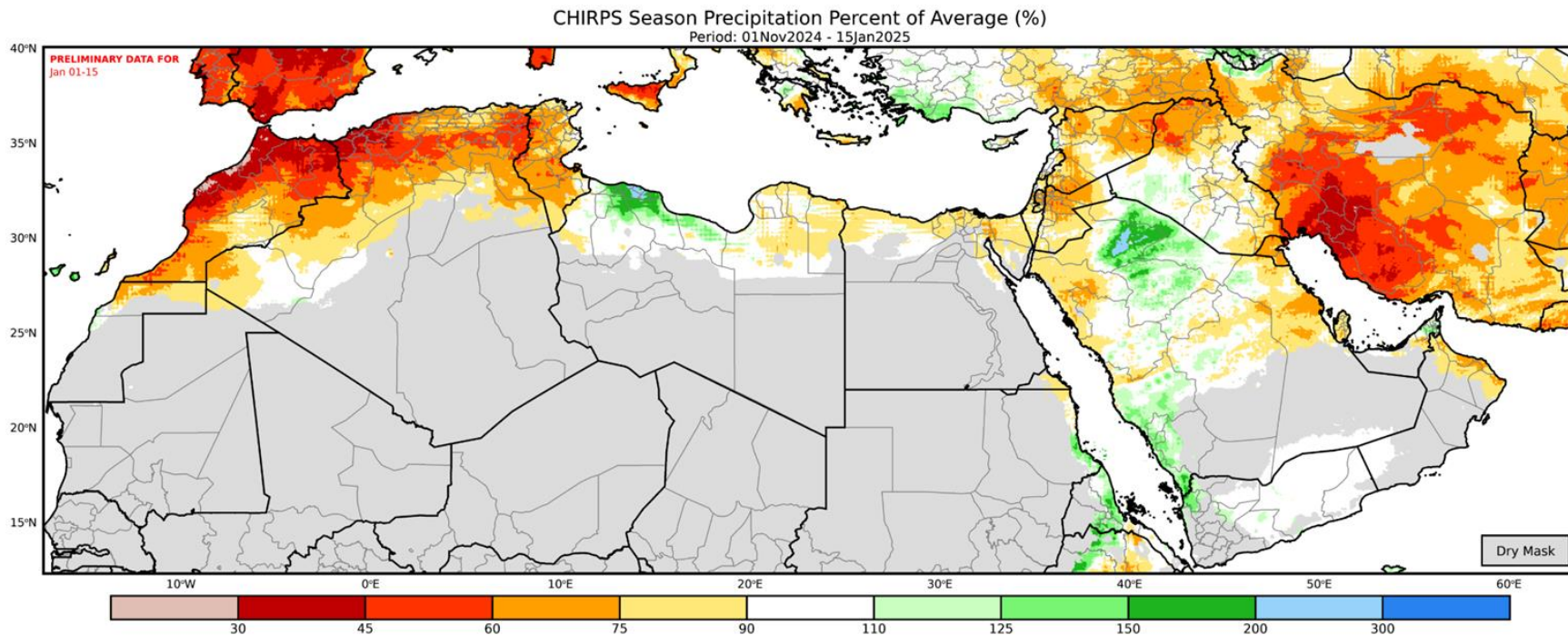


CHIRPS Season Precipitation Percent of Average (%)
Period: 01Oct2024 - 15Jan2025



November 2024 - January 2025 Precipitation

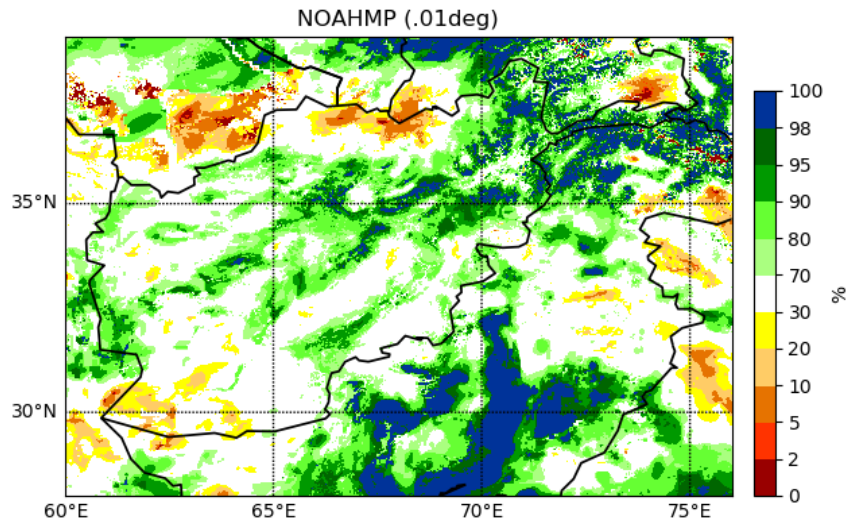
Near- and below-average precipitation to begin the 2024-25 wet season



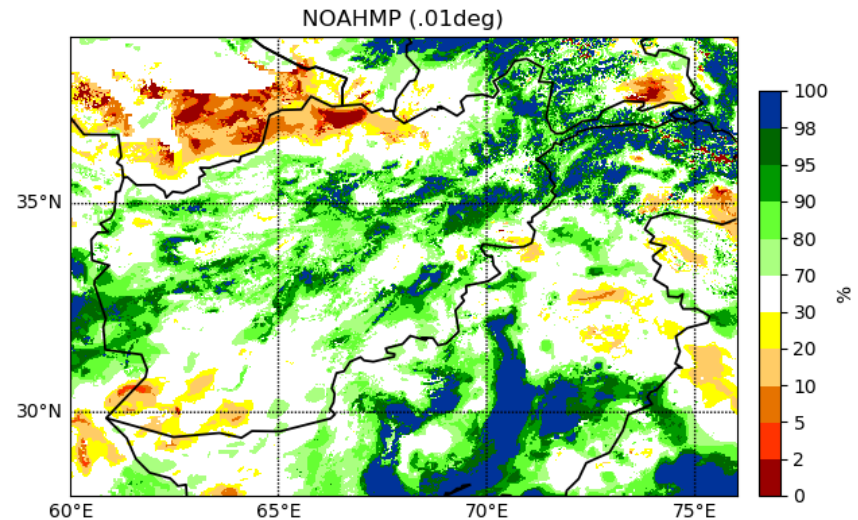
Land Surface Conditions

Below-average soil moisture in northern Afghanistan remain

Rootzone Soil Moisture Percentile : 20241217

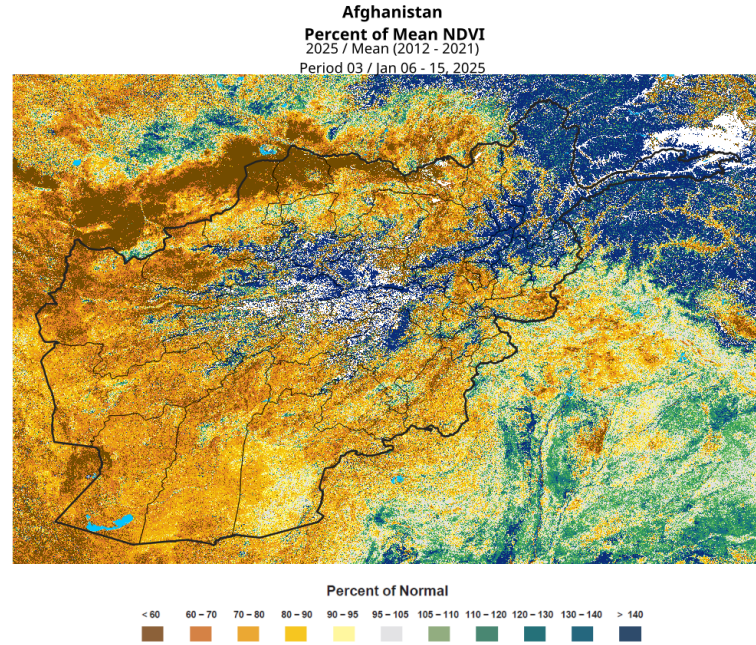


Rootzone Soil Moisture Percentile : 20250118



Vegetation Conditions

Generally below-average except for central and northeastern areas



Map Produced by USGS/EROS

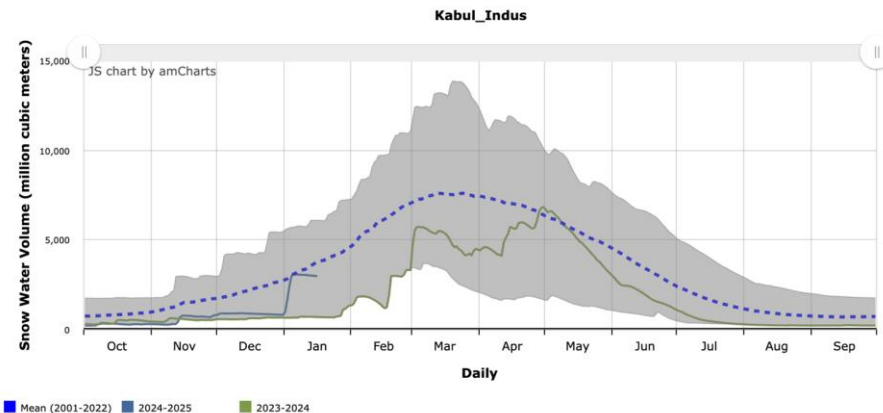
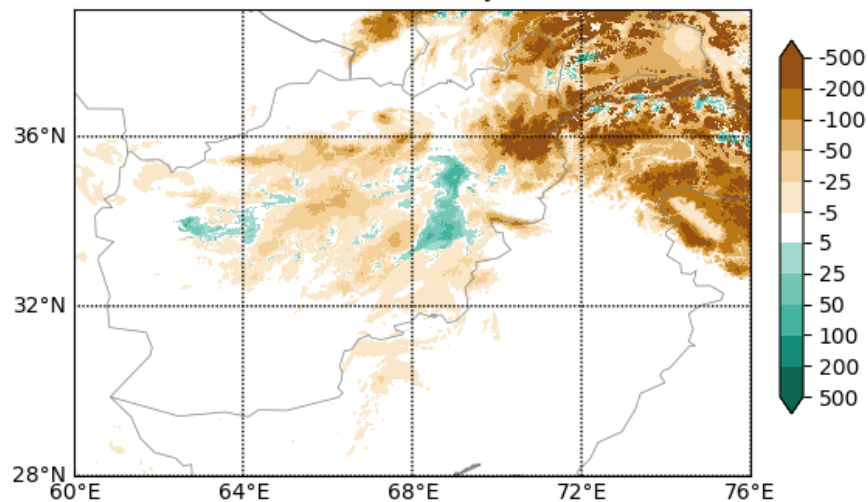
Source: eVIIRS 375m



Snowpack

Generally below-average consistent with early season precipitation

NOAHMP - SWE Anomaly :20250118

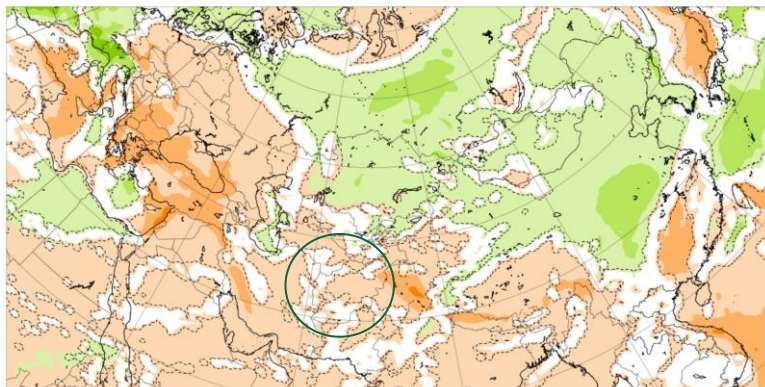


Weekly Precipitation Forecast

Below average expected in the next two weeks

Precipitation: Weekly mean anomalies

Base time: Sat 18 Jan 2025 Valid time: Mon 20 Jan 2025 - Mon 27 Jan 2025 (+216h) Area : Western Asia

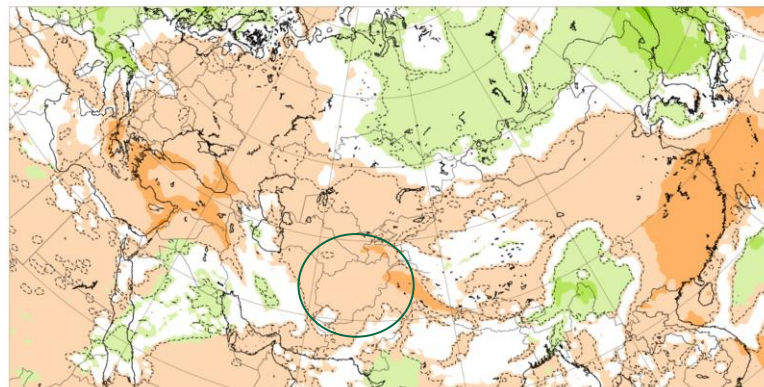


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Created at 2025-01-18T12:43:46.303Z



Precipitation: Weekly mean anomalies

Base time: Sat 18 Jan 2025 Valid time: Mon 27 Jan 2025 - Mon 03 Feb 2025 (+394h) Area : Western Asia



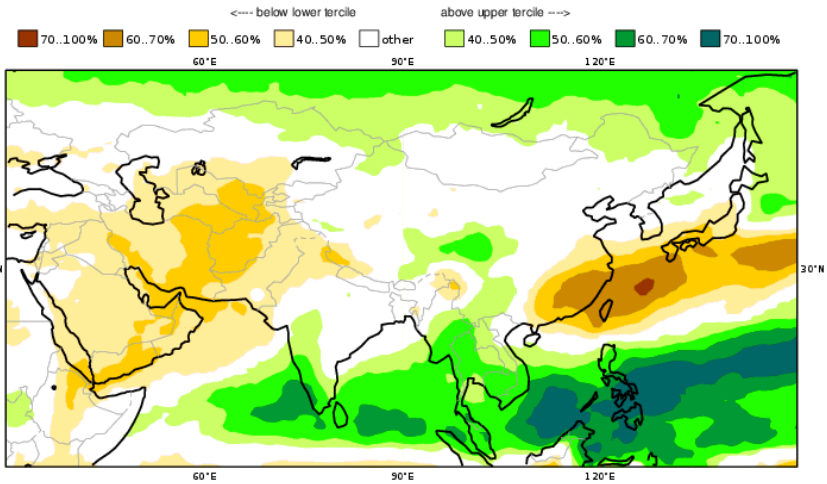
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Created at 2025-01-18T12:44:21.248Z



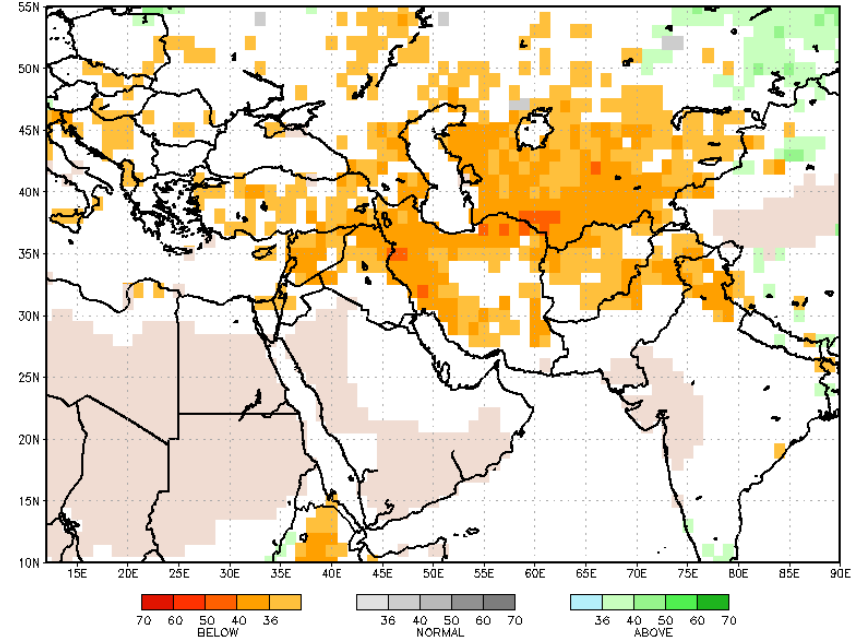
February-April 2025 Precipitation Forecast

Below-average precipitation most likely in the Middle East and western Asia

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of precipitation)
Nominal forecast start: 01/01/25
Unweighted mean



NMME Precip Prob. Jan1C Feb2025-Apr2025 Feat

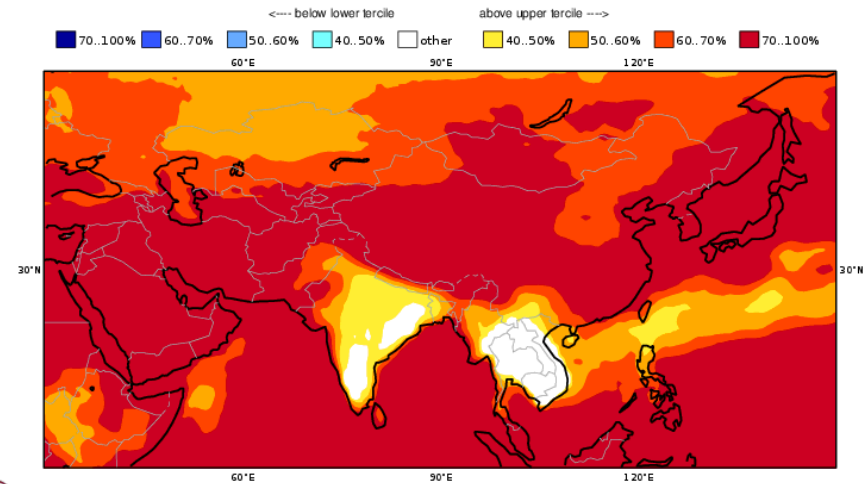
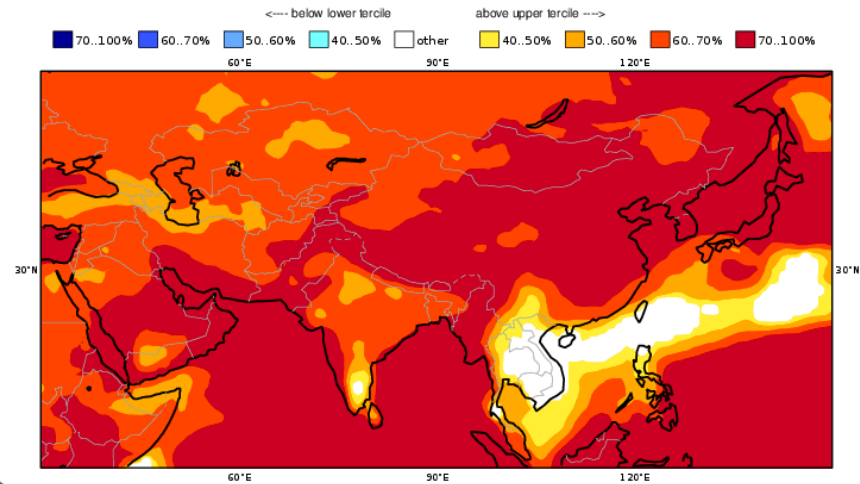


February-June 2025 Temperature Forecasts

Chances of above-average temperatures more than doubled

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
 Prob(most likely category of 2m temperature) FMA 2025
 Nominal forecast start: 01/01/25
 Unweighted mean

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
 Prob(most likely category of 2m temperature) AMJ 2025
 Nominal forecast start: 01/01/25
 Unweighted mean

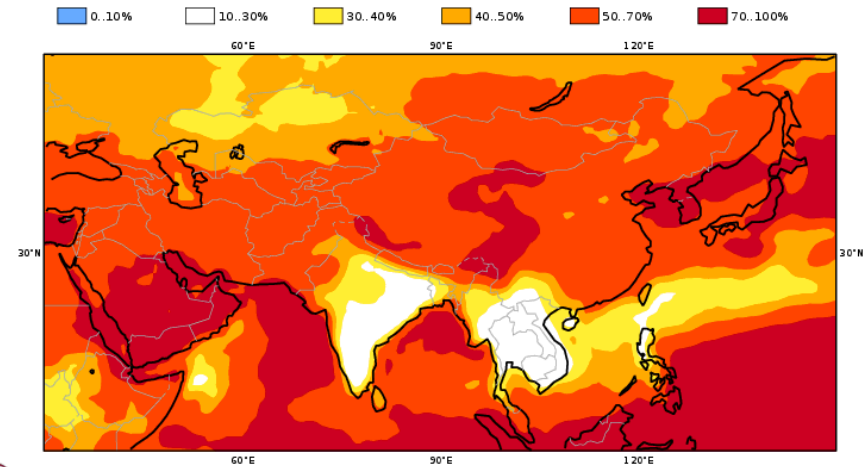
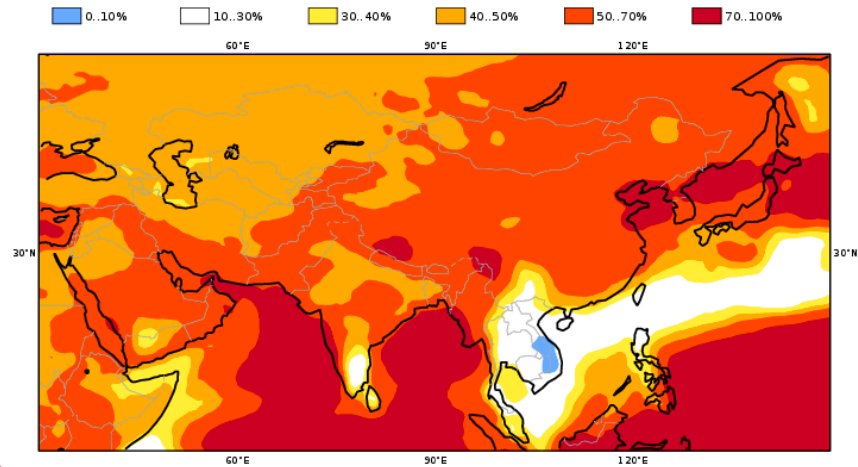


February-June 2025 Extreme Temperature Forecasts

Chances of extreme temperatures nearly tripled

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(highest 20% of climatology) - 2m temperature FMA 2025
Nominal forecast start: 01/01/25
Unweighted mean

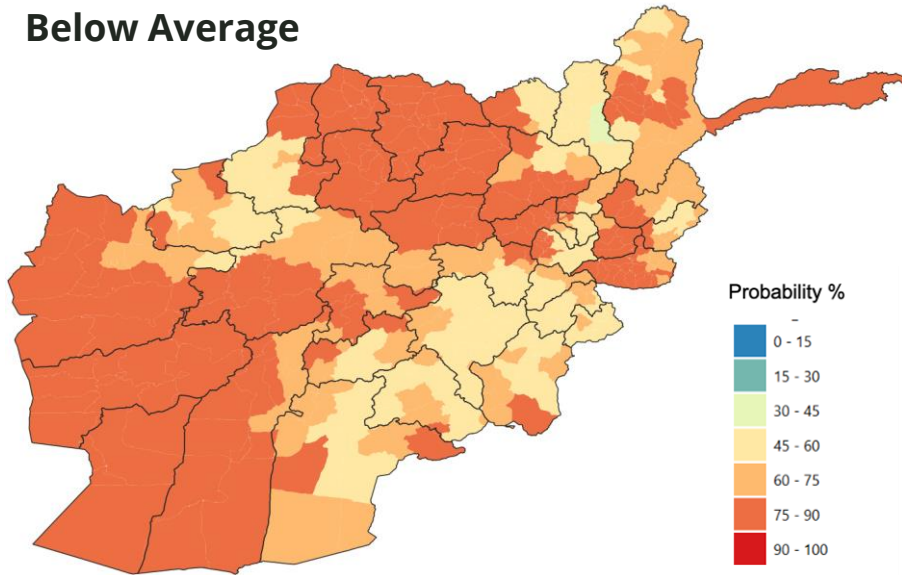
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(highest 20% of climatology) - 2m temperature AMJ 2025
Nominal forecast start: 01/01/25
Unweighted mean



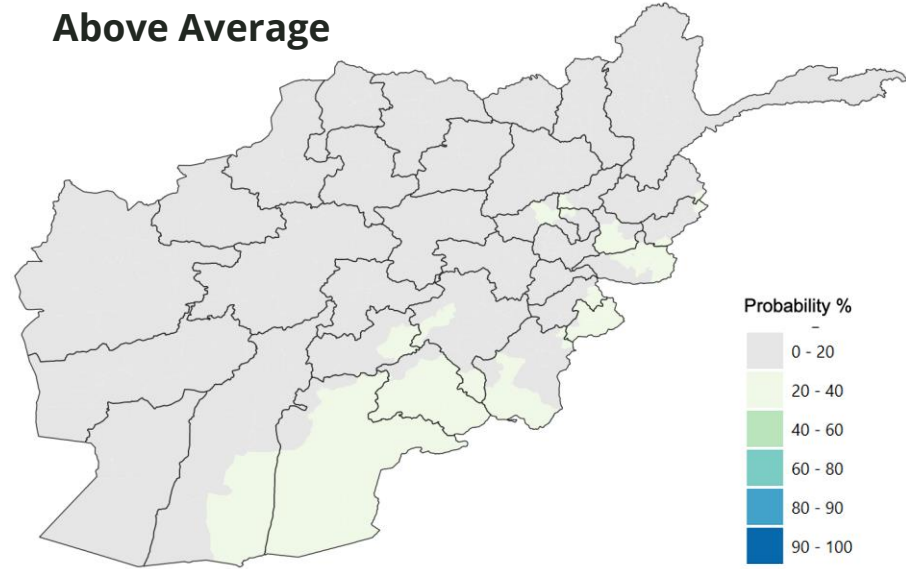
Precipitation Scenarios

High changes of below average based on conditions to date and analogs

Below Average



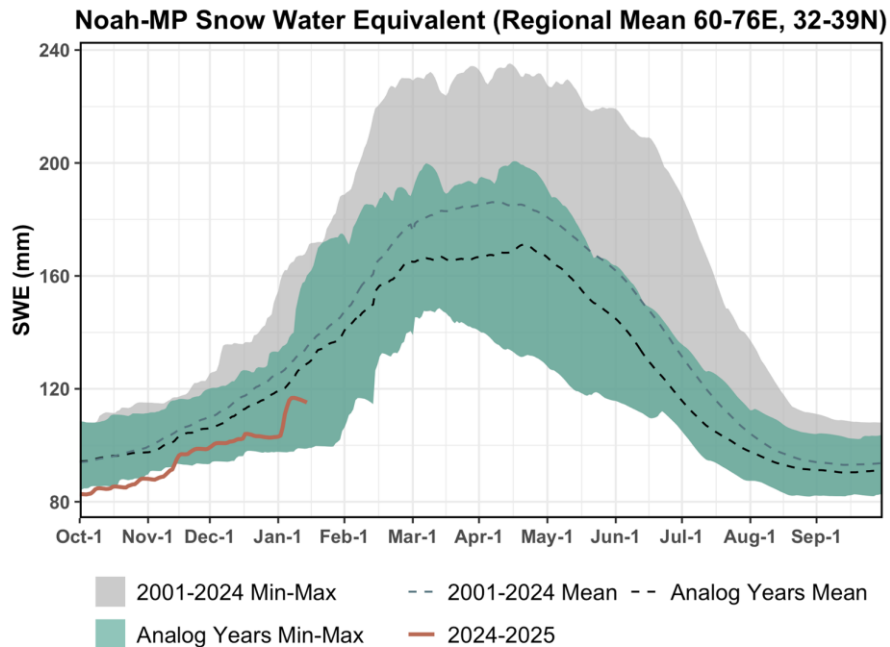
Above Average



2000-01, 2003-04, 2005-06, 2007-08, 2010-11, 2017-18, 2020-21, 2021-22, 2022-23, 2023-24

Snow Water Equivalent During Analog Years

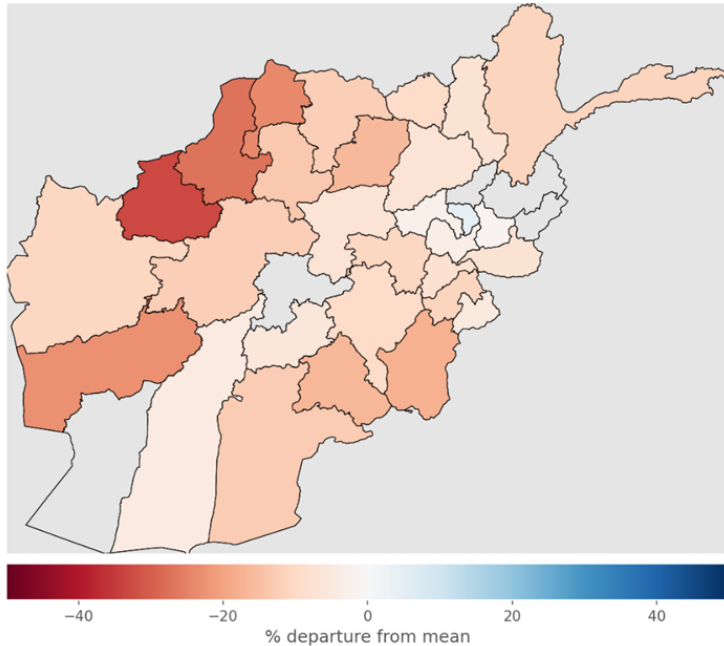
Below-average was observed



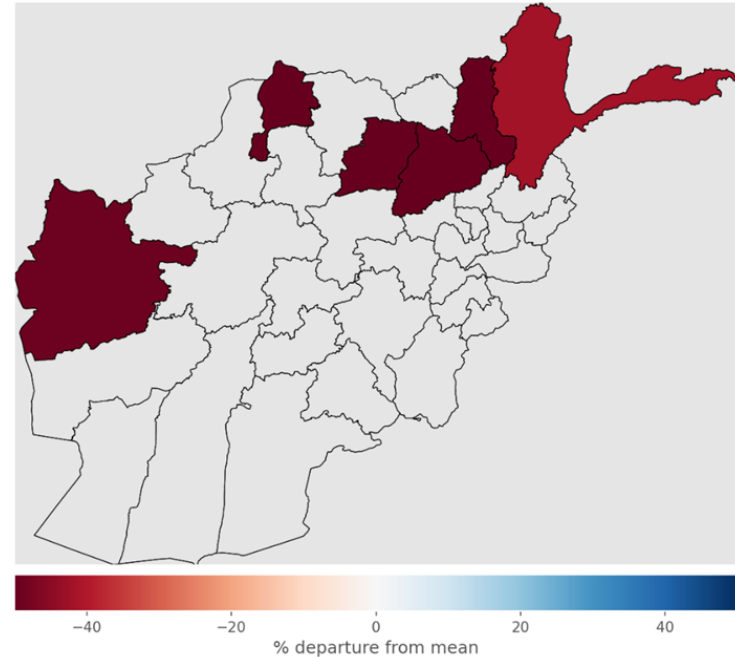
Crop Production During Analog Years

Below-average winter and spring wheat production was observed

Winter Wheat average production anomaly during analog years



Spring Wheat average production anomaly during analog years



Assumption 1 of 8

Afghanistan

Above-average daily mean temperatures are most likely, with some periods of average to below-average temperatures possible, through at least September 2025. There is a 40-70% chance of extreme temperatures (in the upper quintile) across most of the country during this time. This is likely to have an adverse impact on snow accumulation in both mid- and high-elevation areas.

No Change



Assumption 2 of 8

Afghanistan

Cumulative precipitation for the 2024/25 winter wet season, October to March, is expected to be below average. **No Change**



Assumption 3 of 8

Afghanistan

Precipitation for the March to May Spring rainy season will most likely be below average across the country with some localized areas of near average rainfall. **No Change**



Assumption 4 of 8

Afghanistan

Below-average precipitation and above-average temperatures are likely to lead to below-average snow water equivalent in most basins across the country. Snow water volumes are anticipated to remain below average in most basins throughout the 2024/25 precipitation season. **No Change**



Assumption 5 of 8

Afghanistan

Rangeland vegetative conditions are below average in **parts of the** northern, northeastern, southeastern and parts of western regions while close to average **and above average** in northeastern, ~~eastern and central~~ **highlands and parts of eastern and** central areas. Vegetation conditions will likely generally remain seasonally sparse through February 2025. In February/March, as warmer temperatures emerge, notably in the lowlands, and given expectations for high temperatures and below-average precipitation, vegetative conditions are then expected to remain stable or deteriorate, resulting in near-average to below-average in most areas. Thereafter, vegetation conditions are expected to improve, but less than typical, with negative anomalies expected to increase notably from March through September.



Assumption 6 of 8

Afghanistan

Due to the likelihood of below-average winter and spring precipitation, cropped area for spring wheat is likely to be lower than average, negatively impacting the 2024/25 wheat harvest. However, precipitation timing and location are other important factors that we must consider during wheat planting and its critical stages of development.



Assumption 7 of 8

Afghanistan

Considering the expectation for above-average temperatures and below-average precipitation, Afghanistan is expected to experience a mild winter, likely resulting in below normal livestock deaths and road blockages. **No Change**



Assumption 8 of 8

Afghanistan

Despite above-average snowpack in some higher elevated areas, due to below-average precipitation during the spring along with generally below-average snowpack, the risk of flooding is below average. **Note that the areas with isolated above-average snowpack are still two months from their typical annual peak.**



Assumption 9

Afghanistan (NEW)

Although the cumulative precipitation has been below average so far, recent precipitation has supported healthy germination of the sown seeds and have improved both surface water and groundwater recharge



Assumption 10

Afghanistan (NEW)

Recent snowfall has improved the snowpack but increased the risk of early flooding and avalanches during February and March.



Assumption 1 of 2

Lebanon

The start of the 2024/25 precipitation season in Lebanon is forecast to be below-average from November to January. **No Change**



Assumption 2 of 2

Lebanon

Above-average daily mean temperatures are most likely through at least January 2025. **No Change**





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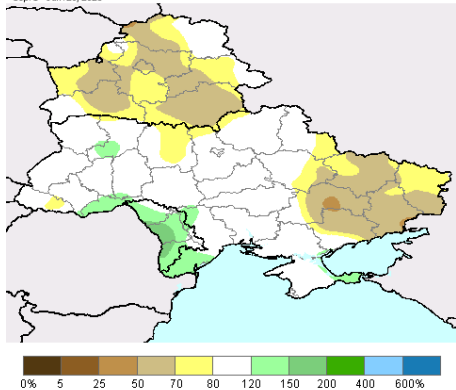
Ukraine

September - mid January Precipitation

Above normal in southwest, drier in the east

CPC percent of normal precipitation
Sep 1st, 2024 – Jan 20th, 2025

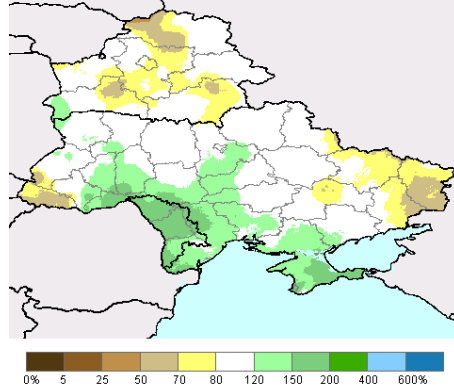
Seasonal Percent of Normal Precipitation (CPC)
Sep 1 - Jan 20, 2025



Source: NOAA/CPC

WMO percent of normal precipitation
Sep 1st, 2024 – Jan 20th, 2025

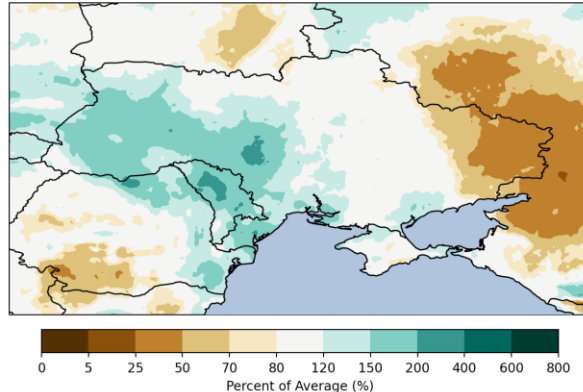
Seasonal Percent of Normal Precipitation (WMO)
Sep 1 - Jan 20, 2025



Source: World Meteorological Organization

IMERG Late percent of normal precipitation
Sep 1st, 2024 – Jan 20th, 2025

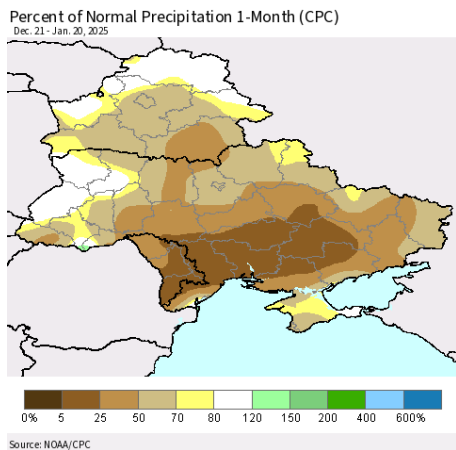
Precipitation Percent of Average for September 1 to January 20, 2024
Data: IMERG-Late v7 Baseline: 2001-2020 mean



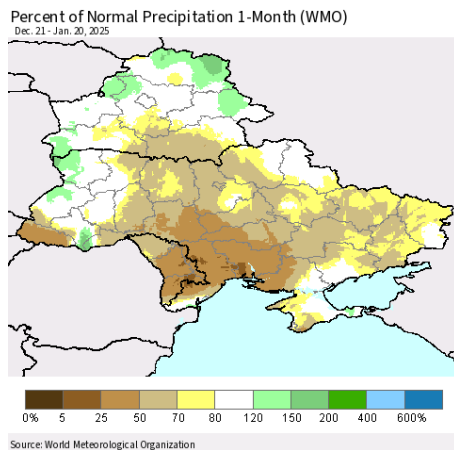
mid-December to mid-January Precipitation

Negative anomalies in southern areas

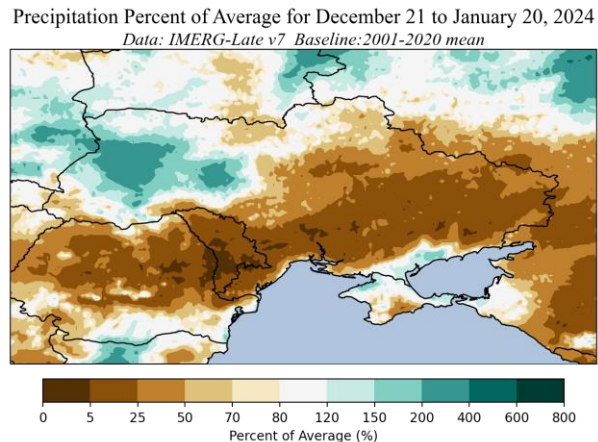
CPC percent of normal precipitation
Dec 21st, 2024 – Jan 20th, 2025



WMO percent of normal precipitation
Dec 21st, 2024 – Jan 20th, 2025

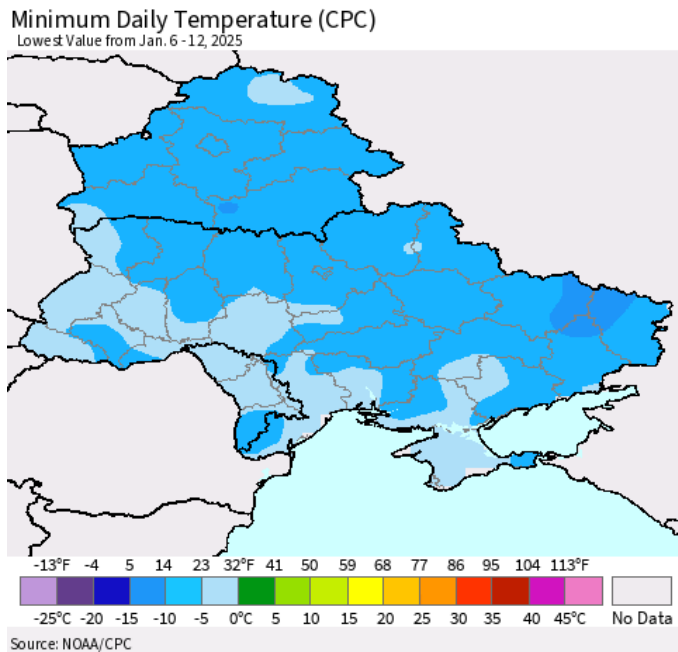


IMERG Late percent of normal precipitation
Dec 21st, 2024 – Jan 20th, 2025

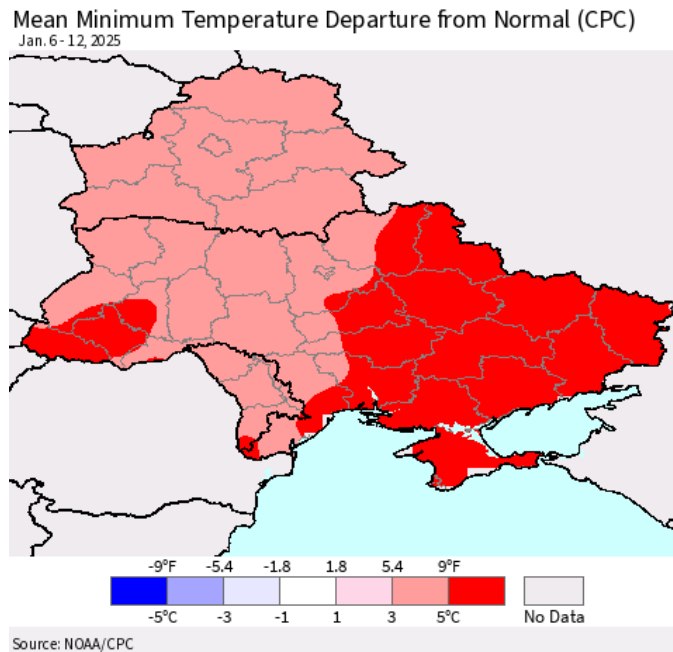


Warmer minimum temperatures than usual

CPC minimum temperature value
Jan 6th – Jan 12th, 2025



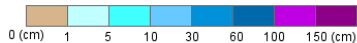
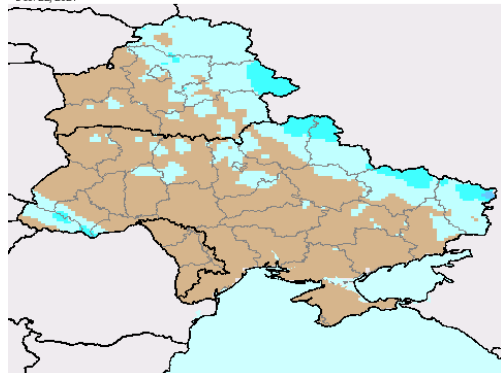
CPC minimum temperature anomaly
Jan 6th – Jan 12th, 2025



Warmer temps related to variable snow cover

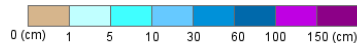
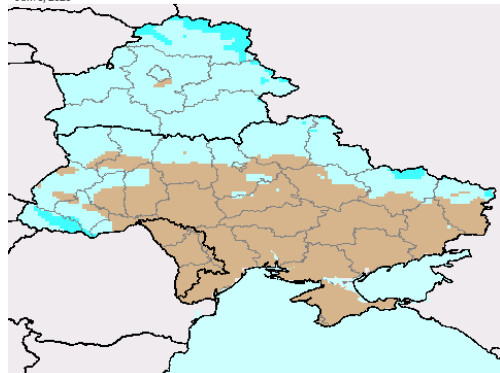
USAF 557th WW snow depth
Dec 22nd, 2024 (left) and Jan 5th, 2025 (middle)

Snow Depth (USAF 557th WW)
Dec. 22, 2024



Source: US Air Force 557th Weather Wing (LIS-ARGMET)

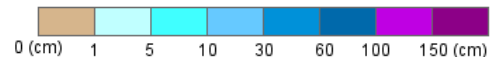
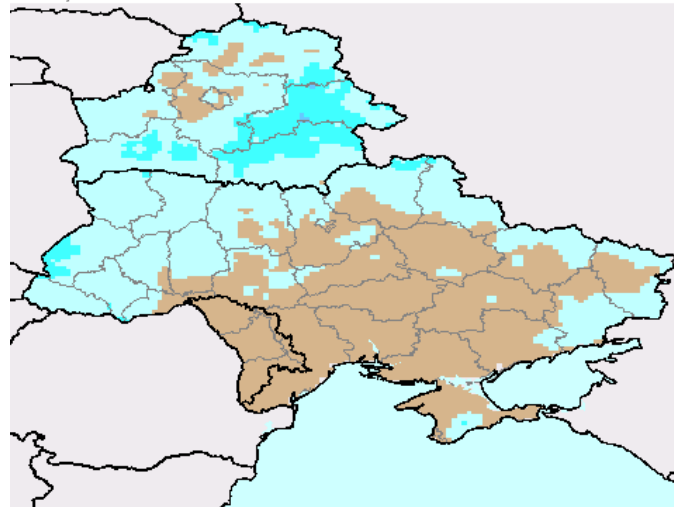
Snow Depth (USAF 557th WW)
Jan. 5, 2025



Source: US Air Force 557th Weather Wing (LIS-ARGMET)

USAF 557th WW snow depth
Jan 19th, 2025

Snow Depth (USAF 557th WW)
Jan. 19, 2025

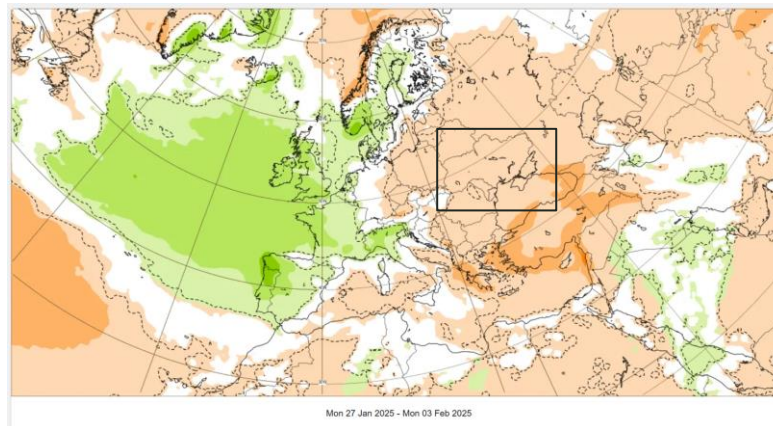
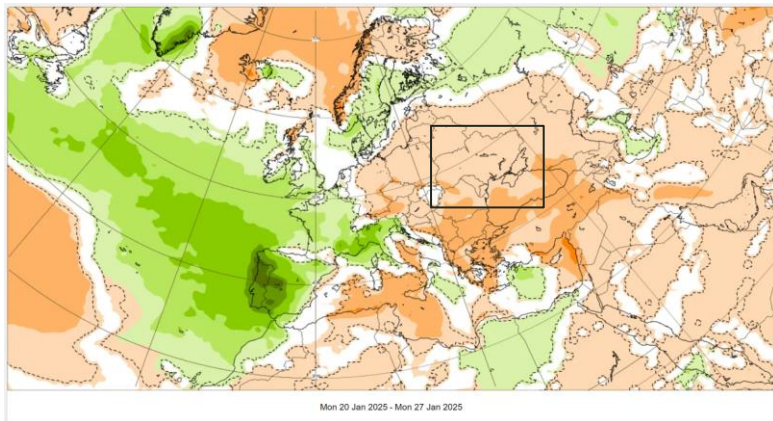


Source: US Air Force 557th Weather Wing (LIS-ARGMET)

Below-average precip forecast in coming weeks

ECMWF Extended Range precipitation anomaly forecast for January 20th – 27th, 2025

ECMWF Extended Range precipitation anomaly forecast for January 27th – February 3rd, 2025

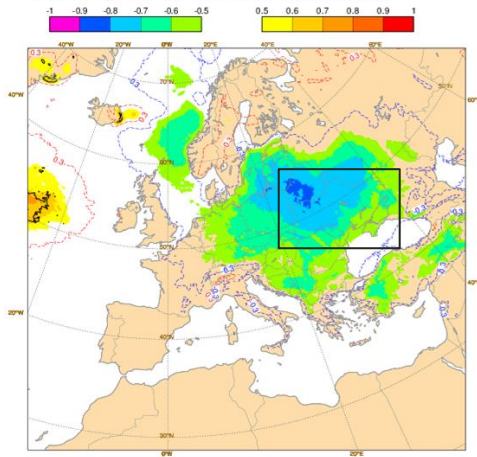


Warmer temps and anomalously low snowpack expected

ECMWF Extreme Forecast Index (EFI)

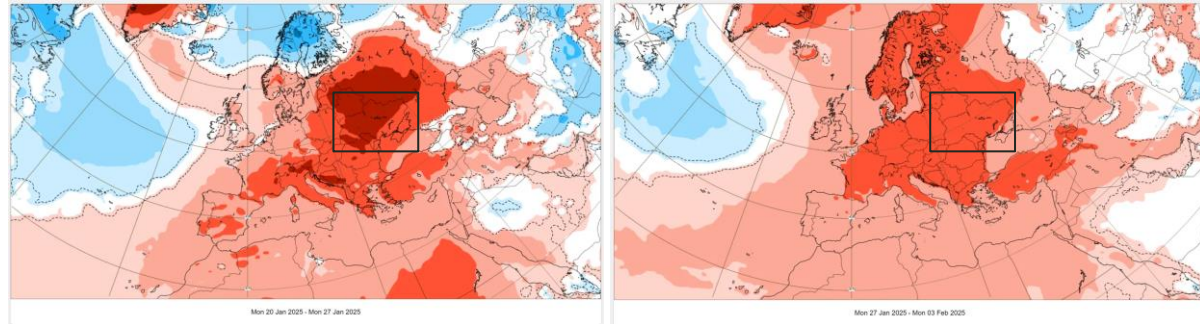
forecast for Jan 27th – Feb 3rd, 2025

Sun 19 Jan 2025 00UTC ©ECMWF 1-0-360h VT: Sun 19 Jan 2025 00UTC - Mon 03 Feb 2025 00UTC
Extreme forecast index and Shift of Tails (black contours 0,1,2,5,8) for total snowfall



ECMWF Extended Range 2m temperature anomaly

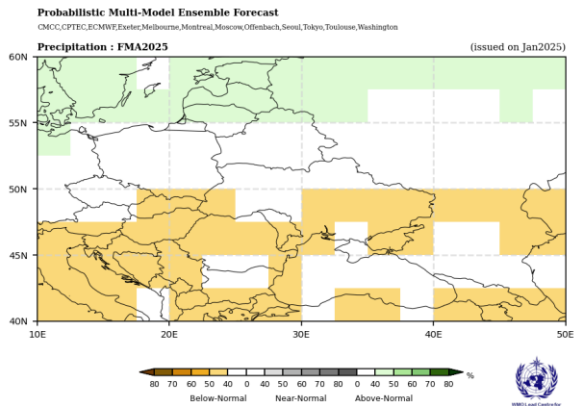
forecast for Jan 20th – 27th (left) and Jan 27th – Feb 3rd, 2025 (middle)



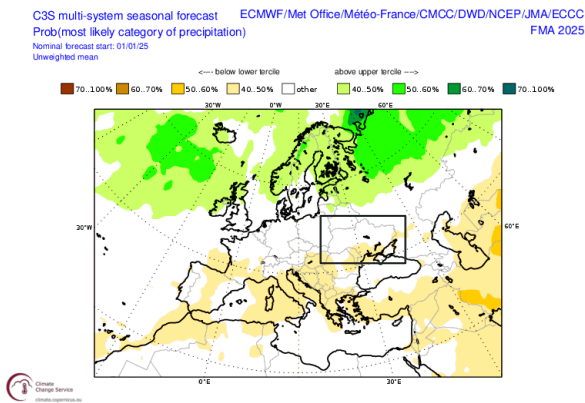
February - April 2025 precipitation

Low confidence, weak suggestion of below average

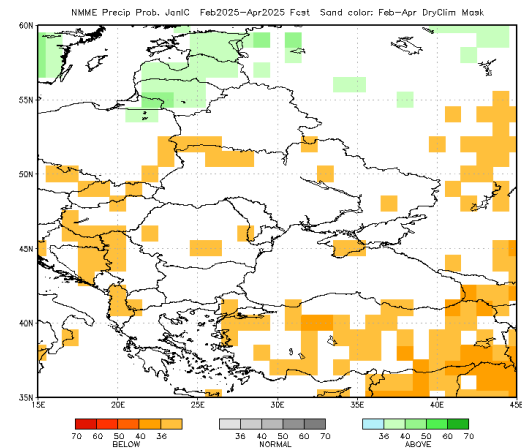
WMO precipitation forecast for February to April 2025



C3S precipitation forecast for February to April 2025



NMME precipitation forecast for February to April 2025

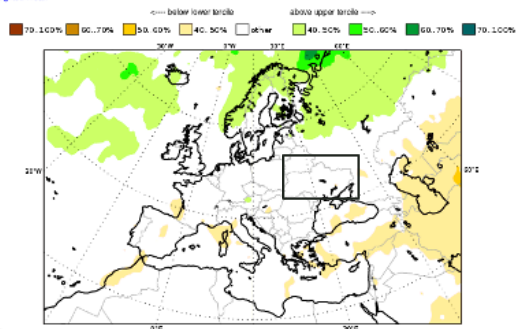


Spring 2025 planting precipitation

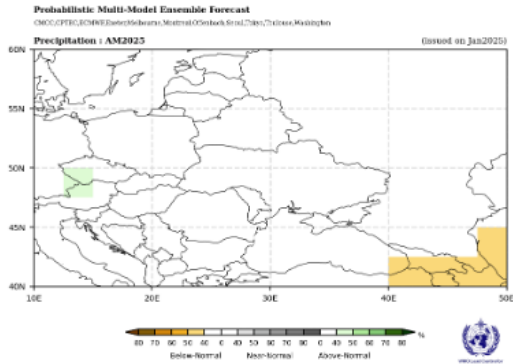
No tilt in the odds towards any tercile outcome

C3S precipitation forecast for March to May 2025

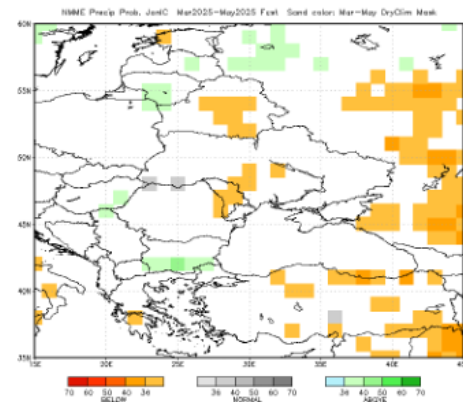
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob.(most likely category of precipitation)
Normal forecast start: 01/01/25
Unweighted mean



WMO precipitation forecast for April to May 2025



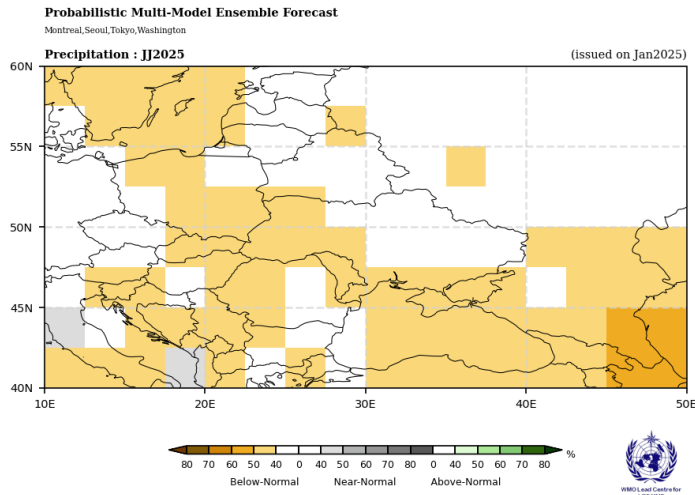
NMME precipitation forecast for March to May 2025



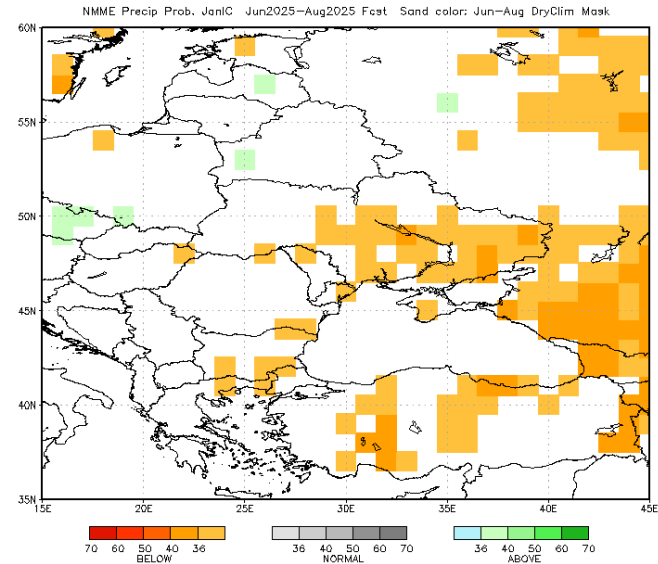
Summer precipitation

Weak tilt towards below average

WMO precipitation forecast for June to July 2025



NMME precipitation forecast for June to August 2025



Summer Temperature

Above average most likely

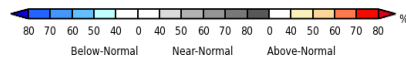
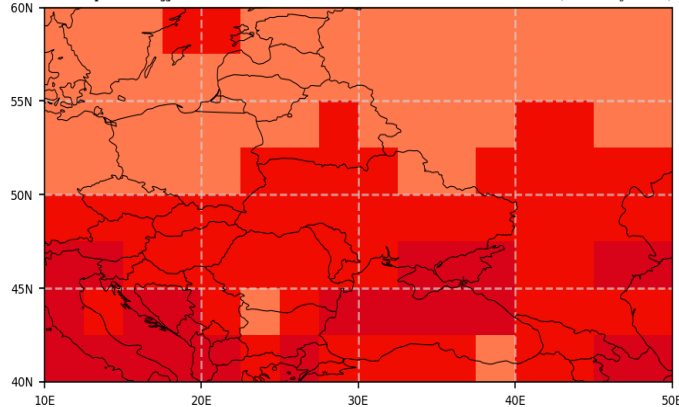
WMO temperature forecast for June to July 2025

Probabilistic Multi-Model Ensemble Forecast

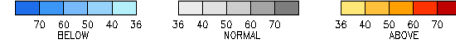
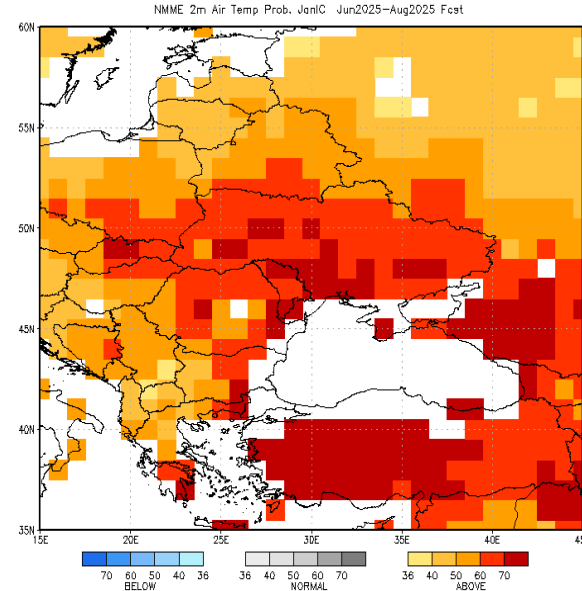
Montreal, Seoul, Tokyo, Washington

2m Temperature : JJ2025

(issued on Jan2025)

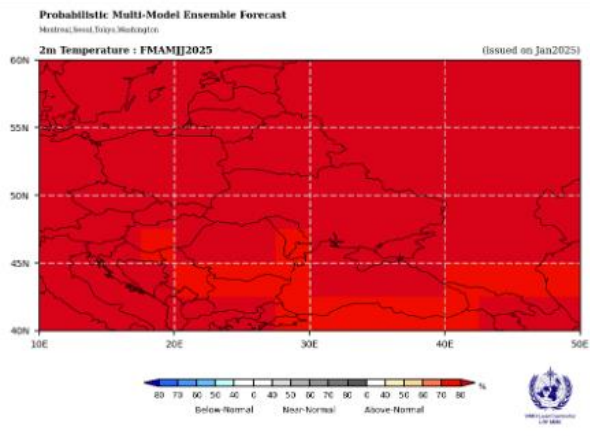


NMME temperature forecast for June to August 2025

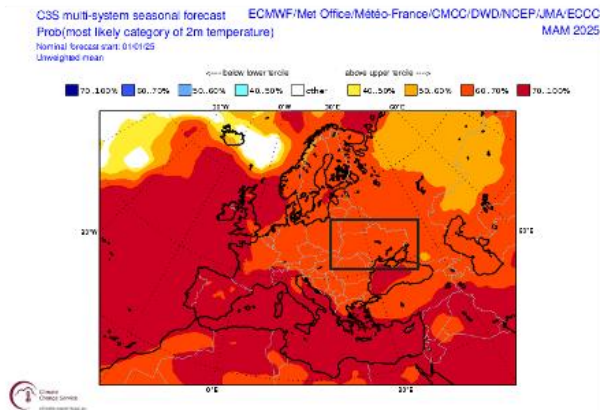


February - August 2025 Temperature

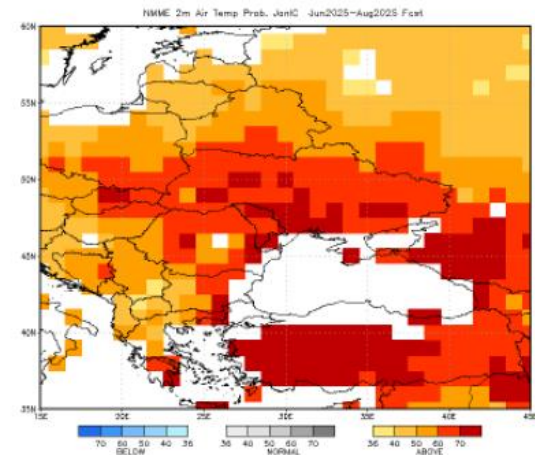
WMO 2m temperature forecast for February to July 2025



C3S 2m temperature forecast for March to May 2025



NMME 2m temperature forecast for June to August 2025



Assumption 1 of 4

Winter grain seasonal precipitation

Average to below-average fall to winter season precipitation totals are anticipated.

Based on recent and forecast below-average conditions for January to March, precipitation surpluses from late 2024 will likely erode in southern and central areas. Less snowfall and fast melt means less snow cover for insulation and protection of winter crops if cold snaps occur, and potential impacts on spring crop water availability.



Assumption 2 of 4

Spring planting period precipitation

Rainfall during Ukraine's spring planting period in April/May 2025 is assumed to be average, with warmer-than-average temperatures and earlier snow-free conditions. There is a high level of uncertainty regarding precipitation, with models indicating no tilt in the odds towards any tercile outcome.



Assumption 3 of 4

Summer precipitation and temperatures

During Summer 2025 there will be elevated risks of dry spells and heat waves in southern and central Ukraine, based on WMO and NMME long-range forecasts for increased chances of below-average precipitation and above-average temperatures.



Assumption 4 of 4

Extended temperature outlook

Temperatures will most likely be above average through at least August 2025.





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January 2025 FEWS NET Seasonal Forecast Review

Prepared by Melissa Breeden
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