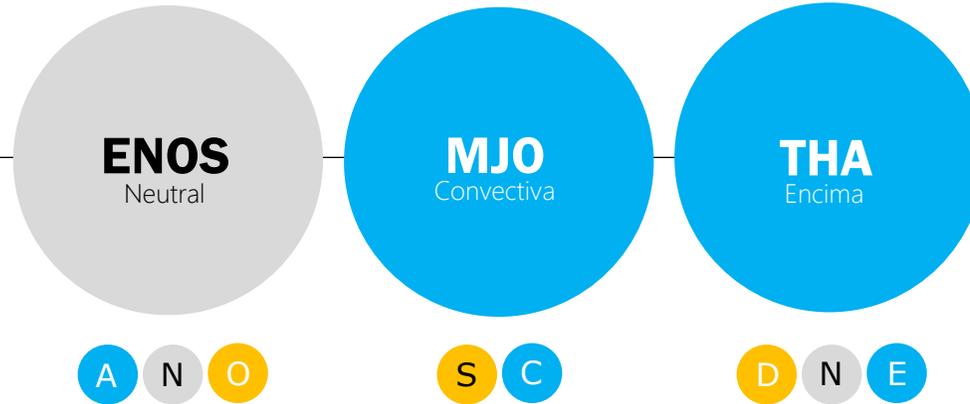


Seguimiento y Predicción Climática

CNO 771

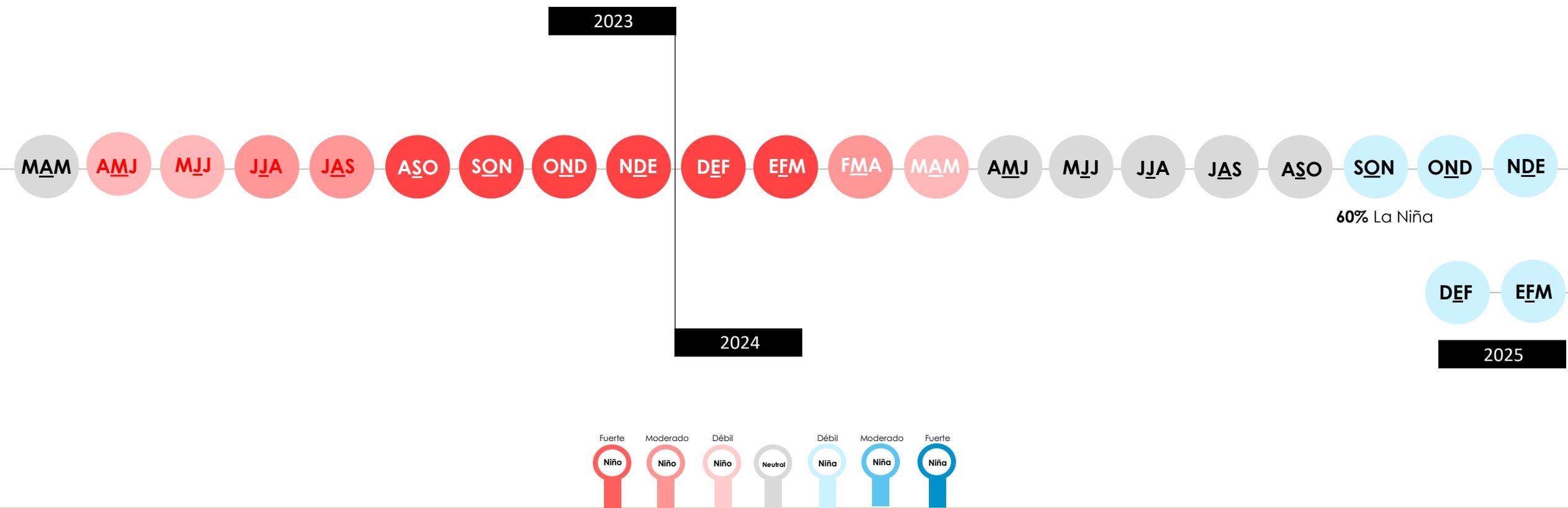
05 | 11 | 24

Variaciones del clima nacional



Fenómeno ENOS

Con base en el ONI - Preliminar



Régimen Pluviométrico

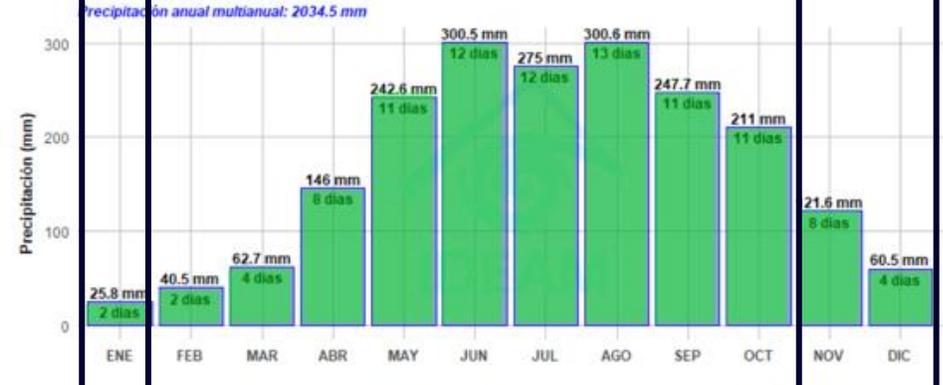
Temporadas de Más o Menos Lluvias



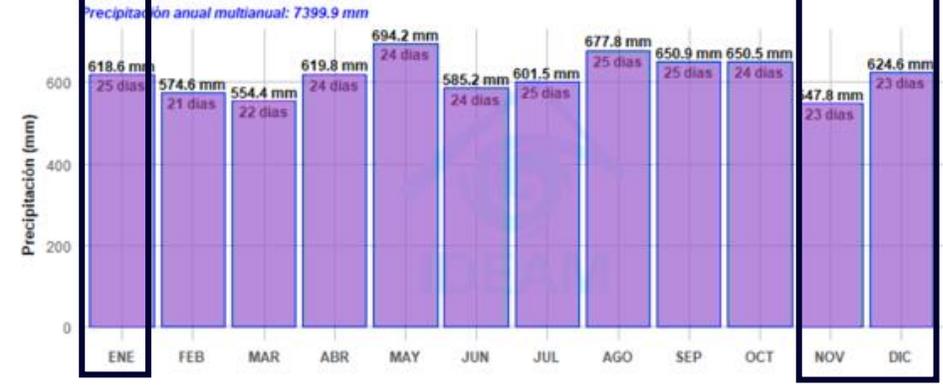
Precipitación y número de días con lluvia mensual multianual (1981 - 2010)
Estación Codazzi Dc [28020460]
Agustín Codazzi - Cesar | 90 m.s.n.m.



Precipitación y número de días con lluvia mensual multianual (1981 - 2010)
Estación Pica Pica [25010080]
Montelibano - Cordoba | 100 m.s.n.m.



Precipitación y número de días con lluvia mensual multianual (1981 - 2010)
Estación Apto Condoto [54025020]
Condoto - Choco | 66 m.s.n.m.





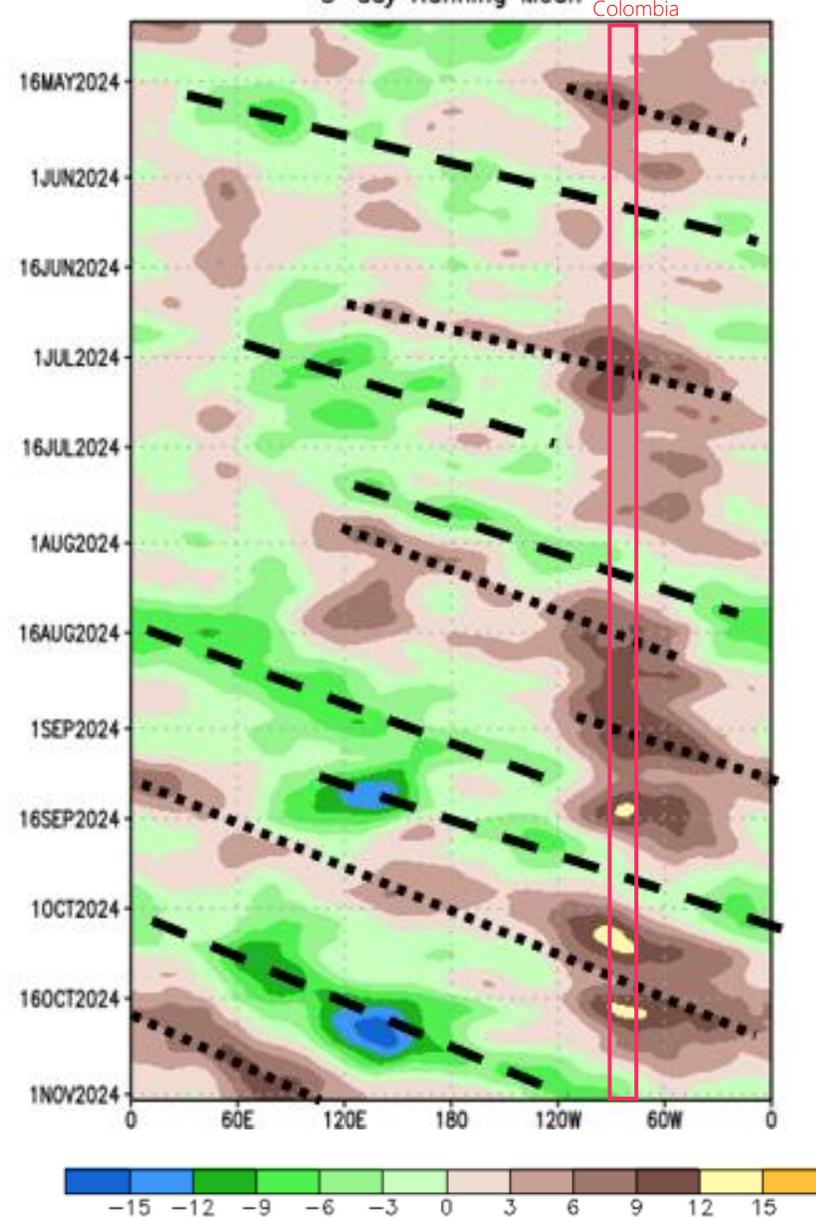
1. SISTEMA CLIMÁTICO

MJO | ENOS | THA

MJO Intraestacional

Octubre
Tránsito de la fase
subsidente intensa.

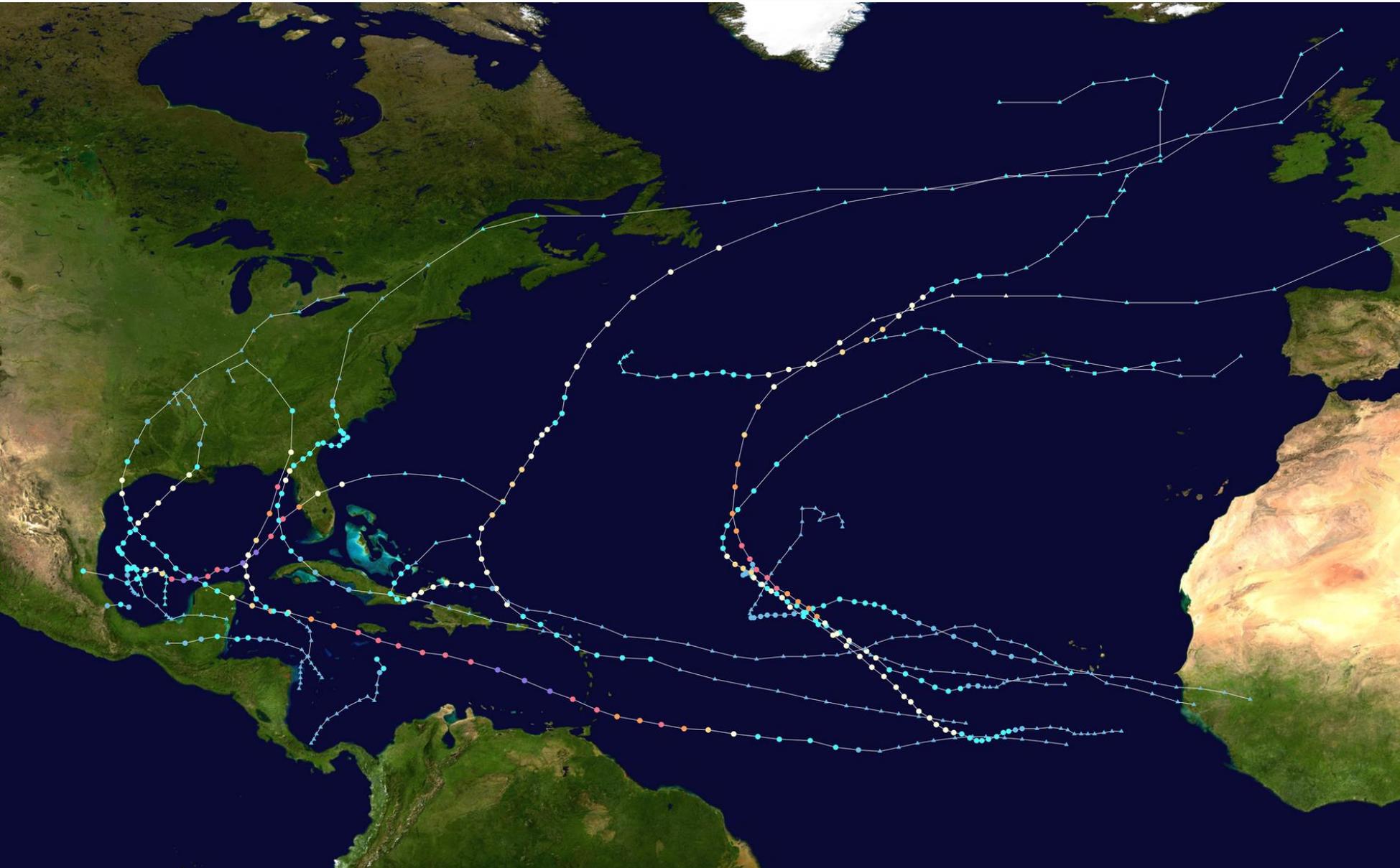
200-hPa Velocity Potential Anomaly: 5N-5S
5-day Running Mean



Favorece
Convección



Inhibe
Convección

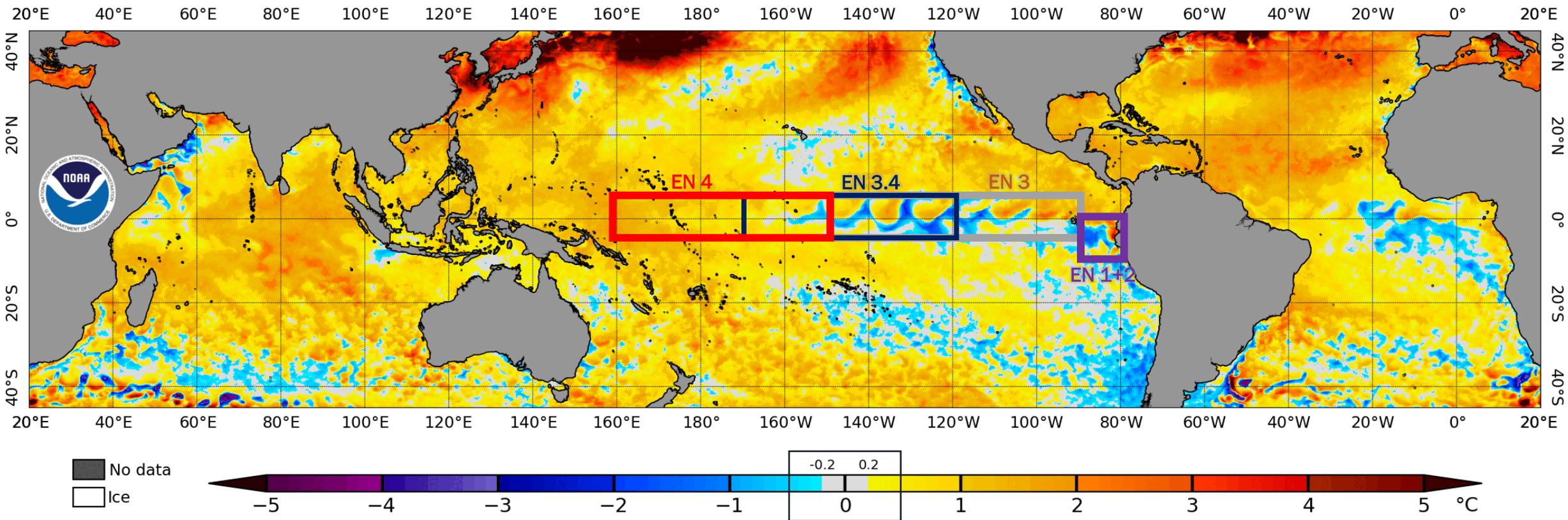


TEMPORADA HURACANES Atlántico

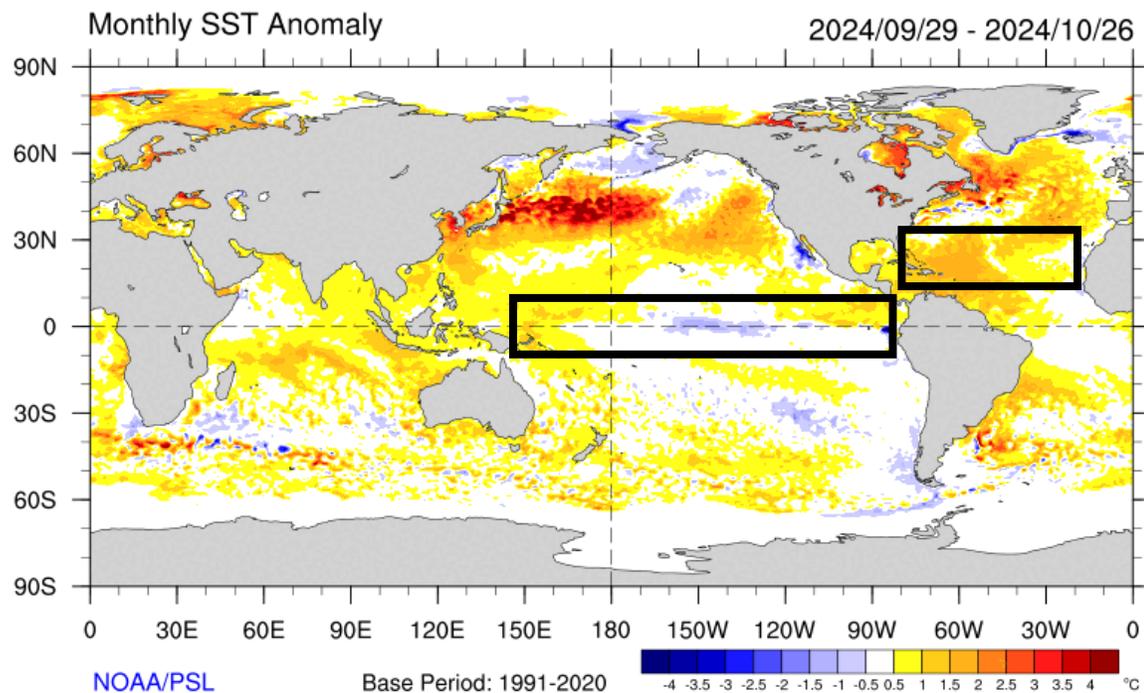
Varias ondas transitando y transportando humedad.

52
ondas

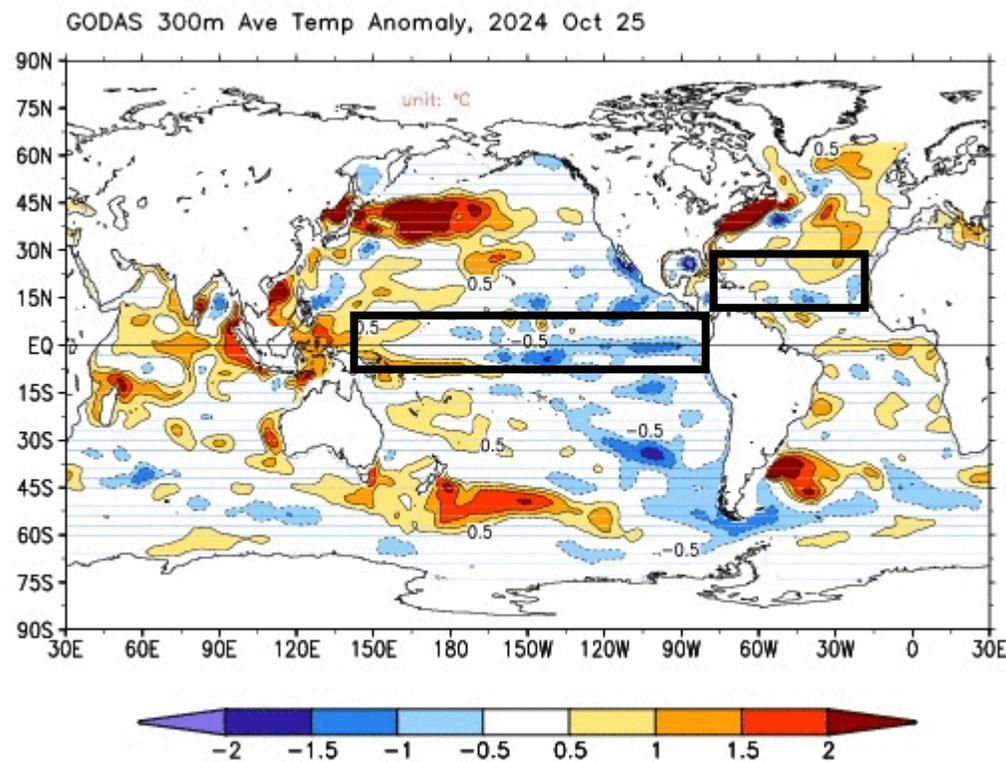
NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 5 Aug 2024



CAMPO TÉRMICO SUPERFICIAL

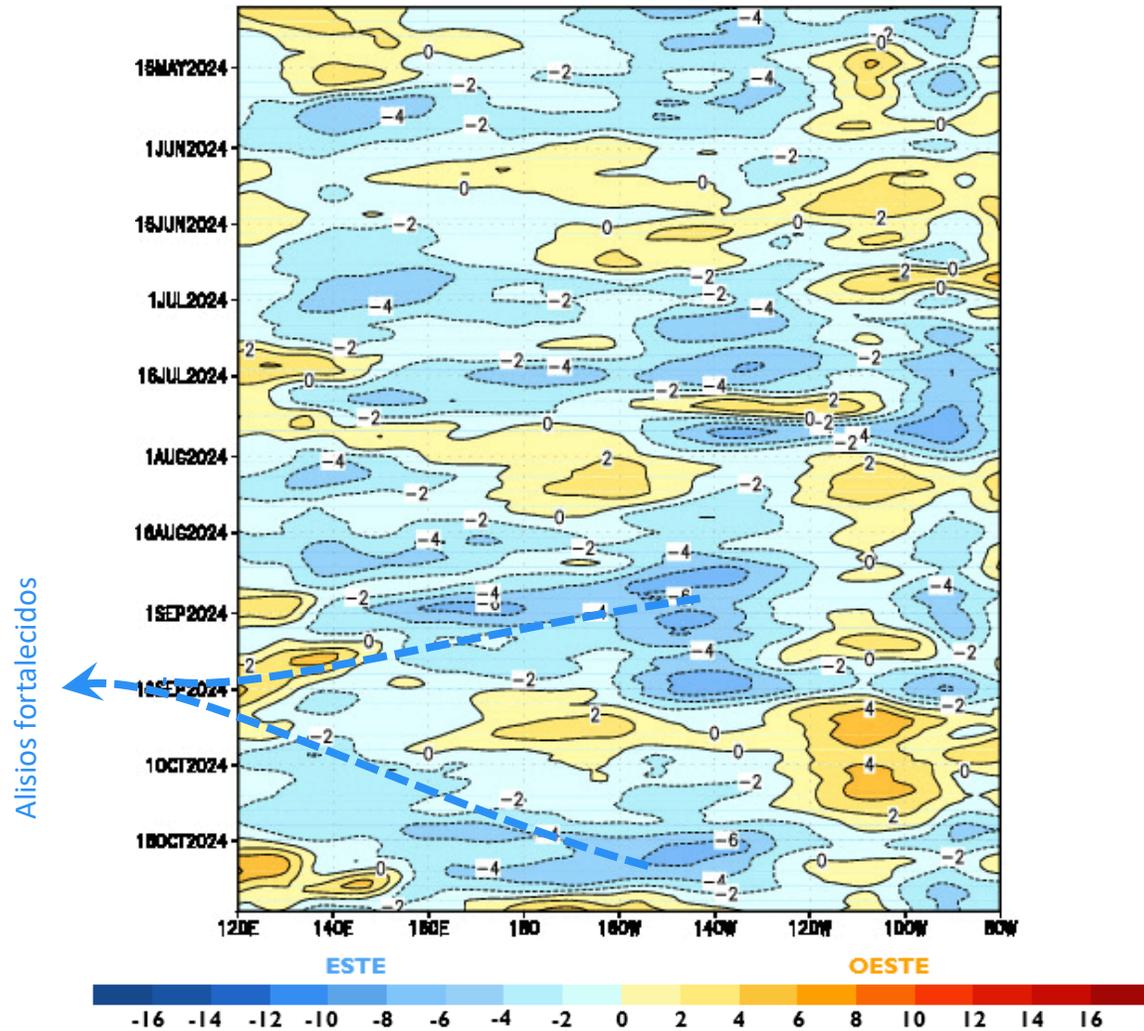


CAMPO TÉRMICO SUBSUPERFICIAL

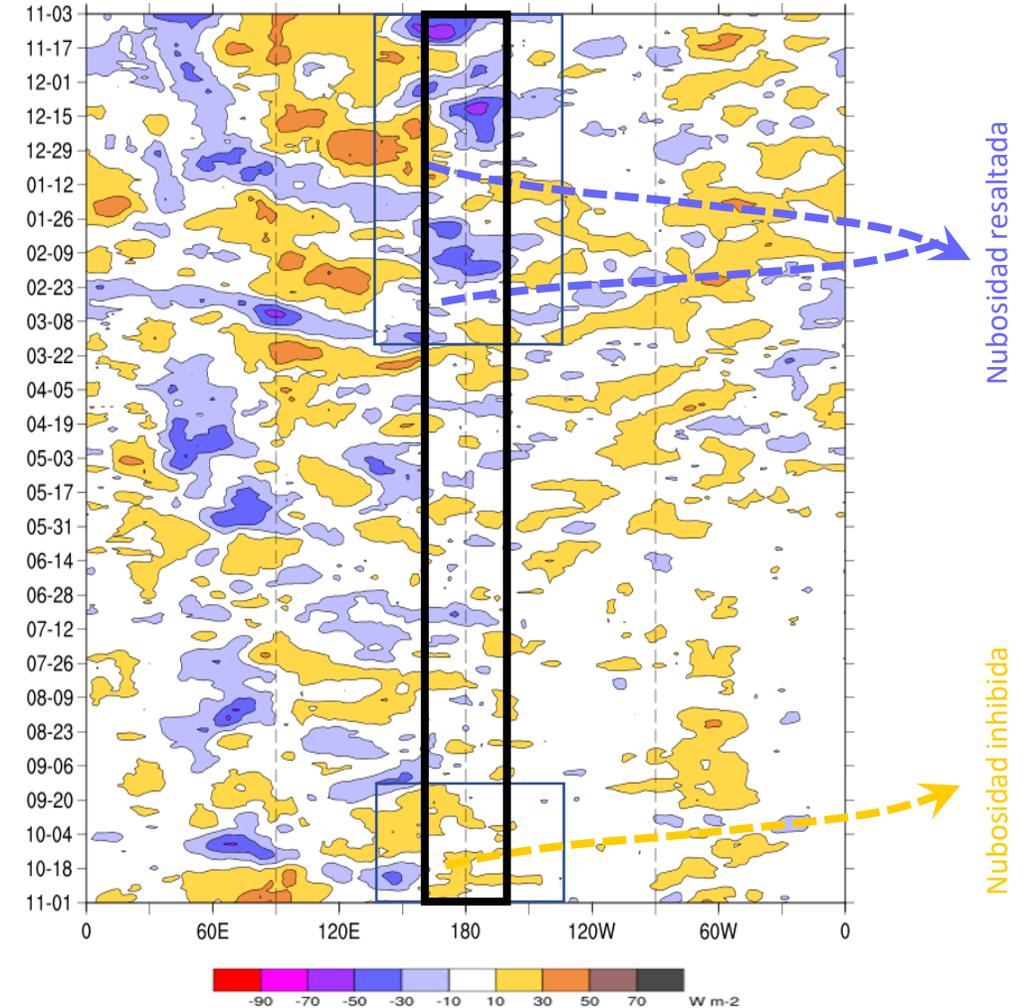


| Región | Semana Anterior | Semana Actual |
|----------|-----------------|---------------|
| Niño 3.4 | -0.3 °C | -0.5 °C |

ANOMALÍA DEL VIENTO EN SUPERFICIE



ANOMALÍA DE RADIACIÓN DE ONDA LARGA



INDICADORES DEL CICLO ENOS

MEIv2

Índice Multivariado del Ciclo El Niño - Oscilación del Sur.

Basado en:

1. Presión del Nivel del Mar.
2. Temperatura Superficial del Mar.
3. Componente Zonal de Viento (este-oeste).
4. Componente Meridional del Viento (norte-sur).
5. Radiación de Onda Larga.

Condición más reciente

JA: Niña Acoplada

Interpretación

Valores
≥ 0.5
El Niño

Valores
>-0.5 < 0.5
Neutral

Valores
≤ -0.5
La Niña

ONI - ERSST.v5

Indicador El Niño.

Basado en:

1. Temperatura Superficial del Mar.

Condición más reciente

JAS: Neutral

Tabla
No. 1

MEIv2

<https://www.esrl.noaa.gov/psd/enso/mei/>

| | DE | EF | FM | MA | AM | MJ | JJ | JA | AS | SO | ON | ND |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2010 | 0.9 | 1.3 | 1.3 | 0.5 | -0.1 | -1.3 | -2.4 | -2.4 | -2.3 | -2.2 | -2 | -1.9 |
| 2011 | -1.8 | -1.6 | -1.7 | -1.7 | -1.2 | -1 | -0.7 | -0.8 | -1.1 | -1.3 | -1.1 | -1.2 |
| 2012 | -1.1 | -0.7 | -0.6 | -0.4 | -0.3 | -0.3 | 0.3 | 0 | -0.3 | -0.2 | 0 | 0 |
| 2013 | -0.1 | -0.1 | -0.1 | -0.3 | -0.7 | -1.1 | -0.8 | -0.4 | -0.3 | -0.1 | -0.2 | -0.3 |
| 2014 | -0.5 | -0.4 | 0 | -0.2 | -0.2 | 0 | 0.4 | 0.2 | -0.1 | 0.1 | 0.4 | 0.4 |
| 2015 | 0.2 | 0.1 | 0.2 | 0.3 | 1 | 1.9 | 1.8 | 2 | 2.2 | 2.2 | 1.9 | 1.9 |
| 2016 | 1.9 | 1.8 | 1.3 | 1.3 | 1.2 | 0.4 | -0.5 | -0.3 | -0.3 | -0.5 | -0.5 | -0.4 |
| 2017 | -0.4 | -0.4 | -0.6 | -0.2 | 0.2 | -0.2 | -0.6 | -0.7 | -0.7 | -0.6 | -0.6 | -0.7 |
| 2018 | -0.8 | -0.7 | -0.8 | -1.3 | -0.9 | -0.5 | 0 | 0.5 | 0.6 | 0.5 | 0.3 | 0.2 |
| 2019 | 0.1 | 0.5 | 0.8 | 0.3 | 0.2 | 0.4 | 0.3 | 0.3 | 0.2 | 0.3 | 0.5 | 0.4 |
| 2020 | 0.3 | 0.3 | 0.1 | -0.1 | -0.2 | -0.7 | -0.9 | -1.0 | -1.1 | -1.2 | -1.1 | -1.1 |
| 2021 | -1.2 | -1.0 | -0.8 | -0.9 | -1.1 | -1 | -1.5 | -1.3 | -1.4 | -1.5 | -1.4 | -1.2 |
| 2022 | -1 | -1 | -1.3 | -1.6 | -1.7 | -1.9 | -2.2 | -1.7 | -1.7 | -1.7 | -1.5 | -1.3 |
| 2023 | -1.1 | -0.9 | -0.7 | -0.4 | -0.1 | 0.4 | 0.5 | 0.5 | 0.7 | 0.5 | 0.9 | 1.1 |
| 2024 | 0.7 | 0.7 | 0.8 | 0.3 | 0.1 | -0.2 | -0.7 | -0.7 | | | | |

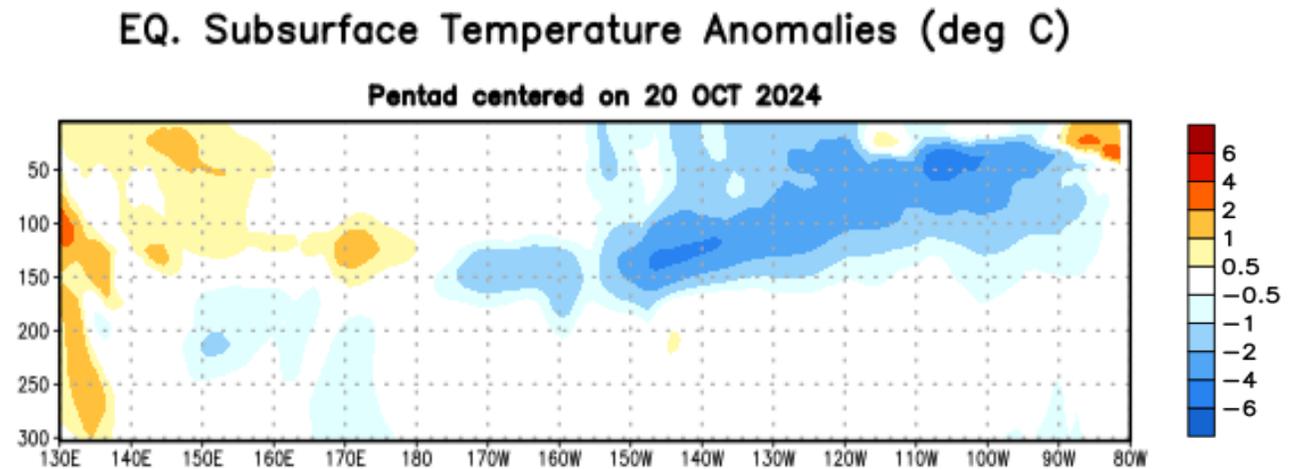
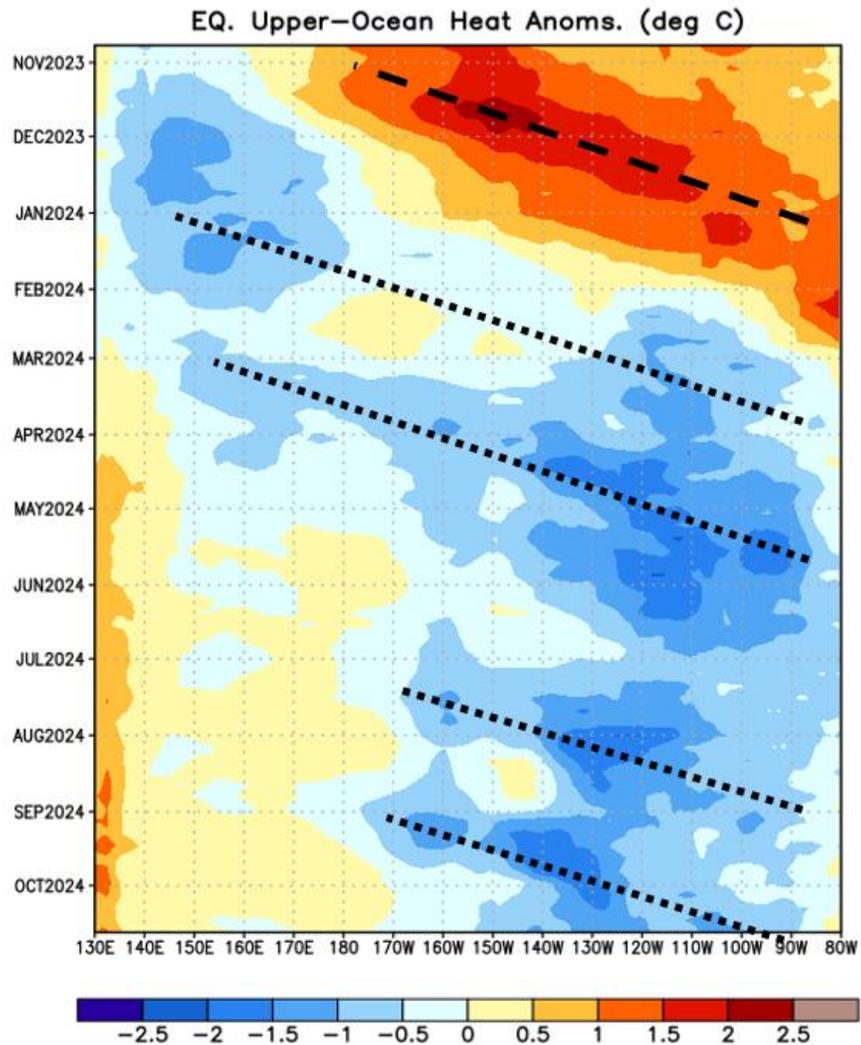
Tabla
No. 2

ONI - ERSST.v5

https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php

| | DEF | EFM | FMA | MAM | AMJ | MJJ | JJA | JAS | ASO | SON | OND | NDE |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2010 | 1.5 | 1.3 | 0.9 | 0.4 | -0.1 | -0.6 | -1.0 | -1.4 | -1.6 | -1.7 | -1.7 | -1.6 |
| 2011 | -1.4 | -1.1 | -0.8 | -0.6 | -0.5 | -0.4 | -0.5 | -0.7 | -0.9 | -1.1 | -1.1 | -1.0 |
| 2012 | -0.8 | -0.6 | -0.5 | -0.4 | -0.2 | 0.1 | 0.3 | 0.3 | 0.3 | 0.2 | 0.0 | -0.2 |
| 2013 | -0.4 | -0.3 | -0.2 | -0.2 | -0.3 | -0.3 | -0.4 | -0.4 | -0.3 | -0.2 | -0.2 | -0.3 |
| 2014 | -0.4 | -0.4 | -0.2 | 0.1 | 0.3 | 0.2 | 0.1 | 0.0 | 0.2 | 0.4 | 0.6 | 0.7 |
| 2015 | 0.6 | 0.6 | 0.6 | 0.8 | 1.0 | 1.2 | 1.5 | 1.8 | 2.1 | 2.4 | 2.5 | 2.6 |
| 2016 | 2.5 | 2.2 | 1.7 | 1.0 | 0.5 | 0.0 | -0.3 | -0.6 | -0.7 | -0.7 | -0.7 | -0.6 |
| 2017 | -0.3 | -0.1 | 0.1 | 0.3 | 0.4 | 0.4 | 0.2 | -0.1 | -0.4 | -0.7 | -0.9 | -1.0 |
| 2018 | -0.9 | -0.8 | -0.6 | -0.4 | -0.1 | 0.1 | 0.1 | 0.2 | 0.4 | 0.7 | 0.9 | 0.8 |
| 2019 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | 0.5 | 0.3 | 0.1 | 0.1 | 0.3 | 0.5 | 0.5 |
| 2020 | 0.5 | 0.6 | 0.4 | 0.3 | 0.0 | -0.2 | -0.4 | -0.6 | -1.0 | -1.2 | -1.3 | -1.2 |
| 2021 | -1.1 | -0.9 | -0.8 | -0.7 | -0.5 | -0.4 | -0.4 | -0.5 | -0.7 | -0.8 | -1.0 | -1.0 |
| 2022 | -1.0 | -0.9 | -1.0 | -1.1 | -1.0 | -0.9 | -0.8 | -0.9 | -1.0 | -1.0 | -0.9 | -0.8 |
| 2023 | -0.7 | -0.4 | -0.1 | 0.2 | 0.5 | 0.8 | 1.1 | 1.3 | 1.6 | 1.8 | 1.9 | 2.0 |
| 2023 | 1.8 | 1.5 | 1.1 | 0.7 | 0.4 | 0.2 | -0.1 | -0.2 | | | | |

Núcleo de agua **fría** destacándose entre la franja CENTRAL y ORIENTAL.





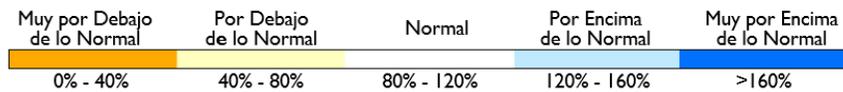
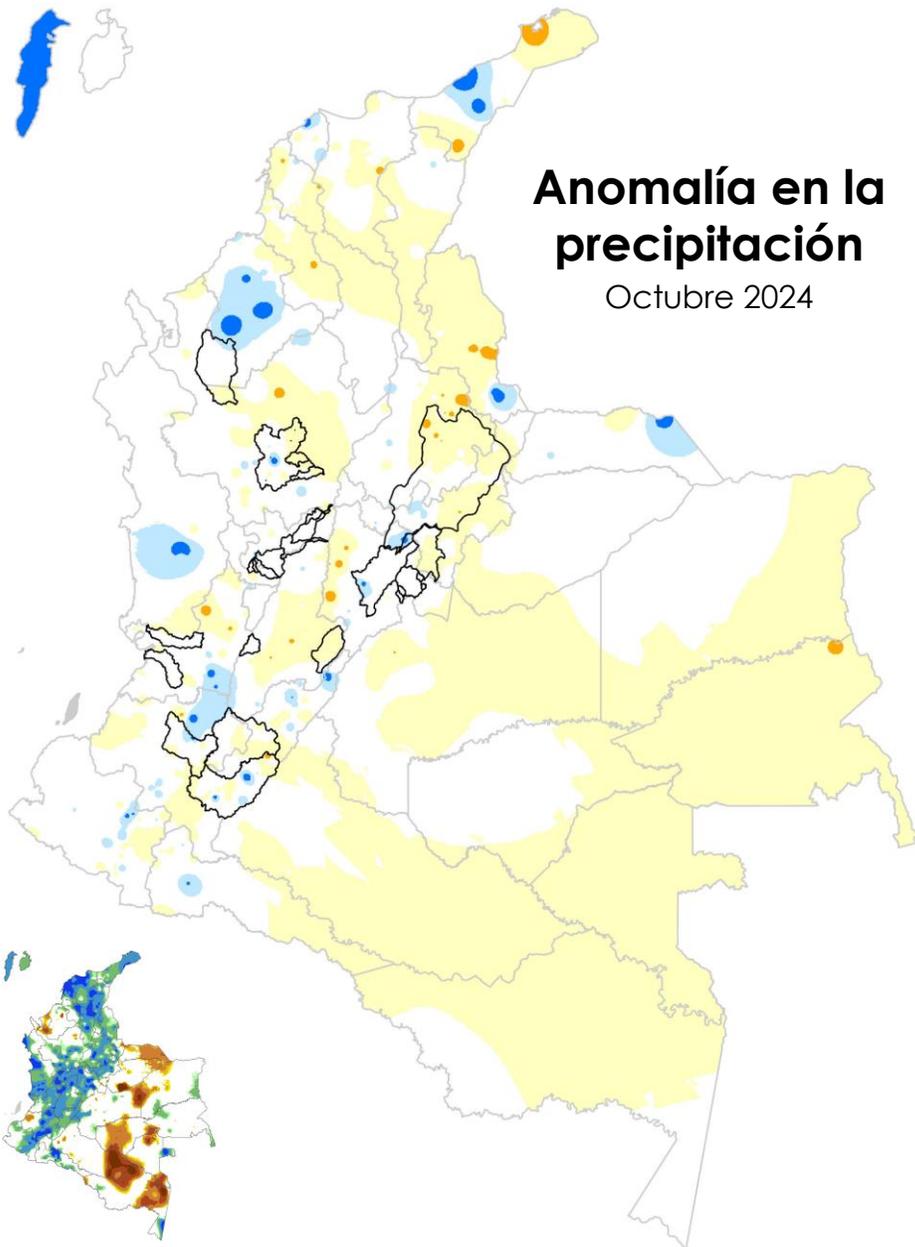
MINISTERIO DE AMBIENTE Y
DESARROLLO SOSTENIBLE

2. SEGUIMIENTO CLIMÁTICO

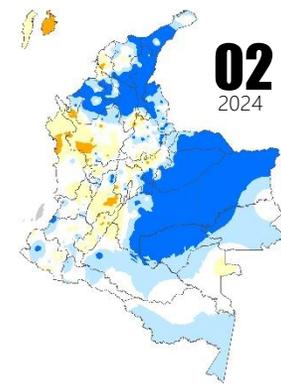
2024

Anomalía en la precipitación

Octubre 2024



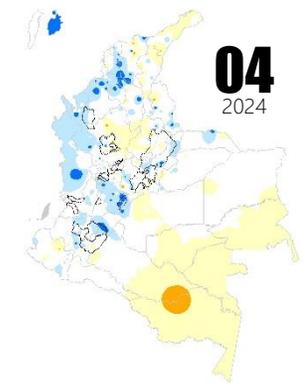
01
2024



02
2024



03
2024



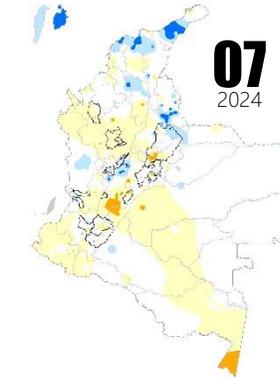
04
2024



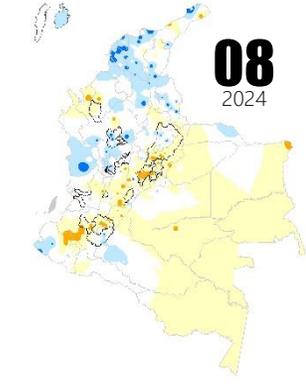
05
2024



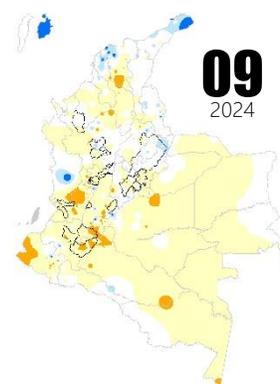
06
2024



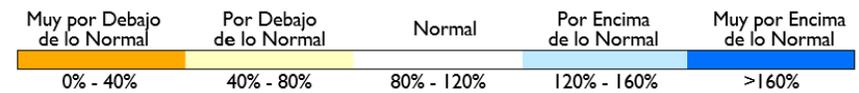
07
2024



08
2024

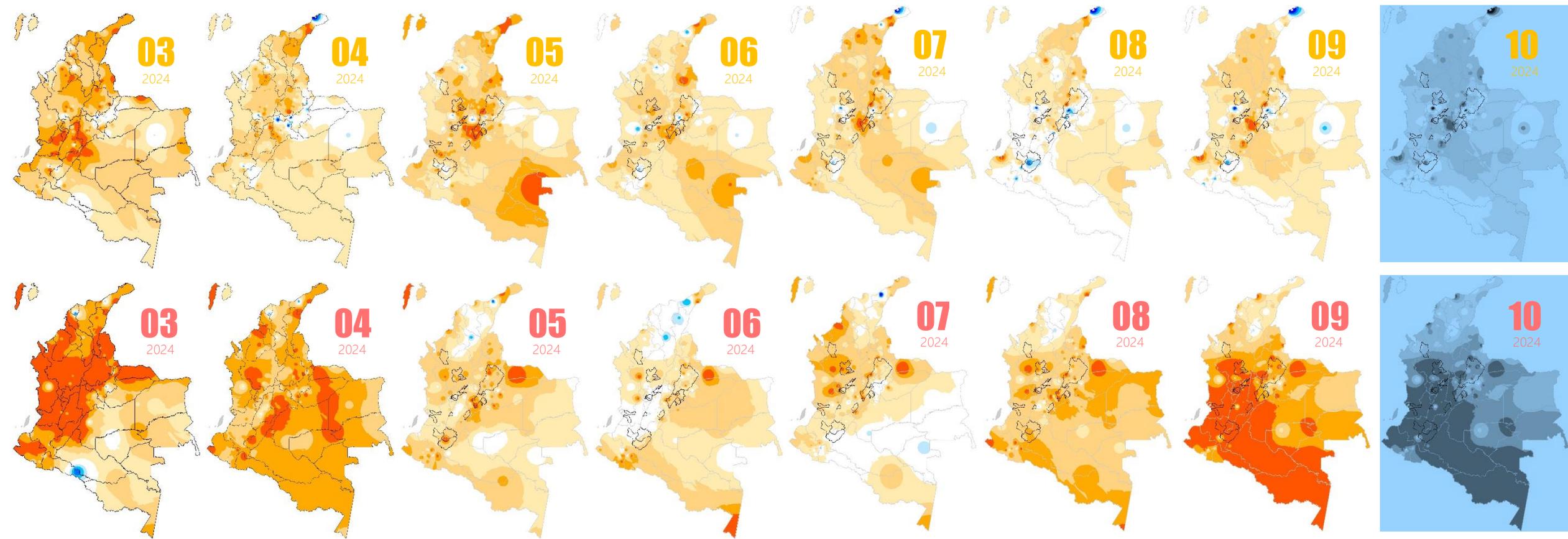


09
2024



Anomalía de las temperaturas extremas

mínimas y máximas





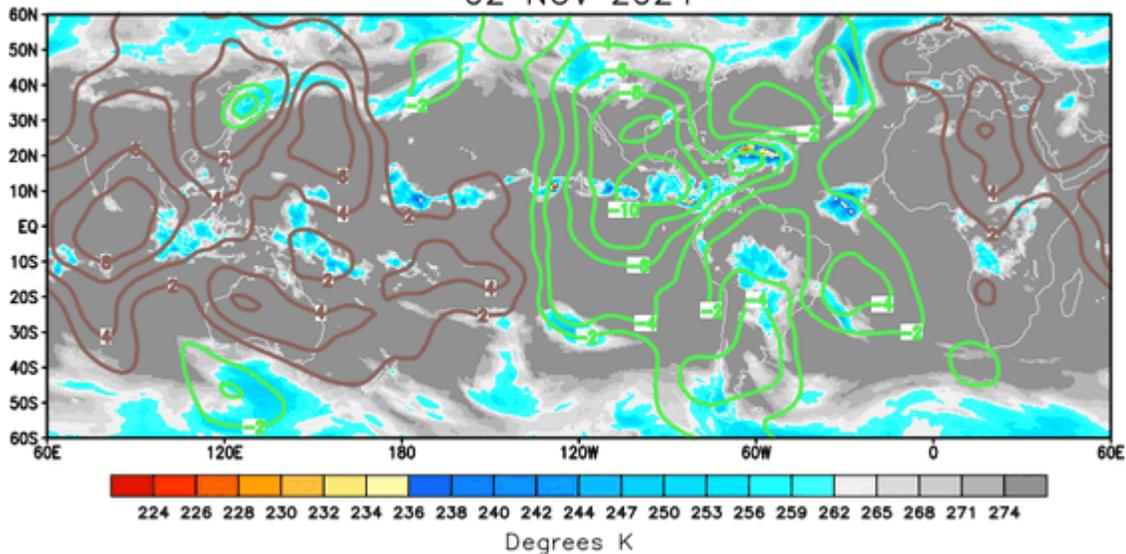
3. PREDICCIÓN CLIMÁTICA

NOV | DIC | ENE

ONDAS ECUATORIALES

Observado | Proyección

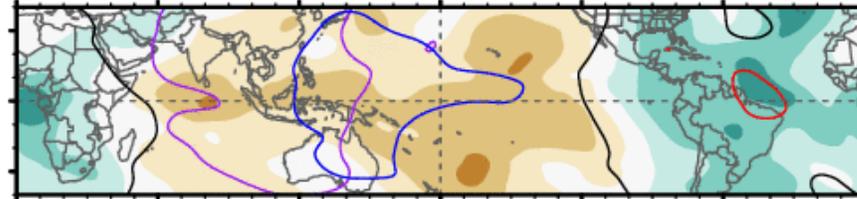
02 NOV 2024



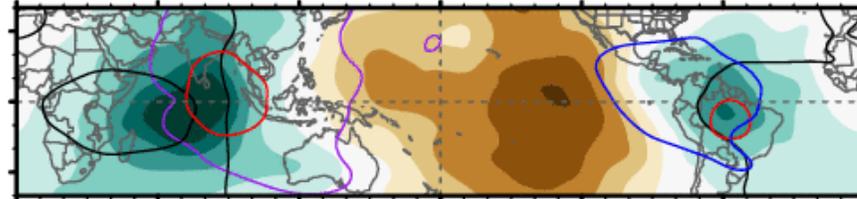
Fase actual | **Convectiva**

5-Nov to 11-Nov

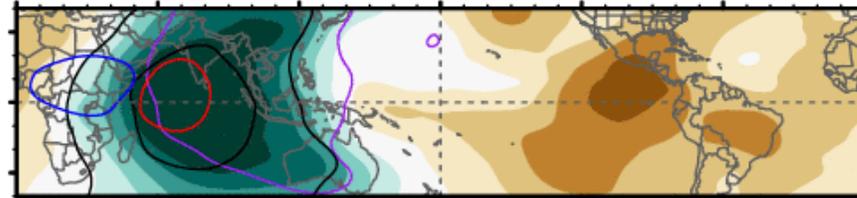
CFS Forecast



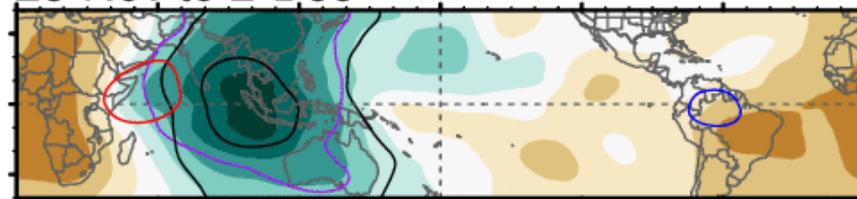
12-Nov to 18-Nov



19-Nov to 25-Nov



26-Nov to 2-Dec



0 60E 120E 180 120W 60W 0

— MJO — Kelvin x2 — Low — ER

11

18

25

02

+ nubes

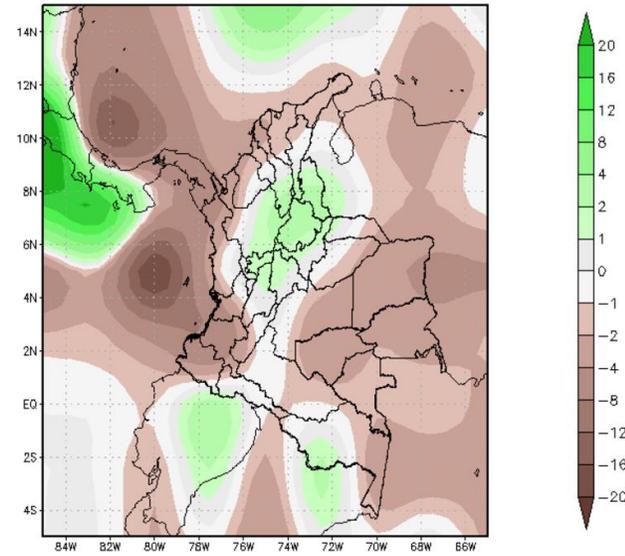
- nubes

Predicción Subestacional

determinística

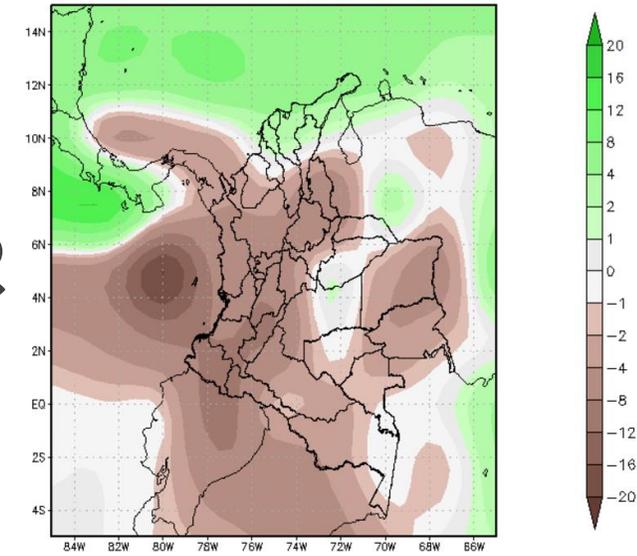
1

Ideam - Anom (mm/día) PREC MODELO: CFSv2 Fuente: NOAA
Predicción semana 1: 05112024 y 11112024 Ci: 04112024



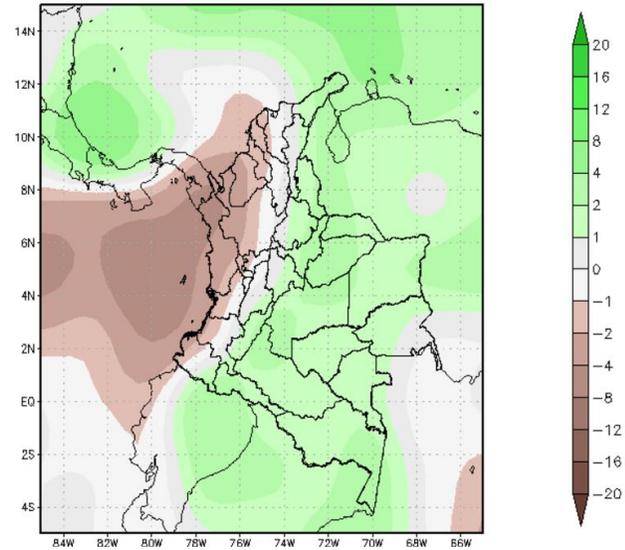
2

Ideam - Anom (mm/día) PREC MODELO: CFSv2 Fuente: NOAA
Predicción semana 2: 12112024 y 18112024 Ci: 04112024



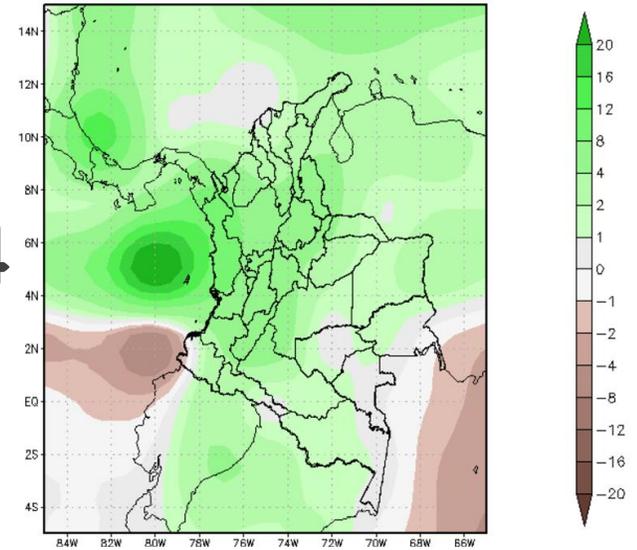
3

Ideam - Anom (mm/día) PREC MODELO: CFSv2 Fuente: NOAA
Predicción semana 3: 19112024 y 25112024 Ci: 04112024



4

Ideam - Anom (mm/día) PREC MODELO: CFSv2 Fuente: NOAA
Predicción semana 4: 26112024 y 02122024 Ci: 04112024



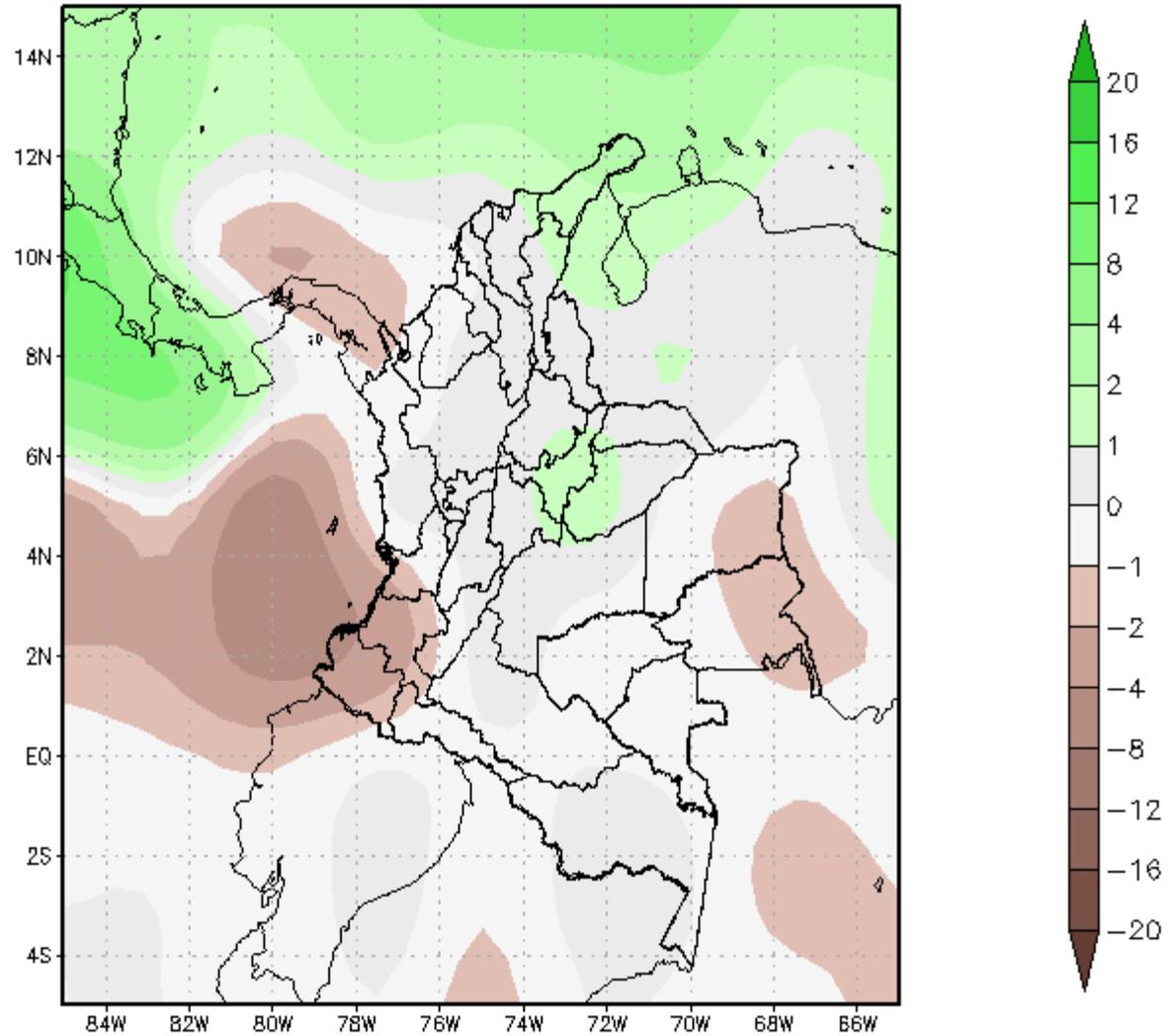
+ anomalías

- anomalías

Predicción Subestacional

determinística

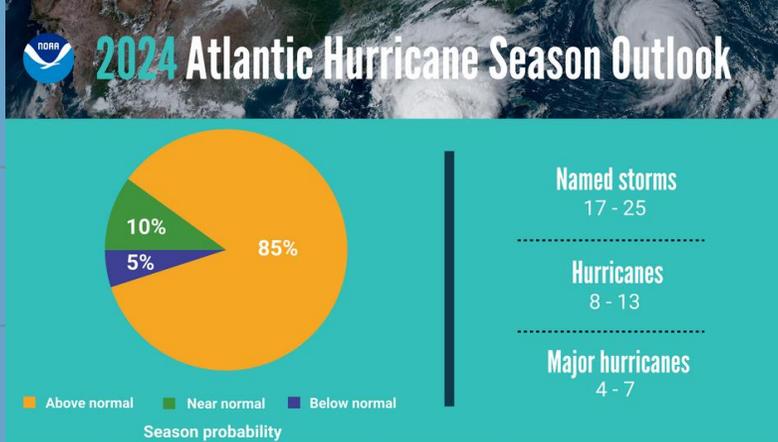
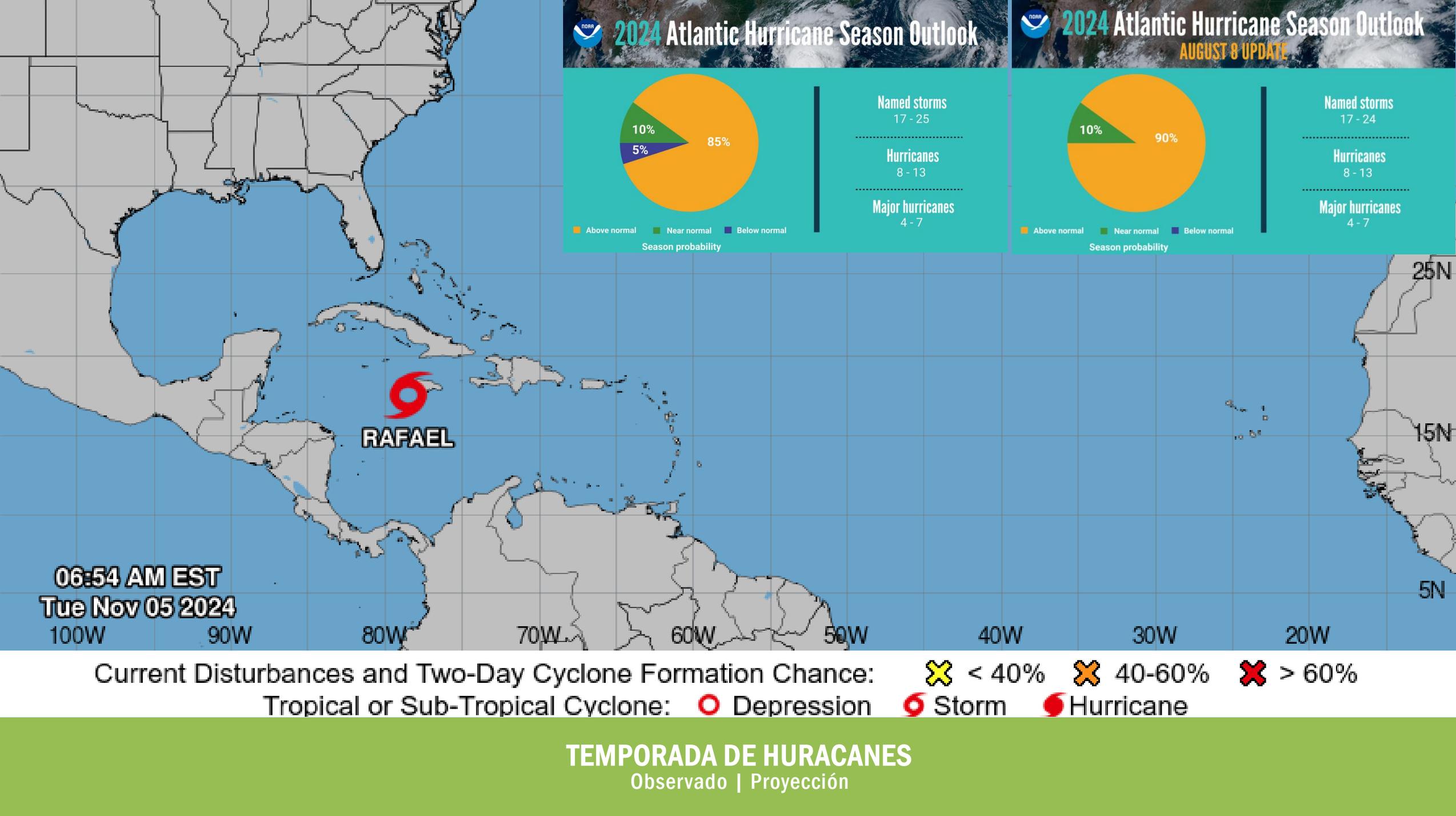
Ideam – Anom (mm/día) PREC MODELO: CFSv2 Fuente: NOAA
Predicción entre 05112024 y 02122024 CI: 04112024



+ anomalías

- anomalías

https://bart.ideam.gov.co/wrfideam/new_modelo/NMME/S2S_CFSv2/anom_prec_CFSv2_mes_CI_04112024.png



06:54 AM EST
Tue Nov 05 2024

Current Disturbances and Two-Day Cyclone Formation Chance:

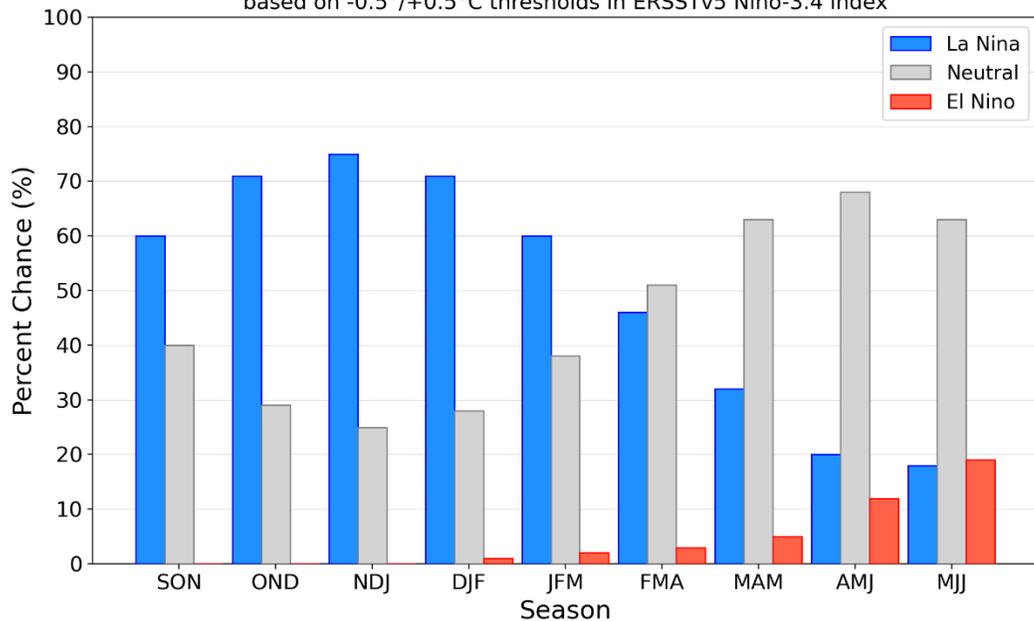
✘ < 40%
 ✘ 40-60%
 ✘ > 60%

Tropical or Sub-Tropical Cyclone: ○ Depression
 ◉ Storm
 ◉ Hurricane

TEMPORADA DE HURACANES
Observado | Proyección

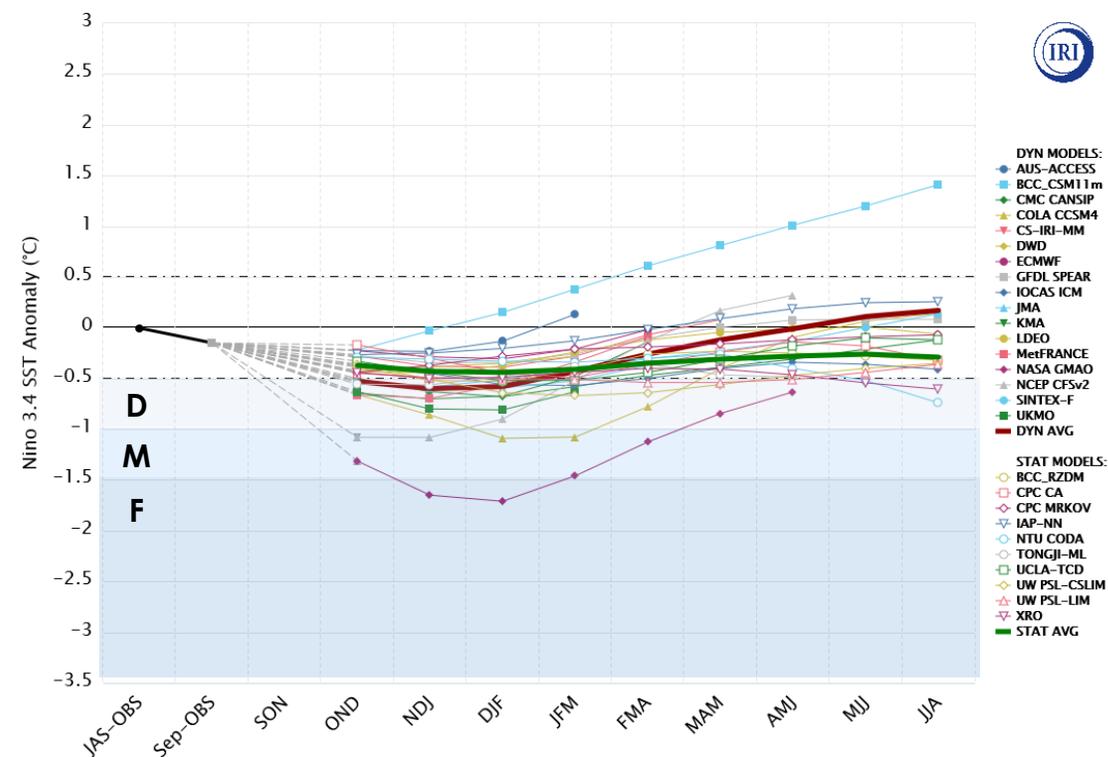
Official NOAA CPC ENSO Probabilities (issued October 2024)

based on $-0.5^{\circ}/+0.5^{\circ}\text{C}$ thresholds in ERSSTv5 Niño-3.4 index



Niña - SON (60%)

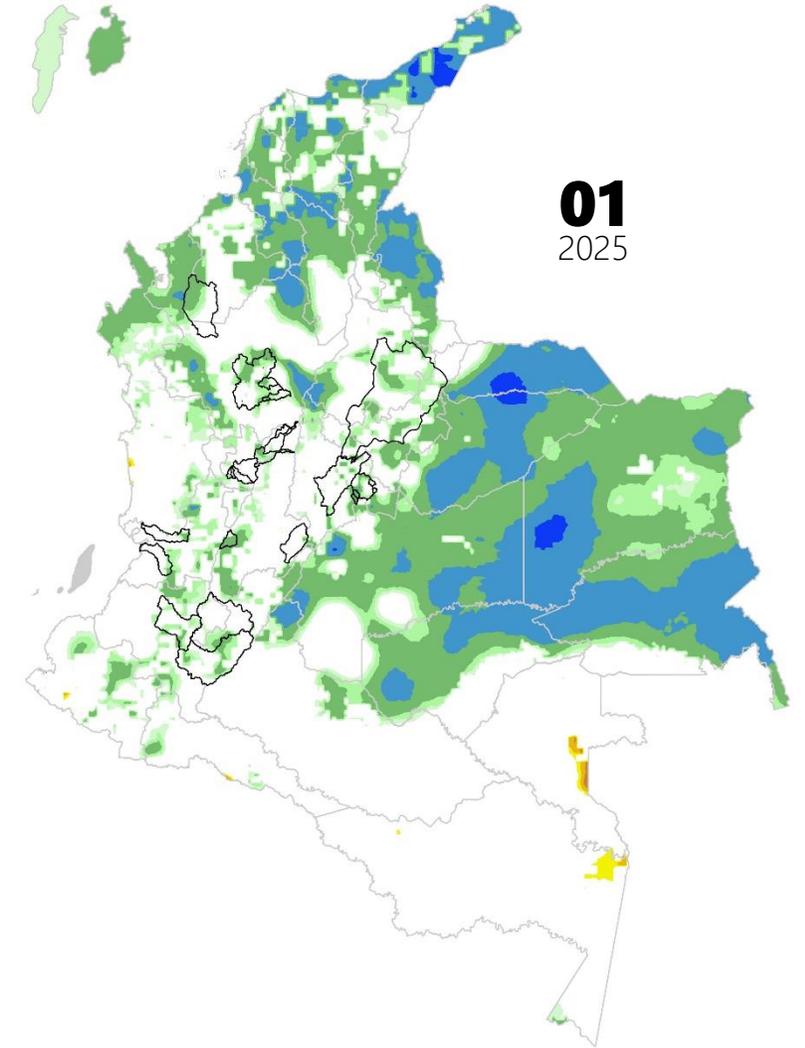
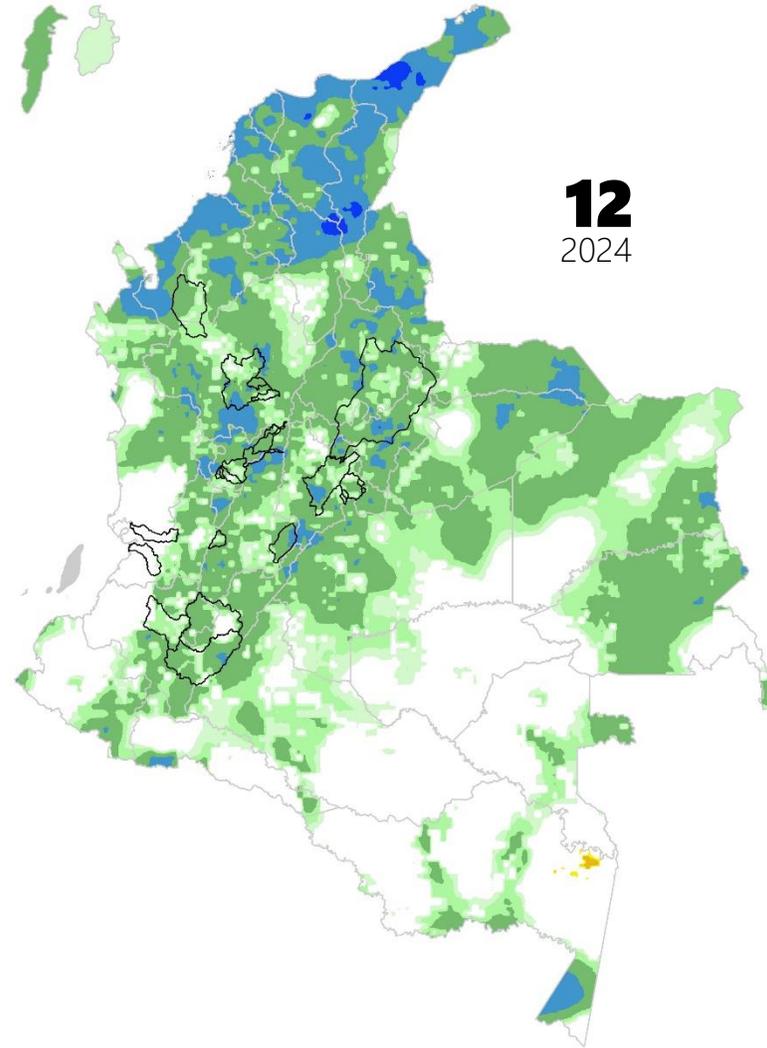
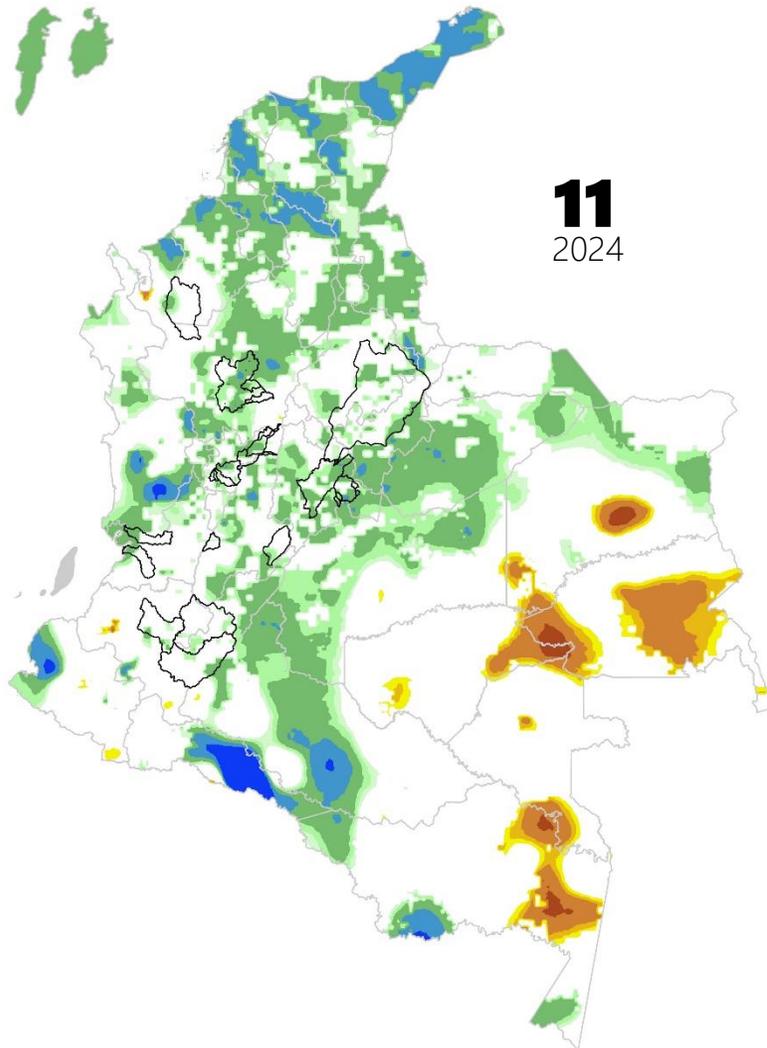
Model Predictions of ENSO from Oct 2024



Predicción probabilística

OCT - DIC

Probabilidad que se presente las categorías: *por debajo*, normal, *por encima*





ANÁLOGOS

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | TT |
|------|---|---|---|---|---|---|---|---|---|---|----|----|----|---|---|---|---|---|---|---|---|---|----|----|----|---|---|---|---|---|---|---|---|---|----|----|----|----|
| 1957 | F | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 16 |
| 1965 | F | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 12 |
| 1972 | F | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 11 |
| 1982 | F | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 15 |
| 1986 | F | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 18 | |
| 1991 | F | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 14 |
| 1997 | F | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 13 |
| 2009 | F | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 9 |
| 2014 | F | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 19 |
| 2023 | F | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 12 |

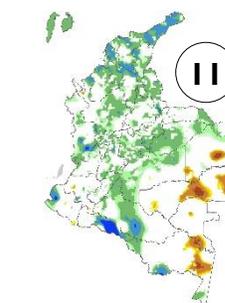
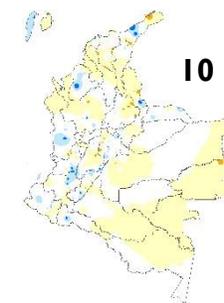
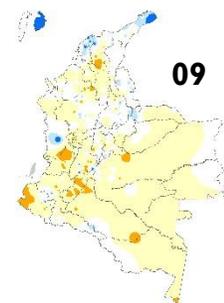
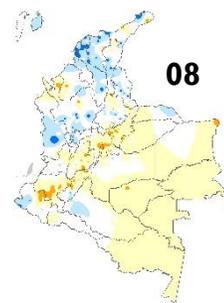
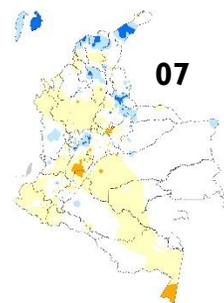
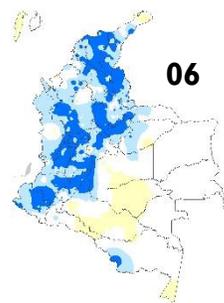
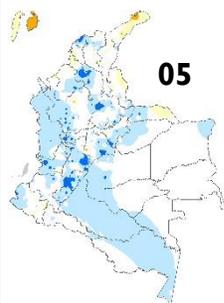
ONiv5



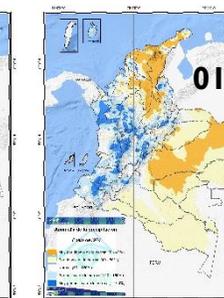
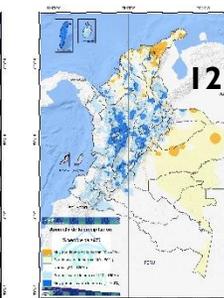
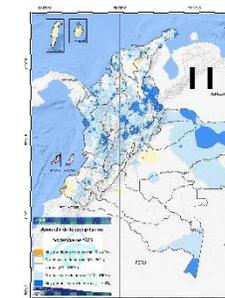
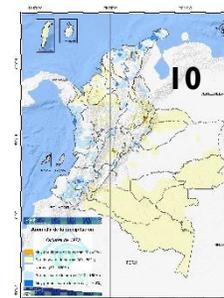
OBSERVADO

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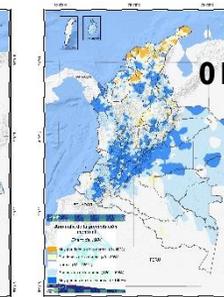
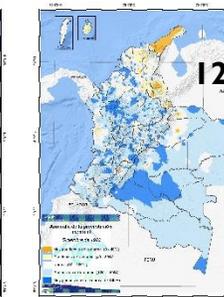
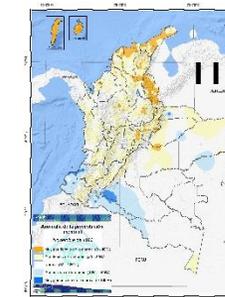
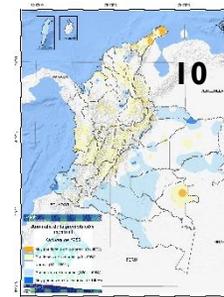
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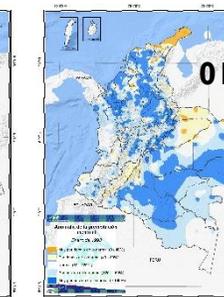
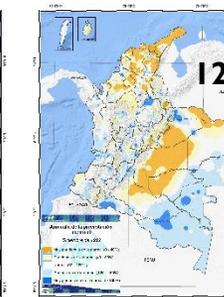
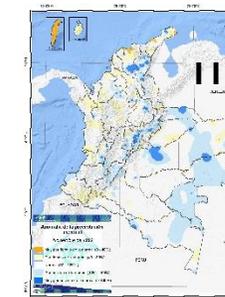
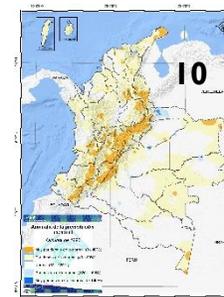
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1983-1984



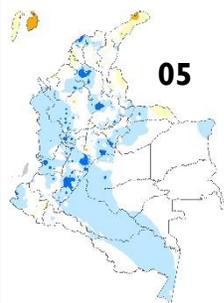
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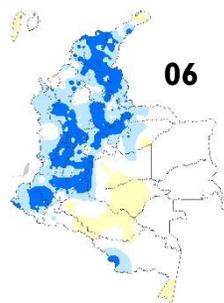
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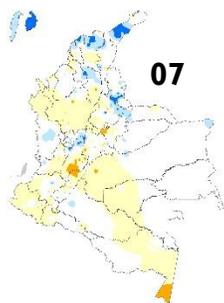
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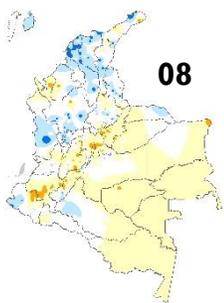
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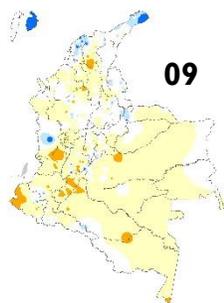
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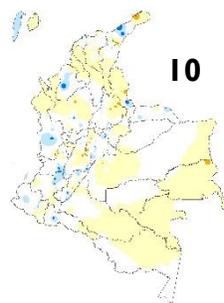
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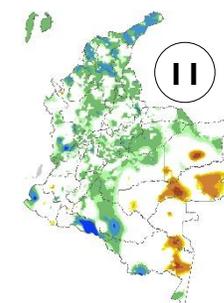
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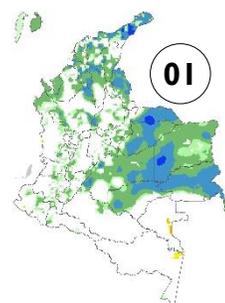
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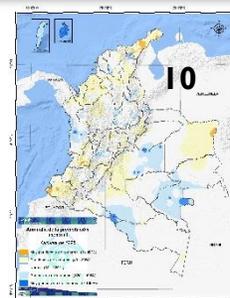


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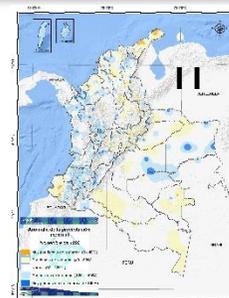


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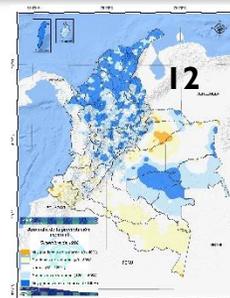
1998-1999



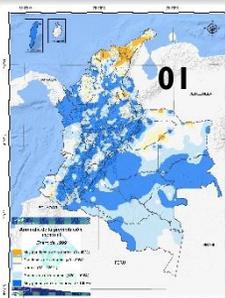
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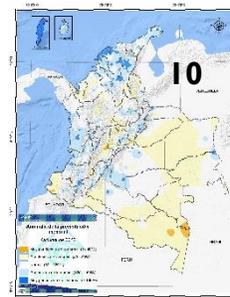


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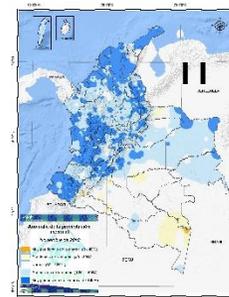


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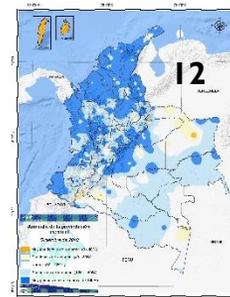
2010-2011



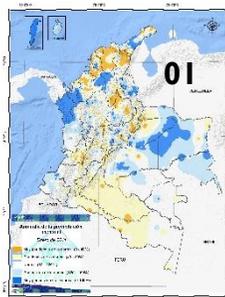
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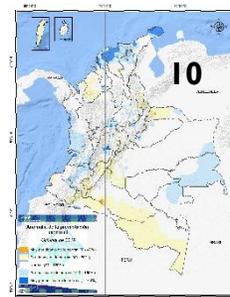


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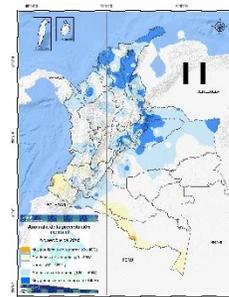


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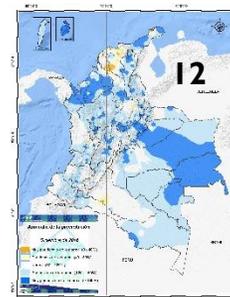
2016-2017



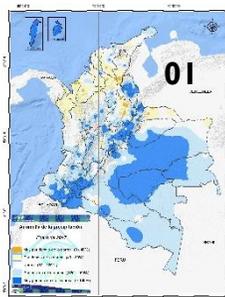
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11



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01

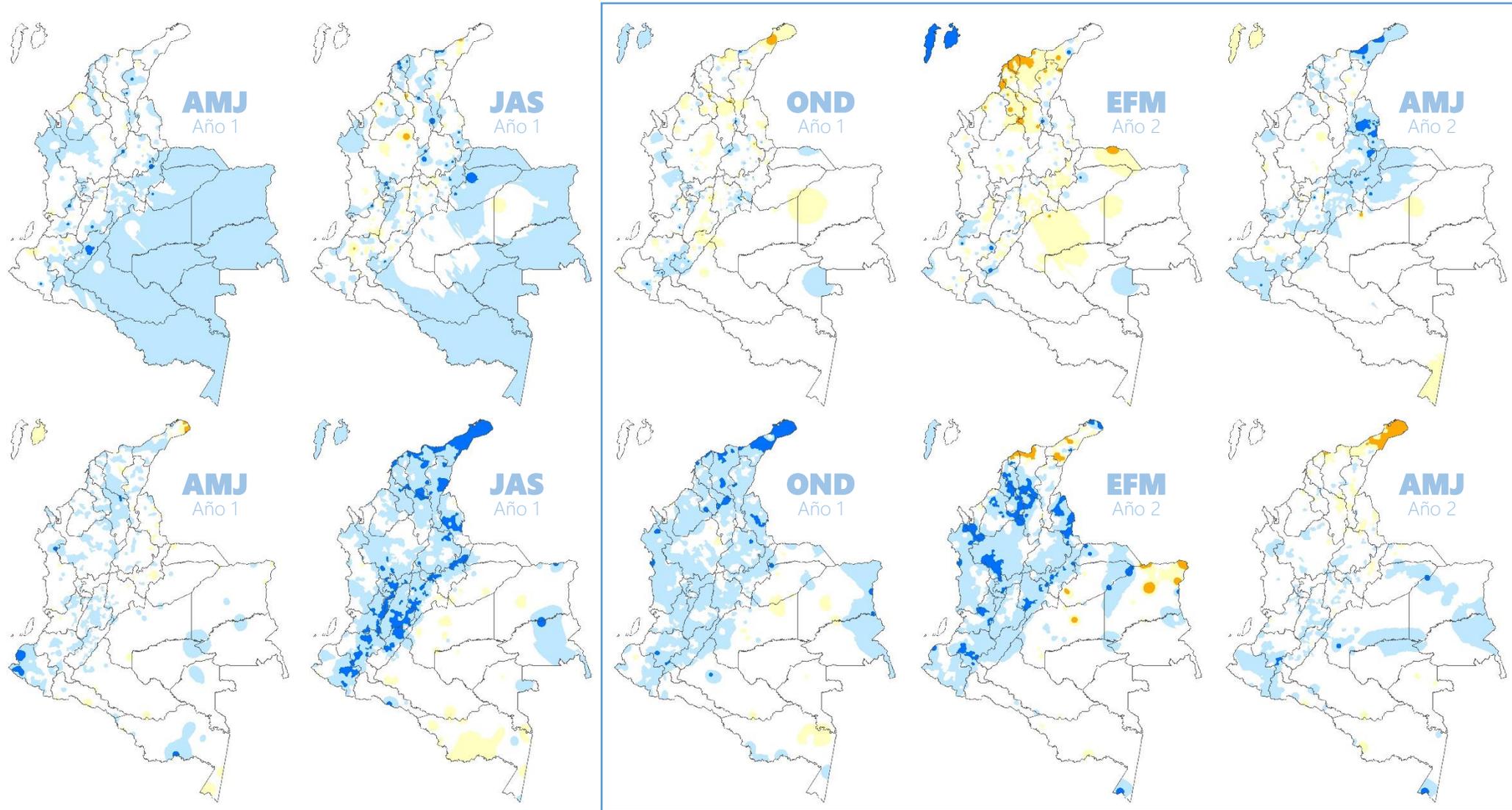




ALTERACIONES MÁS PROBABLES

EL NIÑO | LA NIÑA

Alteraciones más probables en la precipitación ante la ocurrencia de un fenómeno La Niña débil y típica





CONCLUSIONES

1. A pesar de que las condiciones actuales del ENOS favorecen una fase **La Niña** y de acuerdo con el consenso de la NOAA ésta continuaría persistiendo dentro del trimestre **noviembre-diciembre-enero**; las lluvias para este periodo no solo dependerán de esta fase del ENOS, sino también del ciclo estacional propio de la época del año y de la influencia de la variabilidad intraestacional (MJO y otras ondas ecuatoriales).
2. Aunque se esperan condiciones **La Niña**, la ocurrencia del fenómeno como tal aún es una incertidumbre (es decir, que su persistencia perdure por 5 trimestres consecutivos o más).
3. Acorde al consenso oficial emitido por el IRI, se estima la continuidad de una fase de **La Niña** para el trimestre **noviembre-diciembre-enero**, con una probabilidad del **75%**, y se prevé que perdure hasta el trimestre **enero-febrero-marzo de 2025** con una probabilidad del **60%**; posiblemente alcanzando su fase de madurez dentro del trimestre **venidero**.
4. A pesar de lo anterior, el modelo probabilístico publicado por el IRI el 18 de octubre indica que, condiciones de **La Niña** solo se presentarán por dos trimestres consecutivos entre **noviembre-diciembre/24 –enero/25y diciembre/24-enero-febrero/25**, pero con probabilidades cercanas al **53%**; por lo anterior, la evolución y duración de esta fase del ENSO (**La Niña**) aún es una incertidumbre
5. En respuesta a ello, el modelo de predicción climática del Ideam para la precipitación estima precipitaciones entre **10%** y **40%** por encima de la climatología de referencia 1991-2020 en gran parte del territorio colombiano. En la Amazonía, en general, se prevén precipitaciones dentro de los valores históricos.
6. Para el trimestre consolidado **febrero-marzo-abril/25** se prevén incrementos de precipitaciones superiores al **20%** con respecto a los promedios 1991-2020 para la mayor parte de las regiones Caribe, Andina y Pacífica. Para la Orinoquía y la Amazonía se estima déficits de precipitaciones entre **10%** y **30%** en Meta, norte del Vichada, Guaviare, Vaupés, Caquetá y Amazonas; para el resto de la región se prevén precipitaciones dentro de los promedios climatológicos



IDEAM

Instituto de Hidrología, Meteorología
y Estudios Ambientales