



Seguimiento y Predicción Climática

06 | 07 | 23

CNO

707



Variaciones del **clima** nacional

ENOS

océano - atmósfera



MJO

Propagación
hacia el este

**TEMPORADA
HURACANES**

Atlántico



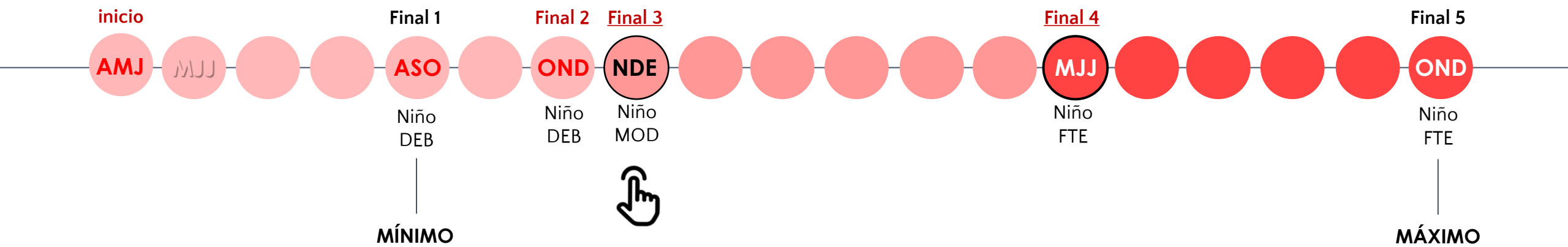


Duración

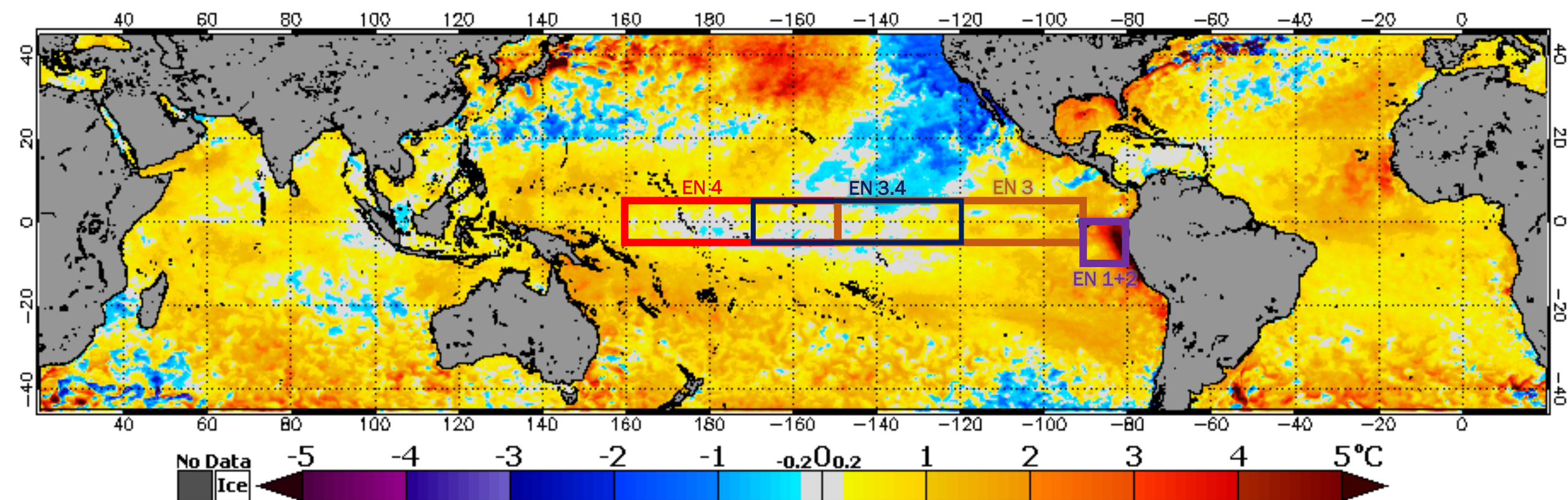
El Niño 2023-2024

Con base en el ONI - Preliminar

EL NIÑO	D	M	F
TT_EVENTOS	9	5	9
TT_MESES_MIN	5	7	9
TT_MESES_PROM	7	8	14
TT_MESES_MAX	13	9	19

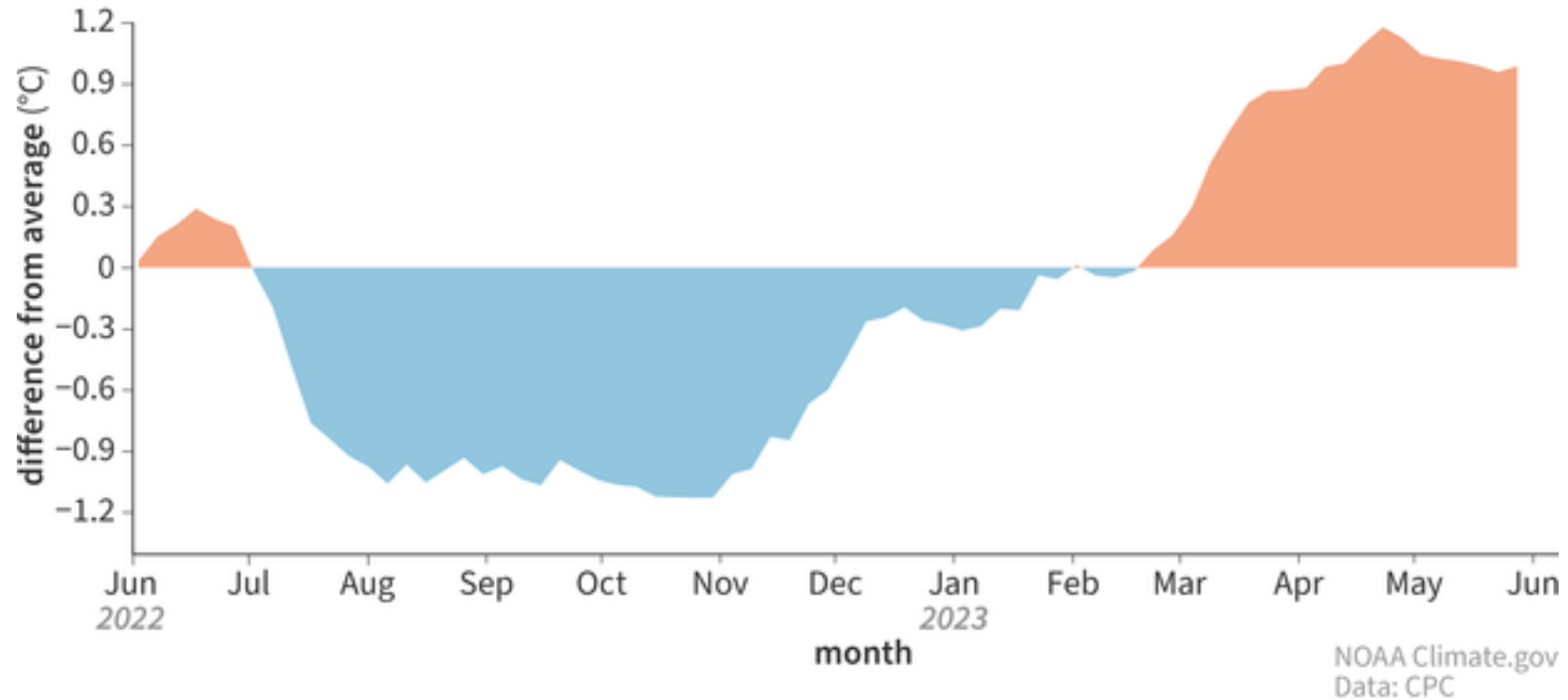


NOAA Coral Reef Watch Daily 5km SST Anomalies (Version 3.1) 6 Apr 2023



Temperatura Subsuperficial

Pacífico ecuatorial



Graph showing the average temperature over the past year of the top 300 m (~1000 ft) of the Pacific Ocean, 180-100°W departure from the long-term (1991-2020) average. Graph by climate.gov from CPC data.



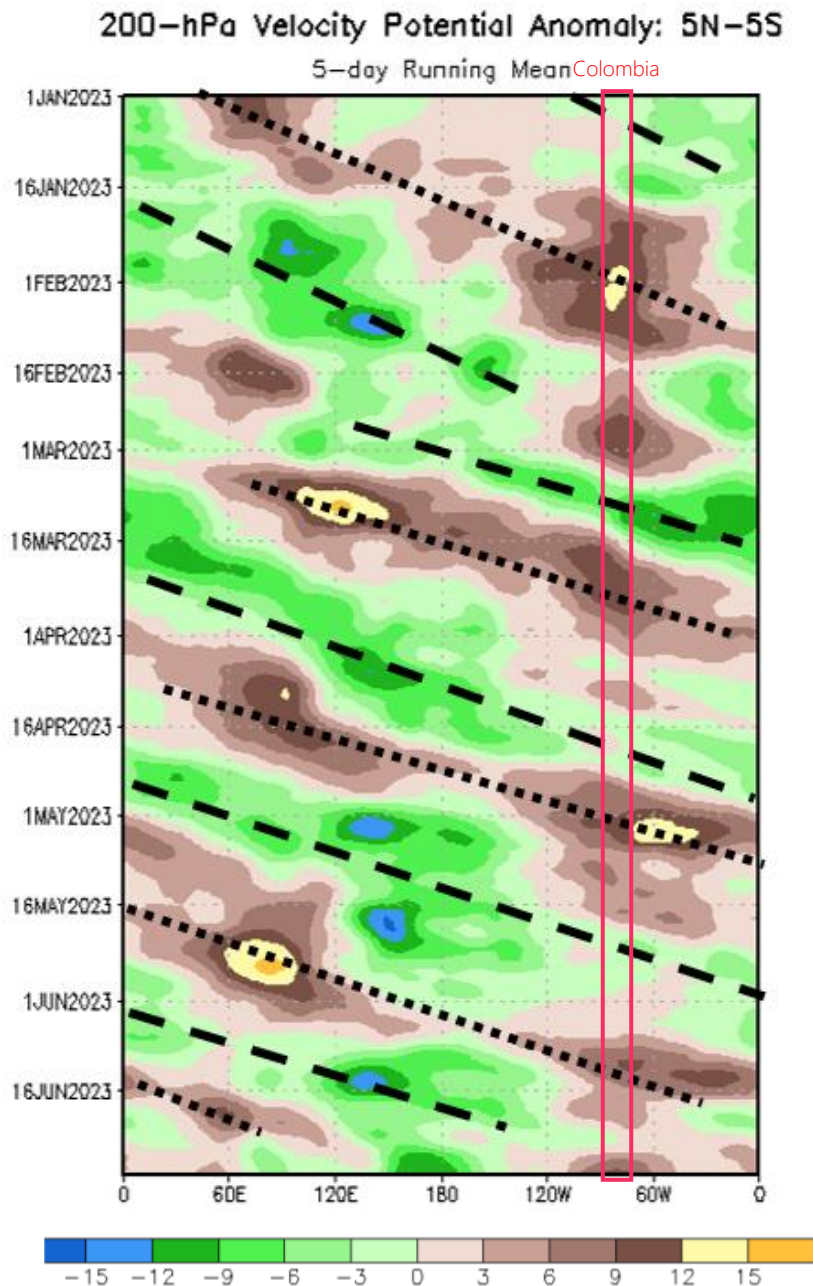
1. SISTEMA CLIMÁTICO

MJO | TEMPORADA HURACANES | ENOS

MJO

Intraestacional

Predominio de fase subsidente.



Favorece
Convección



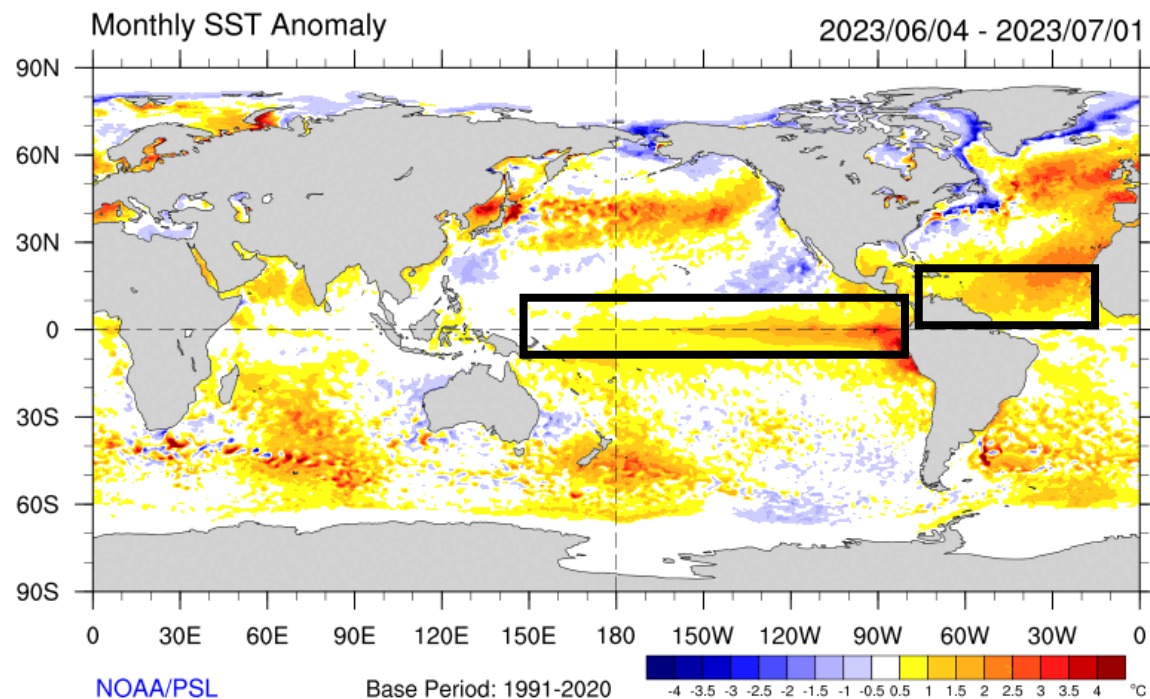
Inhibe
Convección

TEMPORADA HURACANES Atlántico

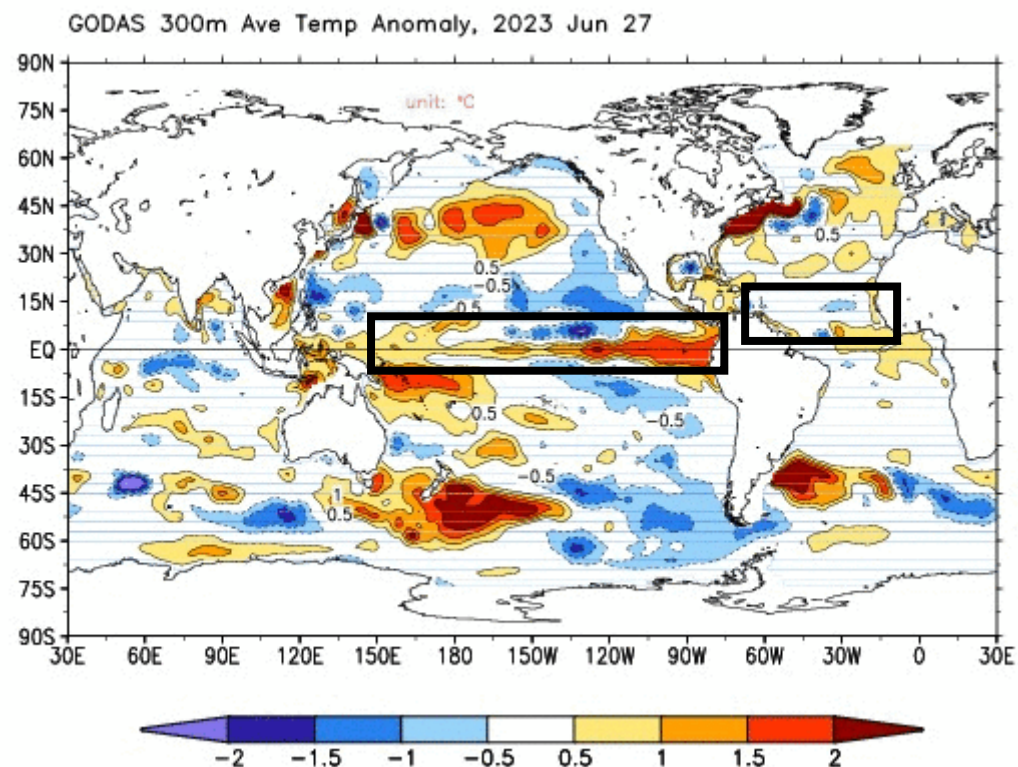
Varias ondas transitando y
transportando humedad



CAMPO TÉRMICO SUPERFICIAL

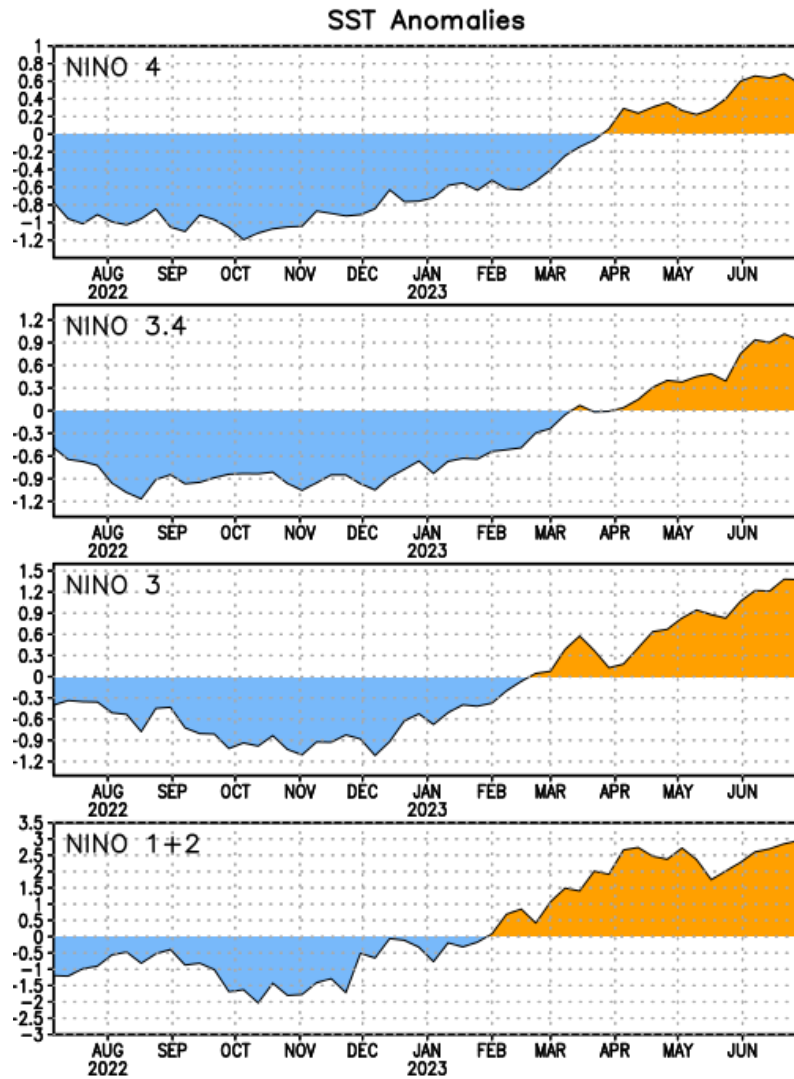


CAMPO TÉRMICO SUBSUPERFICIAL

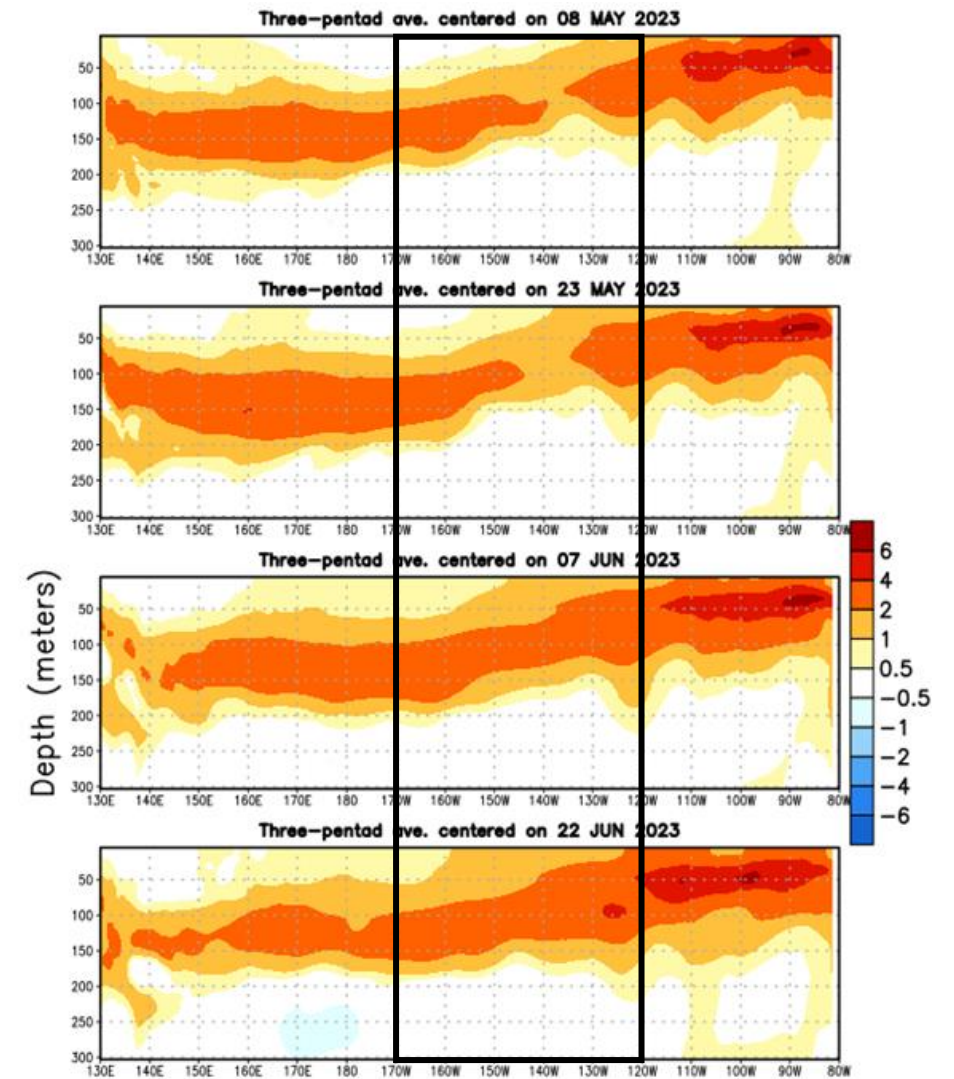


Región	Semana Anterior	Semana Actual
Niño 3.4	1.0 °C	0.9 °C

Anomalías de Temperatura Superficial del Mar



Anomalías de Temperatura Subsuperficial del Mar



Pacífico central

Australia

Suramérica

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

MJ: Neutral

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

AMj: Niño

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	-0.2	-1.3	-2.4	-2.4	-2.3	-2.2	-2	-1.9
2011	-1.8	-1.6	-1.8	-1.7	-1.3	-1.1	-0.9	-0.9	-1.2	-1.4	-1.2	-1.2
2012	-1.1	-0.7	-0.6	-0.4	-0.3	-0.3	0.3	-0.1	-0.3	-0.2	-0.1	-0.1
2013	0	-0.1	-0.1	-0.4	-0.7	-1.2	-0.8	-0.5	-0.4	-0.2	-0.2	-0.3
2014	-0.5	-0.4	-0.1	-0.2	-0.2	0	0.3	0.2	-0.1	0.1	0.3	0.3
2015	0.2	0.1	0.1	0.4	1	1.9	1.7	1.9	2.2	2.1	1.9	1.9
2016	1.9	1.8	1.3	1.3	1.3	0.4	-0.5	-0.3	-0.3	-0.6	-0.5	-0.3
2017	-0.4	-0.4	-0.6	-0.2	0.2	-0.3	-0.7	-0.8	-0.8	-0.6	-0.6	-0.7
2018	-0.8	-0.7	-0.8	-1.3	-0.9	-0.5	-0.2	0.4	0.5	0.4	0.3	0.1
2019	0.1	0.5	0.8	0.3	0.3	0.4	0.2	0.3	0.2	0.3	0.5	0.4
2020	0.3	0.3	0.2	-0.1	-0.2	-0.7	-1.0	-1.0	-1.2	-1.2	-1.1	-1.2
2021	-1.2	-0.9	-0.8	-1	-1.1	-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	-1.8	-1.8	-1.7	-1.5	-1.3
2023	-1.1	-0.8	-0.7	-0.4	-0.1	0.2						

Tabla
No. 2

ONI - ERSST.v5

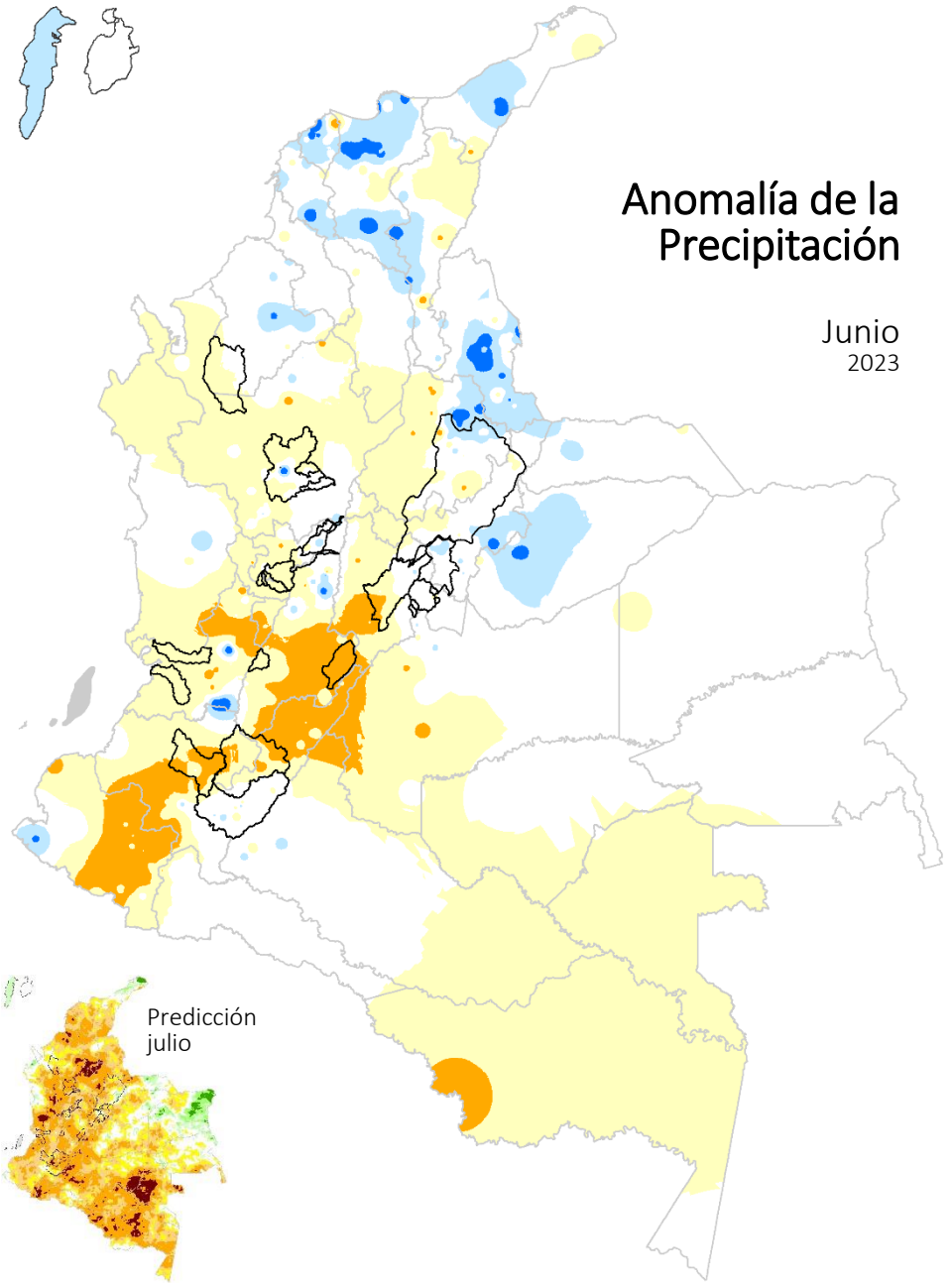
https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php

	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							



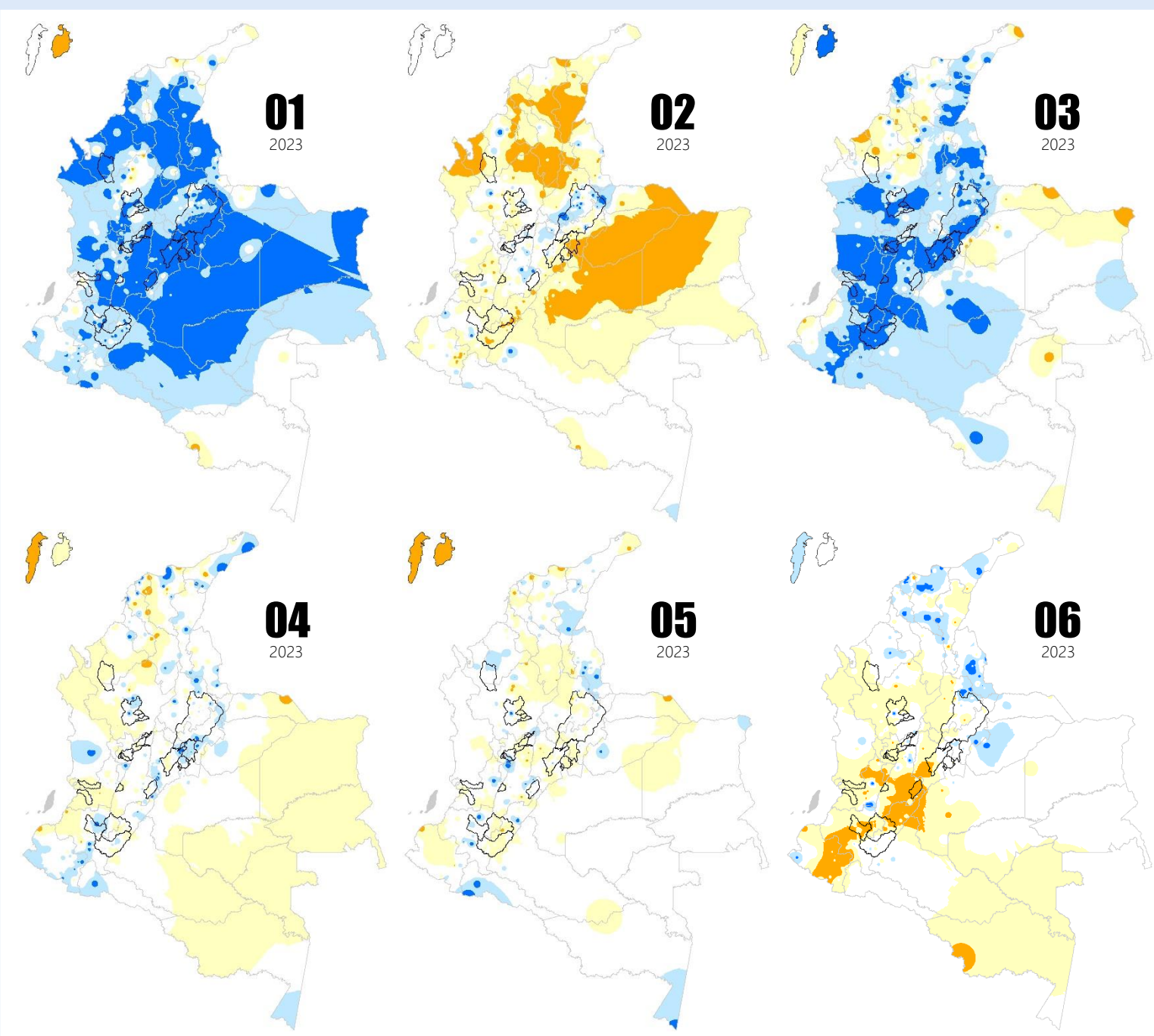
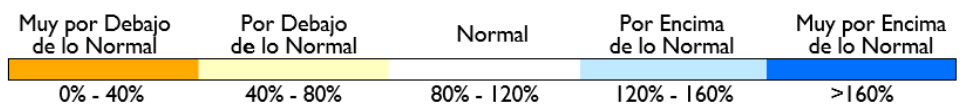
MINISTERIO DE AMBIENTE Y
DESARROLLO SOSTENIBLE

2. SEGUIMIENTO CLIMÁTICO 2023



Anomalía de la Precipitación

Junio
2023



01

2023

02

2023

03

2023

04

2023

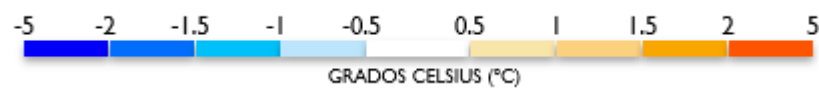
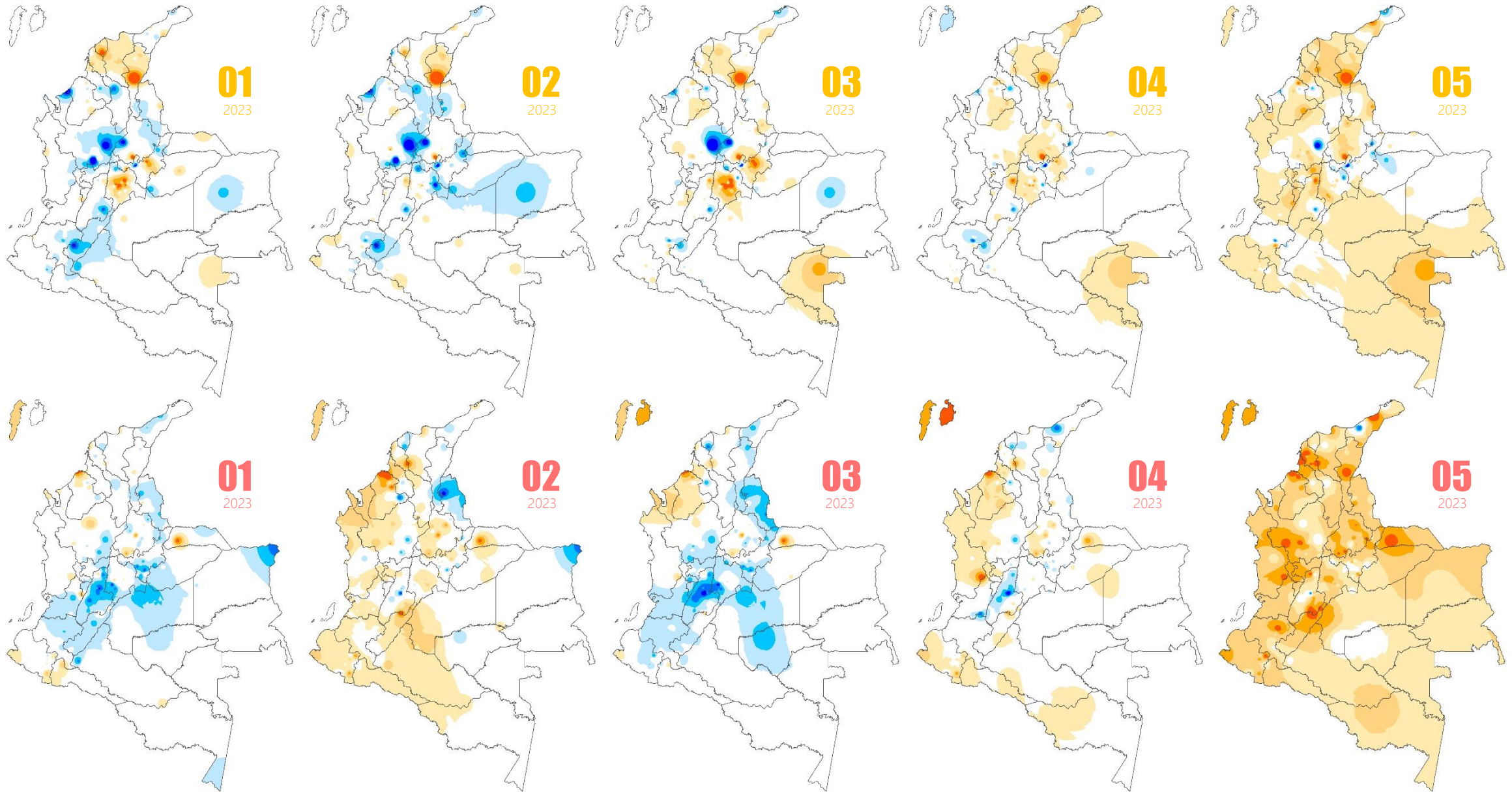
05

2023

06

2023

Anomalía de las temperaturas extremas (mínimas y máximas)

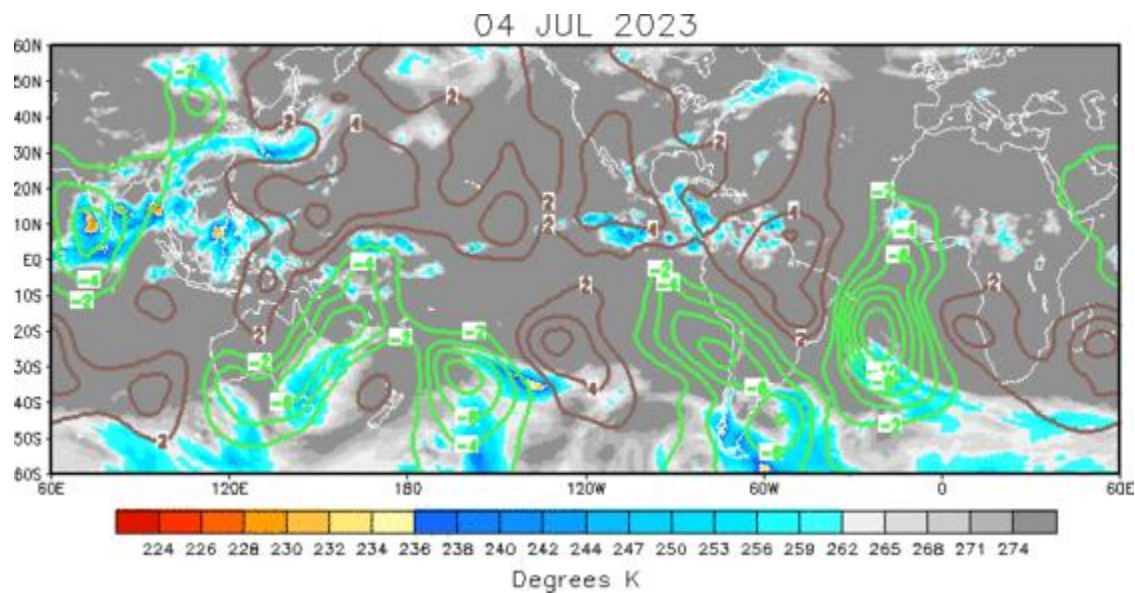




3. PREDICCIÓN CLIMÁTICA

JUL | AGO | SEP

MJO+



Fase Actual
Neutral - Subsidente

05-07 / 14-16
Favorable

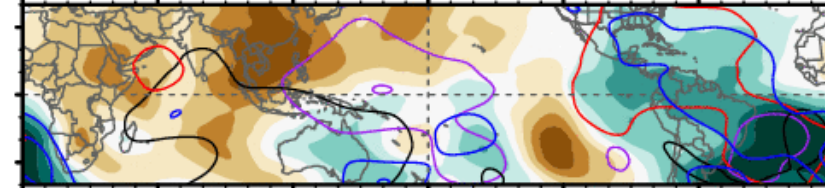
08-13
No Favorable

ONDAS ECUATORIALES

Proyección

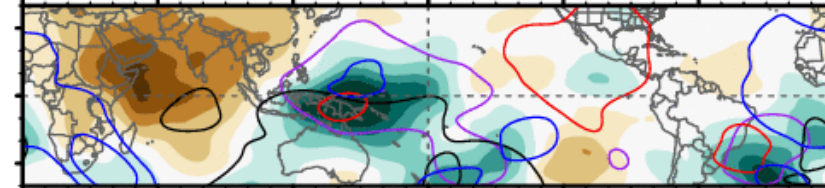
5-Jul to 7-Jul

CFS Forecast

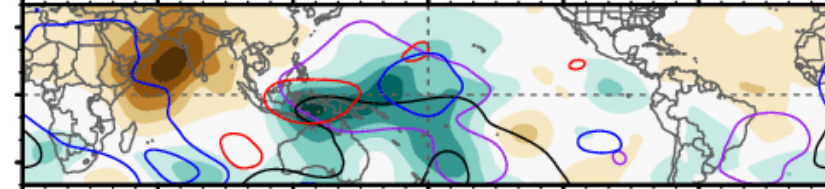


+ nubes

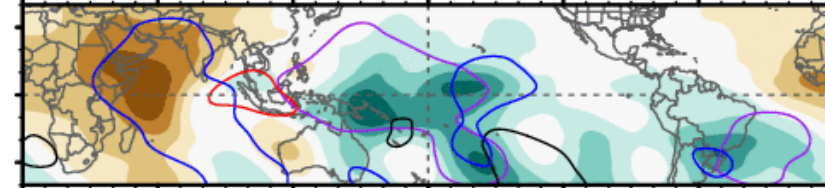
8-Jul to 10-Jul



11-Jul to 13-Jul



14-Jul to 16-Jul

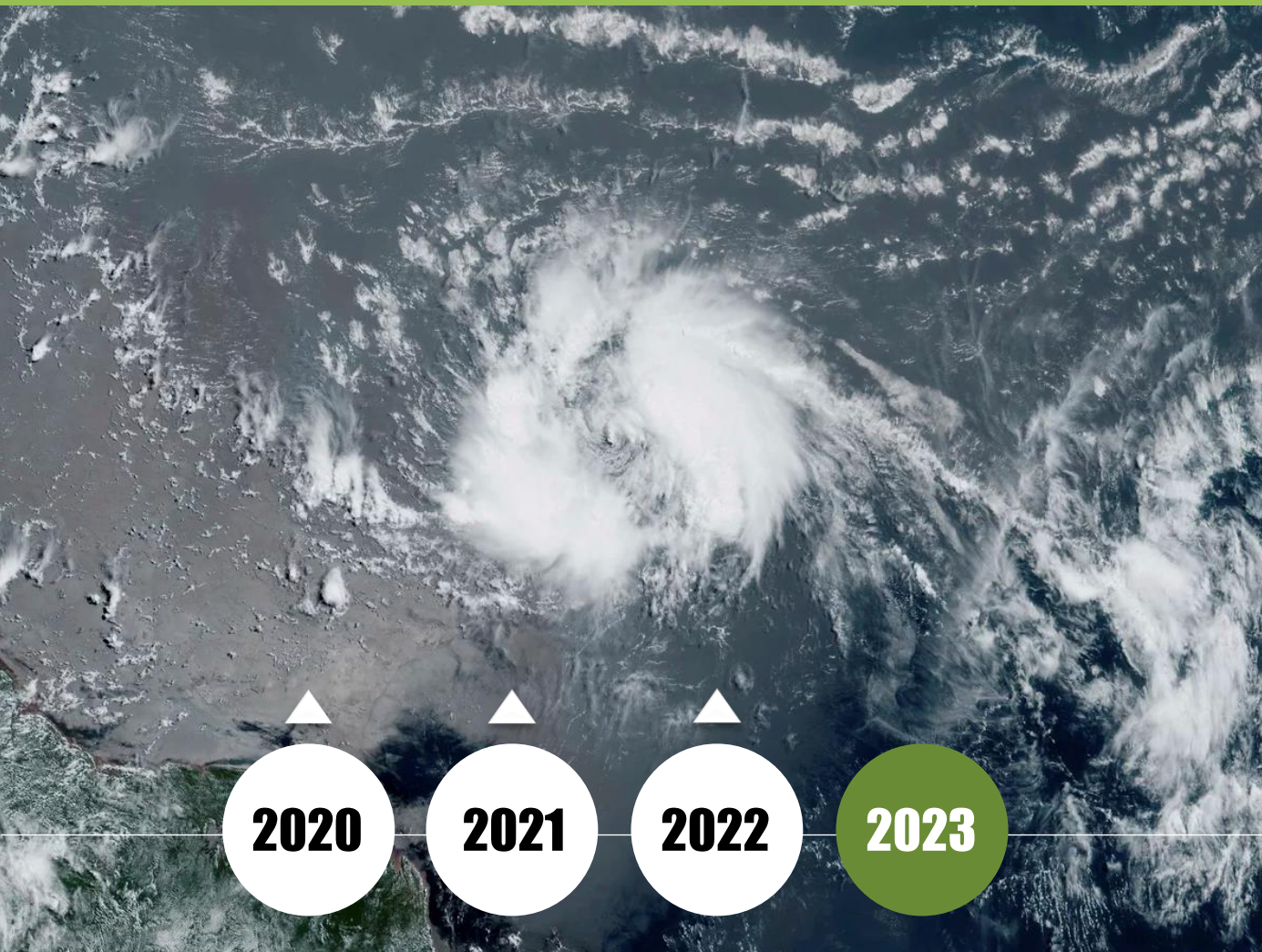


- nubes

0 60E 120E 180 120W 60W 0

— MJO — Kelvin x2 — Low — ER

Temporada de Huracanes

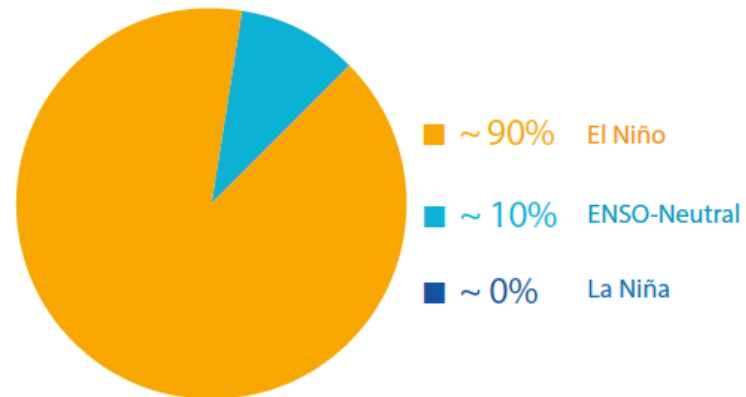


Predictions of tropical activity in the 2023 season

Source	Date	Named storms	Hurricanes	Major hurricanes
Average (1991–2020)		14.4	7.2	3.2
Record high activity		30	15	7↑
Record low activity		4	2↑	0↑
TSR	December 6, 2022	13	6	3
TSR	April 6, 2023	12	6	2
UA	April 7, 2023	19	9	5
CSU	April 13, 2023	13	6	2
TWC	April 13, 2023	15	7	3
NCSU	April 13, 2023	11–15	6–8	2–3
MU	April 27, 2023	15	7	3
UPenn	May 1, 2023	12–20	N/A	N/A
SMN	May 4, 2023	10–16	3–7	2–4
NOAA	May 25, 2023	12–17	5–9	1–4
UKMO*	May 26, 2023	20	11	5
TSR	May 31, 2023	13	6	2
CSU	June 1, 2023	15	7	3
UA	June 16, 2023	25	12	6
TWC	June 17, 2023	17	9	4
Actual activity		4	0	0

OMM

ESTIMATED ENSO PROBABILITIES
FOR JULY - SEPTEMBER 2023



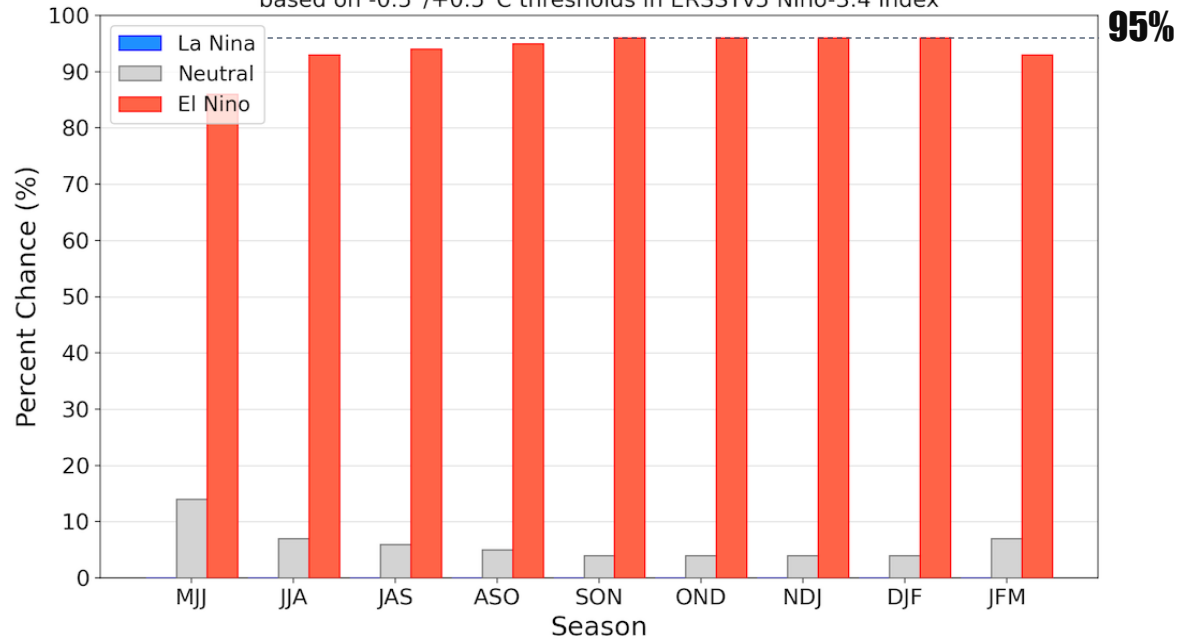
CPC - NOAA

ADVERTENCIA DE EL NIÑO

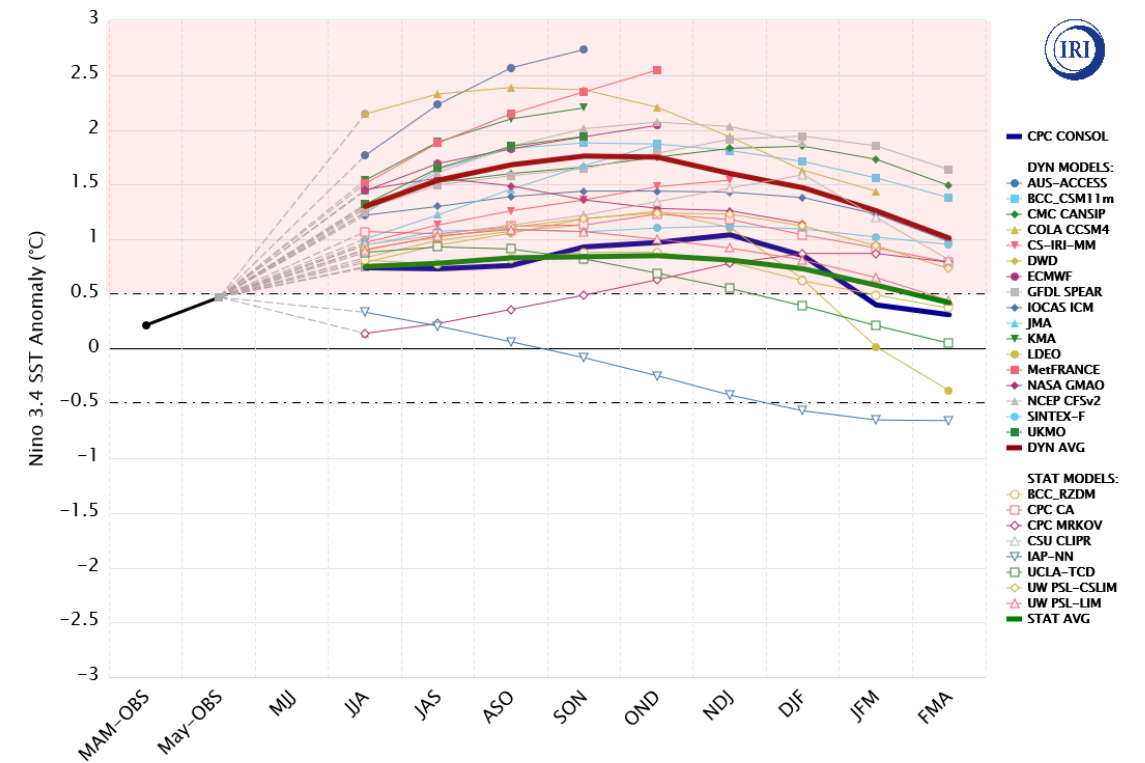
Las condiciones de El Niño están presentes y se espera que se fortalezcan gradualmente hasta el invierno del hemisferio norte 2023-24.

Official NOAA CPC ENSO Probabilities (issued June 2023)

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



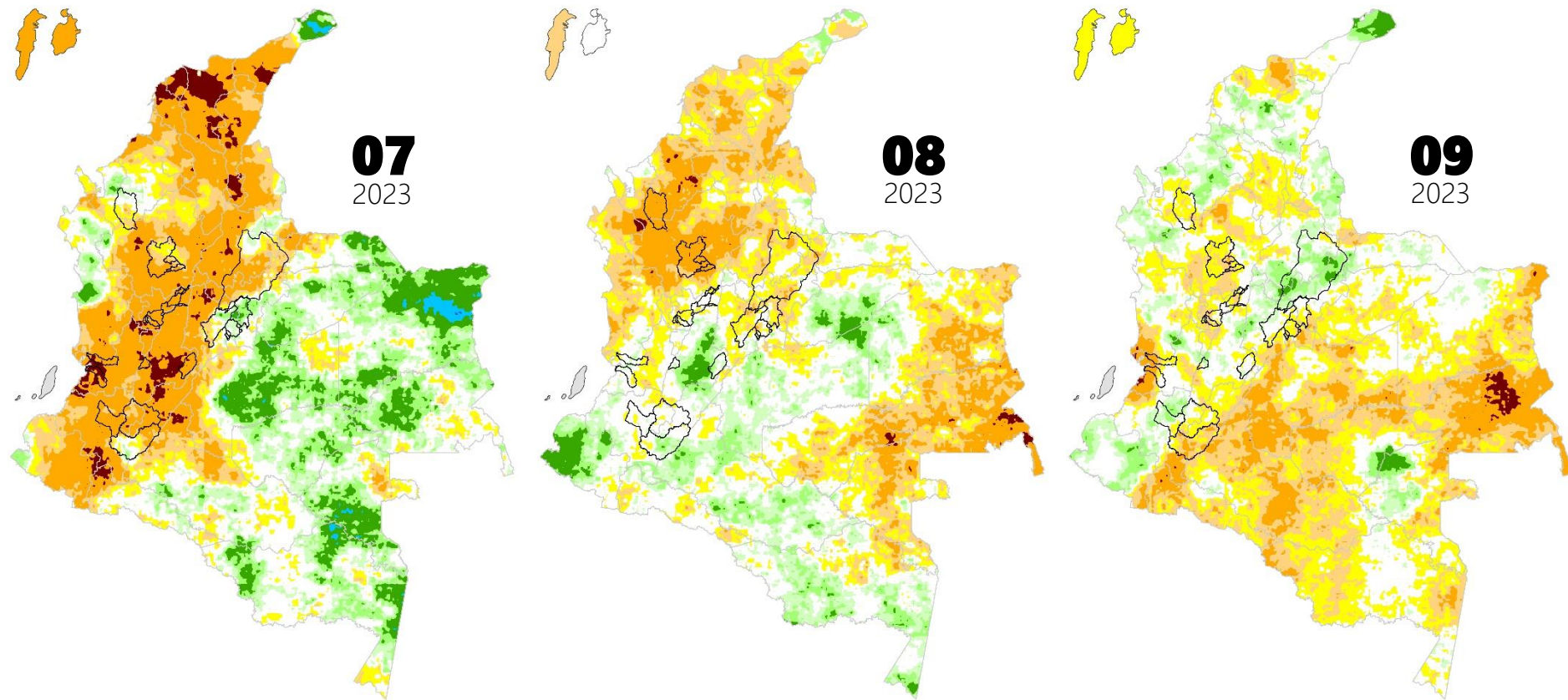
Model Predictions of ENSO from Jun 2023



Predicción probabilística

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

JUL - SEP



100% 70% 60% 50% 45% 40%

Por **DEBAJO** de lo normal

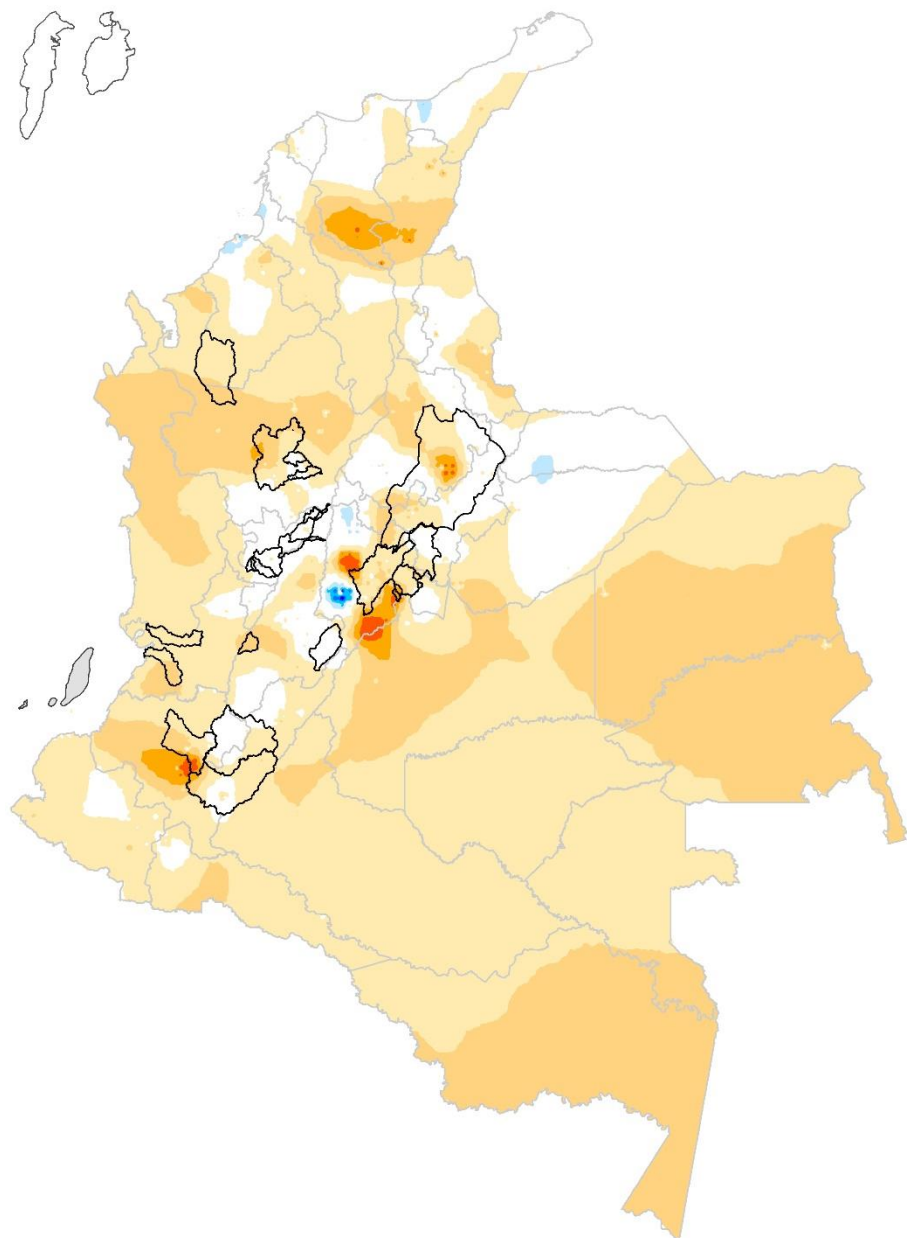
NORMAL

40% 45% 50% 60% 70% 100%

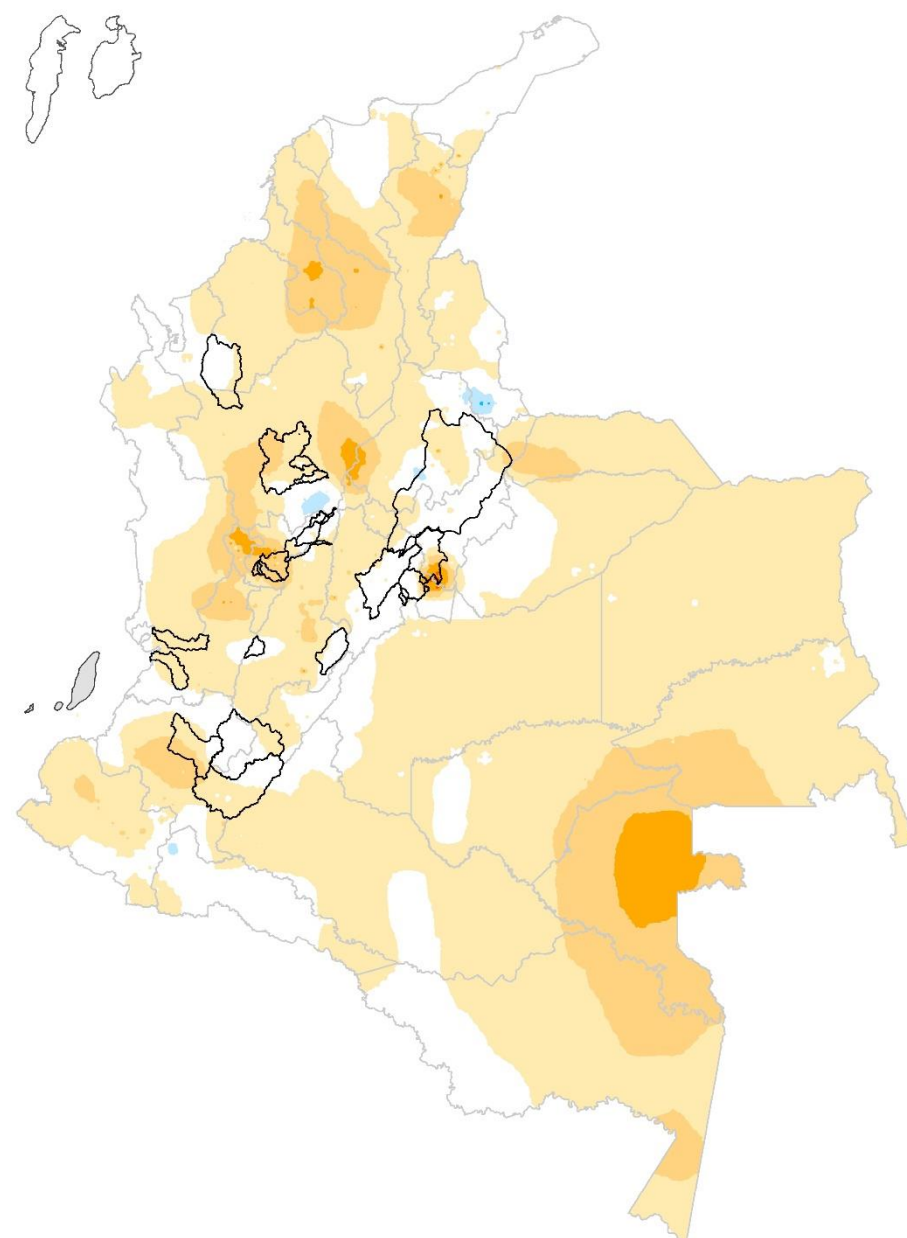
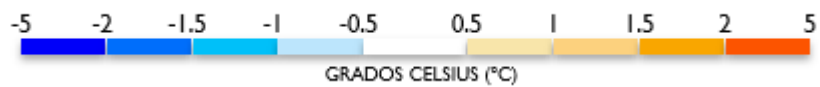
Por **ENCIMA** de lo normal

Predicción Temperaturas Extremas

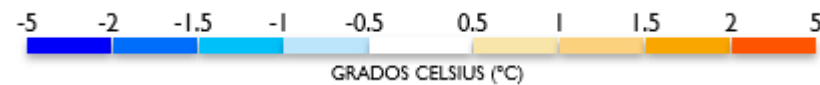
Mínima | Máxima



JUL
2023



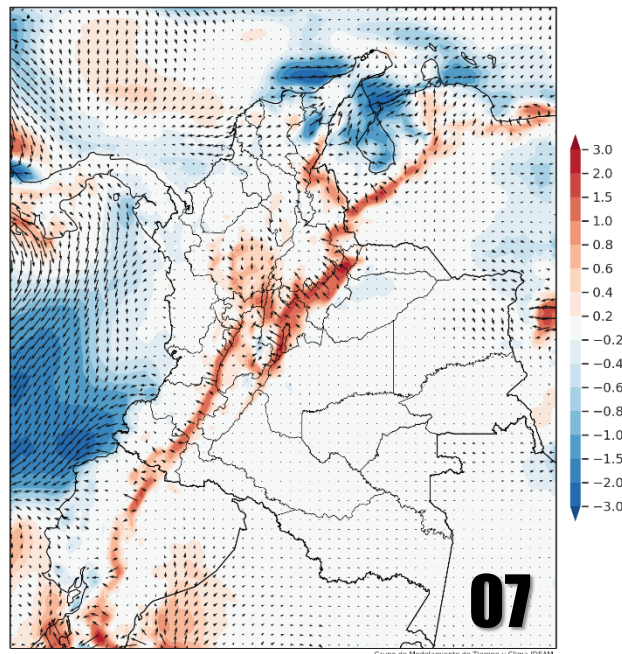
JUL
2023



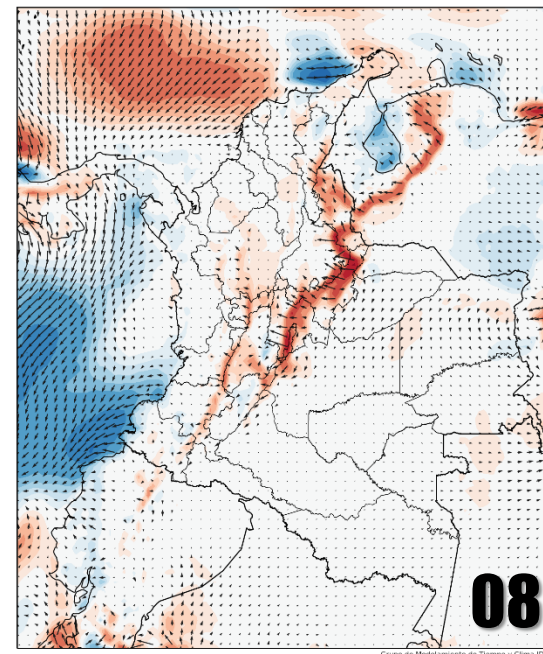
Predicción Velocidad de viento

JUL - SEP

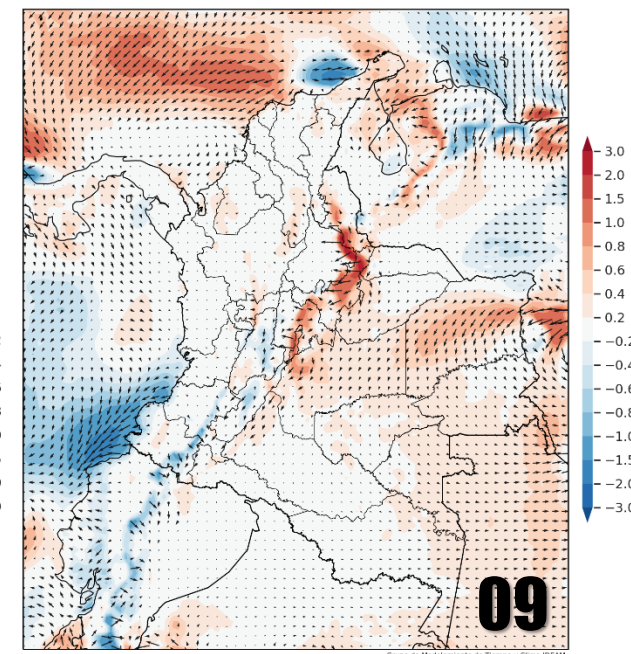
Anomalía del Viento 10m (m/s) para 2023-Jul
Ensamble de 25 corridas CFSv2-WRF del 2023-06



Anomalía del Viento 10m (m/s) para 2023-Ago
Ensamble de 25 corridas CFSv2-WRF del 2023-06



Anomalía del Viento 10m (m/s) para 2023-Sep
Ensamble de 25 corridas CFSv2-WRF del 2023-06



Disminuye
la velocidad



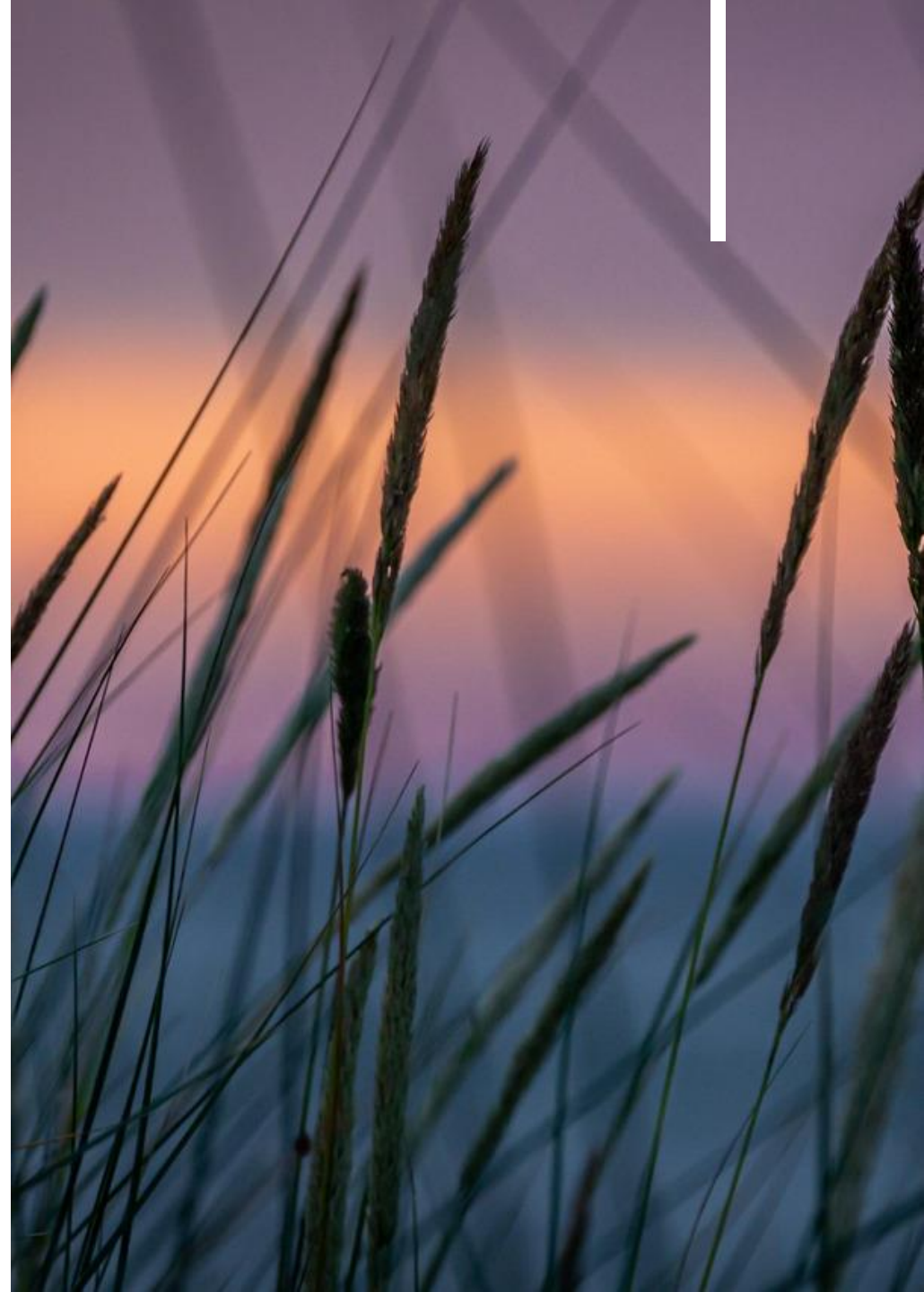
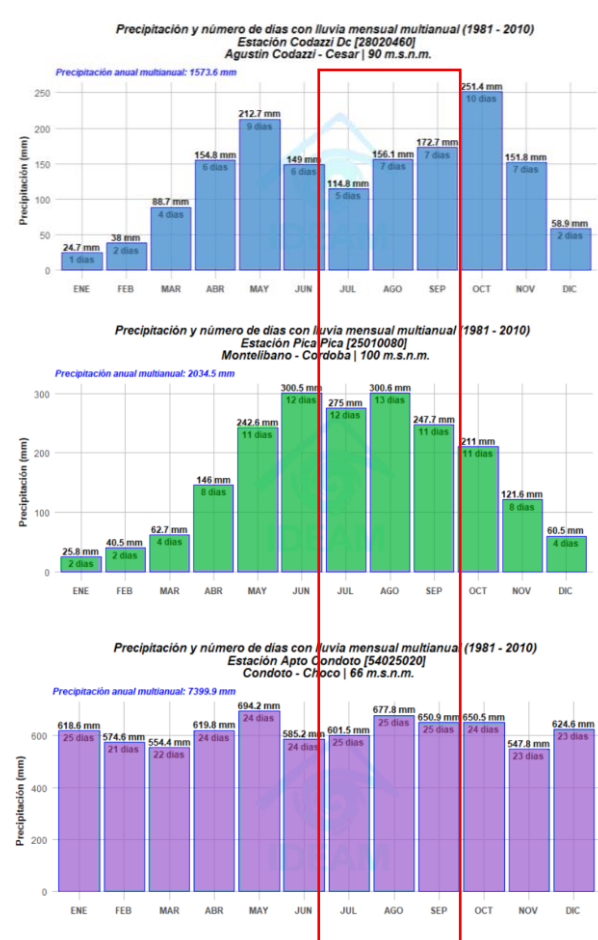
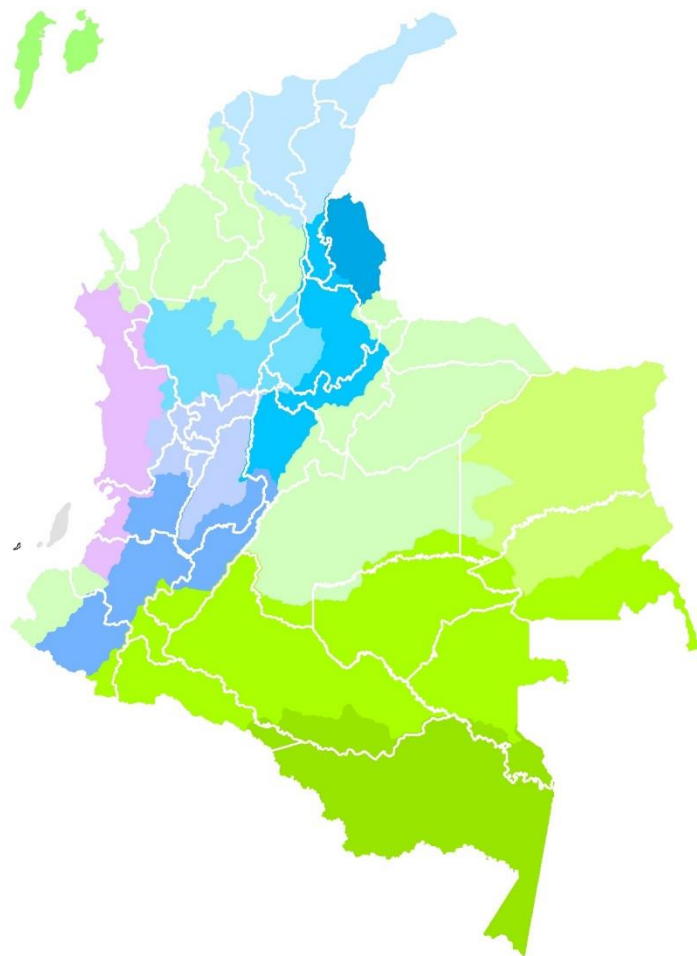
Aumenta
la velocidad



4. CONCLUSIÓN

LLUVIAS

JULIO: por debajo de lo normal sobre las cuencas de interés.





MINISTERIO DE AMBIENTE Y
DESARROLLO SOSTENIBLE

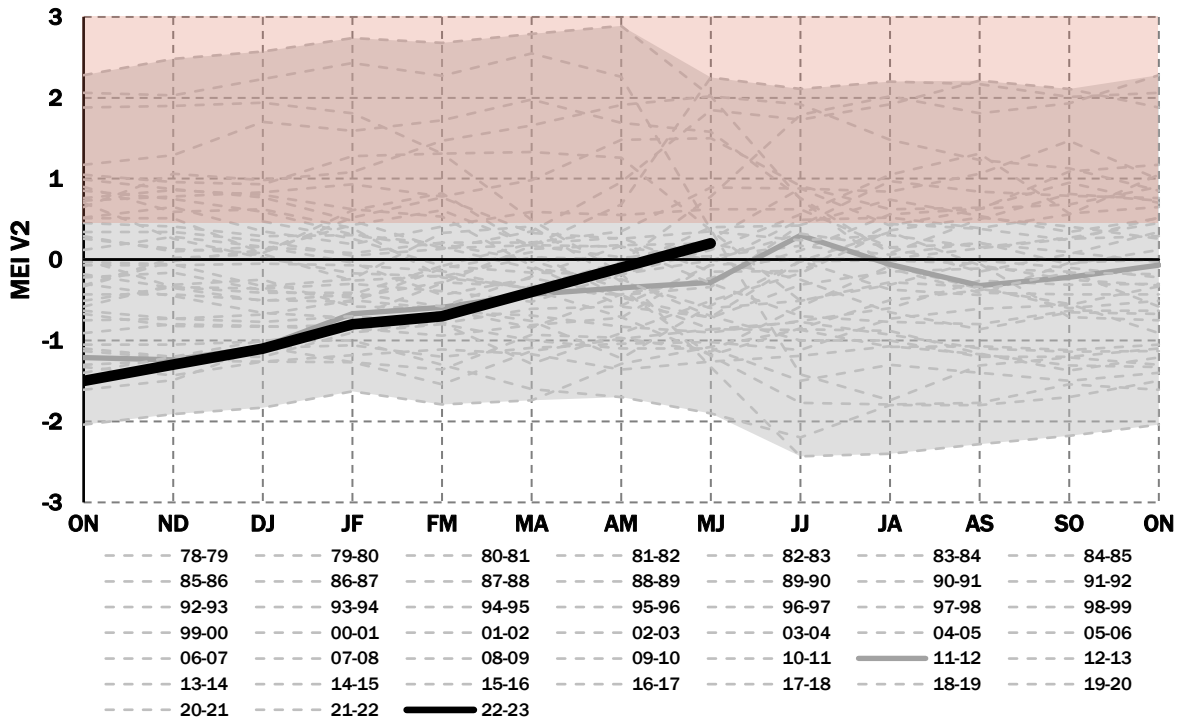


IDEAM

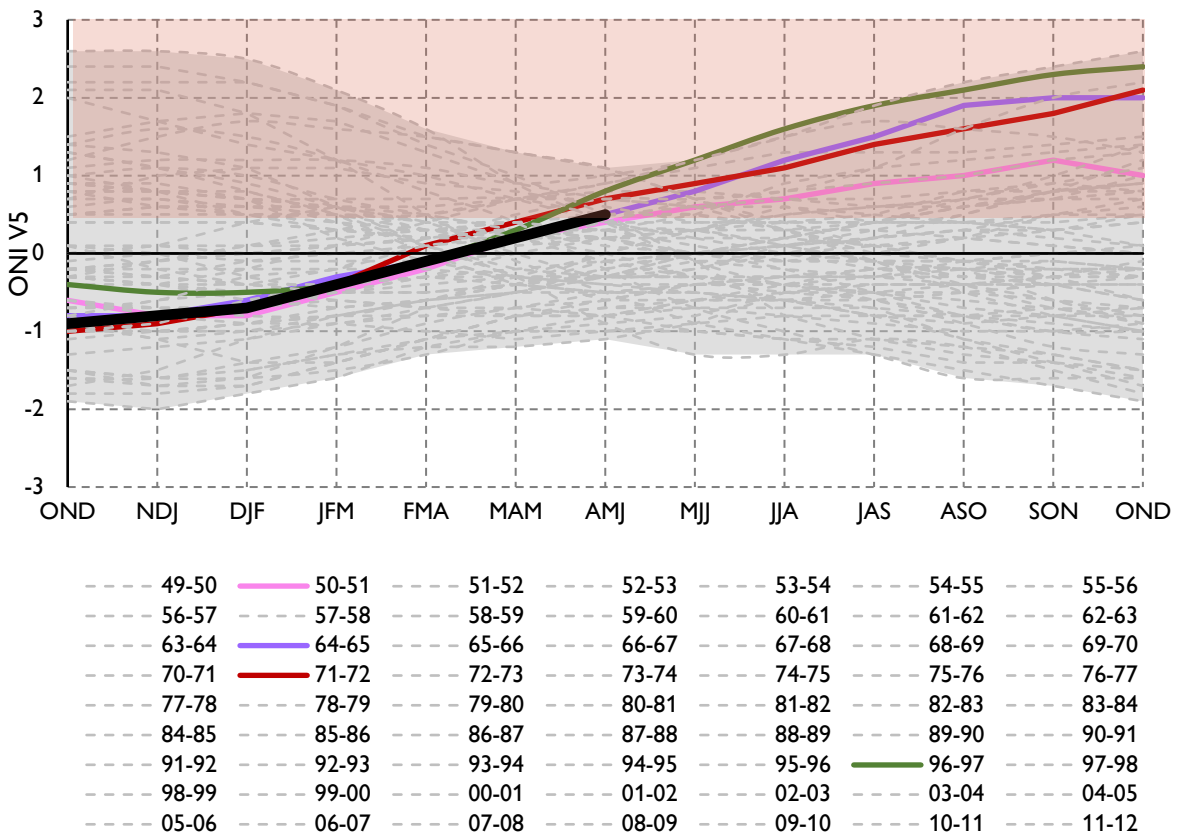
Instituto de Hidrología,
Meteorología y
Estudios Ambientales

Análogos

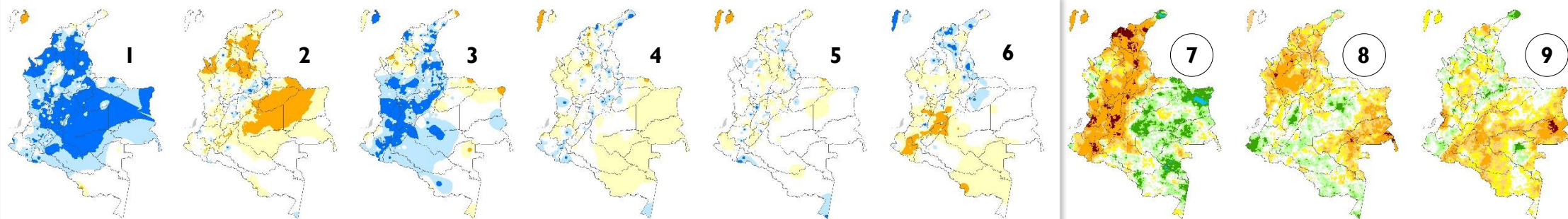
MEIv2



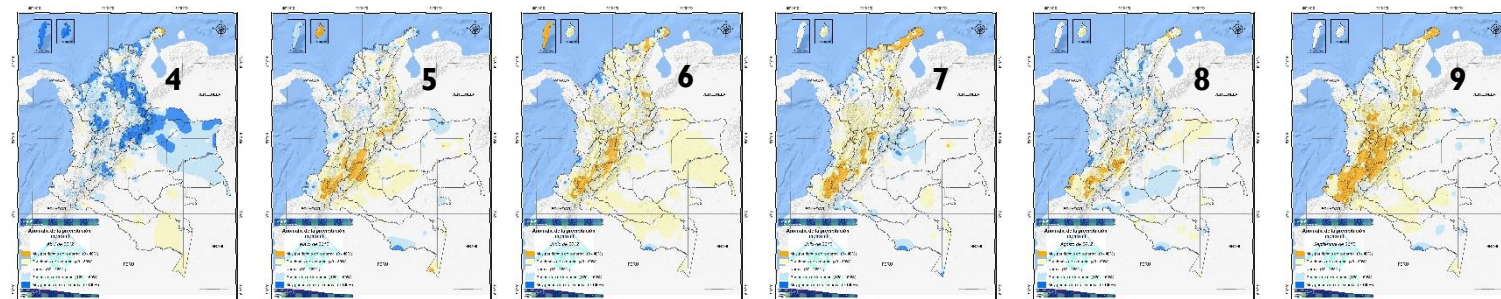
ONIv5



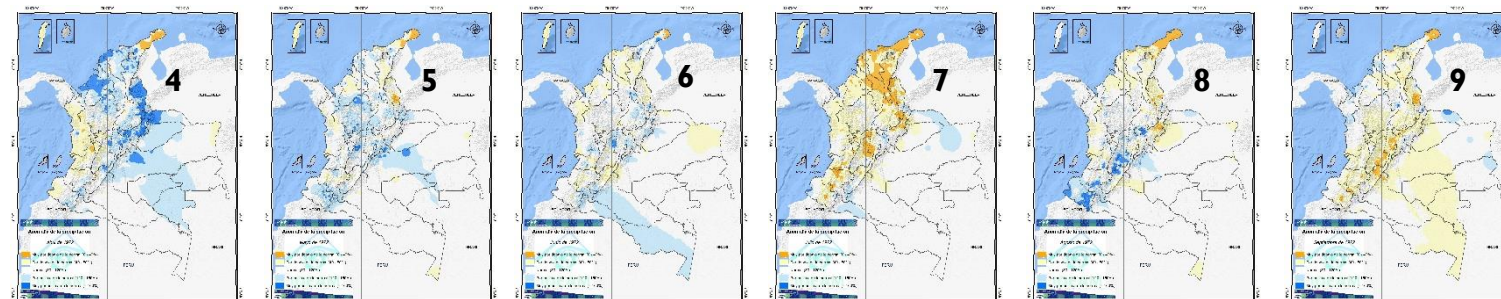
2023



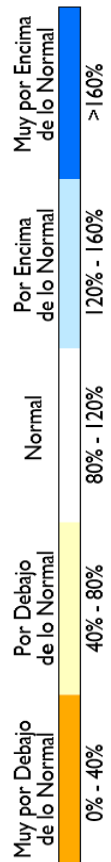
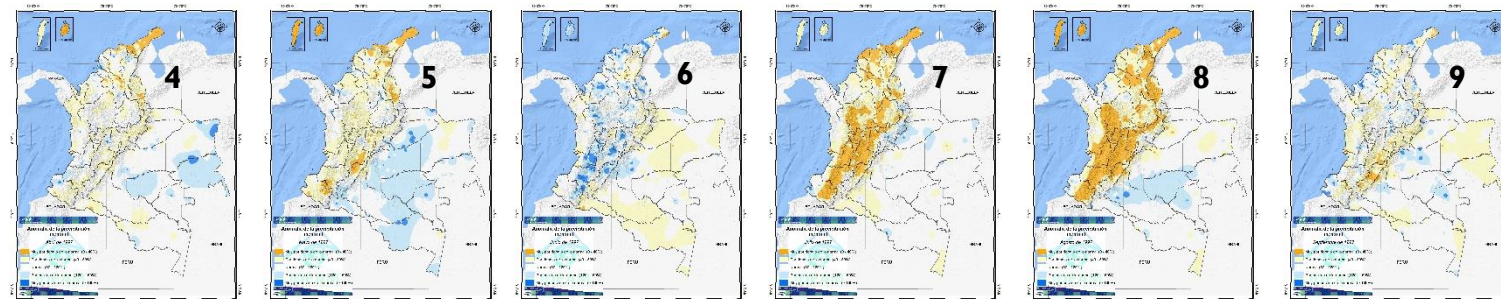
2012



1972



1997



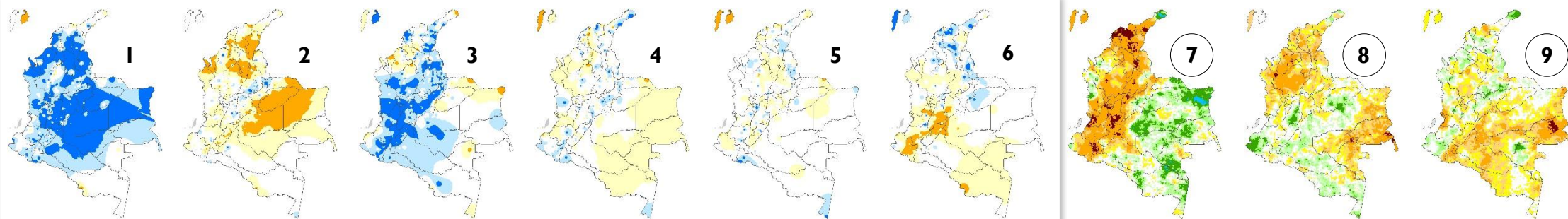
1997

Niño fuerte

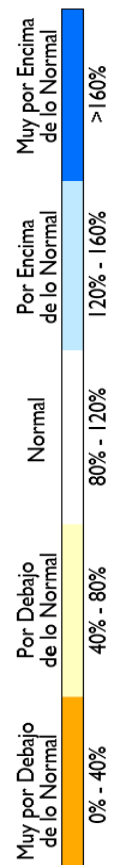
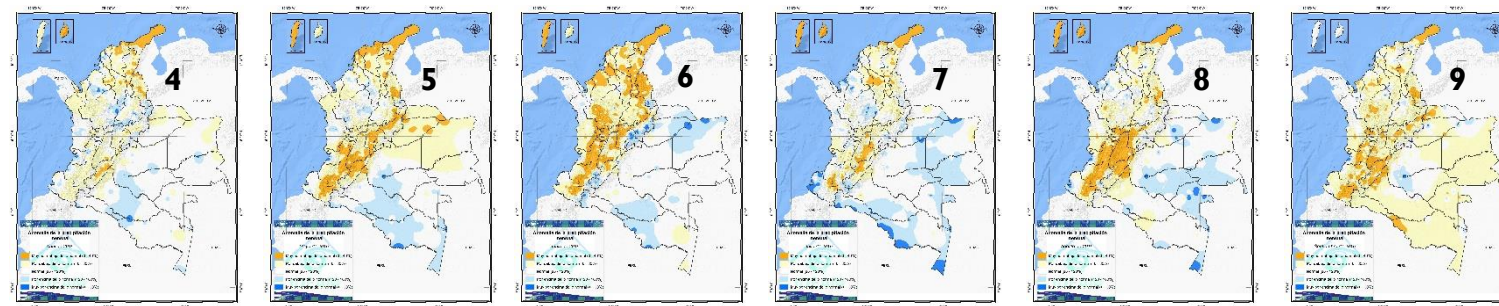
2015

Niño fuerte

2023



2015





MINISTERIO DE AMBIENTE Y
DESARROLLO SOSTENIBLE

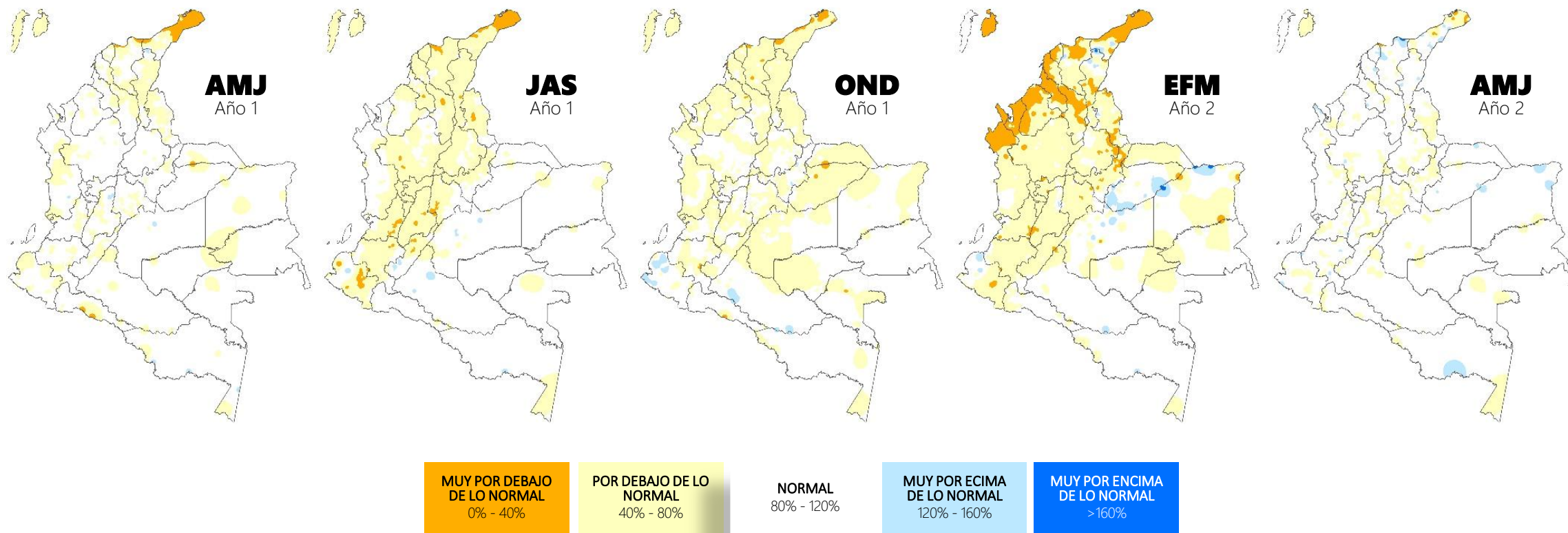


IDEAM

Instituto de Hidrología,
Meteorología y
Estudios Ambientales

Fenómeno El Niño

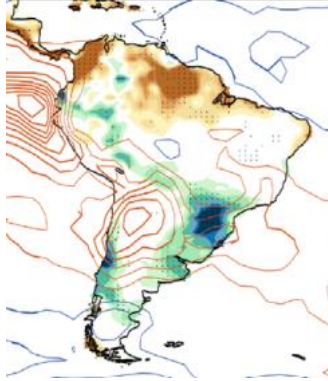
Alteraciones más probables en la precipitación ante la ocurrencia de un fenómeno El Niño típico



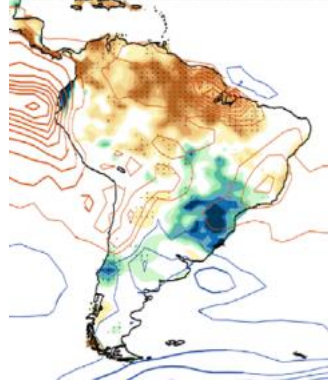
Alteraciones más probables en la precipitación ante la ocurrencia de un **fenómeno El Niño EP** | CP

CUENCA
Oriental

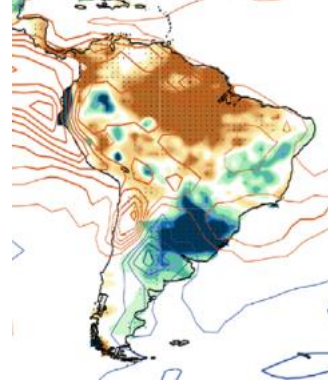
JJA
Año 1



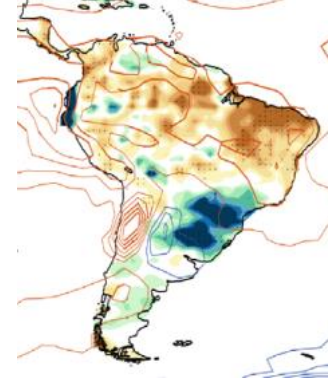
SON
Año 1



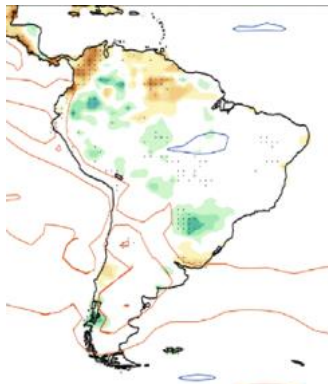
DEF
Año 1



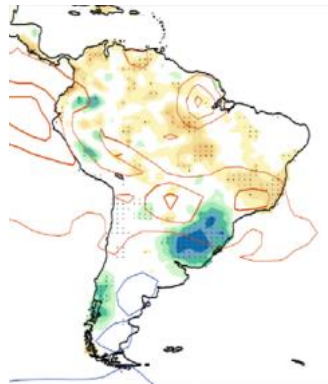
MAM
Año 2



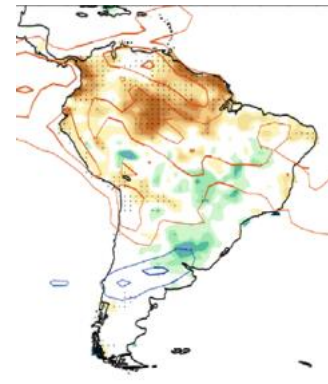
JJA
Año 1



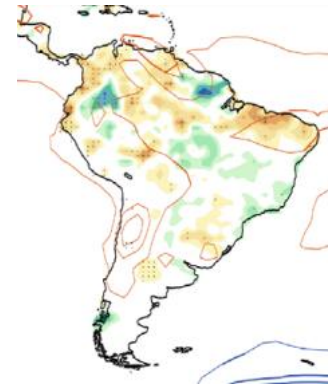
SON
Año 1



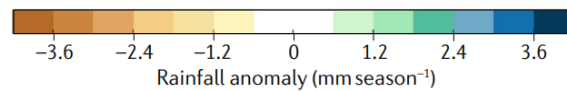
DEF
Año 1



MAM
Año 2



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