PERÚ Ministerio del Ambiente

Senamhi
SERVICIO NACIONAL DE METEOROLOGÍA
E HIDROLOGÍA DEL PERÚ

ENERO 2023

Boletín Informativo Monitoreo del Fenómeno El Niño / La Niña

PERÚ Ministerio del Ambiente

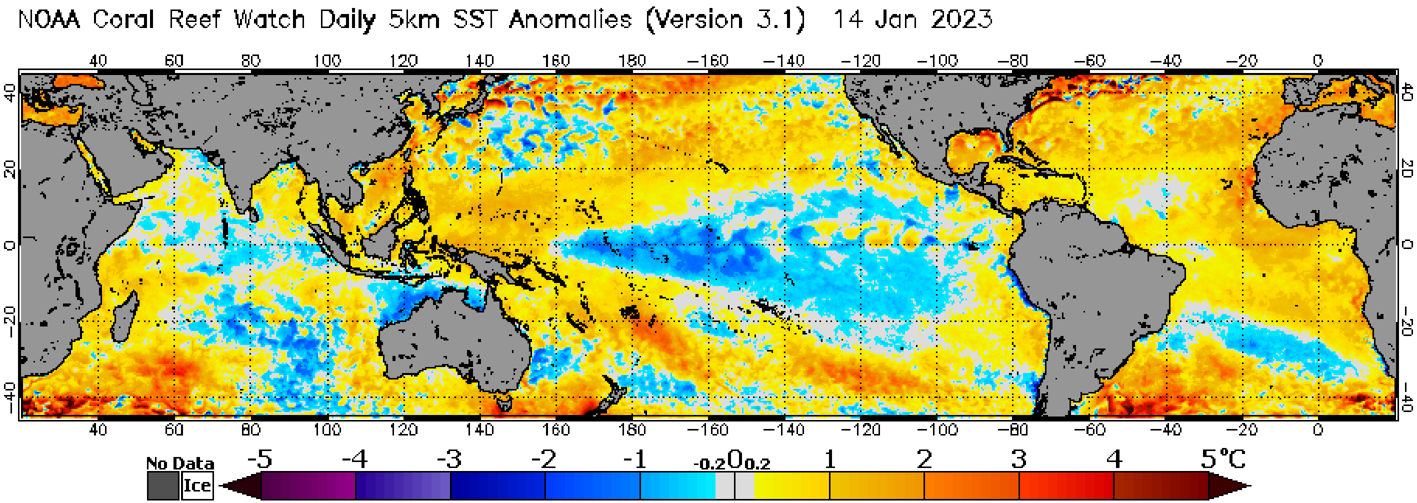
Senamhi
SERVICIO NACIONAL DE METEOROLOGÍA E HIDROLOGÍA DEL PERÚ

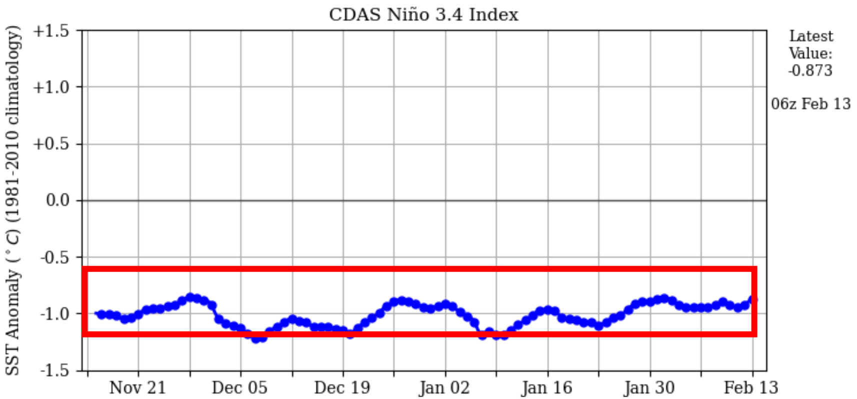
53 Aniversario 1969 - 2022

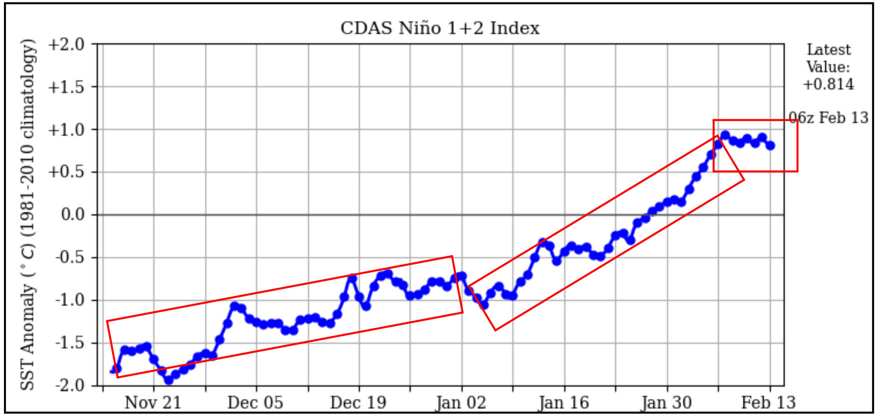
Siempre con el pueblo

Este producto contempla la evolución de las condiciones atmosféricas a nivel global y regional durante enero y los primeros días de febrero de 2023. Este monitoreo se realiza a partir de diferentes fuentes, incluidos datos de modelos numéricos de tiempo y clima, datos de vientos satelitales, entre otros. Este producto es insumo para las reuniones del GTCT-ENFEN

TSM EN EL PACÍFICO TROPICAL

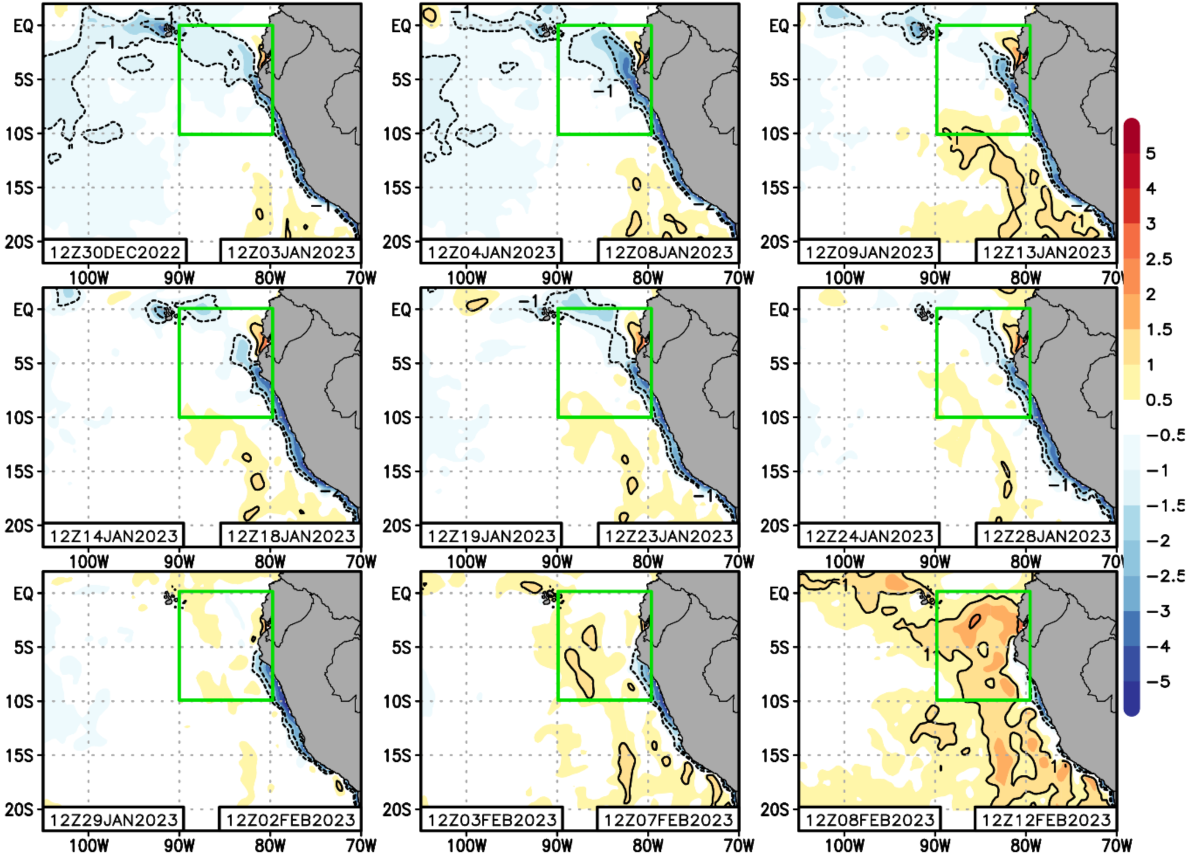

NOAA Coral Reef Watch Daily 5km SST Anomalies (Version 3.1) 14 Jan 2023
40
60
80
100
120
140
160
180
−160
−140
−120
−100
−80
−60
−40
−20
0
40
20
0
−20
−40
No Data
Ice
-5
-4
-3
-2
-1
-0.2
0
0.2
1
2
3
4
5°C





TSM EN EL PACÍFICO ORIENTAL

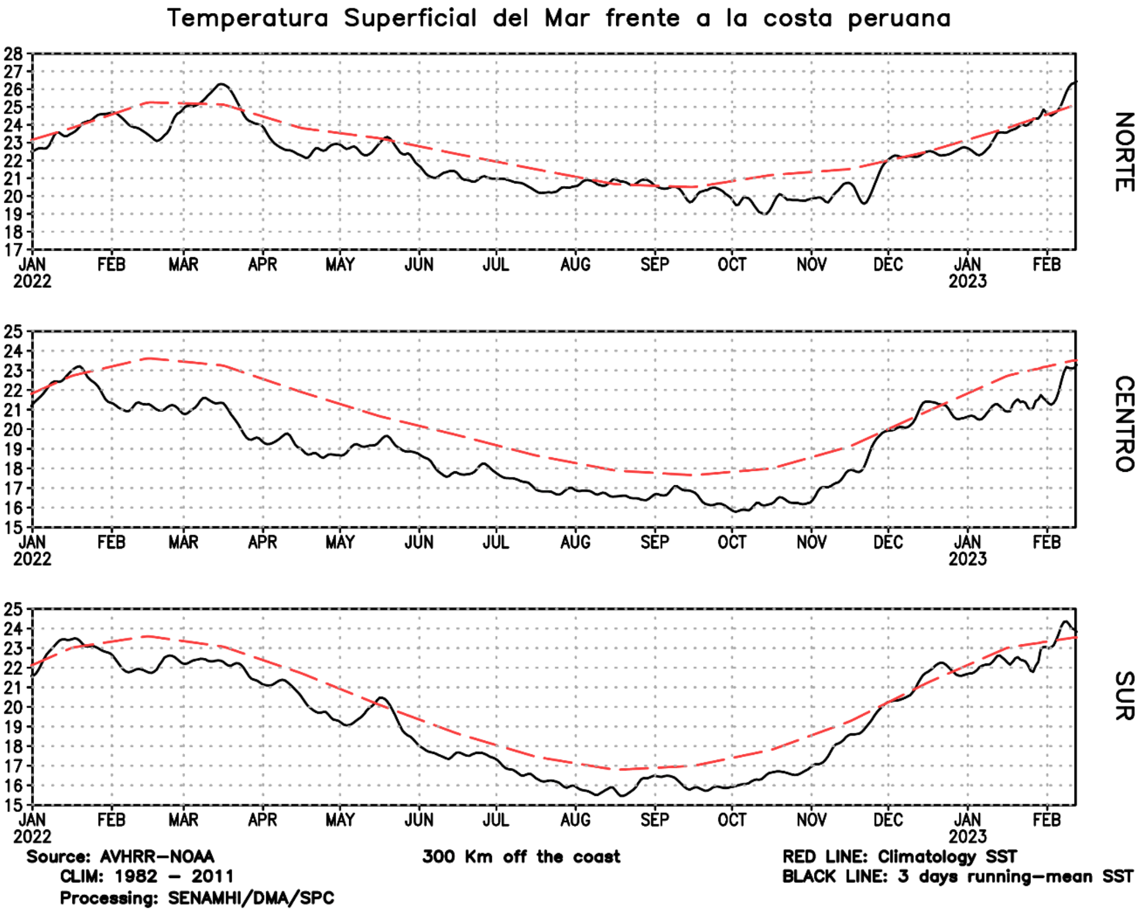
ANOMALIA DE LA TEMPERATURA SUPERFICIAL DEL MAR



12Z30DEC2022
12Z03JAN2023
12Z04JAN2023
12Z08JAN2023
12Z09JAN2023
12Z13JAN2023
12Z14JAN2023
12Z18JAN2023
12Z19JAN2023
12Z23JAN2023
12Z24JAN2023
12Z28JAN2023
12Z29JAN2023
12Z02FEB2023
12Z03FEB2023
12Z07FEB2023
12Z08FEB2023
12Z12FEB2023
EQ
5S
10S
15S
20S
100W
90W
80W
70W
-1
1
5
4
3
2.5
2
1.5
1
0.5
−0.5
−1
−1.5
−2
−2.5
−3
−4
−5

FUENTE: AVHRR

TSM EN EL PACÍFICO ORIENTAL – 300 km por fuera de la costa

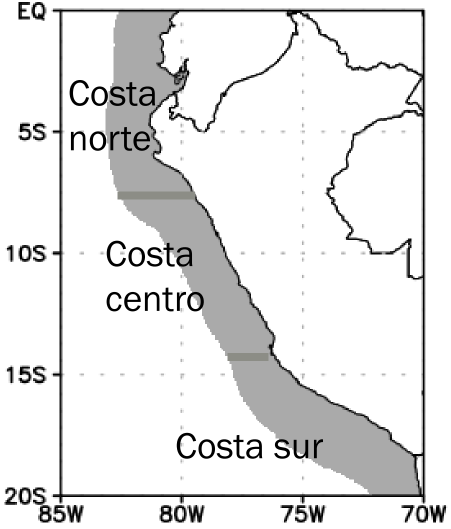


Temperatura Superficial del Mar frente a la costa peruana

Source: AVHRR–NOAA
CLIM: 1982 – 2011
Processing: SENAMHI/DMA/SPC

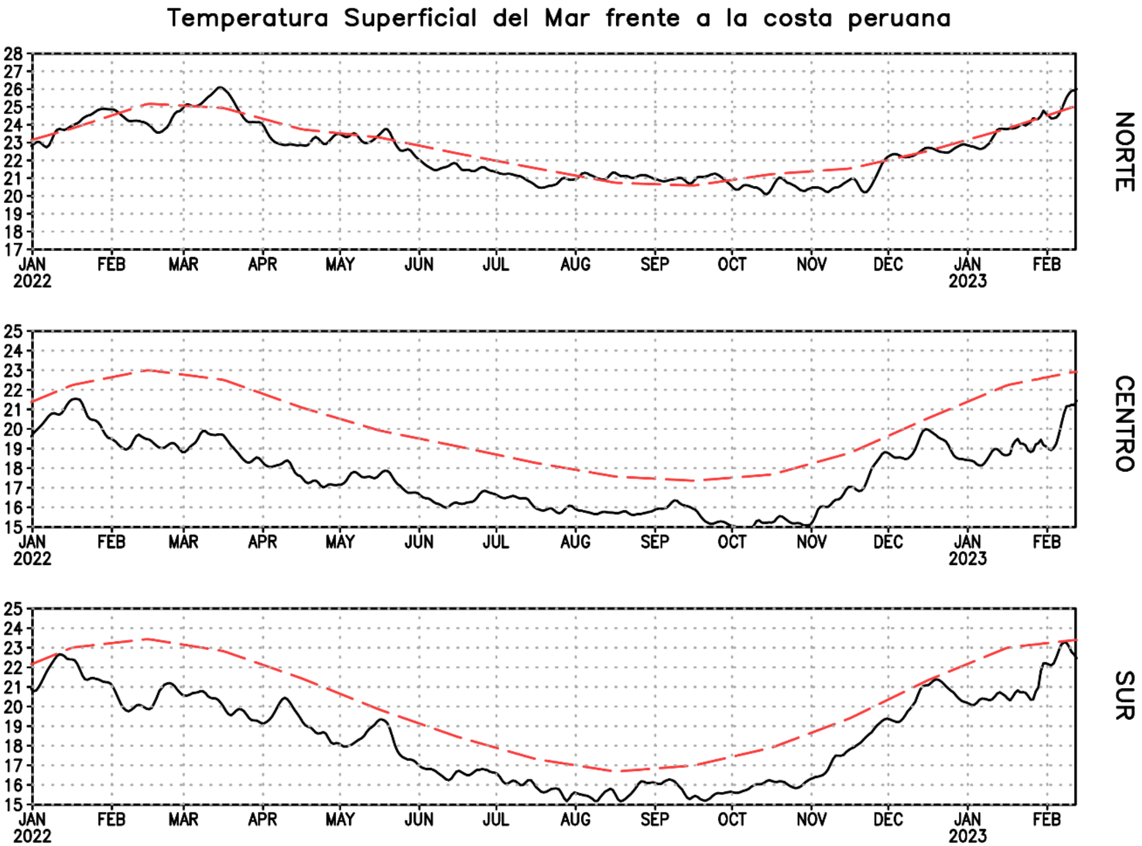
300 Km off the coast

RED LINE: Climatology SST
BLACK LINE: 3 days running–mean SST



EQ
5S
10S
15S
20S
85W
80W
75W
70W
Costa norte
Costa centro
Costa sur

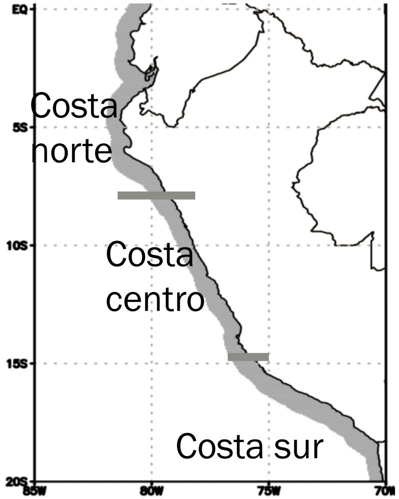
TSM EN EL PACÍFICO ORIENTAL – 100 km por fuera de la costa



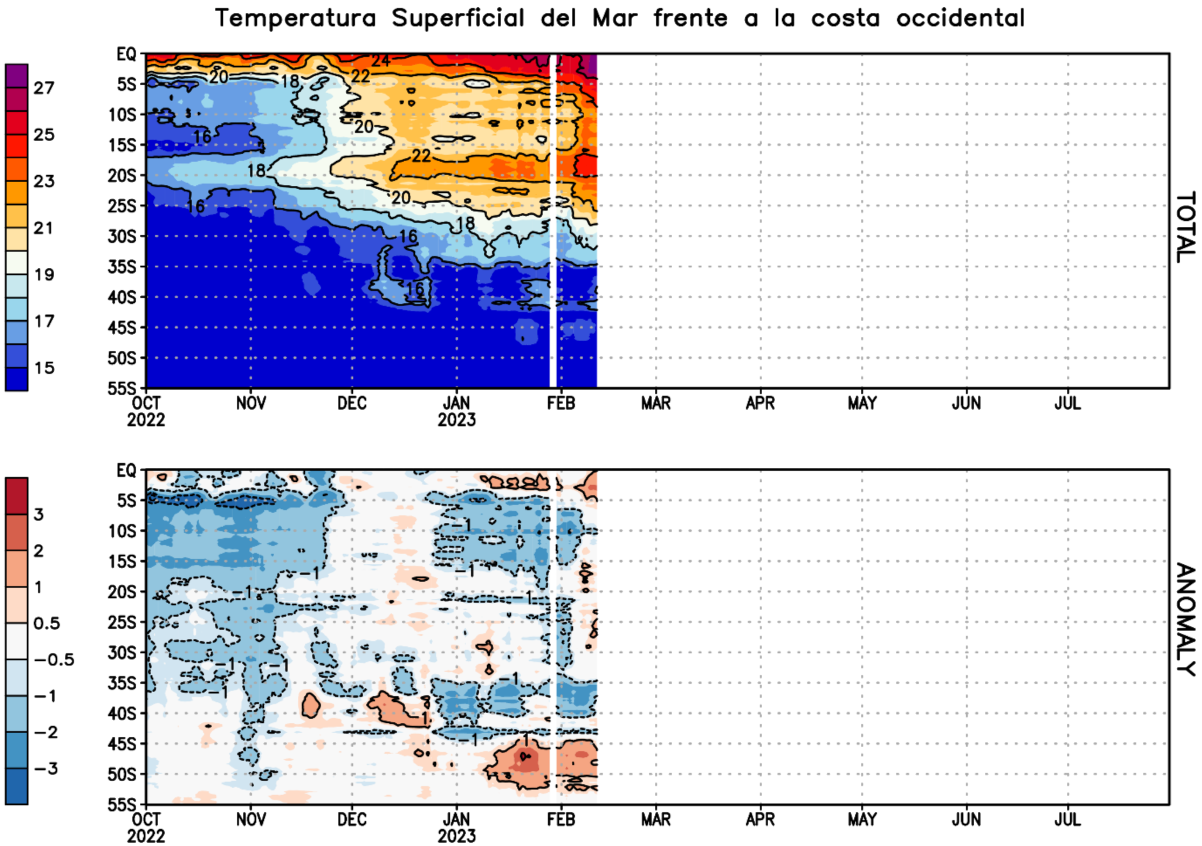
Source: AVHRR-NOAA
CLIM: 1982 – 2011
Processing: SENAMHI/DMA/SPC

100 Km off the coast

RED LINE: Climatology SST
BLACK LINE: 3 days running-mean SST

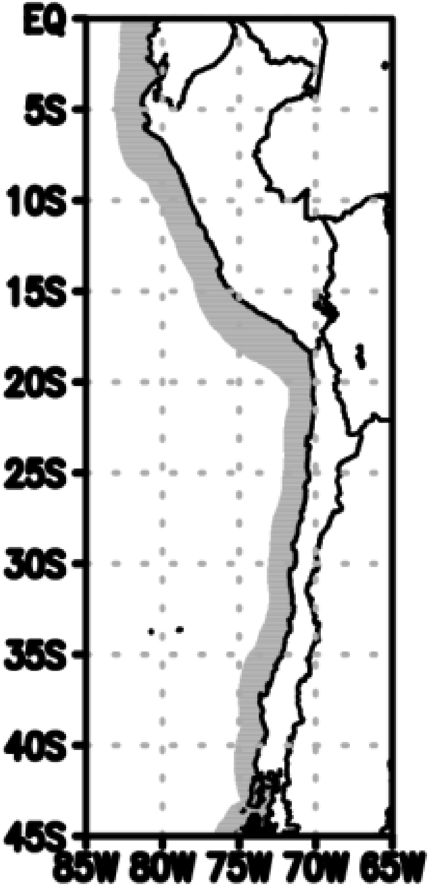

Costa norte
Costa centro
Costa sur
EQ
5S
10S
15S
20S
85W
80W
75W
70W

TSM EN EL PACÍFICO ORIENTAL – frente a las costas de SA

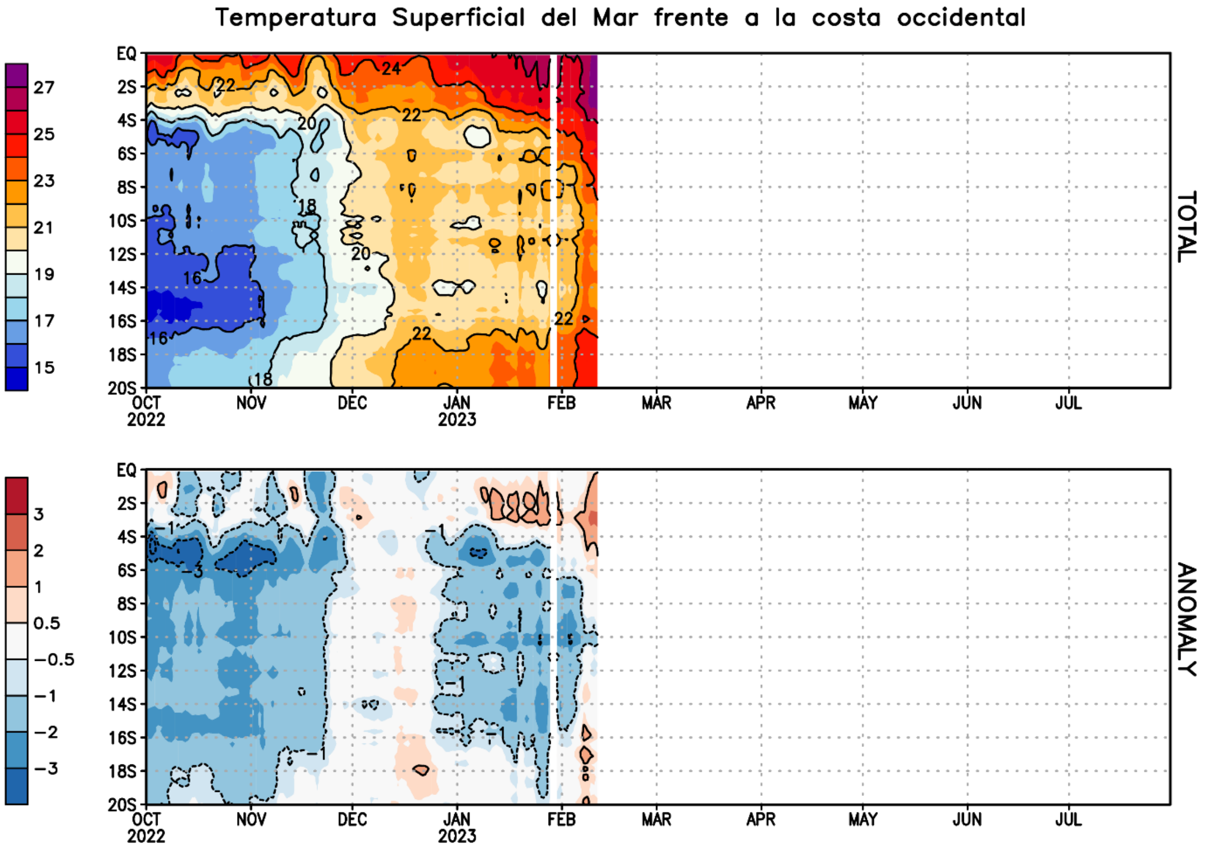


Source: AVHRR
CLIM: 1982 – 2010
Processing: SENAMHI/DMA/SPC

300 Km off the coast

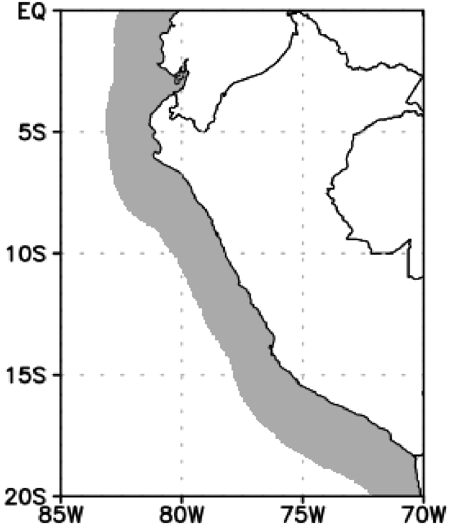

EQ
5S
10S
15S
20S
25S
30S
35S
40S
45S
85W
80W
75W
70W
65W

TSM EN EL PACÍFICO ORIENTAL – frente a las costas de Perú

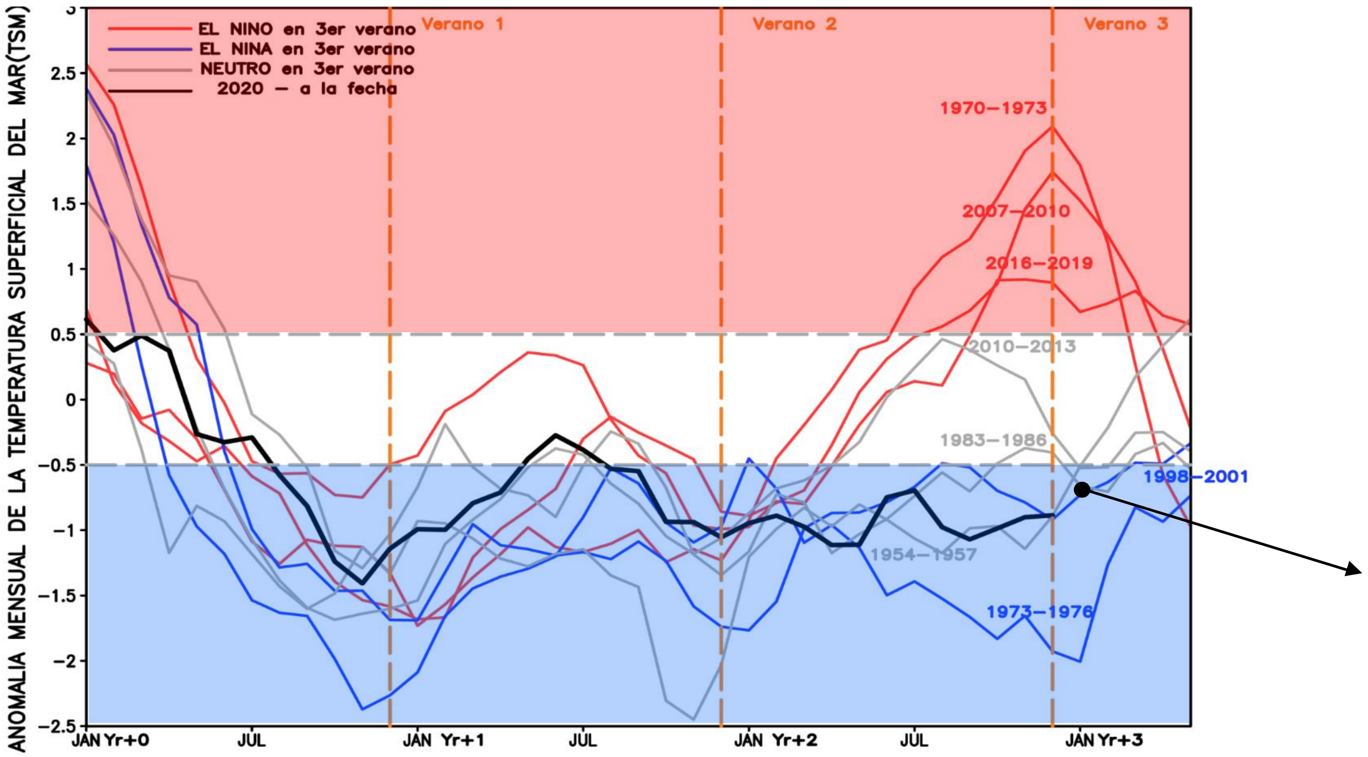


Source: AVHRR
CLIM: 1982 – 2010
Processing: SENAMHI/DMA/SPC

300 Km off the coast


EQ
5S
10S
15S
20S
85W
80W
75W
70W

EVOLUCIÓN DE LOS EVENTOS CONSECUTIVOS DE LA NIÑA EN EL PAC. CENTRAL

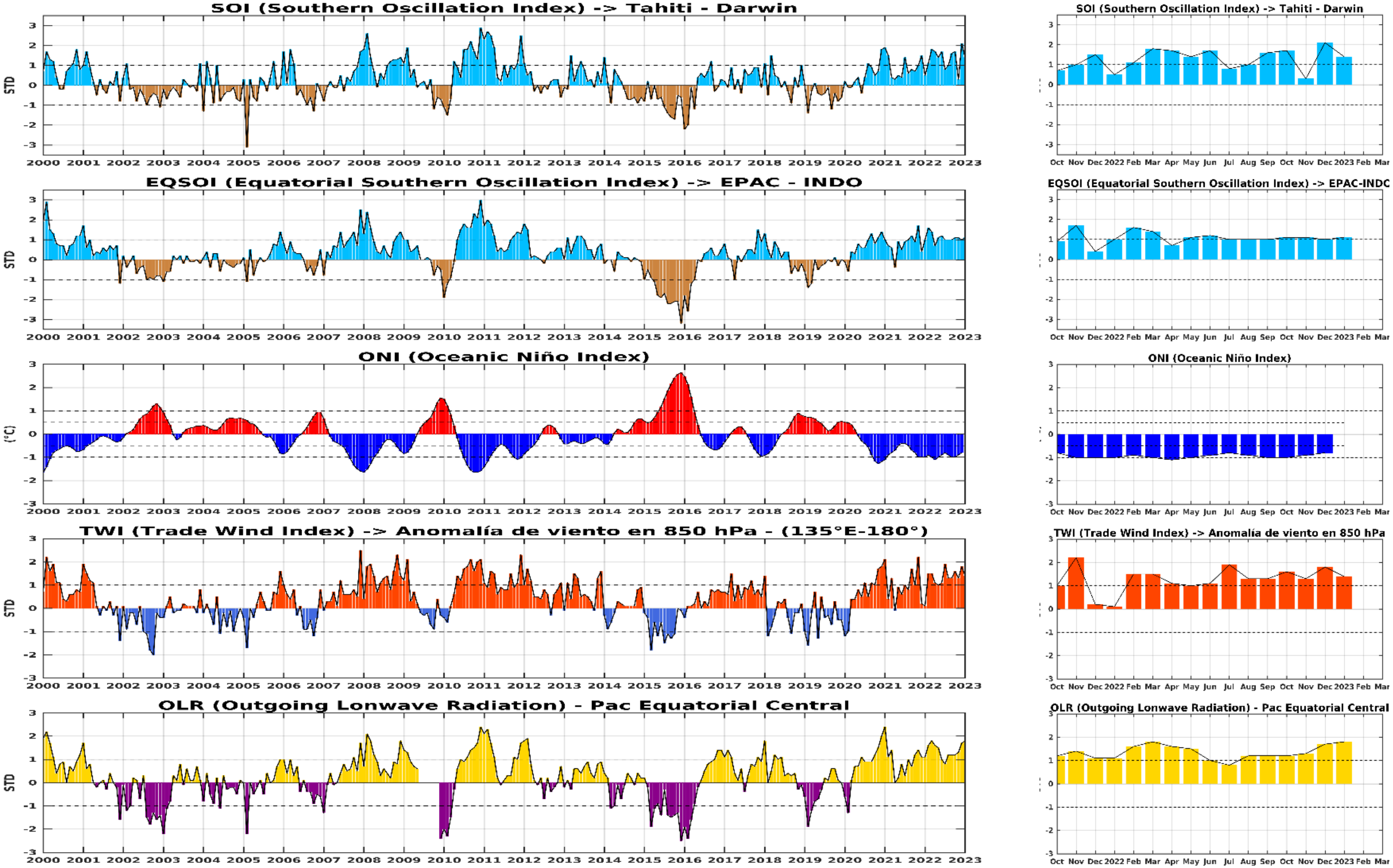


-0.74

Historial de tres años de la TSM en la región Niño 3.4 para 8 eventos anteriores de doble inmersión. El color de la línea indica el estado de ENSO para el tercer verano (rojo: El Niño, azul: La Niña, gris: Neutro). La línea negra muestra el evento actual. Anomalía mensual de la TSM en la región 3.4 usando ERSSTv5. Imagen creada por Michelle L'Heureux. Adaptada por SENAMHI/DMA/SPC

Source: ERSST.v5
CLIM: 1991 – 2020
Processing: SENAMHI/DMA/SPC

Pacífico Ecuatorial


SOI (Southern Oscillation Index) -> Tahiti - Darwin

EQSOI (Equatorial Southern Oscillation Index) -> EPAC - INDO

ONI (Oceanic Niño Index)

TWI (Trade Wind Index) -> Anomalía de viento en 850 hPa - (135°E-180°)

OLR (Outgoing Lonwave Radiation) - Pac Equatorial Central

SOI (Southern Oscillation Index) -> Tahiti - Darwin

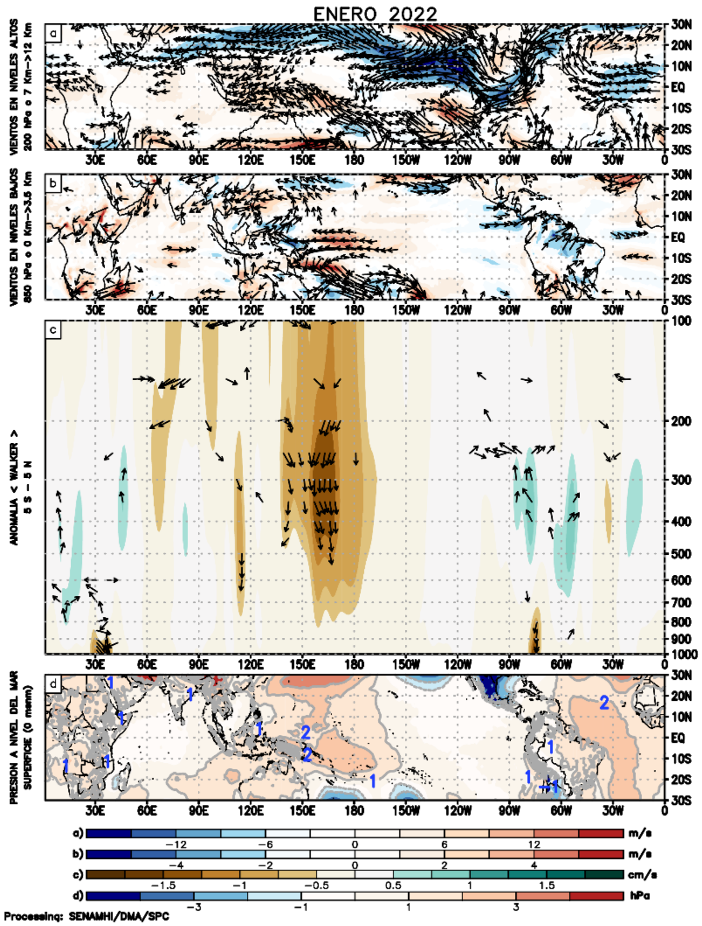
EQSOI (Equatorial Southern Oscillation Index) -> EPAC-INDC

ONI (Oceanic Niño Index)

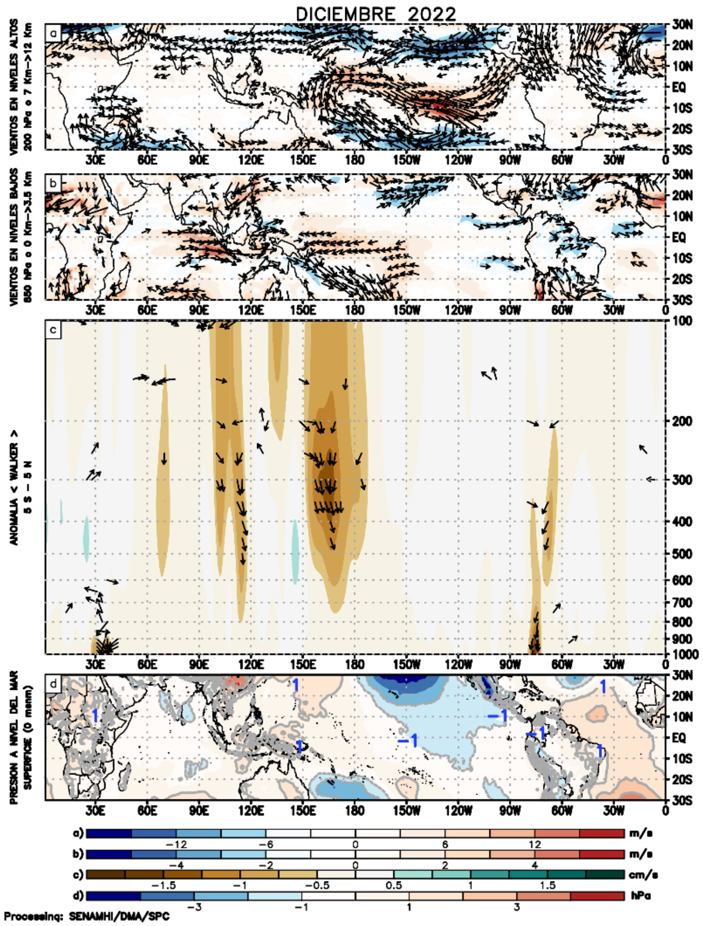
TWI (Trade Wind Index) -> Anomalía de viento en 850 hPa

OLR (Outgoing Lonwave Radiation) - Pac Equatorial Central
STD
(°C)
3
2
1
0
-1
-2
-3
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023
Oct Nov Dec 2022 Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2023 Feb Mar

CIRCULACIÓN MEDIA EN EL PACÍFICO TROPICAL

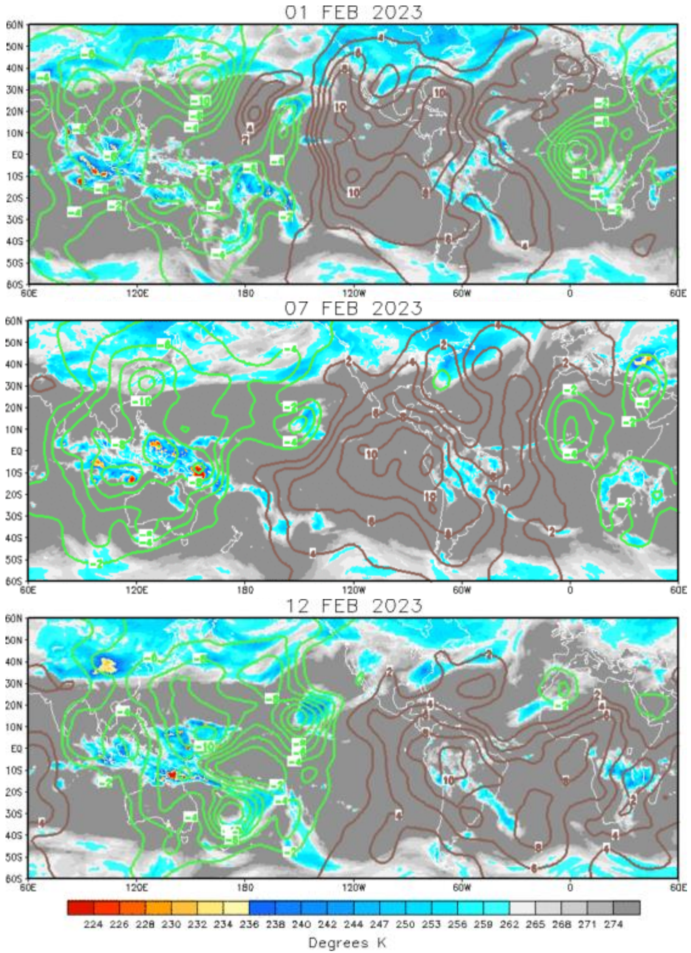

ENERO 2022
VIENTOS EN NIVELES ALTOS 200 hPa o 7 Km->12 Km
VIENTOS EN NIVELES BAJOS 850 hPa o 0 Km->3.5 Km
ANOMALIA < WALKER > 5 S - 5 N
PRESION A NIVEL DEL MAR SUPERFICIE (0 msnm)
a
b
c
d
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
0
30N
20N
10N
EQ
10S
20S
30S
100
200
300
400
500
600
700
800
900
1000
a) m/s −12 −6 0 6 12
b) m/s −4 −2 0 2 4
c) cm/s −1.5 −1 −0.5 0.5 1 1.5
d) hPa −3 −1 1 3

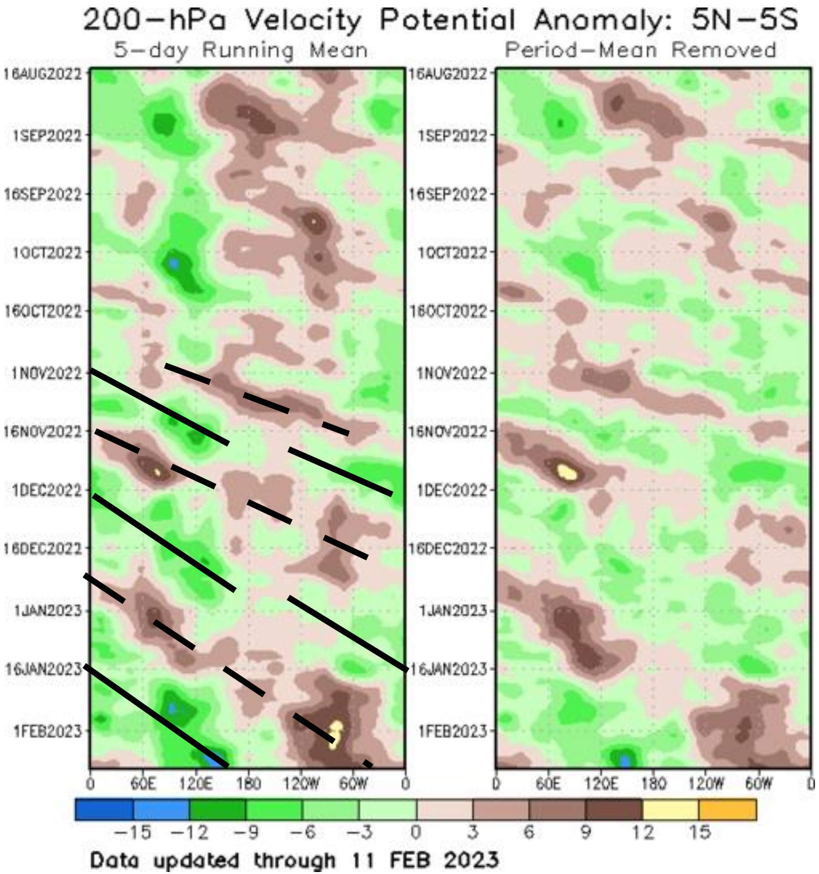
Processing: SENAMHI/DMA/SPC


DICIEMBRE 2022
VIENTOS EN NIVELES ALTOS 200 hPa o 7 Km->12 Km
VIENTOS EN NIVELES BAJOS 850 hPa o 0 Km->3.5 Km
ANOMALIA < WALKER > 5 S - 5 N
PRESION A NIVEL DEL MAR SUPERFICIE (0 msnm)
a
b
c
d
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
0
30N
20N
10N
EQ
10S
20S
30S
100
200
300
400
500
600
700
800
900
1000
a) m/s −12 −6 0 6 12
b) m/s −4 −2 0 2 4
c) cm/s −1.5 −1 −0.5 0.5 1 1.5
d) hPa −3 −1 1 3

Processing: SENAMHI/DMA/SPC

VARIABILIDAD INTRAESTACIONAL– MJO


01 FEB 2023
07 FEB 2023
12 FEB 2023
60N
50N
40N
30N
20N
10N
EQ
10S
20S
30S
40S
50S
60S
60E
120E
180
120W
60W
0
60E
224 226 228 230 232 234 236 238 240 242 244 247 250 253 256 259 262 265 268 271 274
Degrees K


200-hPa Velocity Potential Anomaly: 5N-5S

5-day Running Mean

Period-Mean Removed

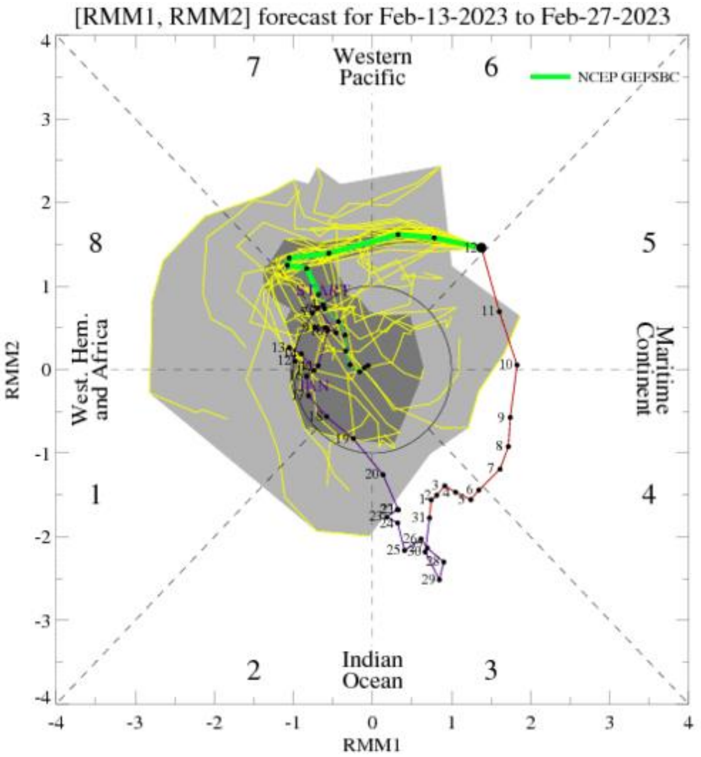
Data updated through 11 FEB 2023

🟩 Divergencia 🟫 Convergencia

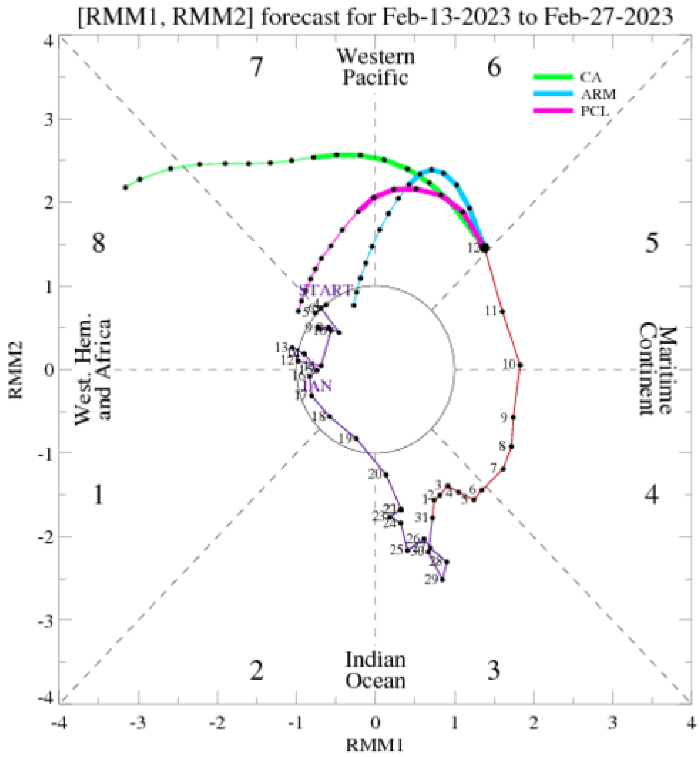
Fuente: CPC/NOAA

VARIABILIDAD INTRAESTACIONAL–

DYNAMICAL MODEL PHASE DIAGRAM

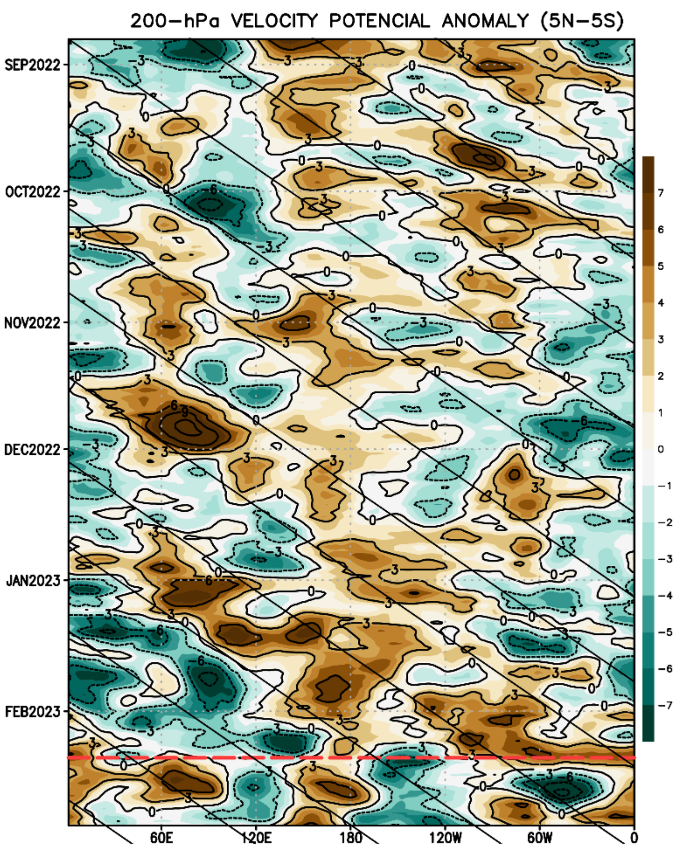


STATISTICAL MODEL PHASE DIAGRAM



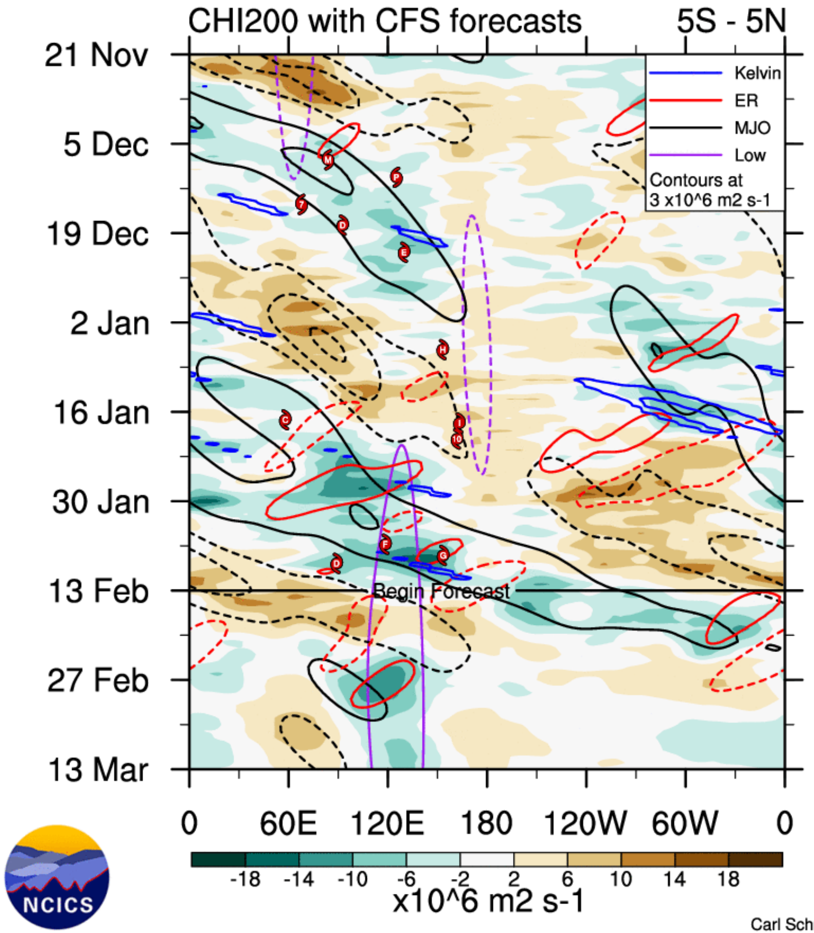
Fuente: CPC/NOAA

VARIABILIDAD INTRAESTACIONAL– Anomalía de la CHI200



Source: GFS
Processing: SENAMHI/DMA/SPC

Begin GFS Forecast–green line
Forecast up to 00Z28FEB2023



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Tue 2023-02-14 1108 UTC

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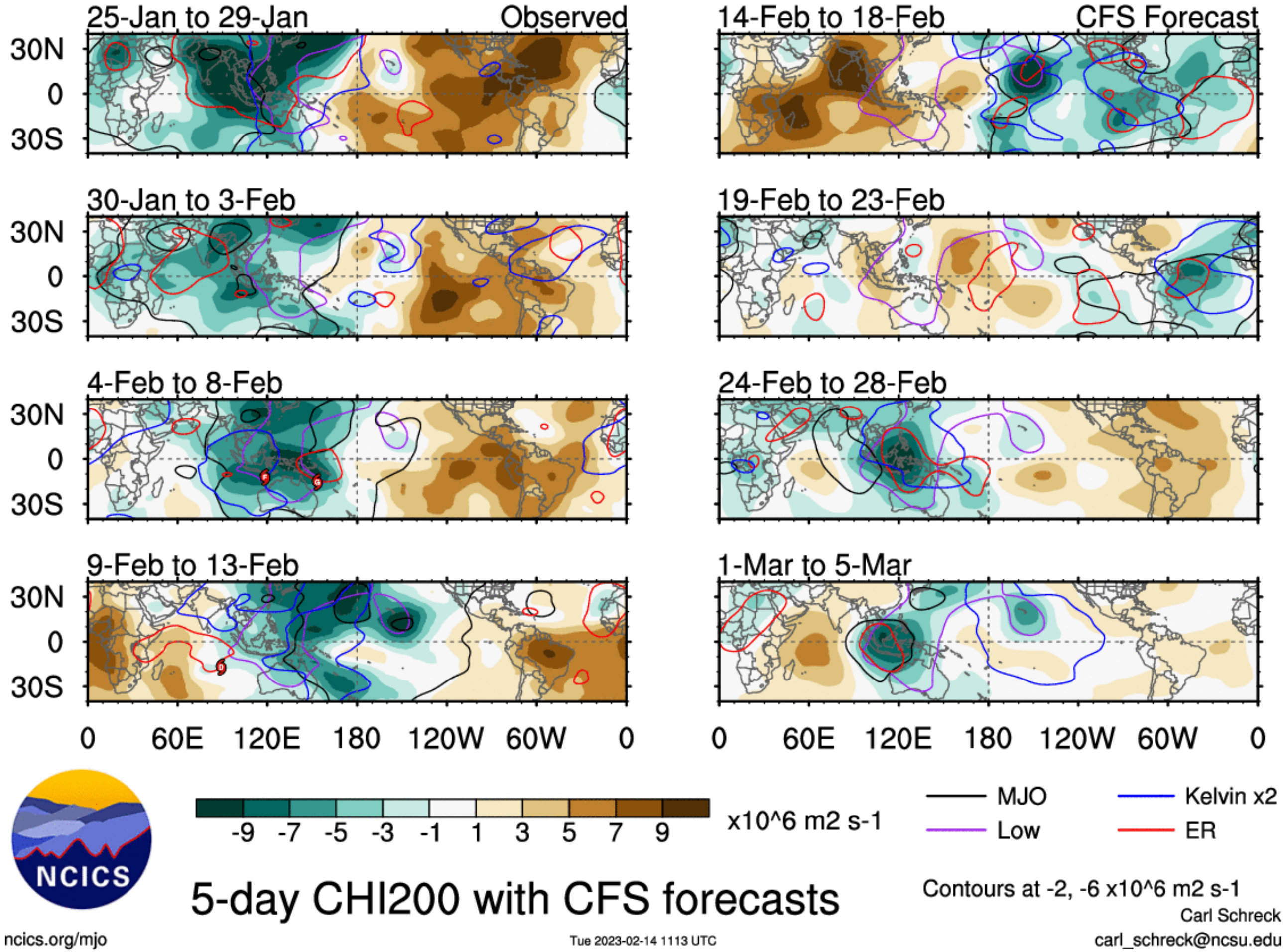
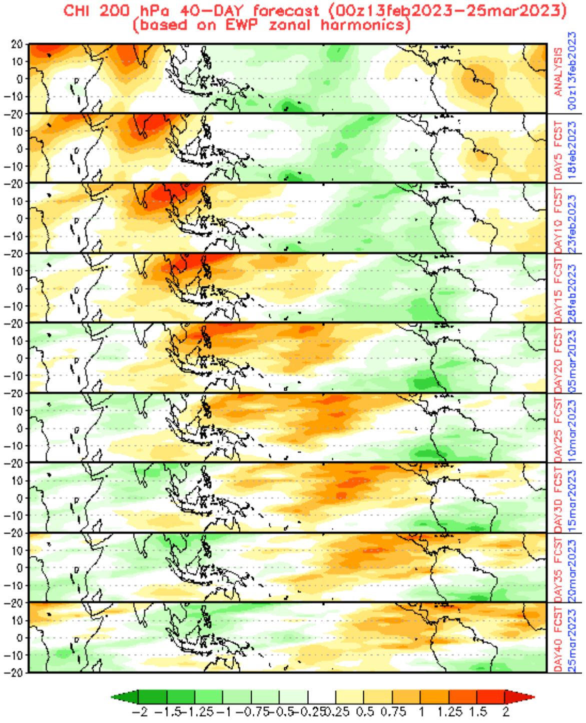
carl_schreck@ncsu.edu

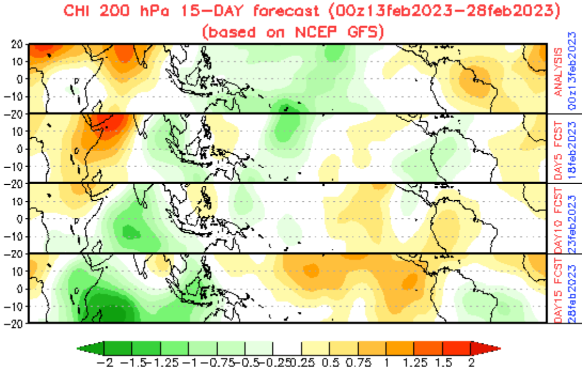
VARIABILIDAD INTRAESTACIONAL– Anomalía de la CHI200

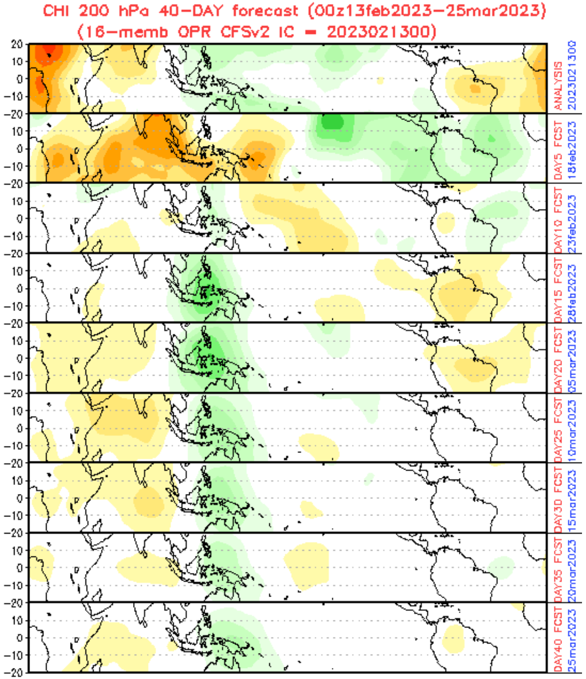

25-Jan to 29-Jan
Observed
30-Jan to 3-Feb
4-Feb to 8-Feb
9-Feb to 13-Feb
14-Feb to 18-Feb
CFS Forecast
19-Feb to 23-Feb
24-Feb to 28-Feb
1-Mar to 5-Mar
30N
0
30S
0
60E
120E
180
120W
60W
0
-9
-7
-5
-3
-1
1
3
5
7
9
x10^6 m2 s-1
MJO
Kelvin x2
Low
ER
NCICS
ncics.org/mjo
5-day CHI200 with CFS forecasts
Tue 2023-02-14 1113 UTC
Contours at -2, -6 x10^6 m2 s-1
Carl Schreck
carl_schreck@ncsu.edu

VARIABILIDAD INTRAESTACIONAL– Anomalía de la CHI200

200-hpa Pronósticos de la Velocidad Potencial


CHI 200 hPa 40–DAY forecast (00z13feb2023–25mar2023)
(based on EWP zonal harmonics)
20
10
0
−10
−20
ANALYSIS 00z13feb2023
DAY5 FCST 18feb2023
DAY10 FCST 23feb2023
DAY15 FCST 28feb2023
DAY20 FCST 05mar2023
DAY25 FCST 10mar2023
DAY30 FCST 15mar2023
DAY35 FCST 20mar2023
DAY40 FCST 25mar2023
−2 −1.5 −1.25 −1 −0.75 −0.5 −0.25 0.25 0.5 0.75 1 1.25 1.5 2

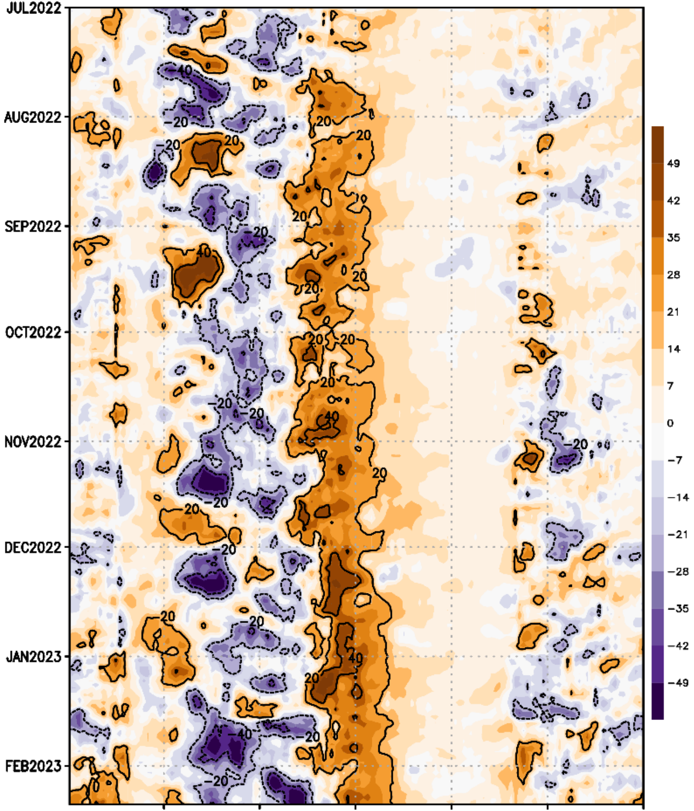

CHI 200 hPa 15–DAY forecast (00z13feb2023–28feb2023)
(based on NCEP GFS)
20
10
0
−10
−20
ANALYSIS 00z13feb2023
DAY5 FCST 18feb2023
DAY10 FCST 23feb2023
DAY15 FCST 28feb2023
−2 −1.5 −1.25 −1 −0.75 −0.5 −0.25 0.25 0.5 0.75 1 1.25 1.5 2


CHI 200 hPa 40–DAY forecast (00z13feb2023–25mar2023)
(16–memb OPR CFSv2 IC = 2023021300)
20
10
0
−10
−20
ANALYSIS 2023021300
DAY5 FCST 18feb2023
DAY10 FCST 23feb2023
DAY15 FCST 28feb2023
DAY20 FCST 05mar2023
DAY25 FCST 10mar2023
DAY30 FCST 15mar2023
DAY35 FCST 20mar2023
DAY40 FCST 25mar2023

🟩 Divergencia

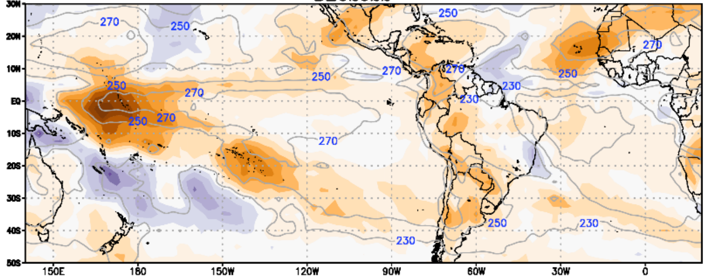
🟨 Convergencia

ANOMALÍAS DE LA OLR

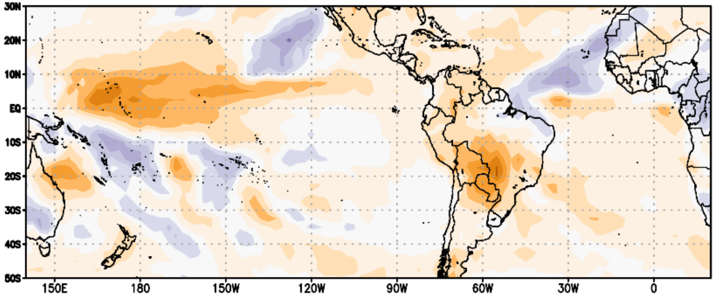

OLR ANOMALIES (5N–5S)

Source: NCEP–NOAA
Processing: SENAMHI/DMA/SPC
DATA up to 00z12FEB2023

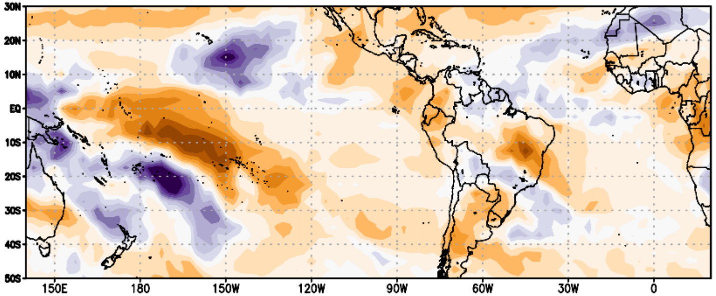
ANOMALIA (color)/PROMEDIO(contorno) DE OLR W/m²
DEC2022


30N
20N
10N
EQ
10S
20S
30S
40S
50S
150E
180
150W
120W
90W
60W
30W
0
230
250
270

OLR ENERO

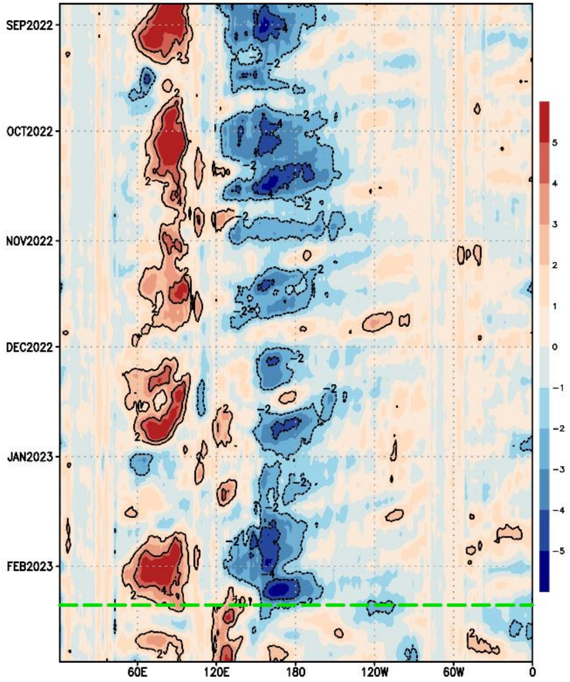

30N
20N
10N
EQ
10S
20S
30S
40S
50S
150E
180
150W
120W
90W
60W
30W
0

OLR FEBRERO


30N
20N
10N
EQ
10S
20S
30S
40S
50S
150E
180
150W
120W
90W
60W
30W
0

CONDICIONES EN EL PACÍFICO ECUATORIAL: vientos

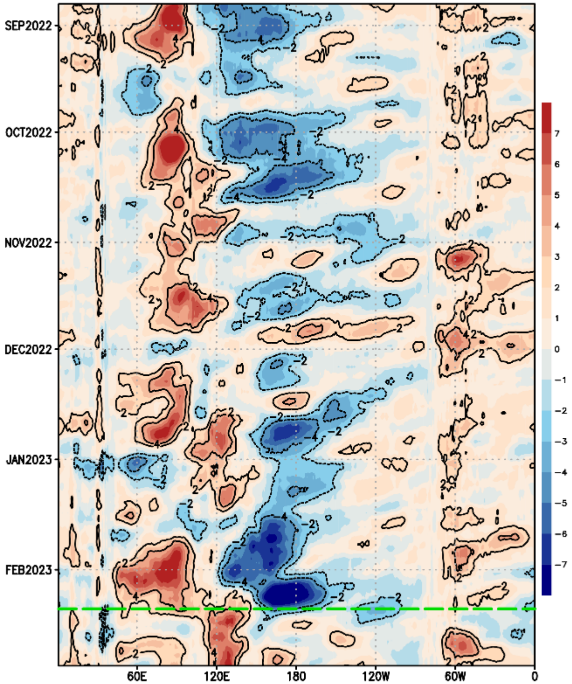
1000–hPa ZONAL WIND ANOMALIES (5N–5S)



Source: GFS
Processing: SENAMHI/DMA/SPC

Begin GFS Forecast–green line
Forecast up to 00Z28FEB2023

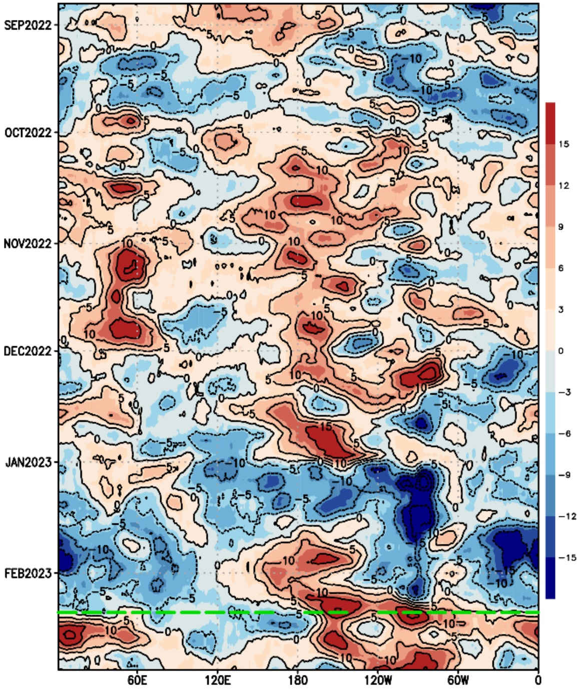
850–hPa ZONAL WIND ANOMALIES (5N–5S)



Source: GFS
Processing: SENAMHI/DMA/SPC

Begin GFS Forecast–green line
Forecast up to 00Z28FEB2023

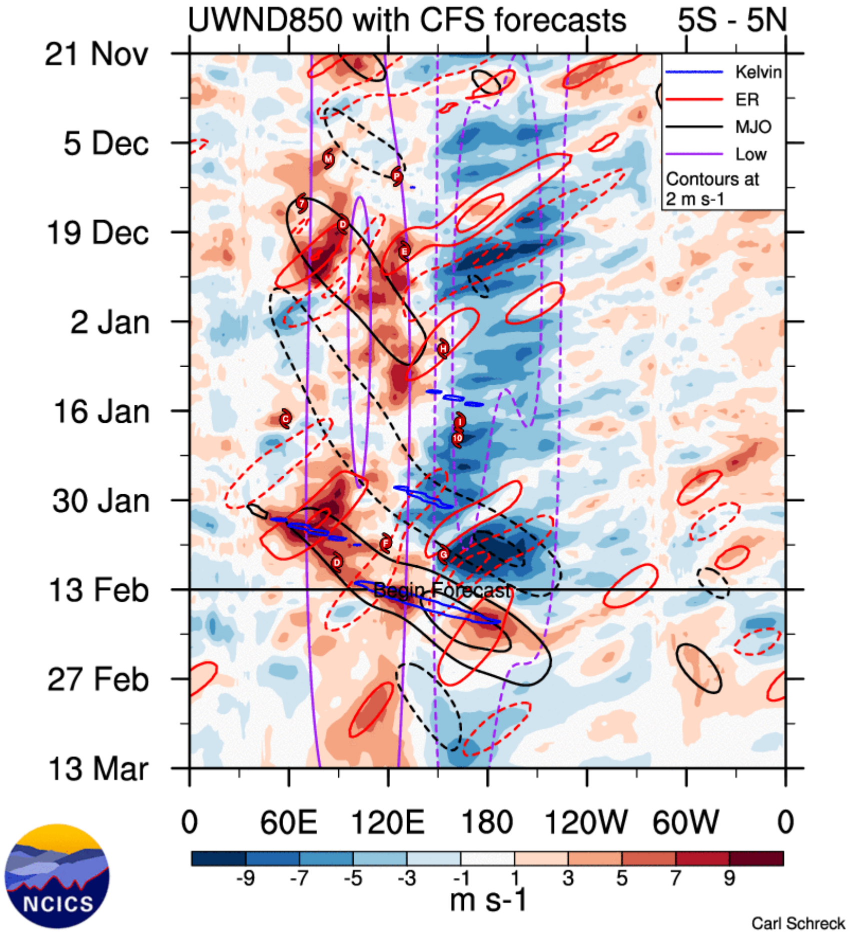
200–hPa ZONAL WIND ANOMALIES (5N–5S)



Source: GFS
Processing: SENAMHI/DMA/SPC

Begin GFS Forecast–green line
Forecast up to 00Z28FEB2023

CONDICIONES EN EL PACÍFICO ECUATORIAL: vientos



ncics.org/mjo

Tue 2023-02-14 1110 UTC

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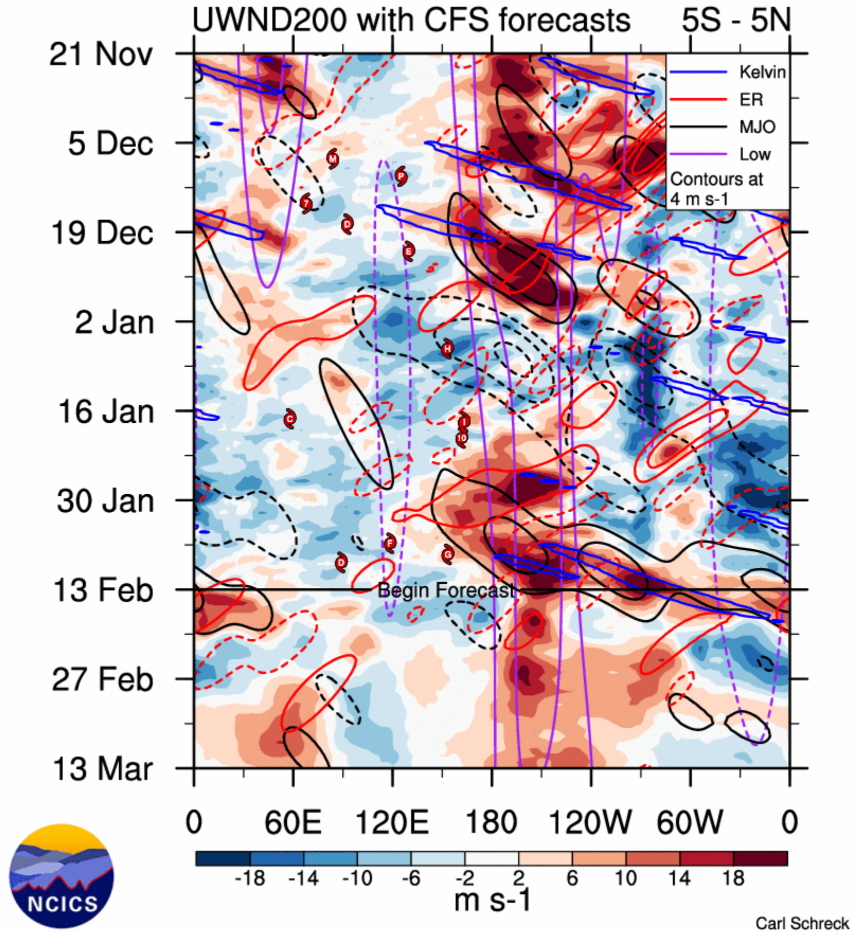
carl_schreck@ncsu.edu

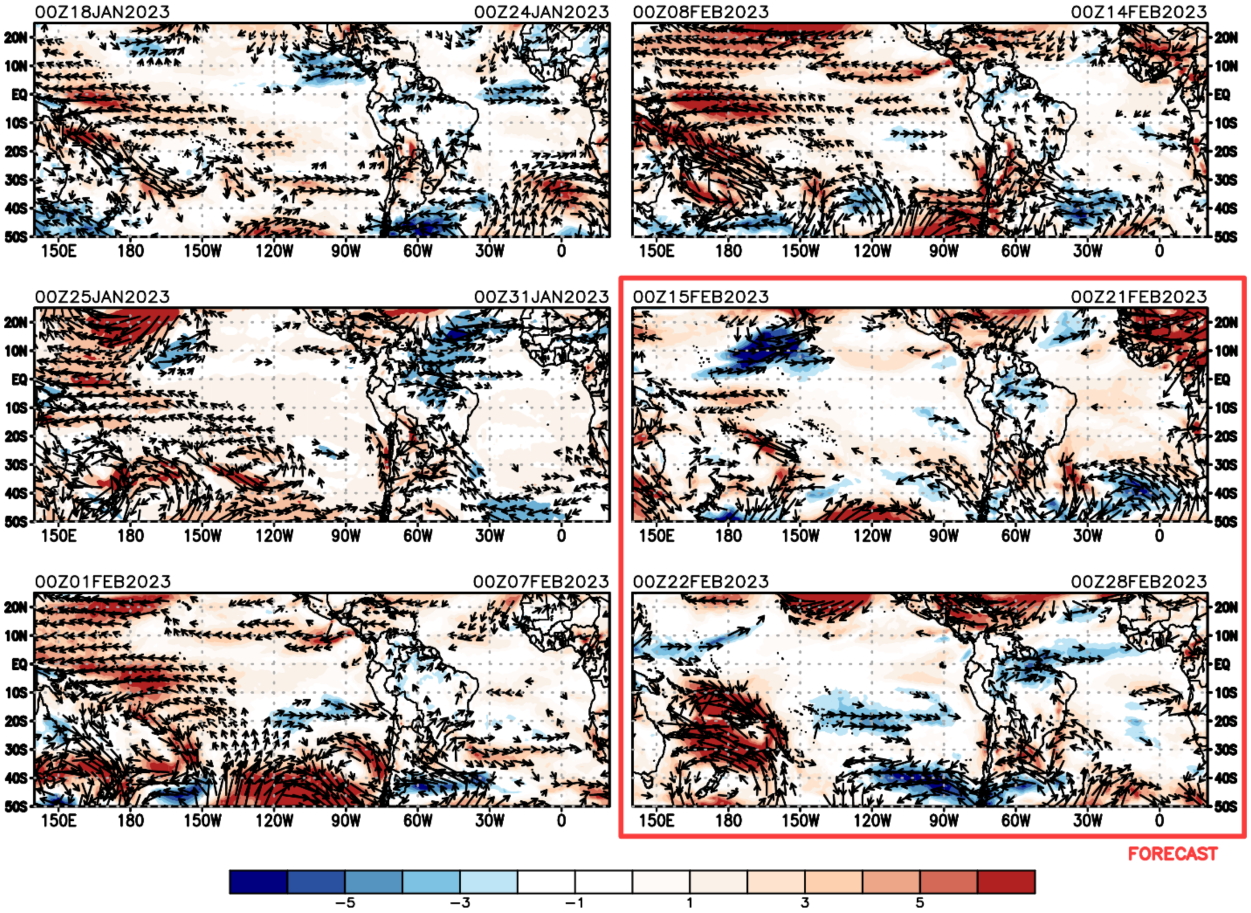


ncics.org/mjo

Tue 2023-02-14 1108 UTC

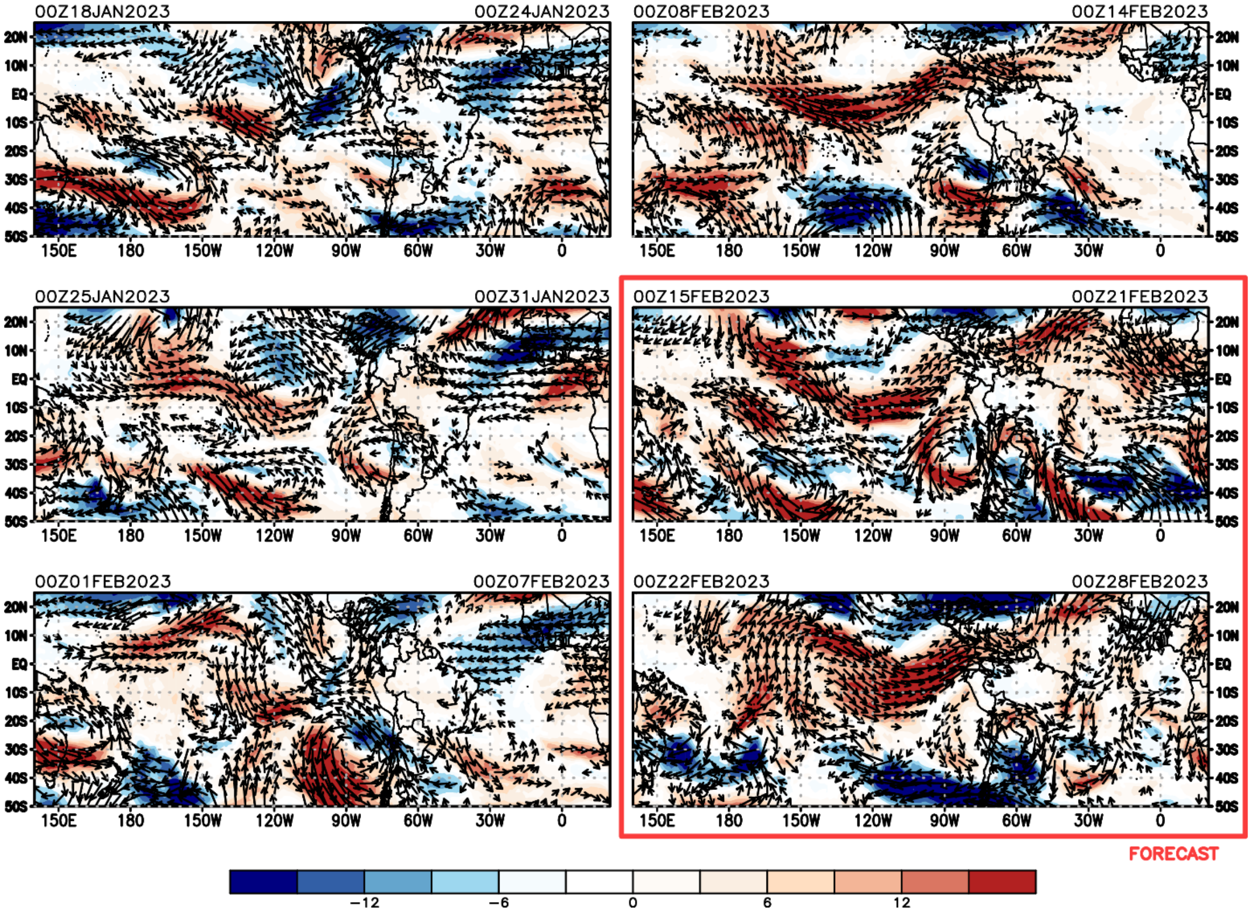
Carl Schreck
carl_schreck@ncsu.edu

ANOMALÍA SEMANALES DE VIENTOS EN 850 hPa

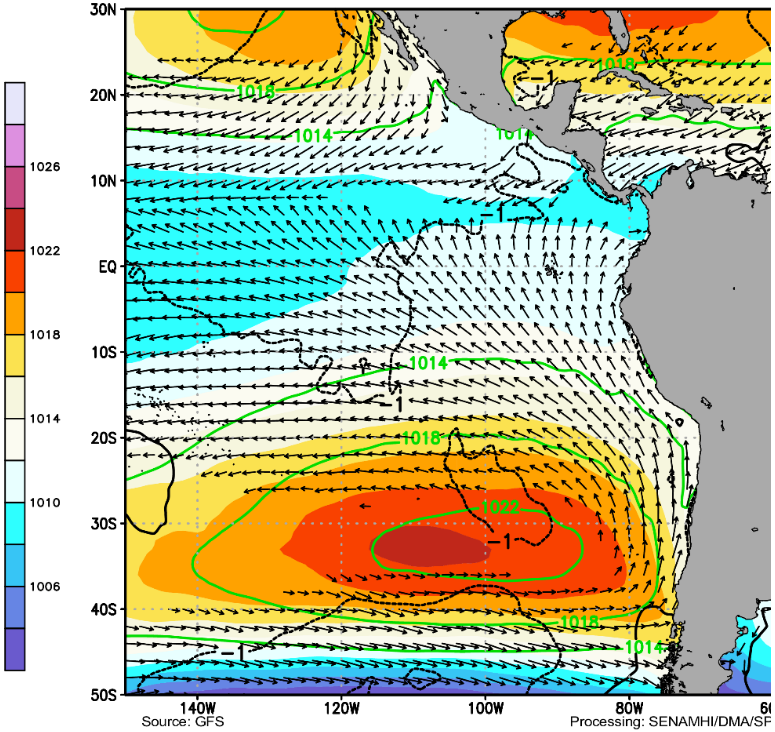

00Z18JAN2023
00Z24JAN2023
00Z08FEB2023
00Z14FEB2023
00Z25JAN2023
00Z31JAN2023
00Z15FEB2023
00Z21FEB2023
00Z01FEB2023
00Z07FEB2023
00Z22FEB2023
00Z28FEB2023
20N
10N
EQ
10S
20S
30S
40S
50S
150E
180
150W
120W
90W
60W
30W
0
−5
−3
−1
1
3
5

FORECAST

ANOMALÍA SEMANALES DE VIENTOS EN 200 hPa


00Z18JAN2023
00Z24JAN2023
00Z08FEB2023
00Z14FEB2023
00Z25JAN2023
00Z31JAN2023
00Z15FEB2023
00Z21FEB2023
00Z01FEB2023
00Z07FEB2023
00Z22FEB2023
00Z28FEB2023
20N
10N
EQ
10S
20S
30S
40S
50S
150E
180
150W
120W
90W
60W
30W
0
FORECAST
−12
−6
0
6
12

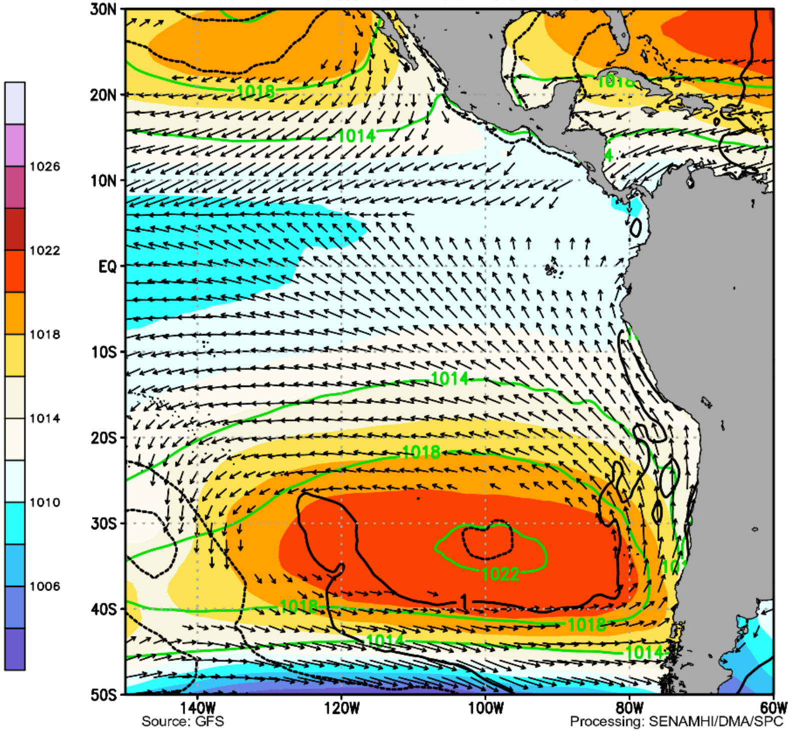
ANTICILÓN DEL PACÍFICO SUR – media mensual



PROMEDIO DE LA PRSML (hPa) (color) - VIENTOS (m/s) (vector)
CLIMATOLOGIA(contorno verde) ANOMALIA (contorno negro)
Nivel:1000 hPa 01DEC2022-31DEC2022

Source: GFS
Processing: SENAMHI/DMA/SP

1026
1022
1018
1014
1010
1006
30N
20N
10N
EQ
10S
20S
30S
40S
50S
140W
120W
100W
80W
1018
1014
1022
-1

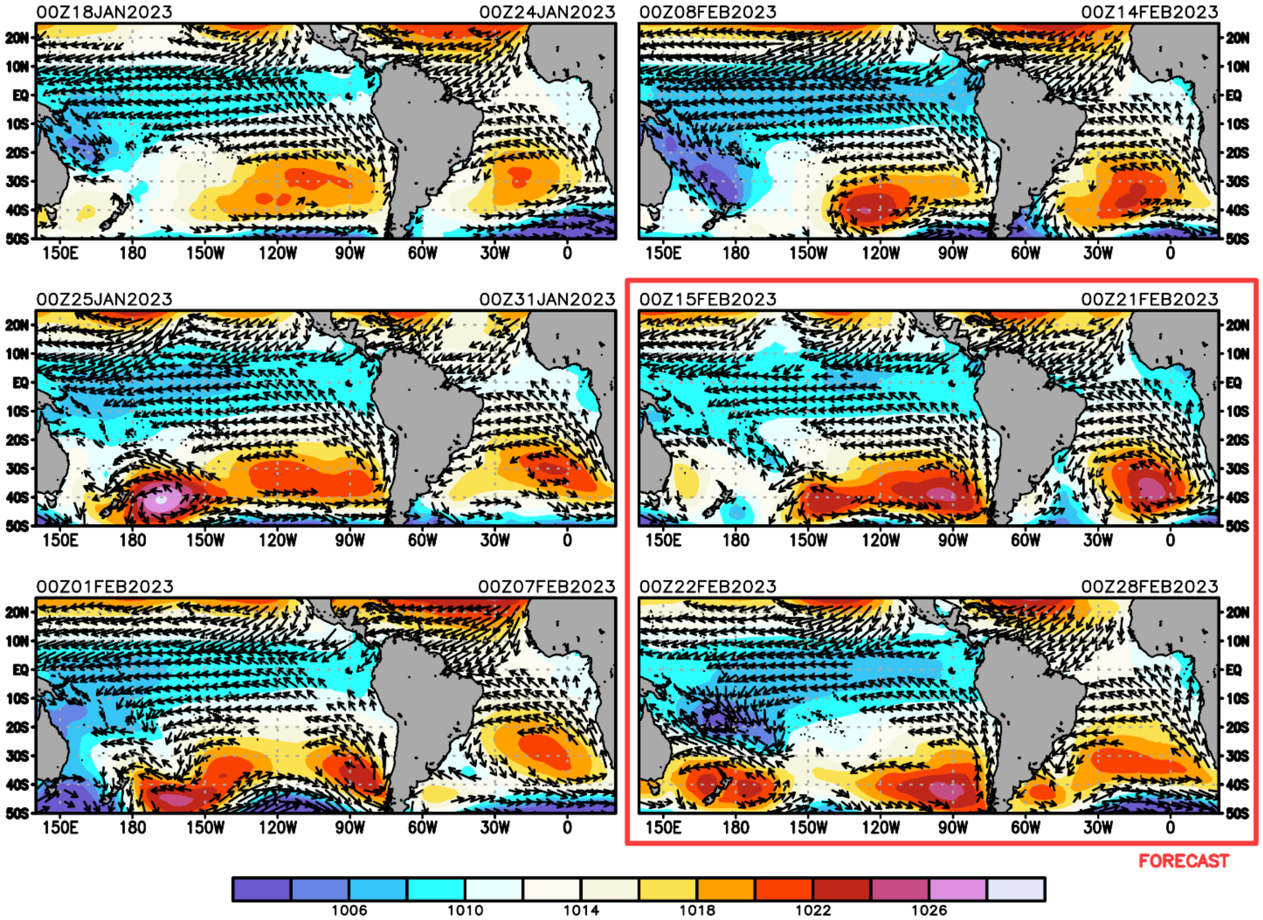


PROMEDIO DE LA PRSML (hPa) (color) - VIENTOS (m/s) (vector)
CLIMATOLOGIA(contorno verde) ANOMALIA (contorno negro)
Nivel:1000 hPa 01JAN2023-31JAN2023

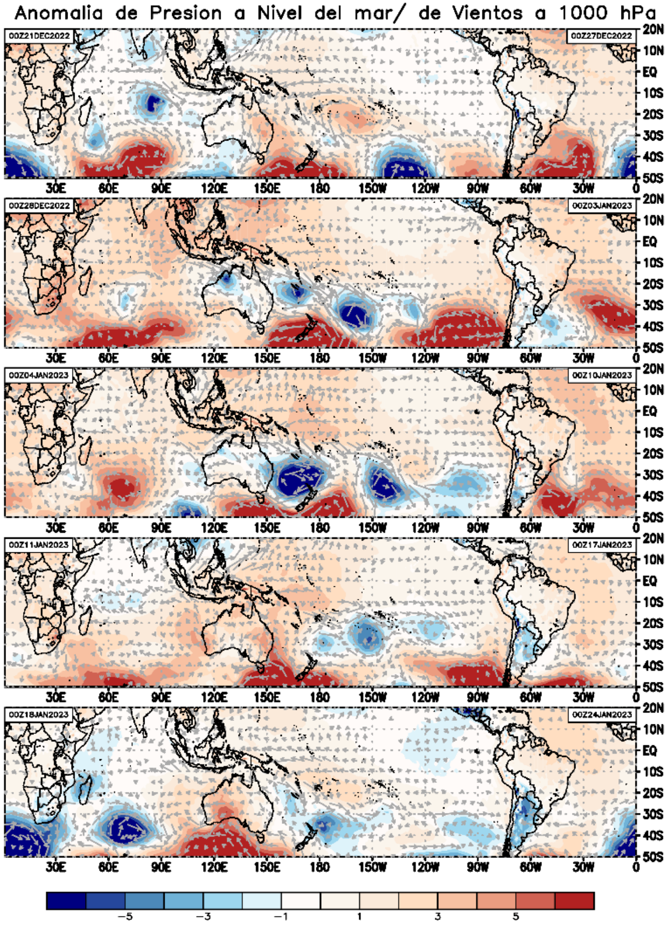
Source: GFS
Processing: SENAMHI/DMA/SPC

1026
1022
1018
1014
1010
1006
30N
20N
10N
EQ
10S
20S
30S
40S
50S
140W
120W
100W
80W
60W
1018
1014
1022
1

PROMEDIOS SEMANALES DE MSLP Y VIENTO EN 850 hPa

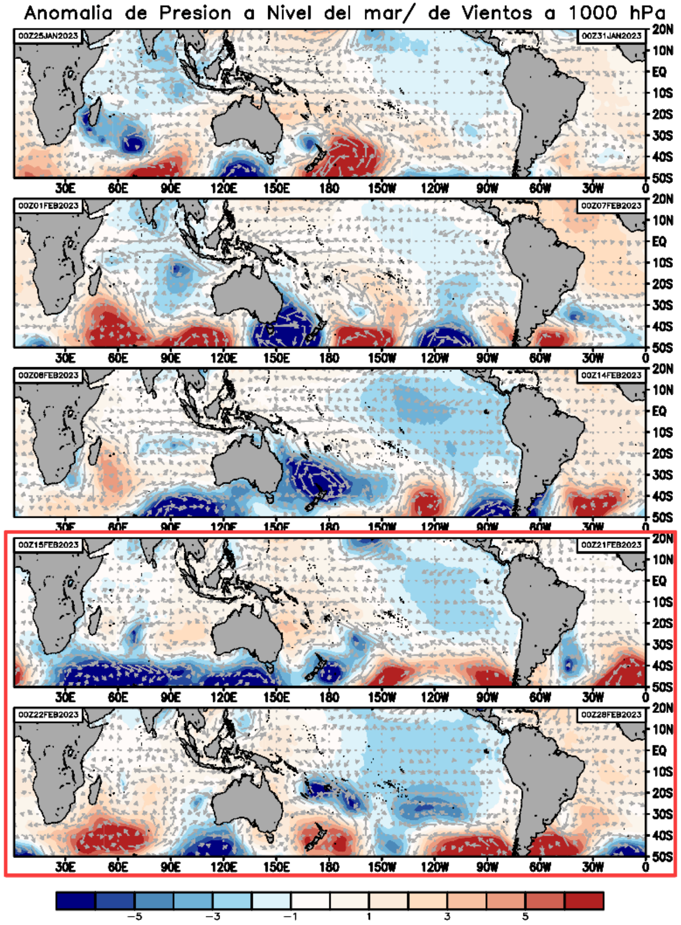

00Z18JAN2023
00Z24JAN2023
00Z08FEB2023
00Z14FEB2023
00Z25JAN2023
00Z31JAN2023
00Z15FEB2023
00Z21FEB2023
00Z01FEB2023
00Z07FEB2023
00Z22FEB2023
00Z28FEB2023
20N
10N
EQ
10S
20S
30S
40S
50S
150E
180
150W
120W
90W
60W
30W
0
FORECAST
1006
1010
1014
1018
1022
1026

PROMEDIOS SEMANALES DE MSLP Y VIENTO EN 850 hPa



Anomalia de Presion a Nivel del mar/ de Vientos a 1000 hPa

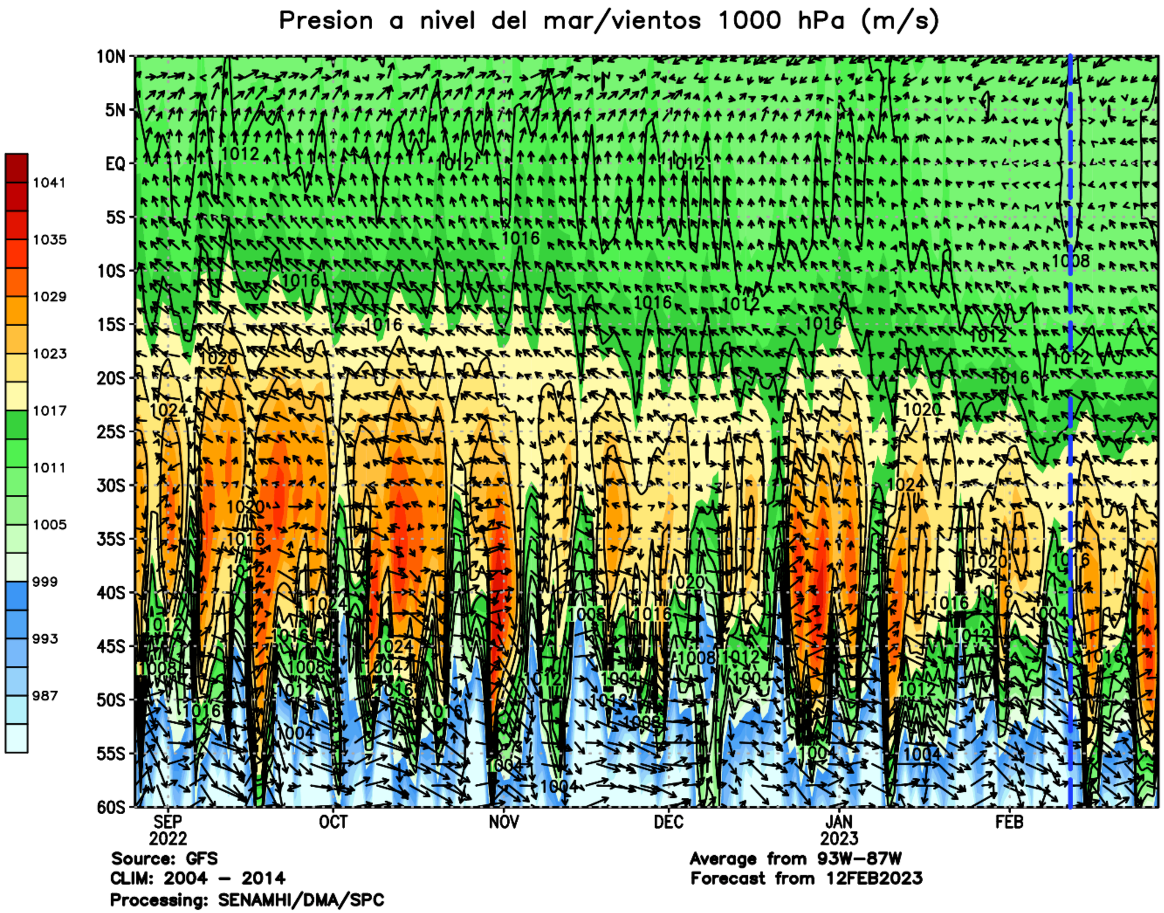
00Z21DEC2022
00Z27DEC2022
00Z28DEC2022
00Z03JAN2023
00Z04JAN2023
00Z10JAN2023
00Z11JAN2023
00Z17JAN2023
00Z18JAN2023
00Z24JAN2023
20N
10N
EQ
10S
20S
30S
40S
50S
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
0
-5
-3
-1
1
3
5



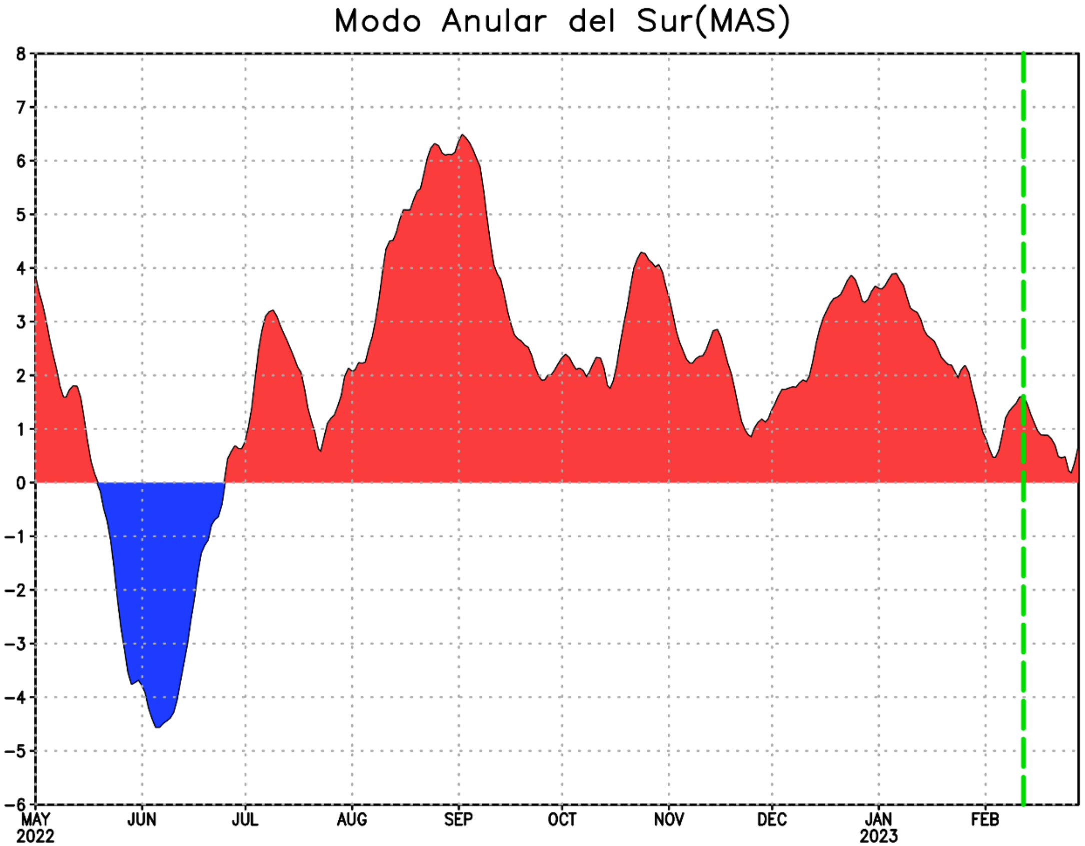
Anomalia de Presion a Nivel del mar/ de Vientos a 1000 hPa

00Z25JAN2023
00Z31JAN2023
00Z01FEB2023
00Z07FEB2023
00Z08FEB2023
00Z14FEB2023
00Z15FEB2023
00Z21FEB2023
00Z22FEB2023
00Z28FEB2023
20N
10N
EQ
10S
20S
30S
40S
50S
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
0
-5
-3
-1
1
3
5

EVOLUCIÓN DE LA MSLP Y VIENTOS A 1000 hPa



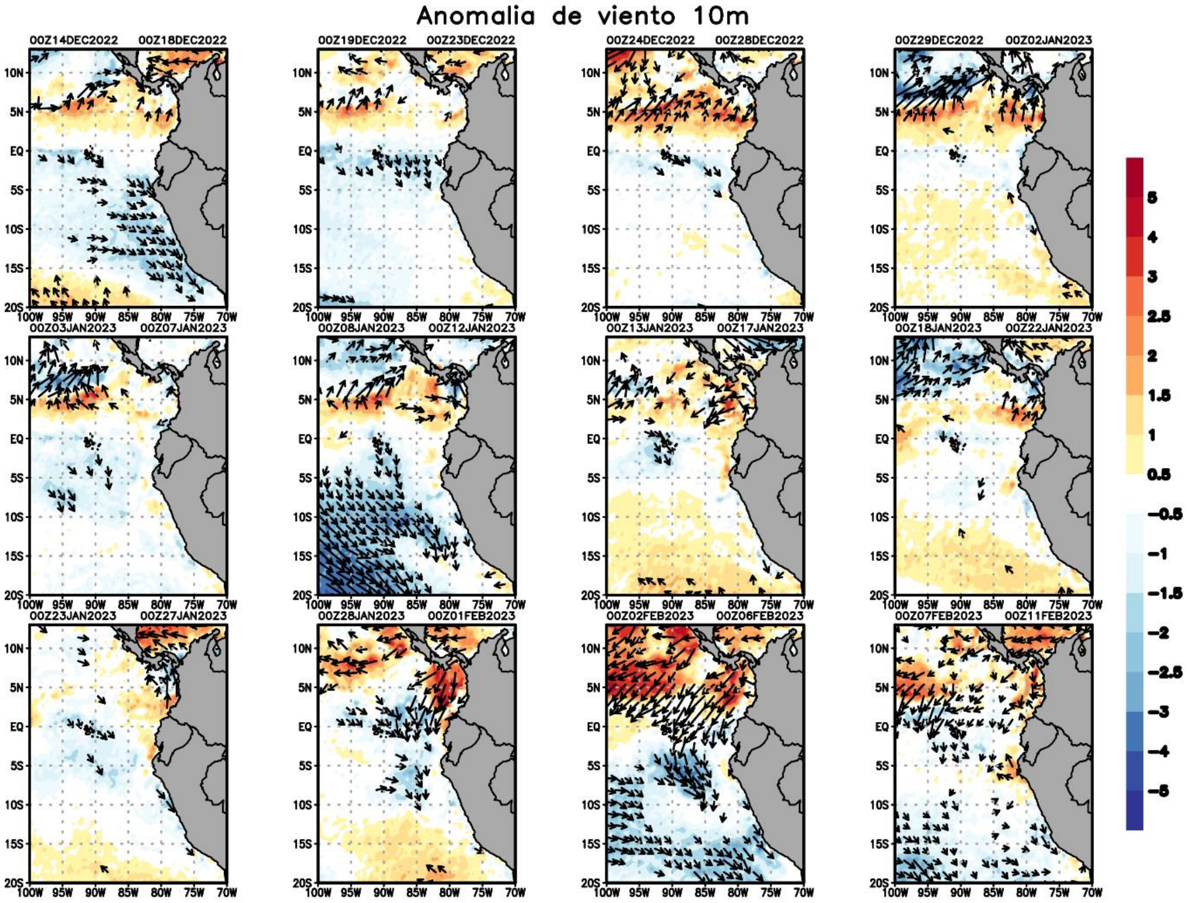
MODO ANULAR DEL SUR



Source: GFS
CLIM: 2004 – 2014
Processing: SENAMHI/DMA/SPC

update to 12FEB2023

CONDICIONES REGIONALES: vientos a 10 m ASCAT

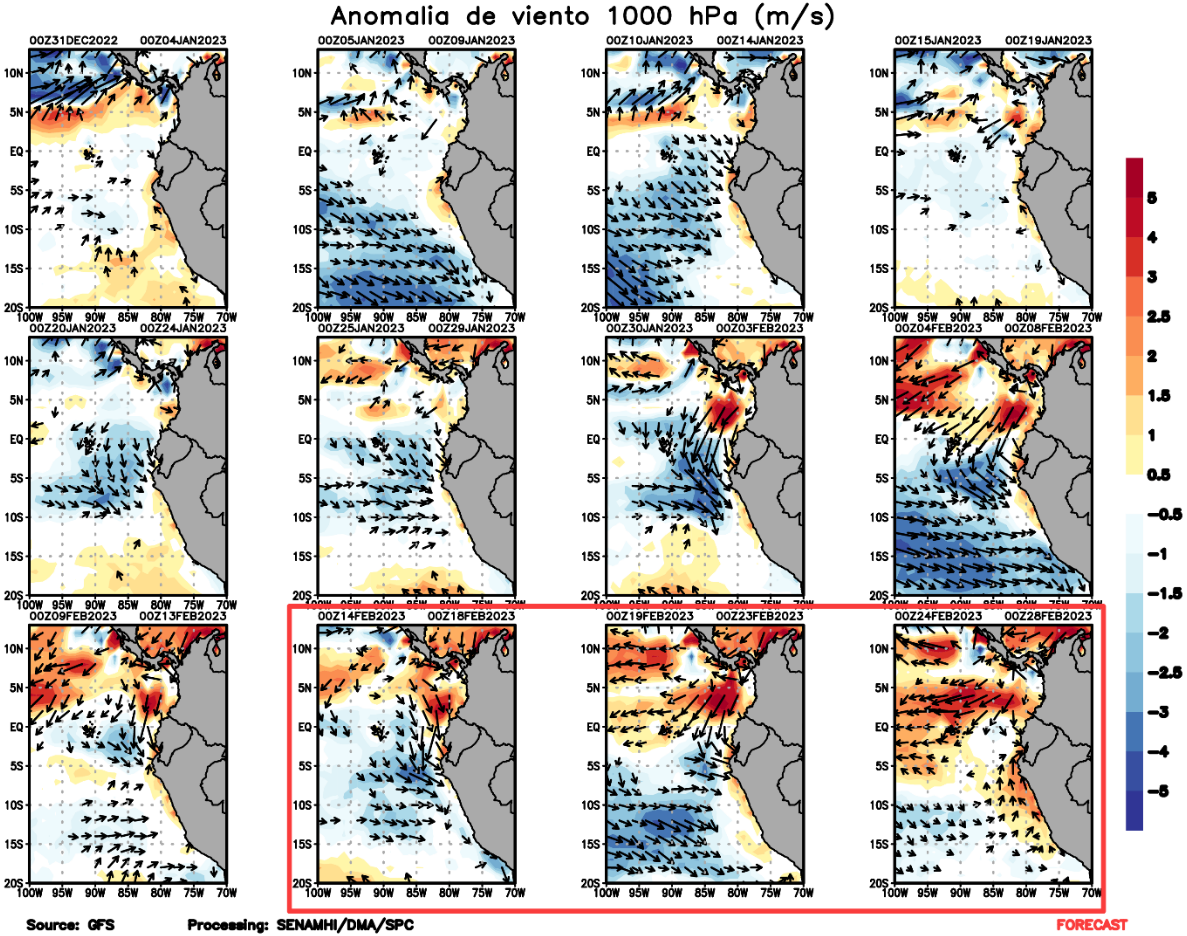


Anomalia de viento 10m

00Z14DEC2022 00Z18DEC2022
00Z19DEC2022 00Z23DEC2022
00Z24DEC2022 00Z28DEC2022
00Z29DEC2022 00Z02JAN2023
00Z03JAN2023 00Z07JAN2023
00Z08JAN2023 00Z12JAN2023
00Z13JAN2023 00Z17JAN2023
00Z18JAN2023 00Z22JAN2023
00Z23JAN2023 00Z27JAN2023
00Z28JAN2023 00Z01FEB2023
00Z02FEB2023 00Z06FEB2023
00Z07FEB2023 00Z11FEB2023
10N
5N
EQ
5S
10S
15S
20S
100W
95W
90W
85W
80W
75W
70W
5
4
3
2.5
2
1.5
1
0.5
-0.5
-1
-1.5
-2
-2.5
-3
-4
-5

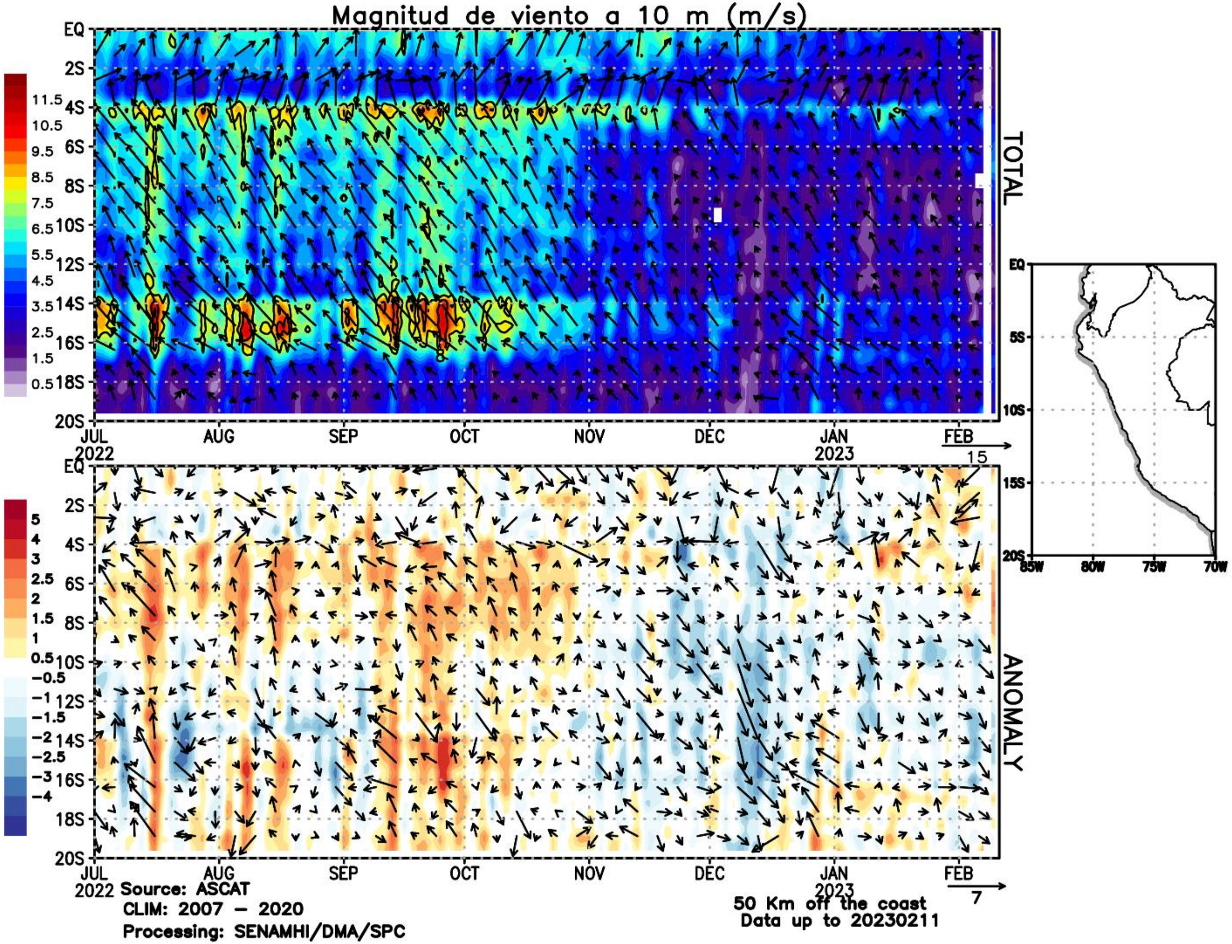
Source: ASCAT **Processing: SENAMHI/DMA/SPC**

CONDICIONES REGIONALES: vientos a 1000 hPa GFS


Anomalia de viento 1000 hPa (m/s)
00Z31DEC2022 00Z04JAN2023
00Z05JAN2023 00Z09JAN2023
00Z10JAN2023 00Z14JAN2023
00Z15JAN2023 00Z19JAN2023
00Z20JAN2023 00Z24JAN2023
00Z25JAN2023 00Z29JAN2023
00Z30JAN2023 00Z03FEB2023
00Z04FEB2023 00Z08FEB2023
00Z09FEB2023 00Z13FEB2023
00Z14FEB2023 00Z18FEB2023
00Z19FEB2023 00Z23FEB2023
00Z24FEB2023 00Z28FEB2023
10N
5N
EQ
5S
10S
15S
20S
100W 95W 90W 85W 80W 75W 70W
5
4
3
2.5
2
1.5
1
0.5
−0.5
−1
−1.5
−2
−2.5
−3
−4
−5
FORECAST

Source: GFS Processing: SENAMHI/DMA/SPC

CONDICIONES REGIONALES: vientos a 10 m – 50 km fuera de la costa

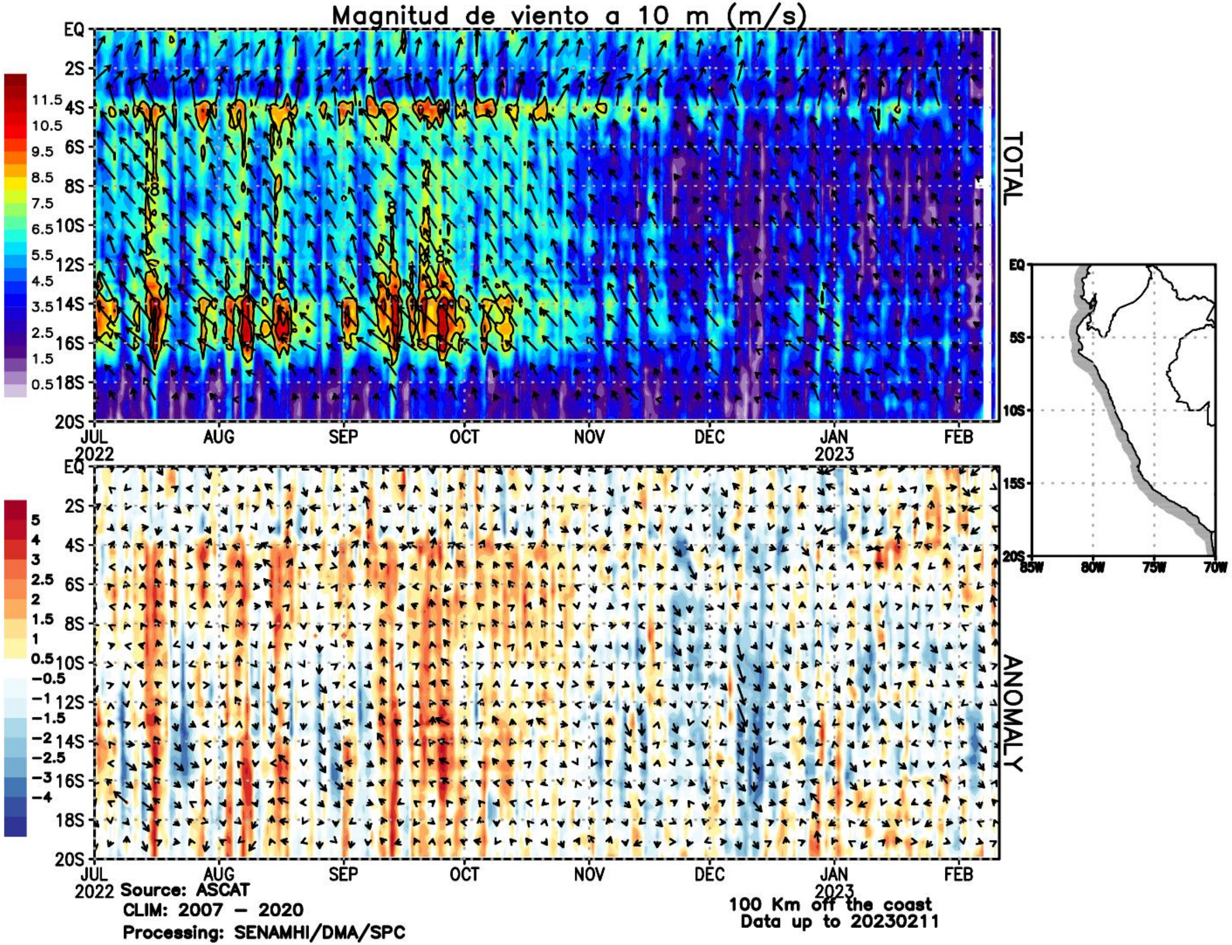


Magnitud de viento a 10 m (m/s)

Source: ASCAT
CLIM: 2007 – 2020
Processing: SENAMHI/DMA/SPC

50 Km off the coast
Data up to 20230211

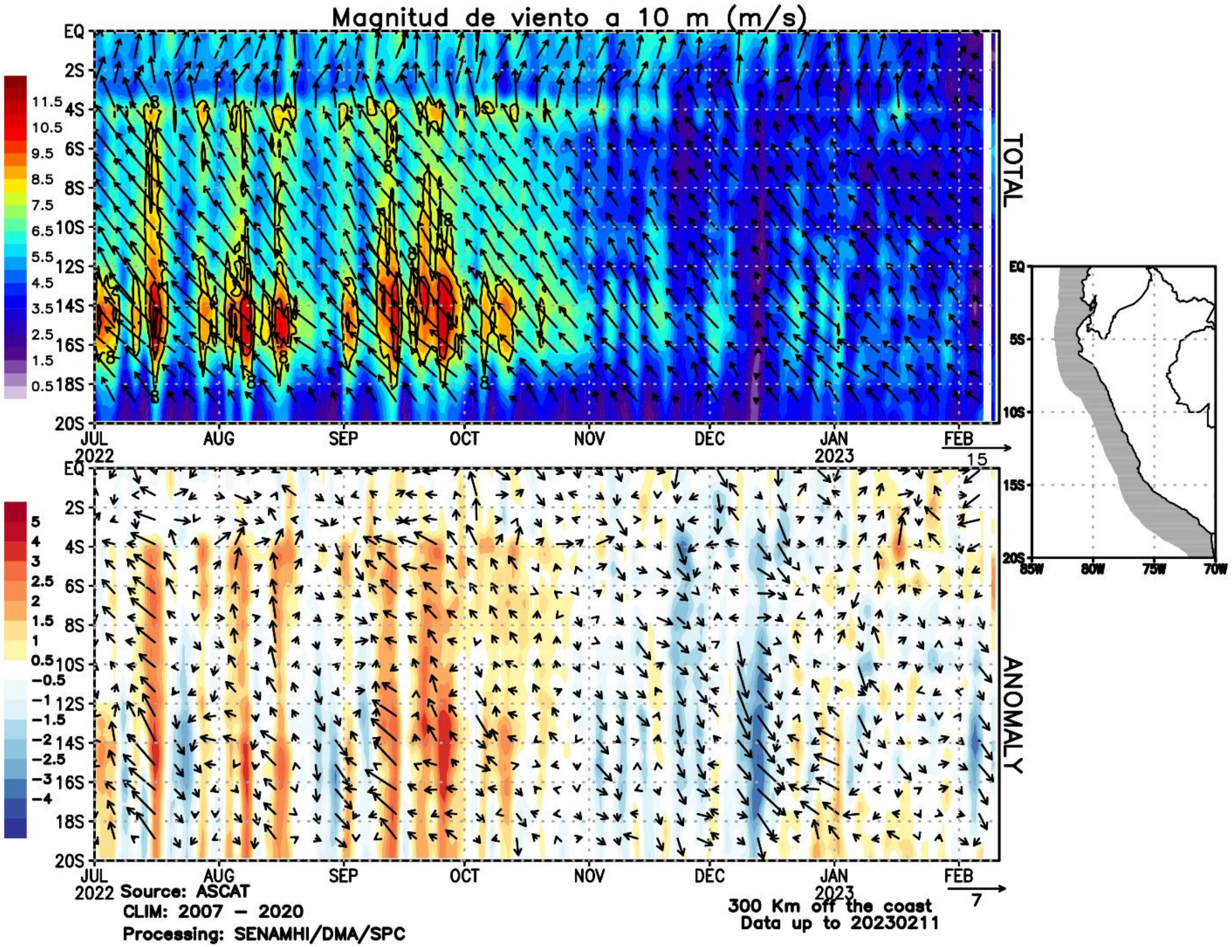
CONDICIONES REGIONALES: vientos a 10 m – 100 km fuera de la costa



Source: ASCAT
CLIM: 2007 – 2020
Processing: SENAMHI/DMA/SPC

100 Km off the coast
Data up to 20230211

CONDICIONES REGIONALES: vientos a 10 m – 300 km fuera de la costa

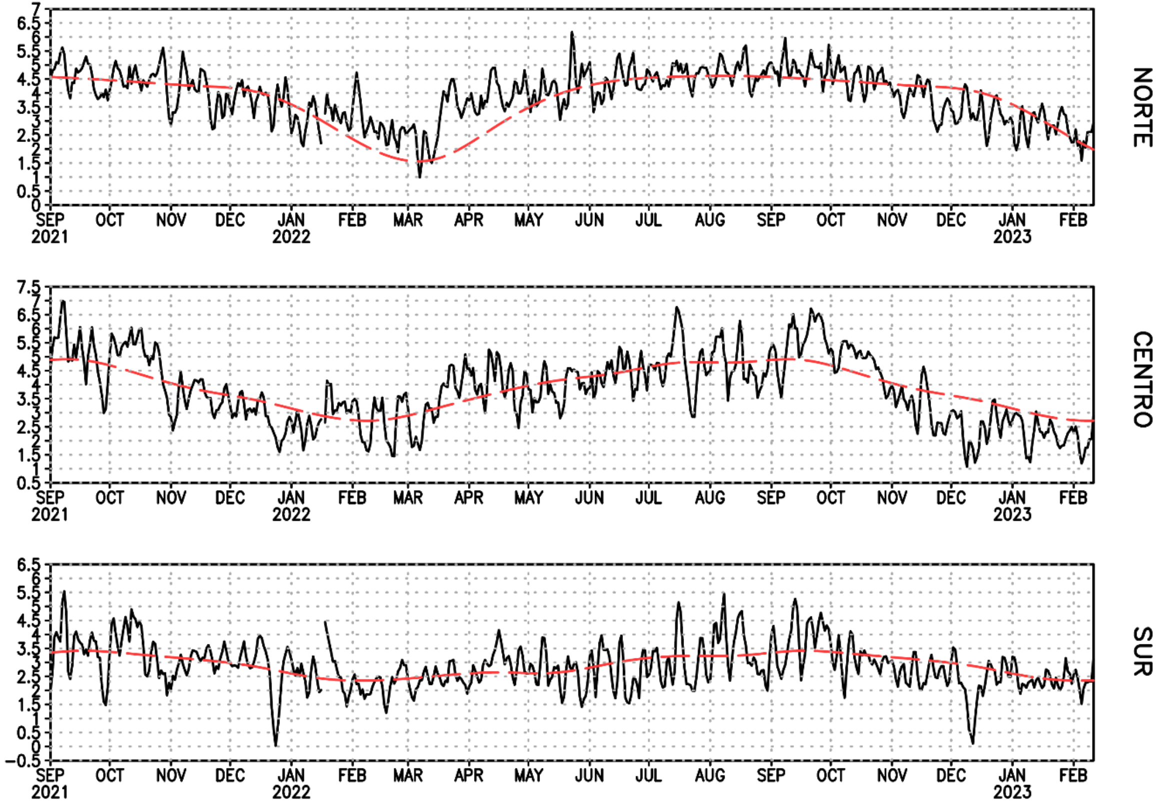

Magnitud de viento a 10 m (m/s)

Source: ASCAT
CLIM: 2007 – 2020
Processing: SENAMHI/DMA/SPC

300 Km off the coast
Data up to 20230211

CONDICIONES REGIONALES: vientos a 10 m

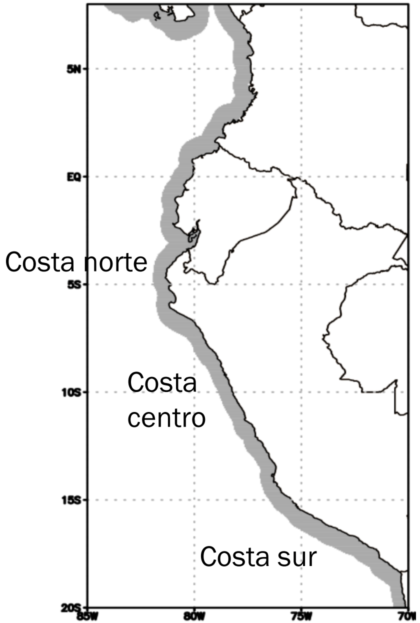
Magnitud de viento meridional a 10 m



Source: ASCAT WIND
CLIM: 2007 – 2020
Processing: SENAMHI/DMA/SPC

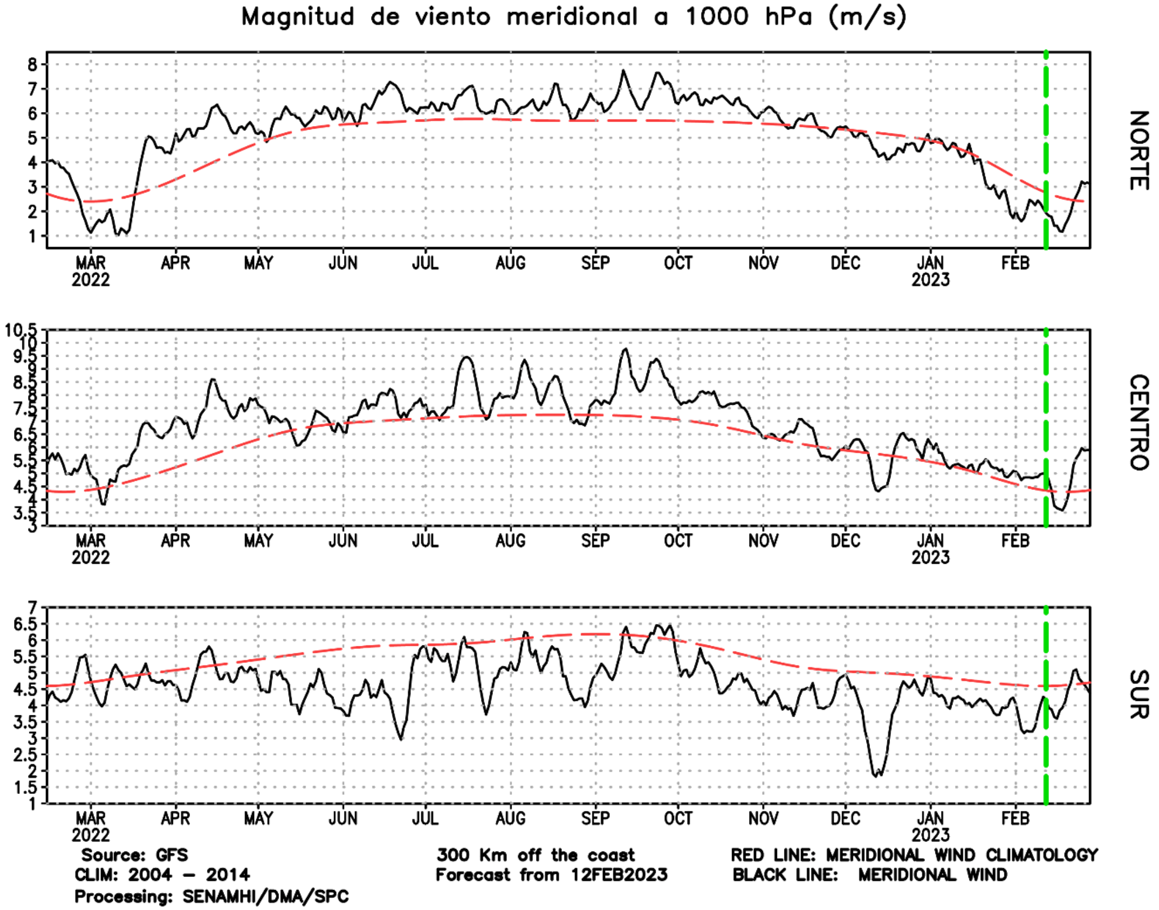
100 Km off the coast

RED LINE: MERIDIONAL WIND CLIMATOLOGY
BLACK LINE: MERIDIONAL WIND



Costa norte
Costa centro
Costa sur
5N
EQ
5S
10S
15S
20S
85W
80W
75W
70W

CONDICIONES REGIONALES: vientos a 1000 hPa

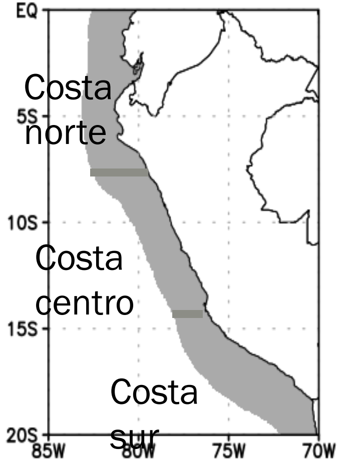


Magnitud de viento meridional a 1000 hPa (m/s)

Source: GFS
CLIM: 2004 – 2014
Processing: SENAMHI/DMA/SPC

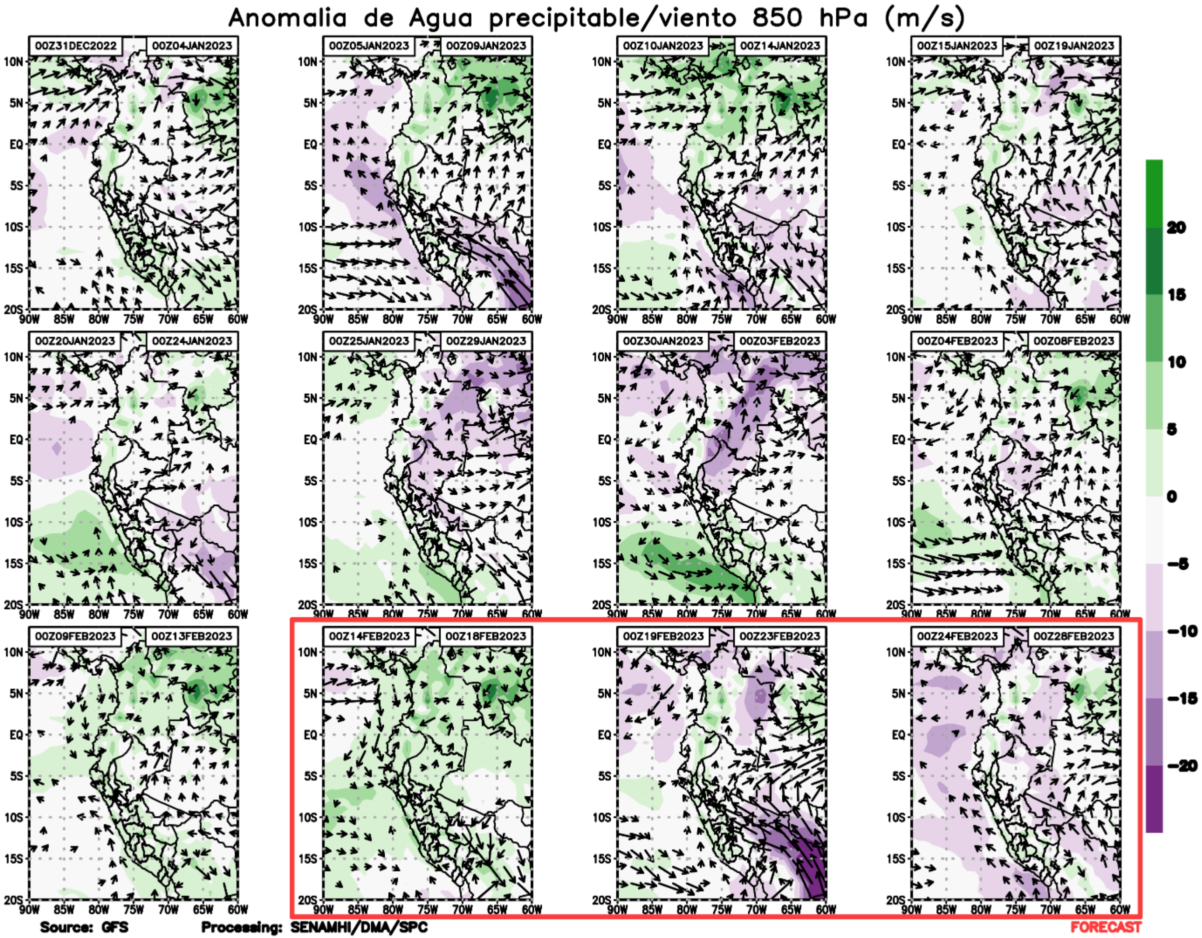
300 Km off the coast
Forecast from 12FEB2023

RED LINE: MERIDIONAL WIND CLIMATOLOGY
BLACK LINE: MERIDIONAL WIND



EQ
5S
10S
15S
20S
85W
80W
75W
70W
Costa norte
Costa centro
Costa sur

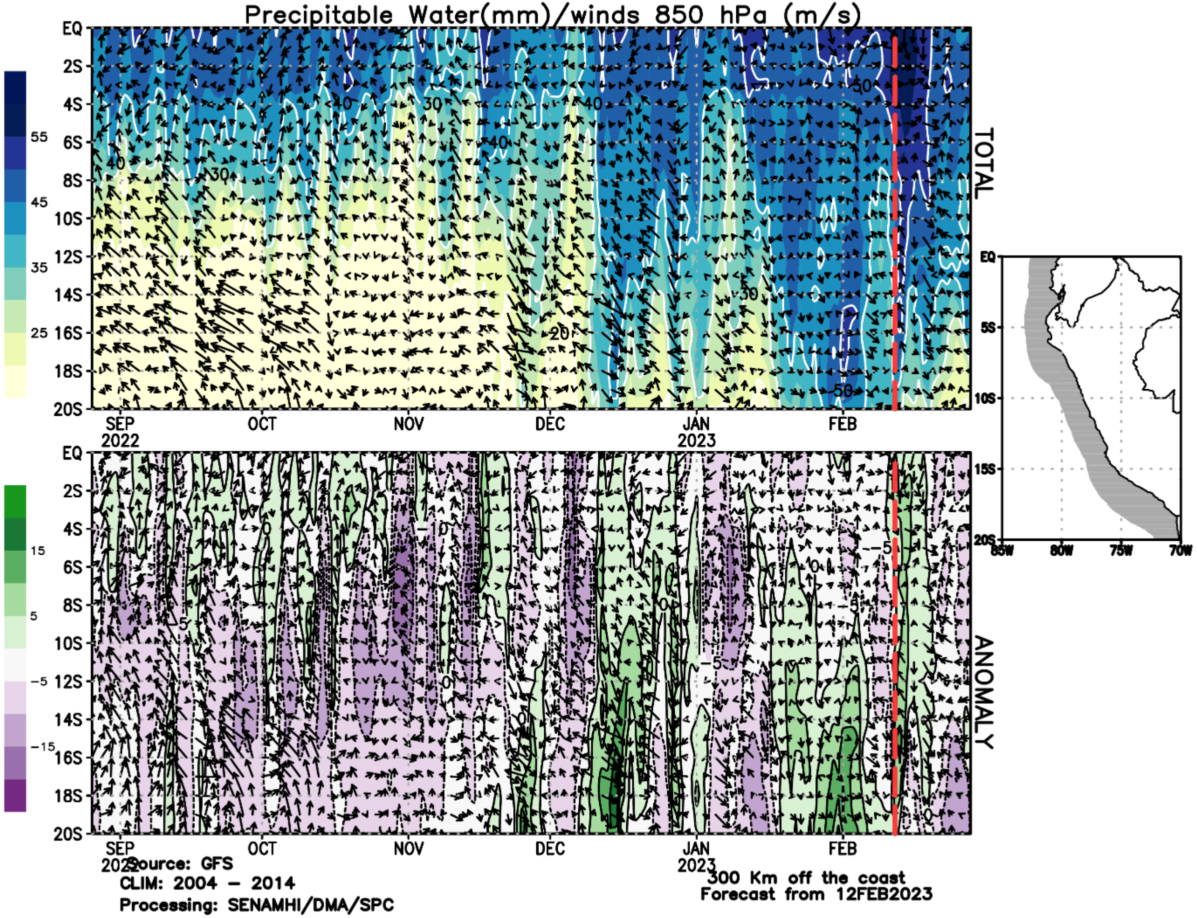
CONDICIONES REGIONALES: agua precipitable y viento en 850 hPa


Anomalia de Agua precipitable/viento 850 hPa (m/s)

00Z31DEC2022
00Z04JAN2023
00Z05JAN2023
00Z09JAN2023
00Z10JAN2023
00Z14JAN2023
00Z15JAN2023
00Z19JAN2023
00Z20JAN2023
00Z24JAN2023
00Z25JAN2023
00Z29JAN2023
00Z30JAN2023
00Z03FEB2023
00Z04FEB2023
00Z08FEB2023
00Z09FEB2023
00Z13FEB2023
00Z14FEB2023
00Z18FEB2023
00Z19FEB2023
00Z23FEB2023
00Z24FEB2023
00Z28FEB2023
10N
5N
EQ
5S
10S
15S
20S
90W
85W
80W
75W
70W
65W
60W
20
15
10
5
0
-5
-10
-15
-20
FORECAST

Source: GFS Processing: SENAMHI/DMA/SPC

CONDICIONES REGIONALES: agua precipitable y viento en 850 hPa 300 km fuera de la costa



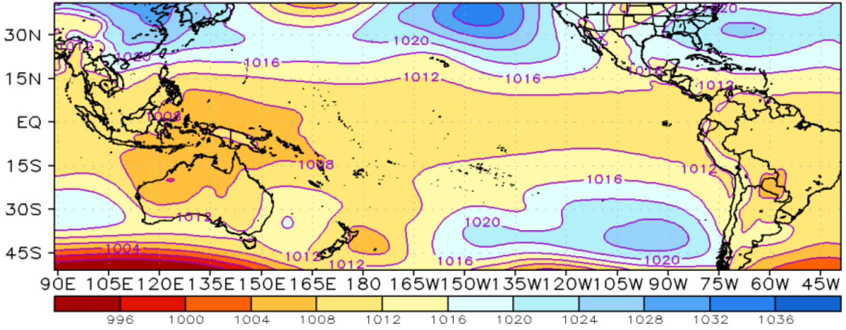
Source: GFS
CLIM: 2004 – 2014
Processing: SENAMHI/DMA/SPC

300 Km off the coast
Forecast from 12FEB2023

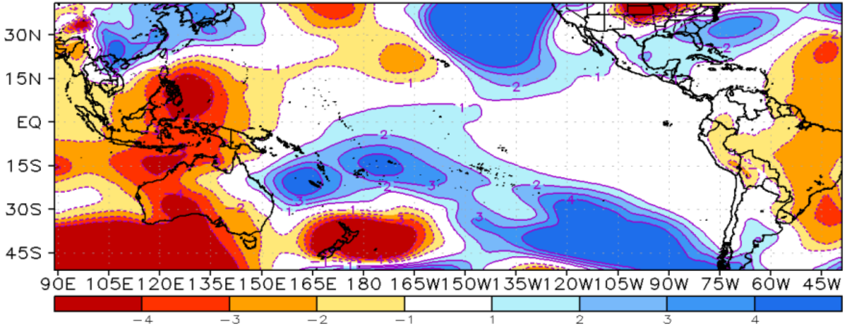
PRONÓSTICO GEFS: MSLP

Semana 1

GEFS Week-1 Mean Sea Level Pressure Total
Valid: 20230214 – 20230220

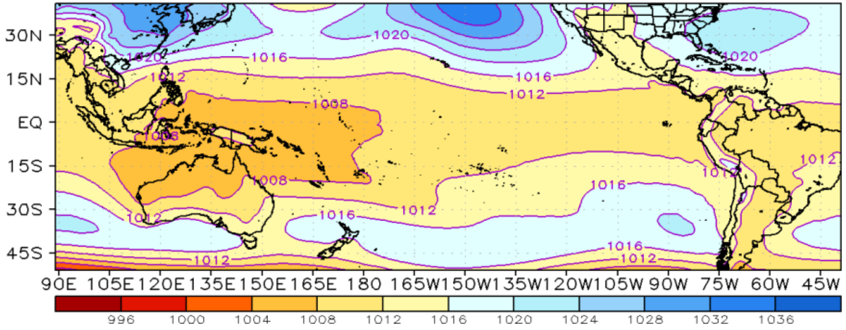

30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
996 1000 1004 1008 1012 1016 1020 1024 1028 1032 1036

GEFS Week-1 Mean Sea Level Pressure Anomaly
Valid: 20230214 – 20230220

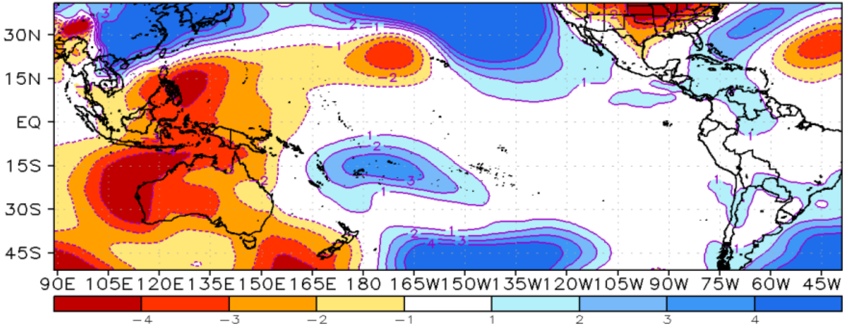

30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
-4 -3 -2 -1 1 2 3 4

Semana 2

GEFS Week-2 Mean Sea Level Pressure Total
Valid: 20230221 – 20230227

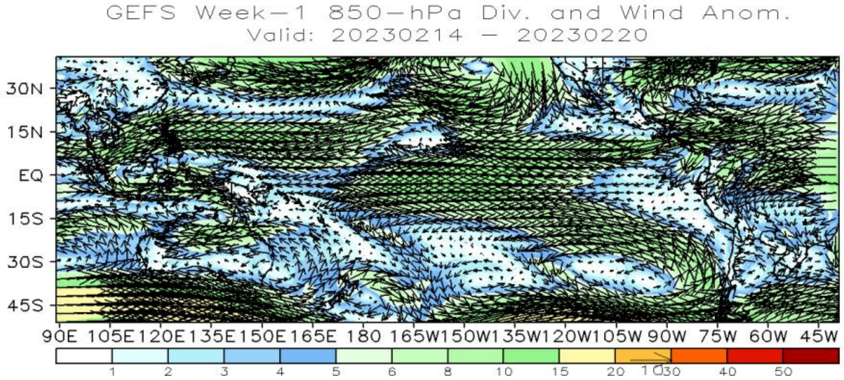

30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
996 1000 1004 1008 1012 1016 1020 1024 1028 1032 1036

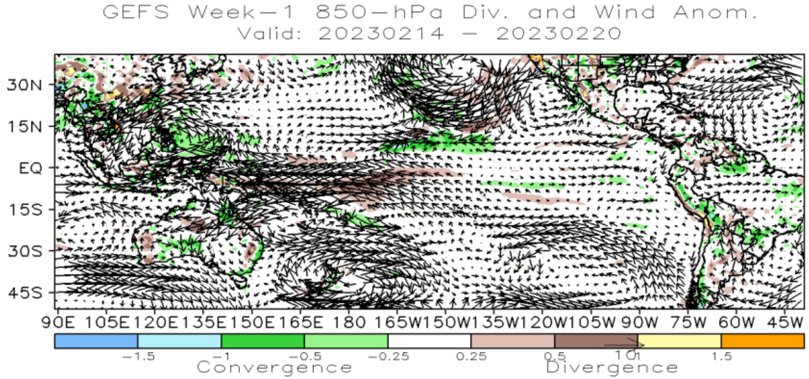
GEFS Week-2 Mean Sea Level Pressure Anomaly
Valid: 20230221 – 20230227


30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
-4 -3 -2 -1 1 2 3 4

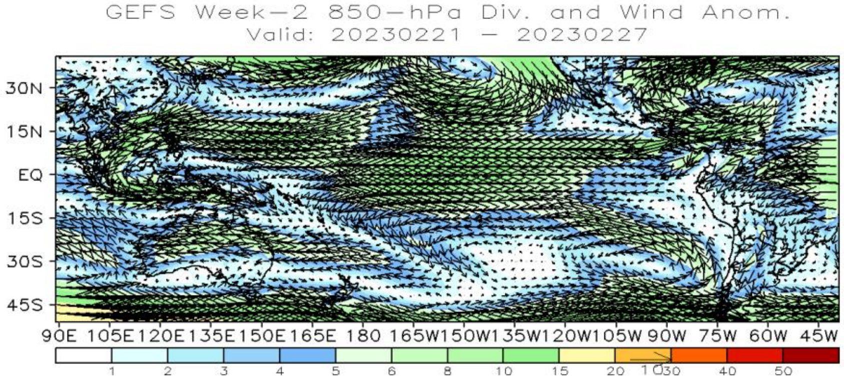
PRONÓSTICO GEFS: viento en 850 hPa

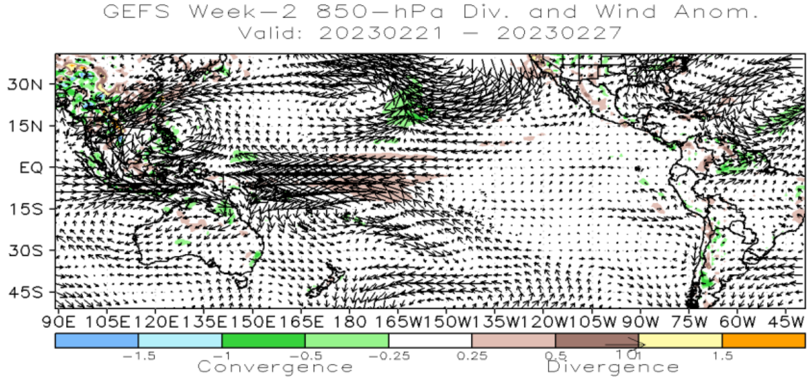
Semana 1


GEFS Week-1 850-hPa Div. and Wind Anom.
Valid: 20230214 - 20230220
30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
1 2 3 4 5 6 8 10 15 20 10 30 40 50


GEFS Week-1 850-hPa Div. and Wind Anom.
Valid: 20230214 - 20230220
30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
-1.5 -1 -0.5 -0.25 0.25 0.5 10 1 1.5
Convergence
Divergence

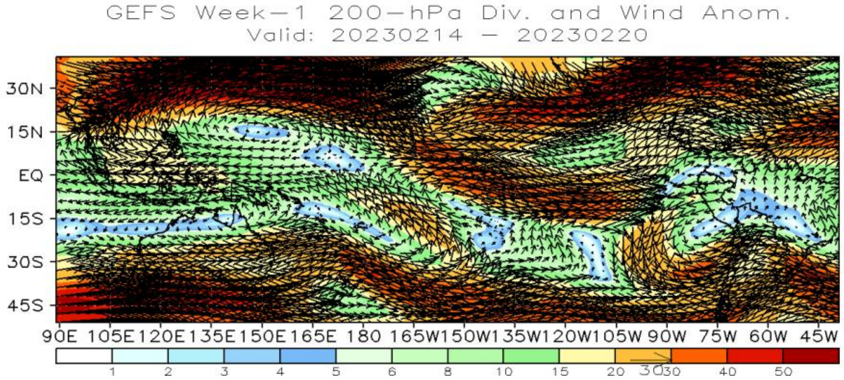
Semana 2

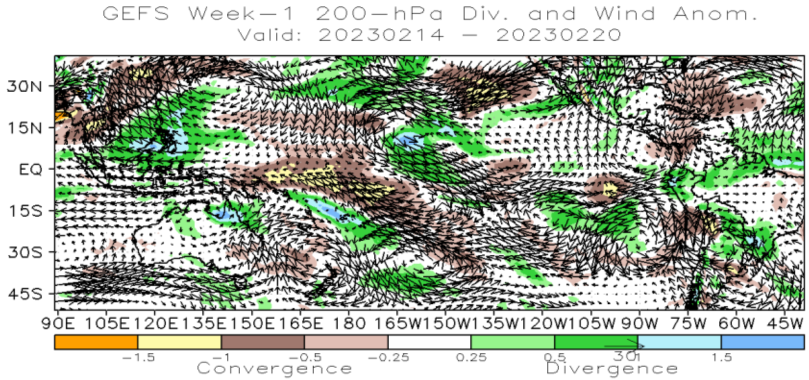

GEFS Week-2 850-hPa Div. and Wind Anom.
Valid: 20230221 - 20230227
30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
1 2 3 4 5 6 8 10 15 20 10 30 40 50


GEFS Week-2 850-hPa Div. and Wind Anom.
Valid: 20230221 - 20230227
30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
-1.5 -1 -0.5 -0.25 0.25 0.5 10 1 1.5
Convergence
Divergence

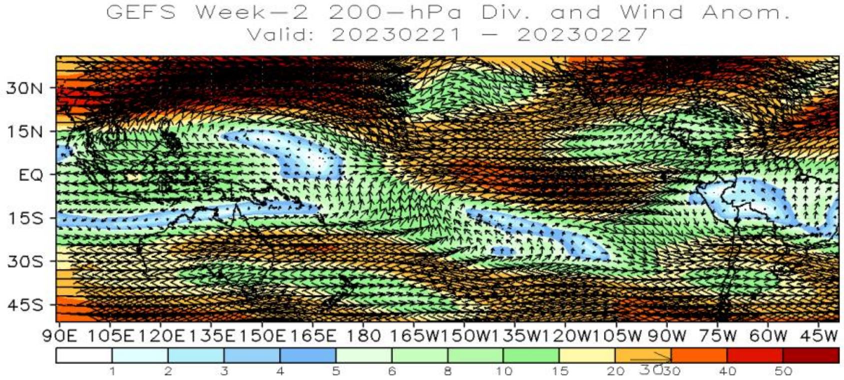
PRONÓSTICO GEFS: viento en 200 hPa

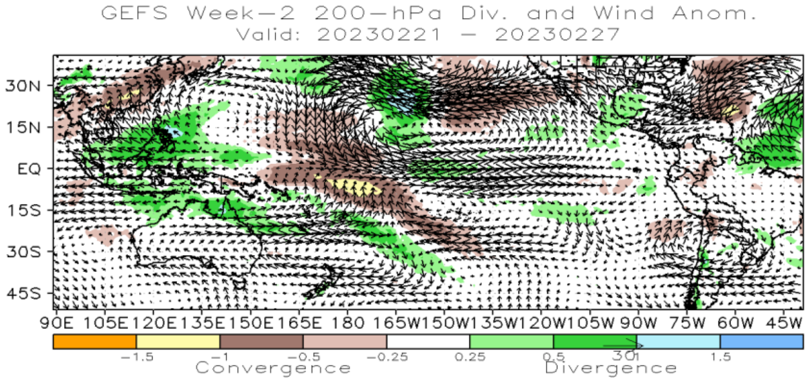
Semana 1


GEFS Week-1 200-hPa Div. and Wind Anom.
Valid: 20230214 – 20230220
30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
1 2 3 4 5 6 8 10 15 20 30 30 40 50


GEFS Week-1 200-hPa Div. and Wind Anom.
Valid: 20230214 – 20230220
30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
-1.5 -1 -0.5 -0.25 0.25 0.5 30 1 1.5
Convergence
Divergence

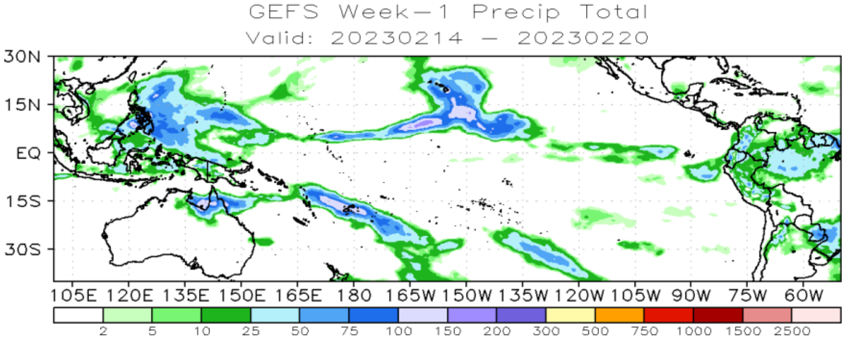
Semana 2

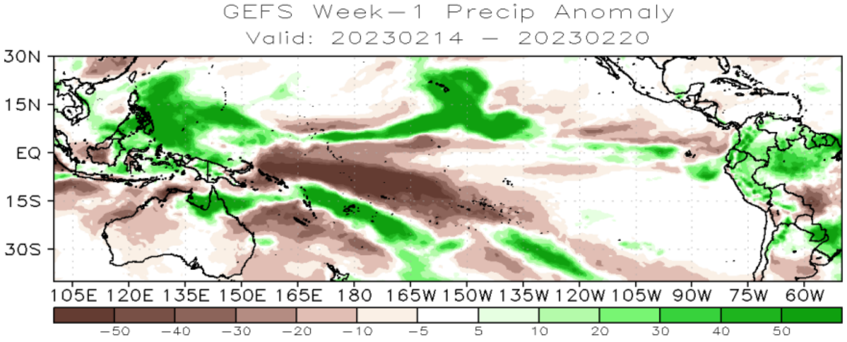

GEFS Week-2 200-hPa Div. and Wind Anom.
Valid: 20230221 – 20230227
30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
1 2 3 4 5 6 8 10 15 20 30 30 40 50


GEFS Week-2 200-hPa Div. and Wind Anom.
Valid: 20230221 – 20230227
30N
15N
EQ
15S
30S
45S
90E 105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W 45W
-1.5 -1 -0.5 -0.25 0.25 0.5 30 1 1.5
Convergence
Divergence

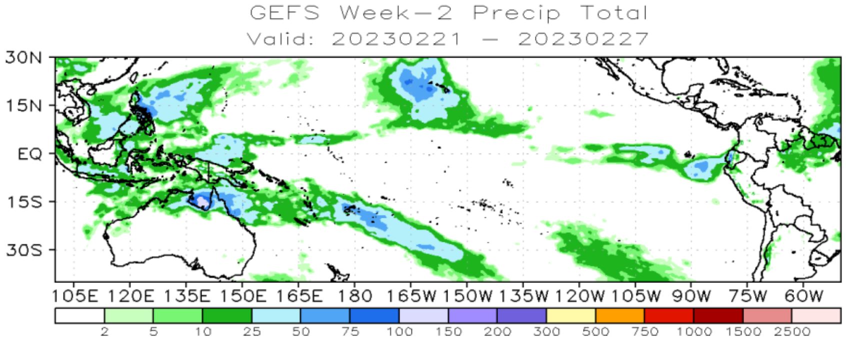
PRONÓSTICO GEFS: precipitación

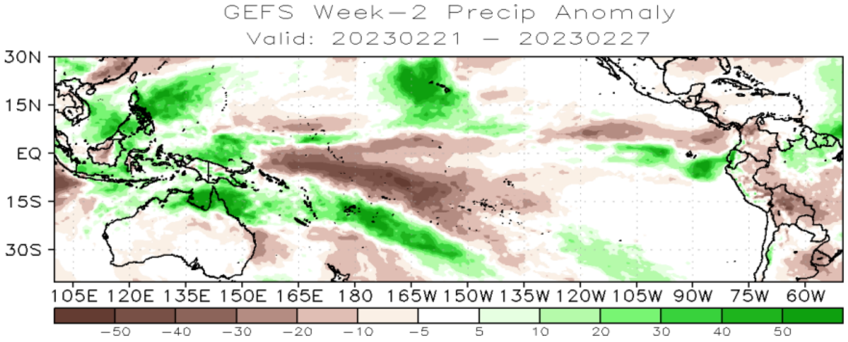
Semana 1


GEFS Week-1 Precip Total
Valid: 20230214 – 20230220
30N
15N
EQ
15S
30S
105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W
2 5 10 25 50 75 100 150 200 300 500 750 1000 1500 2500

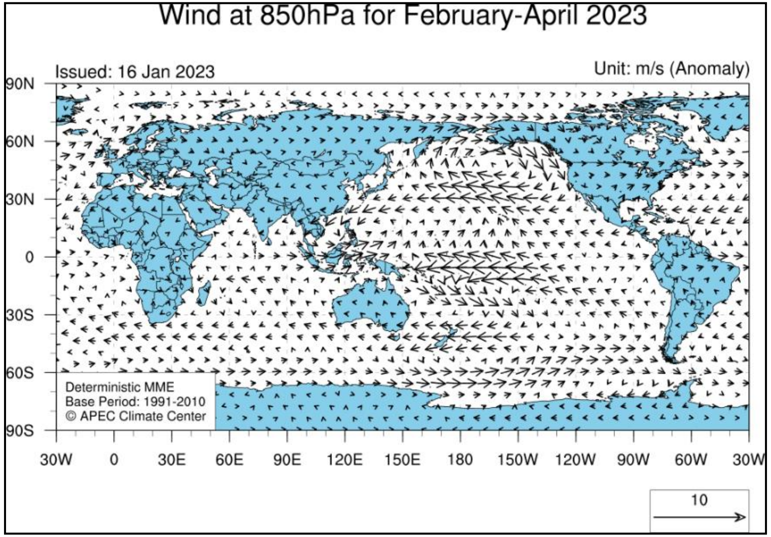

GEFS Week-1 Precip Anomaly
Valid: 20230214 – 20230220
30N
15N
EQ
15S
30S
105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W
-50 -40 -30 -20 -10 -5 5 10 20 30 40 50

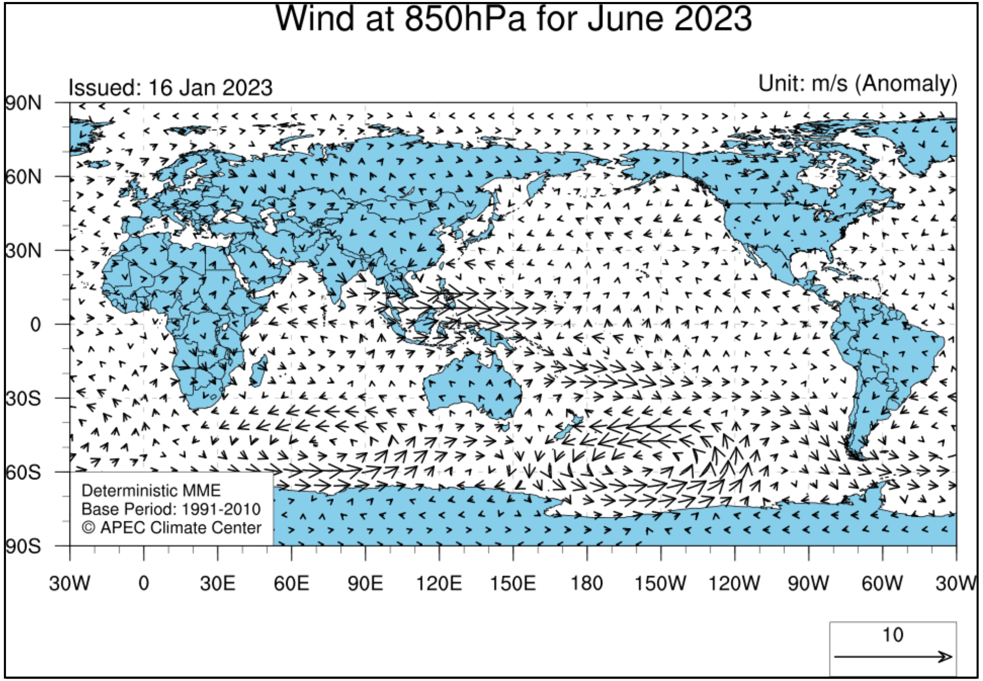
Semana 2


GEFS Week-2 Precip Total
Valid: 20230221 – 20230227
30N
15N
EQ
15S
30S
105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W
2 5 10 25 50 75 100 150 200 300 500 750 1000 1500 2500

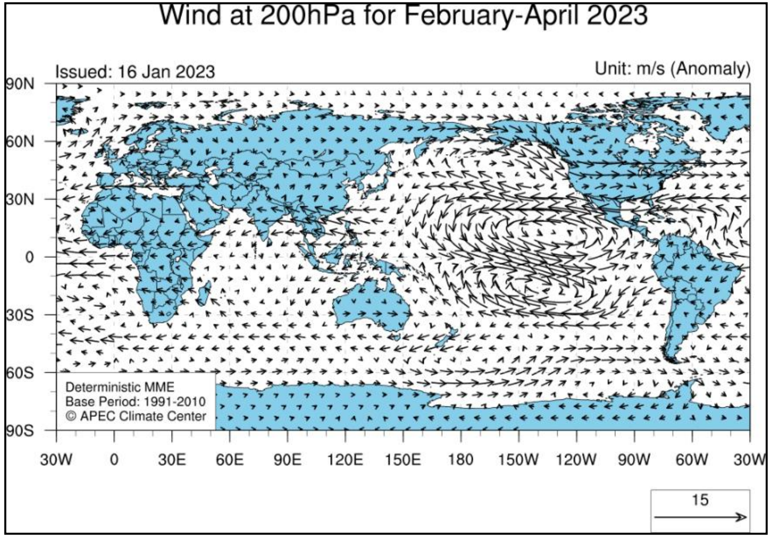

GEFS Week-2 Precip Anomaly
Valid: 20230221 – 20230227
30N
15N
EQ
15S
30S
105E 120E 135E 150E 165E 180 165W 150W 135W 120W 105W 90W 75W 60W
-50 -40 -30 -20 -10 -5 5 10 20 30 40 50

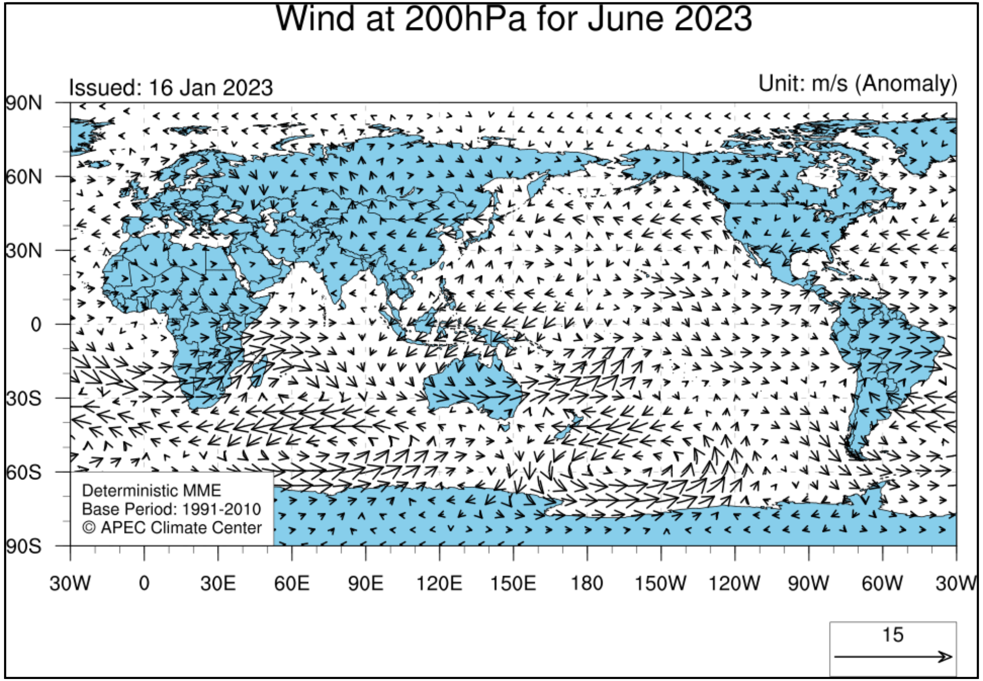
PRONÓSTICO DETERMINÍSTICO MME: viento 850 hPa


Wind at 850hPa for February-April 2023
Issued: 16 Jan 2023
Unit: m/s (Anomaly)
90N
60N
30N
0
30S
60S
90S
30W
0
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
Deterministic MME
Base Period: 1991-2010
© APEC Climate Center
10


Wind at 850hPa for June 2023
Issued: 16 Jan 2023
Unit: m/s (Anomaly)
90N
60N
30N
0
30S
60S
90S
30W
0
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
Deterministic MME
Base Period: 1991-2010
© APEC Climate Center
10

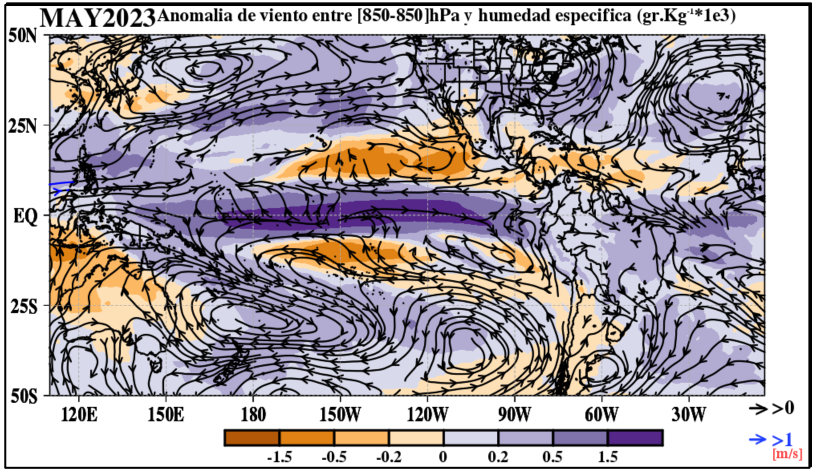
PRONÓSTICO DETERMINÍSTICO MME: viento 200 hPa


Wind at 200hPa for February-April 2023
Issued: 16 Jan 2023
Unit: m/s (Anomaly)
90N
60N
30N
0
30S
60S
90S
30W
0
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
Deterministic MME
Base Period: 1991-2010
© APEC Climate Center
15

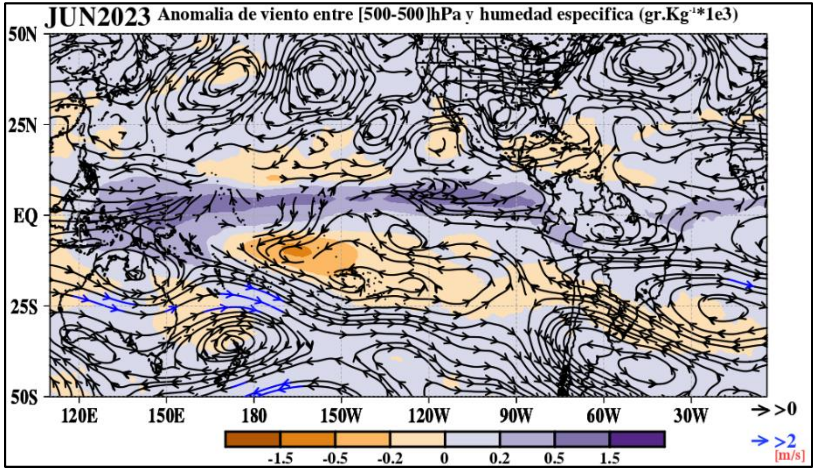

Wind at 200hPa for June 2023
Issued: 16 Jan 2023
Unit: m/s (Anomaly)
90N
60N
30N
0
30S
60S
90S
30W
0
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
Deterministic MME
Base Period: 1991-2010
© APEC Climate Center
15

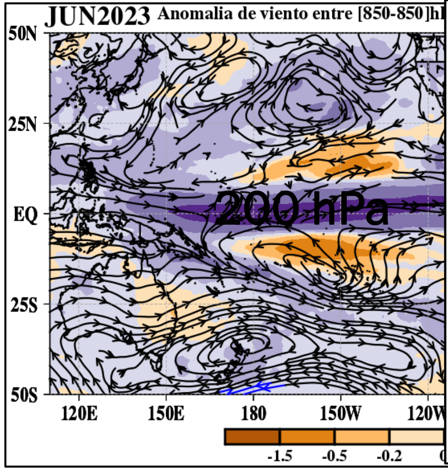
PRONÓSTICO DETERMINÍSTICO MME: ECMWF

850 hPa

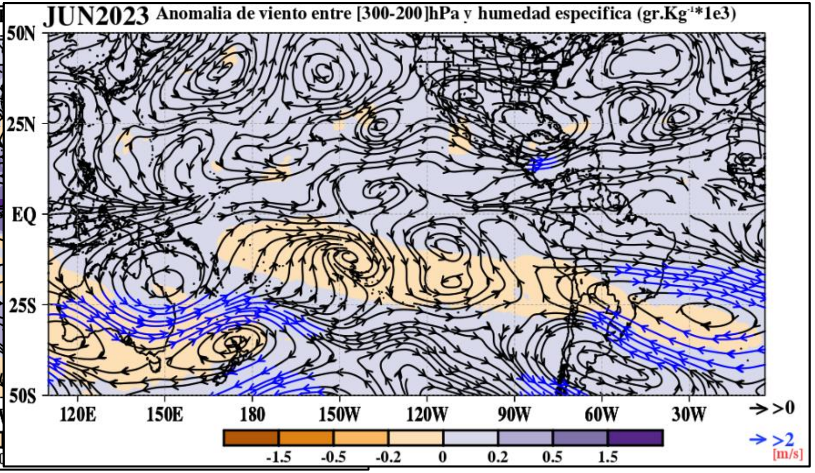

MAY2023 Anomalia de viento entre [850-850]hPa y humedad especifica (gr.Kg⁻¹*1e3)
50N
25N
EQ
25S
50S
120E
150E
180
150W
120W
90W
60W
30W
>0
>1
[m/s]
-1.5
-0.5
-0.2
0
0.2
0.5
1.5

500 hPa

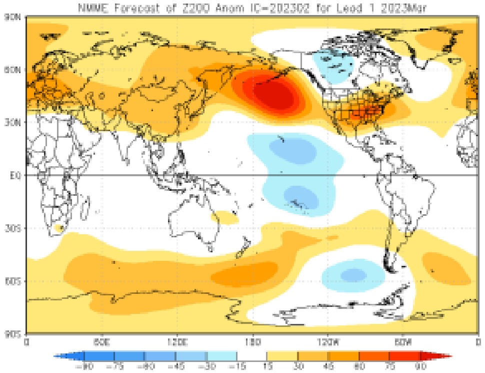

JUN2023 Anomalia de viento entre [500-500]hPa y humedad especifica (gr.Kg⁻¹*1e3)
50N
25N
EQ
25S
50S
120E
150E
180
150W
120W
90W
60W
30W
>0
>2
[m/s]
-1.5
-0.5
-0.2
0
0.2
0.5
1.5

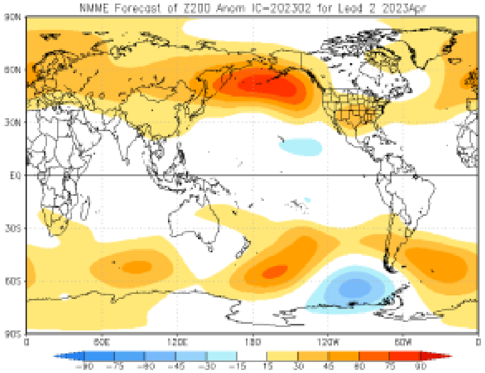

JUN2023 Anomalia de viento entre [850-850]hP
50N
25N
EQ
25S
50S
120E
150E
180
150W
120W
-1.5
-0.5
-0.2

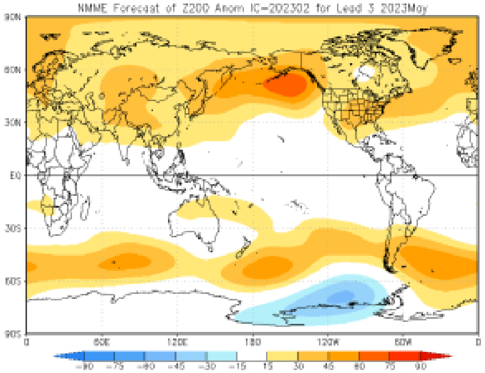
200 hPa

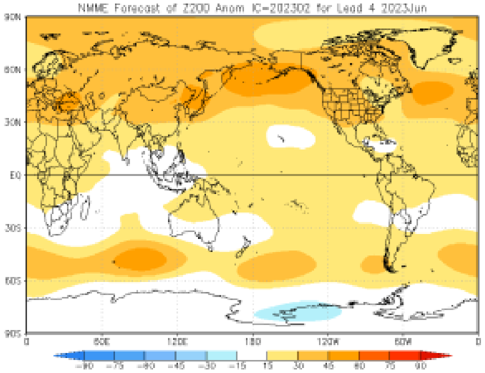

JUN2023 Anomalia de viento entre [300-200]hPa y humedad especifica (gr.Kg⁻¹*1e3)
50N
25N
EQ
25S
50S
120E
150E
180
150W
120W
90W
60W
30W
>0
>2
[m/s]
-1.5
-0.5
-0.2
0
0.2
0.5
1.5

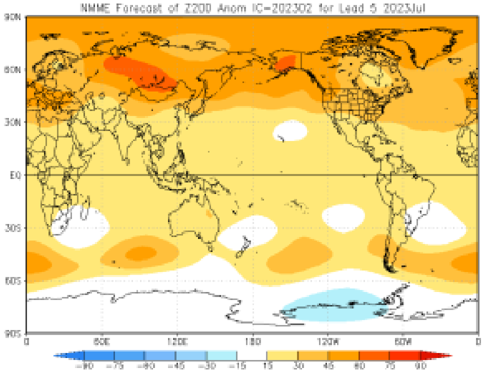
NMME Forecasts of Monthly Climate Anomalies

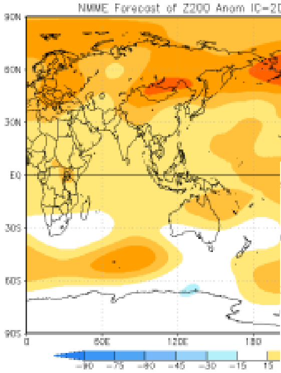

NMME Forecast of Z200 Anom IC=202302 for Lead 1 2023Mar
90N
60N
30N
EQ
30S
60S
90S
0
60E
120E
180
120W
60W
0
-90
-75
-60
-45
-30
-15
15
30
45
60
75
90

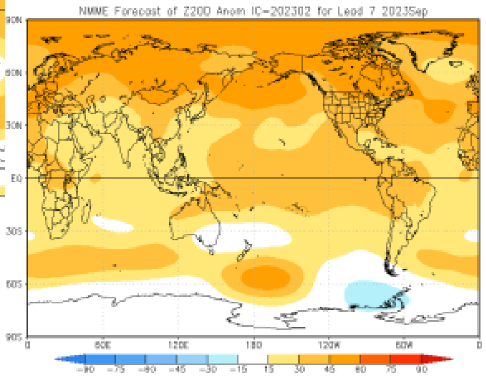

NMME Forecast of Z200 Anom IC=202302 for Lead 2 2023Apr
90N
60N
30N
EQ
30S
60S
90S
0
60E
120E
180
120W
60W
0
-90
-75
-60
-45
-30
-15
15
30
45
60
75
90


NMME Forecast of Z200 Anom IC=202302 for Lead 3 2023May
90N
60N
30N
EQ
30S
60S
90S
0
60E
120E
180
120W
60W
0
-90
-75
-60
-45
-30
-15
15
30
45
60
75
90

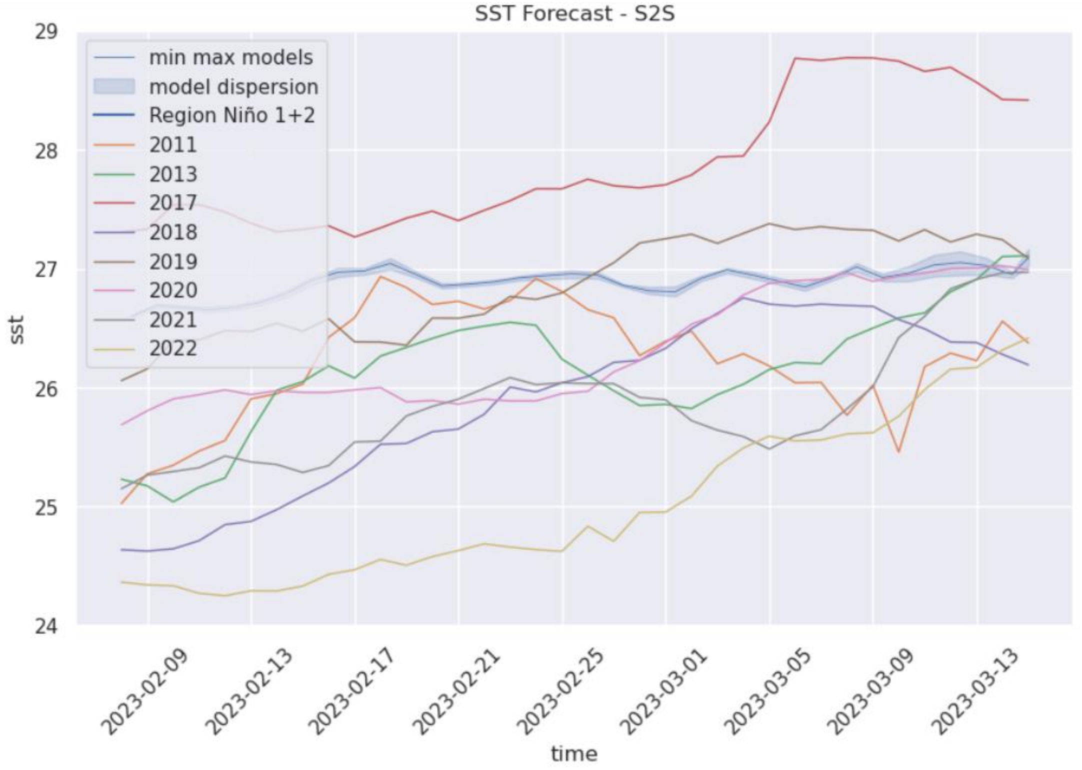

NMME Forecast of Z200 Anom IC=202302 for Lead 4 2023Jun
90N
60N
30N
EQ
30S
60S
90S
0
60E
120E
180
120W
60W
0
-90
-75
-60
-45
-30
-15
15
30
45
60
75
90

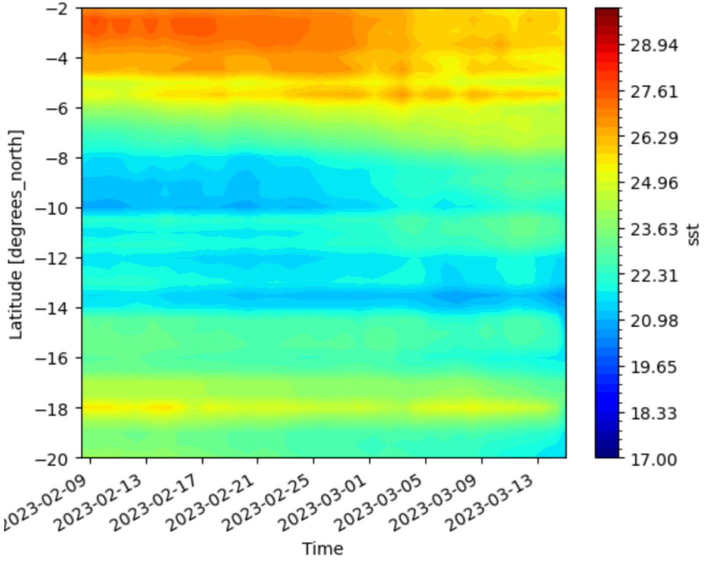

NMME Forecast of Z200 Anom IC=202302 for Lead 5 2023Jul
90N
60N
30N
EQ
30S
60S
90S
0
60E
120E
180
120W
60W
0
-90
-75
-60
-45
-30
-15
15
30
45
60
75
90


NMME Forecast of Z200 Anom IC=202302 for Lead 6 2023Aug
90N
60N
30N
EQ
30S
60S
90S
0
60E
120E
180
-90
-75
-60
-45
-30
-15
15

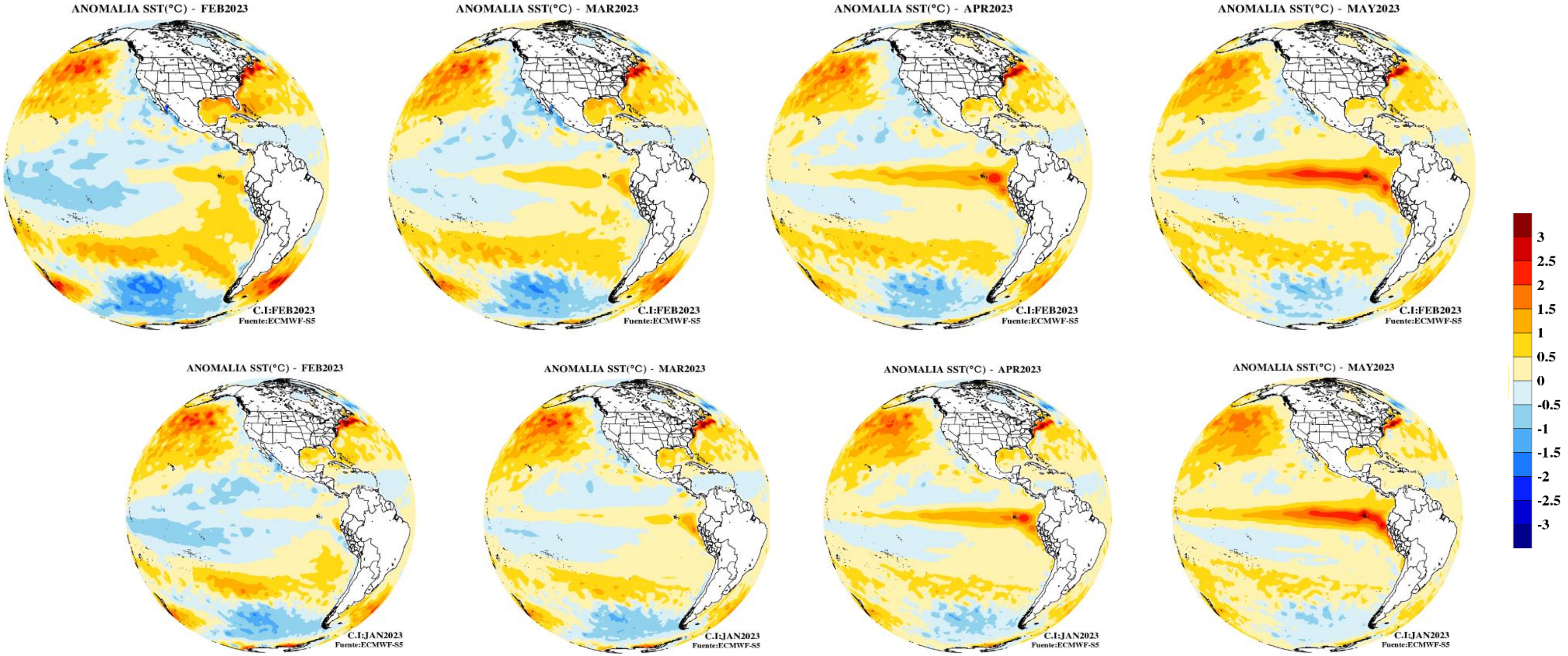

NMME Forecast of Z200 Anom IC=202302 for Lead 7 2023Sep
90N
60N
30N
EQ
30S
60S
90S
0
60E
120E
180
120W
60W
0
-90
-75
-60
-45
-30
-15
15
30
45
60
75
90

PRONÓSTICOS DE LA TSM: GEFS a 35 días – 24 miembros





PRONÓSTICOS DE LA TSM: Modelo europeo



ANOMALIA SST(°C) - FEB2023
C.I:FEB2023
Fuente:ECMWF-S5

ANOMALIA SST(°C) - MAR2023
C.I:FEB2023
Fuente:ECMWF-S5

ANOMALIA SST(°C) - APR2023
C.I:FEB2023
Fuente:ECMWF-S5

ANOMALIA SST(°C) - MAY2023
C.I:FEB2023
Fuente:ECMWF-S5

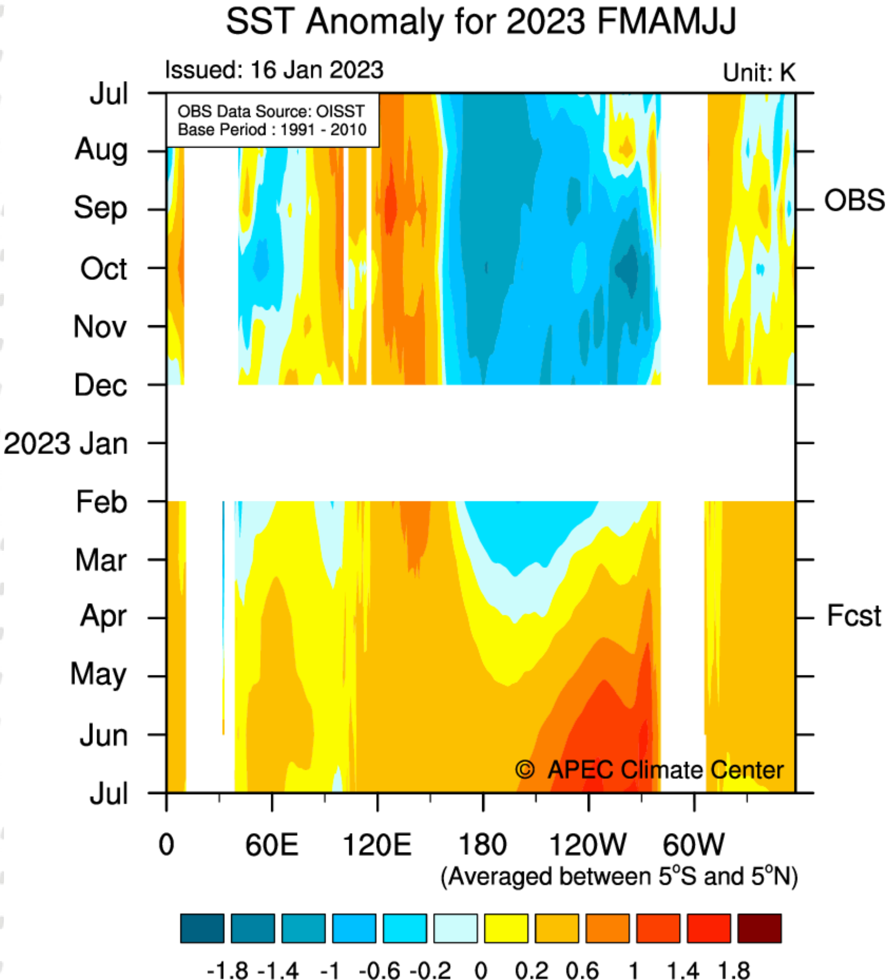
ANOMALIA SST(°C) - FEB2023
C.I:JAN2023
Fuente:ECMWF-S5

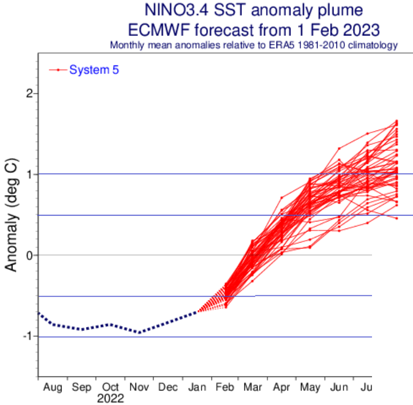
ANOMALIA SST(°C) - MAR2023
C.I:JAN2023
Fuente:ECMWF-S5

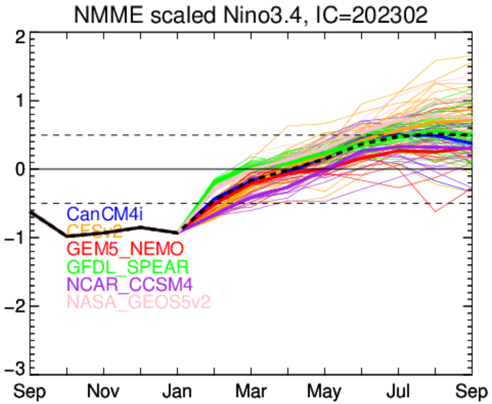
ANOMALIA SST(°C) - APR2023
C.I:JAN2023
Fuente:ECMWF-S5

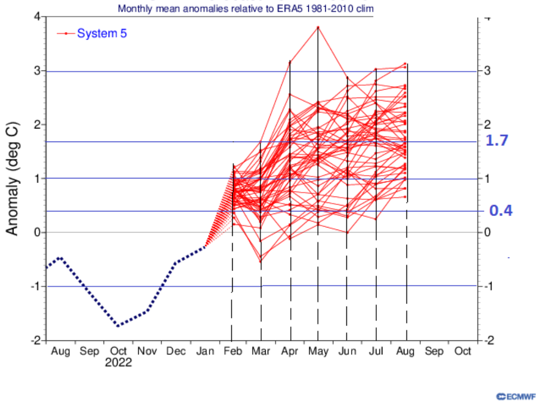
ANOMALIA SST(°C) - MAY2023
C.I:JAN2023
Fuente:ECMWF-S5

PRONÓSTICOS DE LA TSM:









Synopsis: **ENSO-neutral conditions are expected to begin within the next couple of months, and persist through the Northern Hemisphere spring and early summer.**

Publicado el 9 de febrero

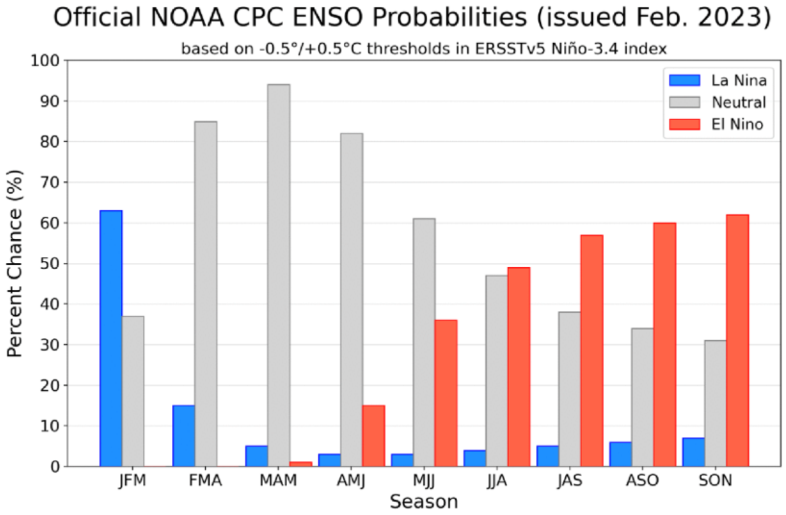
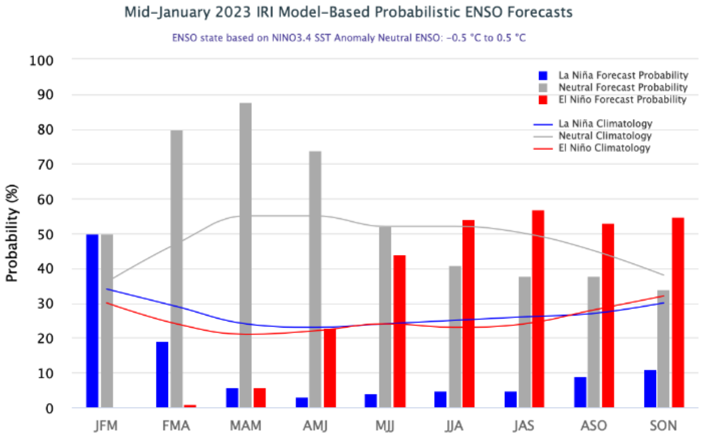


Figure 7. Official ENSO probabilities for the Niño 3.4 sea surface temperature index (5°N-5°S, 120°W-170°W). Figure updated 9 February 2023.

Probabilidades de El Niño según porcentaje de modelos (IRI)

Publicado el 19 de enero



GRACIAS!