



Monitoreo y pronóstico de El Niño y La Niña

Mayo 2016

Comité Técnico ENFEN

08 de junio de 2016



INDECI
INSTITUTO NACIONAL DE DEFENSA CIVIL



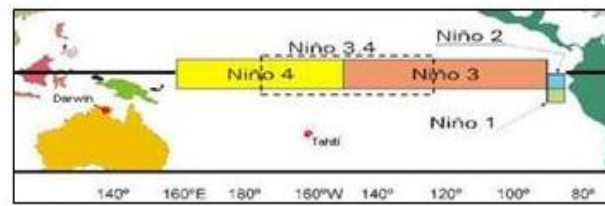
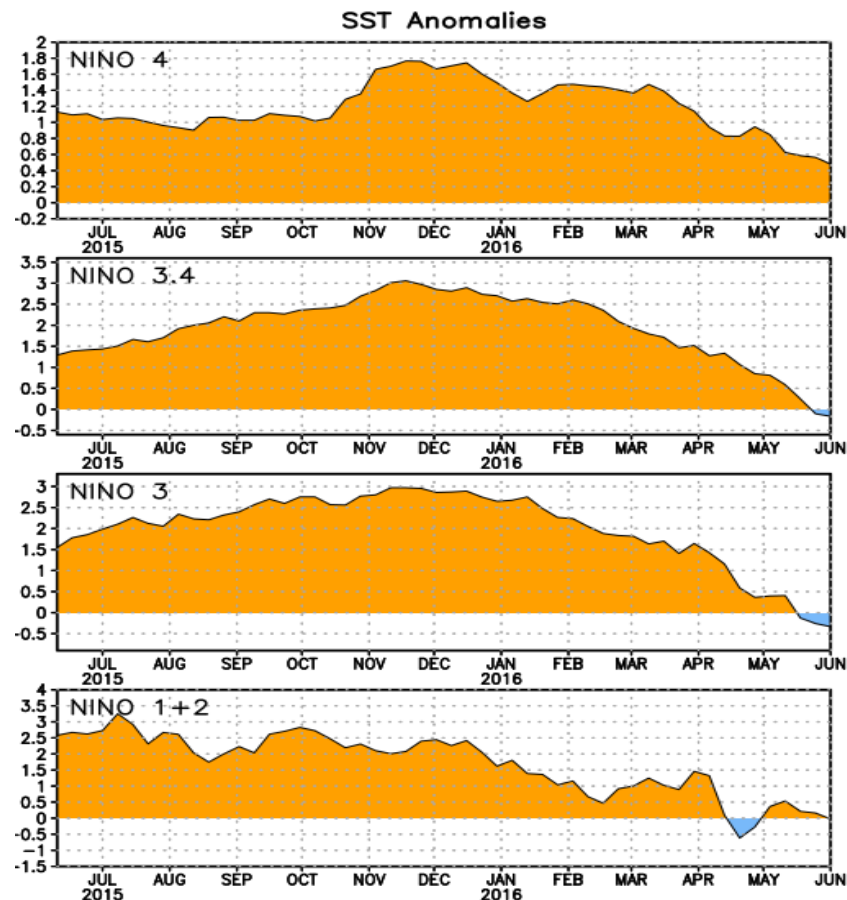


ANOMALÍAS DE LA TEMPERATURA SUPERFICIAL DEL MAR POR REGIONES NIÑO EN EL PACÍFICO ECUATORIAL

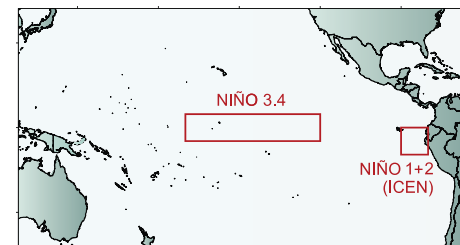
Regiones Niño	ATSM (Semanales)							
	Niño 1+2		Niño 3		Niño 3.4		Niño 4	
04may2016	0.4	25.1	0.4	27.6	0.8	28.6	0.8	29.5
11may2016	0.5	24.9	0.4	27.6	0.6	28.4	0.6	29.4
18may2016	0.2	24.3	-0.1	26.9	0.2	28.1	0.6	29.4
25may2016	0.2	24.0	-0.3	26.6	-0.1	27.7	0.6	29.4
01jun2016	0.0	23.4	-0.3	26.4	-0.2	27.6	0.5	29.3

Promedios mensuales 2015

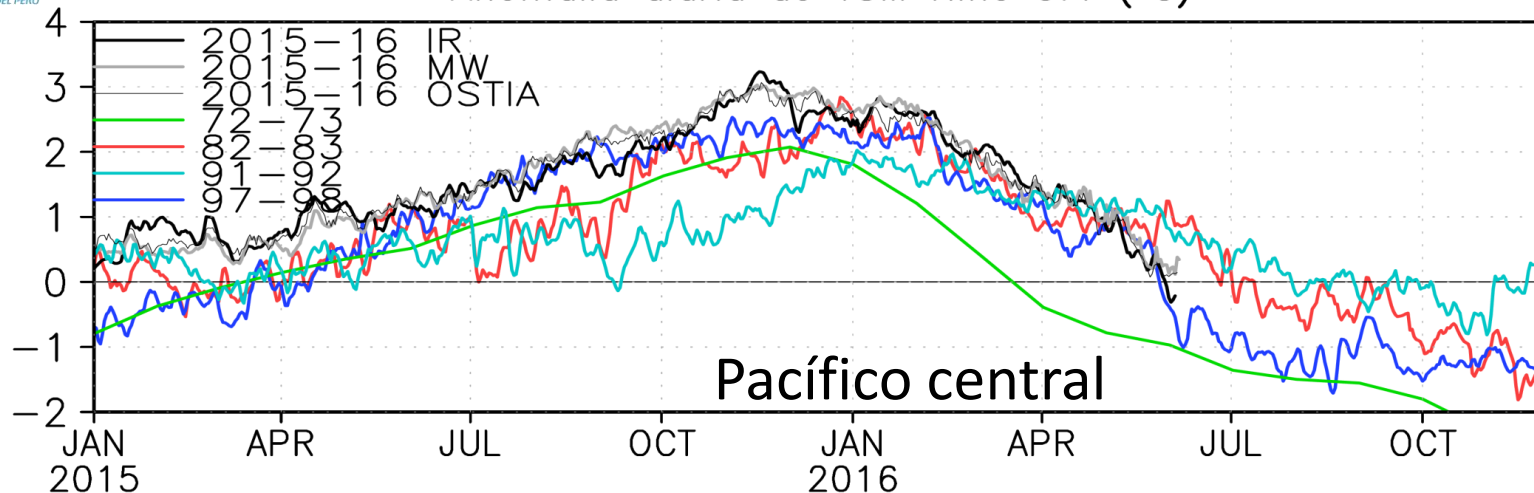
Regiones Niño	ATSM							
	Niño 1+2		Niño 3		Niño 3.4		Niño 4	
May.2016	0.3	24.6	0.0	27.1	0.3	28.2	0.6	29.4
Abr.2016	0.2	25.8	0.8	28.3	1.1	28.8	0.9	29.4
Mar.2016	0.9	27.6	1.6	28.7	1.7	28.9	1.3	29.5
Feb.2016	0.7	26.8	1.9	28.4	2.4	29.1	1.5	29.6
Ene.2016	1.4	25.9	2.6	28.2	2.6	29.2	1.4	29.7
Dic.2015	2.2	25.0	2.9	28.0	2.8	29.4	1.6	30.1
Nov.2015	2.1	23.7	2.9	27.9	3.0	29.6	1.7	30.3
Oct.2015	2.5	23.3	2.7	27.6	2.5	29.2	1.1	29.8
Set.2015	2.6	22.9	2.6	27.5	2.3	29.0	1.0	29.7
Ago. 2015	2.3	22.9	2.3	27.3	2.1	28.9	1.0	29.7
Jul. 2015	2.9	24.5	2.2	27.8	1.6	28.8	1.0	29.8
Jun. 2015	2.5	25.4	1.7	28.1	1.3	29.0	1.1	29.9
May. 2015	2.4	26.7	1.2	28.3	1.0	28.9	1.1	29.9
Abr. 2015	1.4	27.0	0.7	28.2	0.8	28.6	0.8	29.7
Mar. 2015	0.1	26.7	0.2	27.3	0.6	27.8	1.1	29.3



Anomalia de la Temperatura Superficial de Mar

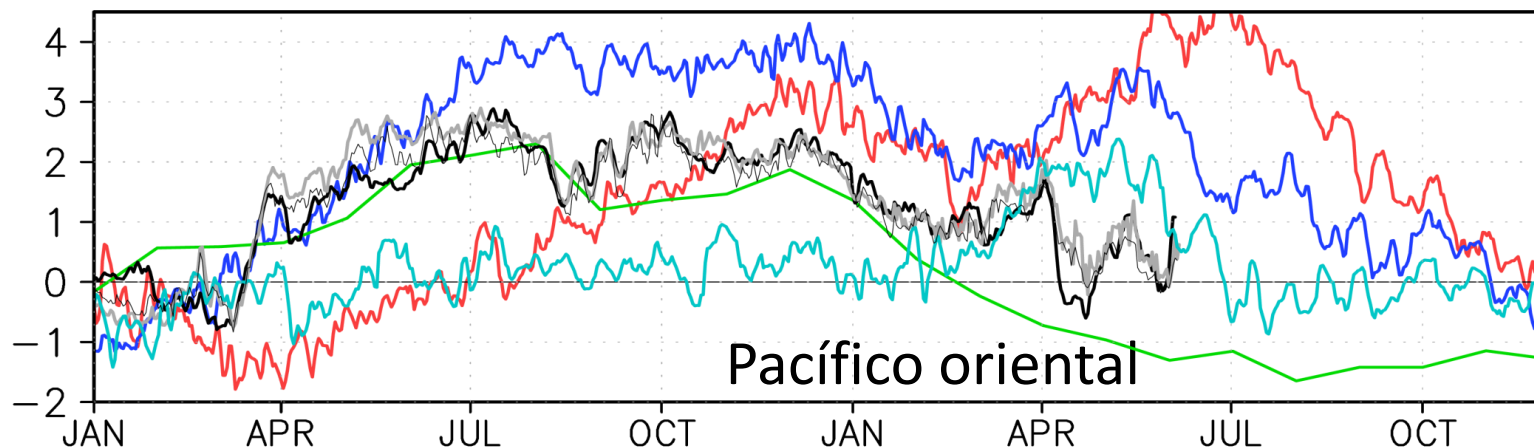


Anomalia diaria de TSM Nino 3.4 (°C)



Pacífico central

Anomalia diaria de TSM Nino 1+2 (°C)



Pacífico oriental

Datos: NOAA Hires OI SST, RSS MW SST, Procesamiento:IGP.

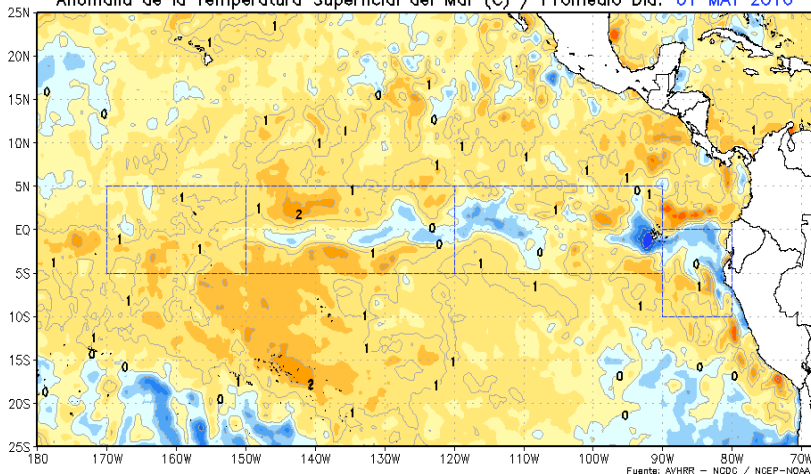
Ultimo dato—MW: 05JUN2016
Ultimo dato—OISST: 04JUN2016
Ultimo dato—OSTIA: 05JUN2016



ANOMALÍAS DE LA TEMPERATURA SUPERFICIAL DEL MAR EN EL PACÍFICO ECUATORIAL

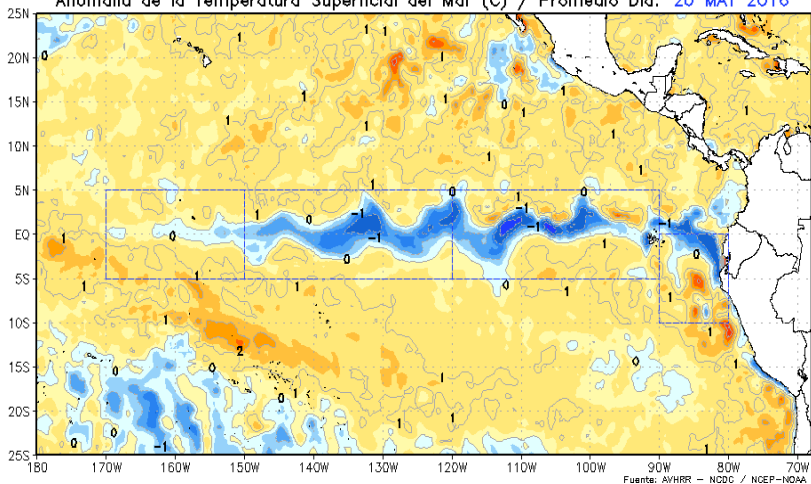
DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Anomalia de la Temperatura Superficial del Mar (C) / Promedio Dia: 01 MAY 2016



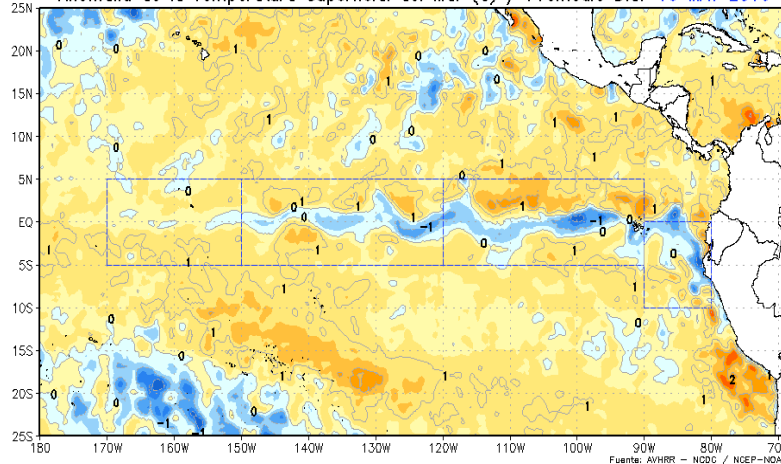
DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Anomalia de la Temperatura Superficial del Mar (C) / Promedio Dia: 20 MAY 2016



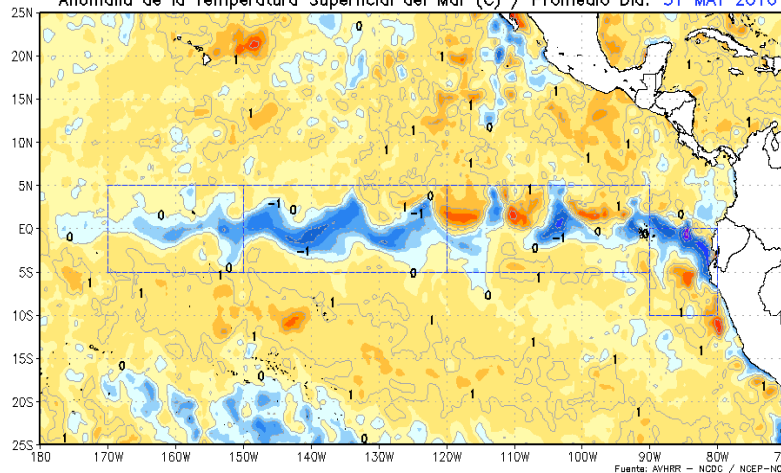
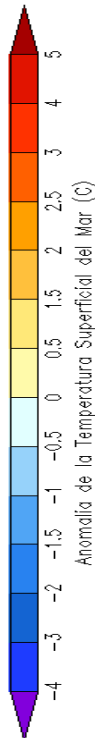
DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Anomalia de la Temperatura Superficial del Mar (C) / Promedio Dia: 10 MAY 2016



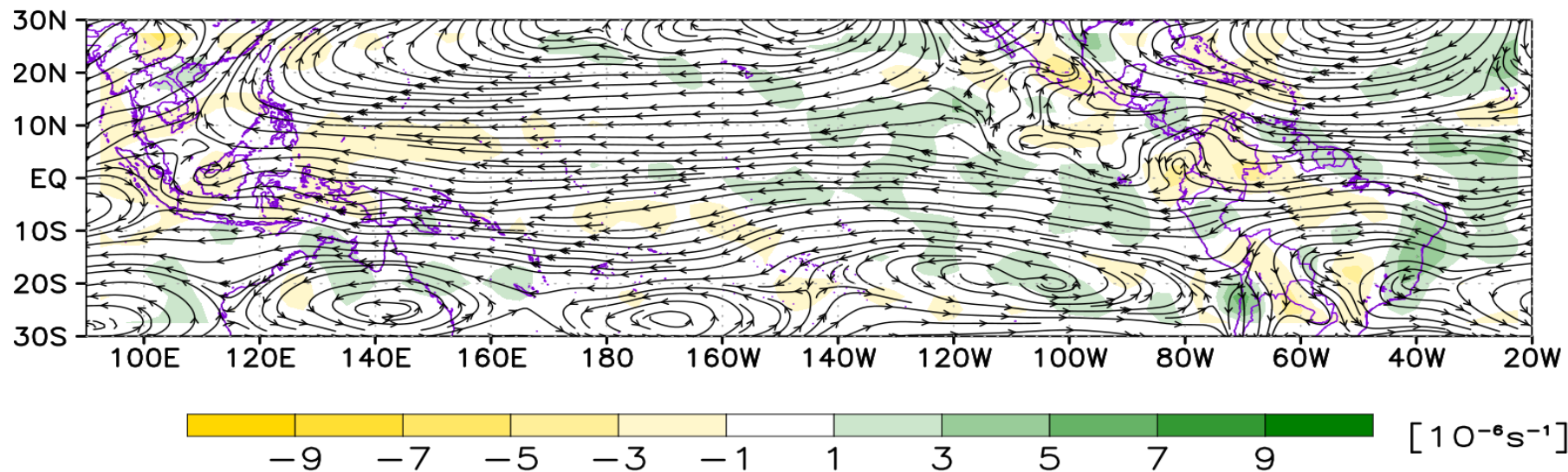
DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Anomalia de la Temperatura Superficial del Mar (C) / Promedio Dia: 31 MAY 2016

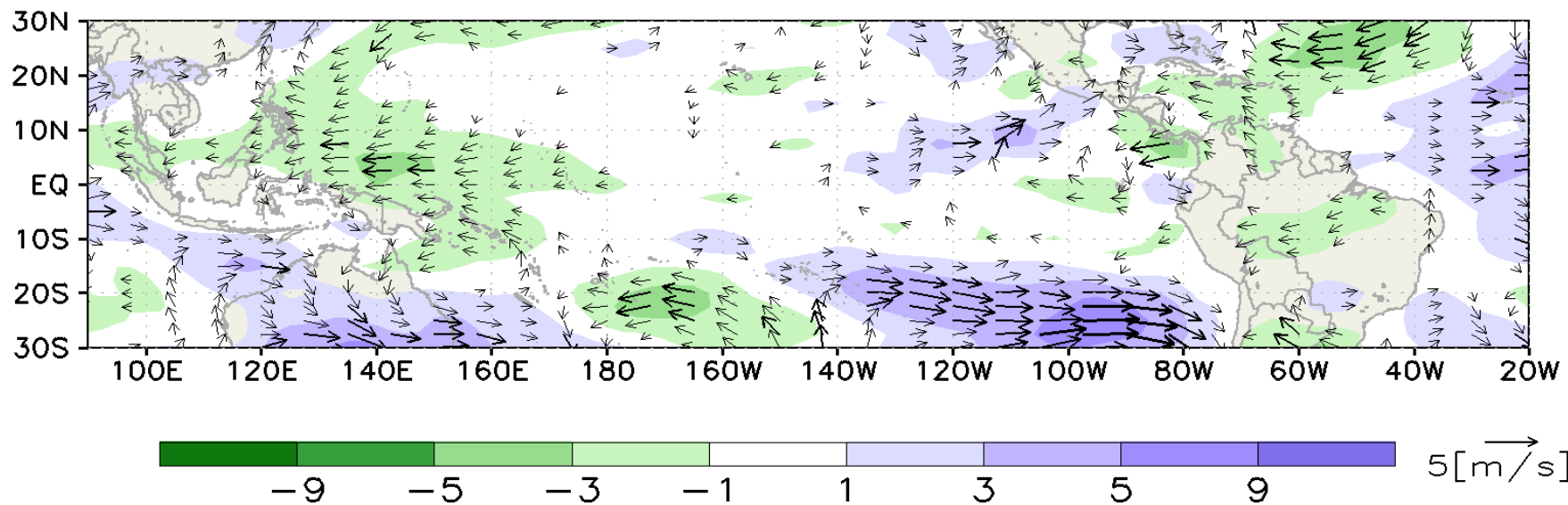


VIENTOS A 850hPa

VIENTO PROMEDIO a 850hPa MAYO 2016
NCEP-NOAA / SENAMHI -DCL

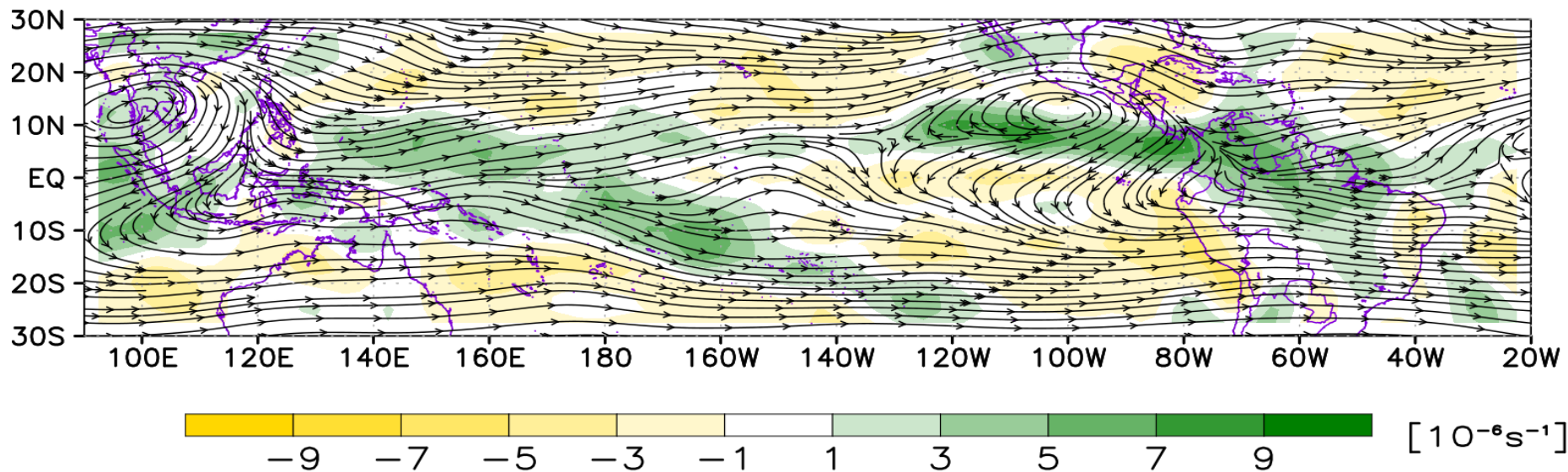


ANOMALIA DE VIENTO a 850hPa MAYO 2016
NCEP-NOAA / SENAMHI -DCL

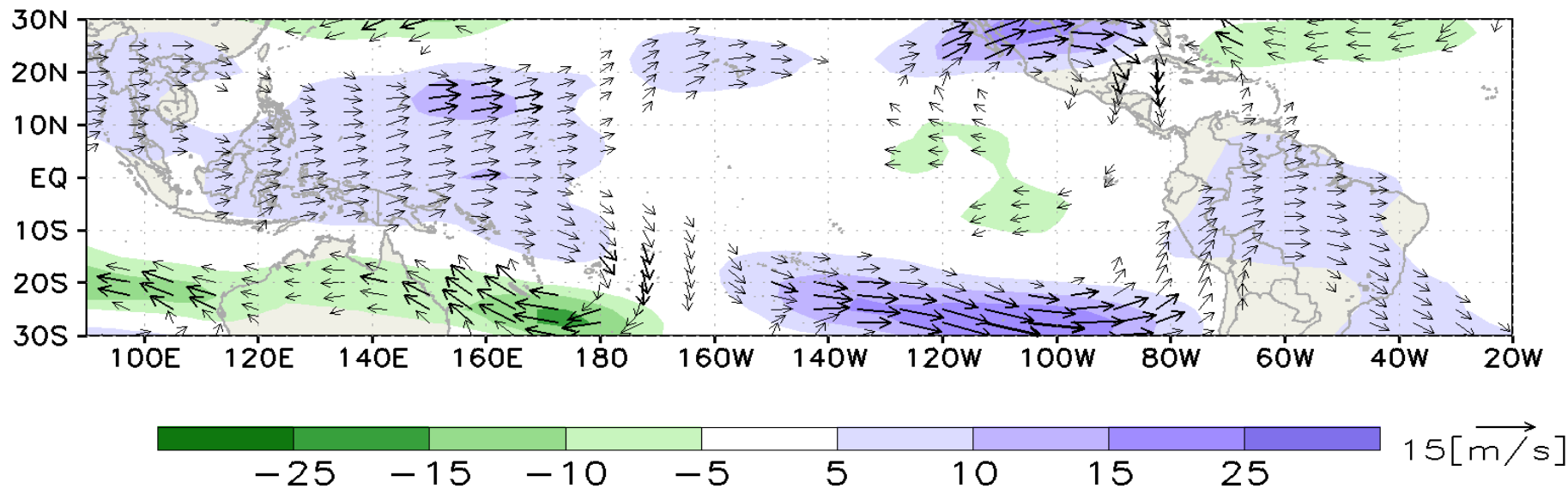


VIENTO A 200 hPa

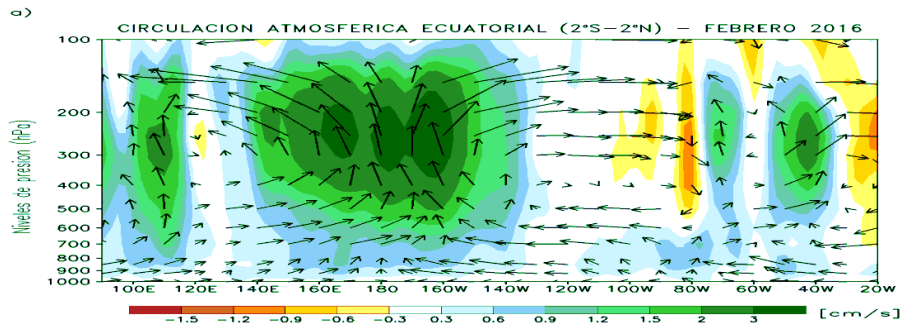
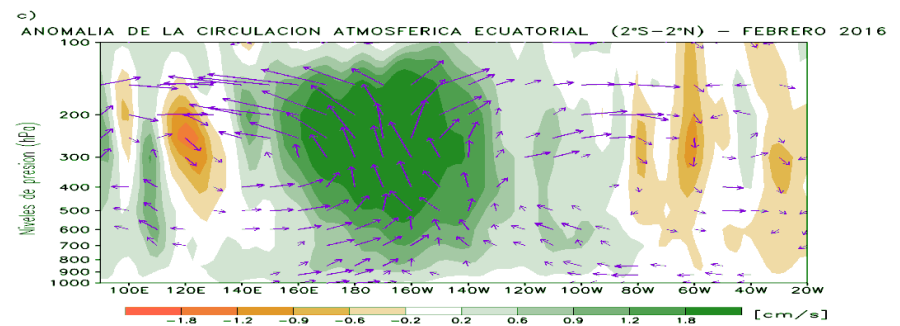
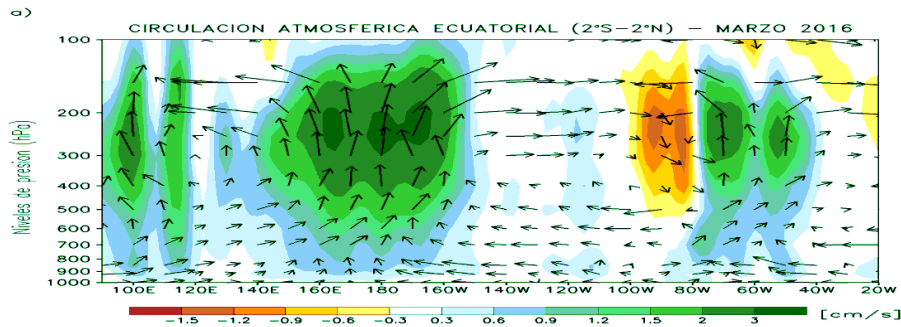
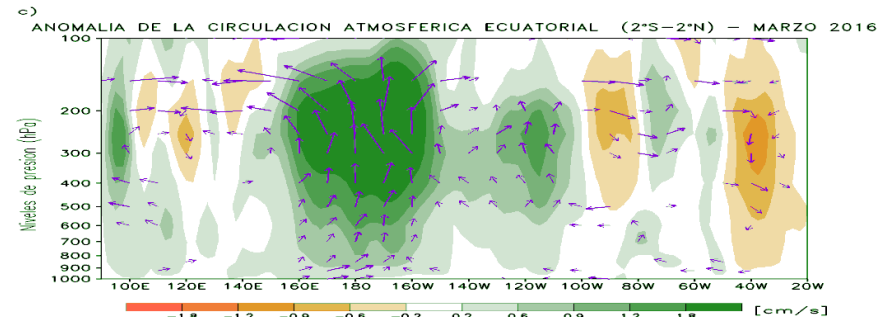
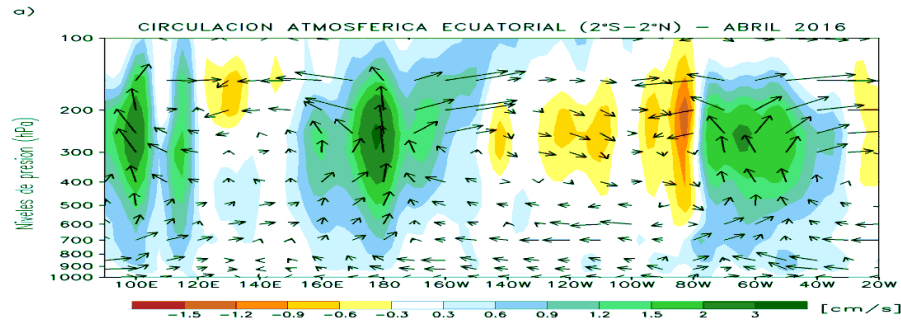
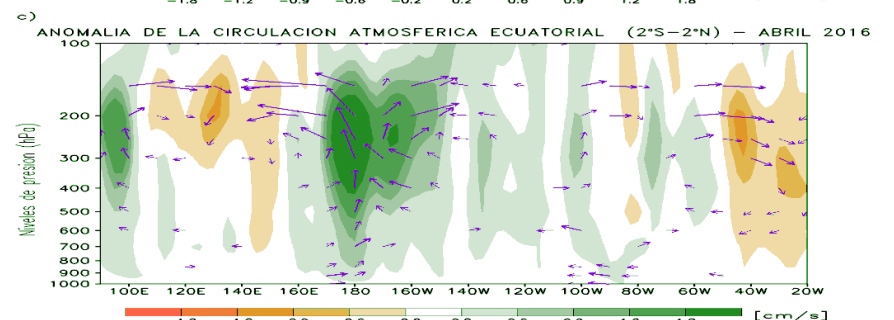
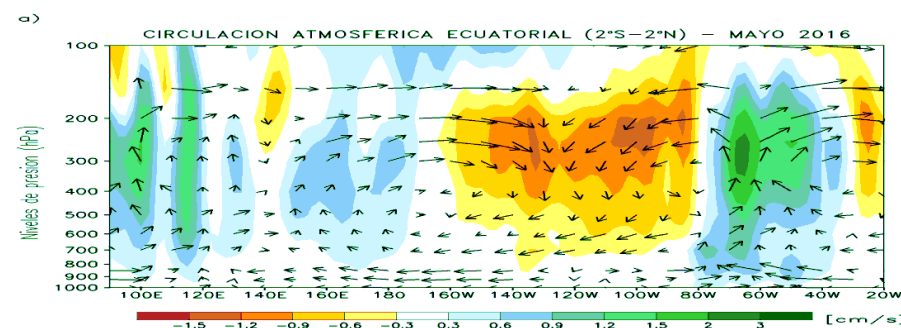
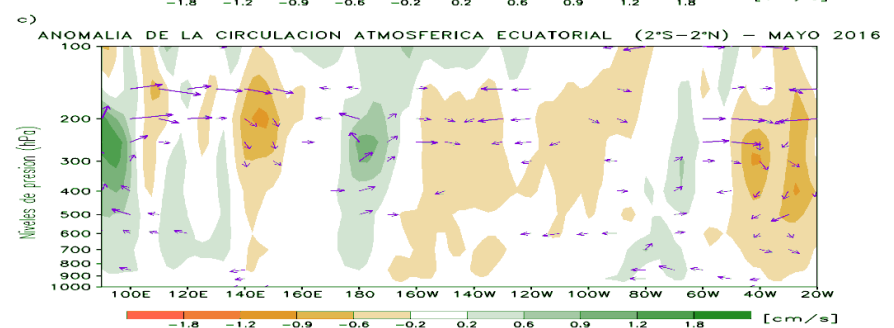
VIENTO PROMEDIO a 200hPa MAYO 2016
NCEP-NOAA / SENAMHI -DCL



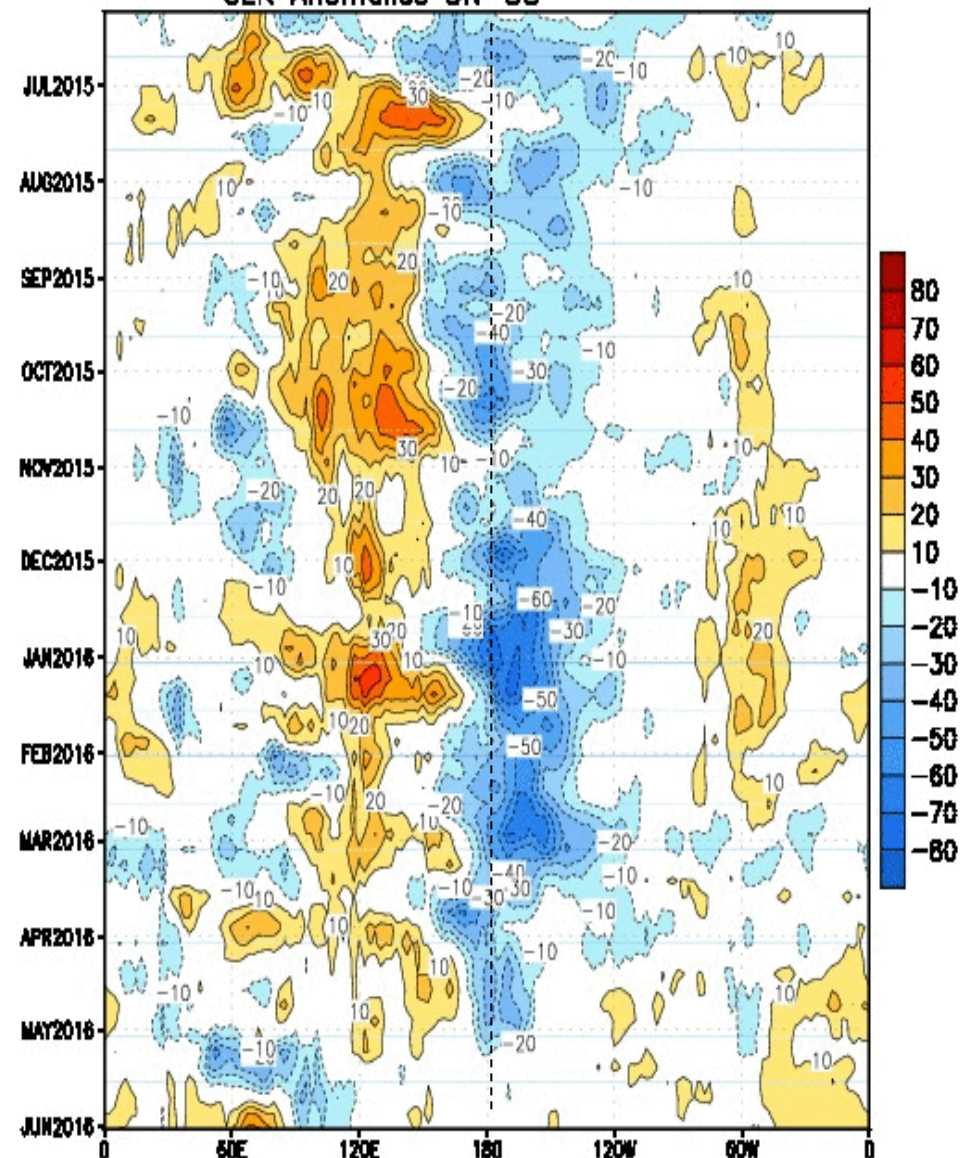
ANOMALIA DE VIENTO a 200hPa MAYO 2016
NCEP-NOAA / SENAMHI -DCL



MONITOREO DE LA CIRCULACION ATMOSF. EC. 5ºN-5ºS



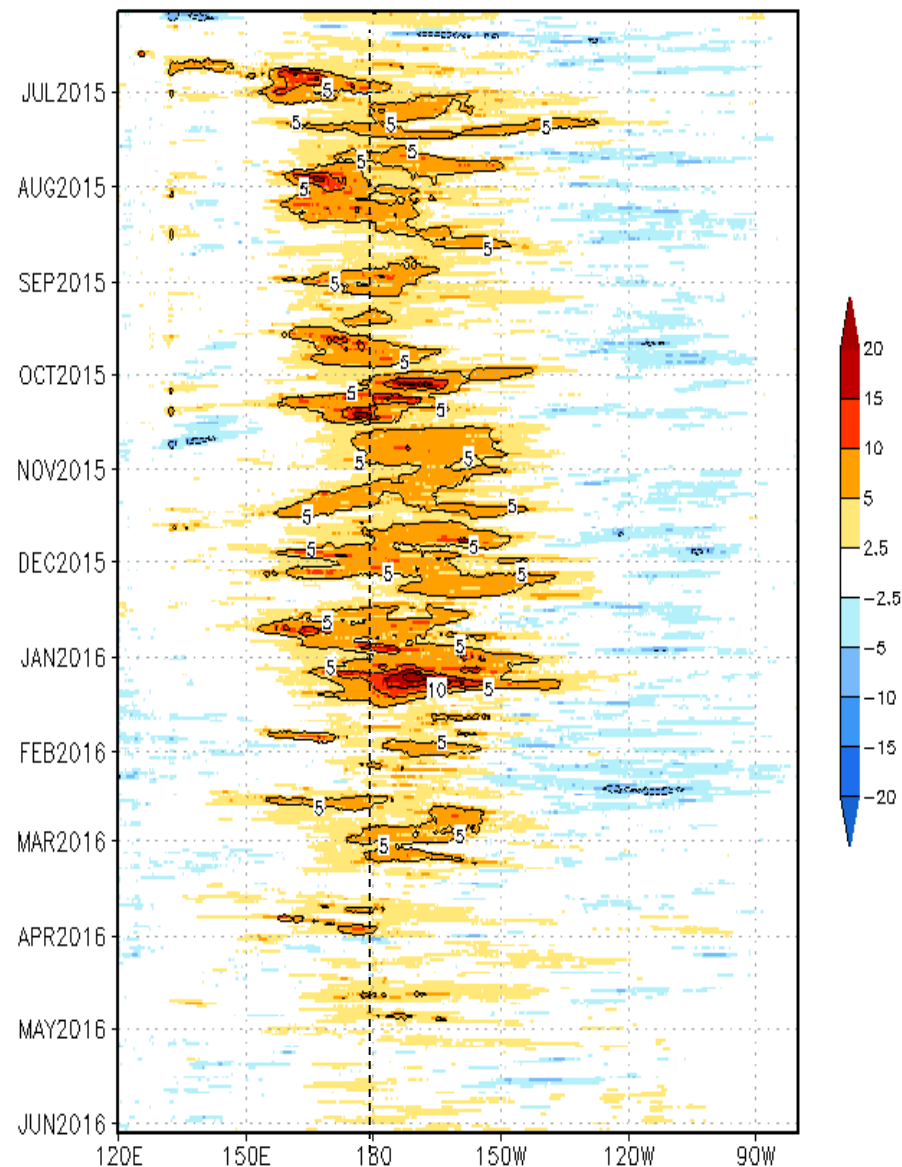
OLR Anomalies 5N-5S



Data updated through 02 JUN 2016

CLIMATE PREDICTION CENTER/NCEP

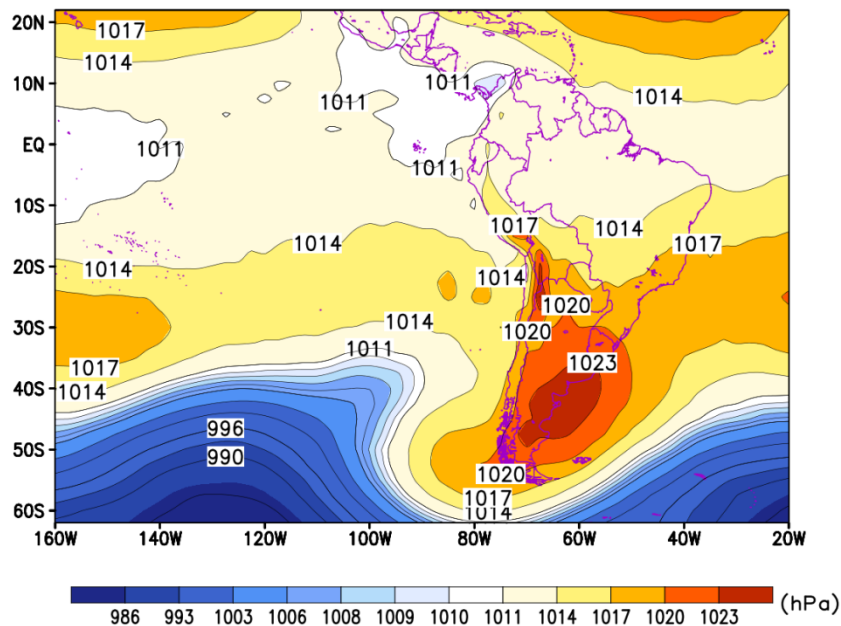
Anomalia de esfuerzo de viento zonal (10^2Nm^{-2}) promediada entre 2S y 2N



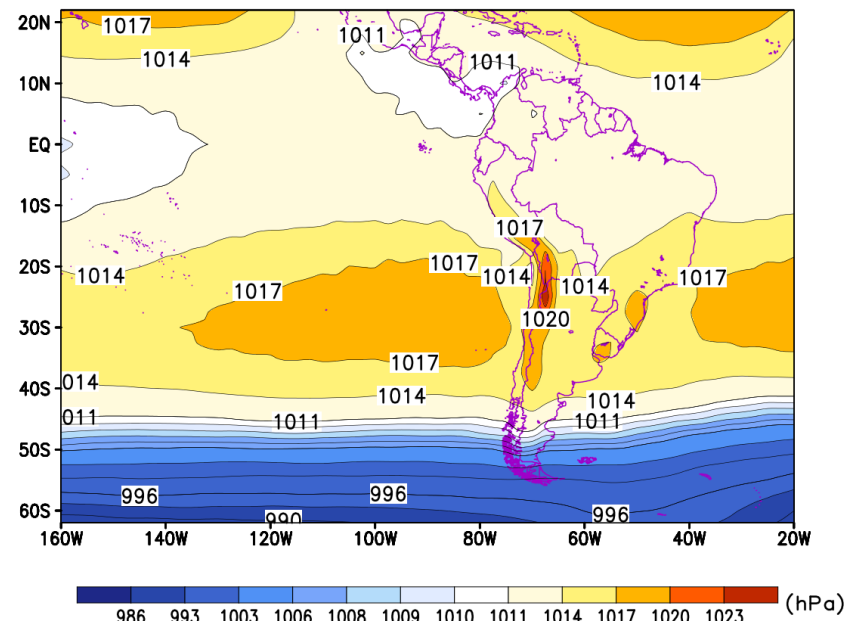
Datos ASCAT, Procesamiento:IGP, Ultimo dato:04Jun2016

CAMPOS DE PRESIÓN A NIVEL DEL MAR

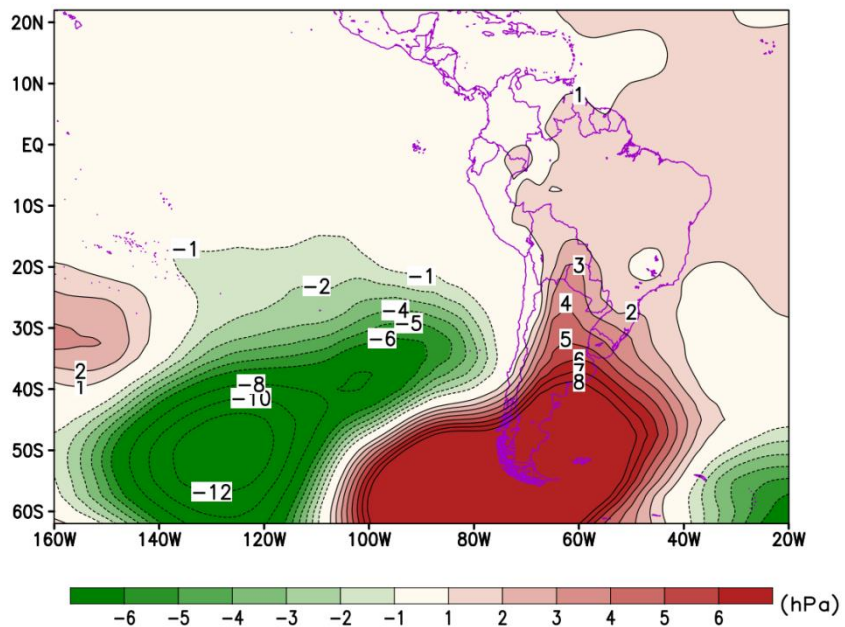
PRESION A NIVEL DEL MAR – 2016 MAYO



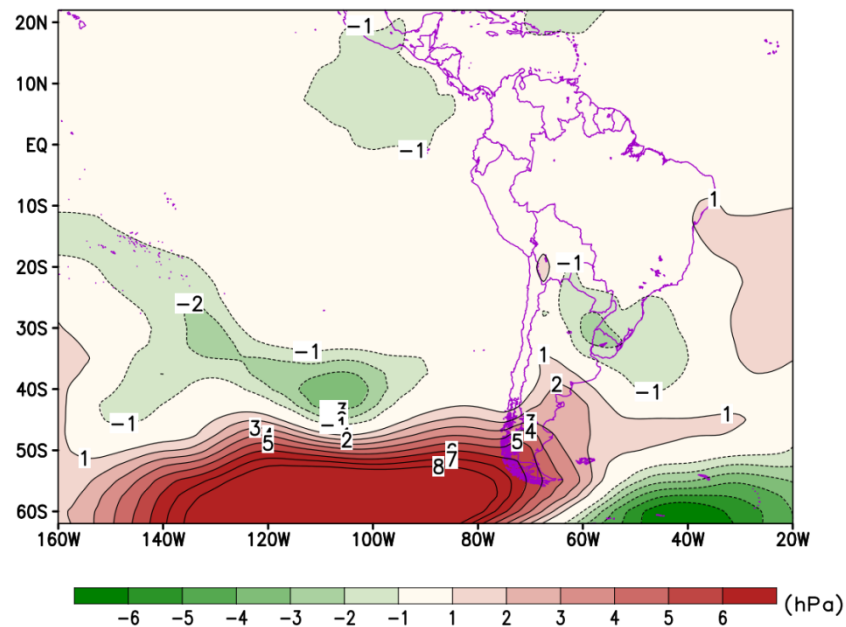
CLIMATOLOGIA DE LA PRESION A NIVEL DEL MAR – MAYO



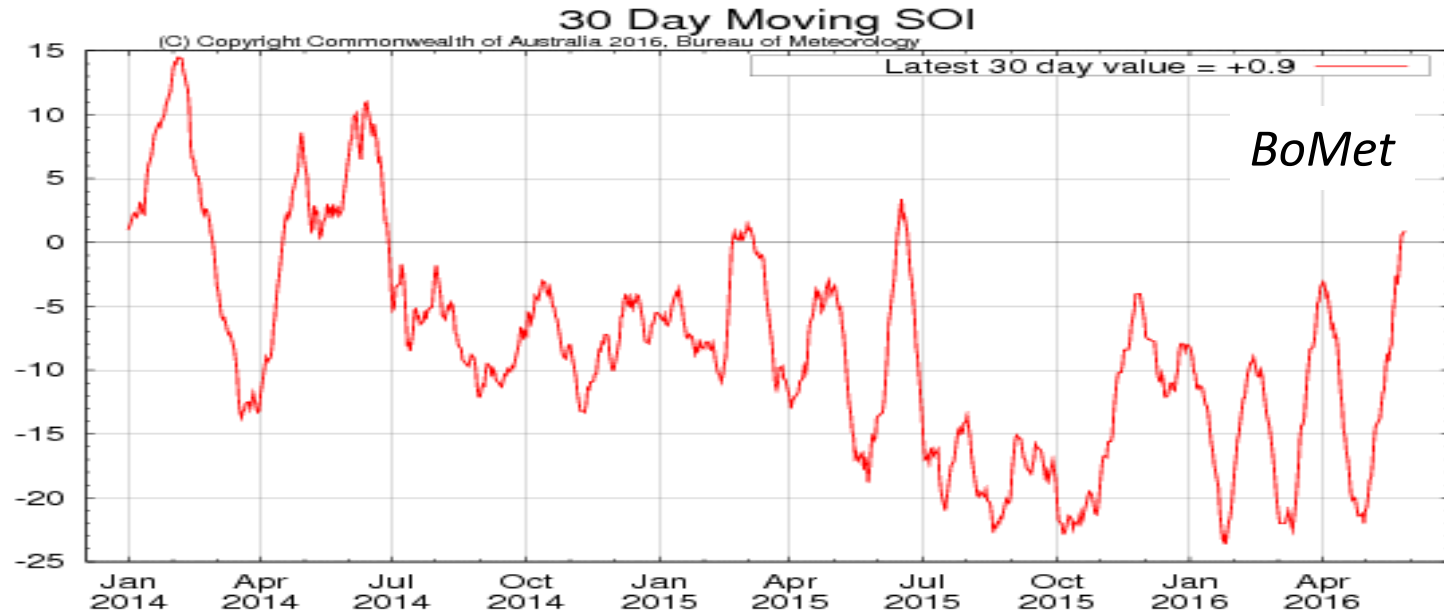
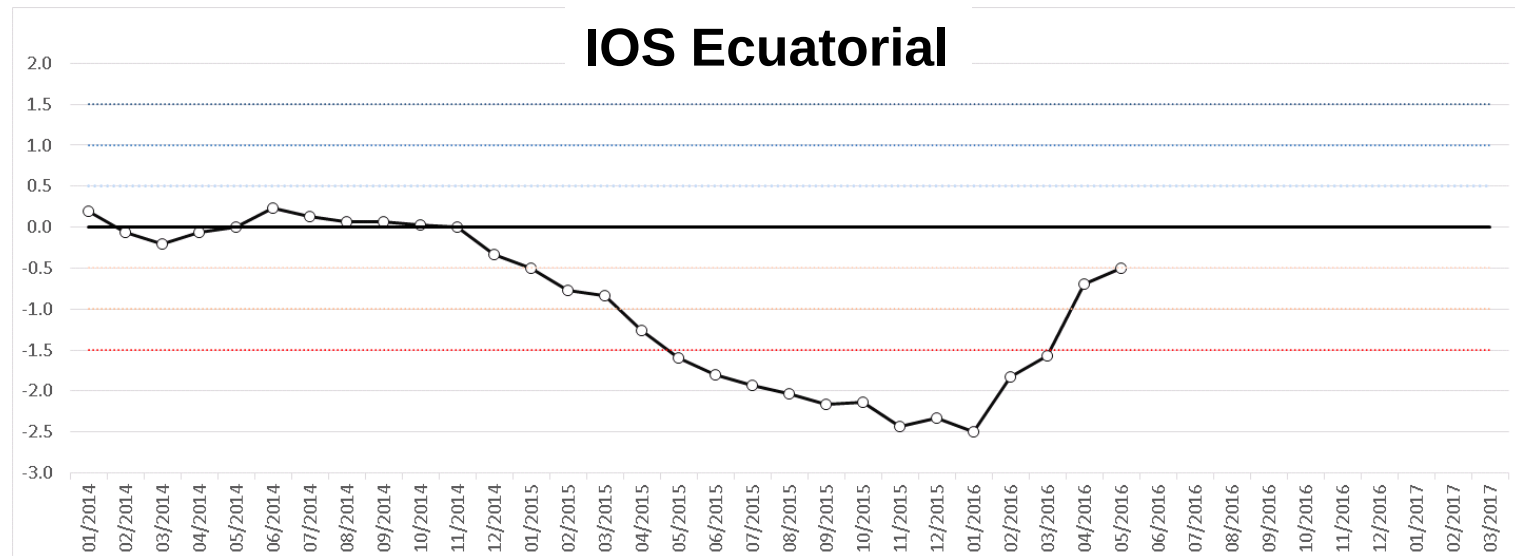
ANOMALIA DE LA PRESION A NIVEL DEL MAR – 2016 MAYO



ANOMALIA DE LA PRESION A NIVEL DEL MAR – 2016 ABRIL

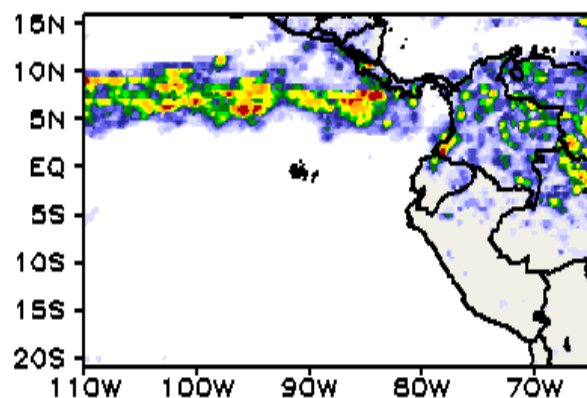


Índice de Oscilación del Sur

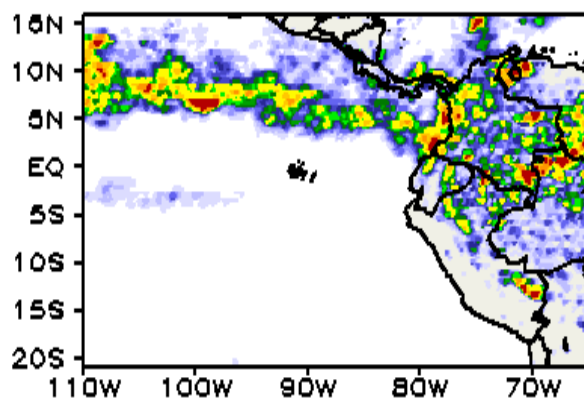


TRMM – PRECIPITACIÓN ACUMULADA CADA 5 DIAS – MAYO 2016

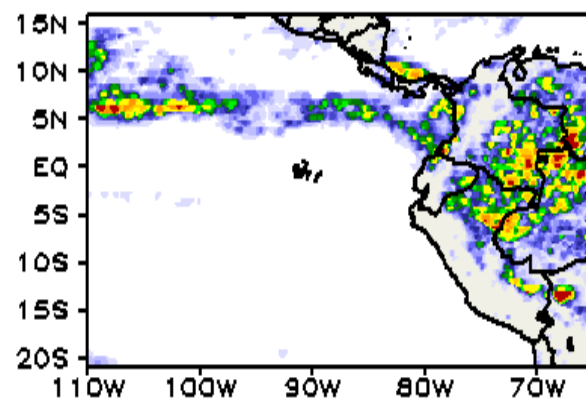
DIAS 1 AL 5



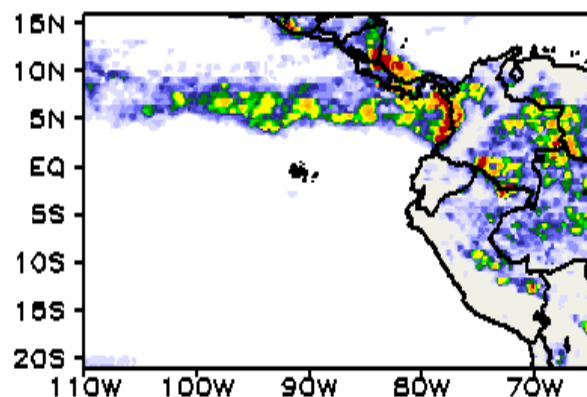
DIAS 6 AL 10



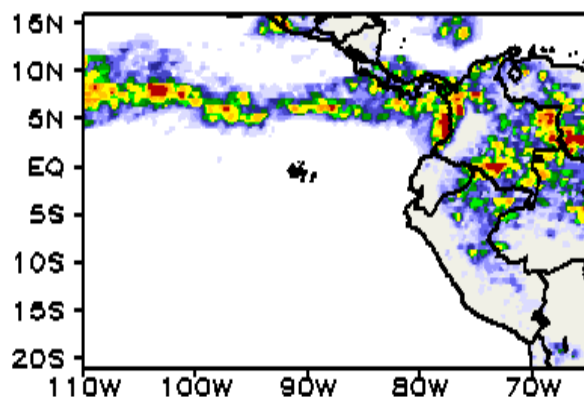
DIAS 11 AL 15



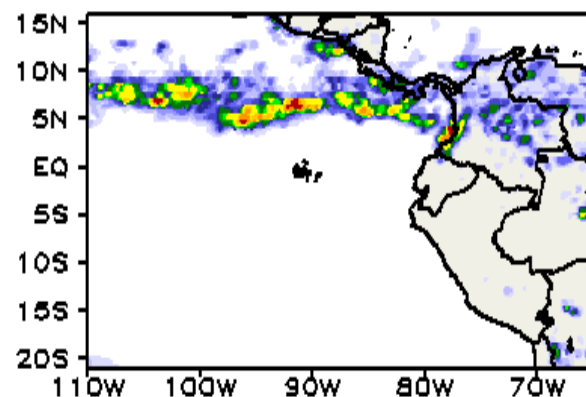
DIAS 16 AL 20



DIAS 21 AL 25



DIAS 26 AL 31

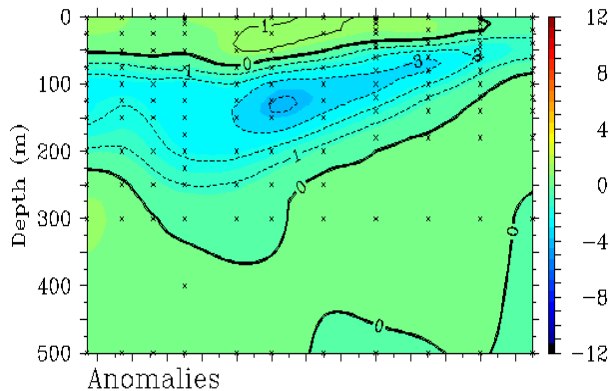


Anomalía de la Temperatura sub-superficial en el Pacífico Ecuatorial

TAO/TRITON 5-Day Mean Temperatures (°C)

Ending on May 5 2016 2°S to 2°N Average

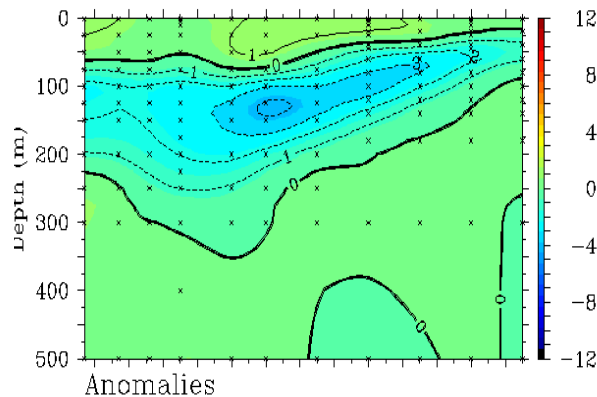
140°E 160°E 180° 160°W 140°W 120°W 100°W



TAO/TRITON 5-Day Mean Temperatures (°C)

Ending on May 10 2016 2°S to 2°N Average

140°E 160°E 180° 160°W 140°W 120°W 100°W



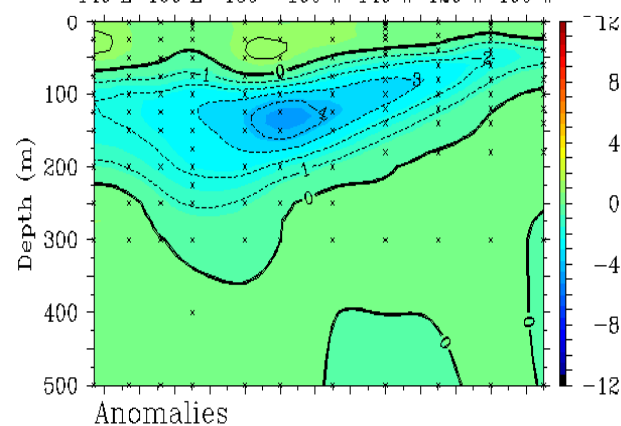
TAO Project Office/PMEL/NOAA

Jun 6 2016

TAO/TRITON 5-Day Mean Temperatures (°C)

Ending on May 15 2016 2°S to 2°N Average

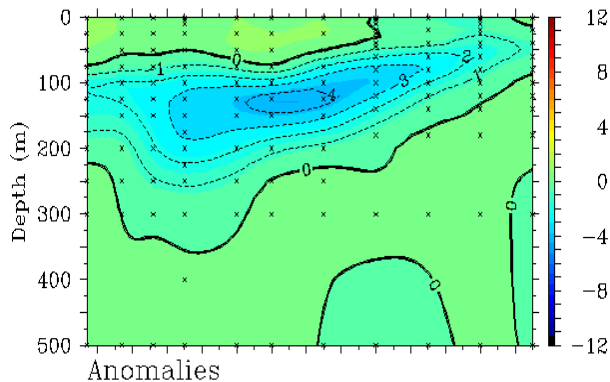
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TAO/TRITON 5-Day Mean Temperatures (°C)

Ending on May 20 2016 2°S to 2°N Average

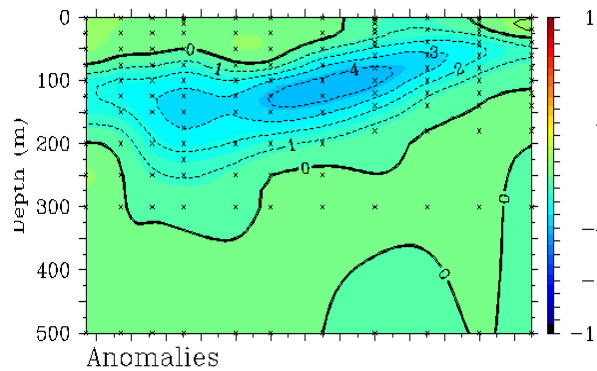
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TAO/TRITON 5-Day Mean Temperatures (°C)

Ending on May 25 2016 2°S to 2°N Average

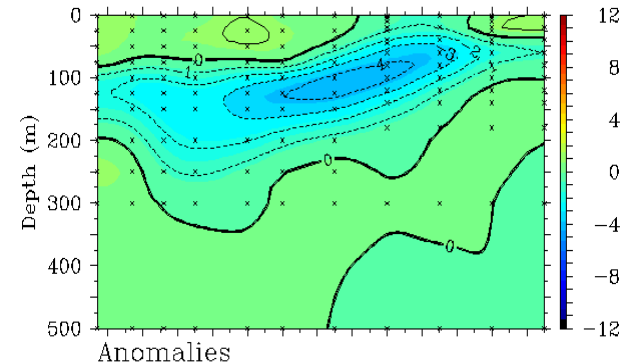
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TAO/TRITON 5-Day Mean Temperatures (°C)

Ending on May 30 2016 2°S to 2°N Average

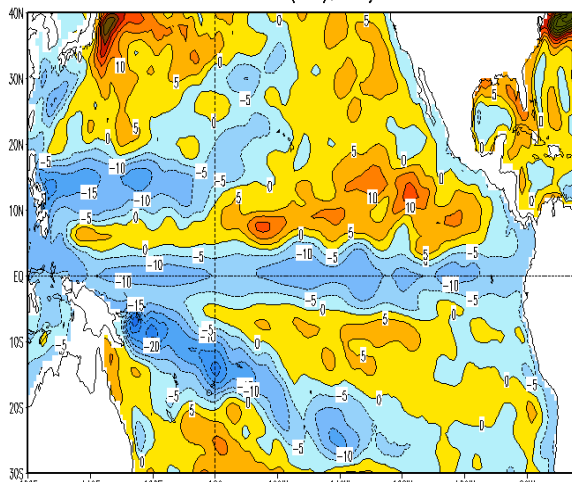
140°E 160°E 180° 160°W 140°W 120°W 100°W



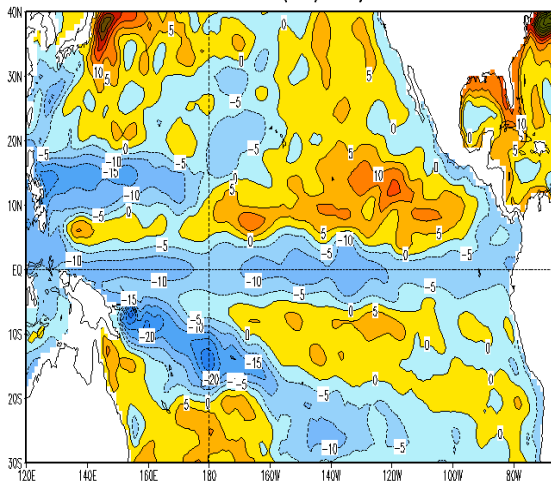


ANOMALÍAS DEL NIVEL DEL MAR EN EL PACÍFICO TROPICAL

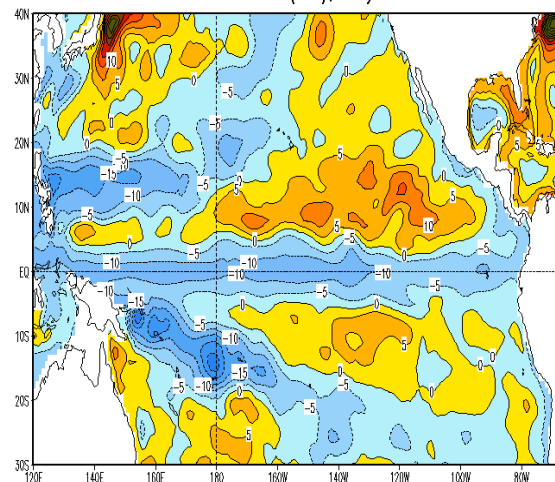
Sea Level Anom (cm), May 03 2016



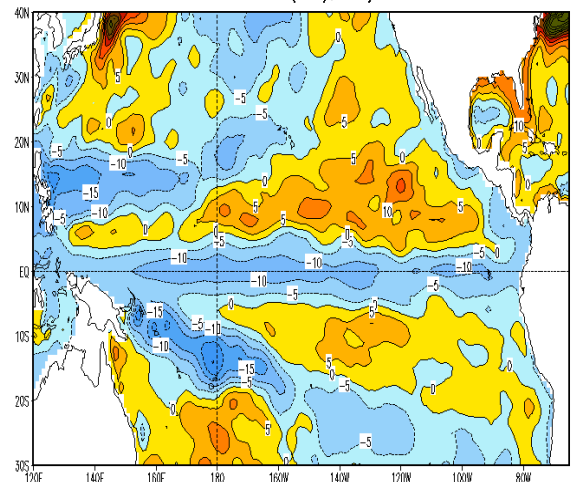
Sea Level Anom (cm), May 08 2016



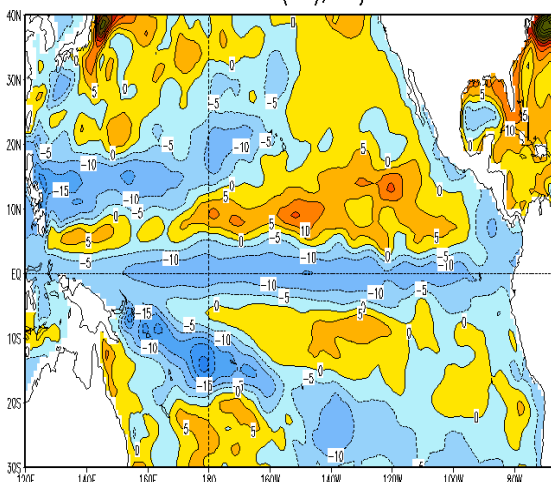
Sea Level Anom (cm), May 13 2016



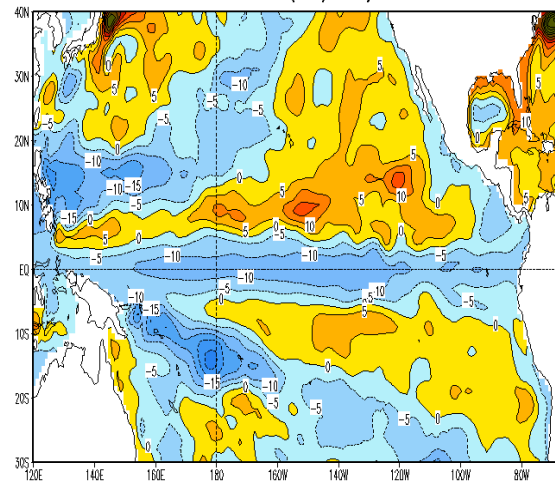
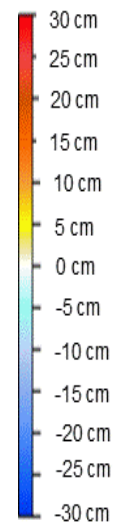
Sea Level Anom (cm), May 18 2016



Sea Level Anom (cm), May 23 2016

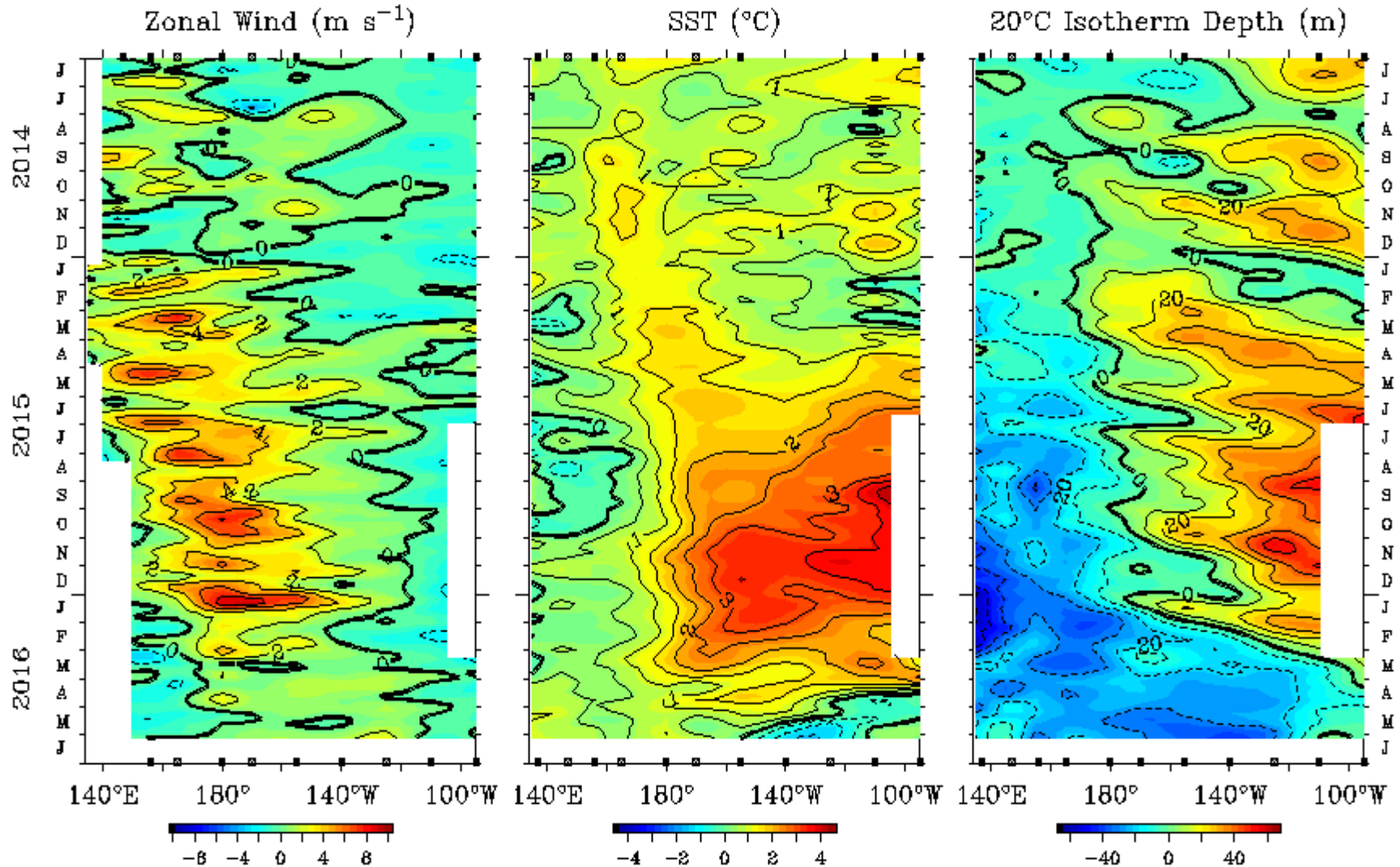


Sea Level Anom (cm), May 28 2016

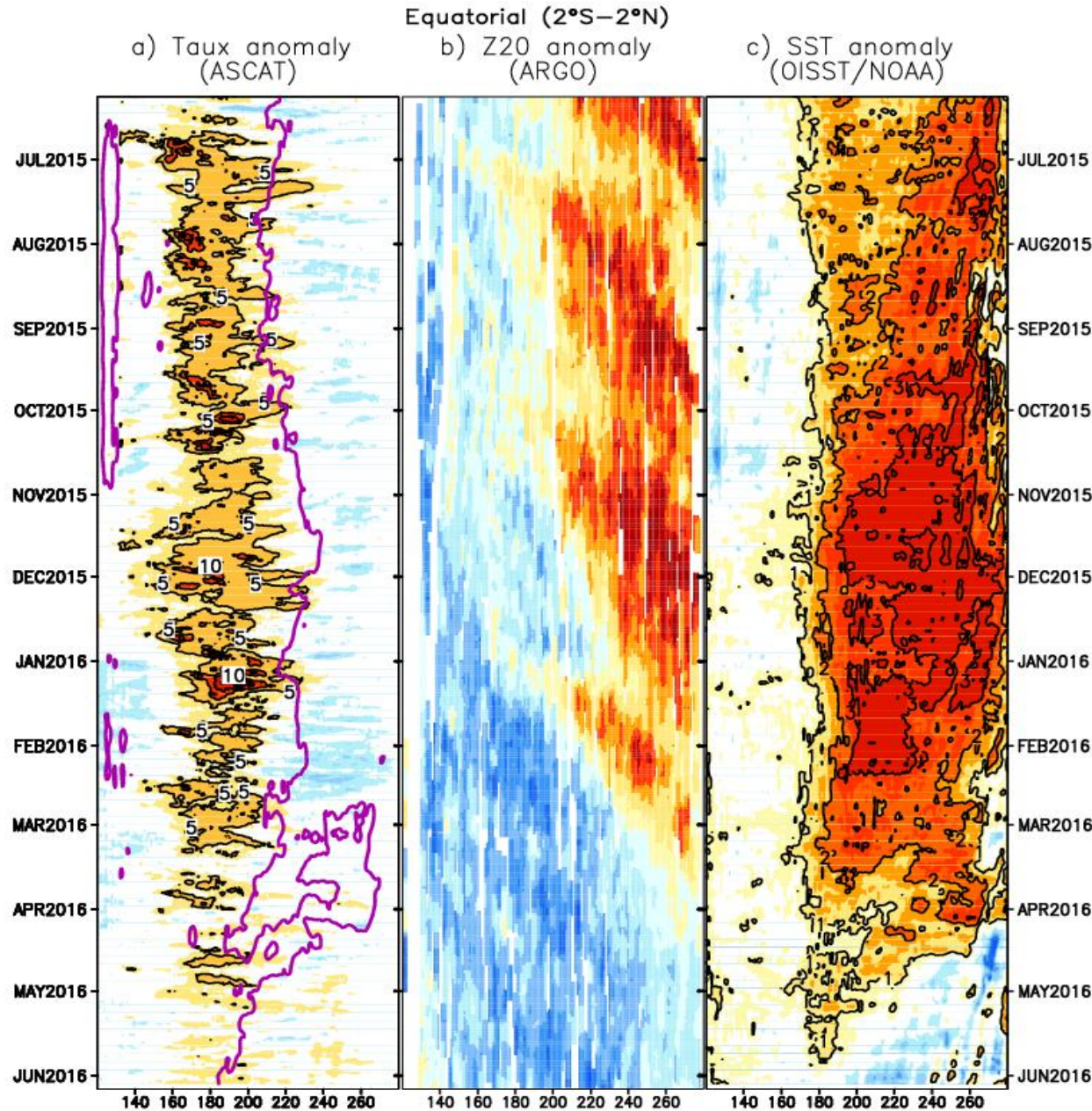


TAO a lo largo de la línea ecuatorial

Five Day Zonal Wind, SST, and 20°C Isotherm Depth Anomalies 2°S to 2°N Average



Esfuerzo de viento, termoclina y ATSM en la línea ecuatorial



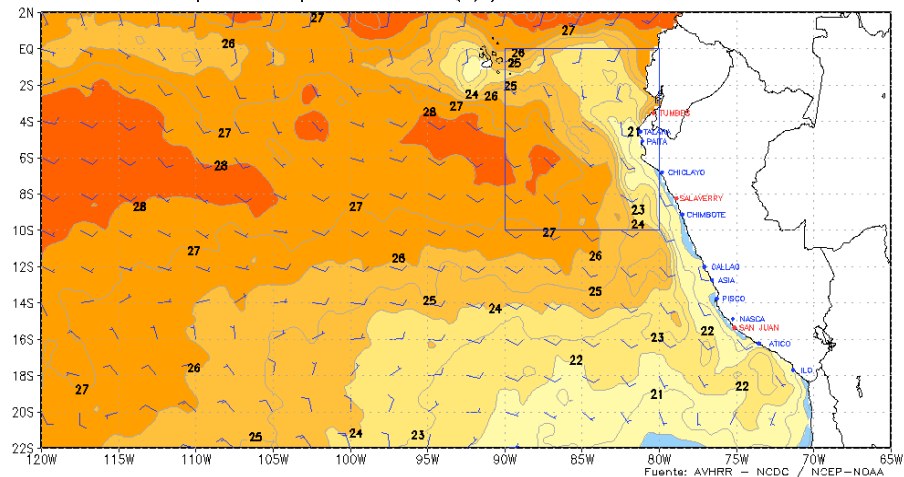
Processing: IGP, Last data: 04APR2016 / Clim:2008–2014(ASCAT corrected with ERA),1980–2009 (GODAS),1981–2010(OISST)



TEMPERATURA SUPERFICIAL DEL MAR EN EL PACÍFICO SUDORIENTAL

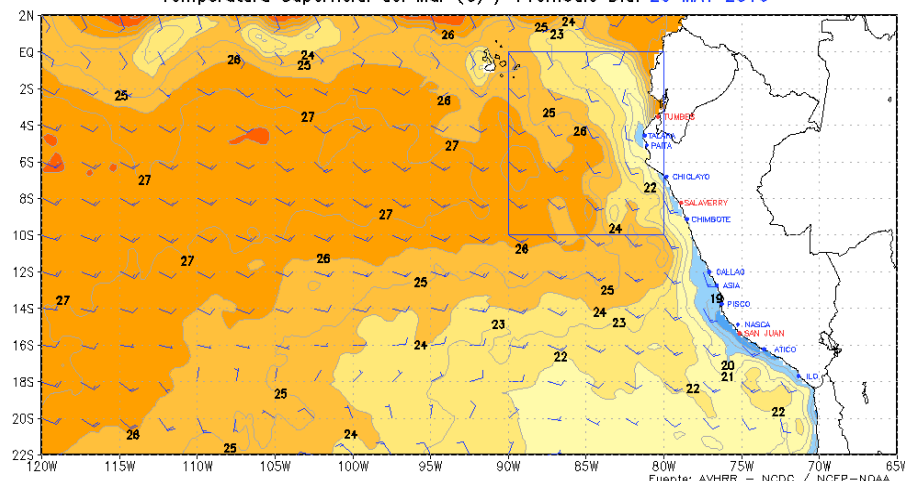
DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Temperatura Superficial del Mar (C) / Promedio Dia: 01 MAY 2016



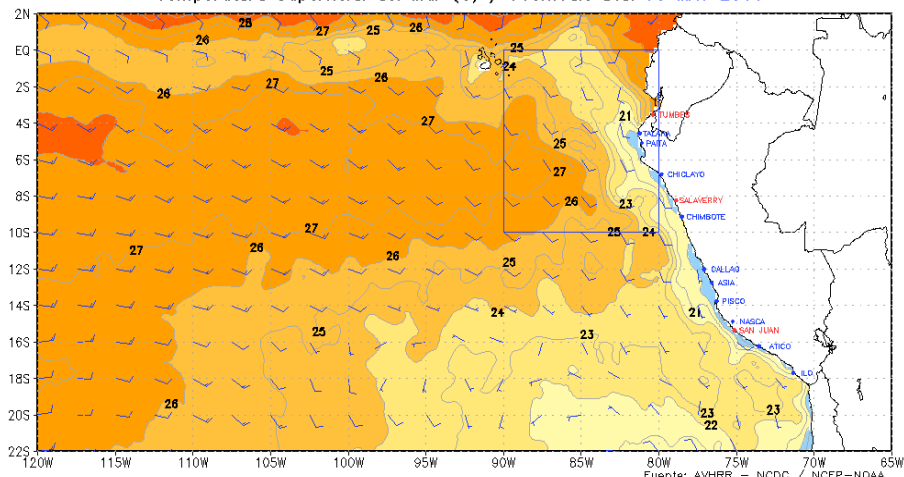
DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Temperatura Superficial del Mar (C) / Promedio Dia: 20 MAY 2016



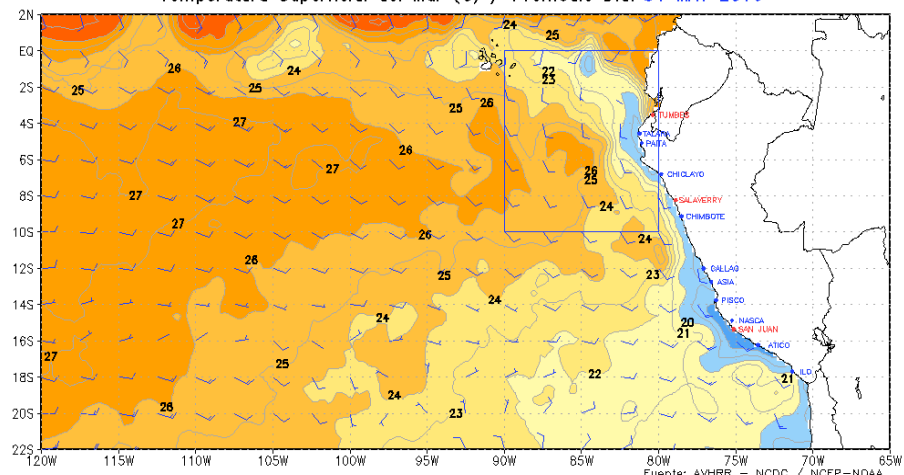
DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Temperatura Superficial del Mar (C) / Promedio Dia: 10 MAY 2016

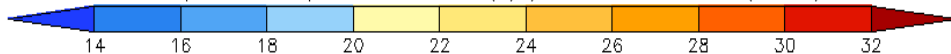


DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Temperatura Superficial del Mar (C) / Promedio Dia: 31 MAY 2016



Temperatura Superficial del Mar (C) / Barbas de viento (nudos)



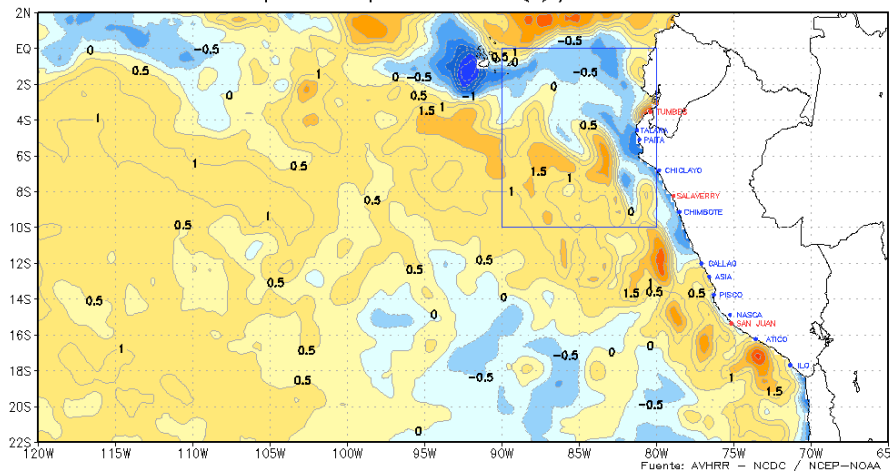
Fuente: Gráficos DHN, Datos NCEP/NOAA



ANOMALÍAS DE LA TEMPERATURA SUPERFICIAL DEL MAR EN EL PACÍFICO SUDORIENTAL

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Anomalia de la Temperatura Superficial del Mar (C) / Promedio Dia: 01 MAY 2016

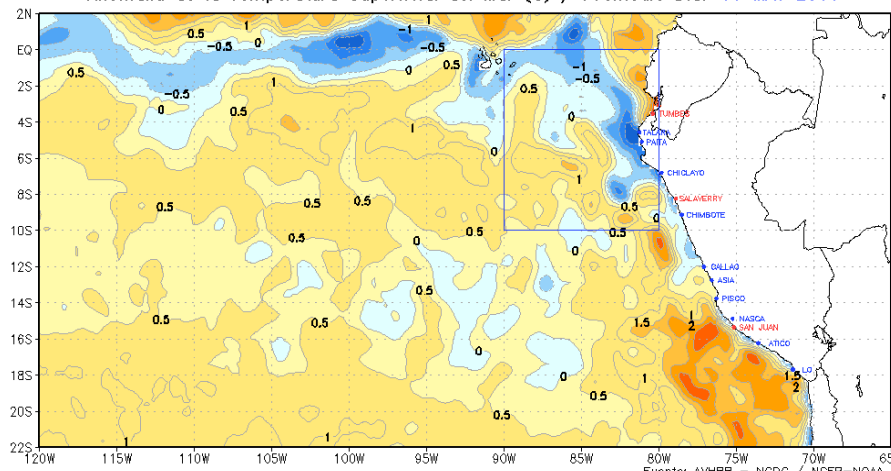


Fuente: AVHRR – NCDC / NCEP–NOAA

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

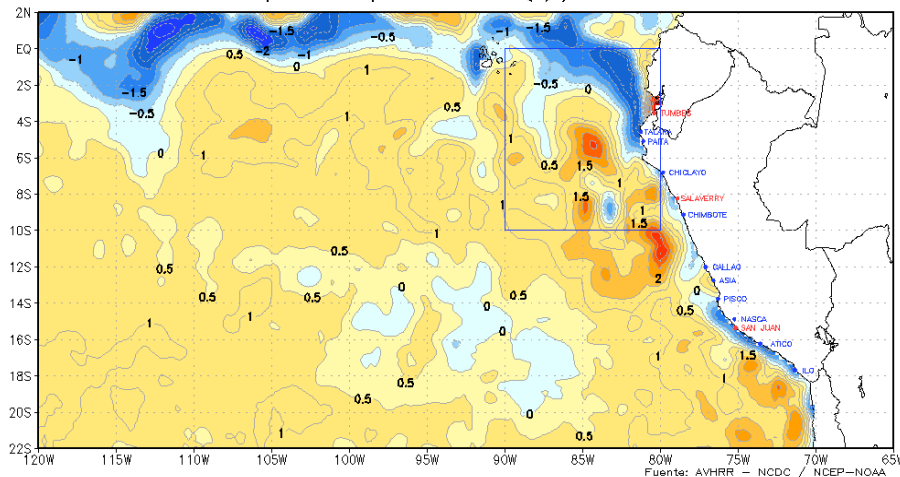
Anomalia de la Temperatura Superficial del Mar (C) / Promedio Dia: 10 MAY 2016



Fuente: AVHRR – NCDC / NCEP–NOAA

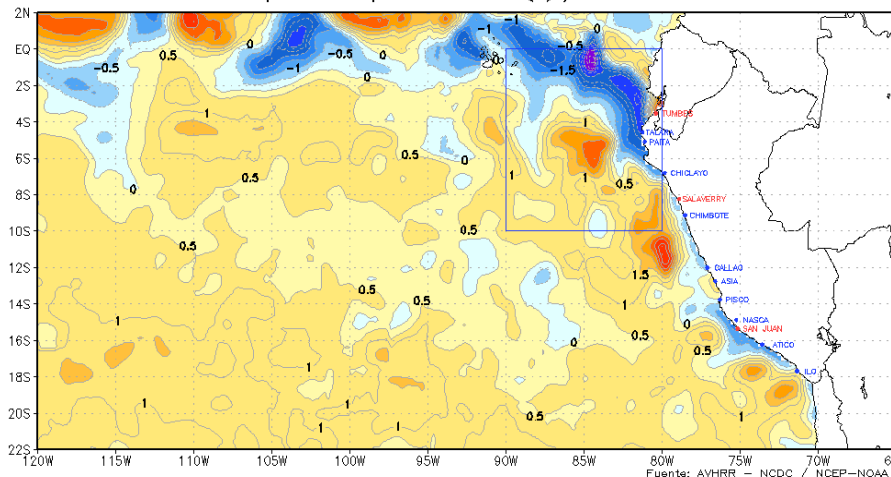
DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Anomalia de la Temperatura Superficial del Mar (C) / Promedio Dia: 20 MAY 2016



Fuente: AVHRR – NCDC / NCEP–NOAA

Anomalia de la Temperatura Superficial del Mar (C) / Promedio Dia: 31 MAY 2016



Fuente: AVHRR – NCDC / NCEP–NOAA

Anomalia de la Temperatura Superficial del Mar (C)



Fuente: Gráficos DHN, Datos NCEP/NOAA

Valores del Índice Costero El Niño

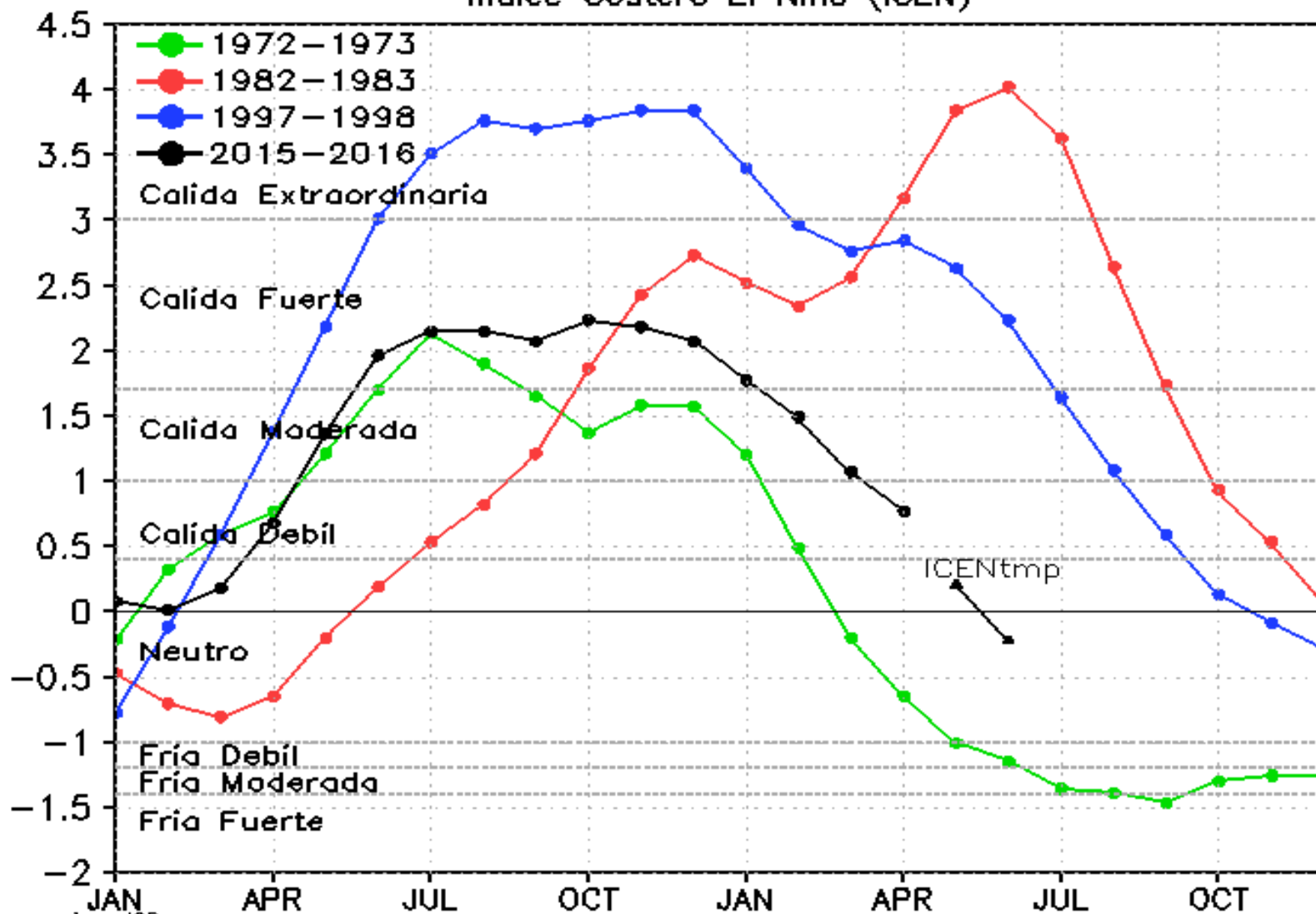
Mes	ICEN	Categoría
08/2015	2.15	Cálida Fuerte
09/2015	2.07	Cálida Fuerte
10/2015	2.23	Cálida Fuerte
11/2015	2.18	Cálida Fuerte
12/2015	2.07	Cálida Fuerte
01/2016	1.77	Cálida fuerte
02/2016	1.49	Cálida Moderada
03/2016	1.07	Cálida Moderada
04/2016	0.77	Cálida Débil

Mes	ICENtmp	Categoría
05/2016	0.21 *	Neutra
06/2016	-0.22**	Neutra

* Se usaron los datos de (Abr. May. 2016) ERSST3v, (Jun. 2016) NMME.

** Se usaron los datos de (May. 2016) ERSST3v, (Jun. Jul 2016) NMME
NMME CI 2016 05

Indice Costero El Nino (ICEN)

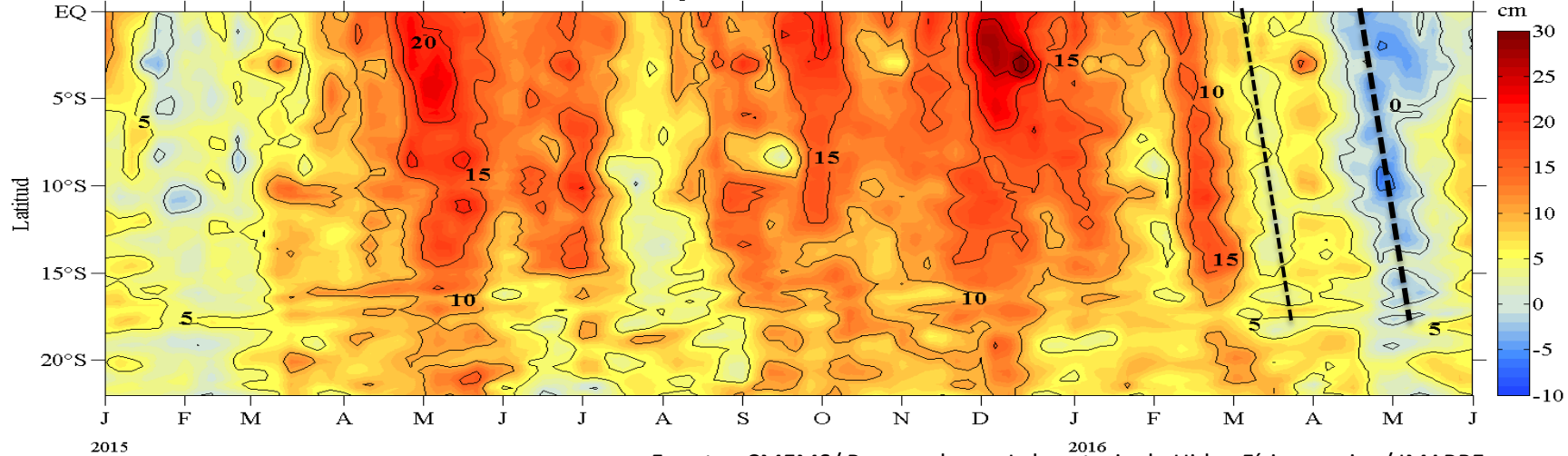


Preparación: IGP.

Actualizado: 03-05-2016.

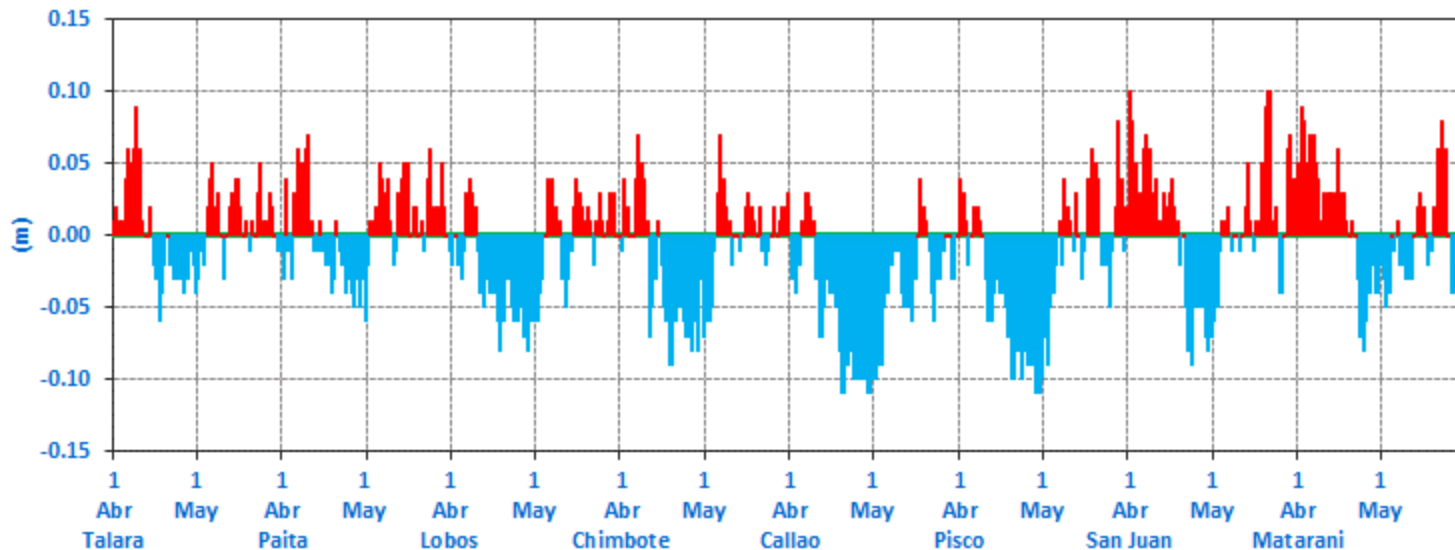
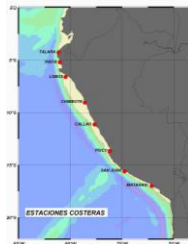
ANOMALÍAS DEL NIVEL MEDIO DEL MAR EN EL LITORAL PERUANO

ANMM en Pentadas(franja 0 - 100 km), Actualizado al 03-Jun-2016



Fuente: CMECS/ Procesado por Laboratorio de Hidro-Física marina/ IMARPE

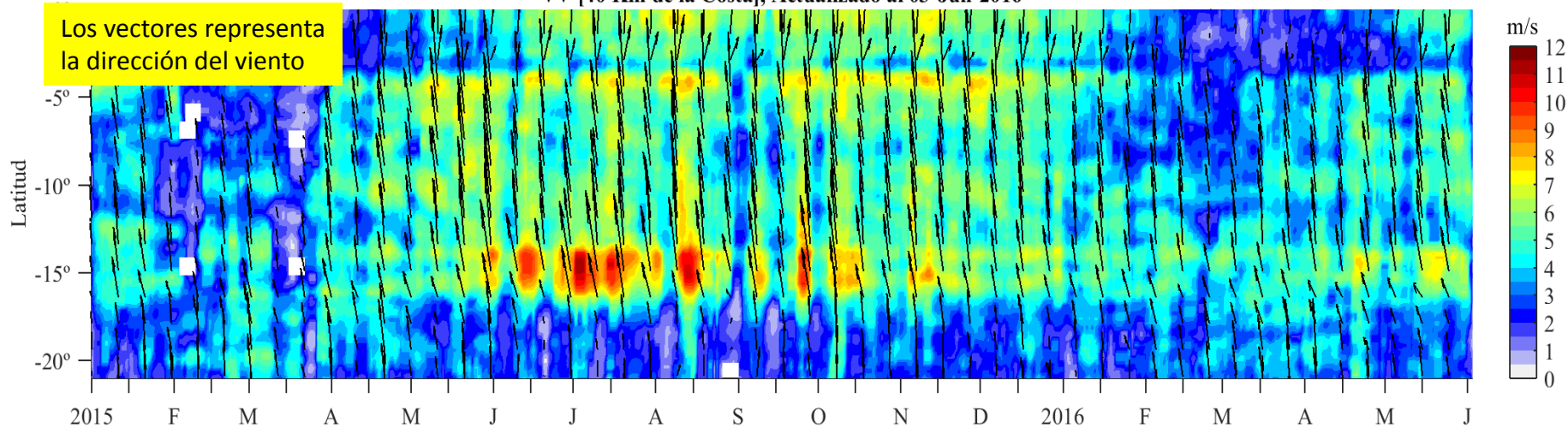
Anomalías Diarias del Nivel del Mar



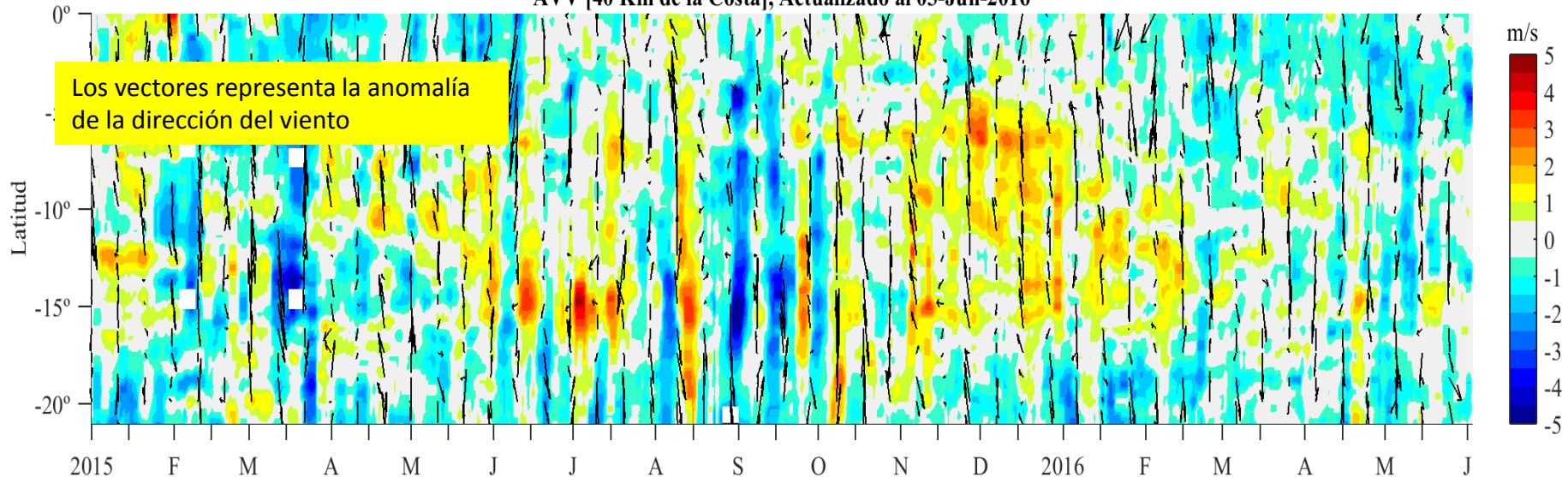
Velocidad y Anomalías del Viento costero



VV [40 Km de la Costa], Actualizado al 03-Jun-2016



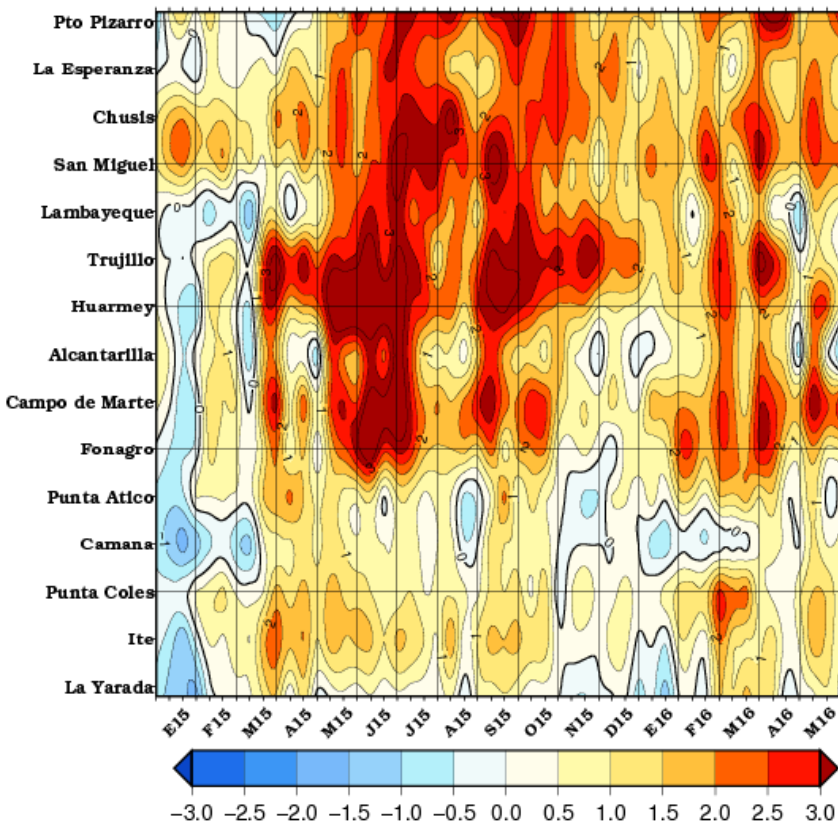
AVV [40 Km de la Costa], Actualizado al 03-Jun-2016



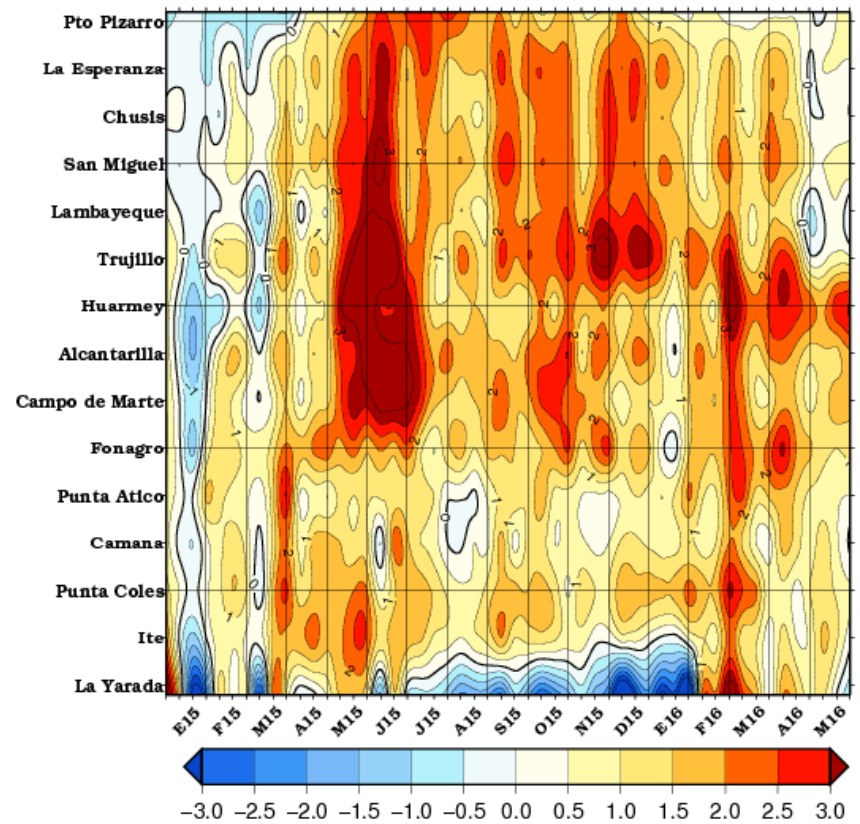
Viento Satelital (40 Km frente a la costa del Perú): a) Velocidad del viento (m/s), b) Anomalía de la velocidad del viento (m/s). Fuente: Satélite ASCAT, Procesamiento: Laboratorio de Hidro-Física Marina, IMARPE

TEMPERATURAS EXTREMAS DEL AIRE

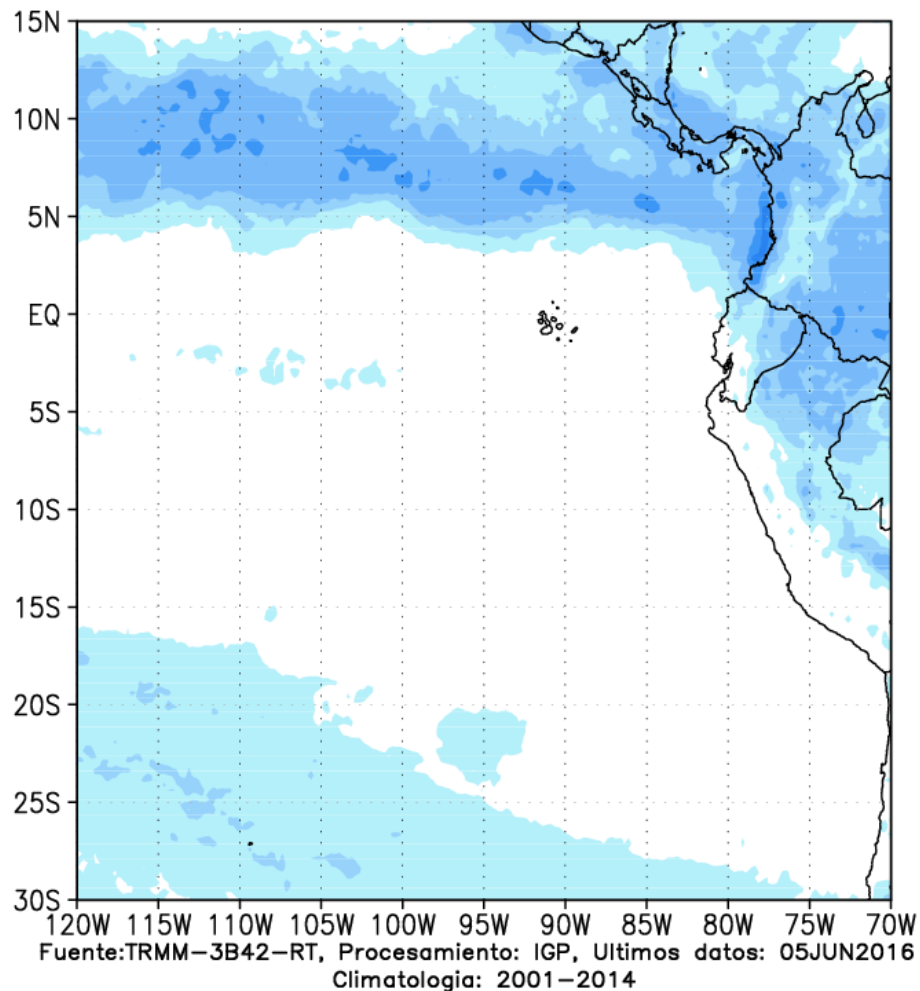
Anomalías de la
Temperatura Máxima



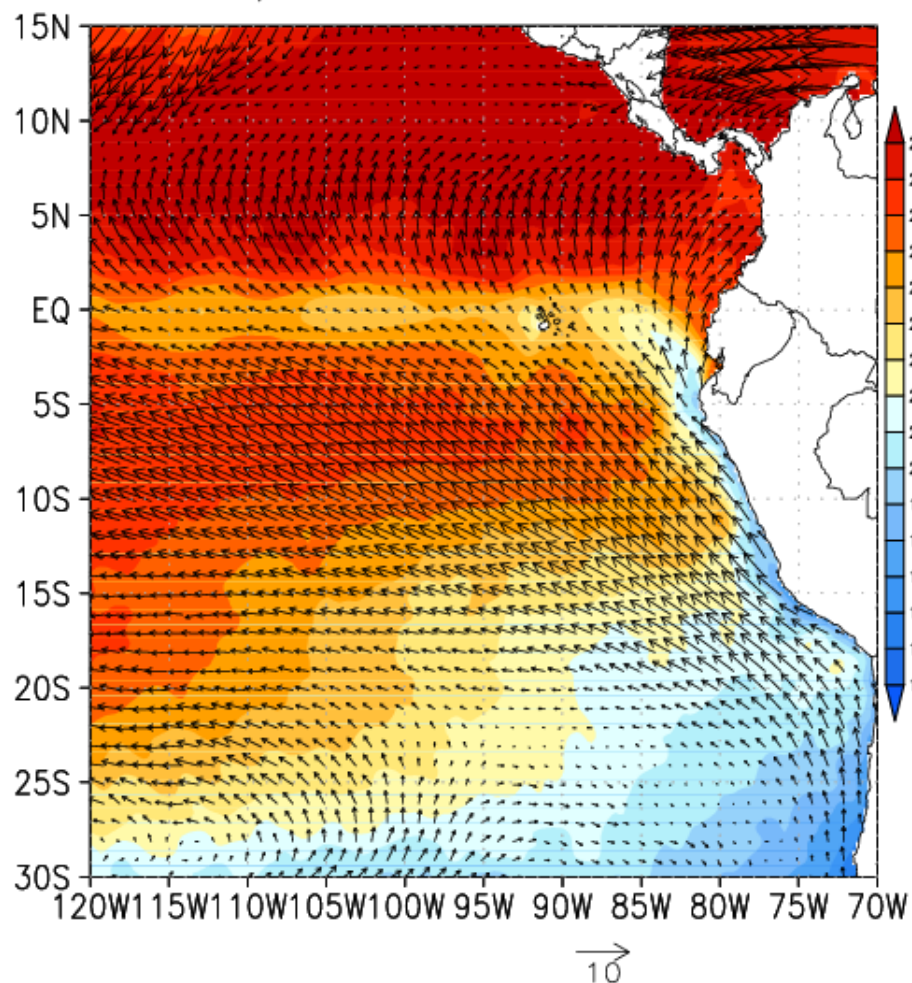
Anomalía de la
Temperatura Mínima



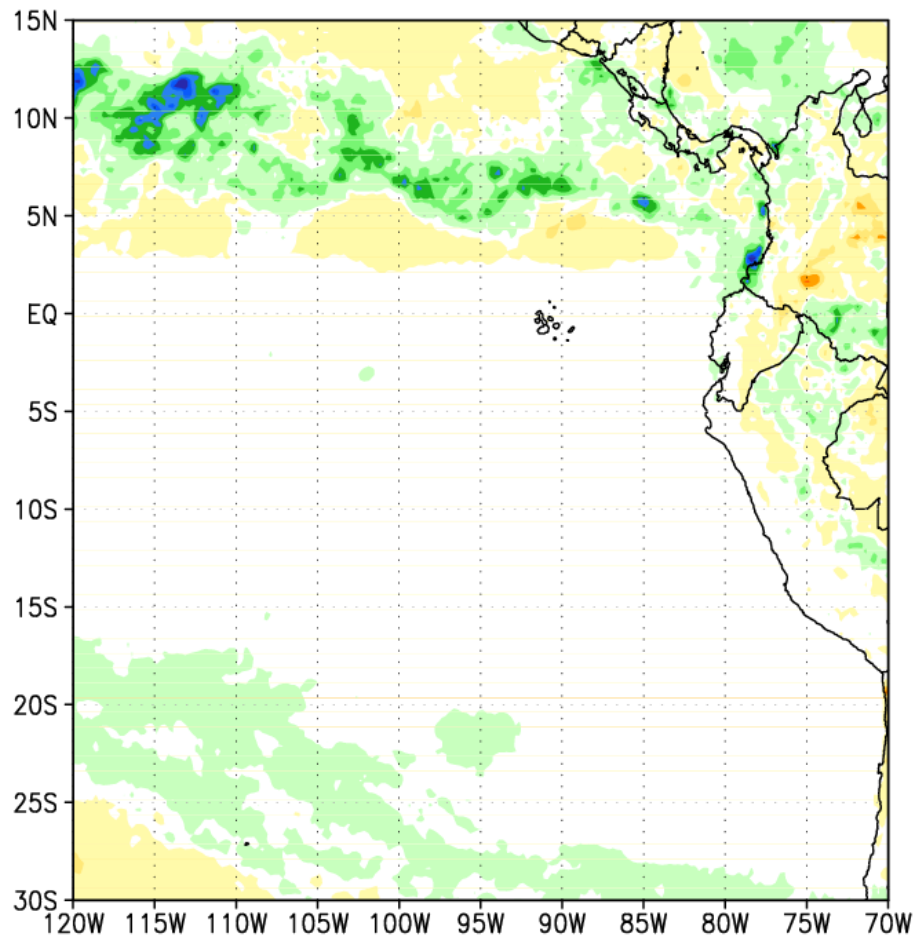
Precipitación promedio (mm/día) últimos 30 días



Temperatura superficial del mar (C) Esfuerzo de viento ($N \cdot m^{-2} \cdot 10^{-2}$) promedio de los últimos 30 días

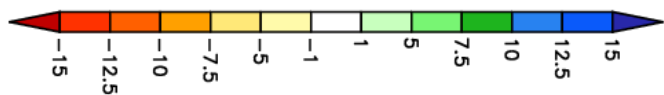


Anomalia de precipitación (mm/día) últimos 30 días

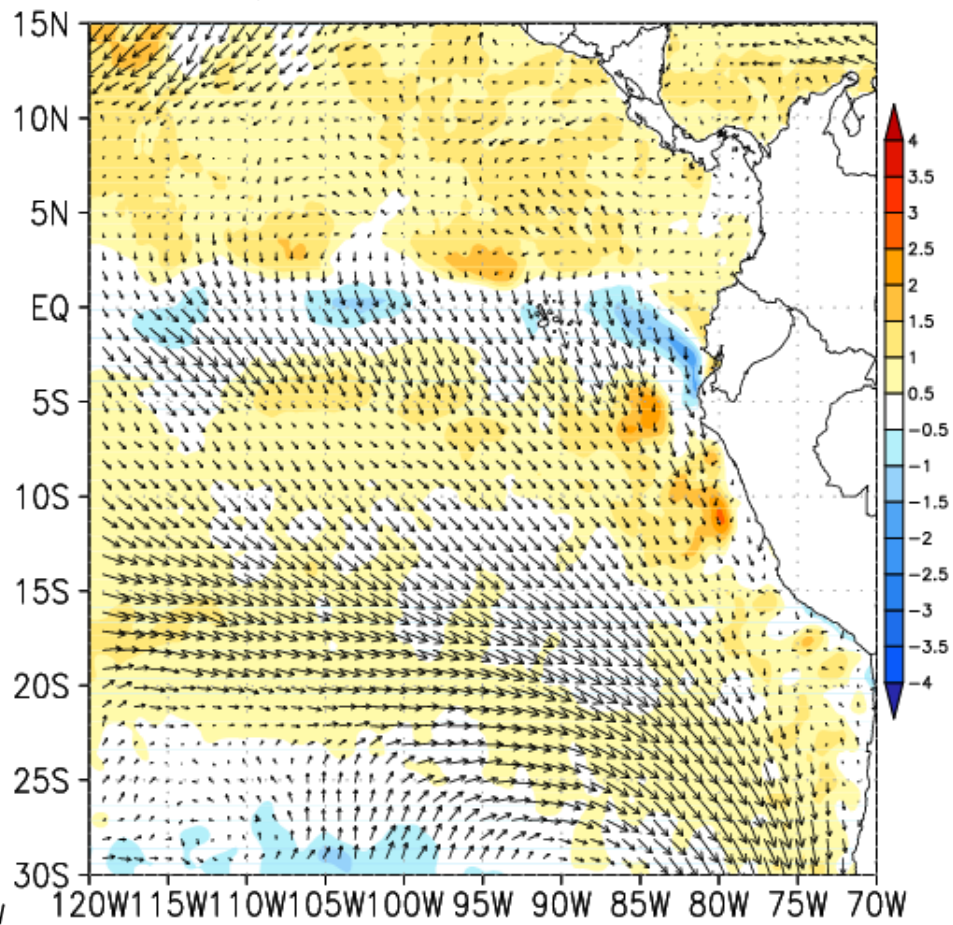


Fuente: TRMM-3B42-RT, Procesamiento: IGP, Últimos datos: 05JUN2016

Climatología: 2001-2014



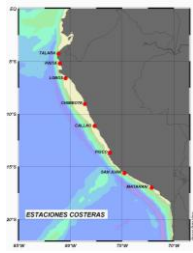
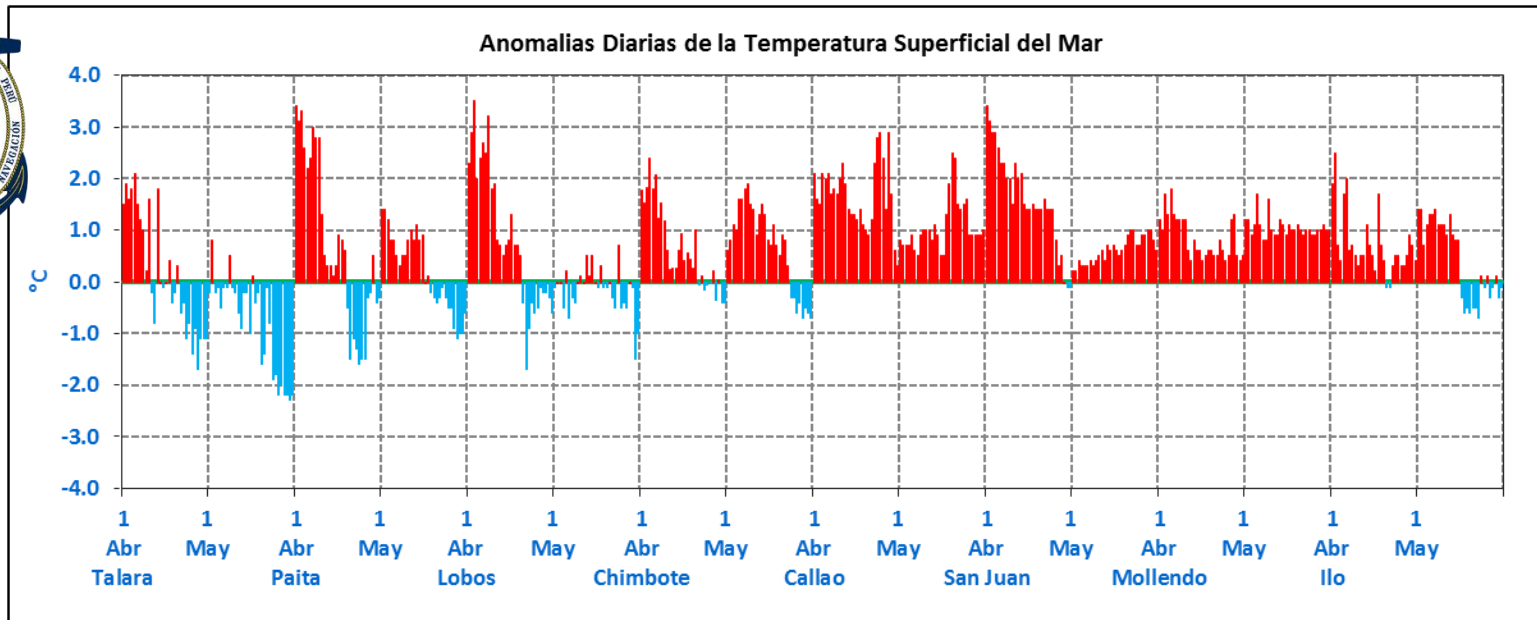
Anomalia de temperatura superficial del mar (C) Anomalia del esfuerzo de viento ($N \cdot m^{-2} \cdot 10^{-2}$) promedio de los últimos 30 días



10

Últimos datos: 04JUN2016

Anomalías de Temperatura Superficial del Mar en el litoral

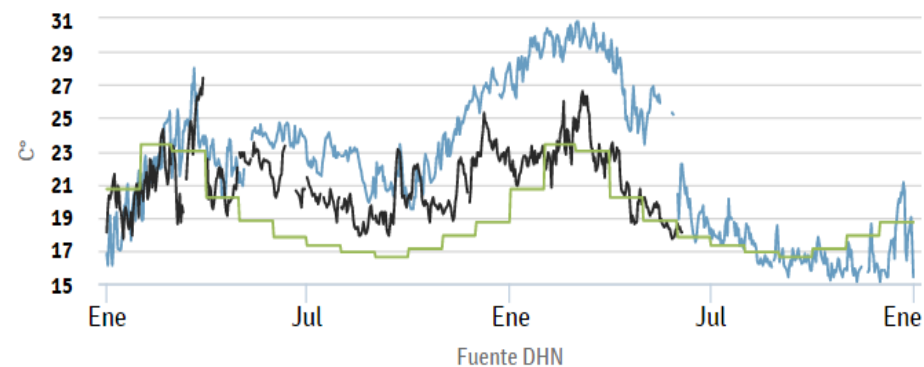


Estación	ATSM (°C) 2015										2016				
	Mar.	Abr.	May.	Jun.	Jul.	Ago.	Set.	Oct.	Nov.	Dic.	Ene.	Feb.	Mar.	Abr.	May.
Talara	-0.1	1.1	3	2.6	2.5	1.2	2.5	3.2	3.0	3.1	21.9 1.3	22.1 -0.8	22.4 0.2	20.8 0.2	18.7 -0.9
Paíta	0.3	0.6	3.7	3.2	2.8	2.1	3.2	3.2	2.8	4.6	22.3 1.6	23.3 -0.1	23.8 0.8	20.9 0.7	19 0.2
Isla Lobos de Afuera	-0.4	0.6	2.2	3.4	2.4	1.4	2.1	2.4	1.7	2.7	22.8 2.4	22.5 0.5	22.7 1.0	21.0 0.9	19.3 -0.3
Chimbote	-0.6	-0.6	2.5	4.6	2.5	2.2	2.4	2	1.3	1.5	24.5 2.7	25.2 2.4	25.7 3.2	24.5 3.2	20.9 0.7
Callao	-0.4	0.1	2.5	3.2	2.1	1.7	1.8	2.1	2.2	3.1	19.8 3.5	20.0 2.9	19.3 1.7	19.0 1.7	17.9 1.1
San Juan	0.1	0.3	0.8	1.6	0.8	1	1.1	1	1.7	1.7	17.7 2.0	17.7 1.8	17.3 1.4	16.8 1.6	15.4 0.6
Mollendo	0.5	0.7	1.2	1.7	1.5	0.8	2.3	1.5	1.0	1.2	19.5 2.3	19.5 2.4	18.9 1.9	17.1 0.8	16.9 1.0
Ilo	0.8	0.5	1.1	1.6	1.9	0.7	1.8	1.5	1.1	1.7	19.1 2.0	19.4 2.5	18.6 1.8	17.3 0.7	16.6 0.4

Anomalías de Temperatura Superficial del Mar en el litoral



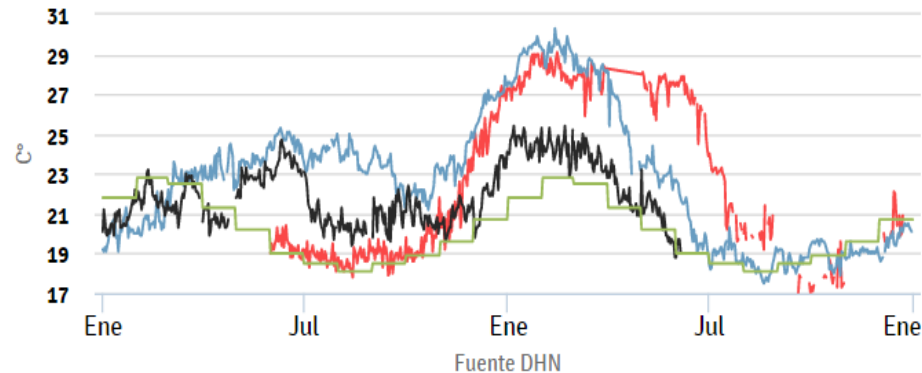
Temperatura Superficial del Mar Paita (°C)



● 1997 - 1998 ■ 2015 - 2016 ▲ C. Mensual

Oficina de Base de Datos

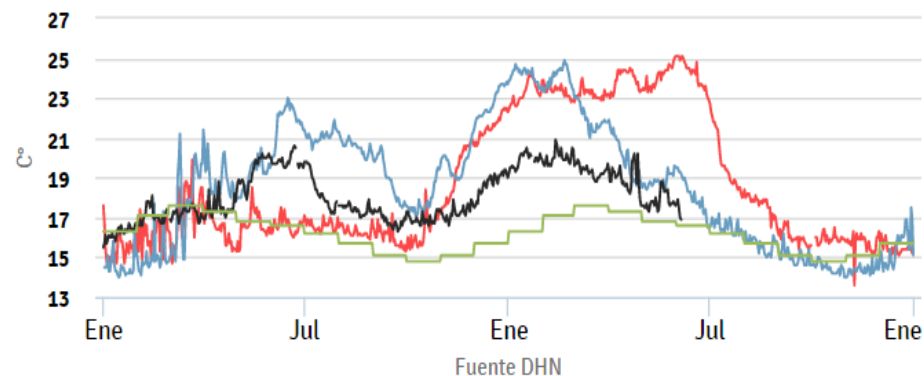
Temperatura Superficial del Mar Chimbote (°C)



● 1982 - 1983 ● 1997 - 1998 ■ 2015 - 2016 ▲ C. Mensual

Oficina de Base de Datos

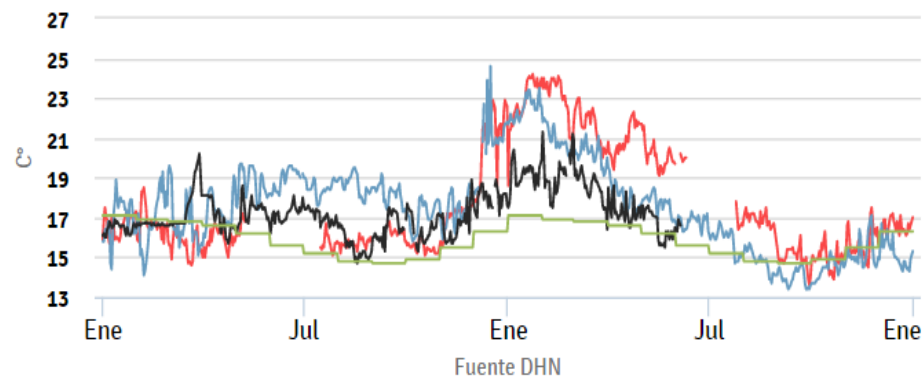
Temperatura Superficial del Mar Callao (°C)



● 1982 - 1983 ● 1997 - 1998 ■ 2015 - 2016 ▲ C. Mensual

Oficina de Base de Datos

Temperatura Superficial del Mar Ilo (°C)



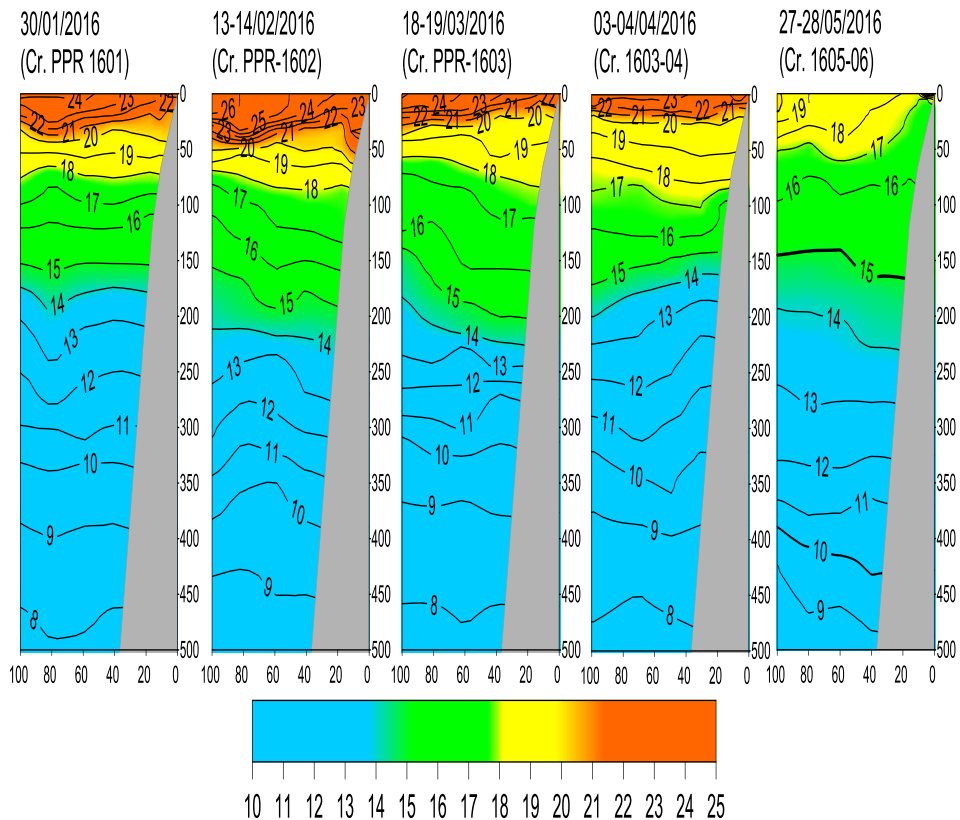
● 1982 - 1983 ● 1997 - 1998 ■ 2015 - 2016 ▲ C. Mensual

Oficina de Base de Datos

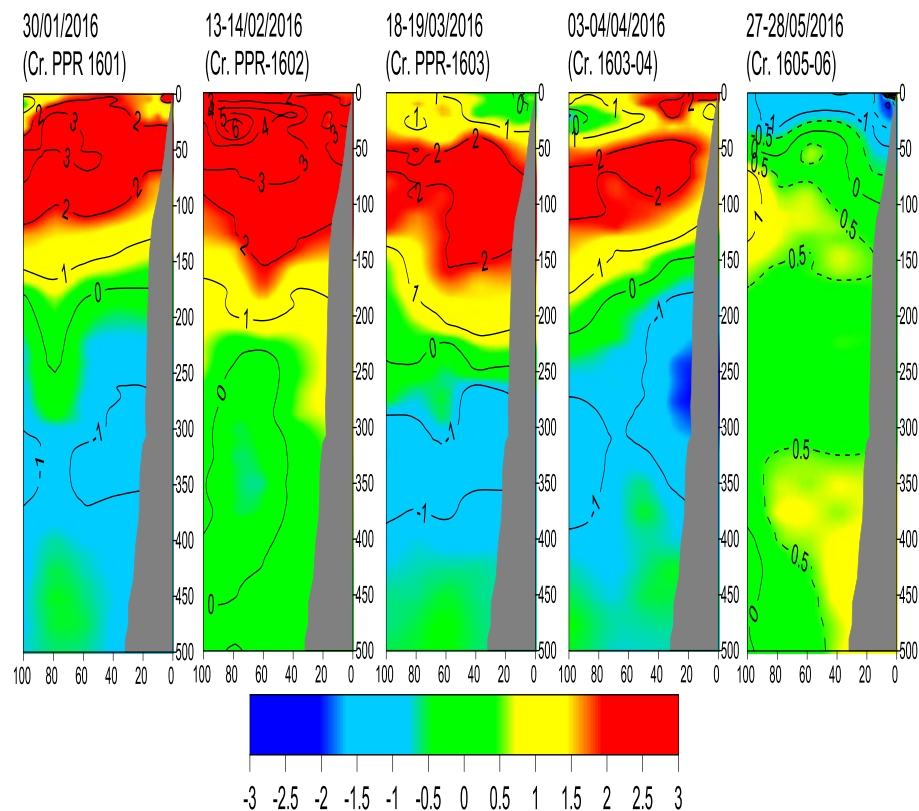
Sección Paita (Temperatura y anomalías térmicas)



TEMPERATURA (°C) DE LA SECCION PAITA



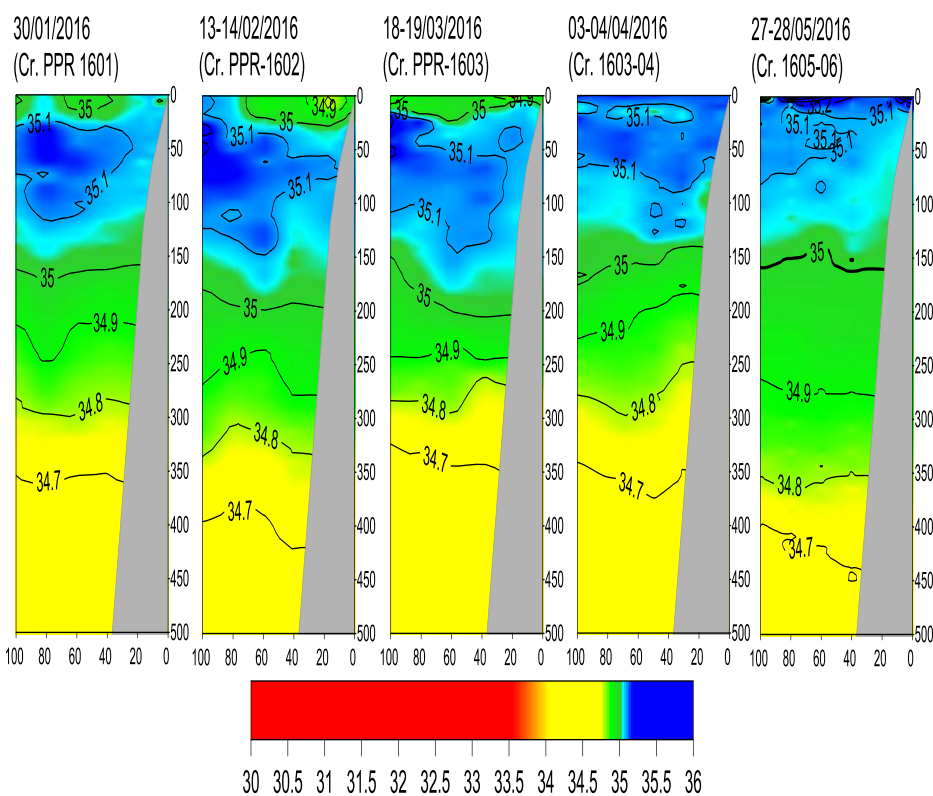
ANOMALIAS TERMICAS (°C) DE LA SECCION PAITA



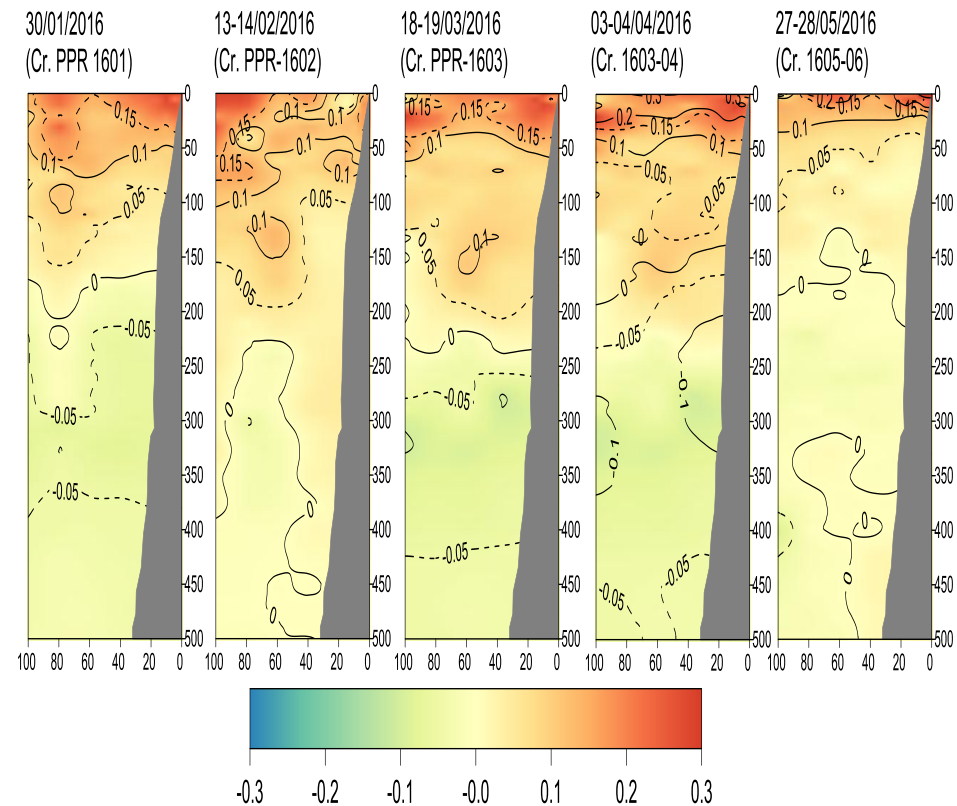
Sección Paita (Salinidad y anomalías halinas)



SALINIDAD (ups) DE LA SECCION PAITA



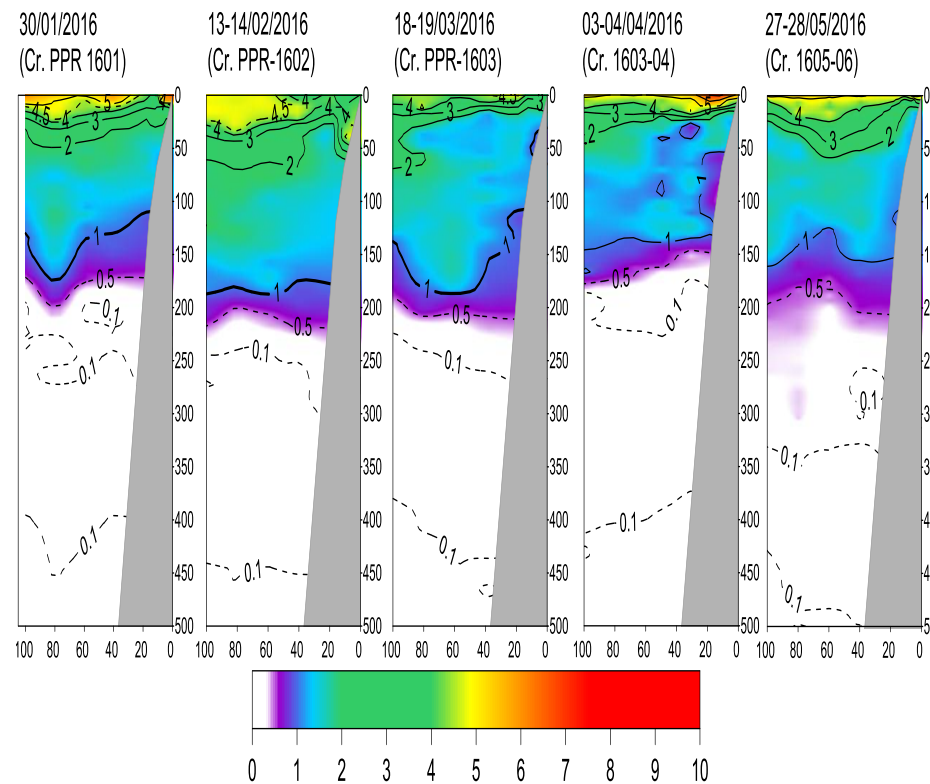
ANOMALIAS HALINAS (ups) DE LA SECCION PAITA



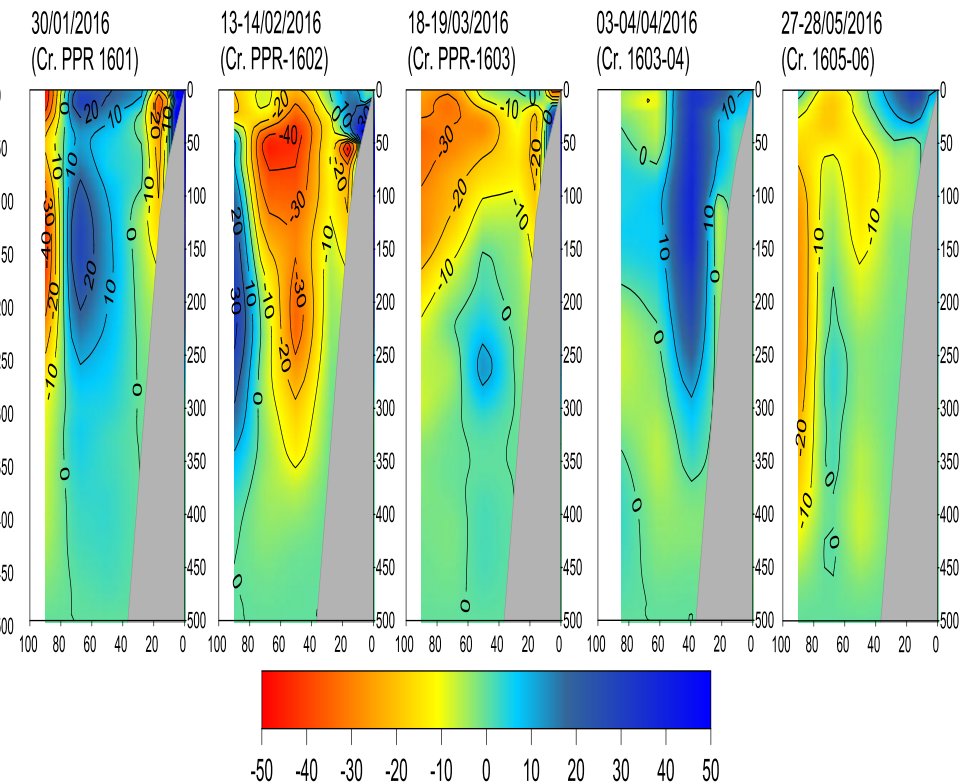
Sección Paita (Oxígeno y velocidad geostrofica)



OXIGENO DISUELTO (mL/L) DE LA SECCION PAITA



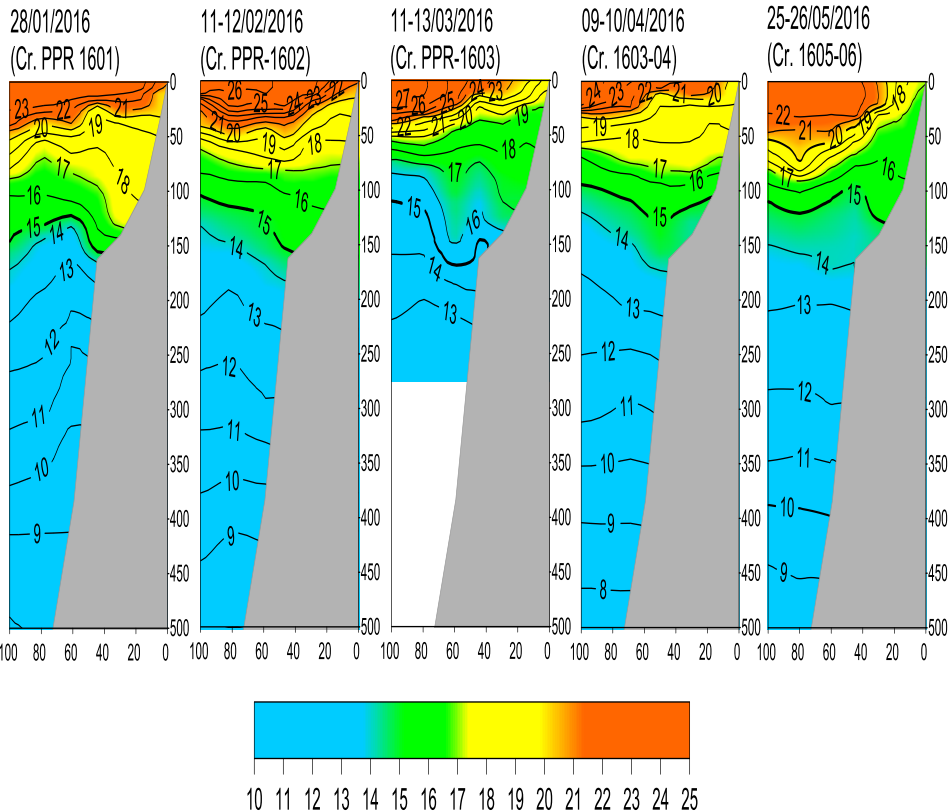
VELOCIDAD GEOSTROFICA (cm/s) DE LA SECCION PAITA



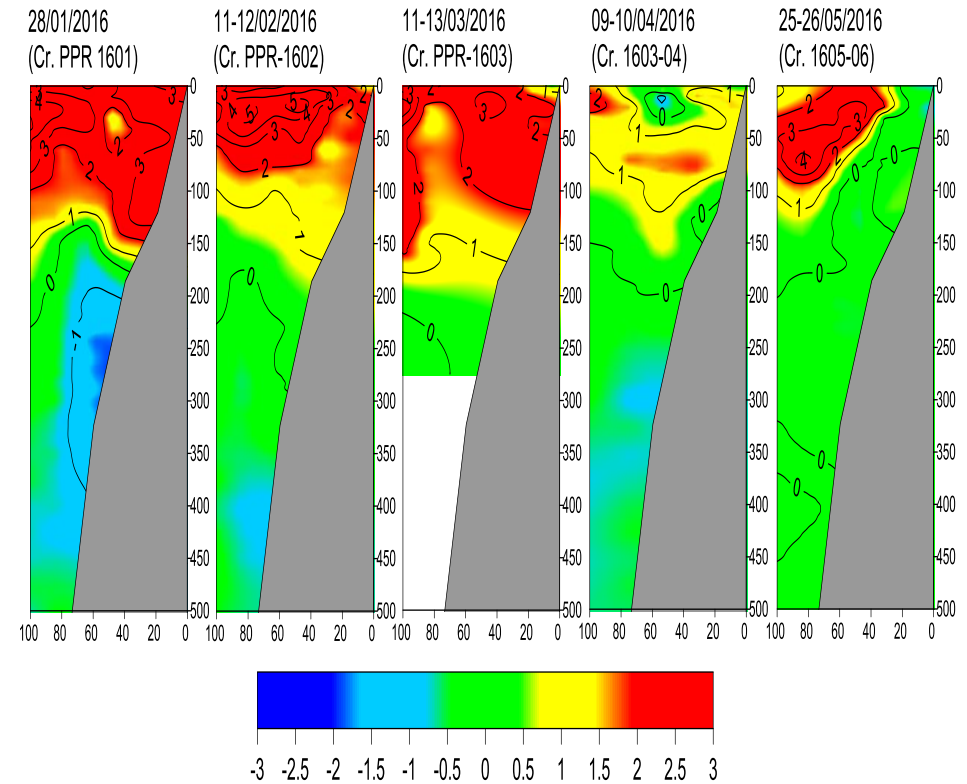
Sección Chicama (Temperatura y anomalías térmicas)



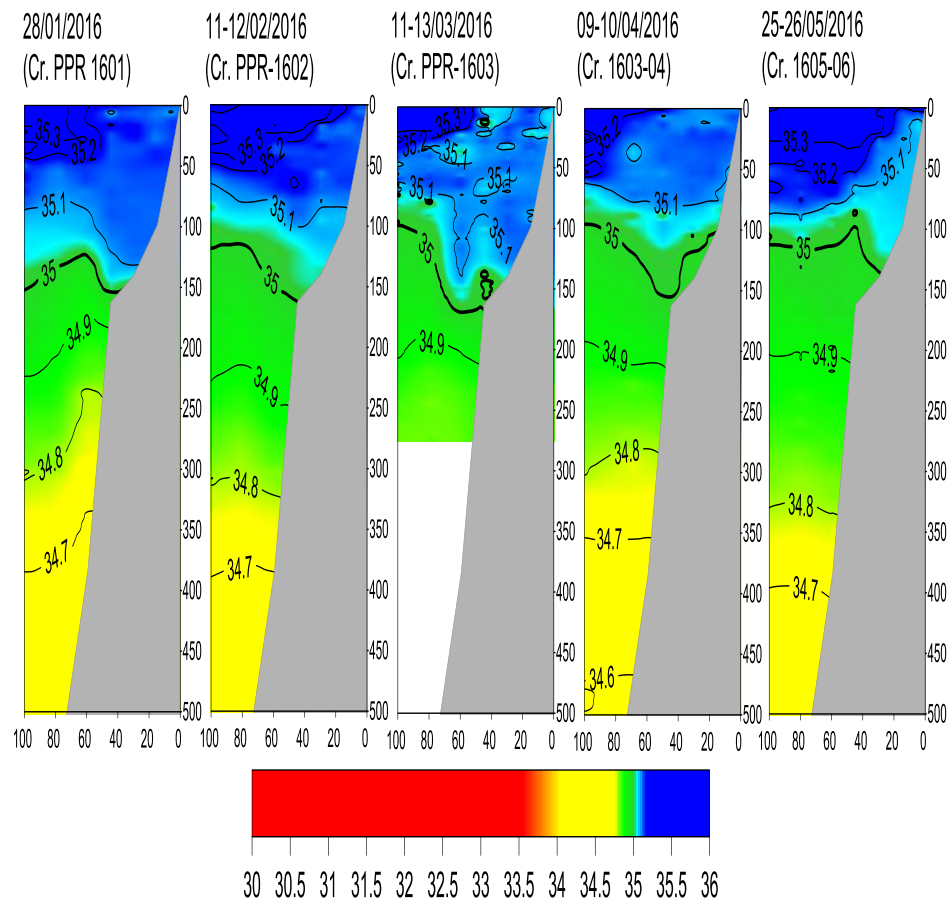
TEMPERATURA (°C) DE LA SECCION CHICAMA



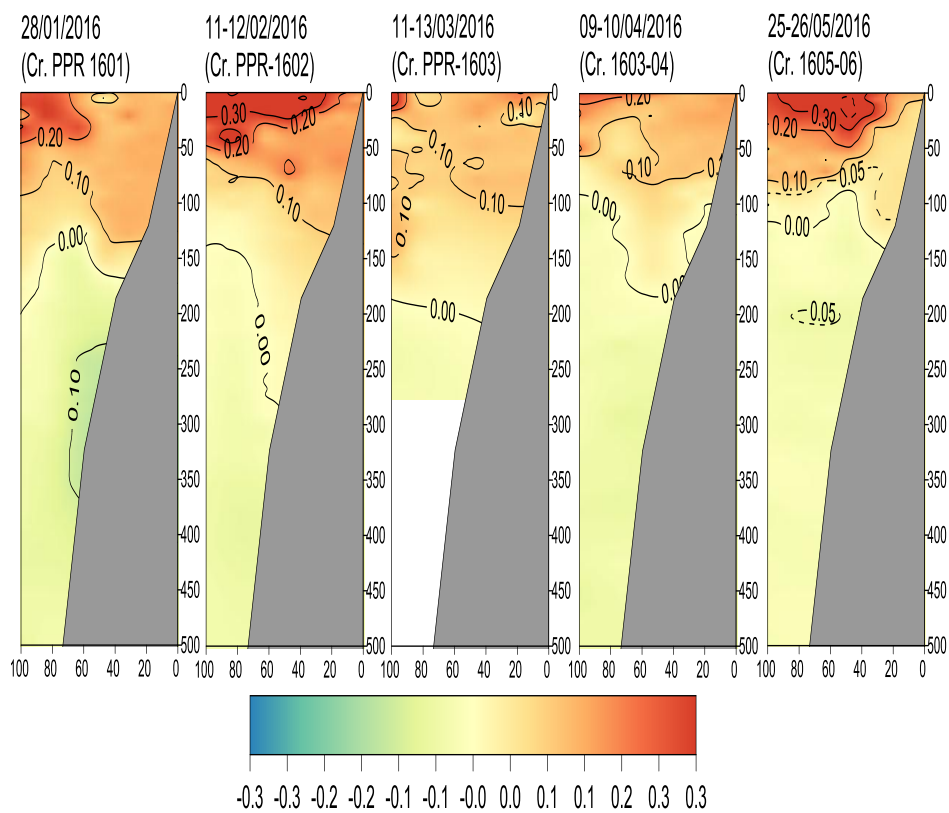
ANOMALIAS TERMICAS (°C) DE LA SECCION CHICAMA



SALINIDAD (ups) DE LA SECCION CHICAMA



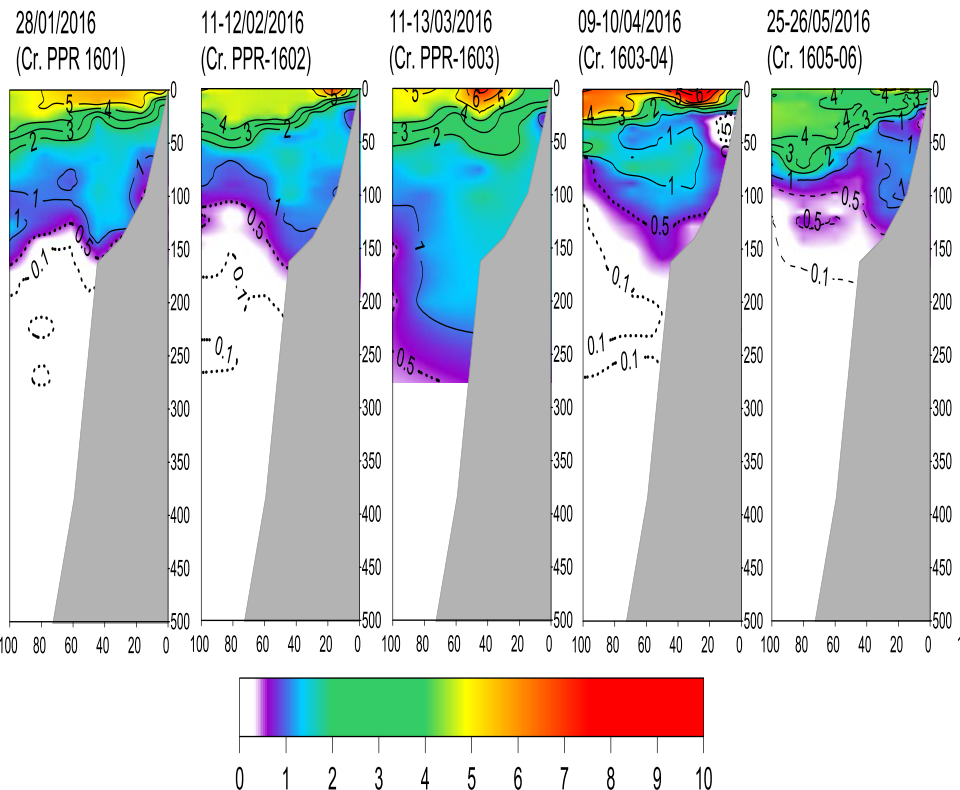
ANOMALIAS HALINAS (ups) DE LA SECCION CHICAMA



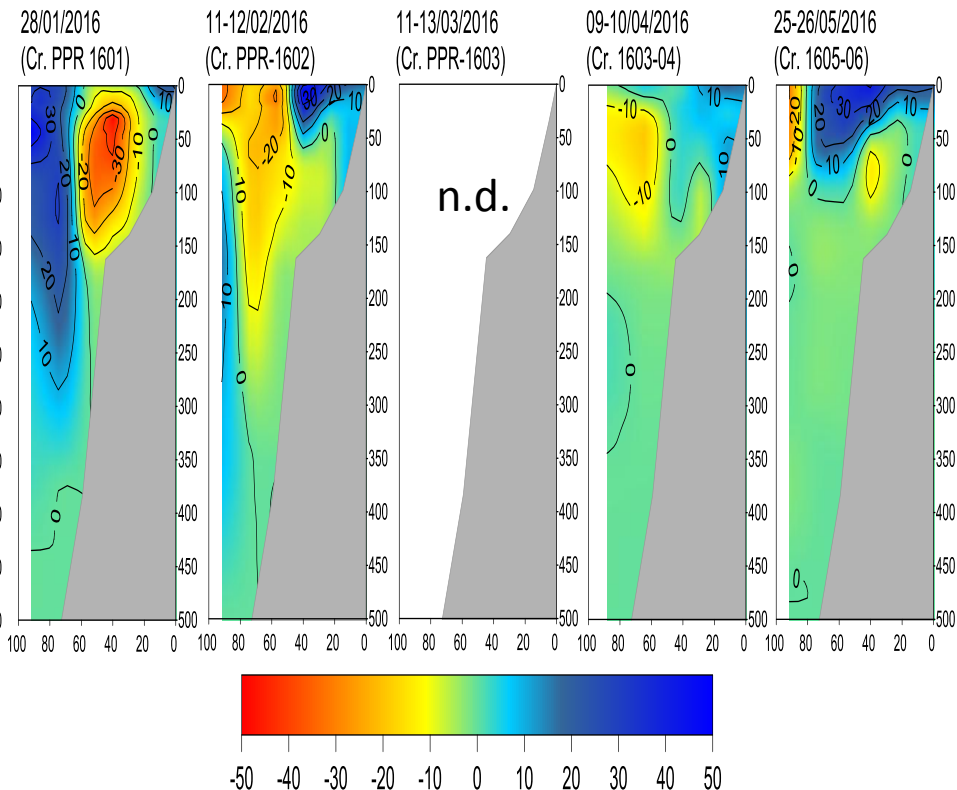
Sección Chicama (Oxígeno y velocidad geostrofica)



OXIGENO DISUELTO (mL/L) DE LA SECCION CHICAMA



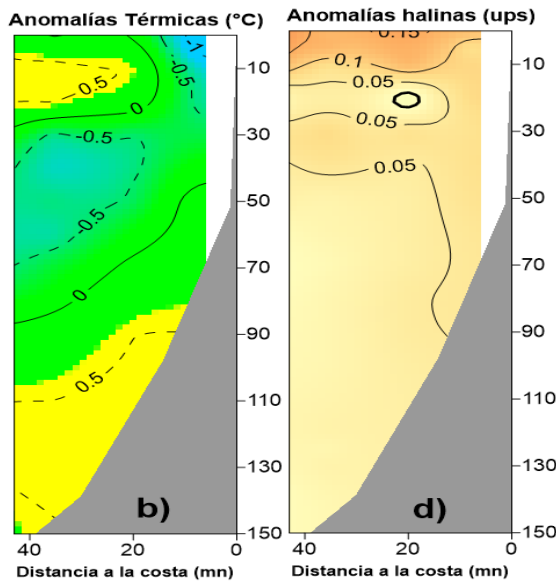
VELOCIDAD GEOSTROFICA (cm/s) DE LA SECCION CHICAMA



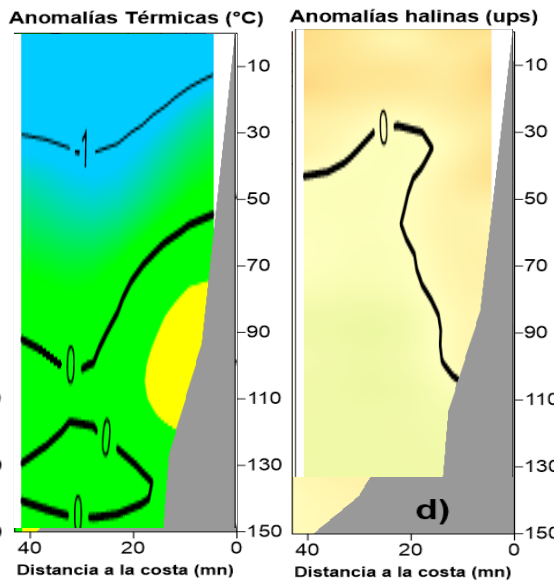
Secciones Chimbote, Callao y Pisco (24 – 29.05)



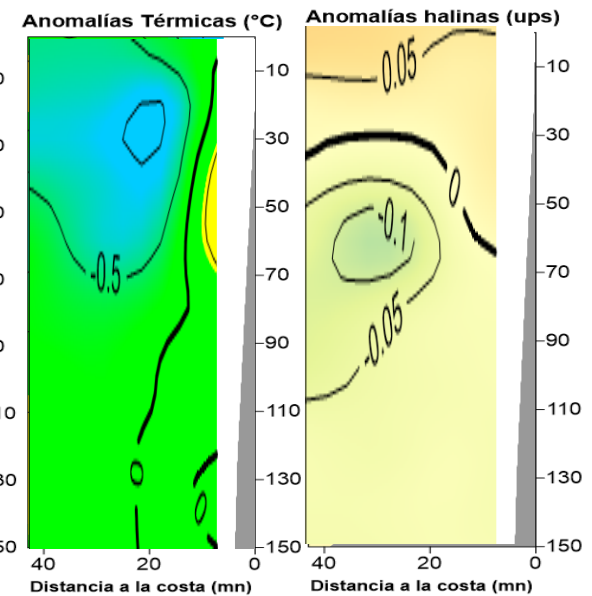
Sección: Chimbote (26 mayo 2016)



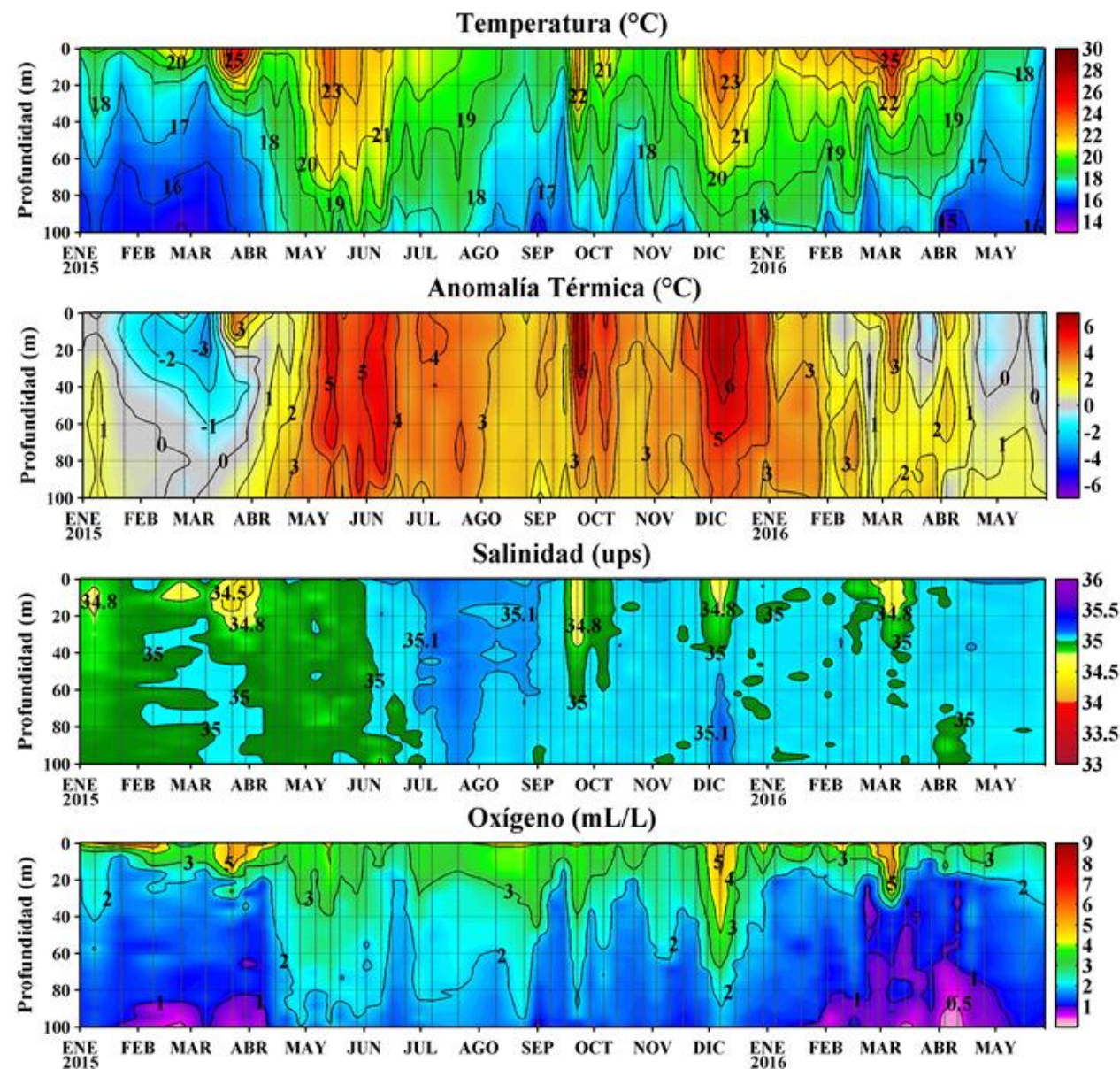
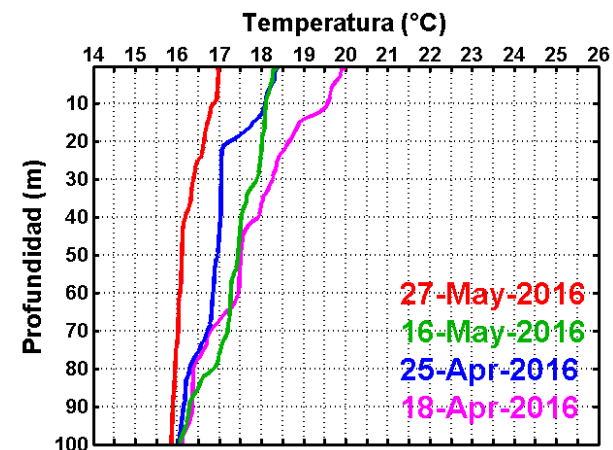
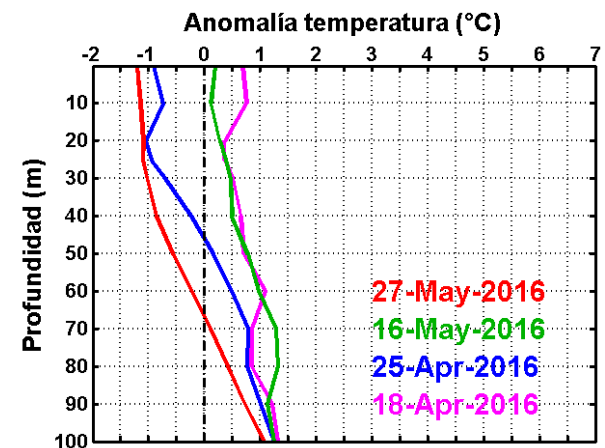
Sección: Callao (24-25 mayo 2016)



Sección: Pisco (28-29 mayo 2016)



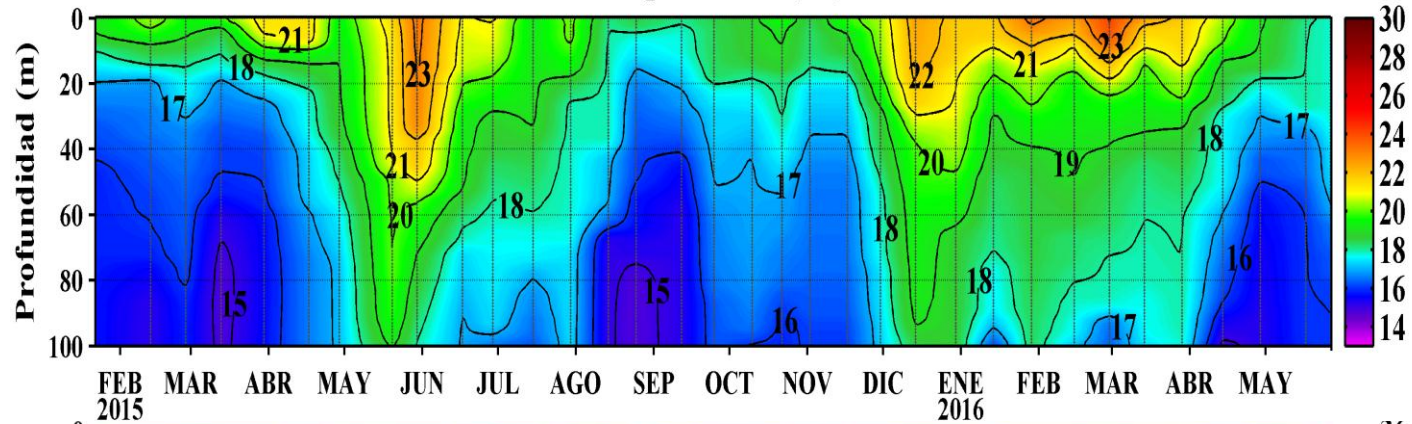
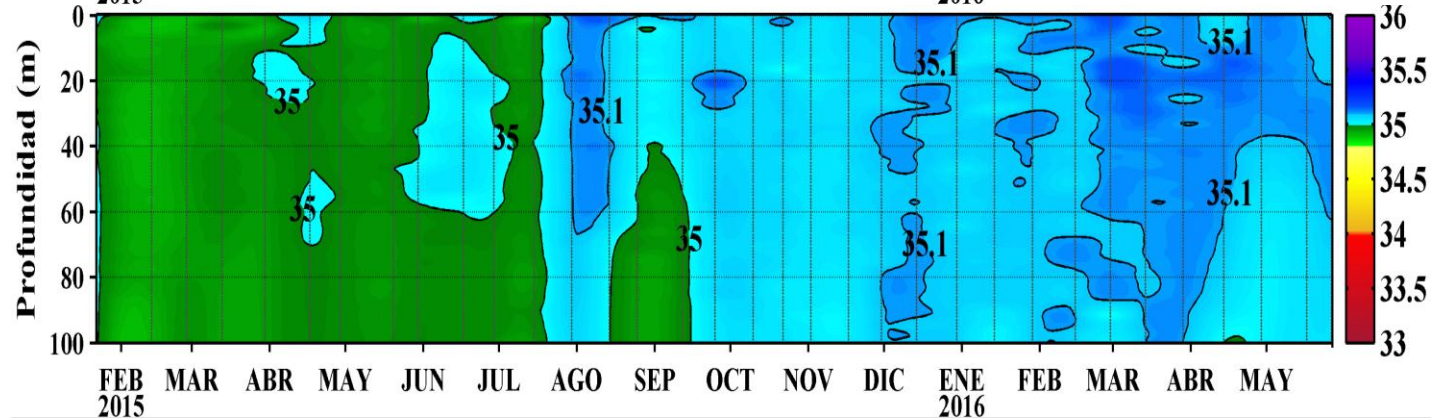
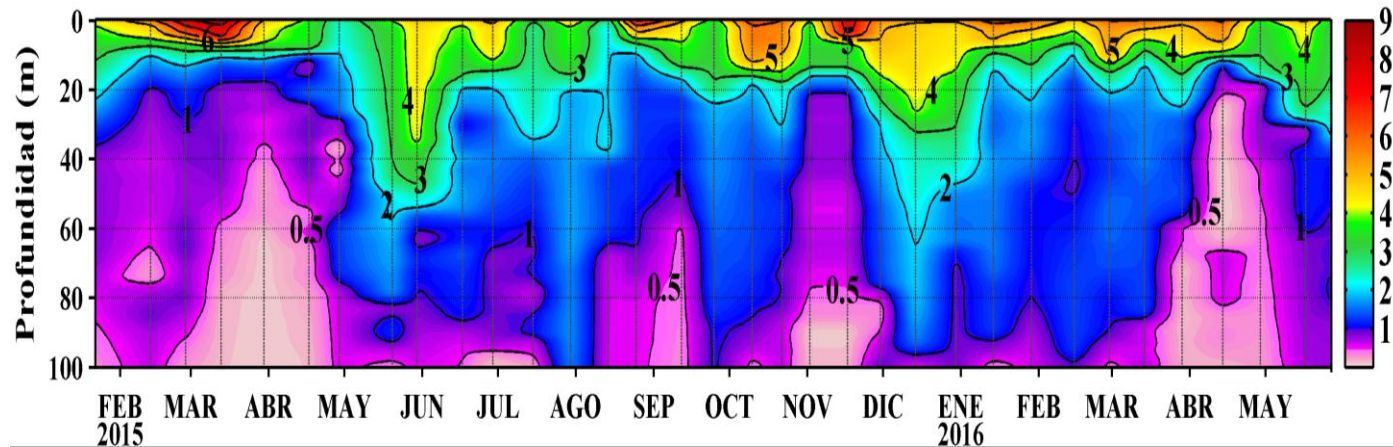
Punto Fijo Paita: T, S, O (27.05.2016)



Punto Fijo Chicama: T, S, O (27.05.2016)



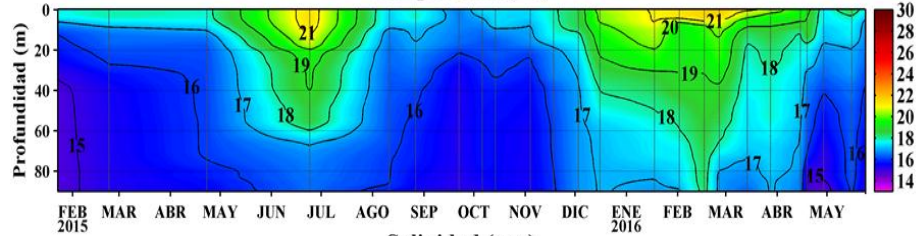
Temperatura (°C)



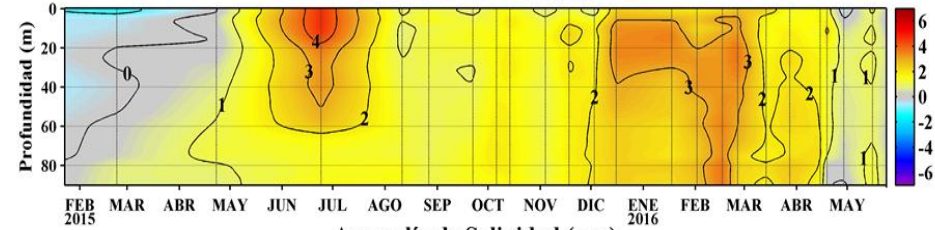
Punto Fijo Callao: T, S, O (24.05.2016)



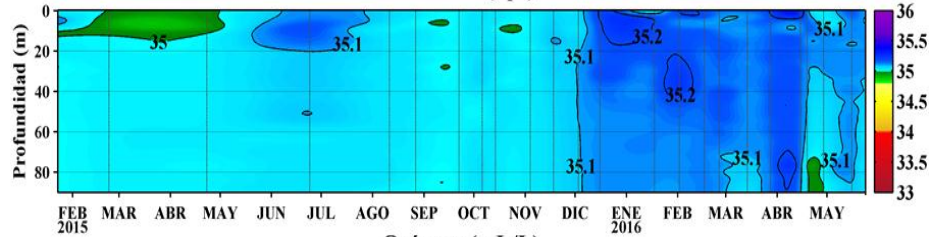
Temperatura (°C)



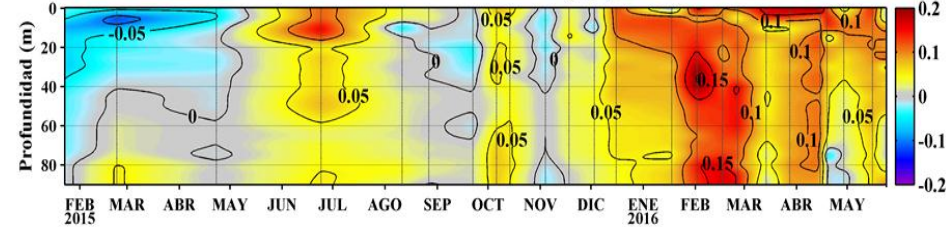
Anomalia Térmica (°C)



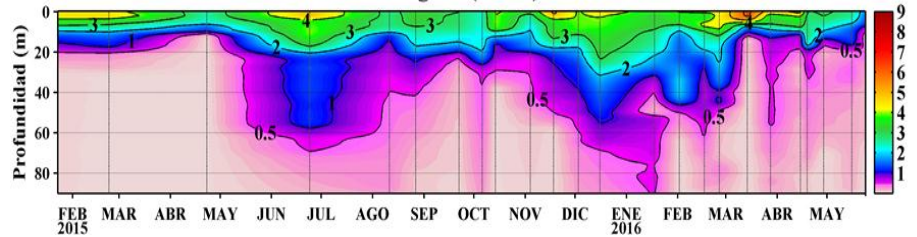
Salinidad (ups)



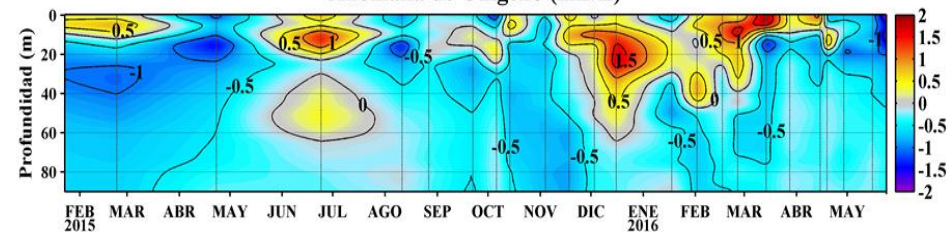
Anomalia de Salinidad (ups)



Oxígeno (mL/L)



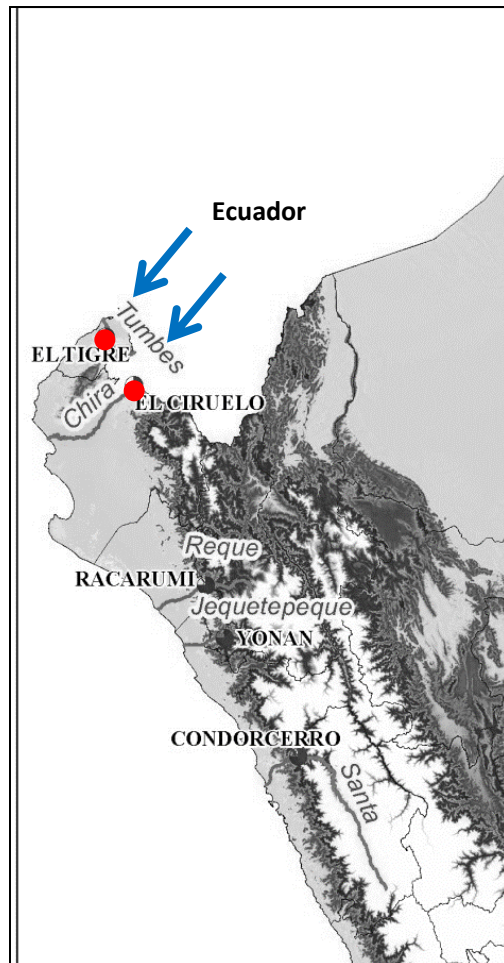
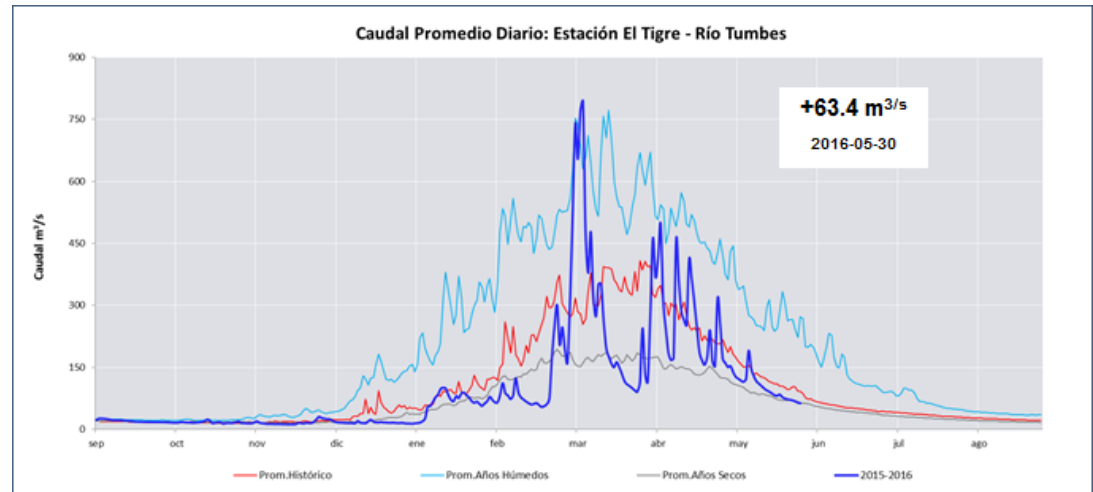
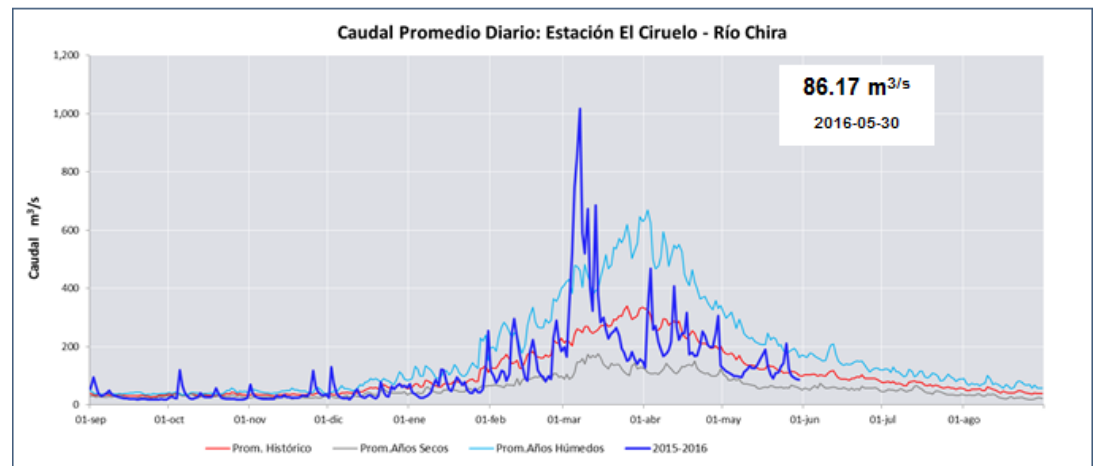
Anomalia de Oxígeno (mL/L)



Región hidrográfica Pacífico – Ríos Costa Norte

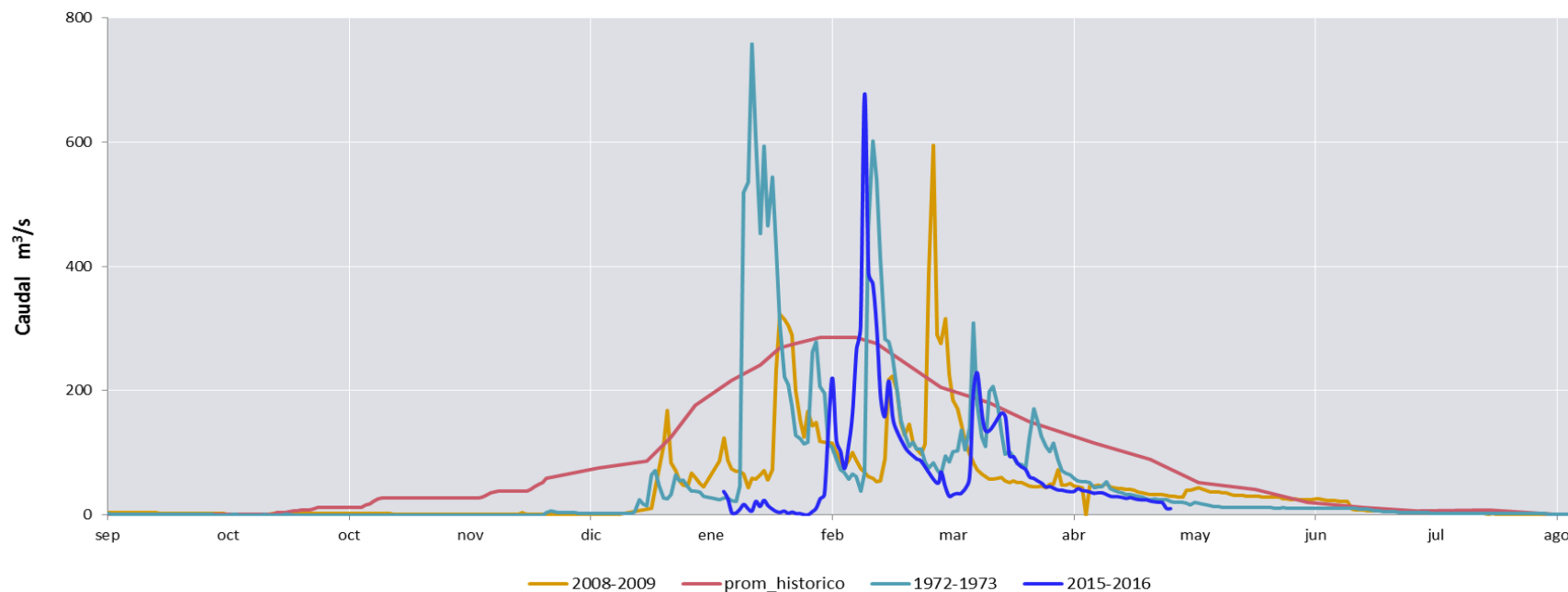


Autoridad Nacional del Agua





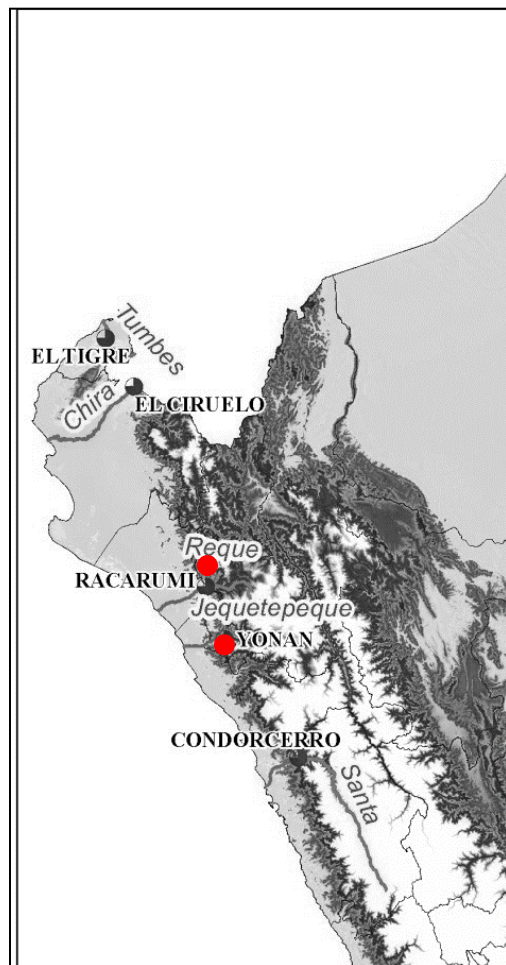
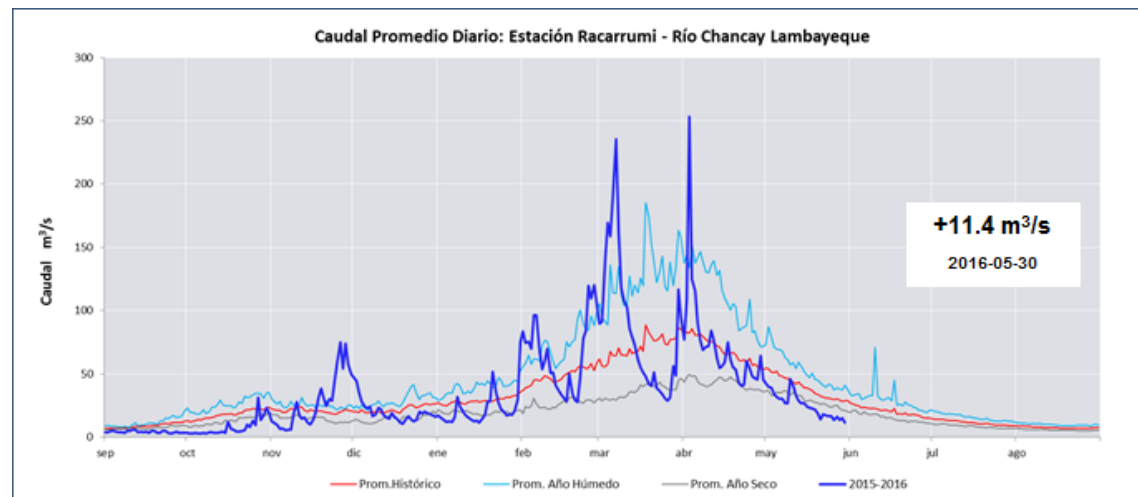
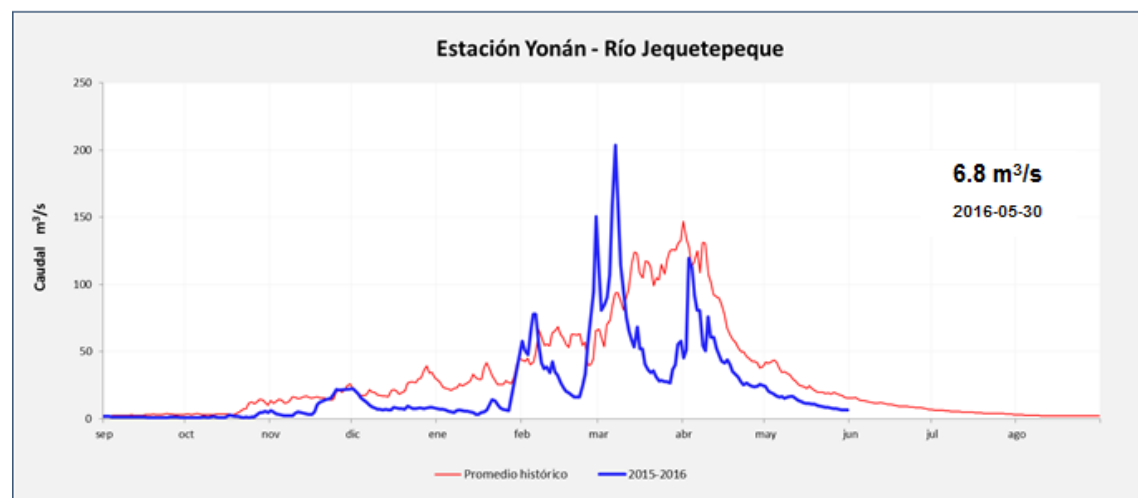
Caudal Promedio Diario: Estación Puente Ñacara - Río Piura



Región hidrográfica Pacífico – Ríos Costa Norte



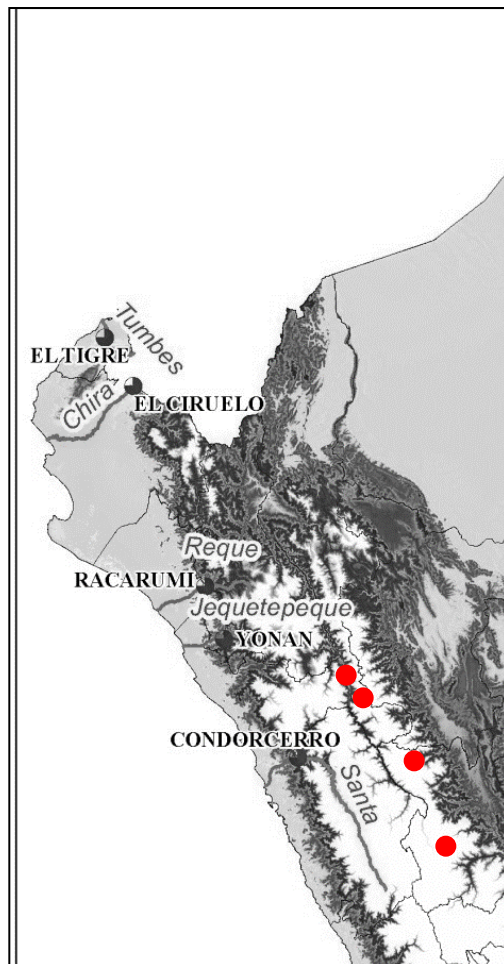
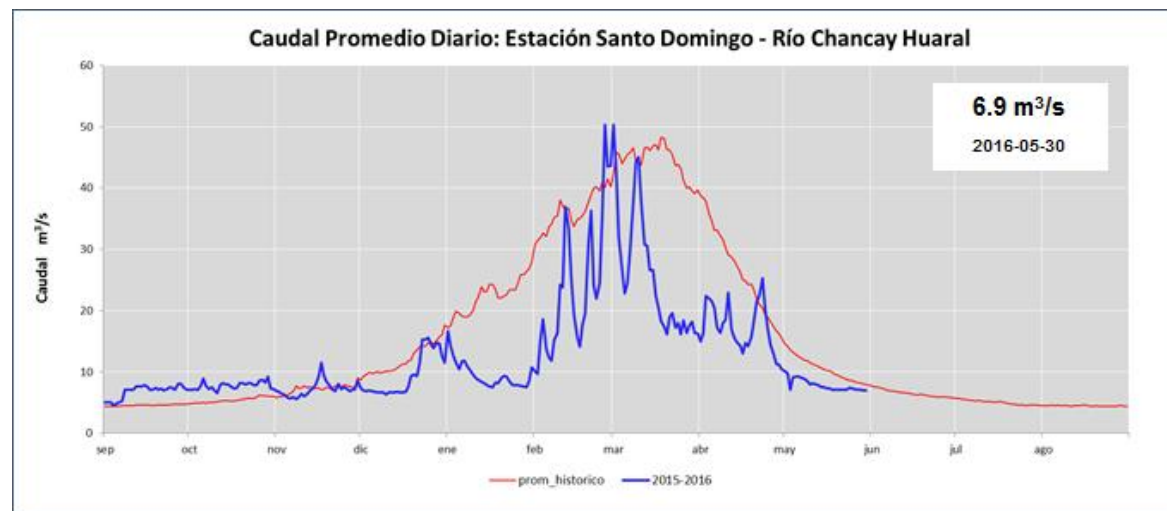
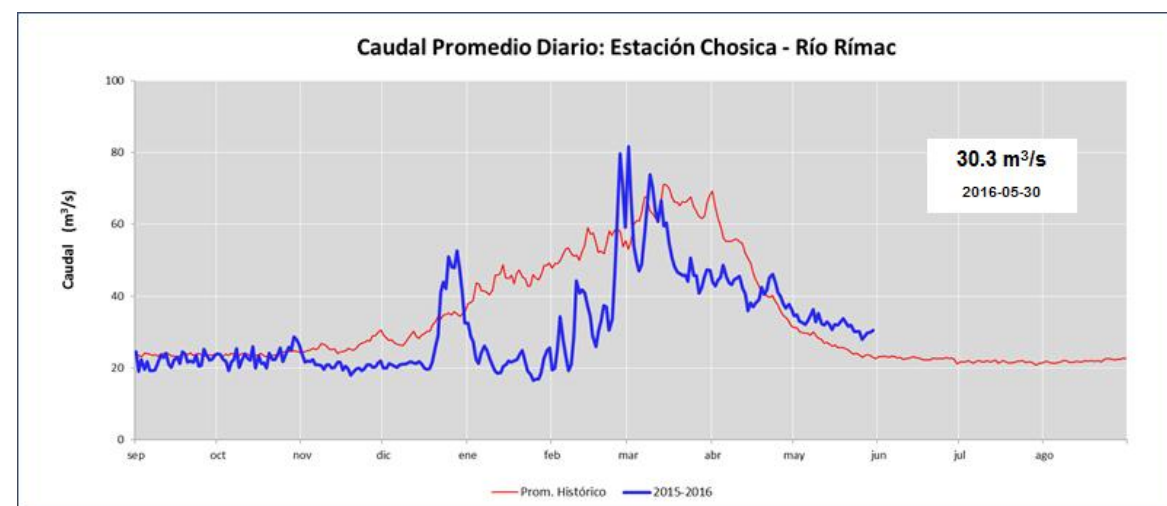
Autoridad Nacional del Agua



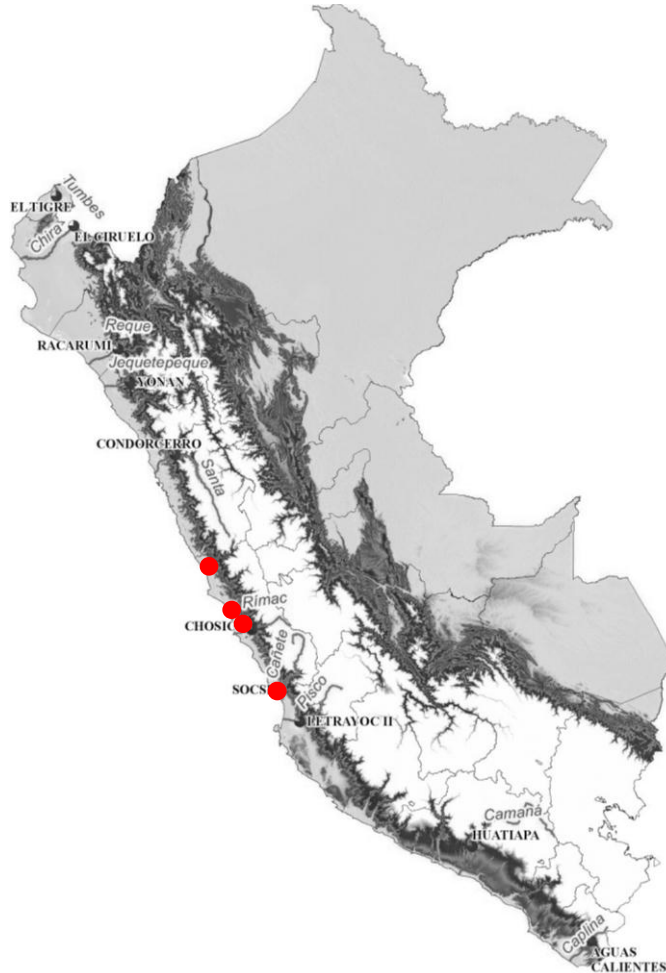
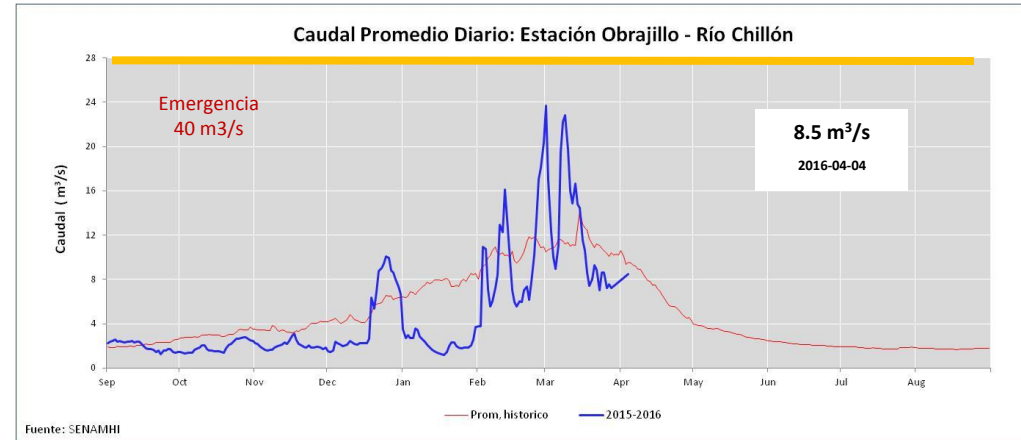
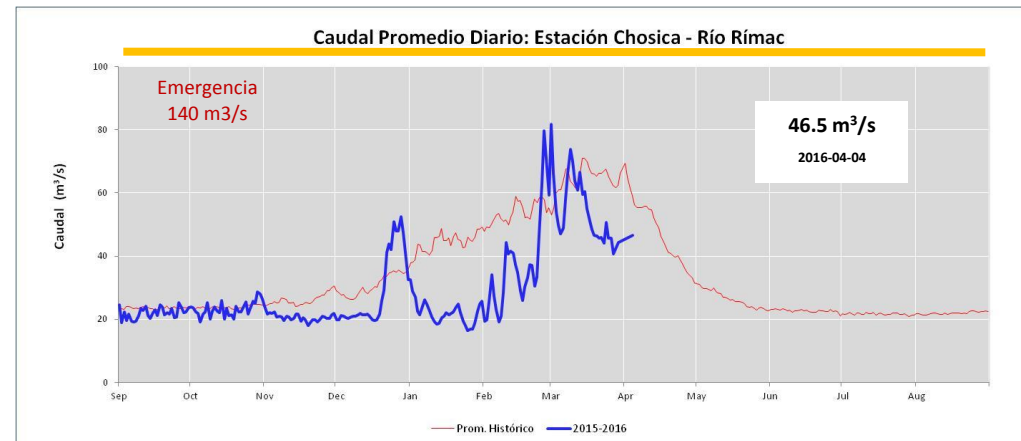
Región hidrográfica Pacífico – Ríos Costa Centro



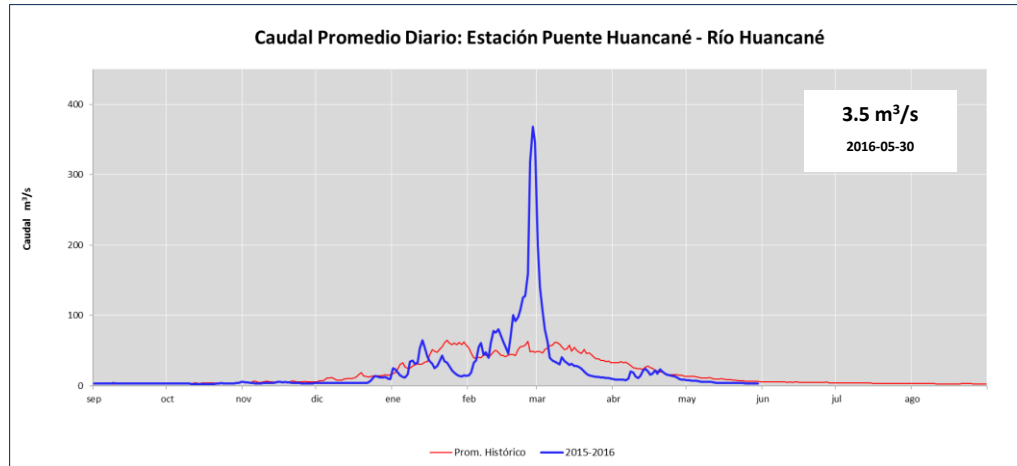
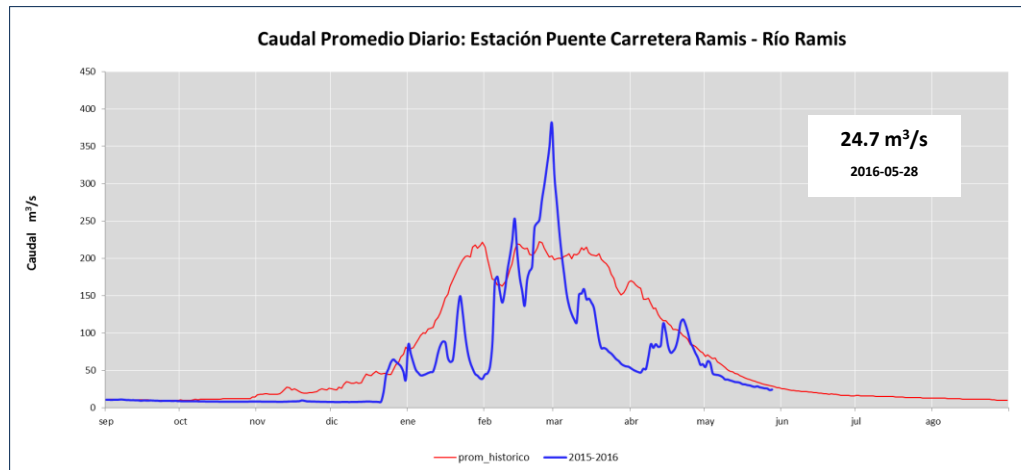
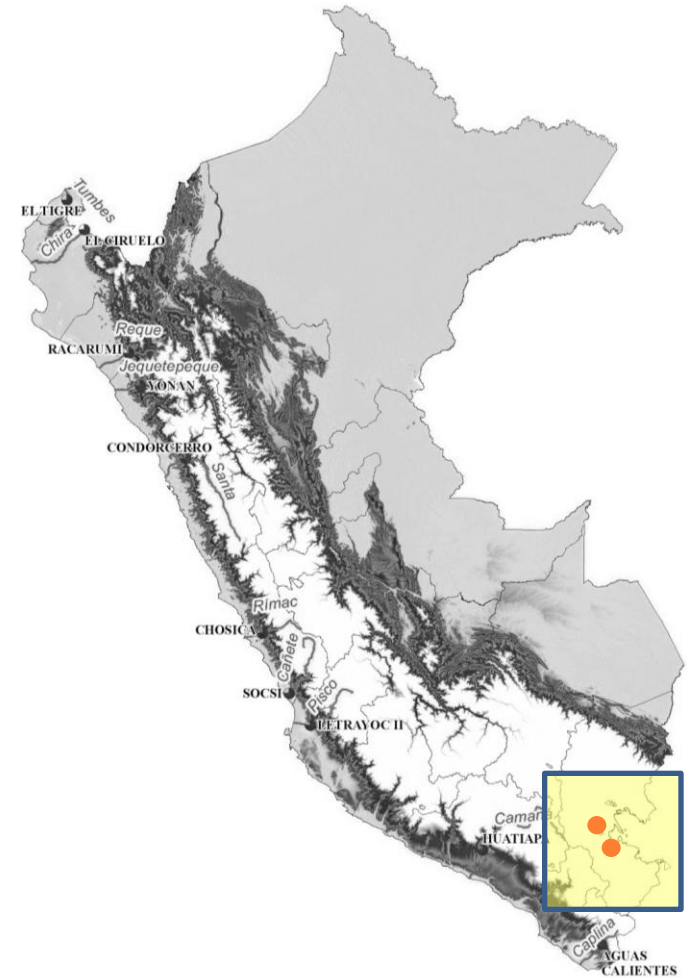
Autoridad Nacional del Agua



Región hidrográfica Pacífico – Ríos Costa Centro



Región hidrográfica Titicaca



Resumen del estado de los principales embalses

CUADRO: PERÚ: VOLUMEN DE AGUA ALMACENADO EN RESERVORIOS PRINCIPALES

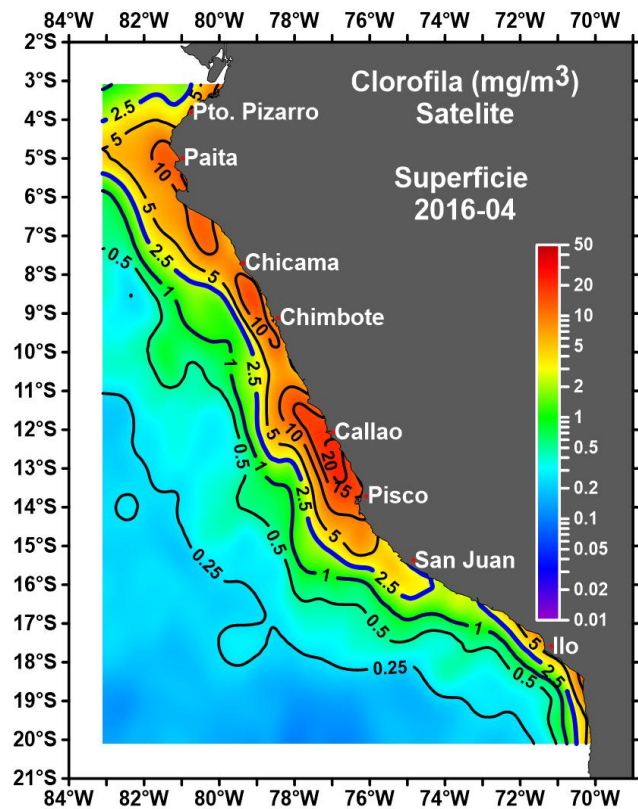
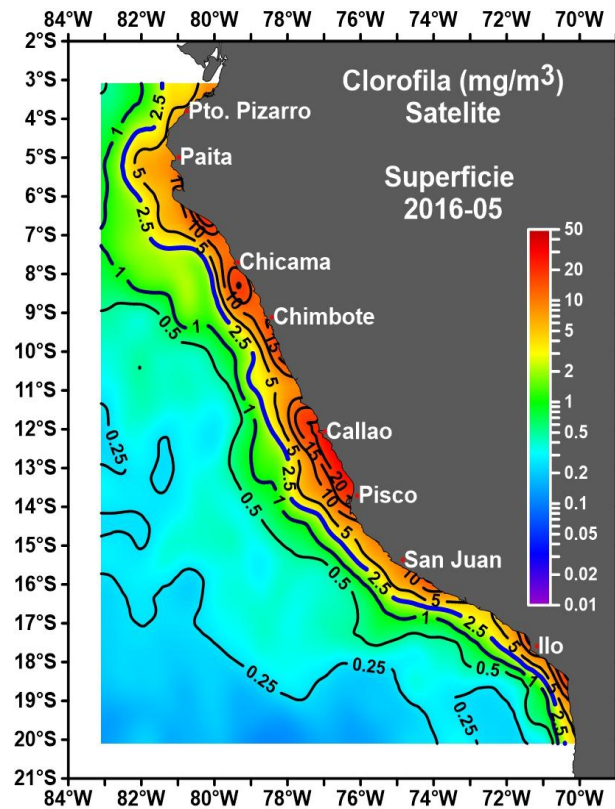
Zona	Nombre del Reservoirio	Fecha del dato	Departamento de Influencia	Capacidad Hidráulica (hm3)		Capacidad Hidráulica Almacenada (%)
				Útil	Almacenada	
Costa - Norte	POECHOS	03-jun	Piura	396.1	407	100
Costa - Norte	SAN LORENZO	03-jun	Piura	193	190.4	98.6
Costa - Norte	TINAJONES	03-jun	Lambayeque	319	143.5	45
Costa - Norte	GALLITO CIEGO	03-jun	Cajamarca	366	256.4	70.1
Costa - Centro	VICONGA	05-jun	Lima	30	19.2	63.9
Costa - Sur	CHOCLOCOCHA	06-jun	Huancavelica	131.1	63.8	48.6
Costa - Sur	CONDOROMA	06-jun	Arequipa	259	194.8	75.2
Costa - Sur	EL PAÑE	06-jun	Cusco	99.6	38.6	38.7
Costa - Sur	LOS ESPAÑOLES	06-jun	Arequipa	9.1	2.3	25.3
Costa - Sur	PILLONES	06-jun	Arequipa	76.9	62.7	81.6
Costa - Sur	EL FRAYLE	06-jun	Arequipa	127.2	109.2	85.8
Costa - Sur	AGUADA BLANCA	06-jun	Arequipa	30.4	16.9	55.7
Costa - Sur	CHALHUANCA	06-jun	Arequipa	25.2	16.7	66.3
Costa - Sur	BAMPUTAÑE	06-jun	Puno	40	23.8	59.5
Costa - Sur	PASTO GRANDE	03-jun	Moquegua	175	83.9	47.9
Costa - Sur	PAUCARANI	03-jun	Tacna	8.5	4.5	53.2
Costa - Sur	ARICOTA	06-jun	Tacna	260	189.6	72.9
Costa - Sur	JARUMAS	31-may	Tacna	12.5	9.5	76.1
Sierra - Centro	CUCHOQUESERA	06-jun	Ayacucho	80	53.1	66.4
Sierra - Sur	LAGUNILLAS	30-may	Puno	500	429	85.8
Situación Nacional		-	-	3138.6	2314.9	73.8

Reservorios

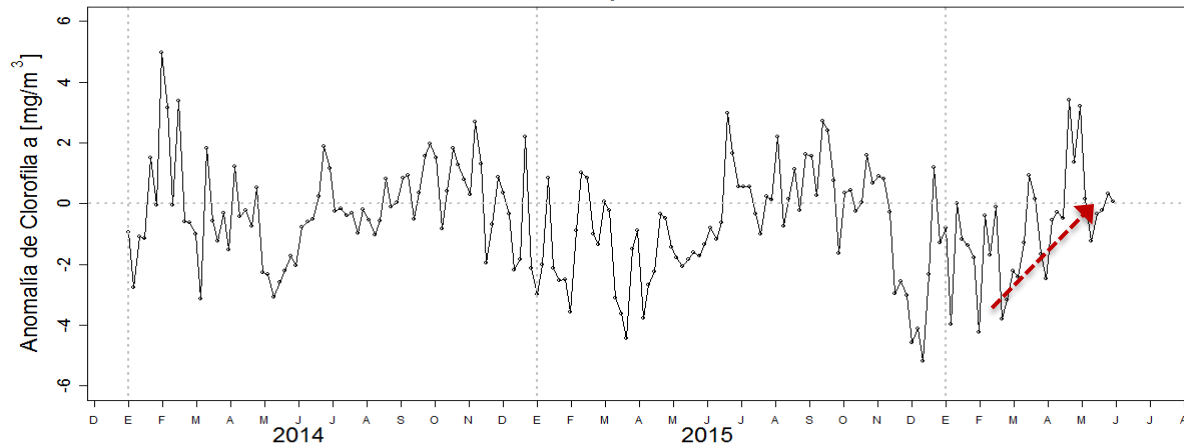
Las capacidades de almacenamiento de los embalses del norte mostraron valores de 79%, reporte anterior(80%).

Los reservorios de la zona sur es de 67%, anterior reporte 64%.

Distribución de la concentración de clorofila-a

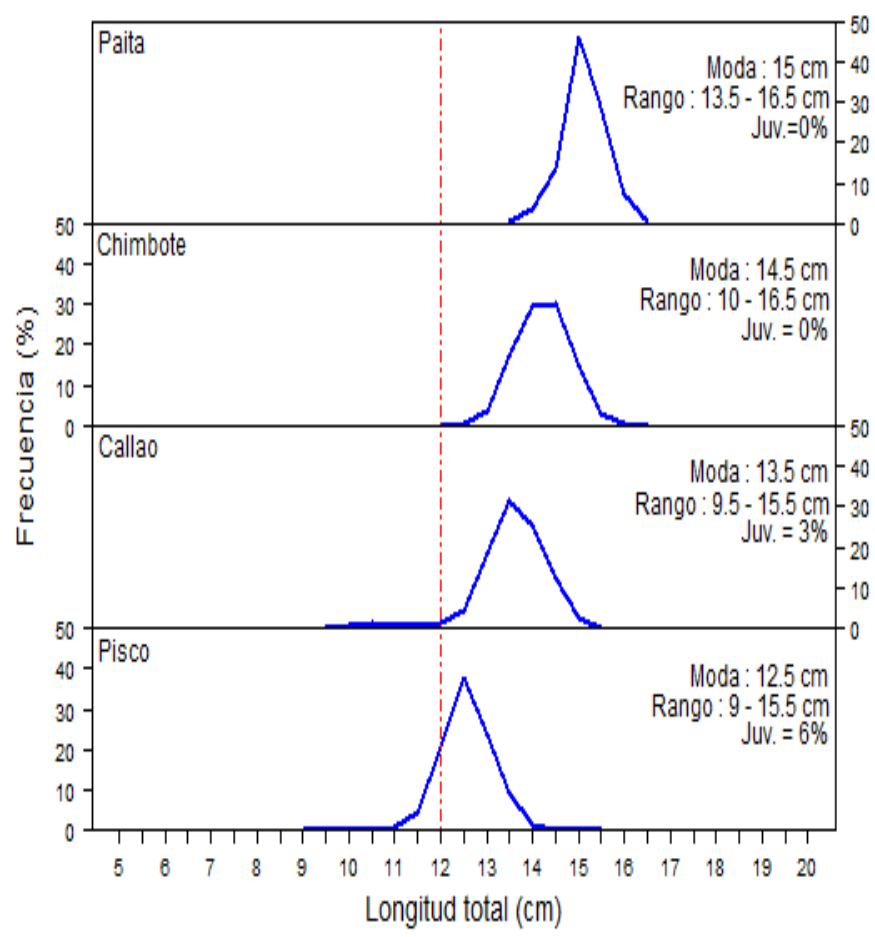


Clorofila-a superficial 2016/06/06

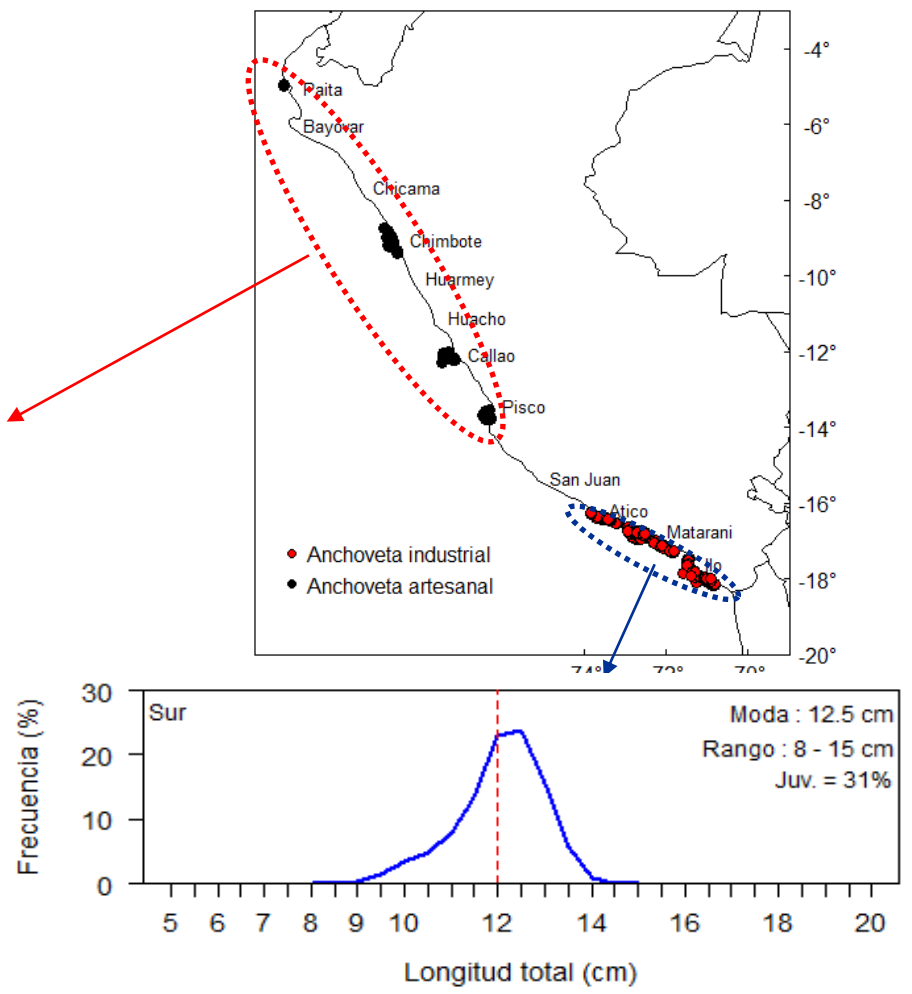


La Comparación de Clorofila Satelital abril - mayo 2016, muestra un acercamiento de la isolínea de 2,5 mg/m^3 frente a Paita, así también las condiciones oligotróficas por fuera de las 20 a 40 mn en la costa central. En términos generales la concentración de clorofila-a frente a la costa (100 km) se encuentra actualmente en un rango normal, con una tendencia ascendente desde febrero.

Distribución y estructura de tallas de anchoveta (Mayo 2016)



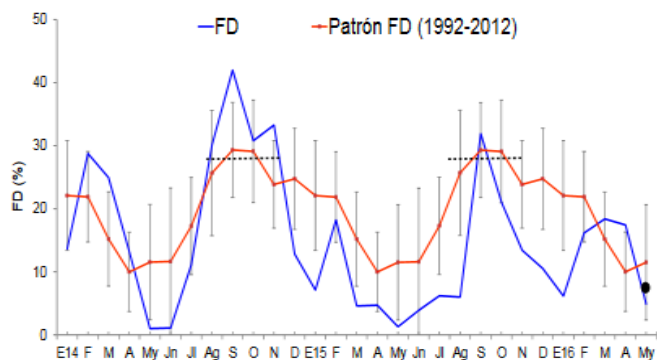
Flota artesanal y/o menor escala



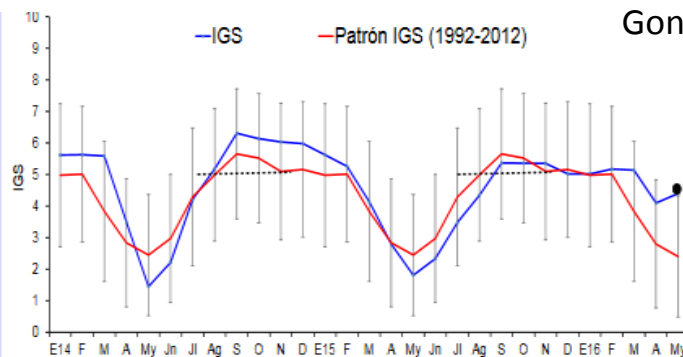
Flota industrial

Condición reproductiva de anchoveta (Mayo 2016)

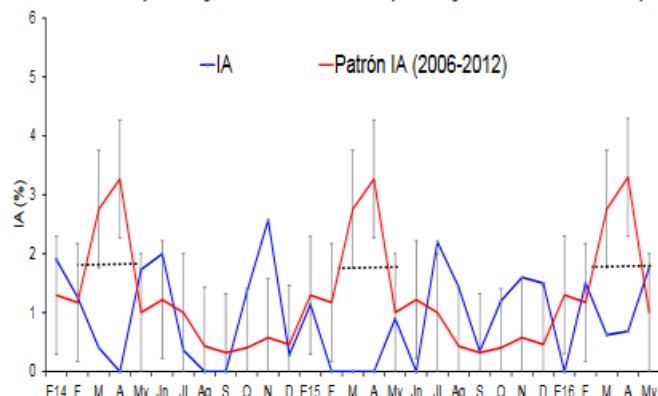
Fracción
desovante



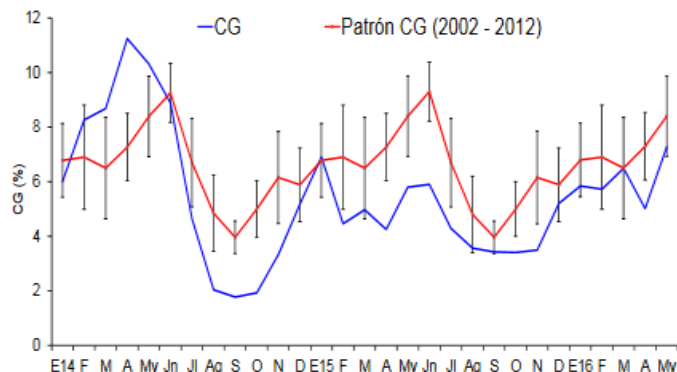
Índice
Gonadosomatico



Índice de
atresia

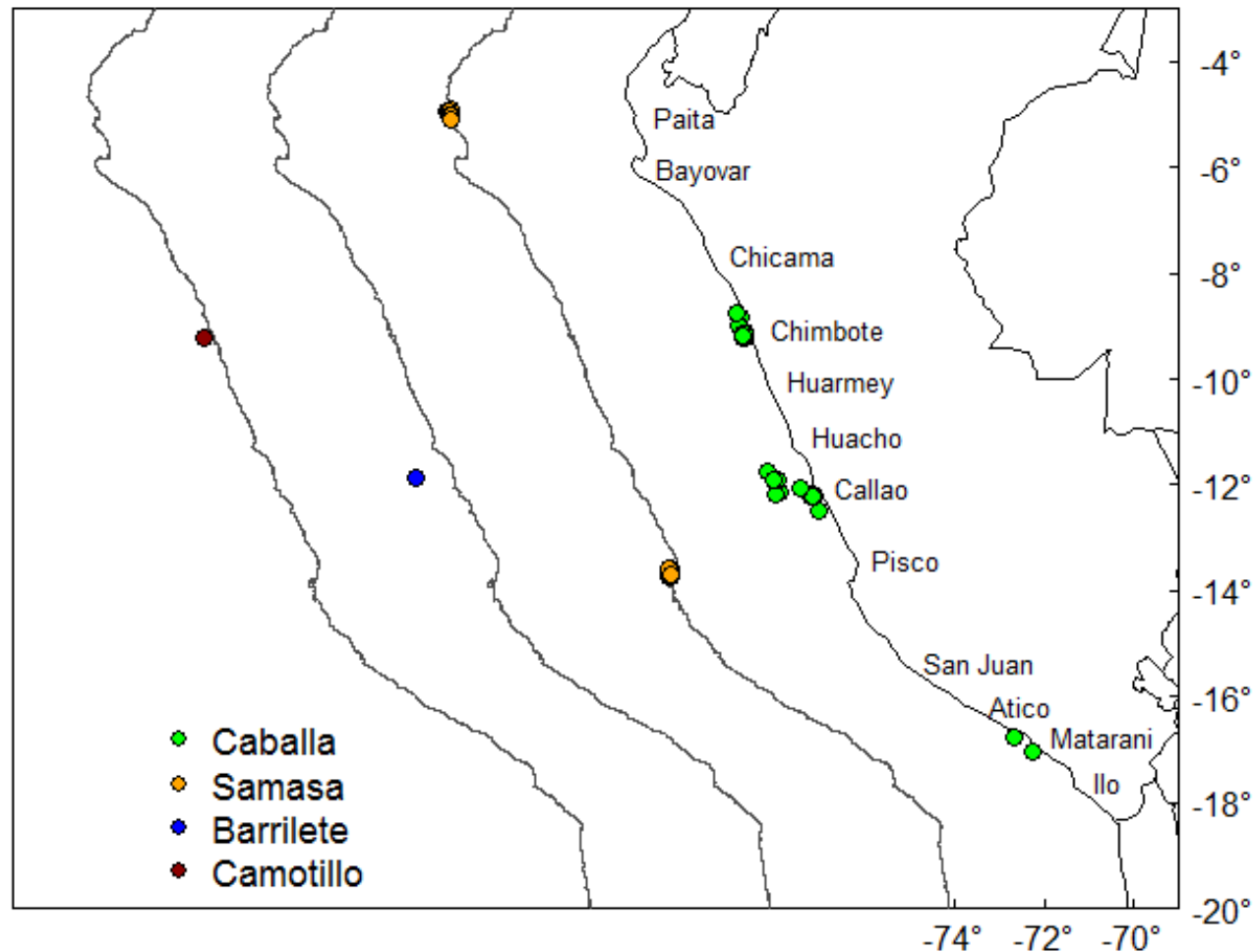


Contenido
graso



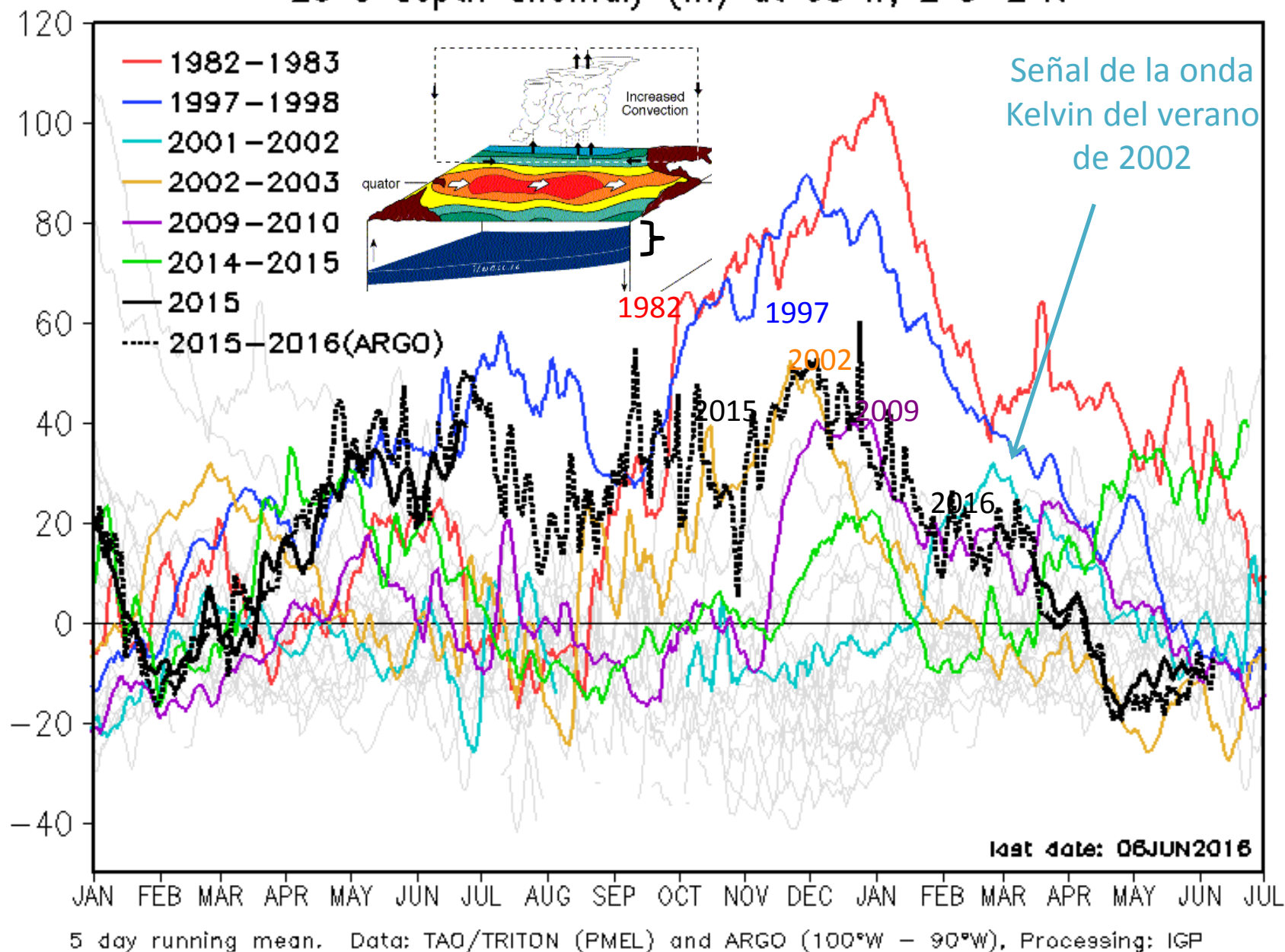
Otras especies –mayo 2016

Pesquería artesanal

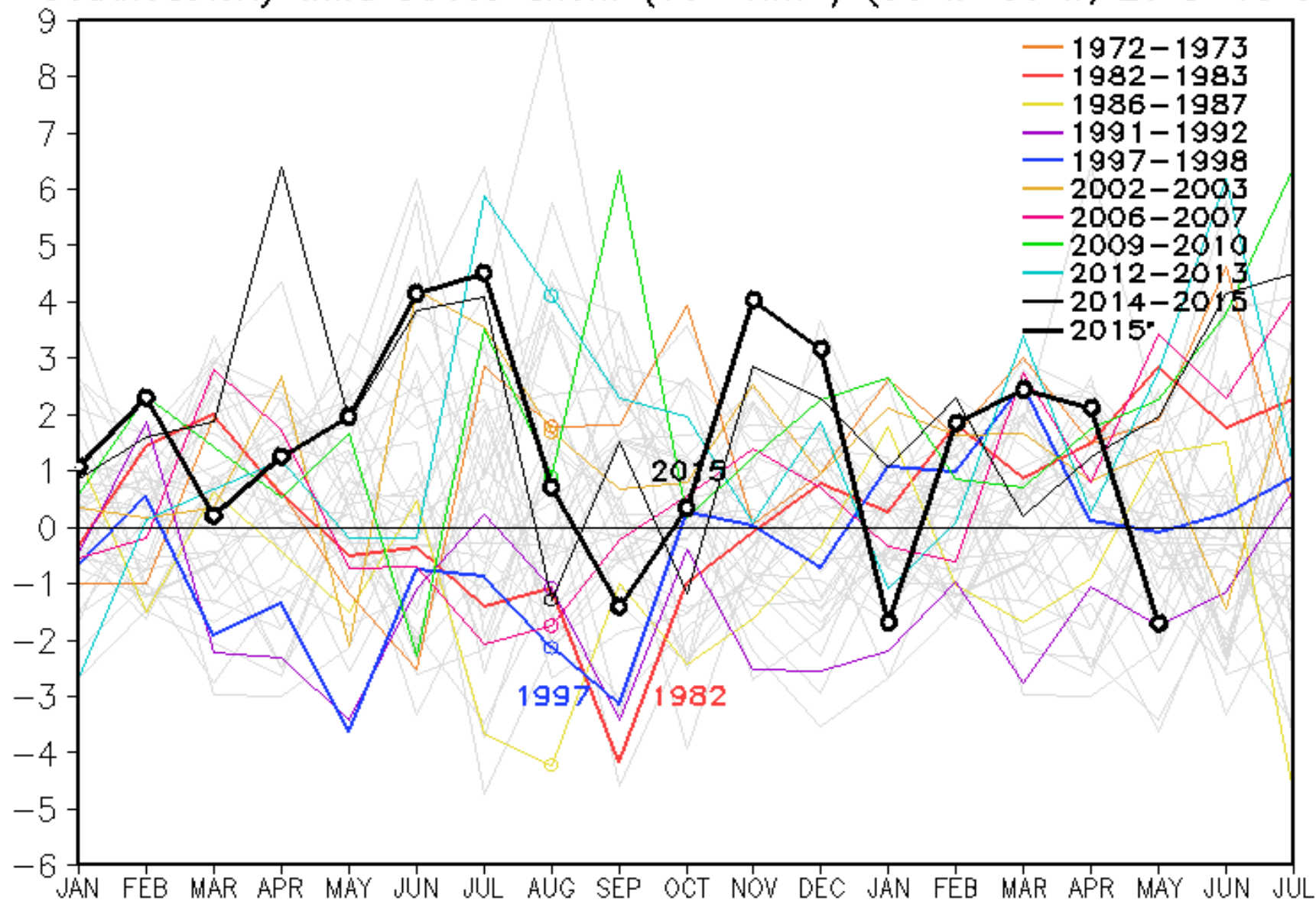


Perspectivas

20°C depth anomaly (m) at 95°W, 2°S–2°N



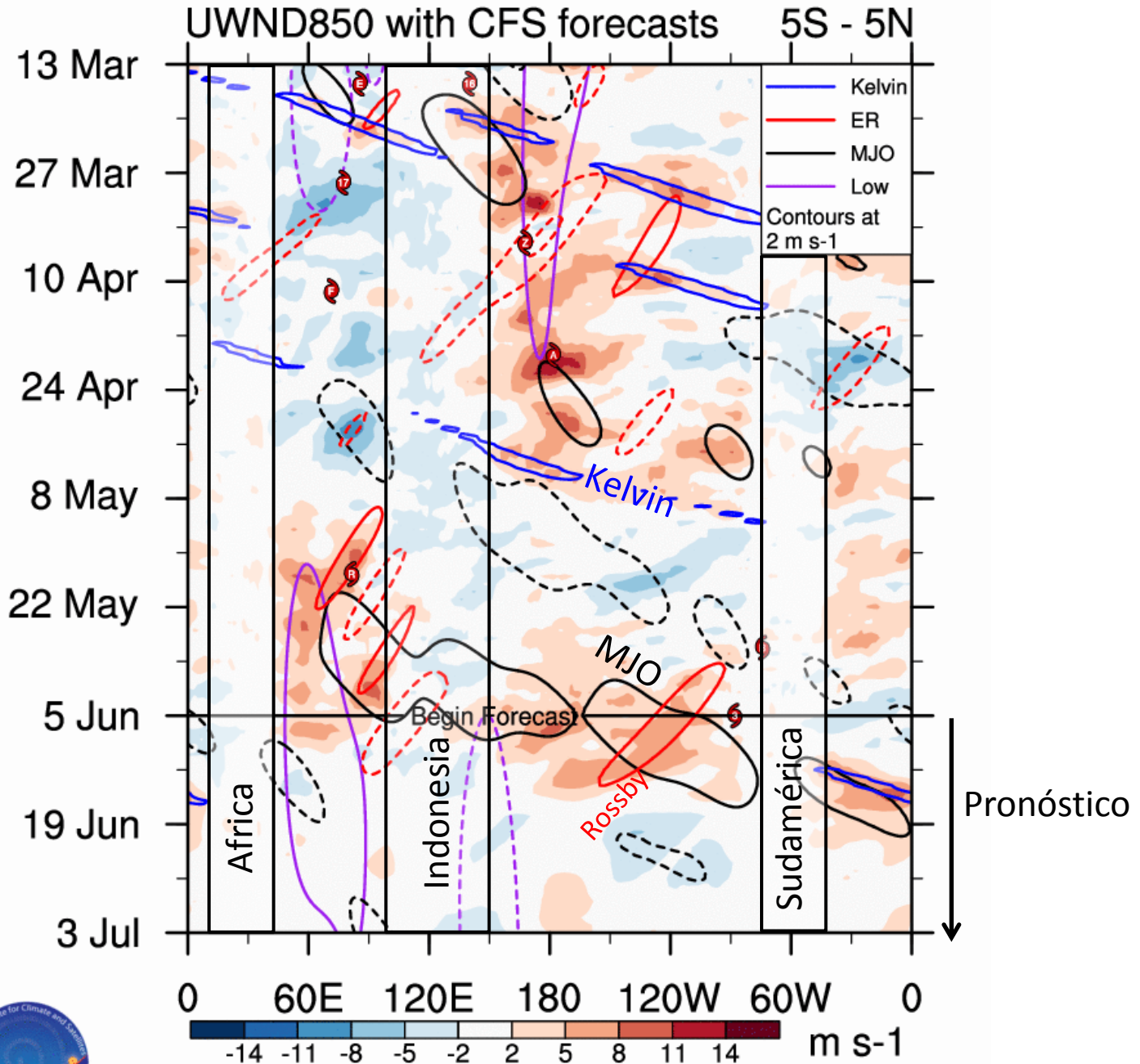
Southeasterly wind stress anom (10^{-2} Nm^{-2}) ($90^{\circ}\text{W}-80^{\circ}\text{W}$, $25^{\circ}\text{S}-15^{\circ}\text{S}$)



Data: NCEP-NCAR Reanalysis, Processing: IGP (Clim: 1980-2009)

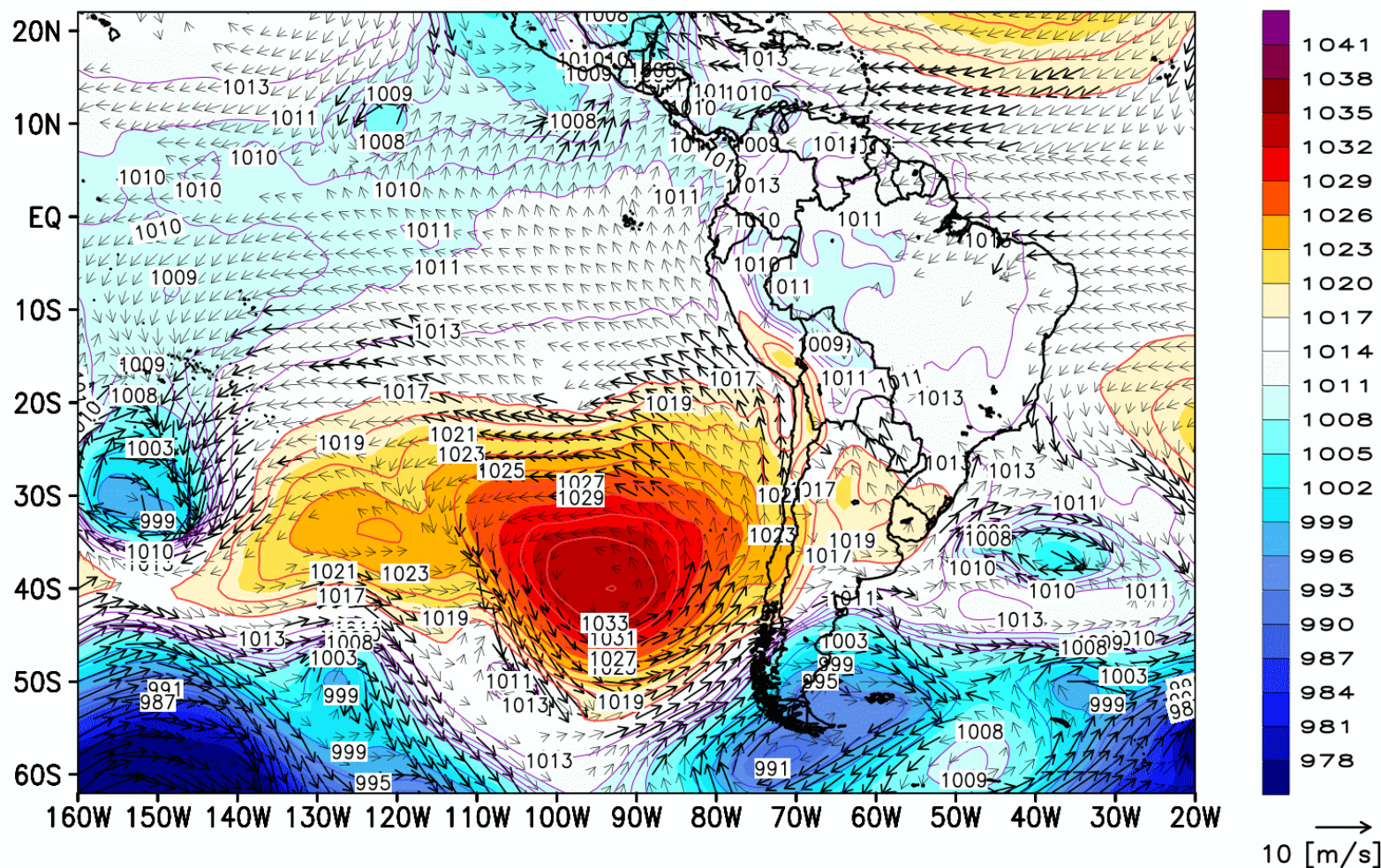
Last data: MAY2016

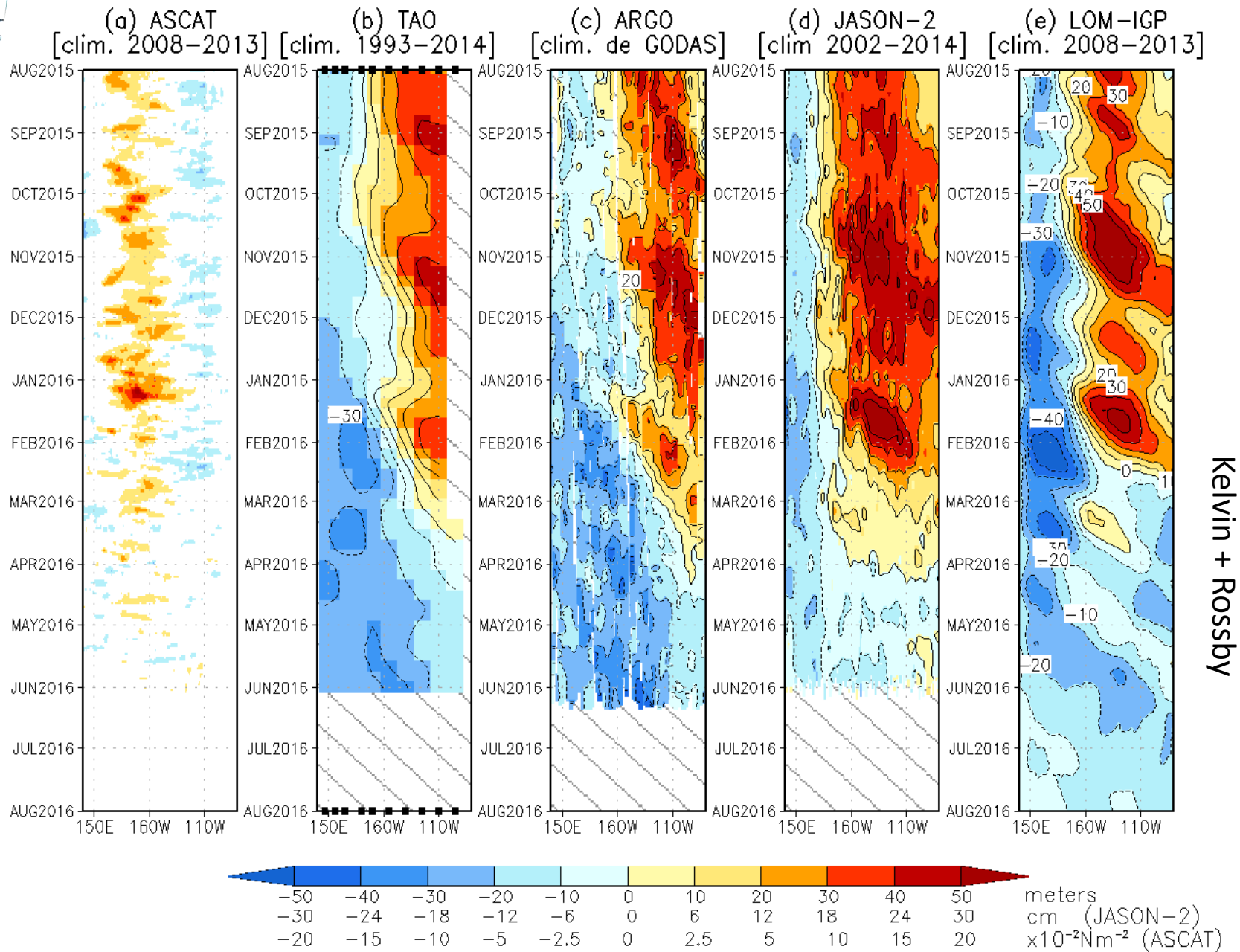
Viento zonal ecuatorial en 850 Pa



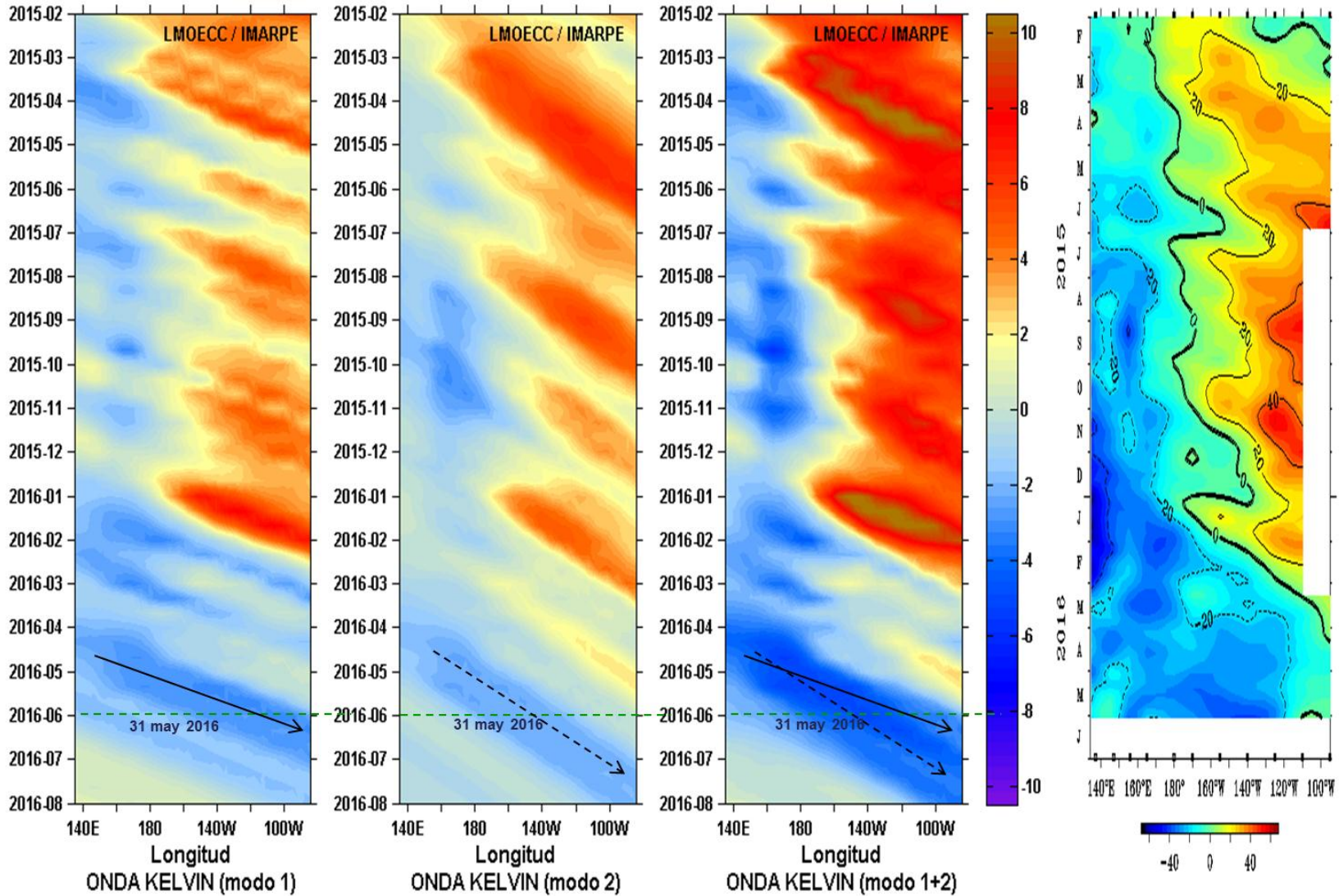
Wind 975 Hpa (m/s) – Mean Sea Level Pressure Reduced(Hpa)

ANALISIS: 0000Z 06/JUN/2016 VALIDO: 0000Z 06/JUN/2016



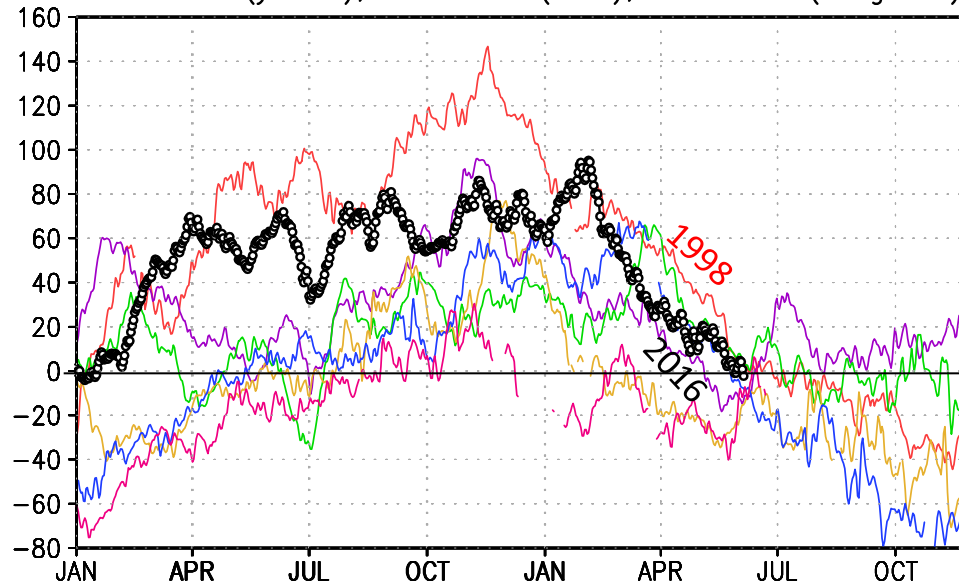


Simulación de la propagación de las ondas Kelvin Ecuatoriales

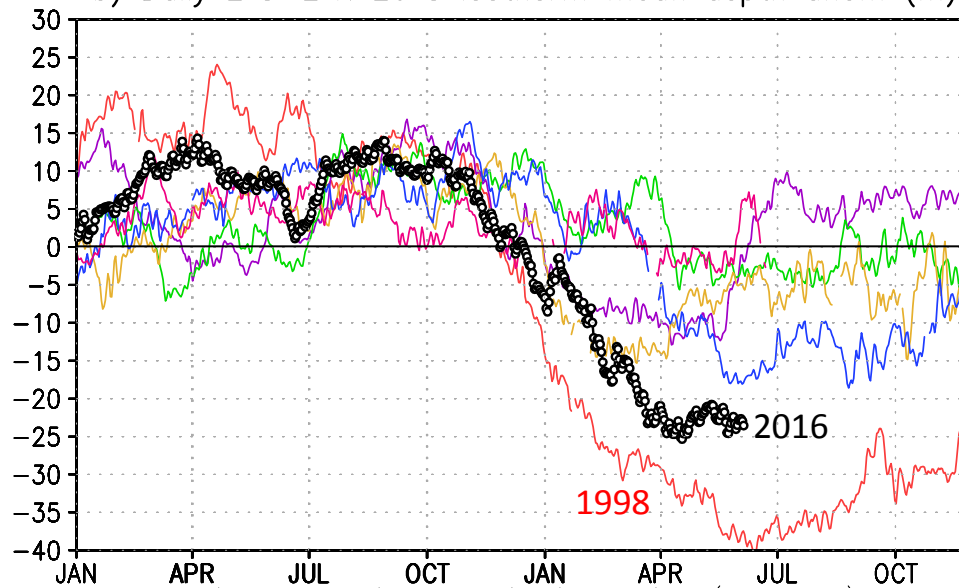


Inclinación de la termoclina ecuatorial

a) Daily 2°S–2°N 20°C isotherm tilt* anom (m): 2015 (black), 1997–98 (red), 2002–03 (purple), 2004–05 (green), 2006–07 (yellow), 2009–10 (blue), 2012–13 (magenta)



b) Daily 2°S–2°N 20°C isotherm mean depth anom (m)



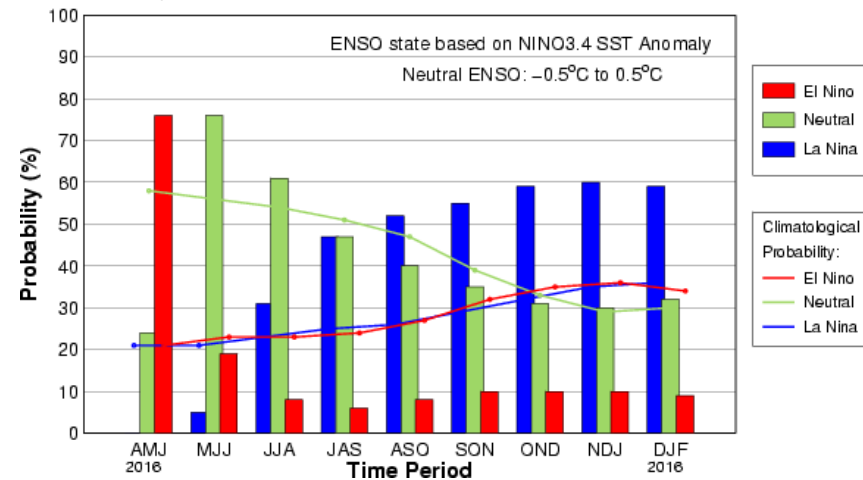
Contenido de calor ecuatorial

* Zonal depth difference from linear regression fit to longitude (137°E–95°W)
Only for days with at least 10 out of 11 lons. 1–2–1 smoothing. (Clim 1993–2012)
Data: TAO/TRITON (last: 05JUN2016). Processing: @KTakahashiG (IGP)

Probabilidades de El Niño según solo según porcentaje de **modelos** (IRI)

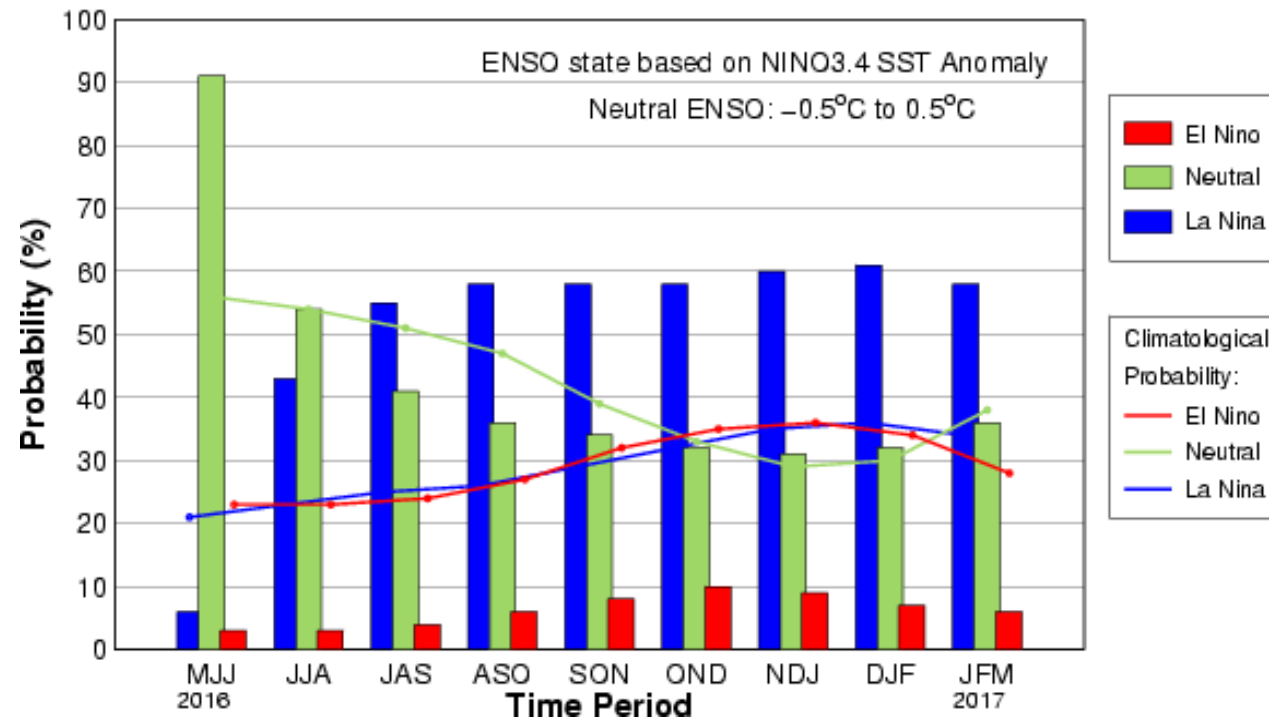
Corrida del mes anterior

Mid-Apr IRI/CPC Model-Based Probabilistic ENSO Forecast



Corrida reciente

Mid-May IRI/CPC Model-Based Probabilistic ENSO Forecast



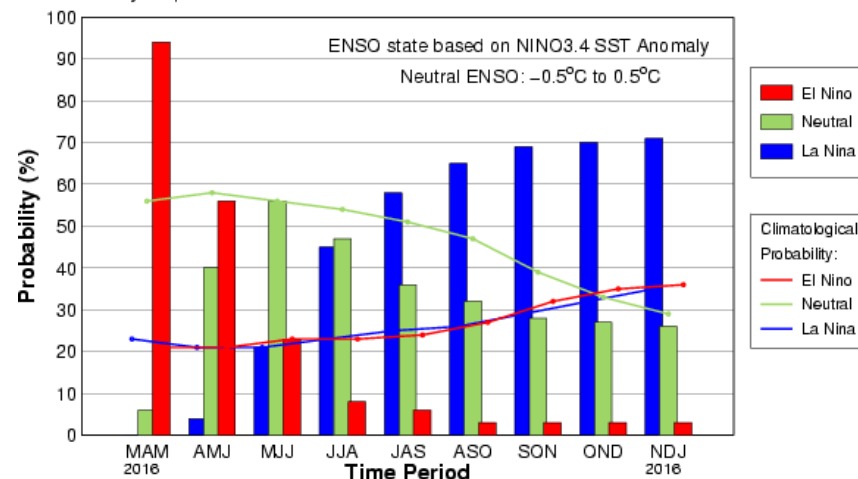
Según la evaluación NOAA/IRI, la probabilidad de La Niña en el Pacífico central es de 52% en setiembre y 60% para fines de 2016 .

Publicado 19 de mayo de 2016

Probabilidades de El Niño según porcentaje de modelos (IRI) y evaluación experta

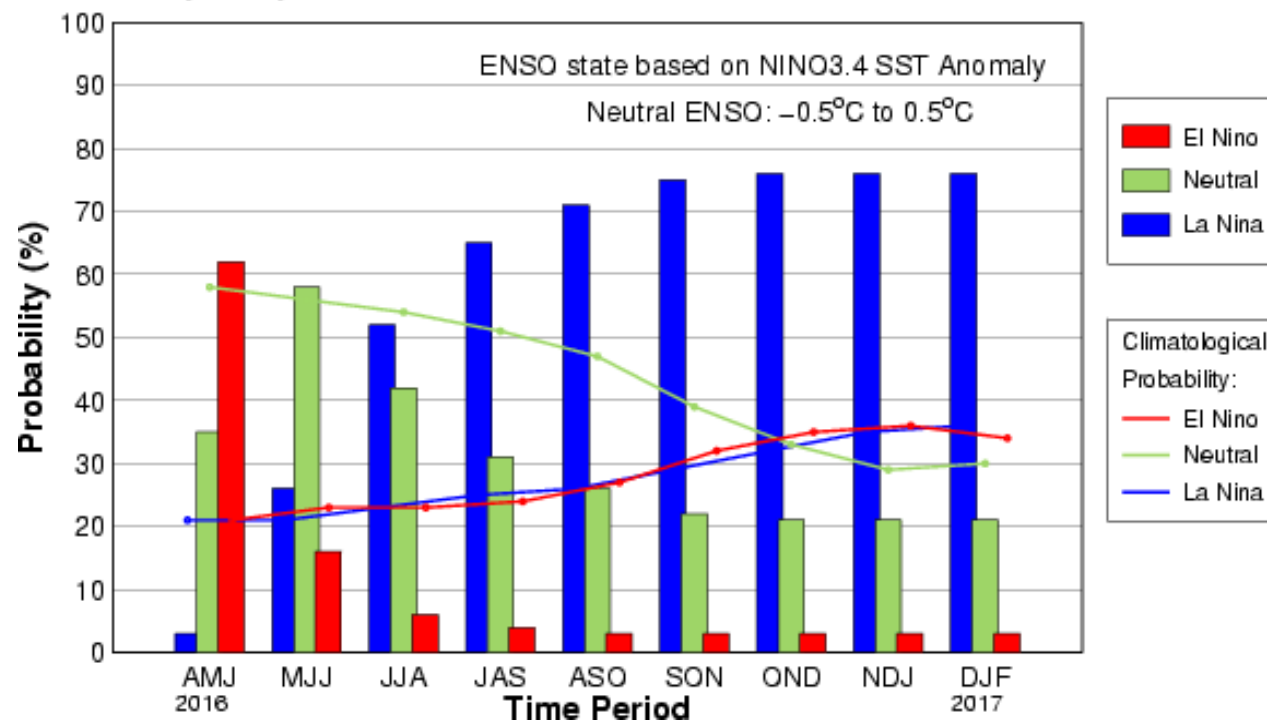
Corrida del mes anterior

Early-Apr CPC/IRI Official Probabilistic ENSO Forecast



Corrida reciente

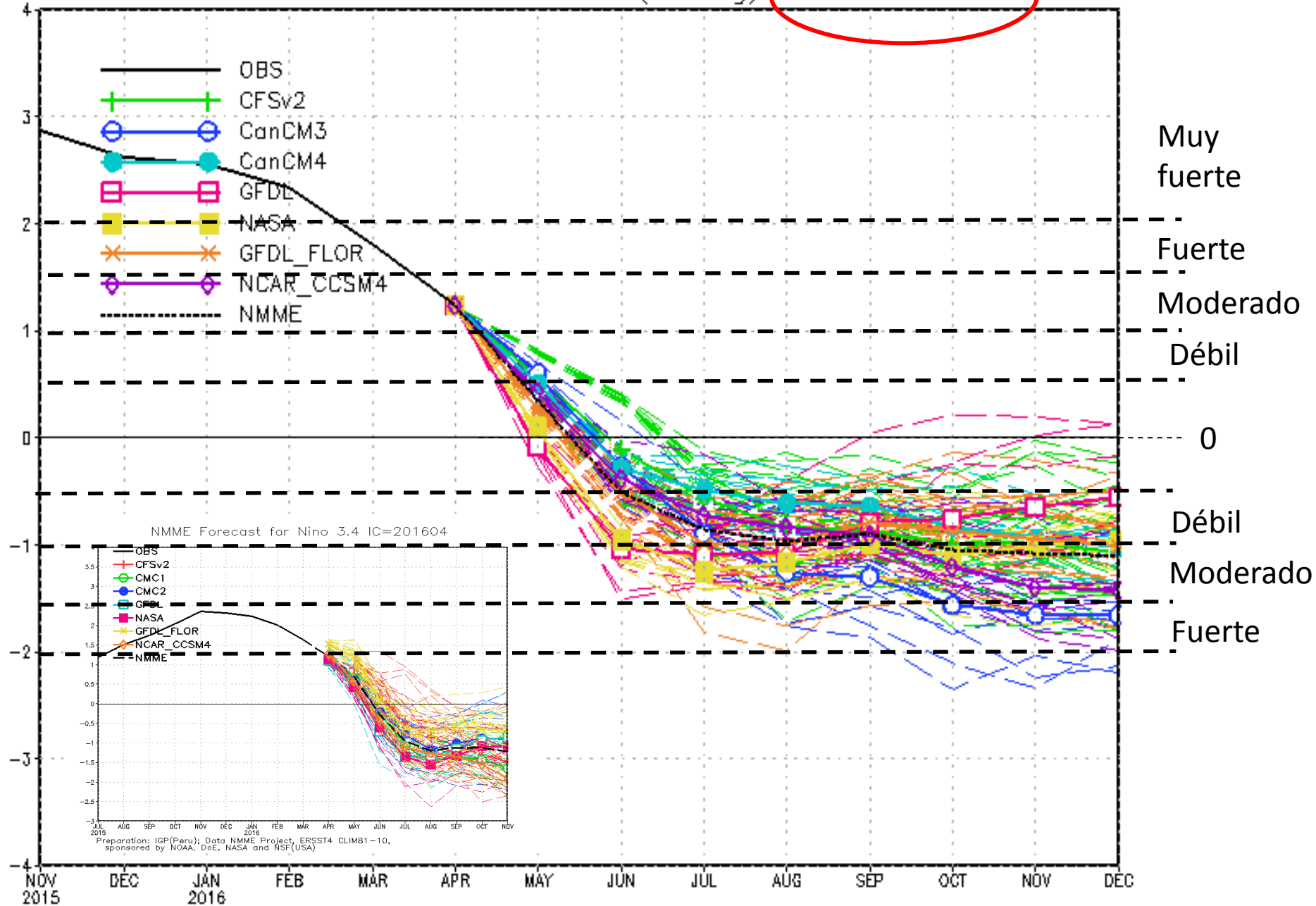
Early-May CPC/IRI Official Probabilistic ENSO Forecast



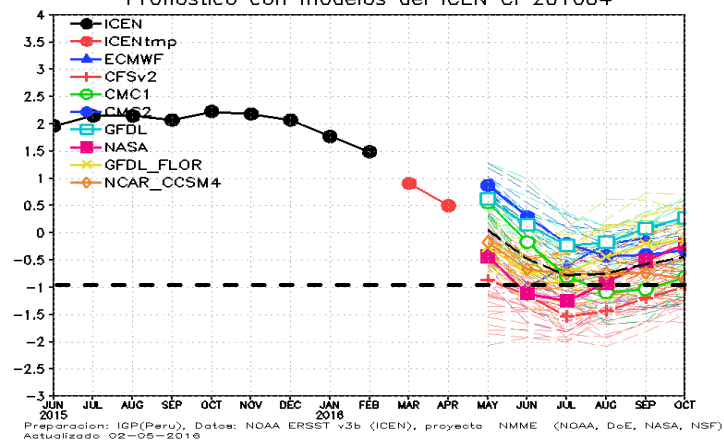
Según la evaluación experta sobre los resultados de los modelos a inicios de enero, la probabilidad de El Niño en el Pacífico central es de 74% para el mes de mayo de 2016 .

Publicado 12 de mayo de 2016

NMME Forecast for Nino 3.4 (scaling) IC= 201605



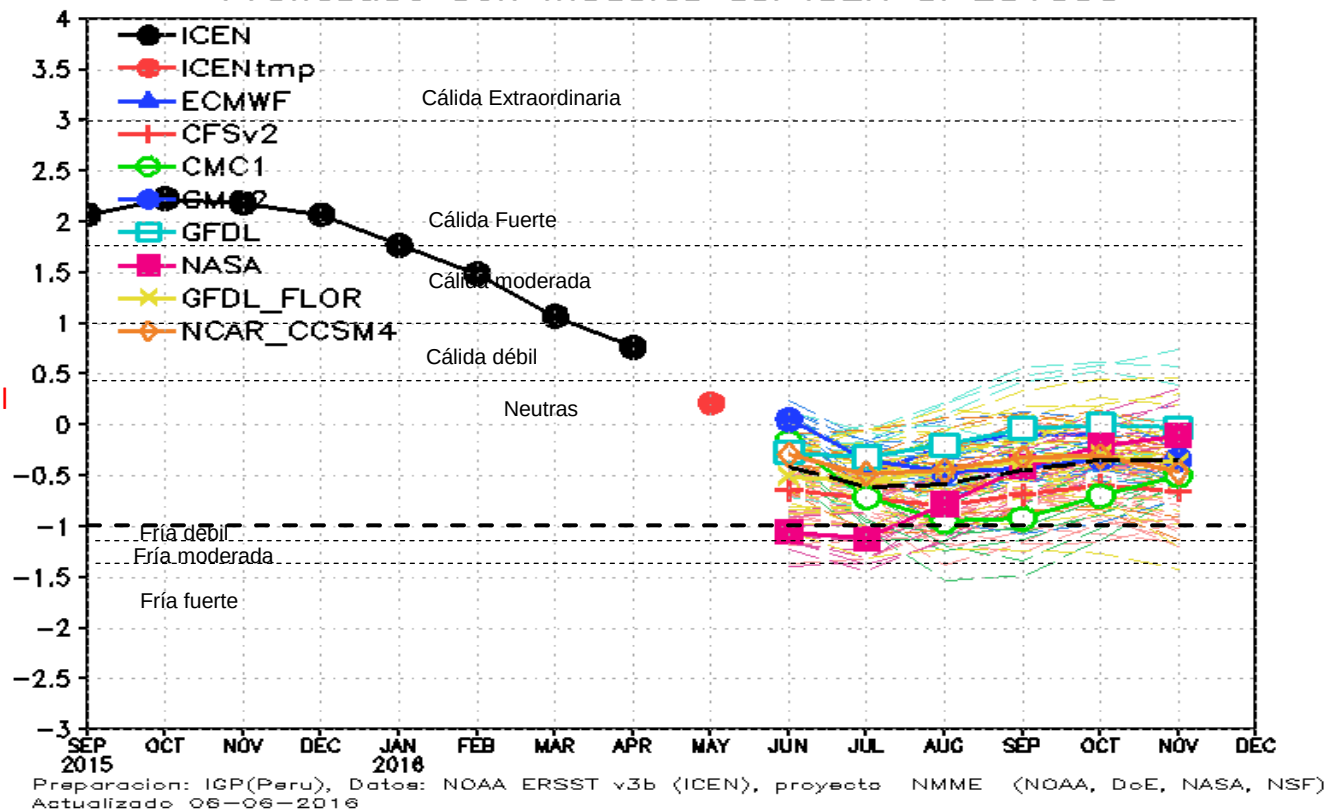
Pronostico con modelos del ICEN CI 201604



Corrida anterior

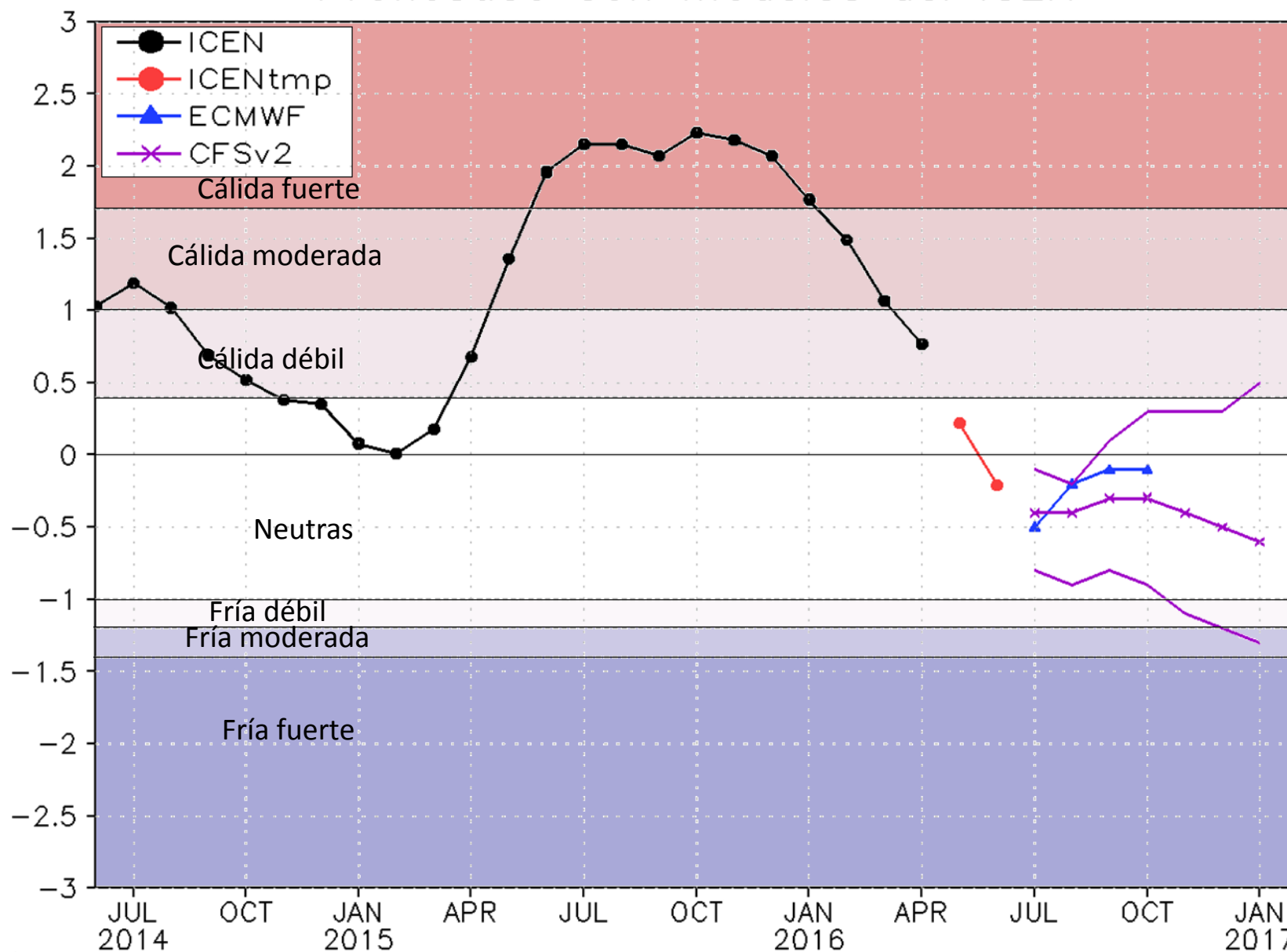
Pronostico con modelos del ICEN CI 201605

Corrida actual



Nota: Los pronósticos de los modelos CFSv2, CMC1, CMC2, GFDL, NASA, NCAR y GFDL_FLOR tienen como condiciones inicial el mes de marzo de 2016.
El modelo ECMWF tiene como condición inicial el mes de febrero de 2016

Pronóstico con modelos del ICEN



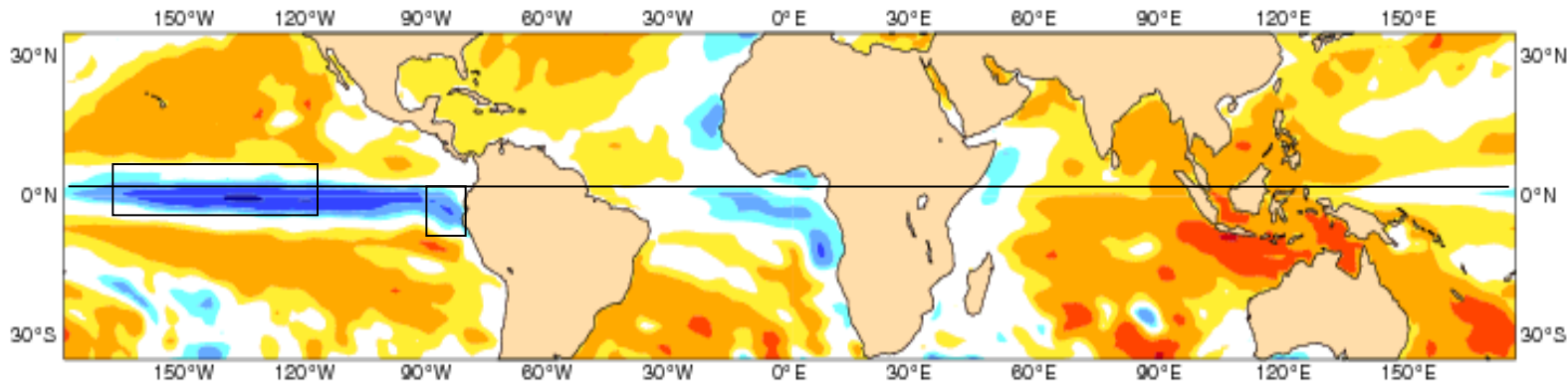
Nota: Las líneas delgadas en los pronósticos indican los máximos y mínimos en los "ensembles" de CFS2. Para ECMWF no se cuenta con datos del "ensemble". ECMWF, tiene condiciones iniciales el mes de mayo

ECMWF Seasonal Forecast
 Mean forecast SST anomaly
 Forecast start reference is 01/05/16
 Ensemble size = 51, climate size = 450

JJA 2016

System 4
 JJA 2016

ECMWF



Pac. Cen.
 -0.8 °C

Pac. Or.
 -0.5°C

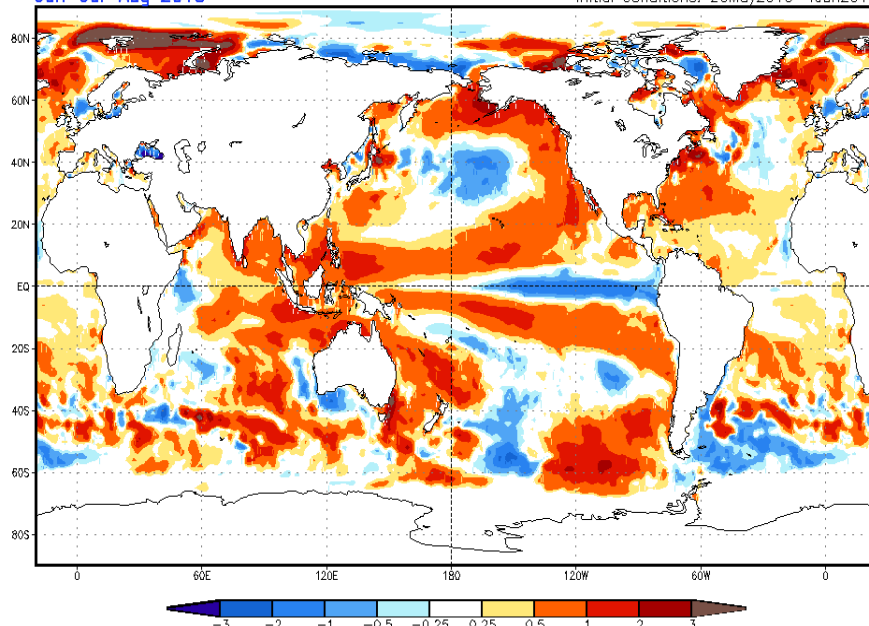
CFS2

CFSv2 seasonal SST anomalies (K)

NWS/NCEP/CPC

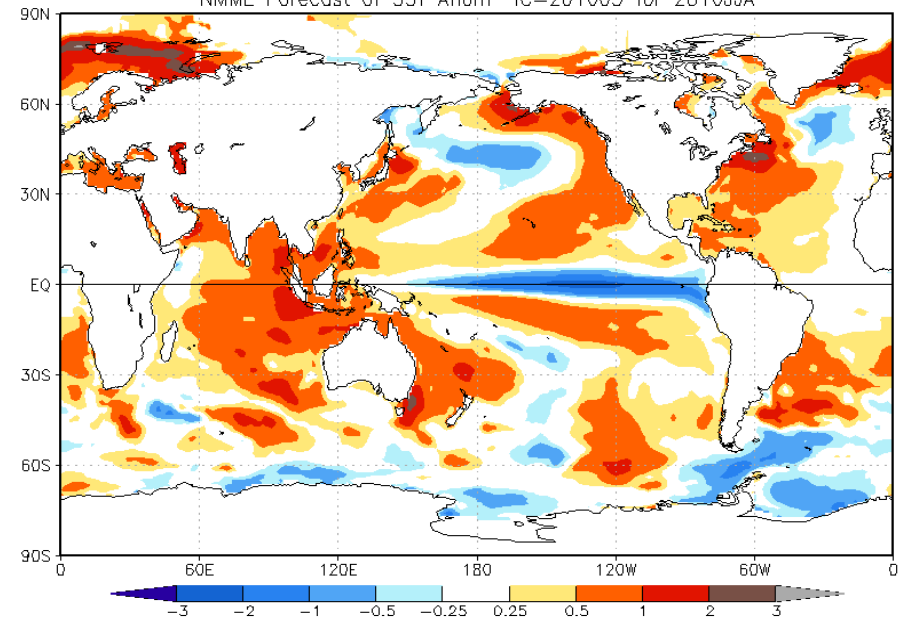
Jun-Jul-Aug 2016

Initial conditions: 26May2016-4Jun2016

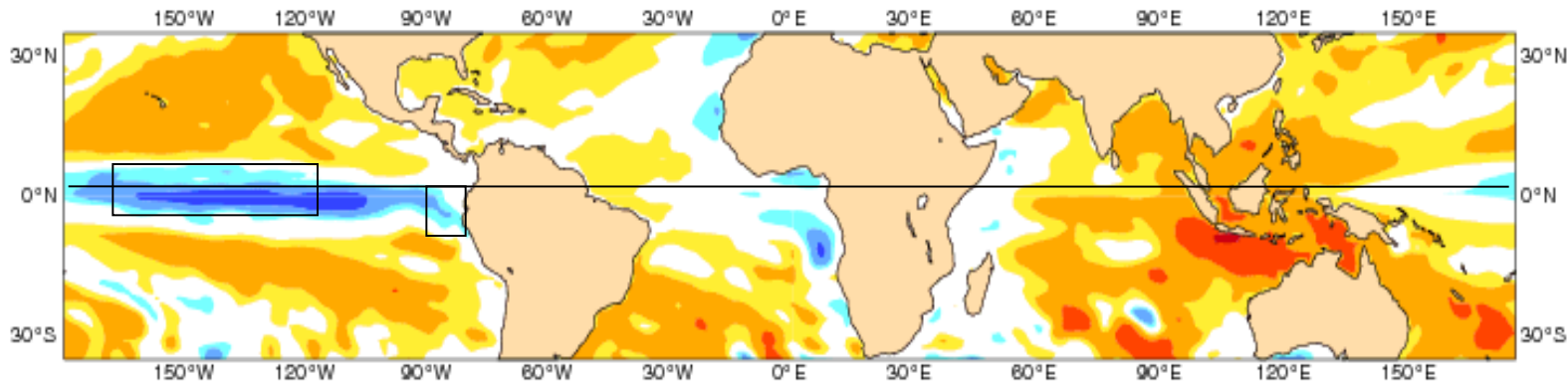


NMME

NMME Forecast of SST Anom IC=201605 for 2016JJA



ECMWF



Pac. Cen.
-0.6 °C

Pac. Or.
-0.2°C

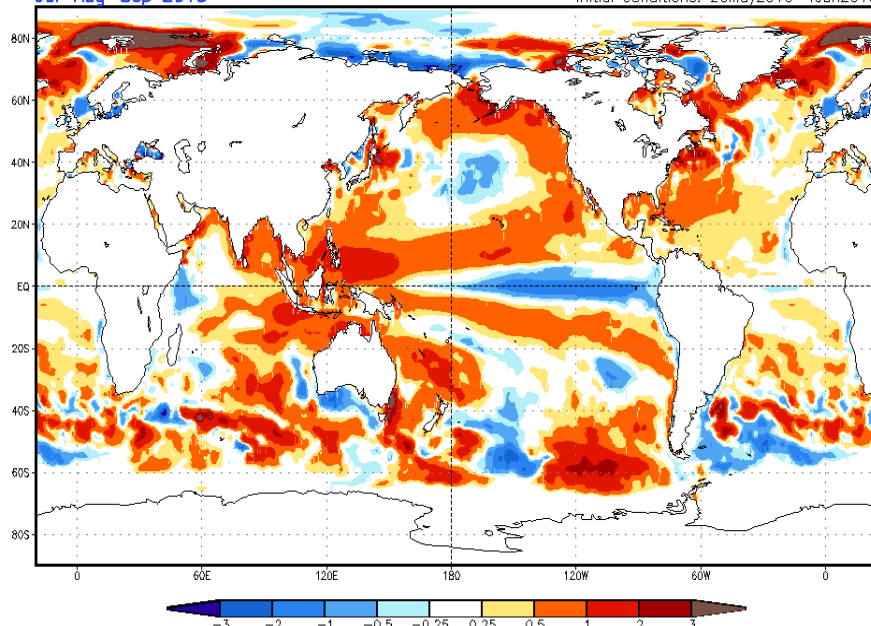
CFS2

CFSv2 seasonal SST anomalies (K)

NWS/NCEP/CPC

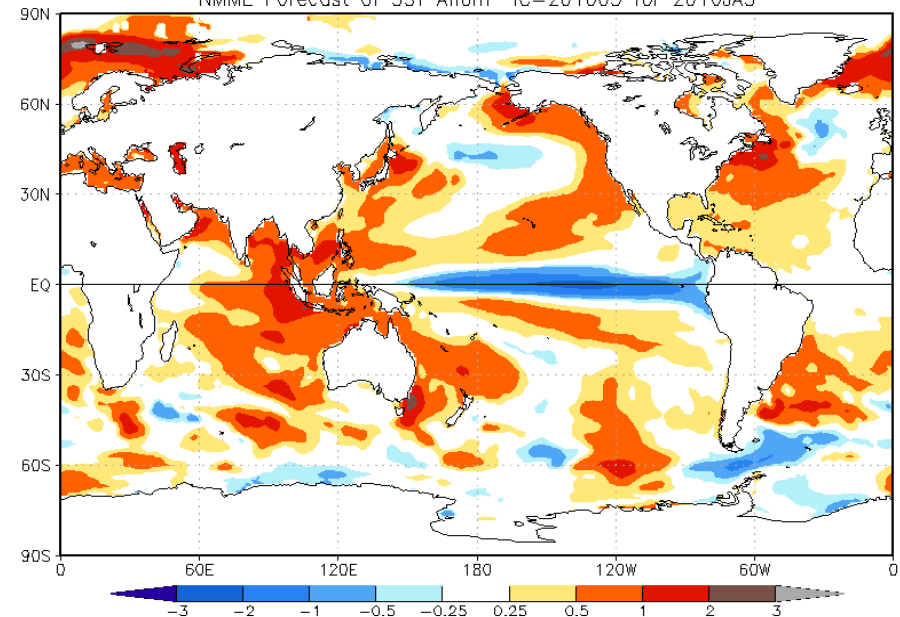
Jul-Aug-Sep 2016

Initial conditions: 26May2016-4Jun2016



NMME

NMME Forecast of SST Anom IC=201605 for 2016JAS

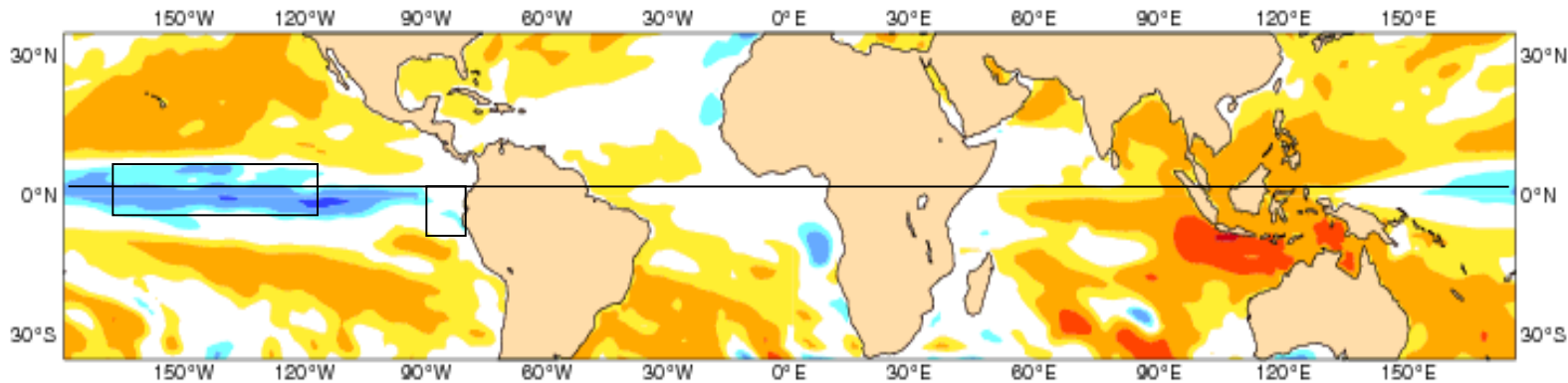


ECMWF Seasonal Forecast
Mean forecast SST anomaly
Forecast start reference is 01/05/16
Ensemble size = 51, climate size = 450

ASO 2016

System 4
ASO 2016

ECMWF



Pac. Cen.
-0.3 °C

Pac. Or.
-0.1°C

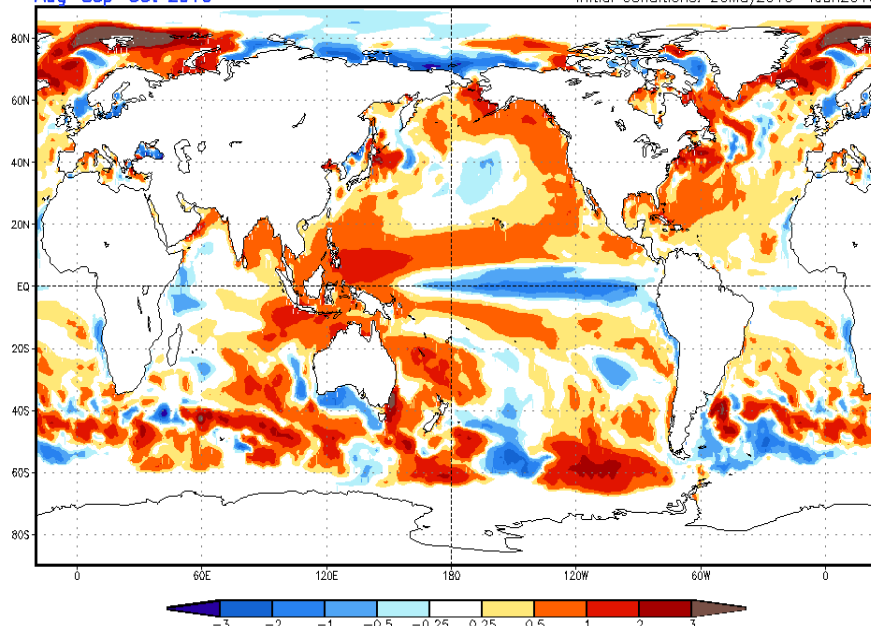
CFS2

CFSv2 seasonal SST anomalies (K)

NWS/NCEP/CPC

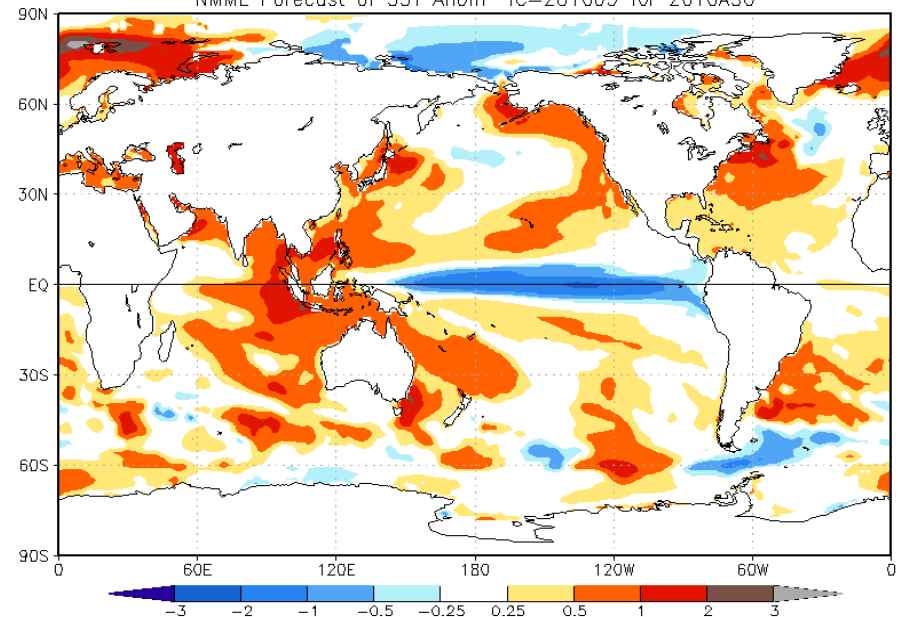
Aug-Sep-Oct 2016

Initial conditions: 26May2016-4Jun2016



NMME

NMME Forecast of SST Anom IC=201605 for 2016ASO



Pronósticos de ICEN por modelos de NMME (promedios trimestrales de los pronósticos de las anomalías en Niño 1+2)

CI 2016 04

Modelo	MAM	AMJ	MJJ	JJA	JAS	ASO	SON
CFS2	0.45	-0.37	-1.14	-1.53	-1.43	-1.19	-0.98
CMC1	1.03	0.56	-0.17	-0.80	-1.09	-1.03	-0.81
CMC2	1.17	0.87	0.29	-0.20	-0.42	-0.40	-0.32
GFDL	1.04	0.62	0.15	-0.23	-0.17	0.09	0.28
NASA	0.45	-0.43	-1.11	-1.25	-0.92	-0.51	-0.21
GFDL_FLOR	0.44	-0.27	-0.71	-0.72	-0.44	-0.20	-0.14
NCAR_CCSM4	0.49	-0.17	-0.66	-0.75	-0.74	-0.73	-0.85
NMME	0.72	0.12	-0.48	-0.78	-0.74	-0.57	-0.43
ECMWF			-1.00	-0.60	-0.20	-0.10	
ICENtmp	0.50						

CI 2016 05

Modelo	AMJ	MJJ	JJA	JAS	ASO	SON	OND
CFS2		-0.64	-0.72	-0.79	-0.69	-0.59	-0.65
CMC1		-0.17	-0.71	-0.95	-0.92	-0.70	-0.50
CMC2		0.06	-0.35	-0.46	-0.43	-0.33	-0.34
GFDL		-0.27	-0.32	-0.19	-0.03	0.01	-0.03
NASA		-1.05	-1.12	-0.78	-0.41	-0.20	-0.10
GFDL_FLOR		-0.51	-0.55	-0.44	-0.35	-0.30	-0.37
NCAR_CCSM4		-0.29	-0.48	-0.45	-0.32	-0.31	-0.46
NMME		-0.41	-0.61	-0.58	-0.45	-0.35	-0.35
ECMWF			-0.5	-0.2	-0.1	-0.1	
ICENtmp	0.21						

Nota: La media corrida MJJ de CFS2 fue sólo con (junio y julio), no hay dato para mayo.

SERIE DE TIEMPO DE ANOMALÍA TÉRMICA (ENERO 2015 - 7 DE JUNIO 2016)

DATOS ARGOS, CLIMATOLOGÍA GODAS (1993-2015)

