Monitoreo y pronóstico de El Niño mayo 2017

Comité Técnico ENFEN

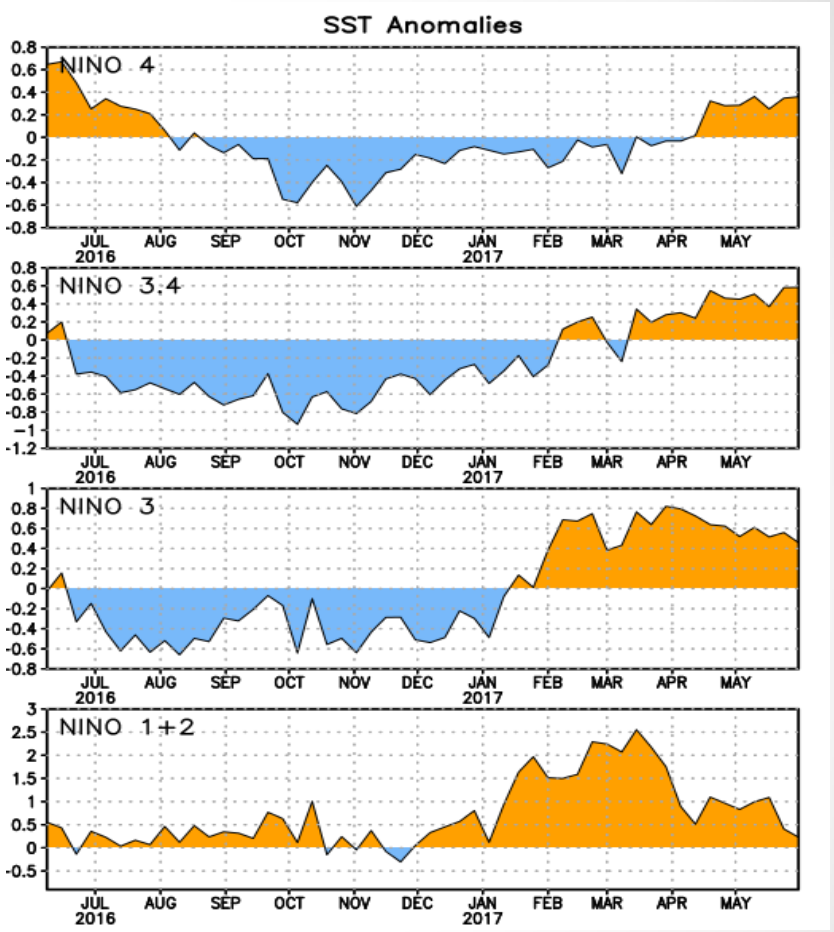
Grinia Avalos Roldán
Coordinación Técnica - ENFEN

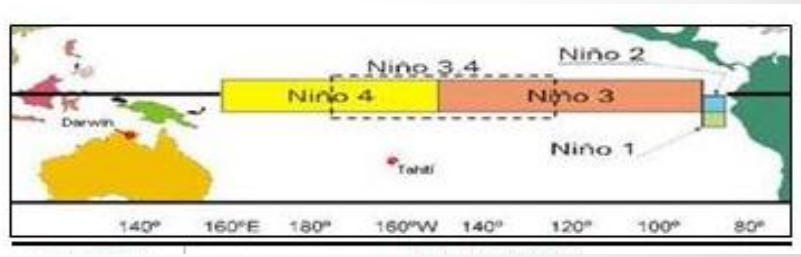
12 de junio de 2017

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

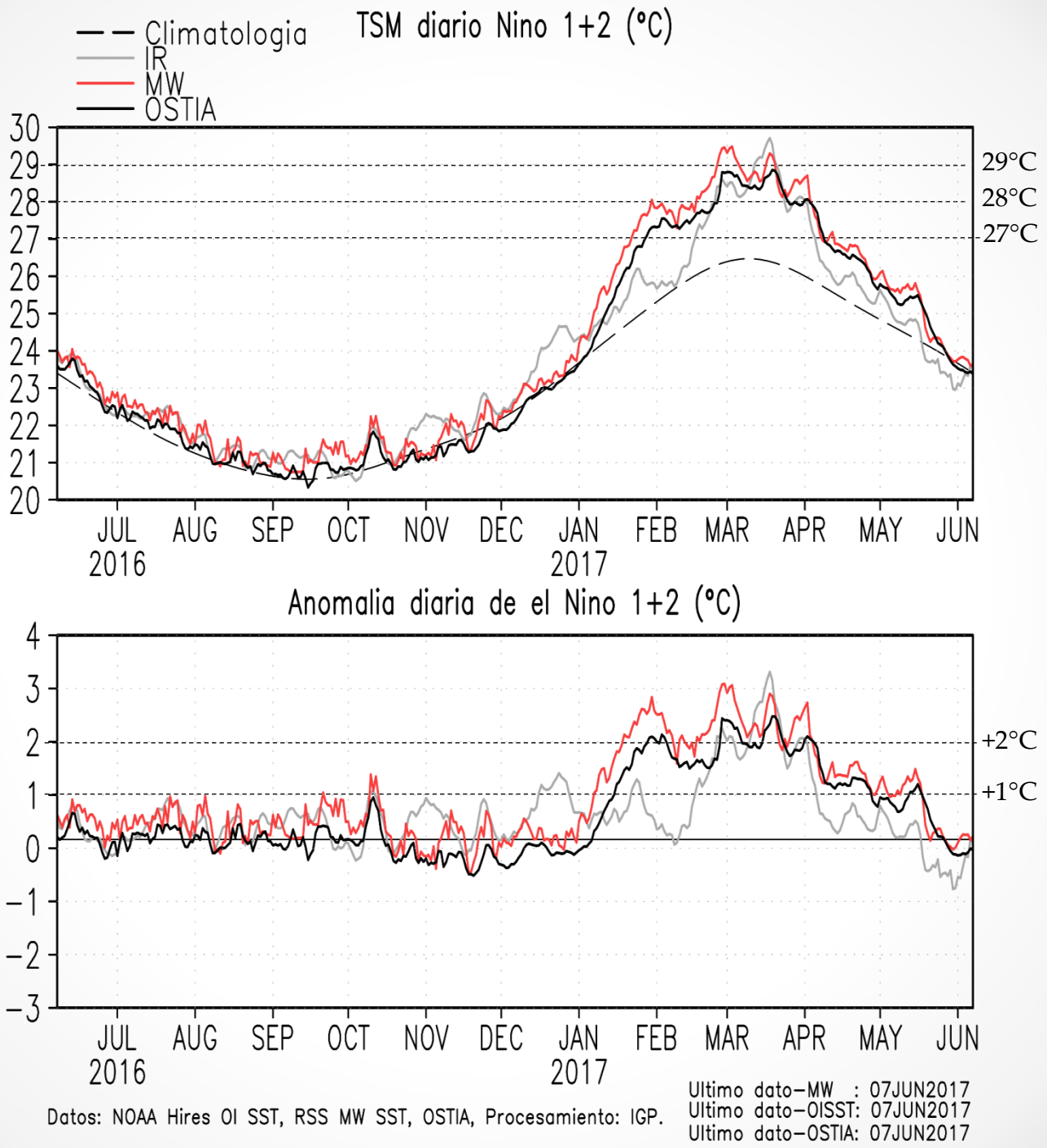
Regiones Niño	TSM y ATSM (Semanales)							
	Niño 1+2		Niño 3		Niño 3.4		Niño 4	
03-May-17	25.6	0.8	27.8	0.5	28.3	0.5	28.9	0.3
10-May-17	25.4	1.0	27.8	0.6	28.3	0.5	29.1	0.4
17-May-17	25.2	1.1	27.6	0.5	28.2	0.4	29.0	0.3
24-May-17	24.2	0.4	27.5	0.6	28.4	0.6	29.1	0.3
31-May-17	23.7	0.2	27.2	0.5	28.3	0.6	29.2	0.4

Promedios mensuales 2016-2017								
Regiones Niño	ATSM							
	Niño 1+2		Niño 3		Niño 3.4		Niño 4	
May.2017	0.78	25.1	0.51	27.6	0.46	28.3	0.3	29.1
Abr.2017	1.0	26.6	0.6	28.1	0.3	28.1	0.1	28.6
Mar.2017	2.0	28.6	0.5	27.7	0.1	27.3	-0.1	28.1
Feb.2017	1.6	27.8	0.0	27.0	0.14	26.9	-0.1	28.0
Ene.2017	1.2	25.8	0.0	25.6	-0.3	26.3	-0.1	28.2
Dic.2016	0.4	23.3	-0.4	24.8	-0.4	26.2	-0.1	28.4
Nov.2016	0.1	21.7	-0.4	24.5	-0.6	26.1	-0.4	28.3
Oct.2016	0.4	21.2	-0.4	24.5	-0.7	26.0	-0.4	28.3
Set.2016	0.5	20.9	-0.2	24.7	-0.6	26.1	-0.2	28.5
Ago.2016	0.4	21.0	-0.5	24.5	-0.5	26.3	0.0	28.7
Jul.2016	0.2	21.8	-0.5	25.1	-0.5	26.7	0.3	29.1
Jun.2016	0.3	23.2	-0.1	26.3	-0.1	27.5	0.5	29.4
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

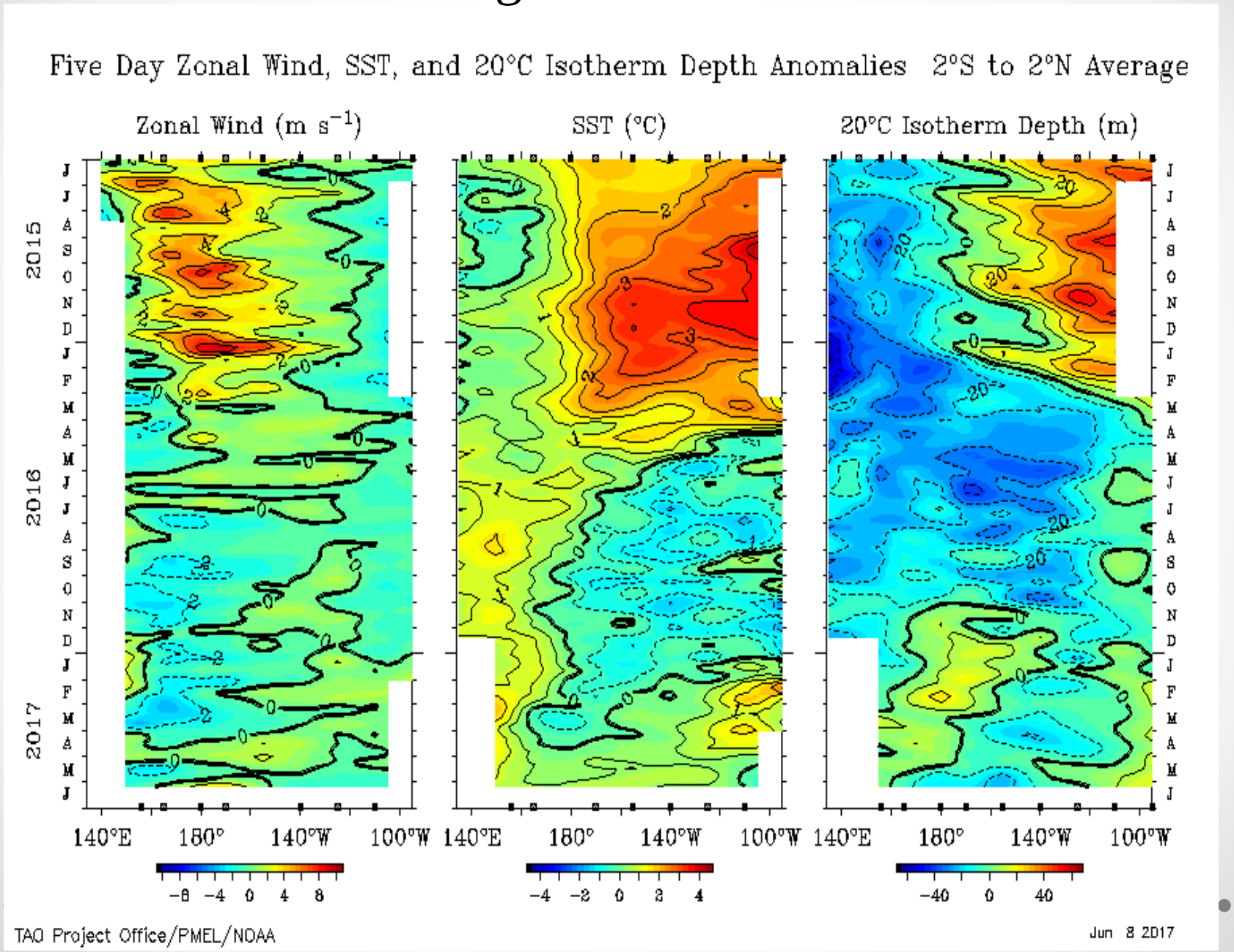




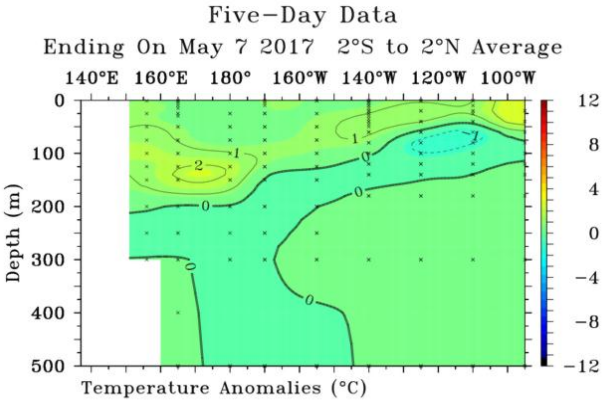
Fuente: NCEP/NOAA

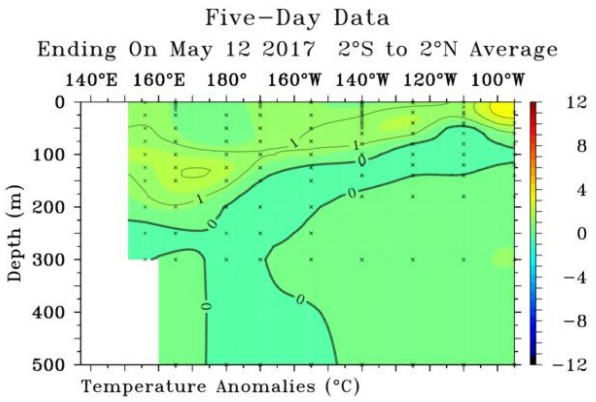

Climatologia
IR
MW
OSTIA
TSM diario Nino 1+2 (°C)
30
29
28
27
26
25
24
23
22
21
20
29°C
28°C
27°C
JUL
2016
AUG
SEP
OCT
NOV
DEC
JAN
2017
FEB
MAR
APR
MAY
JUN
Anomalia diaria de el Nino 1+2 (°C)
4
3
2
1
0
−1
−2
−3
+2°C
+1°C
JUL
2016
AUG
SEP
OCT
NOV
DEC
JAN
2017
FEB
MAR
APR
MAY
JUN
Datos: NOAA Hires OI SST, RSS MW SST, OSTIA, Procesamiento: IGP.
Ultimo dato−MW : 07JUN2017
Ultimo dato−OISST: 07JUN2017
Ultimo dato−OSTIA: 07JUN2017

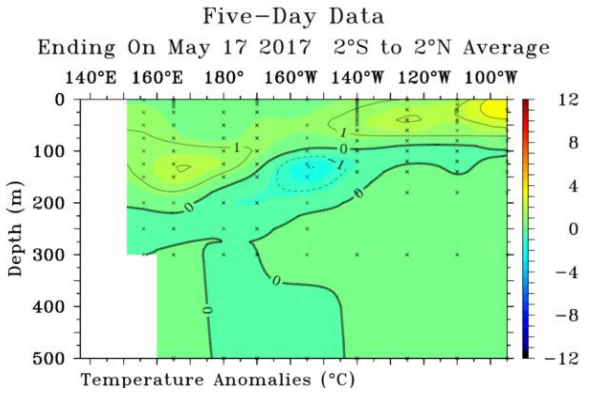
TAO a lo largo de la línea ecuatorial

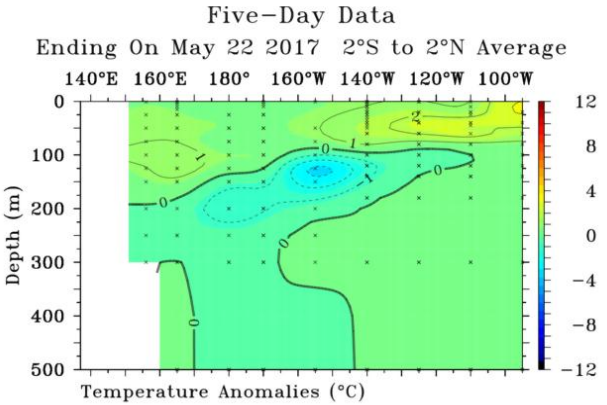


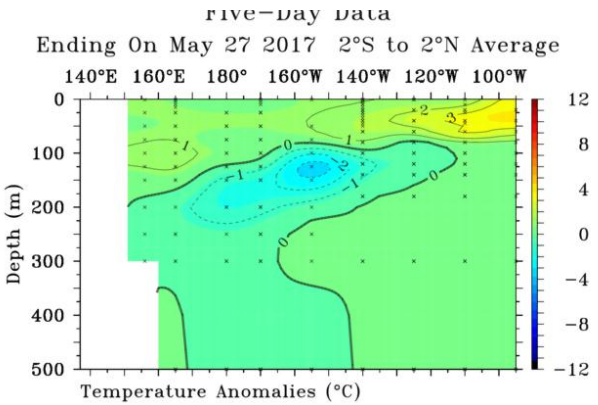
ANOMALÍAS DE LA TEMPERATURA SUBSUPERFICIAL EN EL PACÍFICO ECUATORIAL

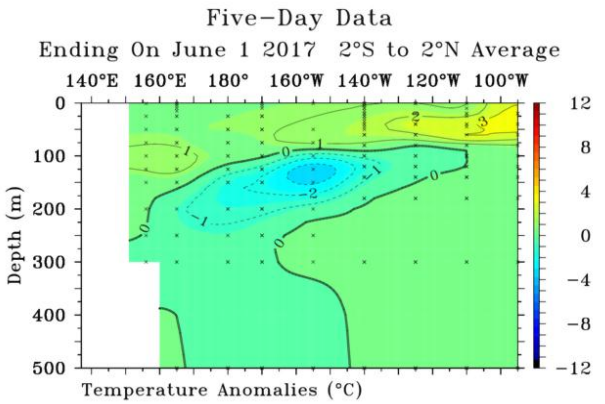


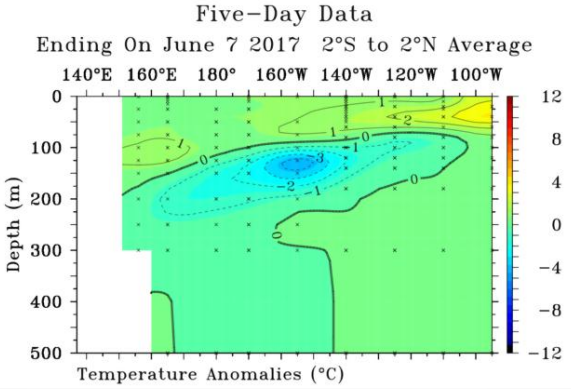












Valores del ICEN-OI

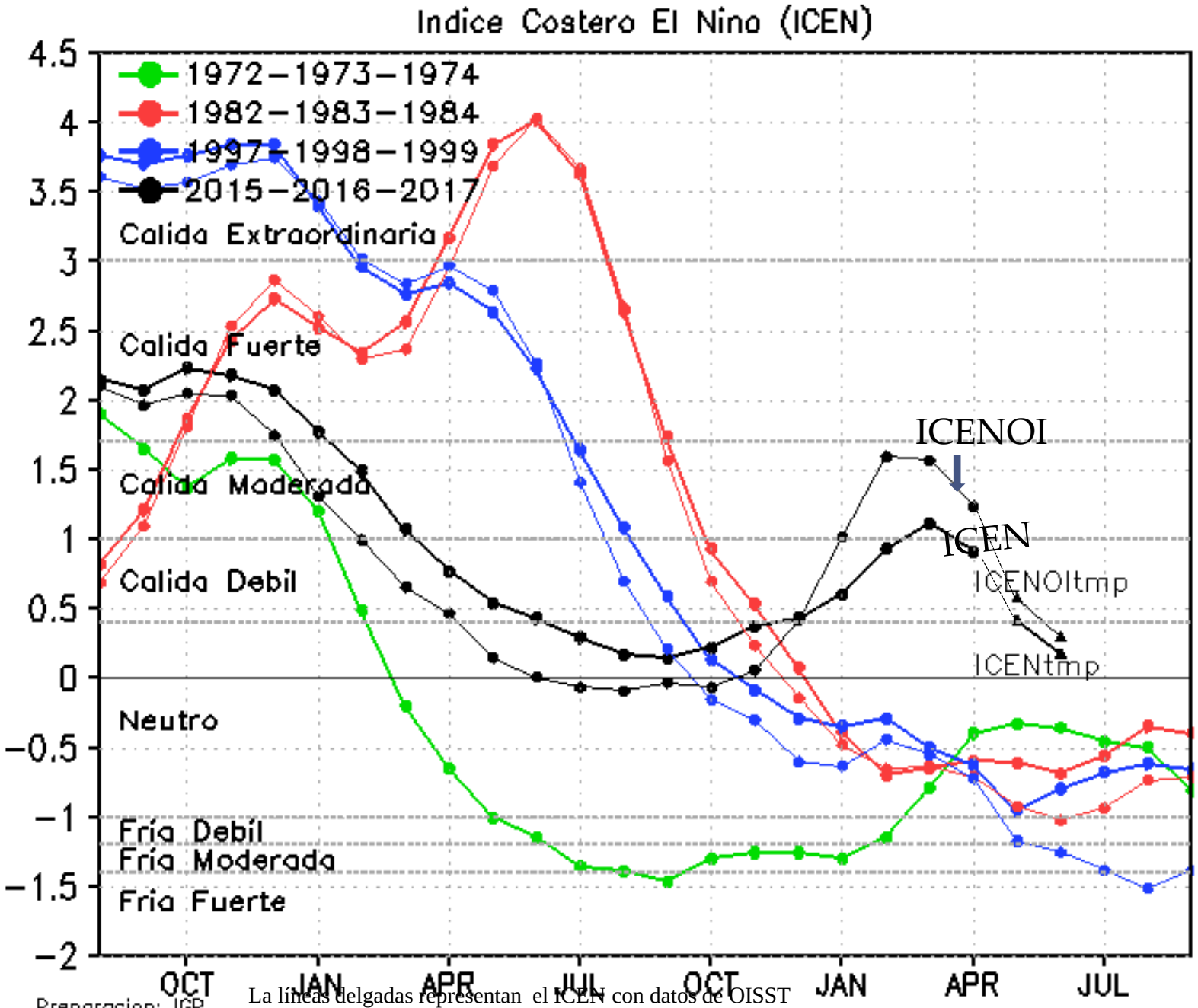
Mes	ICENOI	Categoría
08/2016	-0.09	Neutra
09/2016	-0.03	Neutra
10/2016	-0.06	Neutra
11/2016	0.06	Neutra
12/2016	0.42	Cálida Débil
01/2017	1.02	Cálida Moderada
02/2017	1.60	Cálida Moderada
03/2017	1.57	Cálida Moderada
04/2017	1.24	Cálida Moderada

Mes	ICENOItmp	Categoría
05/2017	0.58*	Cálida Débil
06/2017	0.30**	Neutra

* Se usaron los datos de Abr. Y May (SST-OI) y Jun. (NMME)

** Se usaron los datos de may. 2017 (SST-OI), Jun. Y Jul 2017 (NMME)

NMME CI 2017 06



La líneas delgadas representan el ICEN con datos de OISST

Valores del Oceanic Niño Index (ONI)

La Niña en el Pacífico Central duró hasta diciembre →

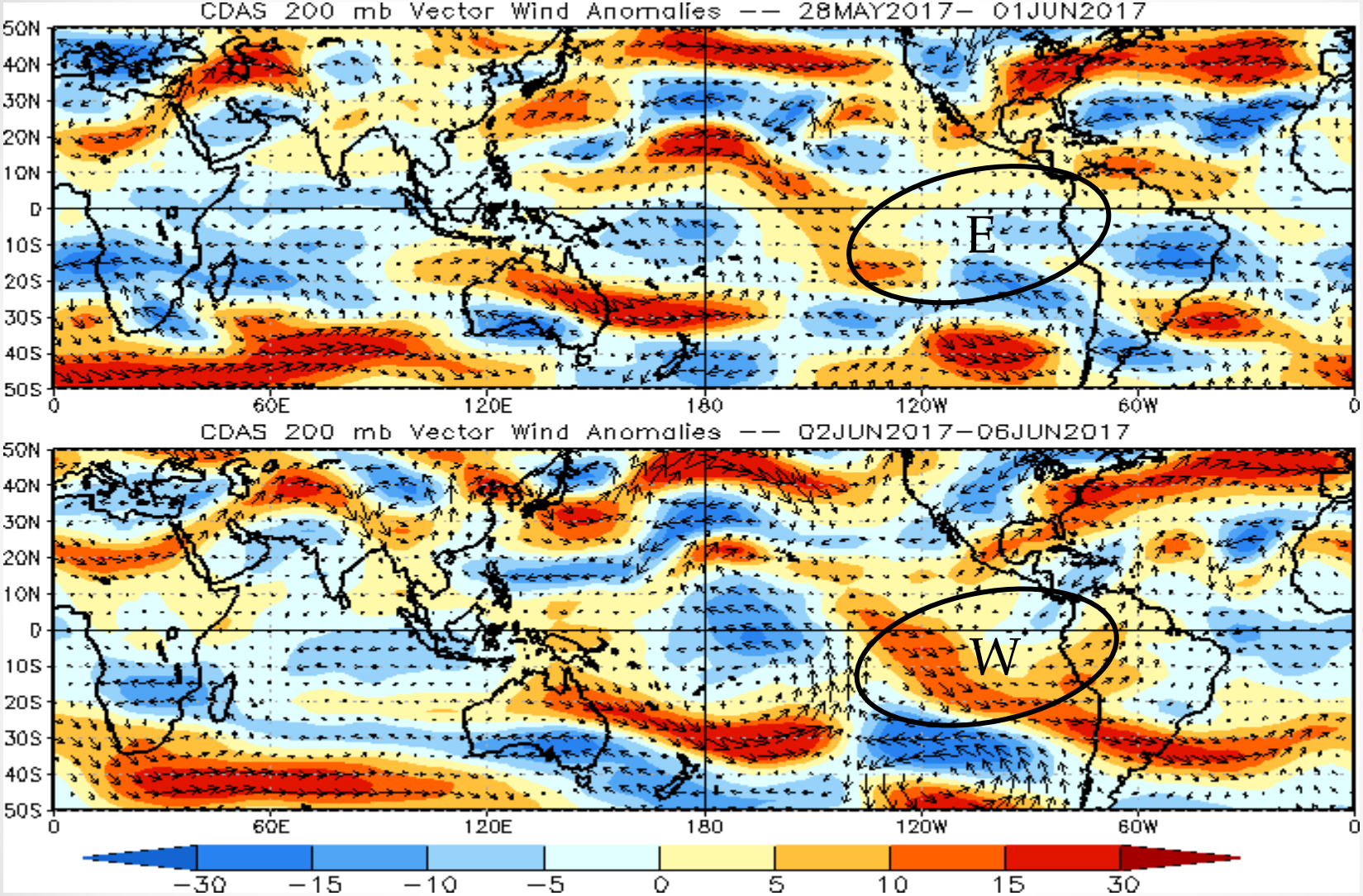
Mes	ONI	Categoría
08/2016	-0.58	Fría Débil
09/2016	-0.75	Fría Débil
10/2016	-0.84	Fría Débil
11/2016	-0.84	Fría Débil
12/2016	-0.67	Fría Débil
01/2017	-0.42	Neutra
02/2017	-0.12	Neutra
03/2017	0.14	Neutra
04/2017	0.41	Neutra

http://www.cpc.ncep.noaa.gov/data/indices/oni.ascii.txt

Mes	ONItmp	Categoría
05/2017	0.51*	Cálida Débil
06/2017	0.50**	Neutra

* Se usaron los datos de Mar. Abr 2017 (ERSST4) y May 2017 (NMME) .
** Se usaron los datos de Abr. 2017 (ERSST4), y May. Jun 2017 (NMME)

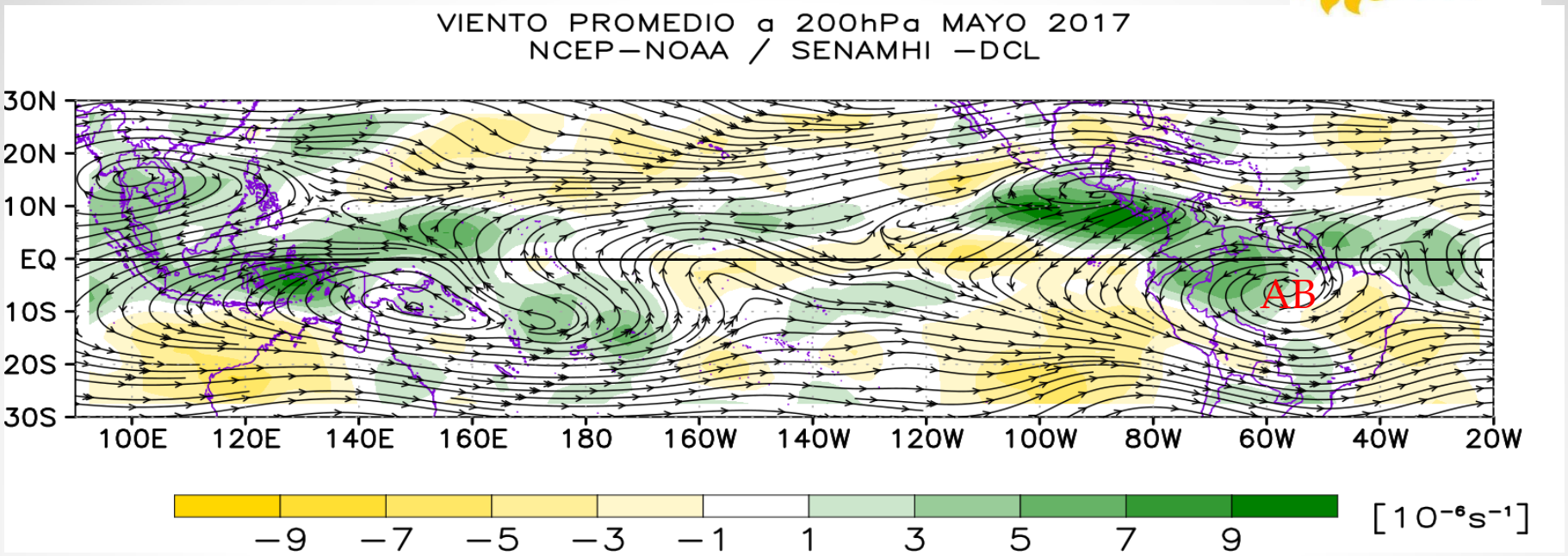
VIENTO EN TROPOSFERA ALTA - 200 hPa

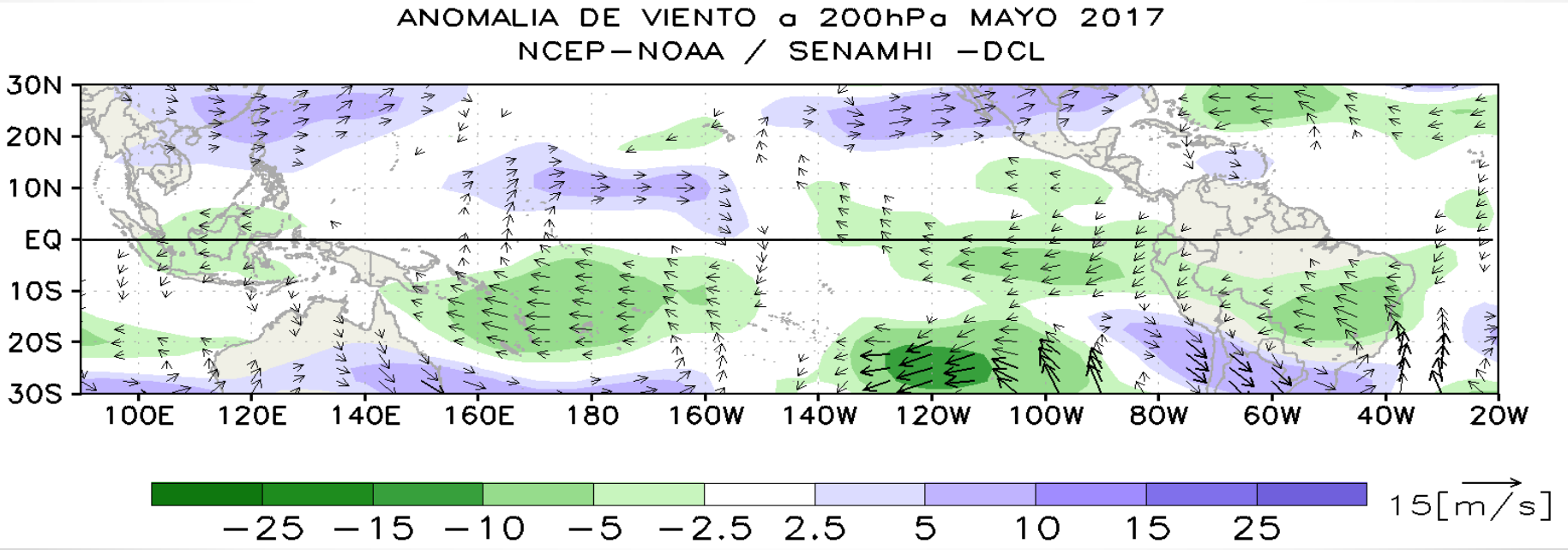


28 MAY – 01JUN

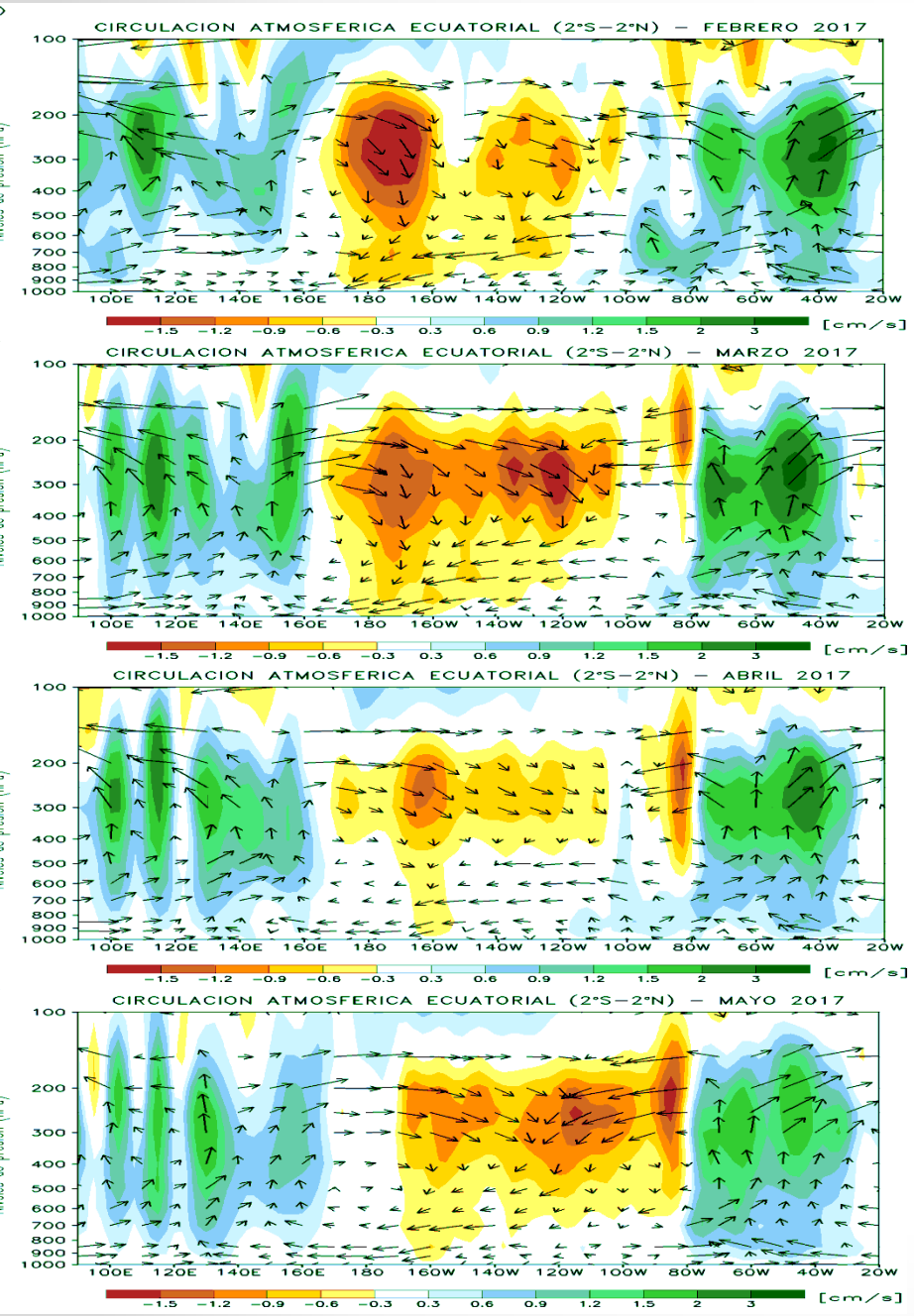
02 – 06 JUN

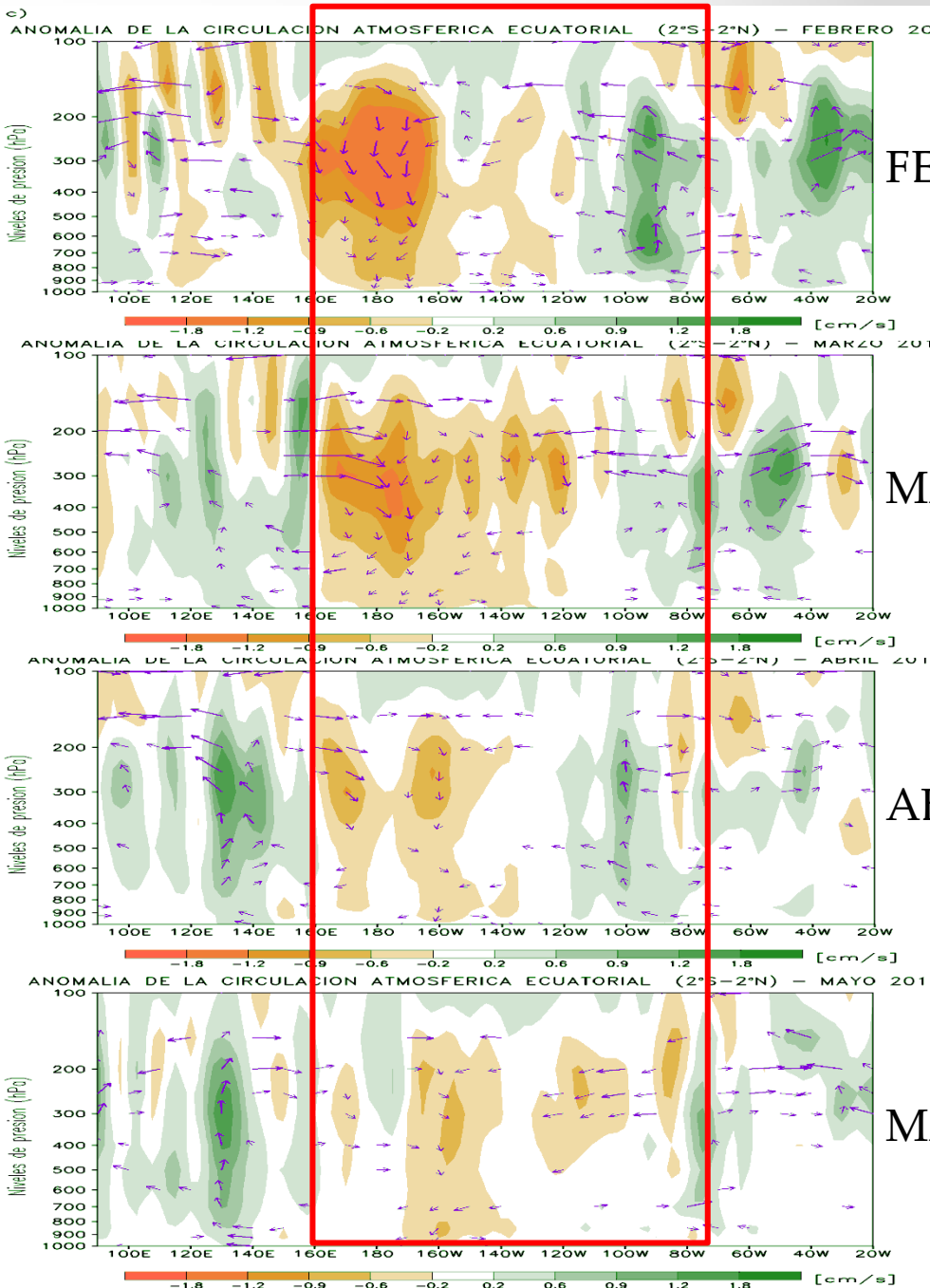
VIENTO EN TROPOSFERA ALTA - 200 hPa



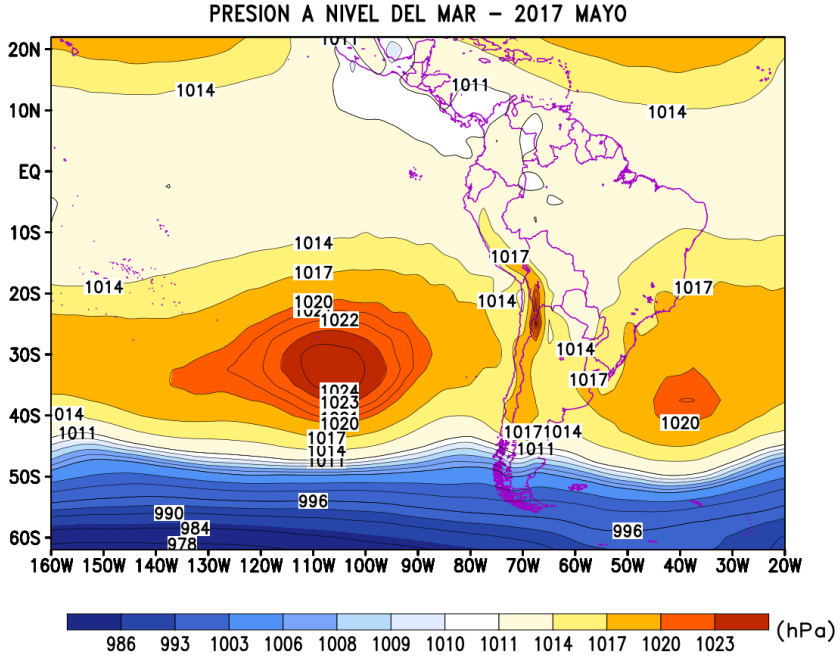


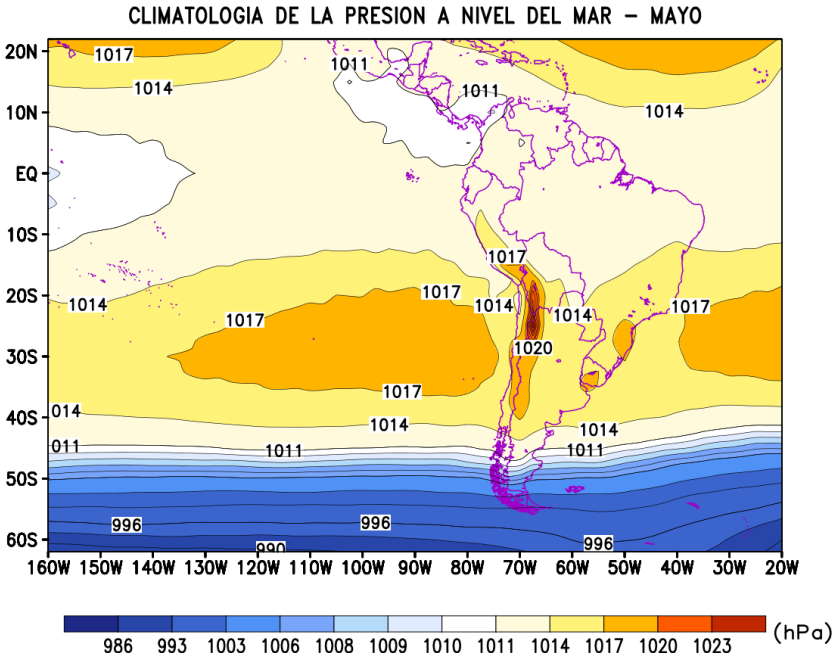
MONITOREO DE LA CIRCULACION ECUATORIAL ATMOSF. EC. 5ºN-5º

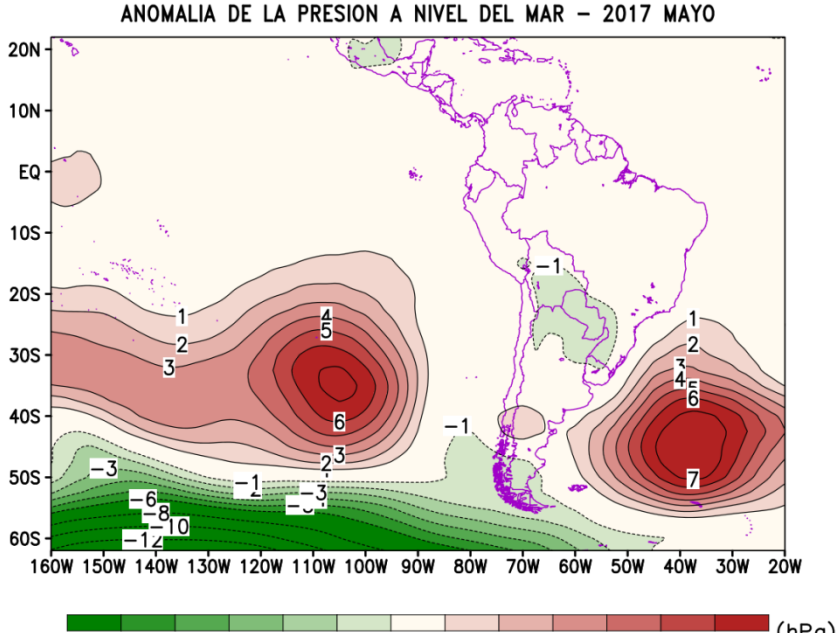


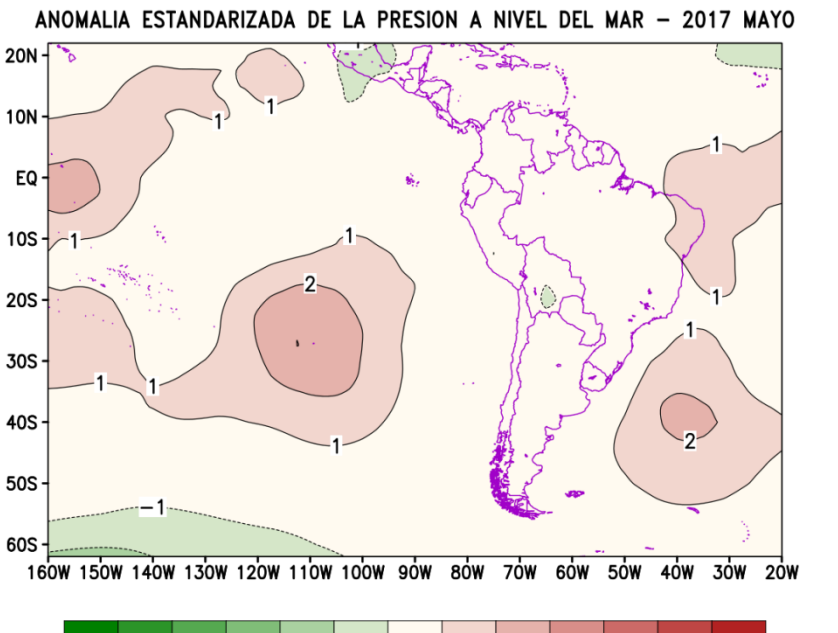


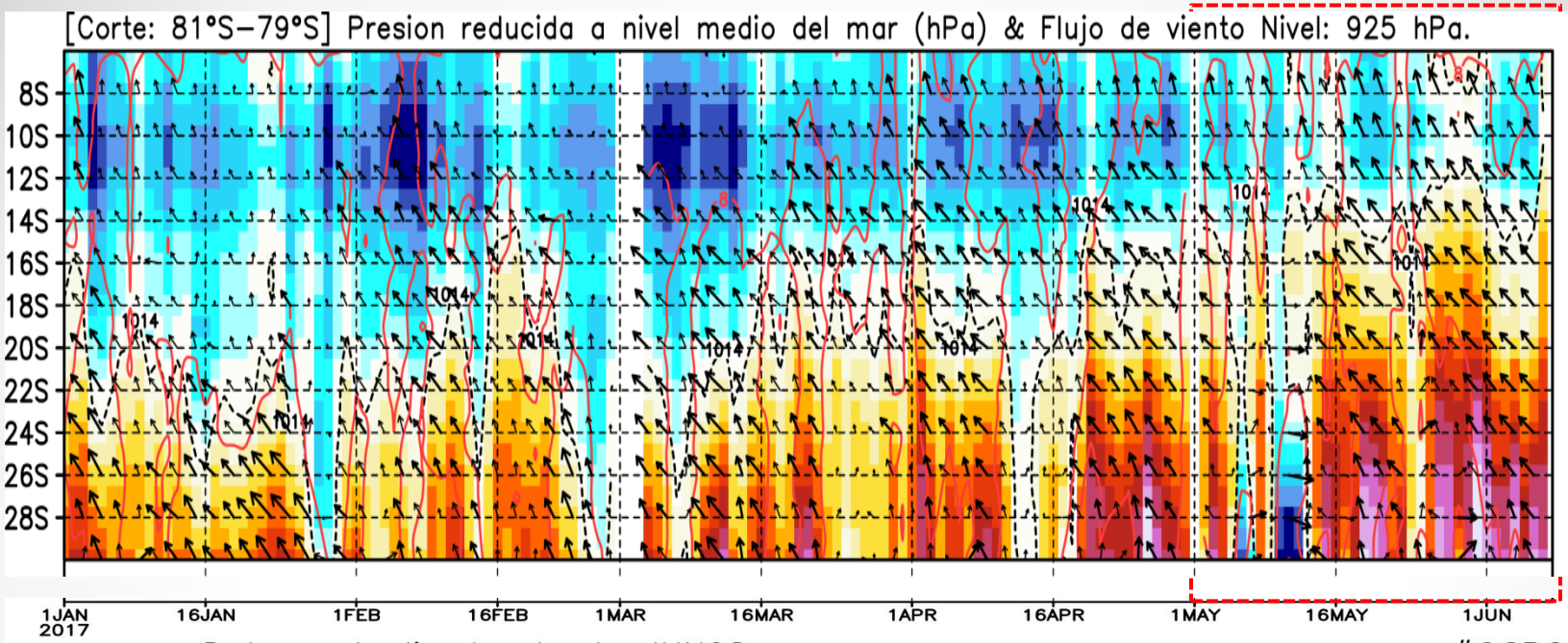
CAMPOS DE PRESIONES



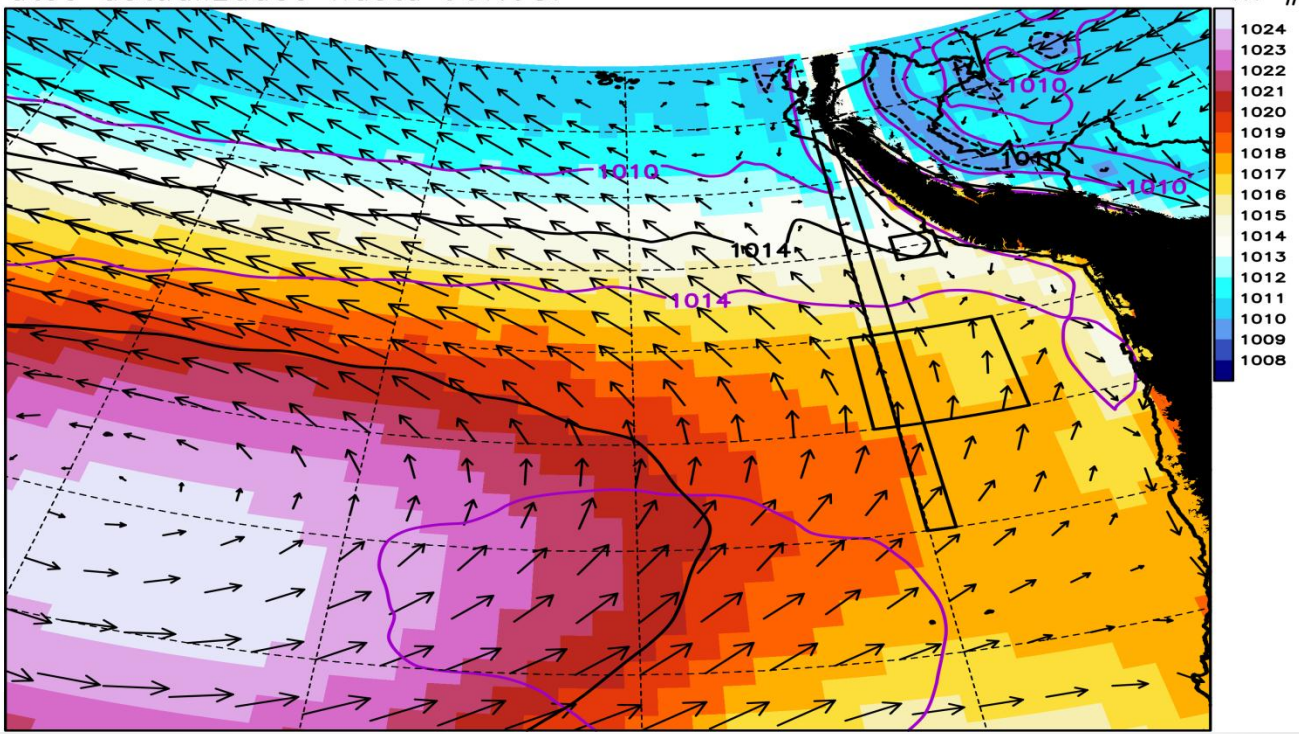








Datos actualizados hasta JUN08. ... #@SPC★

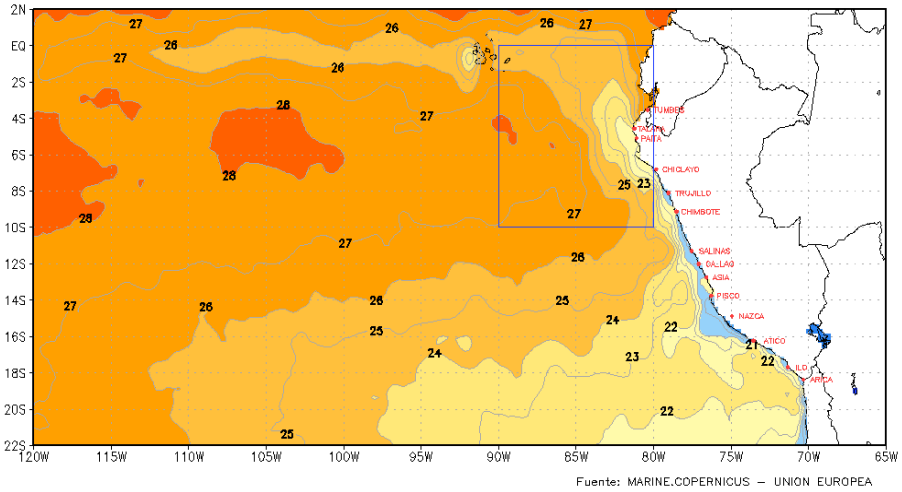


Senamhi
SERVICIO NACIONAL DE METEOROLOGIA E HIDROLOGIA DEL PERU

TEMPERATURA SUPERFICIAL DEL MAR EN EL PACÍFICO SURORIENTAL

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

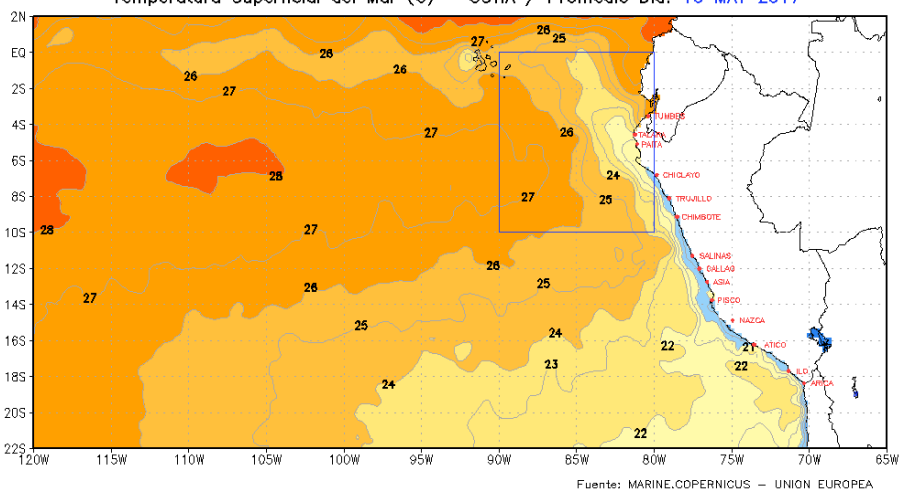
Temperatura Superficial del Mar (C) – OSTIA / Promedio Dia: 01 MAY 2017



Fuente: MARINE.COPERNICUS – UNION EUROPEA

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

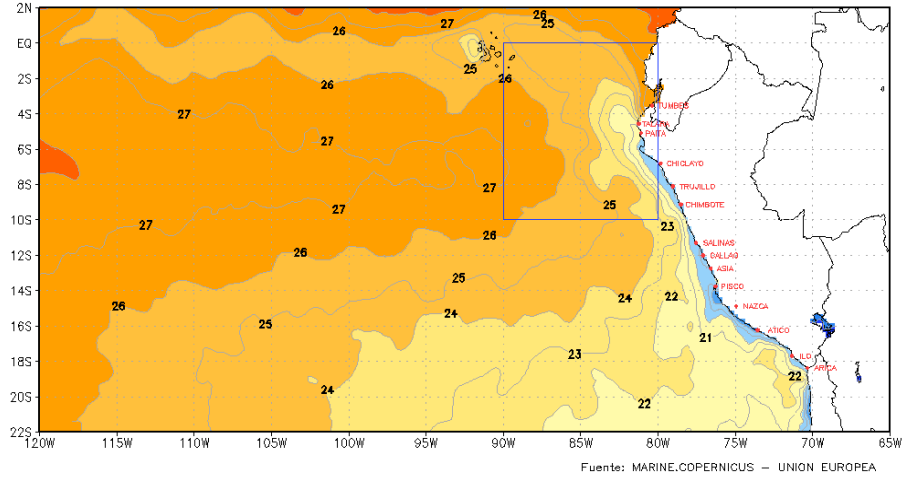
Temperatura Superficial del Mar (C) – OSTIA / Promedio Dia: 10 MAY 2017



Fuente: MARINE.COPERNICUS – UNION EUROPEA

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

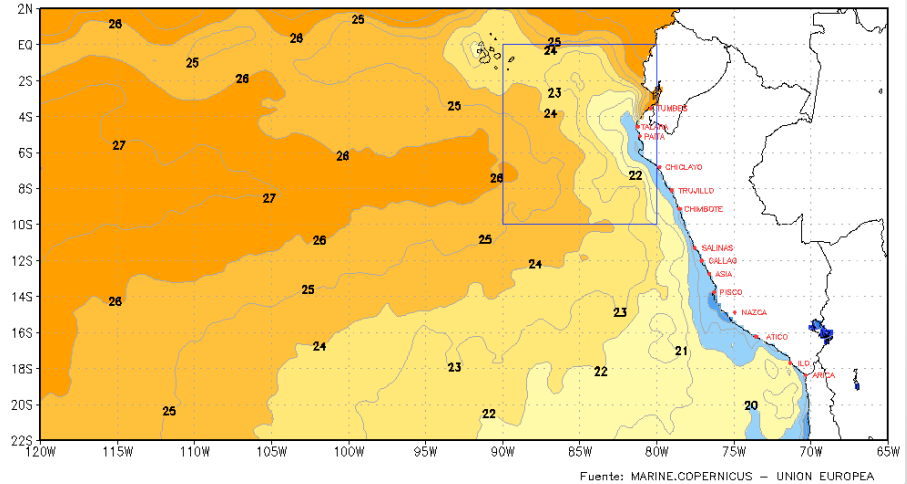
Temperatura Superficial del Mar (C) – OSTIA / Promedio Dia: 20 MAY 2017



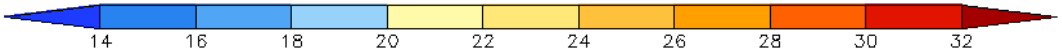
Fuente: MARINE.COPERNICUS – UNION EUROPEA

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Temperatura Superficial del Mar (C) – OSTIA / Promedio Dia: 31 MAY 2017



Fuente: MARINE.COPERNICUS – UNION EUROPEA

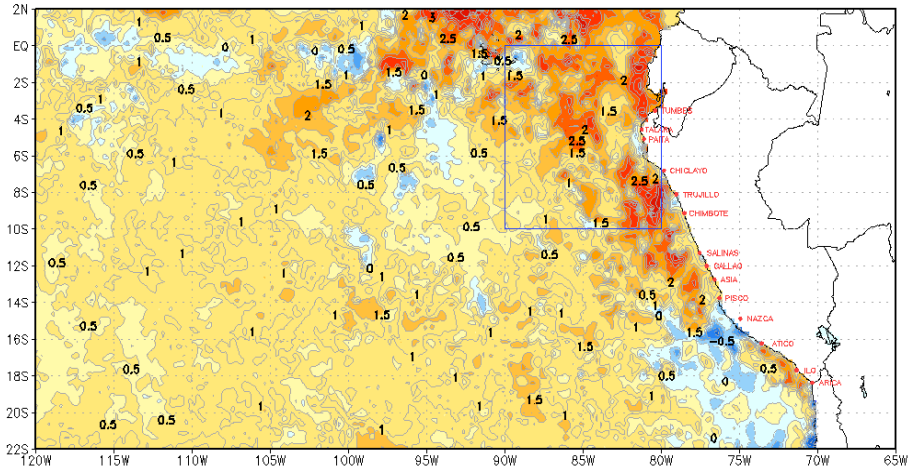


Fuente: OSTIA

ANOMALÍAS DE LA TEMPERATURA SUPERFICIAL DEL MAR EN EL PACÍFICO SURORIENTAL

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

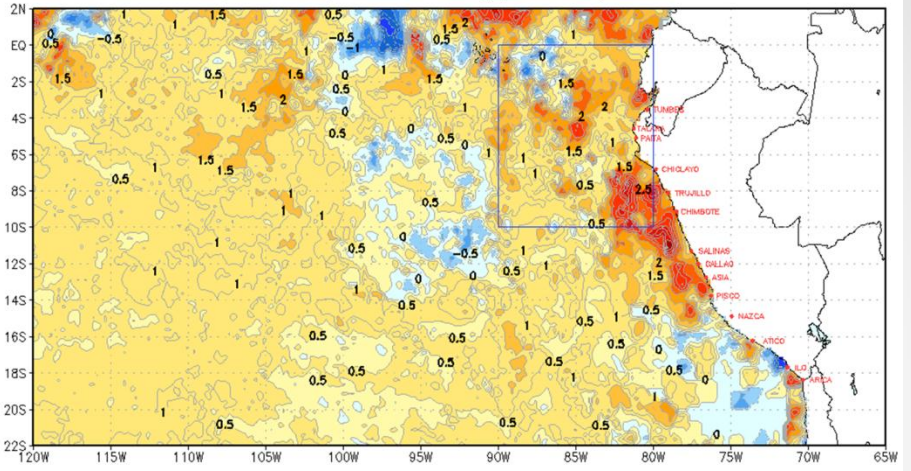
Anomalía de la Temperatura Superficial del Mar (C) – OSTIA / Promedio Dia: 01 MAY 2017



Fuente: MARINE.COPERNICUS – UNION EUROPEA

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

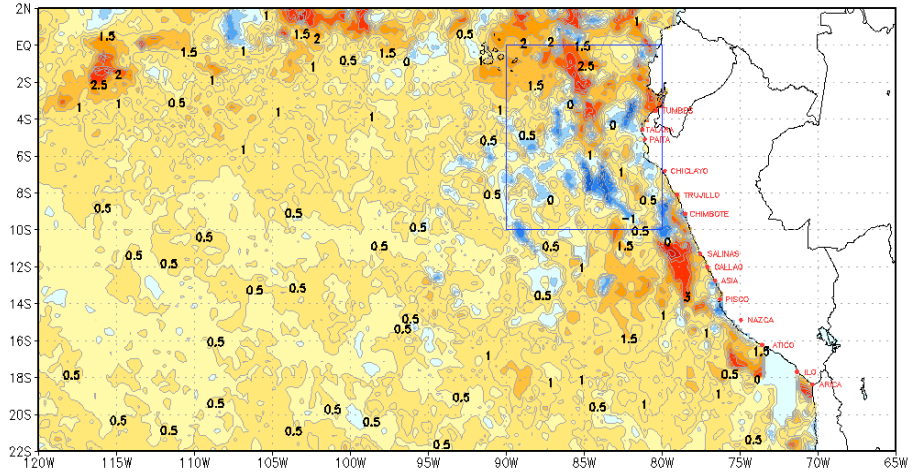
Anomalía de la Temperatura Superficial del Mar (C) – OSTIA / Promedio Dia: 10 MAY 2017



Fuente: MARINE.COPERNICUS – UNION EUROPEA

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

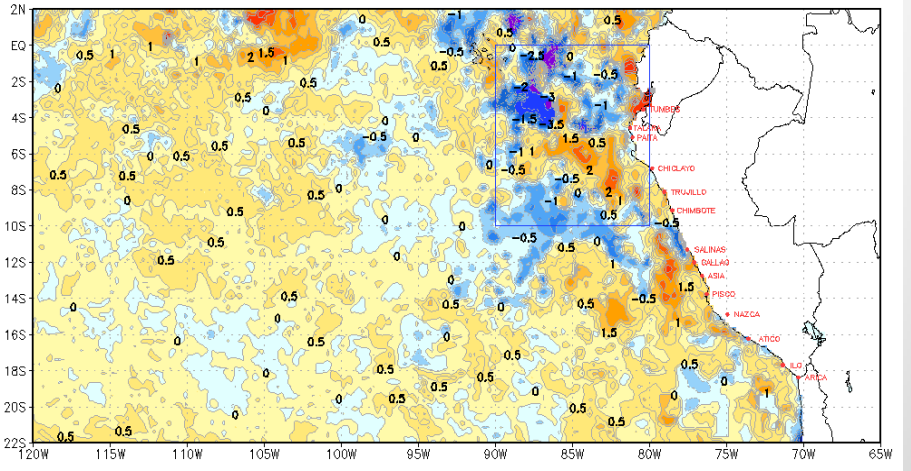
Anomalía de la Temperatura Superficial del Mar (C) – OSTIA / Promedio Dia: 21 MAY 2017



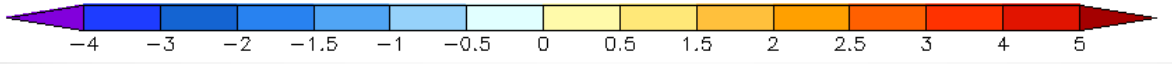
Fuente: MARINE.COPERNICUS – UNION EUROPEA

DIRECCION DE HIDROGRAFIA Y NAVEGACION
DPTO OCEANOGRAFIA – DIV METEOROLOGIA

Anomalía de la Temperatura Superficial del Mar (C) – OSTIA / Promedio Dia: 31 MAY 2017



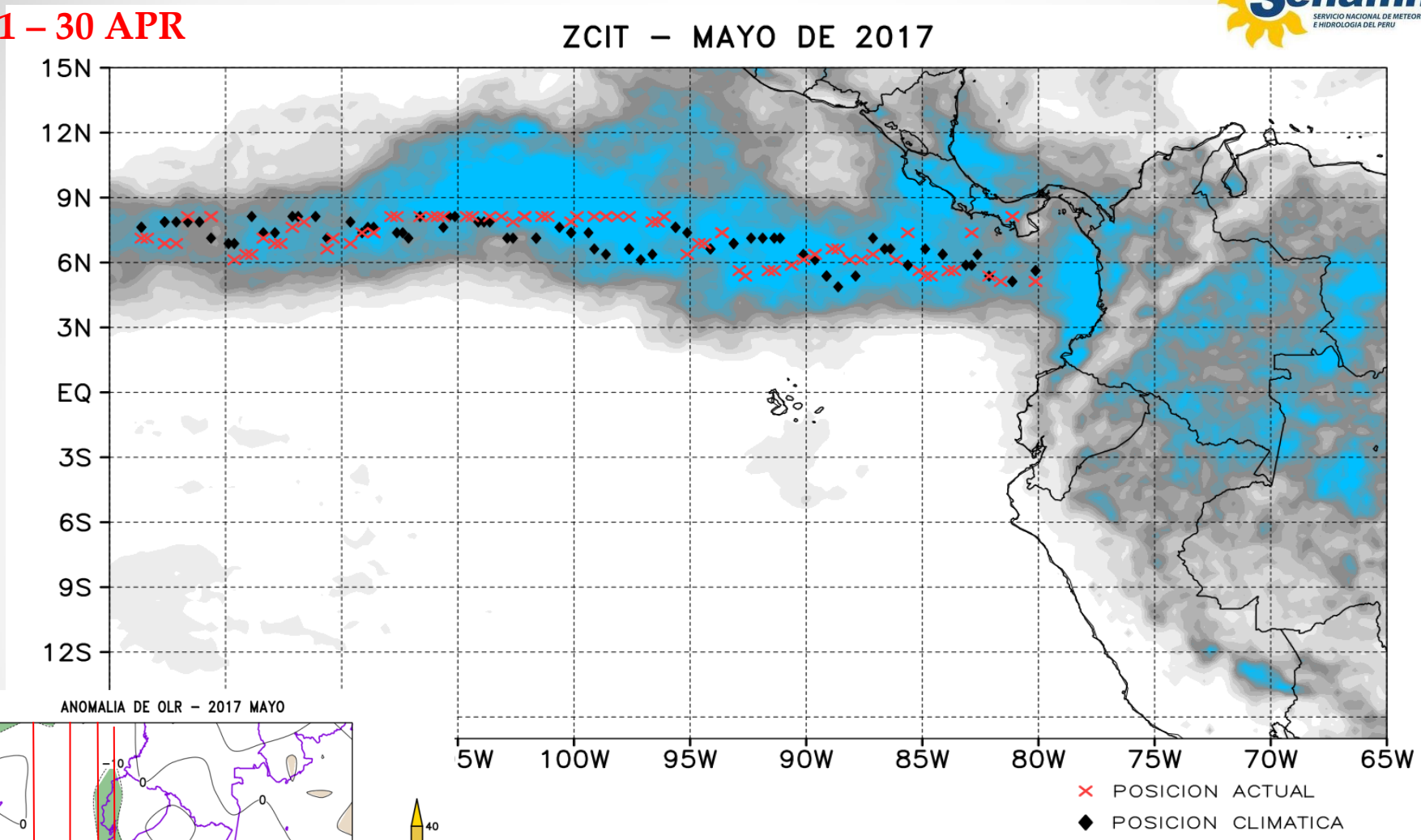
Fuente: MARINE.COPERNICUS – UNION EUROPEA

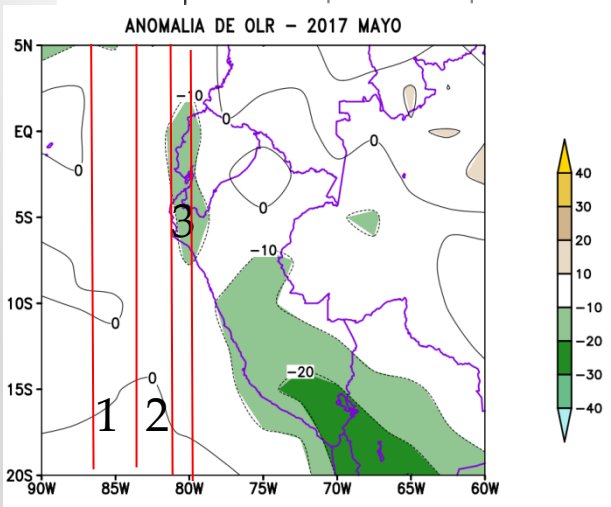


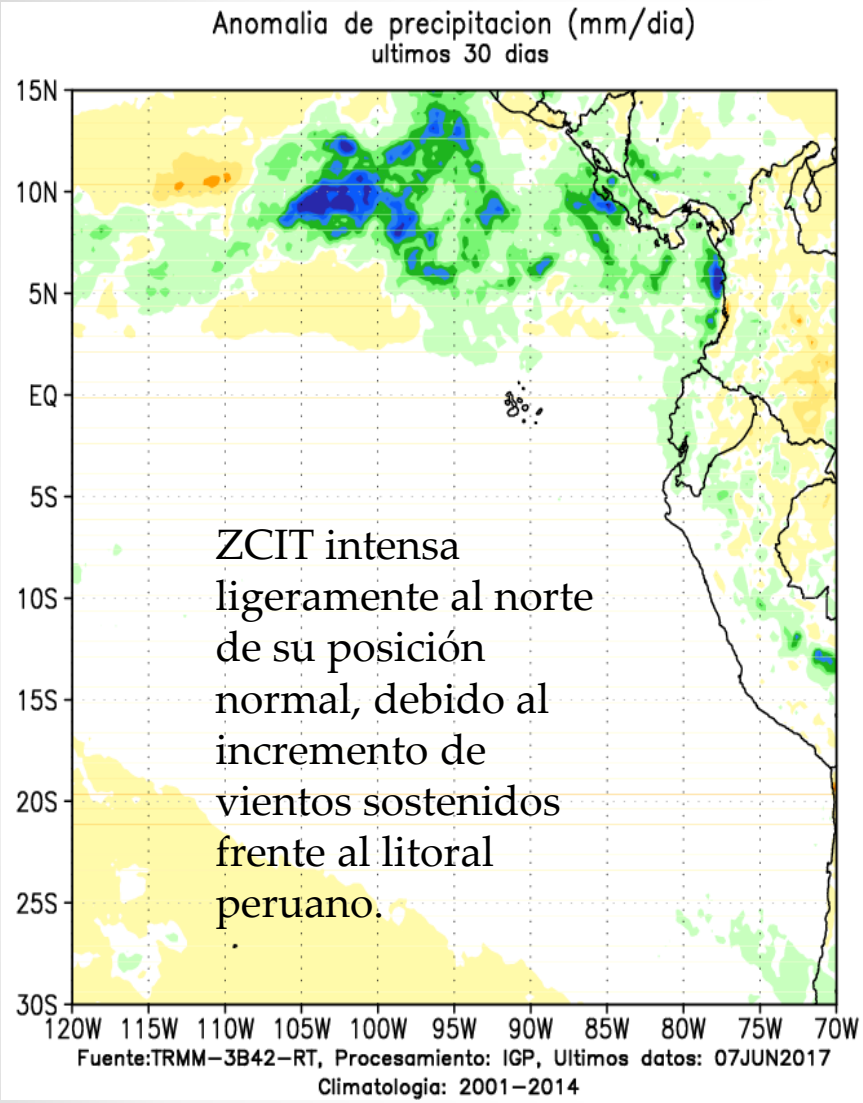
Fuente: OSTIA

CONVECCIÓN & PRECIPITACIÓN

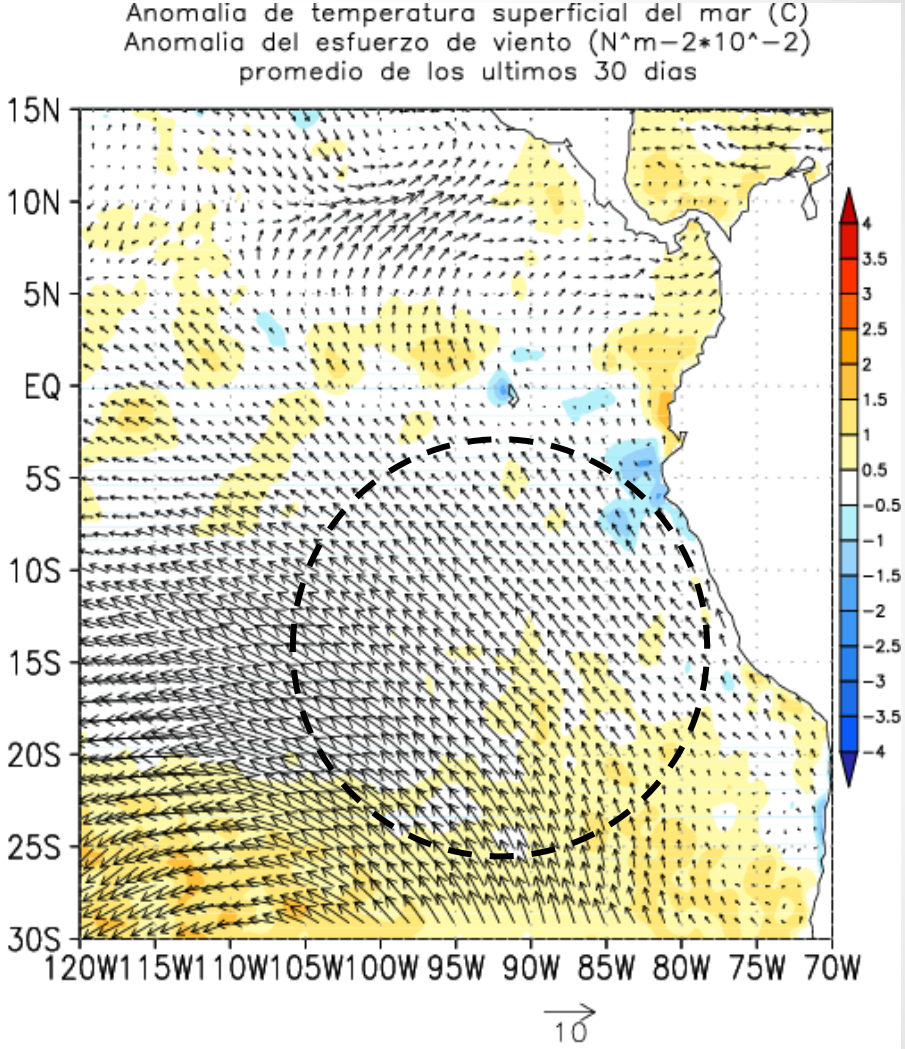
01 – 30 APR

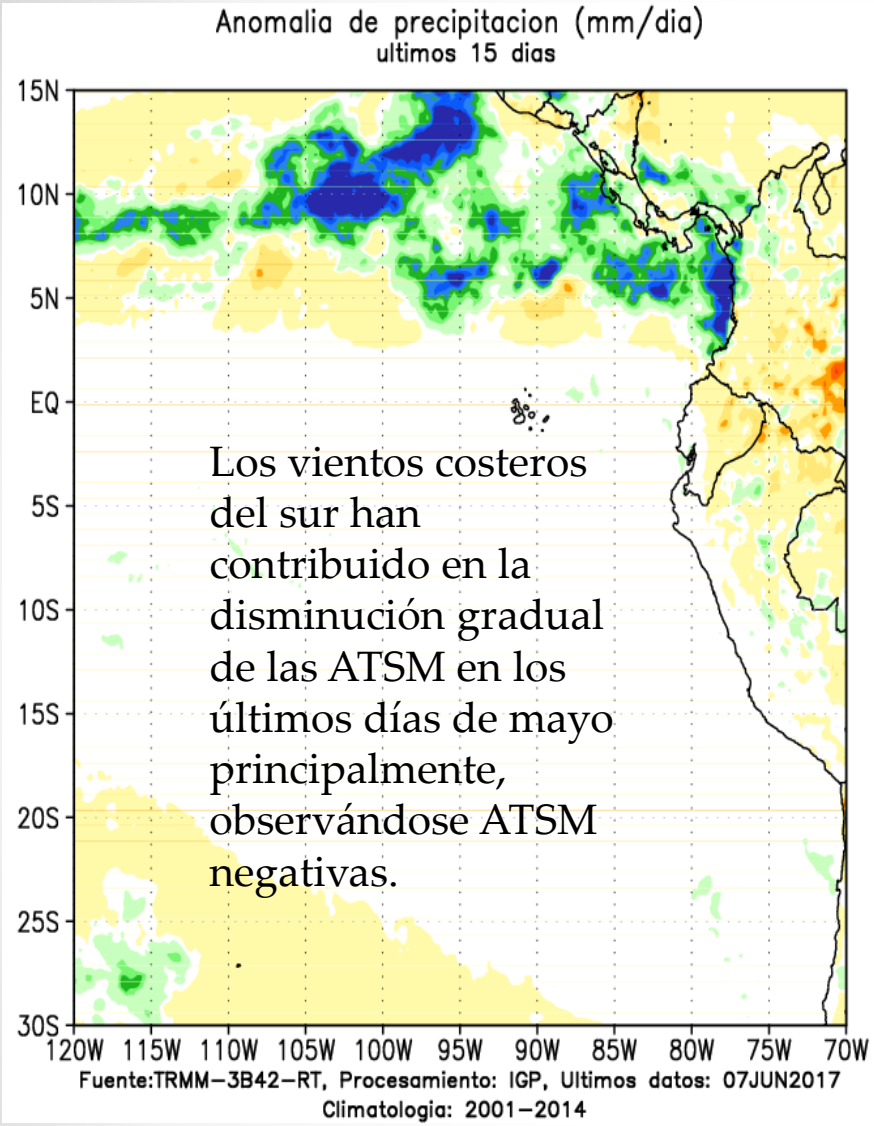




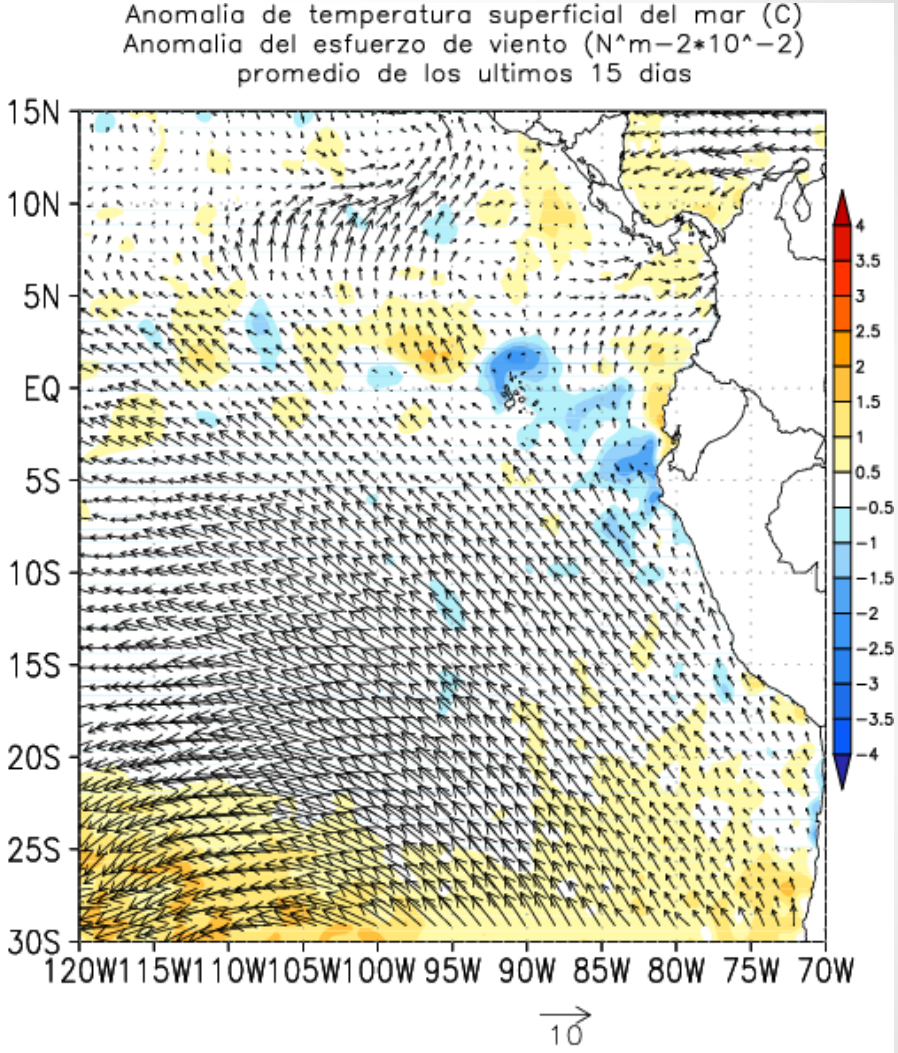


ZCIT intensa ligeramente al norte de su posición normal, debido al incremento de vientos sostenidos frente al litoral peruano.

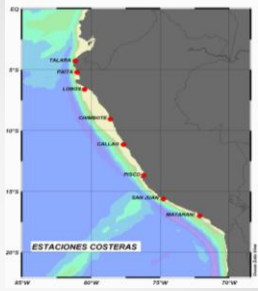




Los vientos costeros del sur han contribuido en la disminución gradual de las ATSM en los últimos días de mayo principalmente, observándose ATSM negativas.



TEMPERATURA Y NIVEL DEL MAR LITORAL PERUANO



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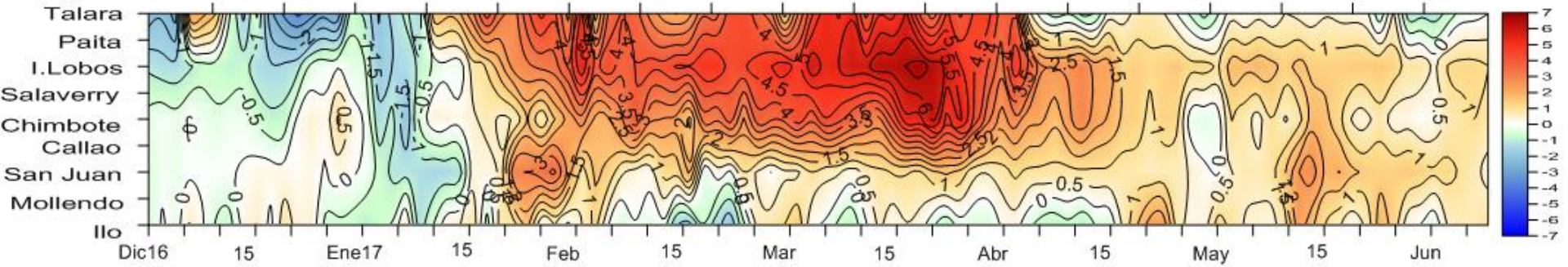

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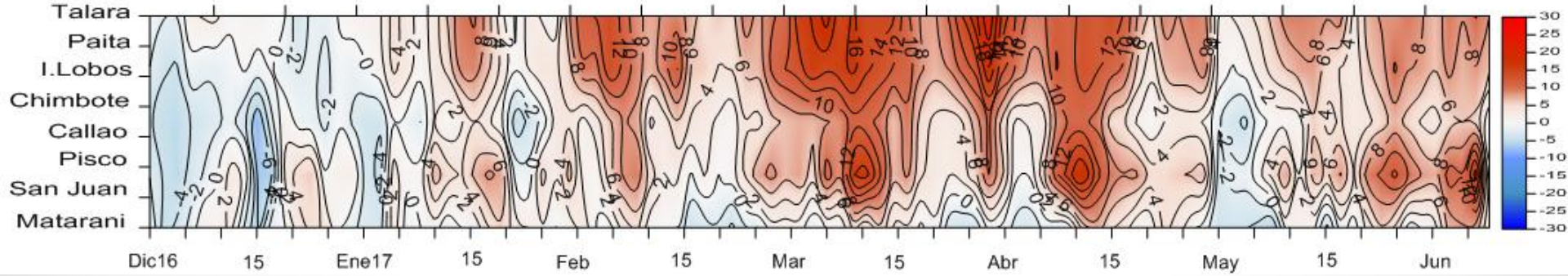
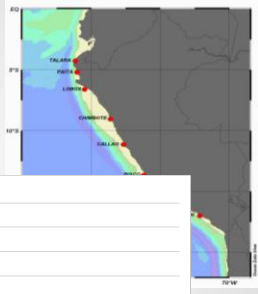
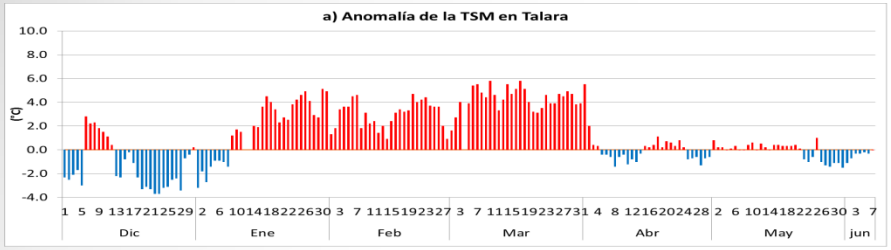
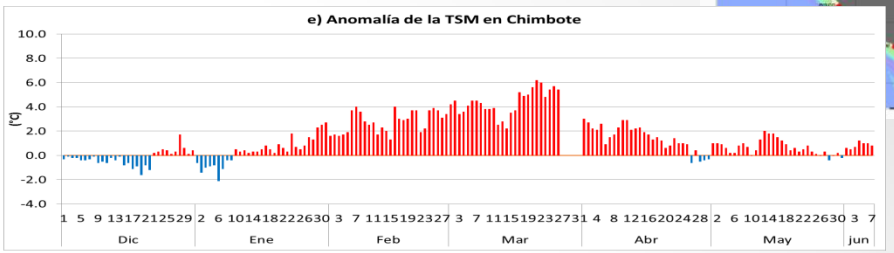
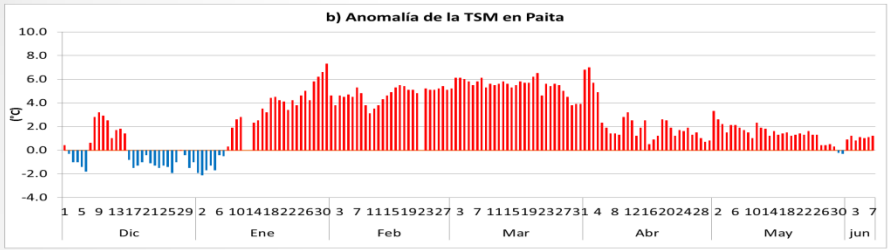


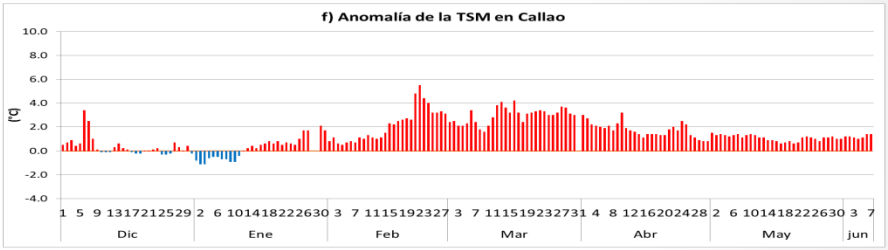
ANOMALÍAS DE LA TEMPERATURA SUPERFIIAL DEL MAR PERUANO

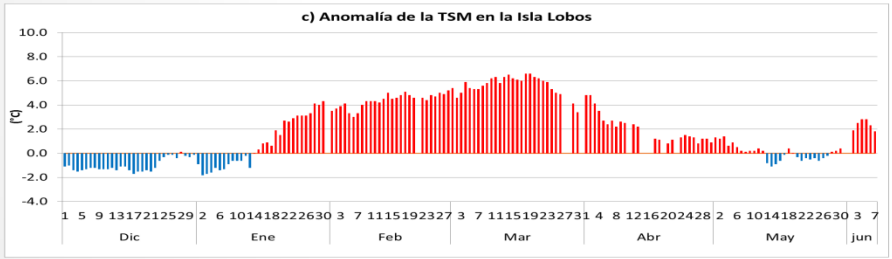


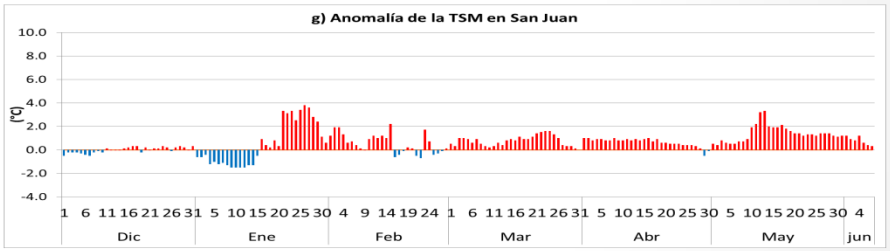


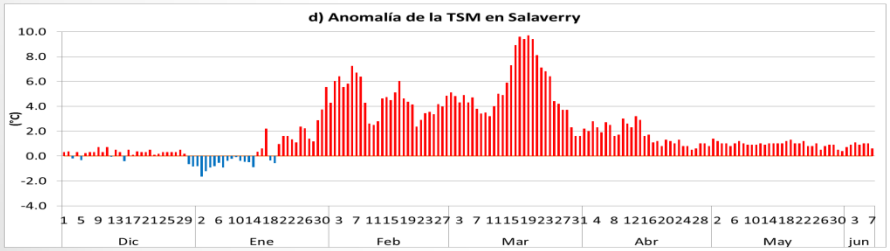


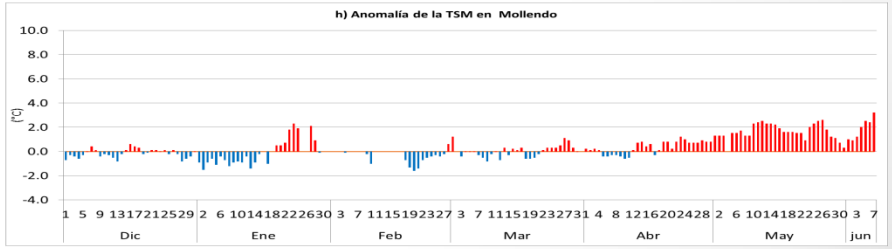


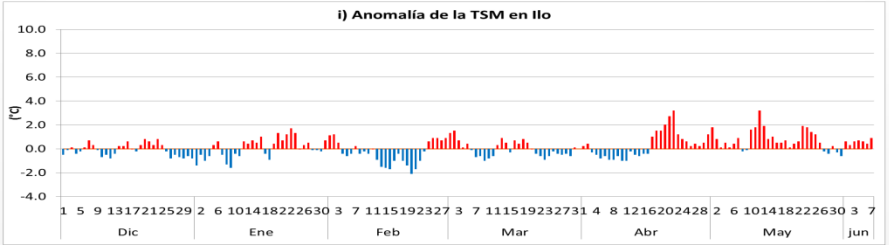




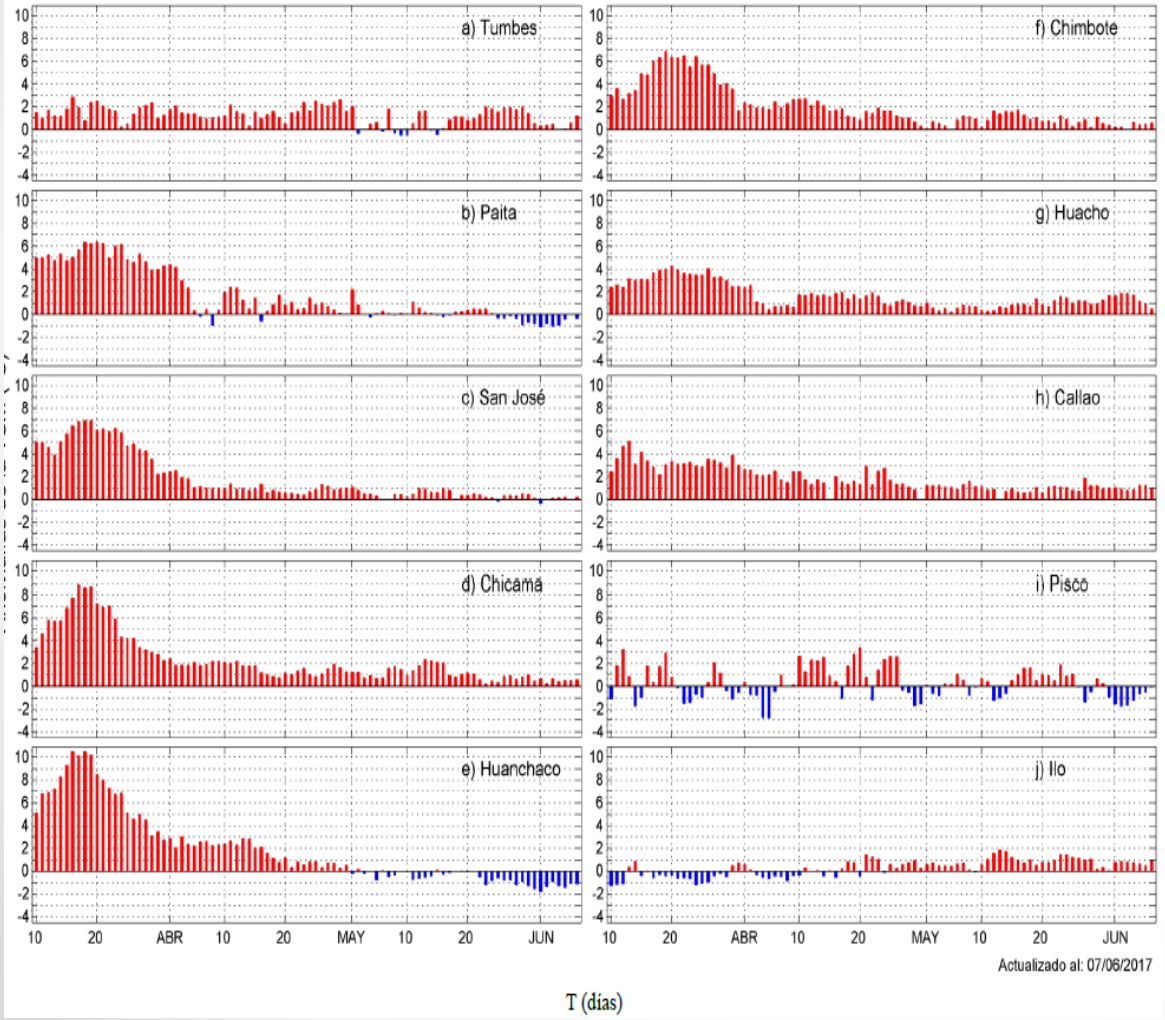








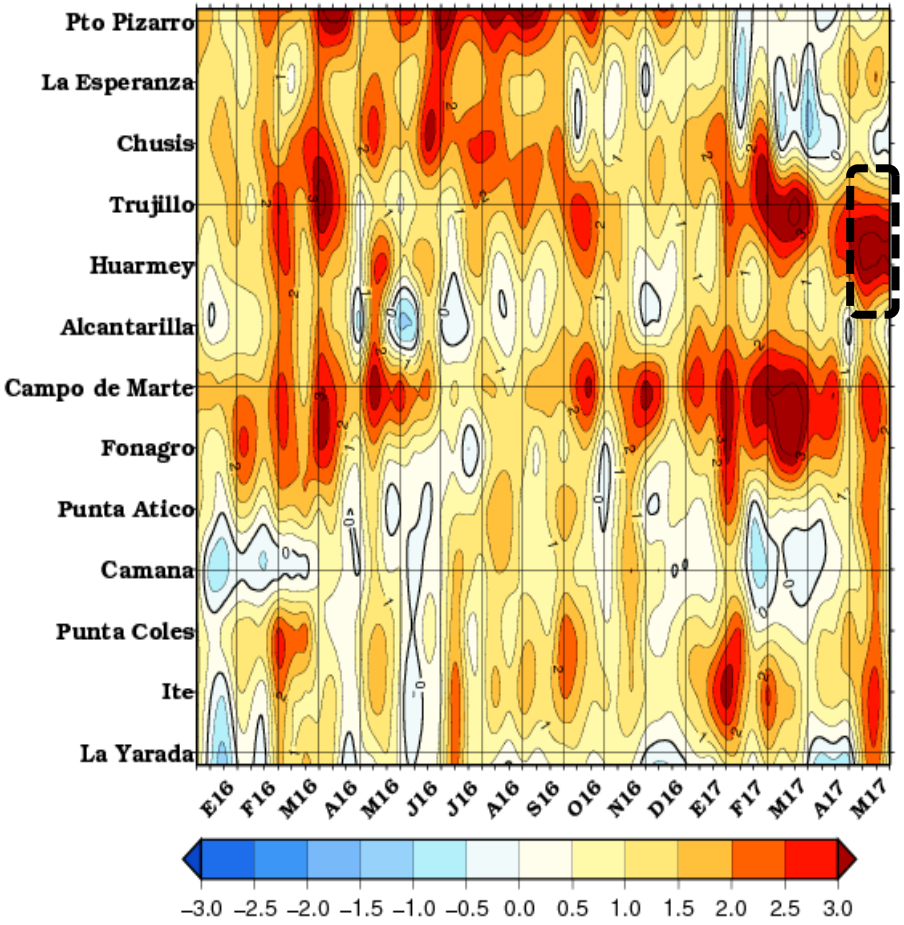
TSM registrada por Laboratorios Costeros del IMARPE



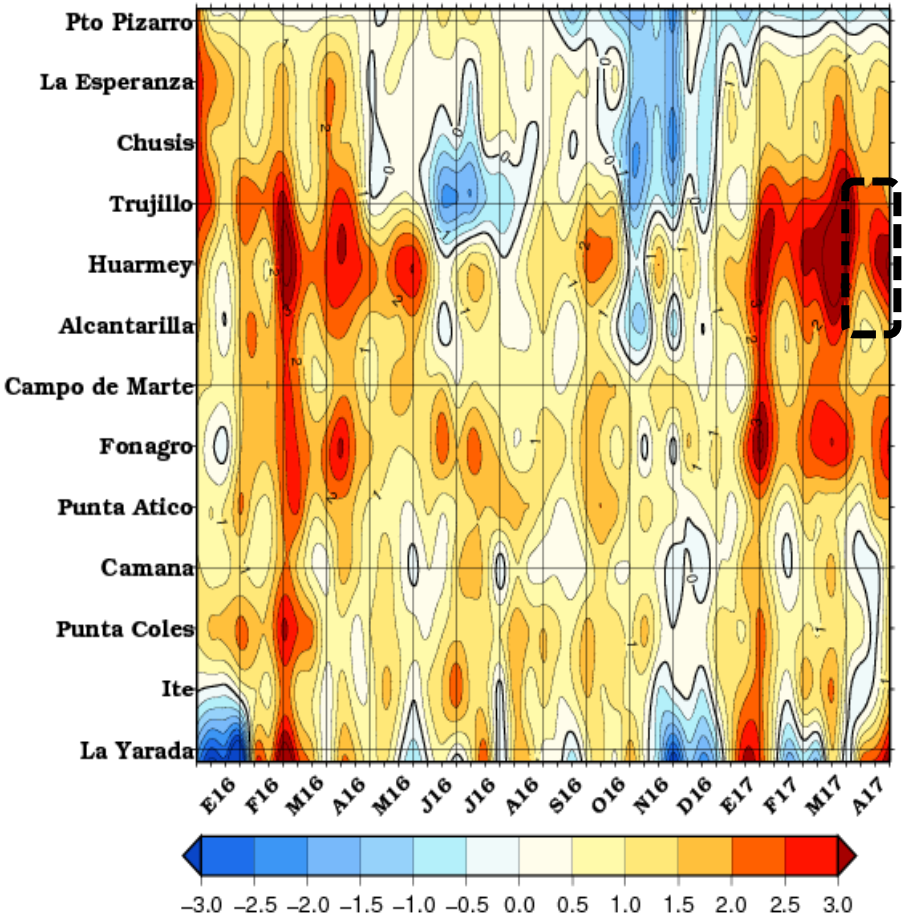
07-junio-2017

Estación	Climatología	T, °C	ΔT, °C
Tumbes	1985-2010	27,60	+1,23
Paita	1981-2010	18,30	-0,34
San José	1991-2010	19,67	+0,21
Chicama	1981-2010	18,00	+0,59
Huanchaco	2008-2016	18,03	-1,12
Chimbote	1981-2010	19,93	+0,61
Huacho	1989-2010	17,10	+0,50
Callao	1981-2010	17,47	+0,95
Pisco	1982-2010	20,00	-0,05
Atico	2015-2016	16,63	
Matarani	2013-2016	16,03	
Ilo	1981-2010	16,93	+0,93

Anomalía de la Temperatura Máxima



Anomalía de la Temperatura Mínima



ANOMALÍAS PROMEDIO DE LA TEMPERATURA MÁXIMA

ANOMALIAS PROMEDIO TEMPERATURA MÁXIMA

Estación	ENE	FEB	MAR	ABR	MAY
Costa Norte	1.5	1.2	1.0	0.9	1.2
Costa Centro	1.9	1.9	2.2	1.5	2.2
Costa Sur	1.5	1.2	1.0	0.8	1.6

DATA EXTENDIDA

Estación	ENE	FEB	MAR	ABR	MAY
Puerto Pizarro	1.1	0.0	0.4	0.3	0.9
La Esperanza	1.1	0.2	-0.2	1.1	1.3
Chusis	2.2	1.7	0.4	0.0	0.1
Trujillo	1.6	2.8	3.3	2.1	2.4
Huarmey	1.2	1.2	1.7	1.9	3.5
Alcantarilla	1.8	1.4	1.6	0.6	0.8
Campo de Marte	2.8	3.0	3.3	2.1	2.3
Fonagro	2.1	2.2	2.8	1.8	1.9
Punta Atico	1.3	0.6	0.6	0.7	1.6
Camana	0.5	-0.2	-0.2	0.4	1.3
Punta Coles	1.4	1.2	0.5	1.3	1.3
Ite	2.5	2.1	1.6	1.2	2.0
La Yarada	1.0	1.0	0.8	-0.4	1.6

ANOMALÍAS PROMEDIO DE LA TEMPERATURA MÍNIMA

ANOMALIAS PROMEDIO TEMPERATURA MÍNIMA

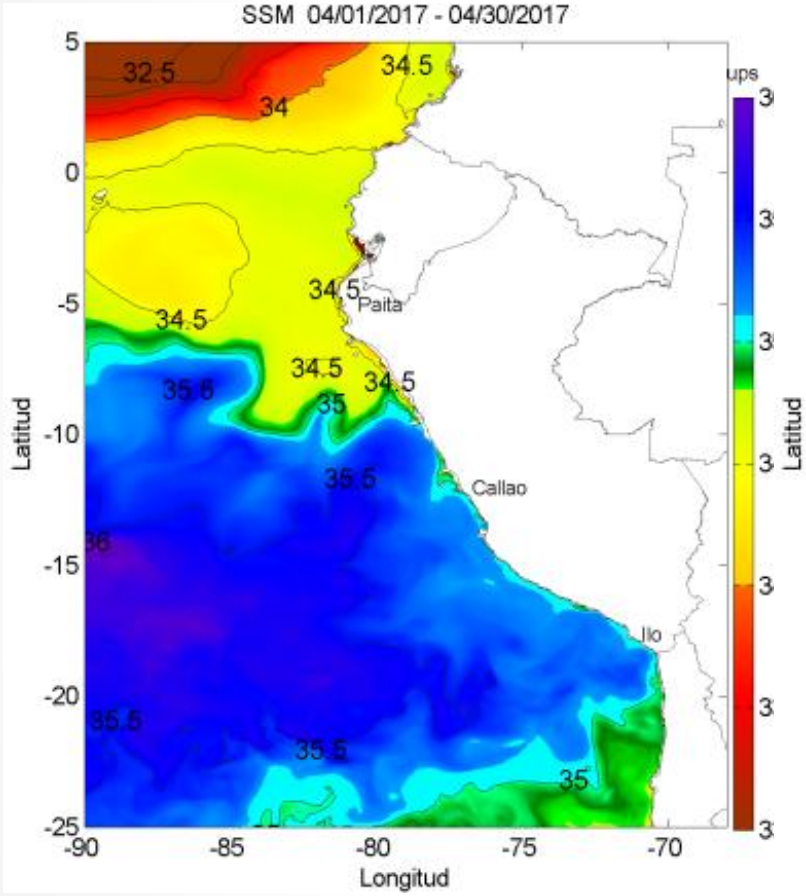
Estación	ENE	FEB	MAR	ABR	MAY
Costa Norte	0.8	1.1	1.4	1.2	1.3
Costa Centro	1.8	2.0	2.4	2.0	3.1
Costa Sur	1.7	0.8	1.0	1.2	1.7

DATA EXTENDIDA

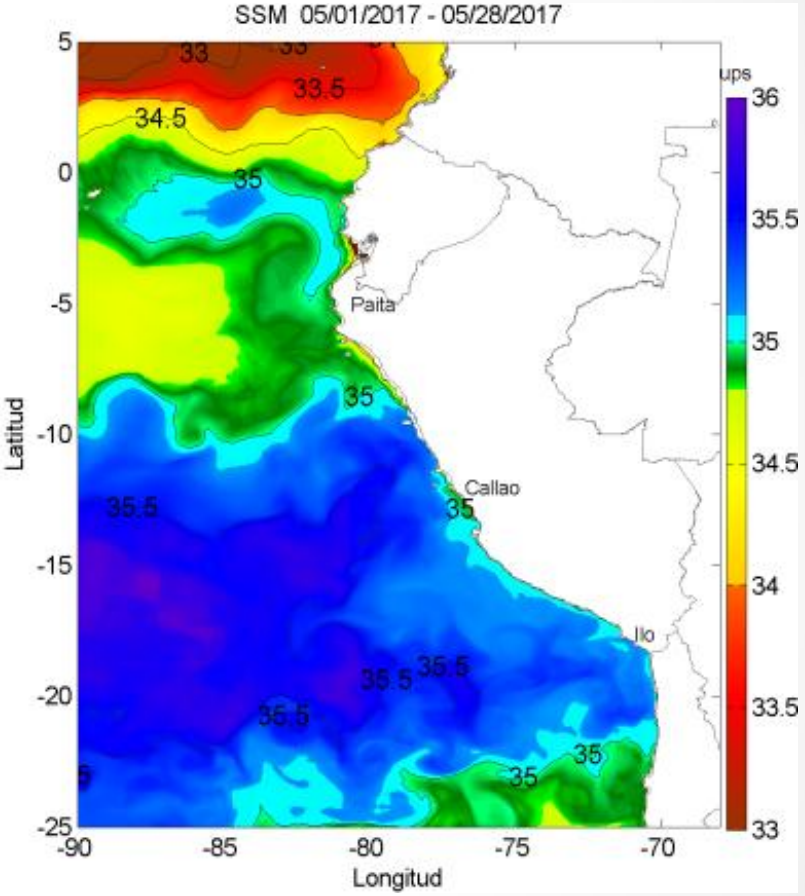
Estación	ENE	FEB	MAR	ABR	MAY
Puerto Pizarro	0.5	-0.4	-0.4	-0.3	0.2
La Esperanza	0.9	1.0	1.3	1.2	1.5
Chusis	0.8	1.3	1.5	1.6	1.6
Trujillo	1.0	2.6	3.1	2.2	2.1
Huarmey	2.3	2.7	3.2	2.9	4.2
Alcantarilla	1.9	1.6	2.1	1.4	2.5
Campo de Marte	1.1	1.6	1.9	1.6	2.5
Fonagro	2.3	2.1	2.6	2.3	3.2
Punta Atico	1.0	0.9	1.1	1.3	1.8
Camana	1.3	0.4	0.7	0.3	1.4
Punta Coles	1.4	1.0	1.0	0.8	1.1
Ite	1.7	1.0	1.2	0.4	1.8
La Yarada	2.3	-0.4	-0.6	2.3	0.7

Condiciones medias de Salinidad Superficial del Mar (HYCOM)

ABRIL

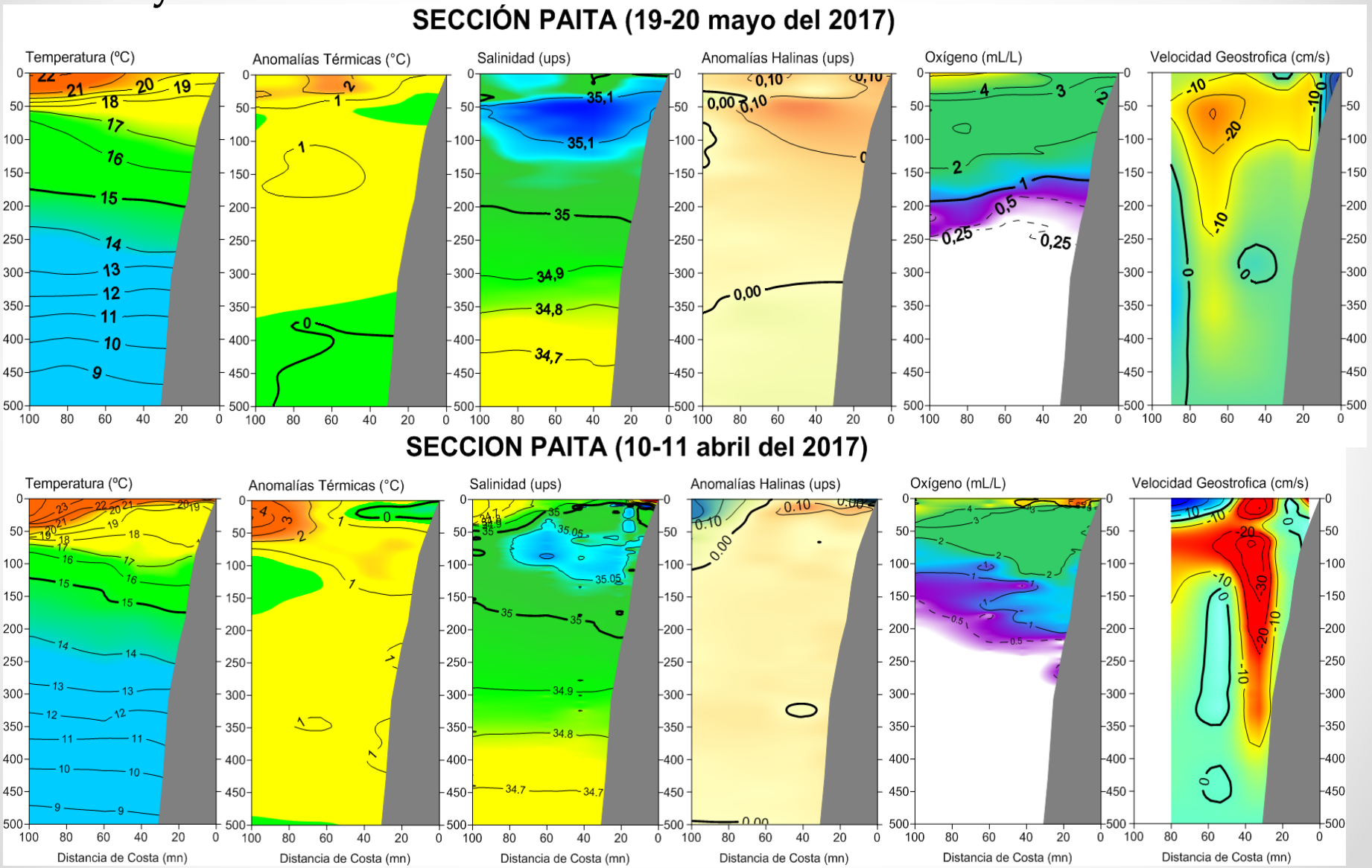


MAYO

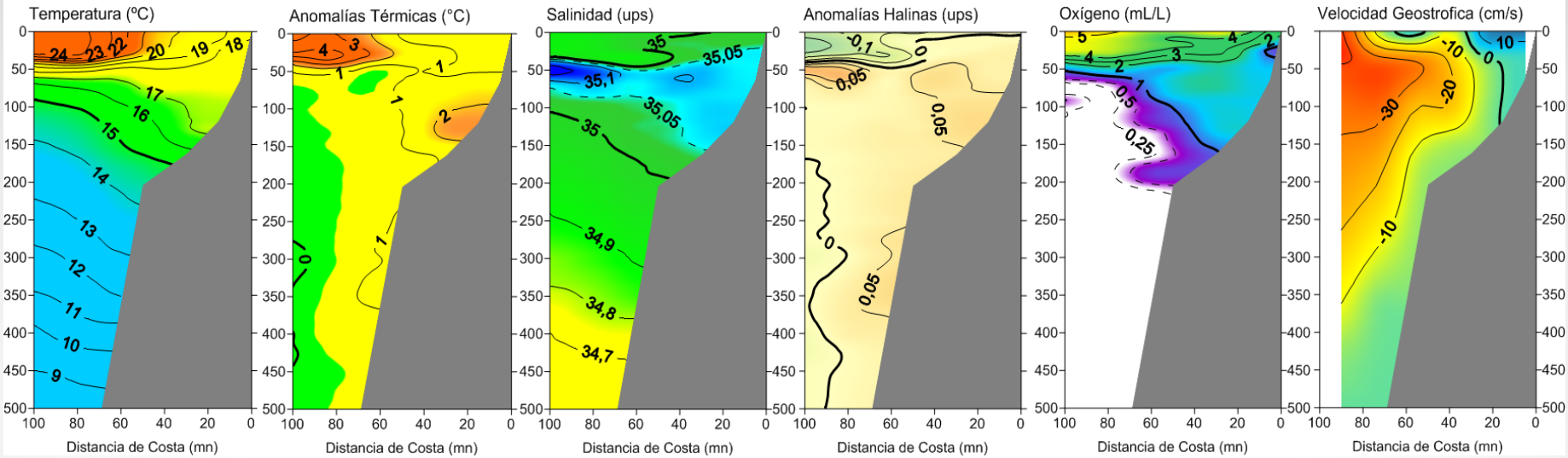


Procesamiento: IMARPE.

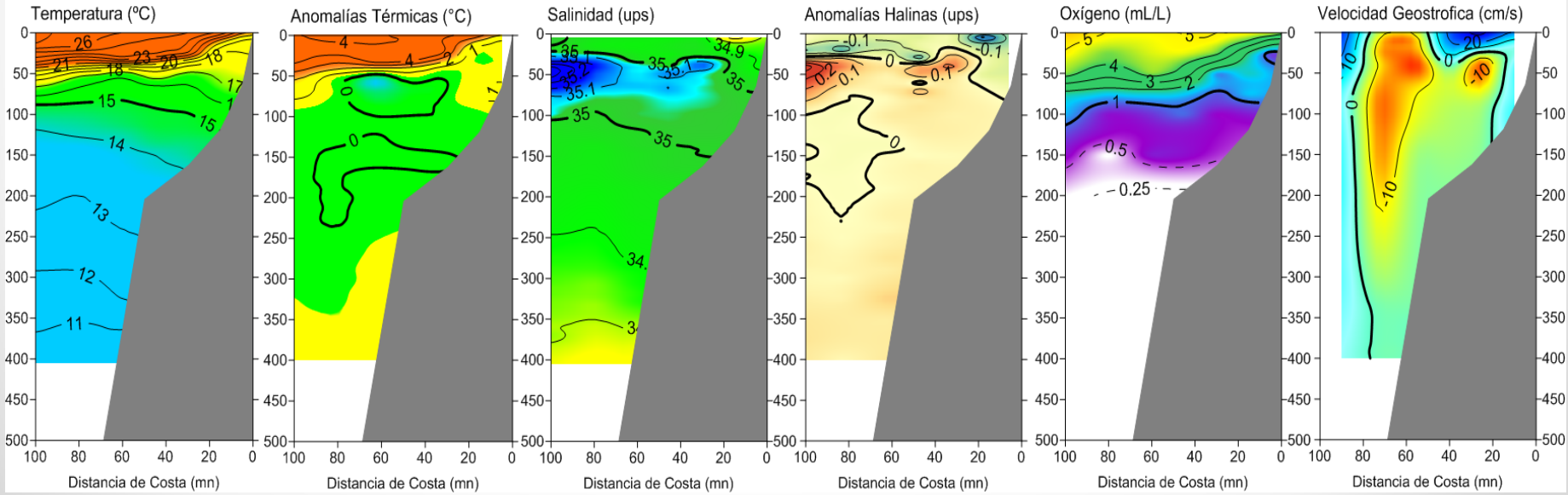
Monitoreo Bio-Oceanográfico frente a Paita y Chicama 1705, BIC J. Olaya



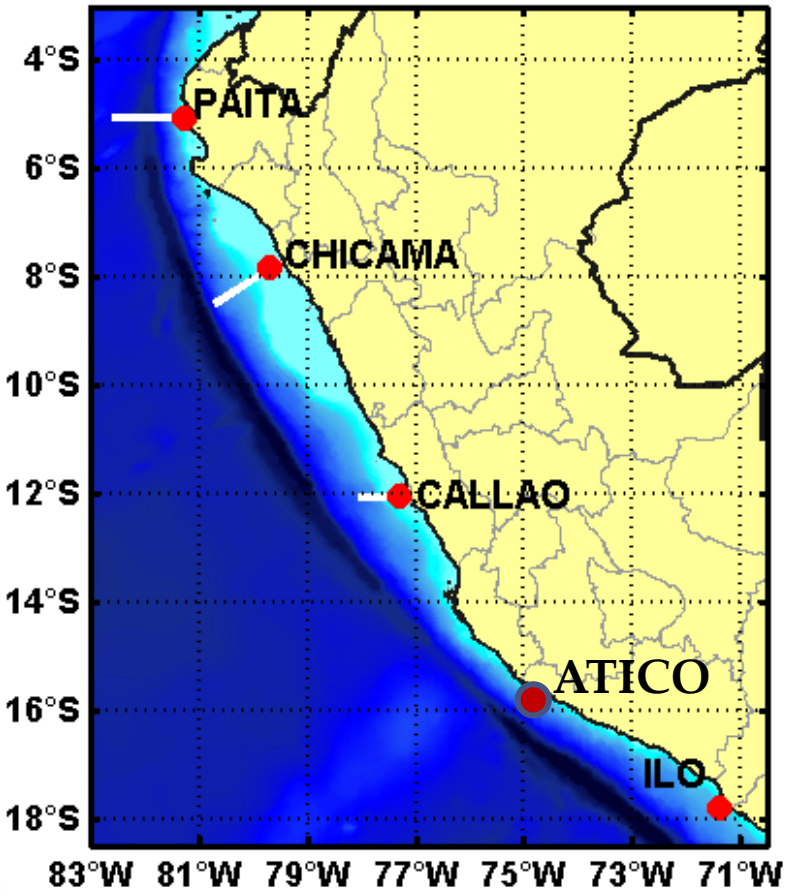
SECCION CHICAMA (17-18 de mayo del 2017)



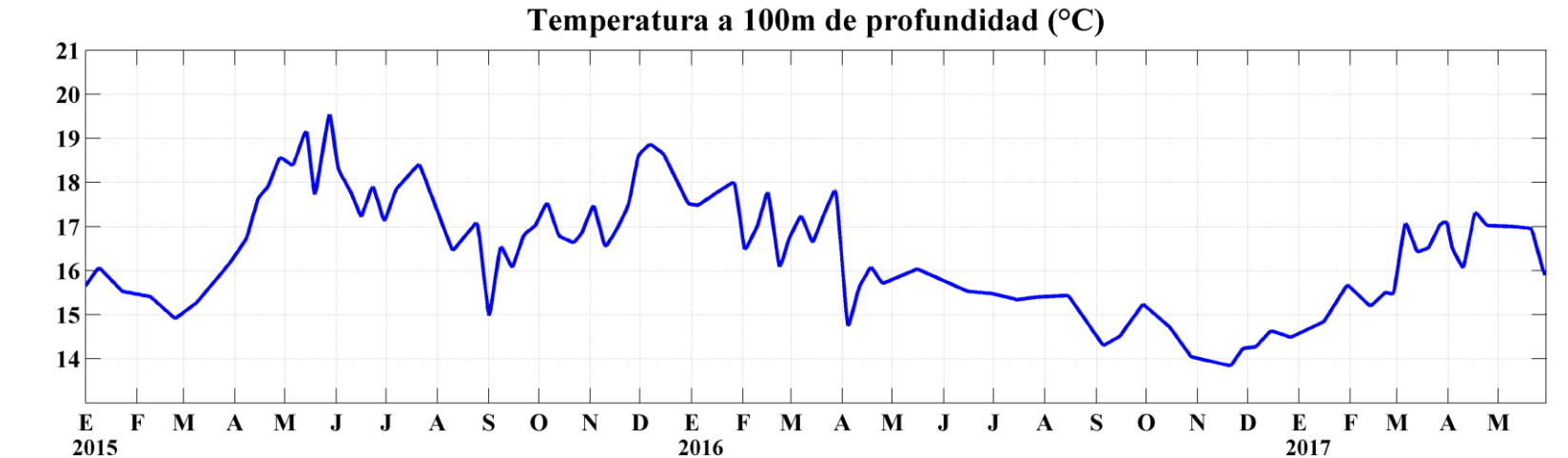
SECCION CHICAMA (11 de abril del 2017)

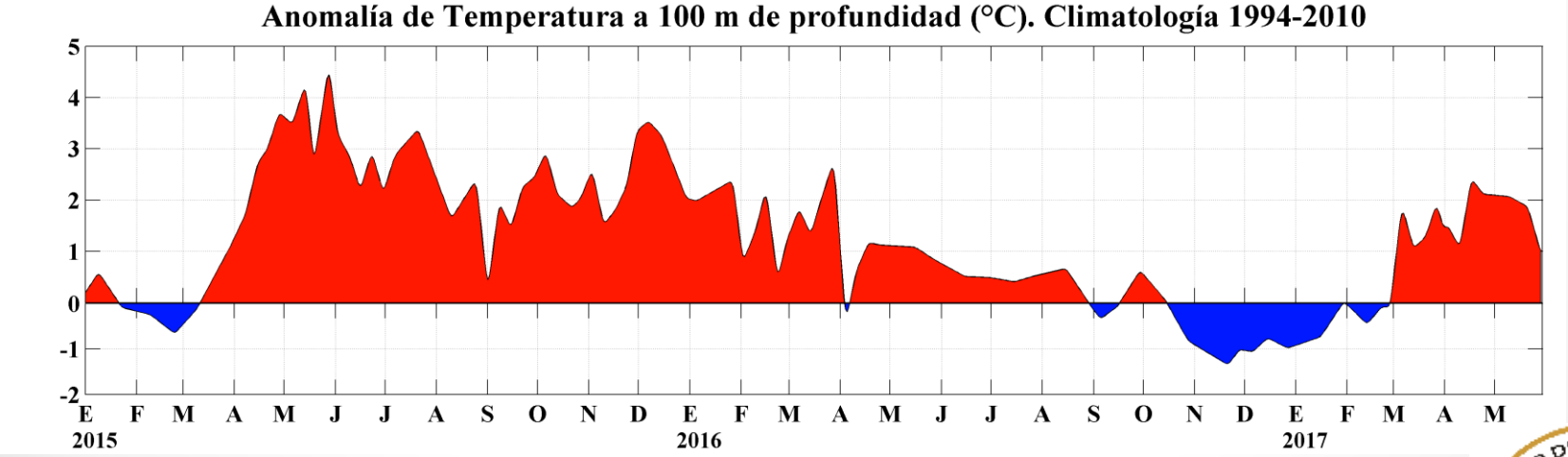


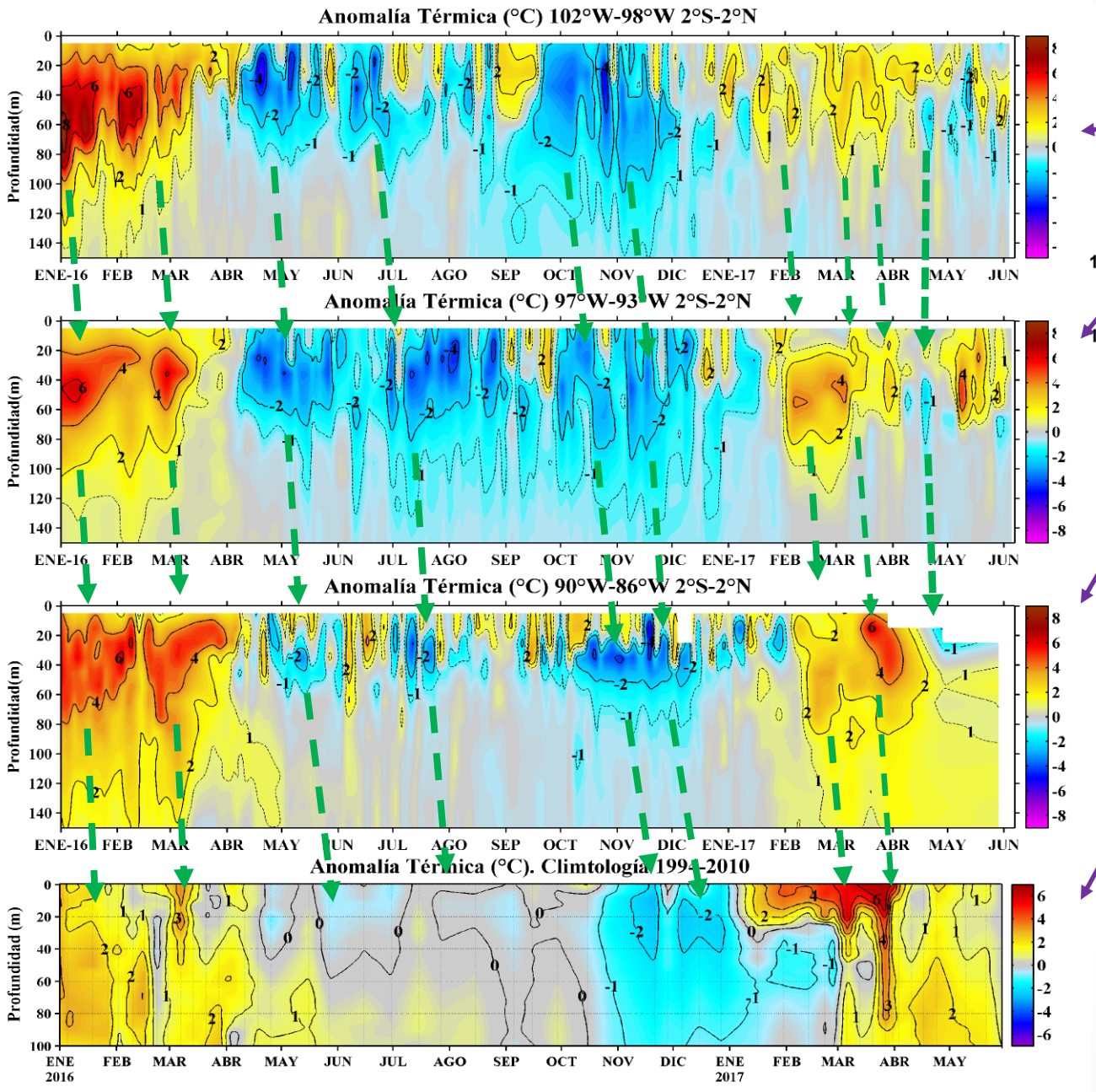
PUNTOS FIJOS Y DATOS ARGOS

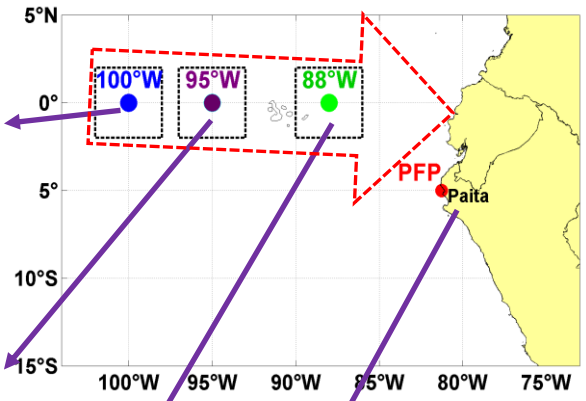


SERIE DE TIEMPO DE TEMPERATURA Y ANOMALÍA TÉRMICA A 100 m DE PROFUNDIDAD ENERO DE 2015 A 29 DE MAYO DE 2017.



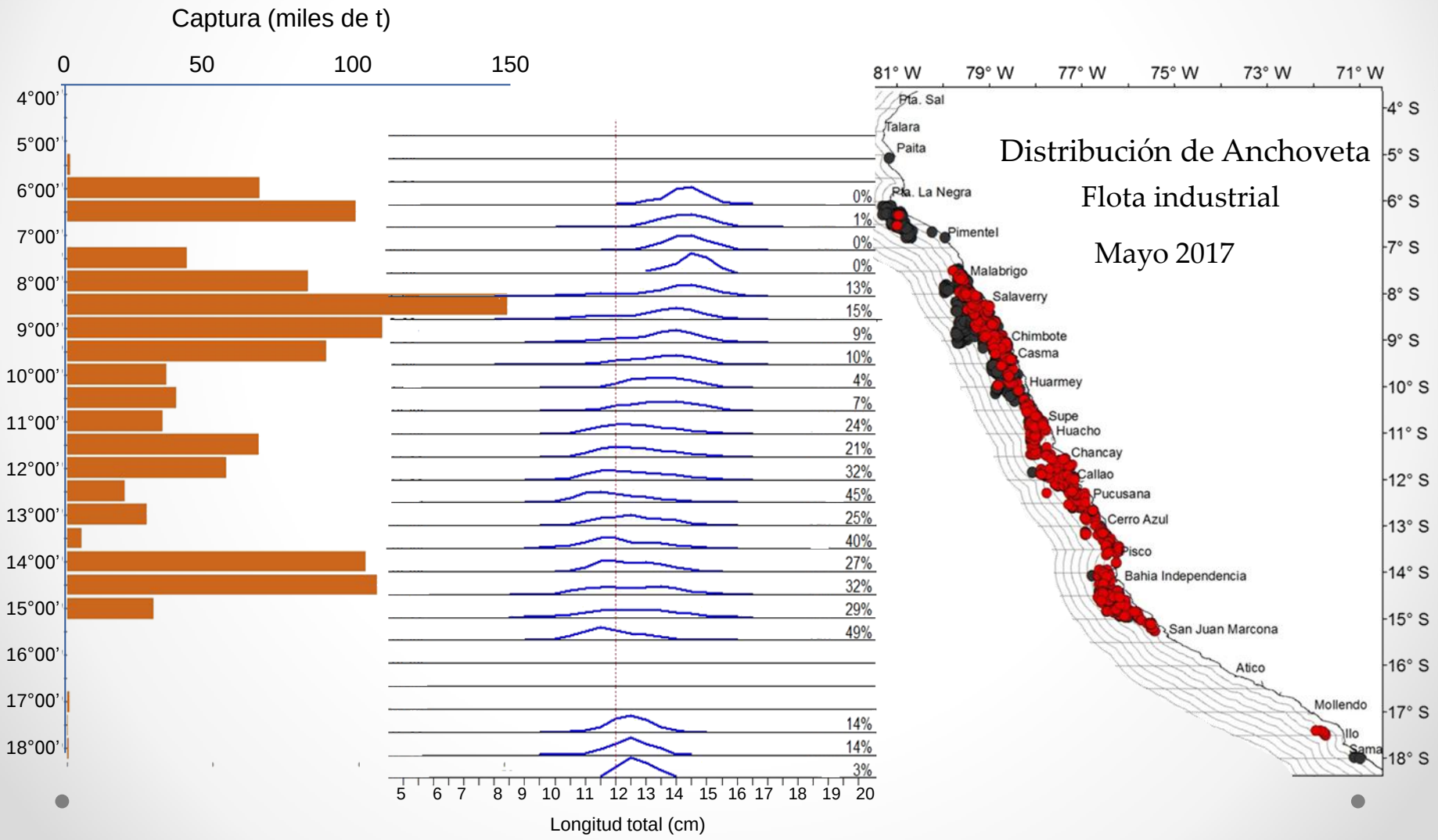




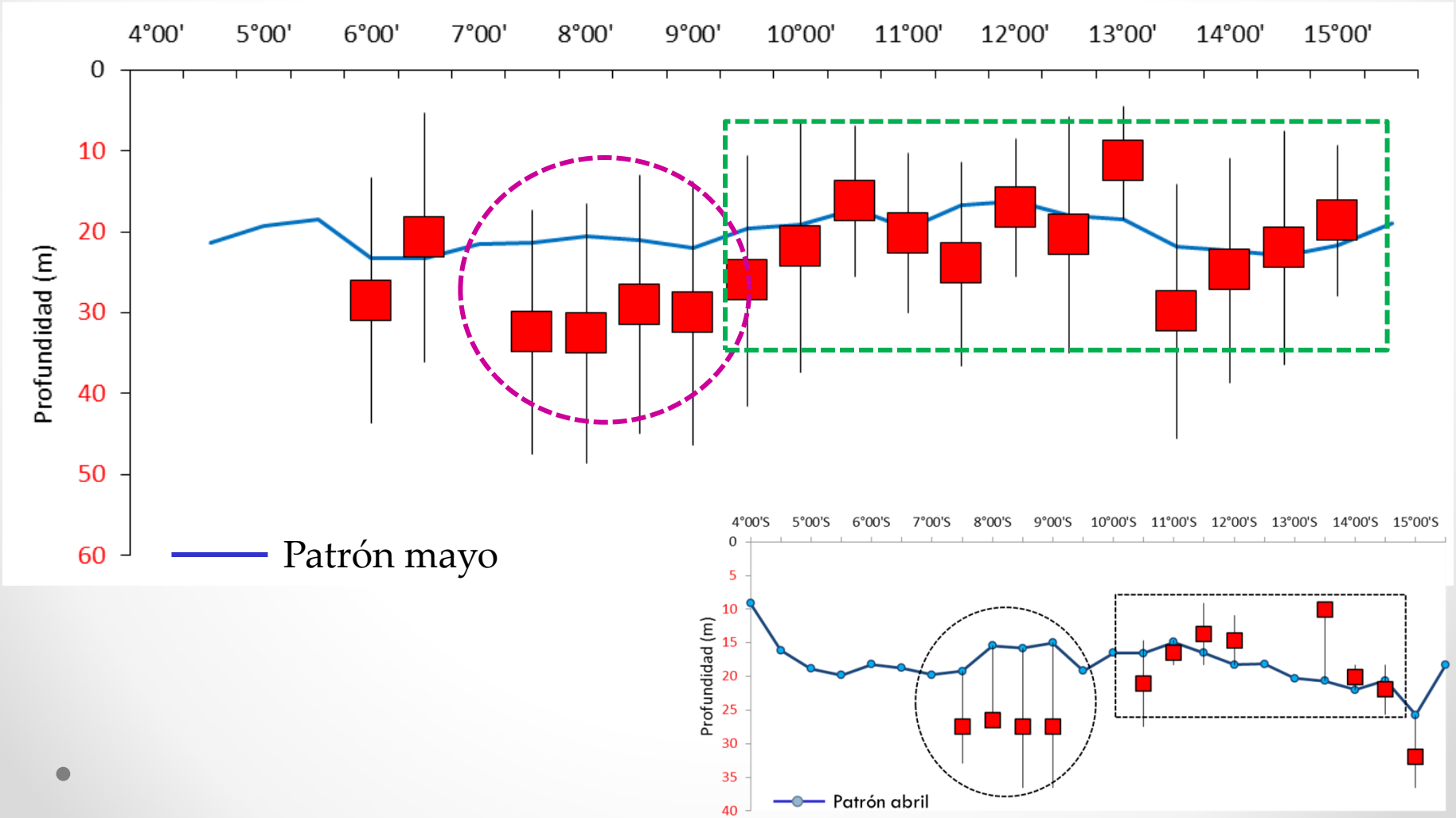


SERIE DE TIEMPO DE ANOMALÍA TÉRMICA USANDO DATOS ARGOS (ENERO 2016 – 07 DE JUNIO 2017), CLIMATOLOGÍA GODAS (1993-2015) Y ANOMALÍA TÉRMICA DEL PUNTO FIJO DE PAITA ● (ENERO 2016 – 29 DE MAYO

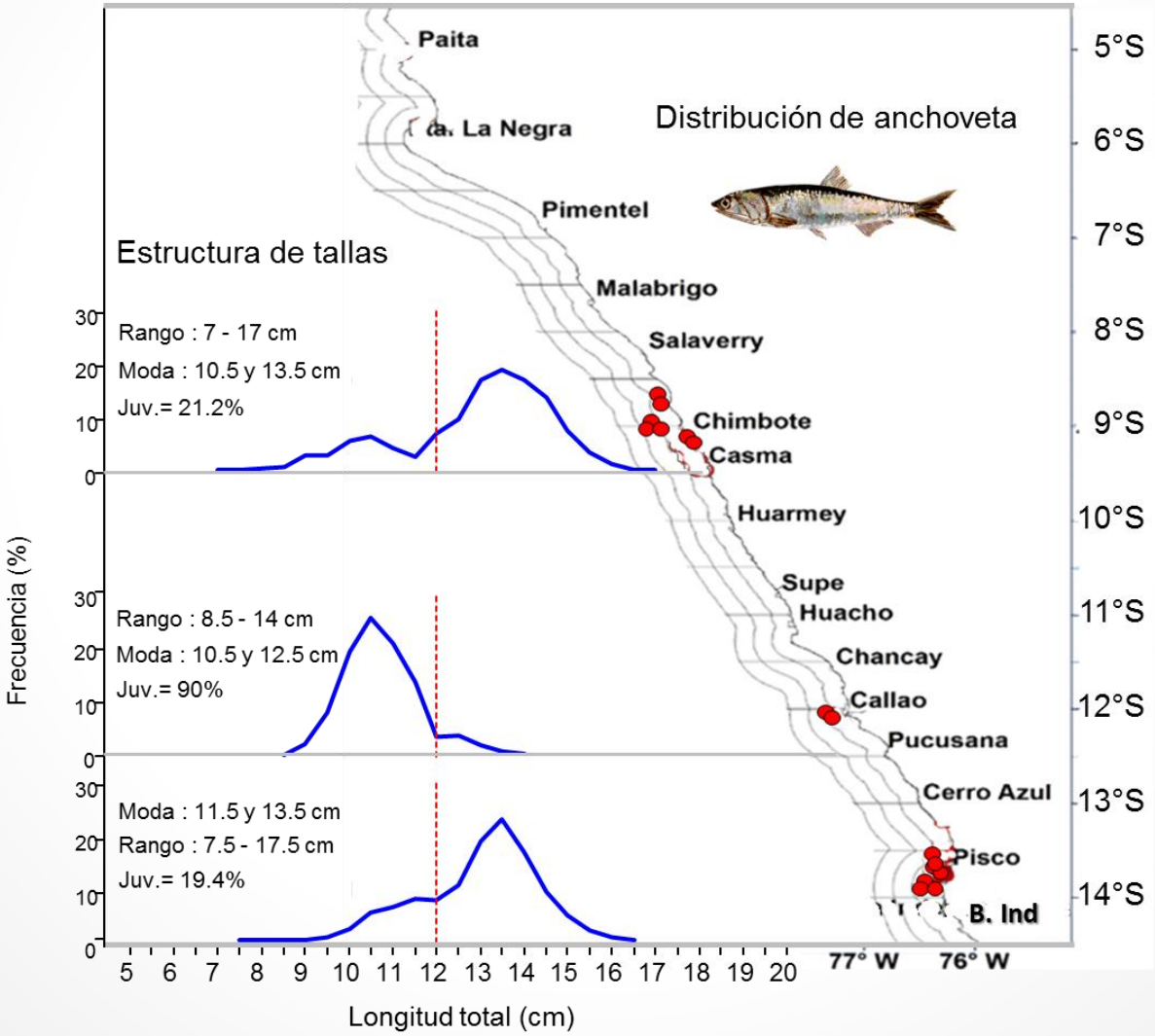
Pesca de anchoveta. Flota Industrial (Mayo 2017)



Distribución vertical de anchoveta. Norte-Centro (Mayo 2017)

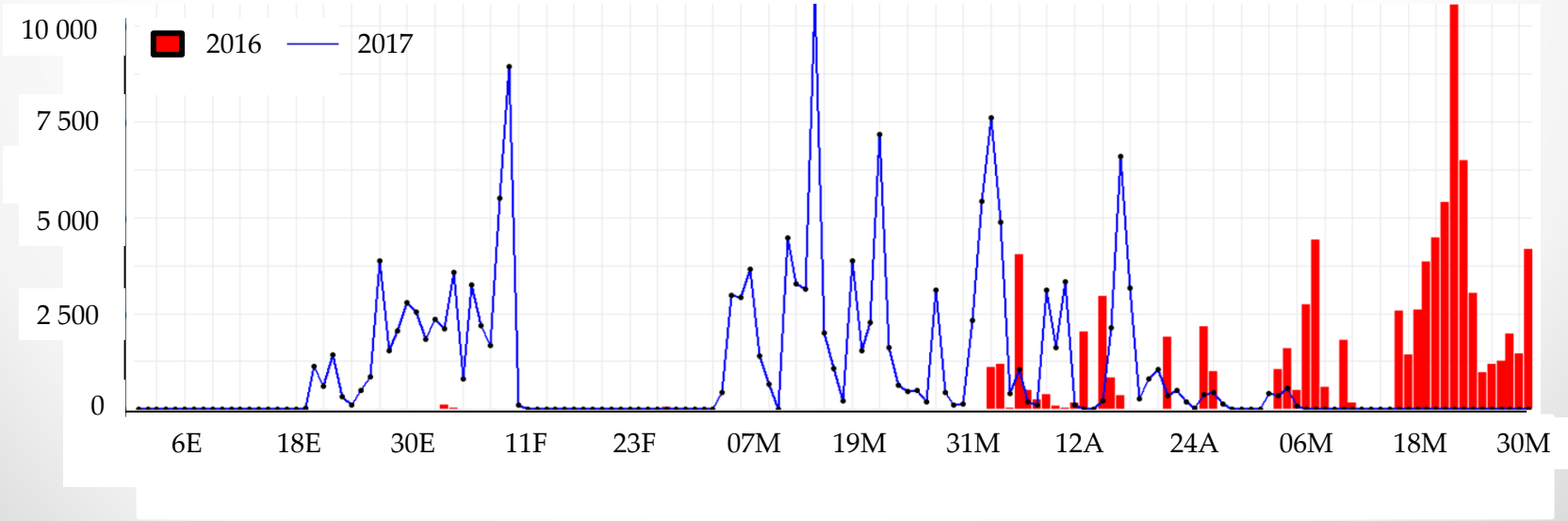


Zona de Pesca de anchoveta. Flota de menor escala y artesanal- Región Norte-Centro

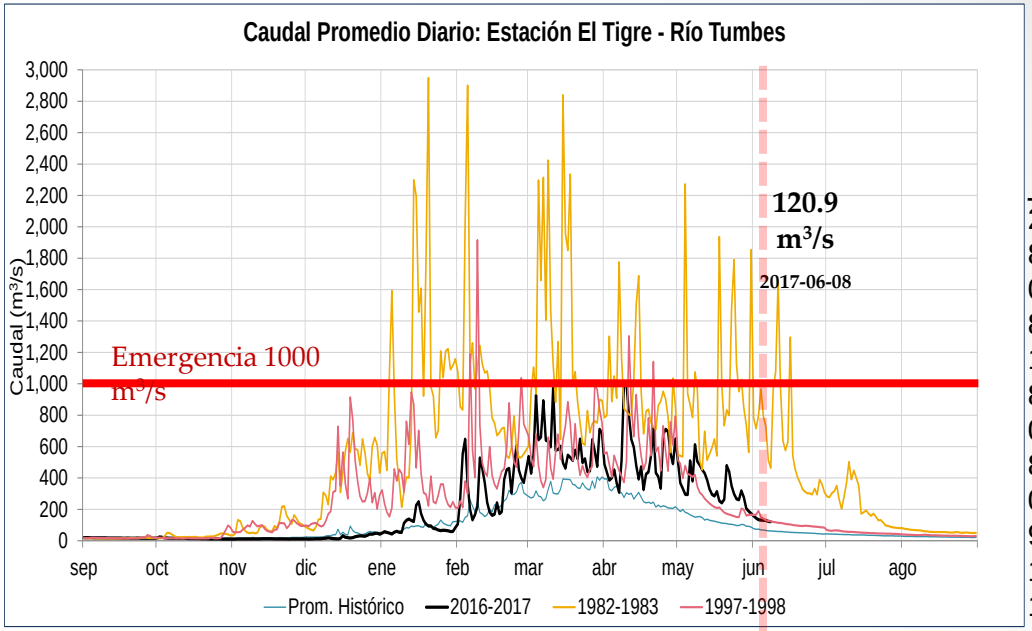


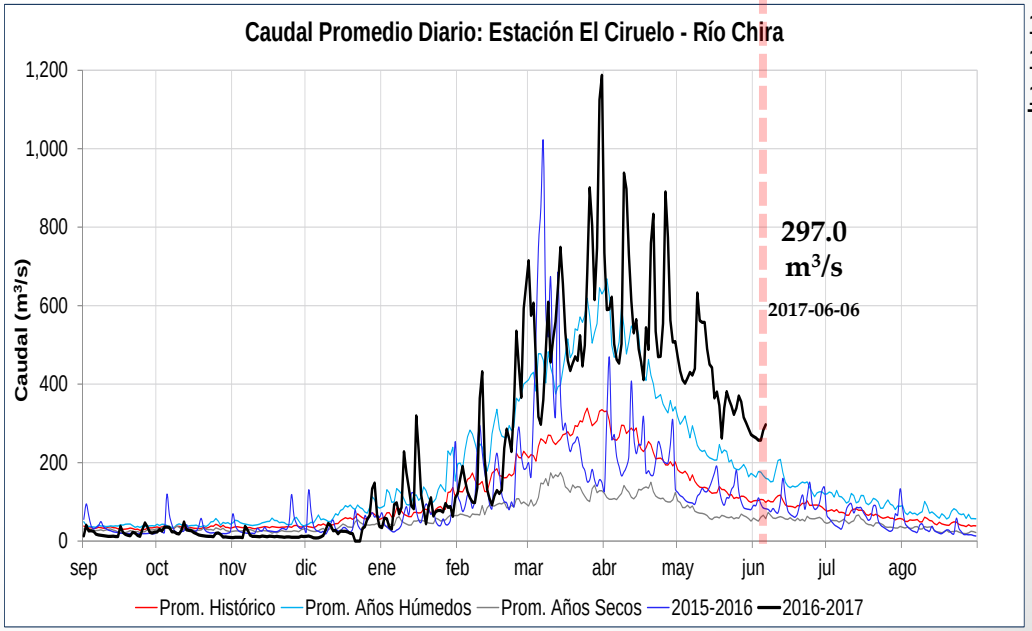
1ra Temporada de Pesca de anchoveta. Región Sur –Mayo 2017

Especie\Flota\Puerto		Atico	Planchada	Quilca	Mollendo	Ilo	Total	%
Anchoveta	FI Acero	29 183	37 608	0	39 148	34 562	140 501	89.46
	FI Madera	2 780	147	0	1 259	12 372	16 558	10.54
Total		31 964	37 755	0	40 407	46 933	157 059	100.00
%		20.35	24.04	0.00	25.73	29.88	100.00	
CUOTA(515 000 T) en la región SUR				***30.50%***				



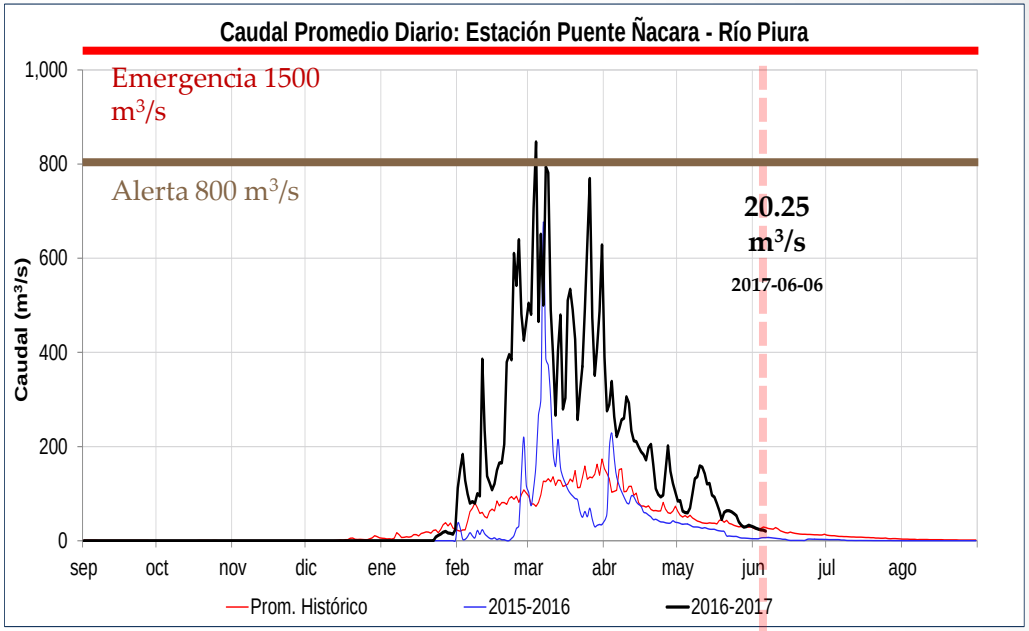
Región hidrográfica Pacífico – Ríos Costa Norte

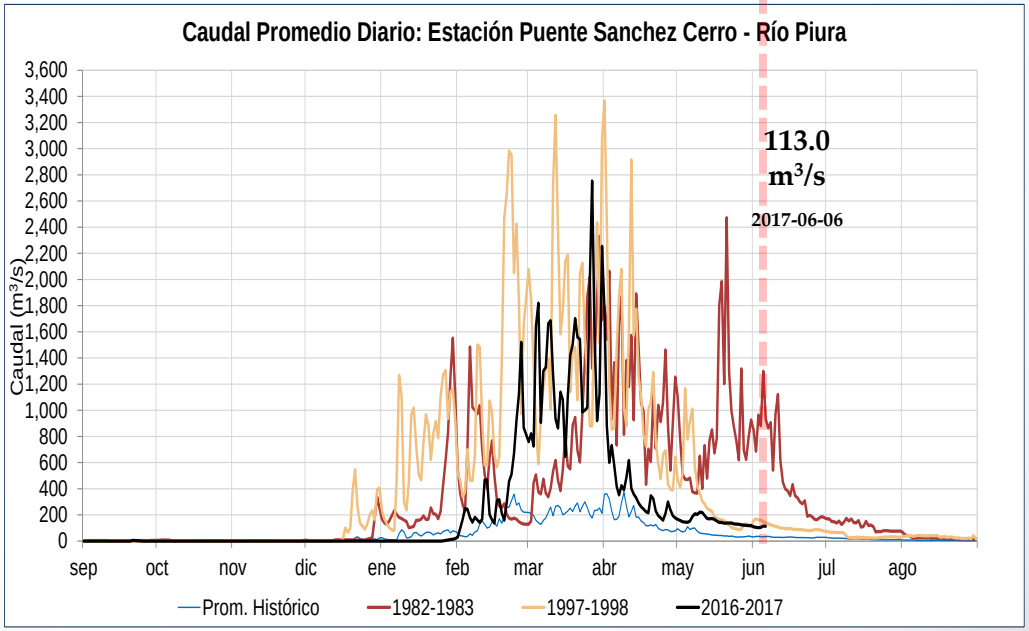




20.01.19	2,95
83	0
08.02.19	2,90
83	1
15.03.19	2,83
83	9
04.05.19	2,27
83	2
09.02.19	1,91
98	6
11.03.20	
17	961
09.04.20	1,01
17	0
10.04.20	1,00
17	1

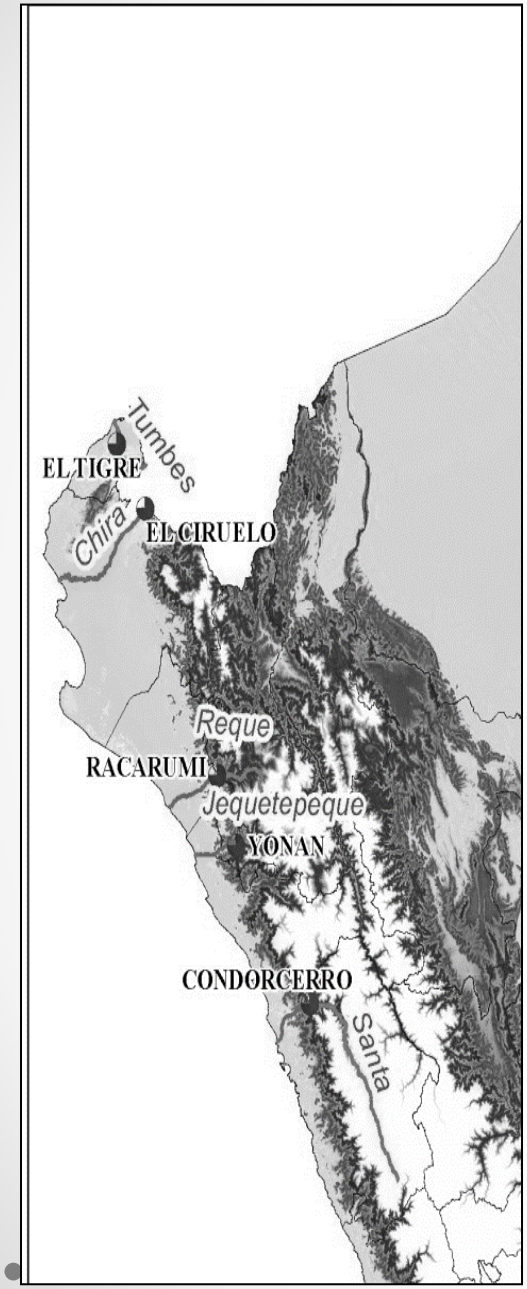
Región hidrográfica Pacífico – Ríos Costa Norte

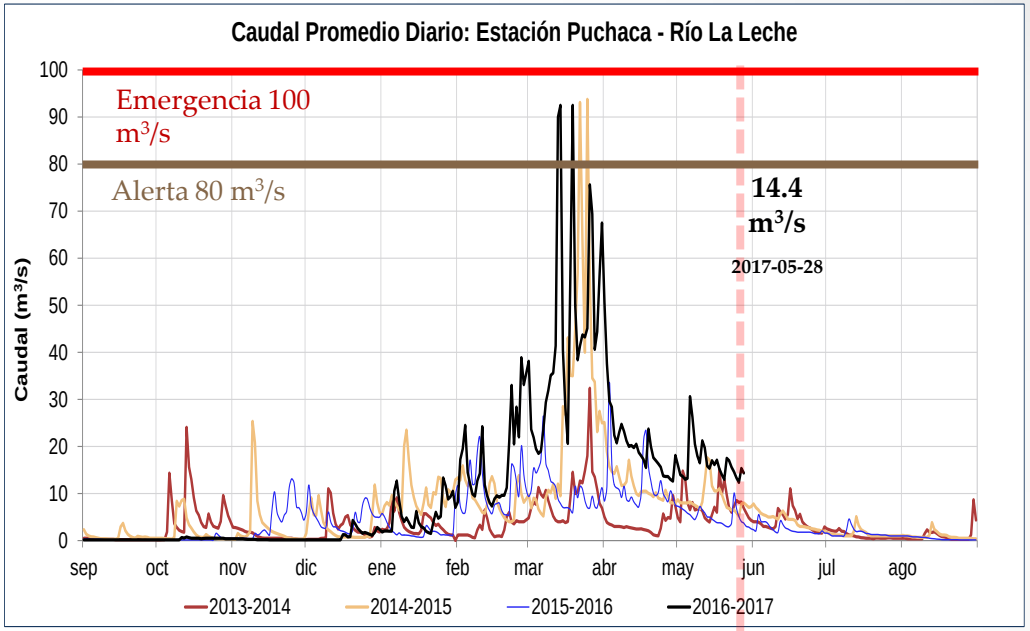




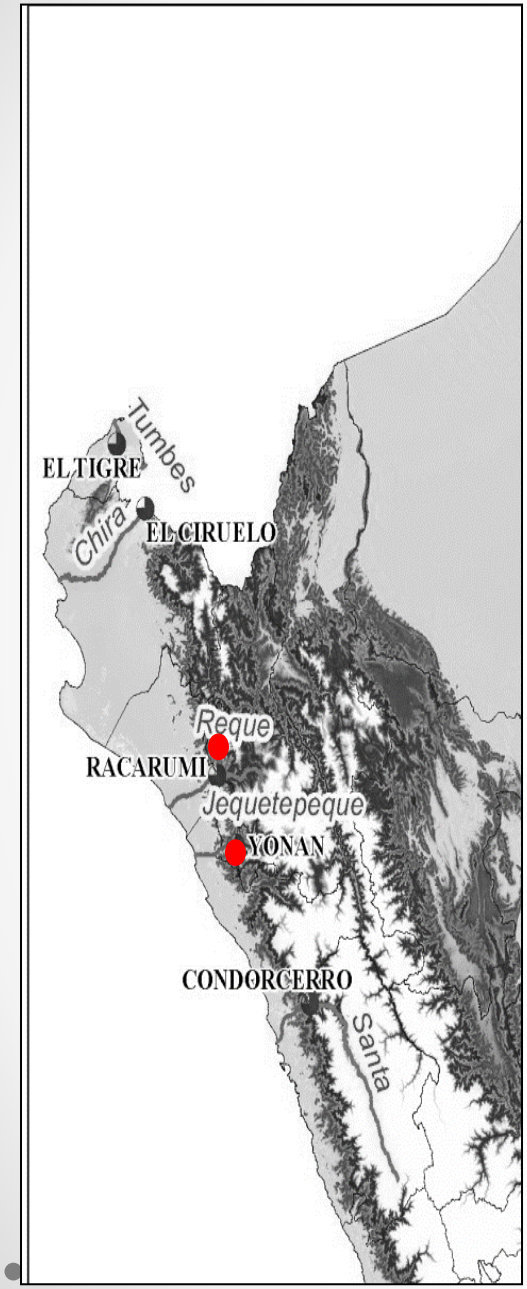
30.03.19	2,33
83	1
21.05.19	2,47
83	2
23.02.19	2,95
98	4
12.03.19	3,25
98	6
01.04.19	3,40
98	0
27.03.20	2,75
17	4
31.03.20	2,25

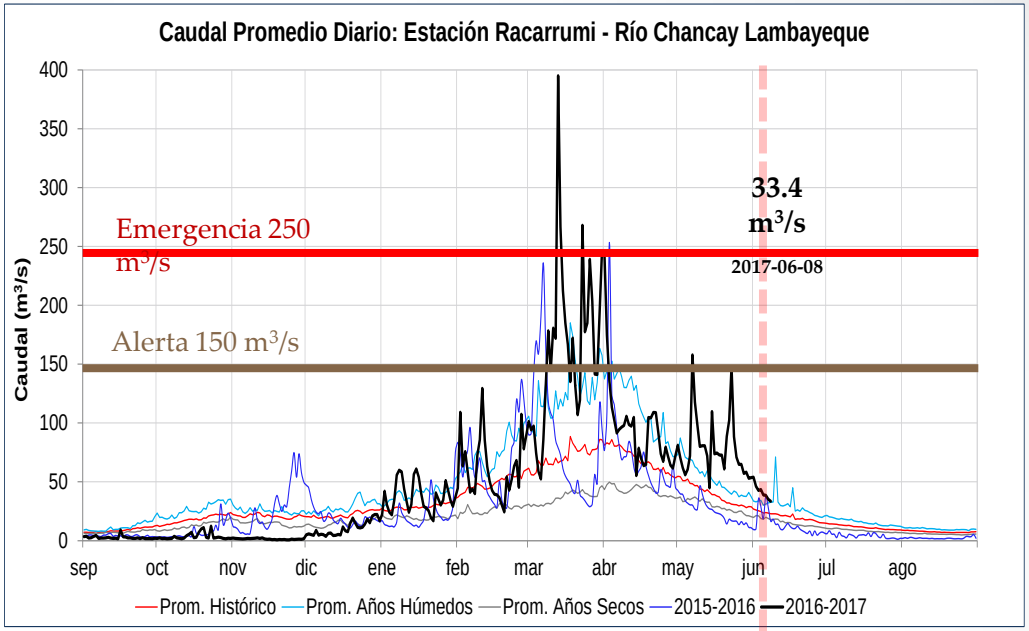
Región hidrográfica Pacífico – Ríos Costa Norte

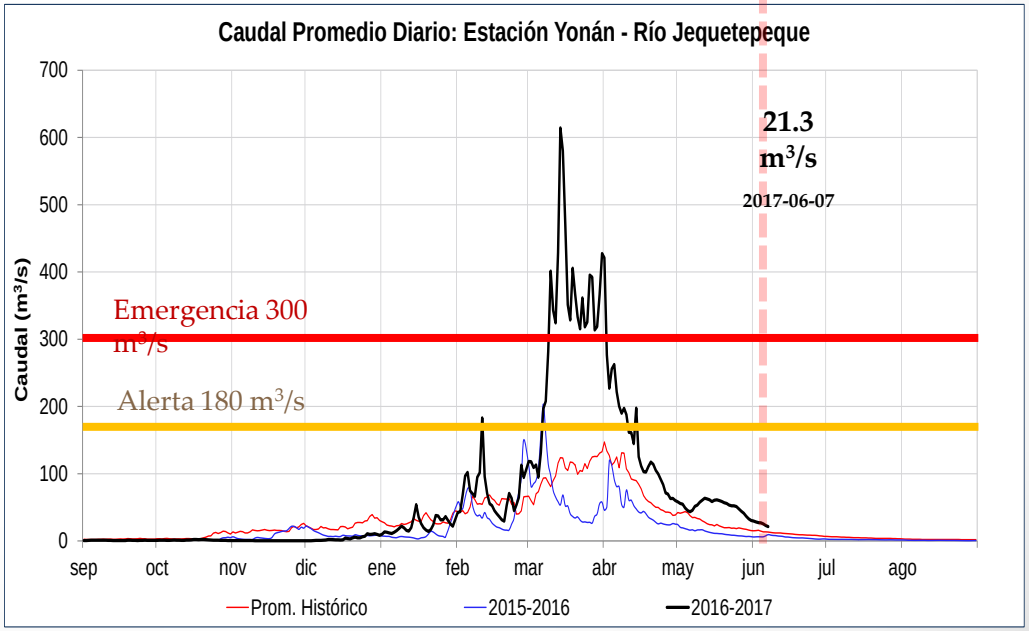




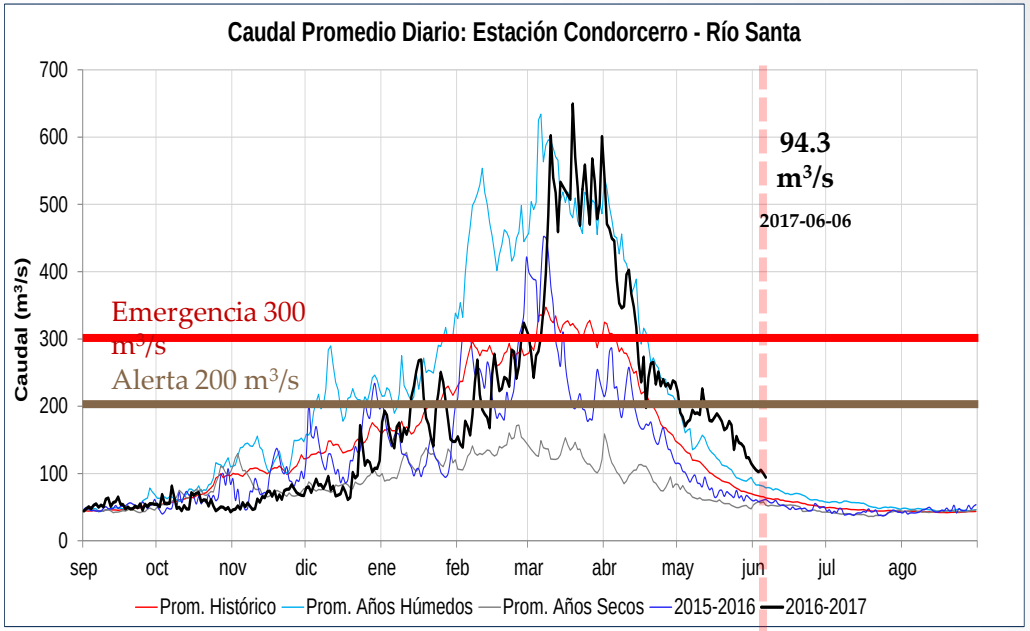
Región hidrográfica Pacífico – Ríos Costa Norte

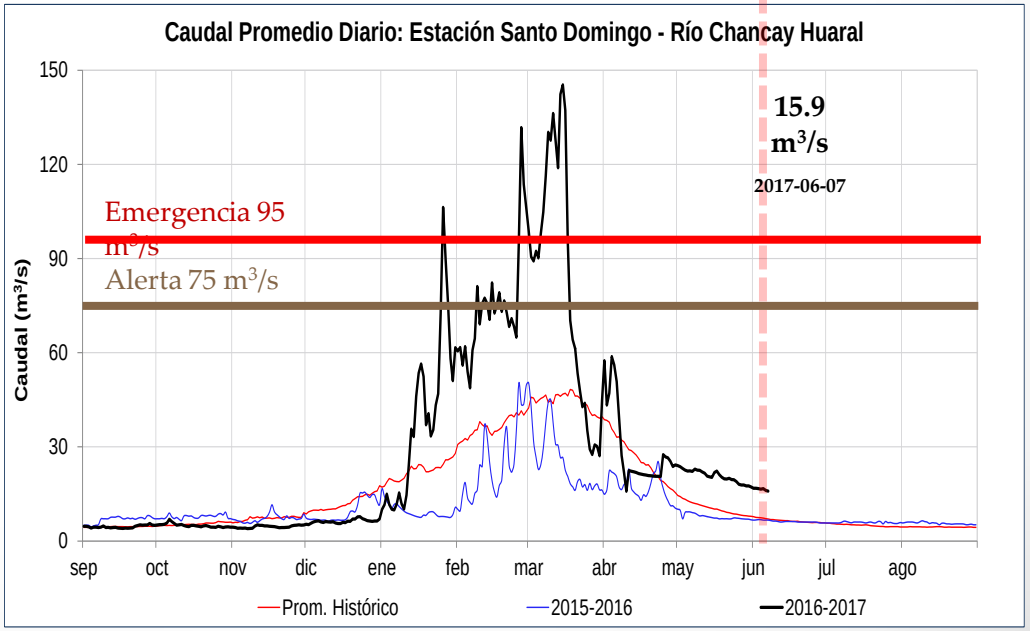




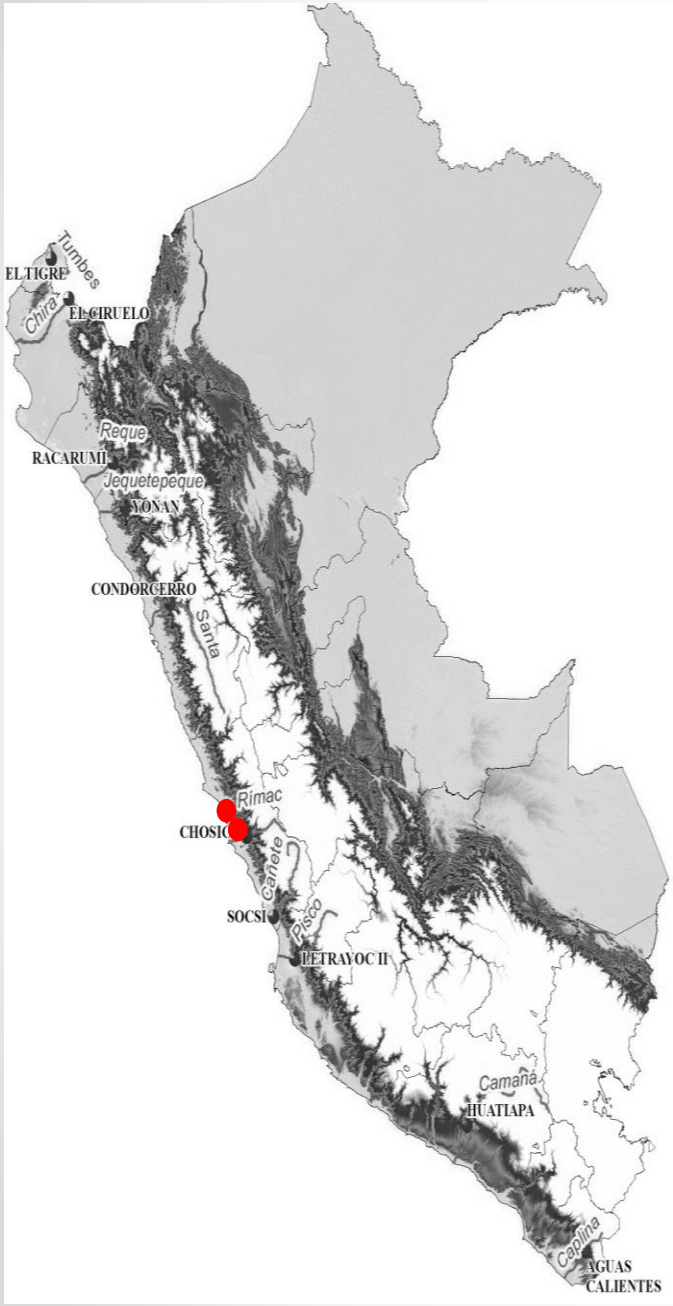


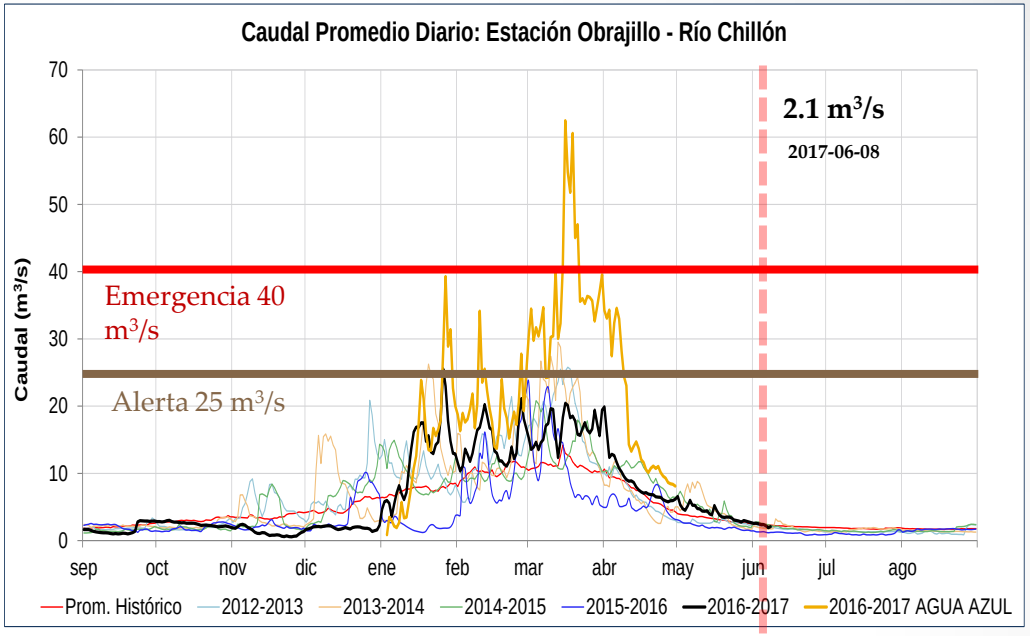
Región hidrográfica Pacífico – Ríos Costa Centro

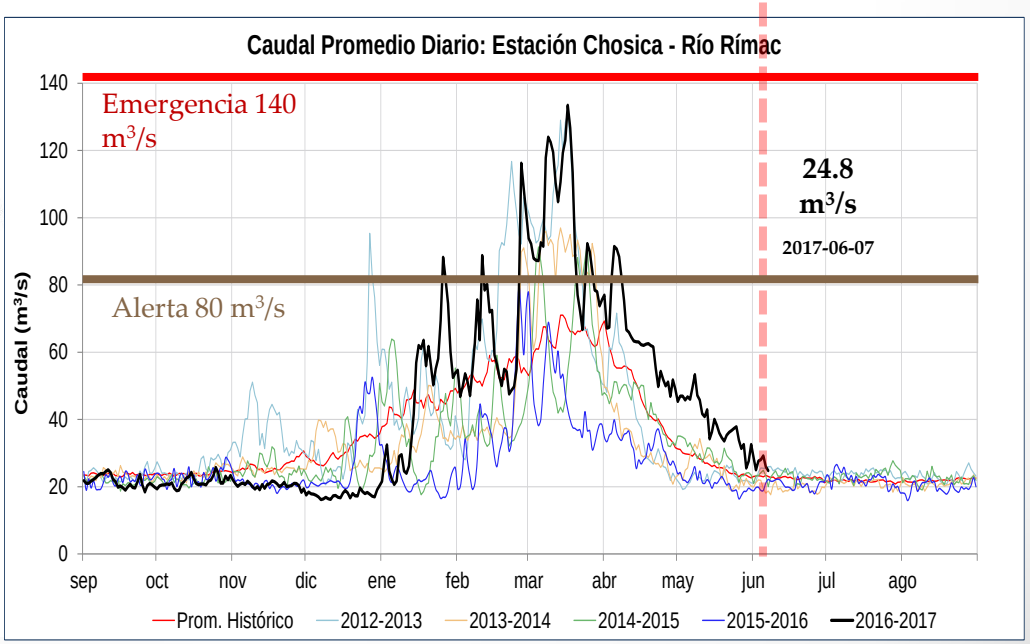




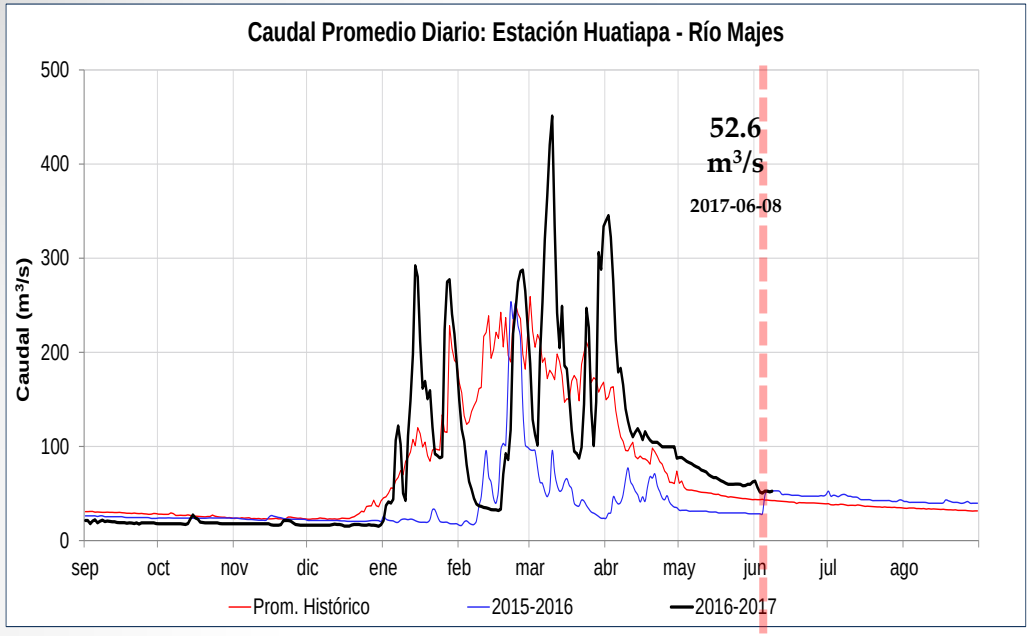
Región hidrográfica Pacífico – Ríos Costa Centro

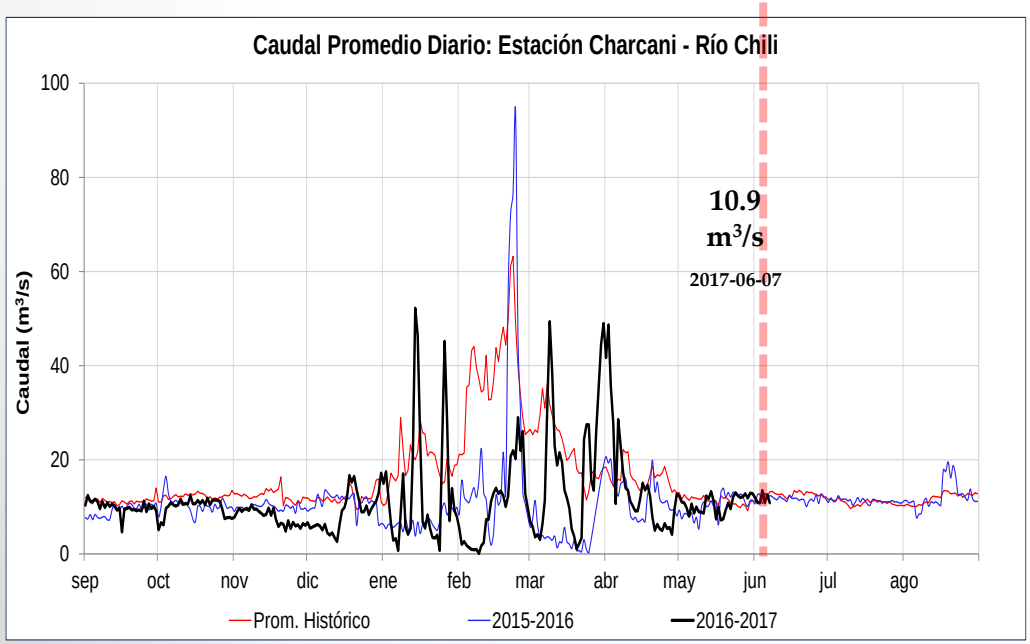


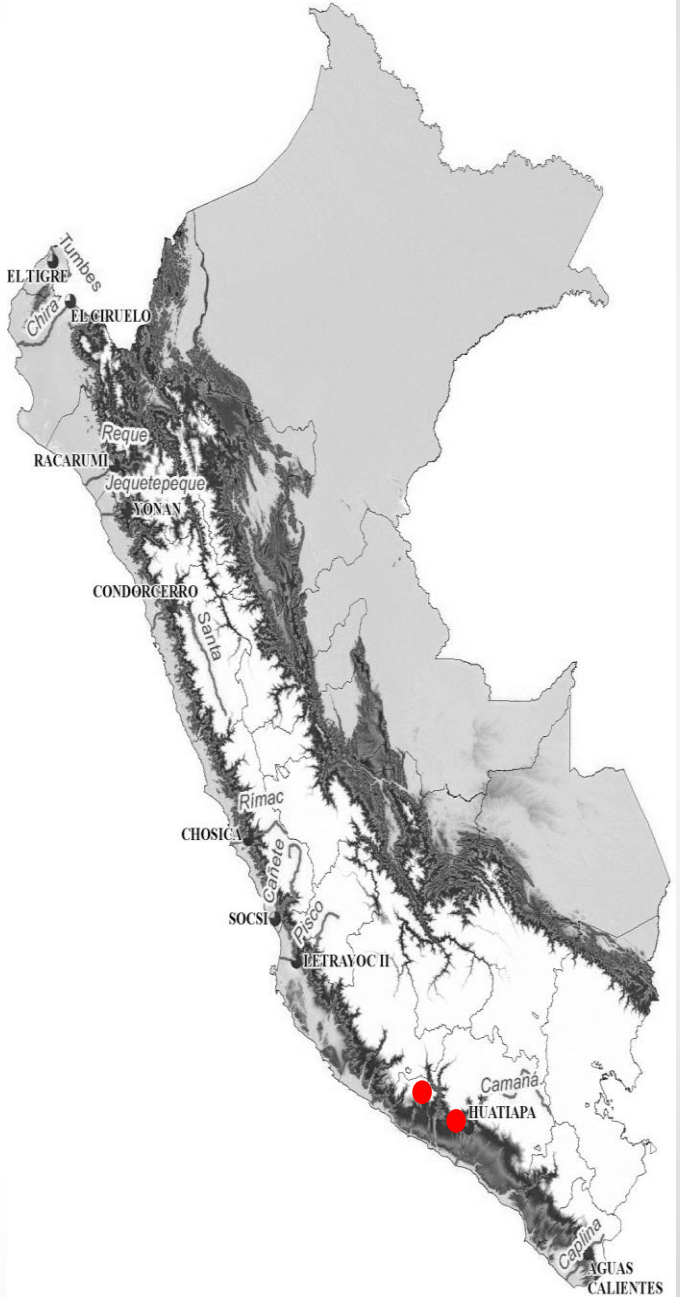




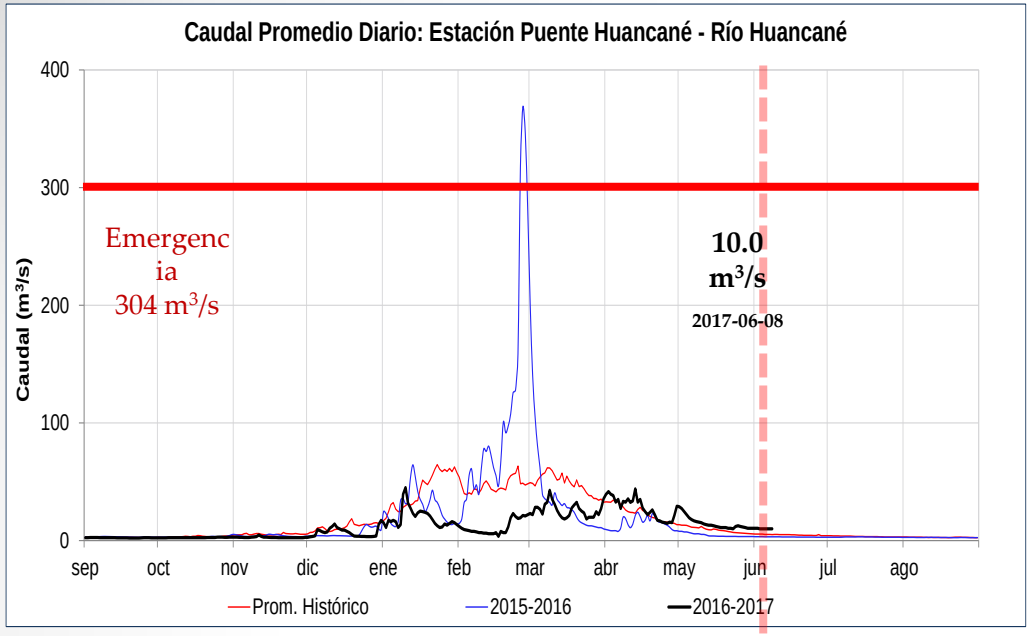
Región hidrográfica Pacífico – Ríos Costa Sur

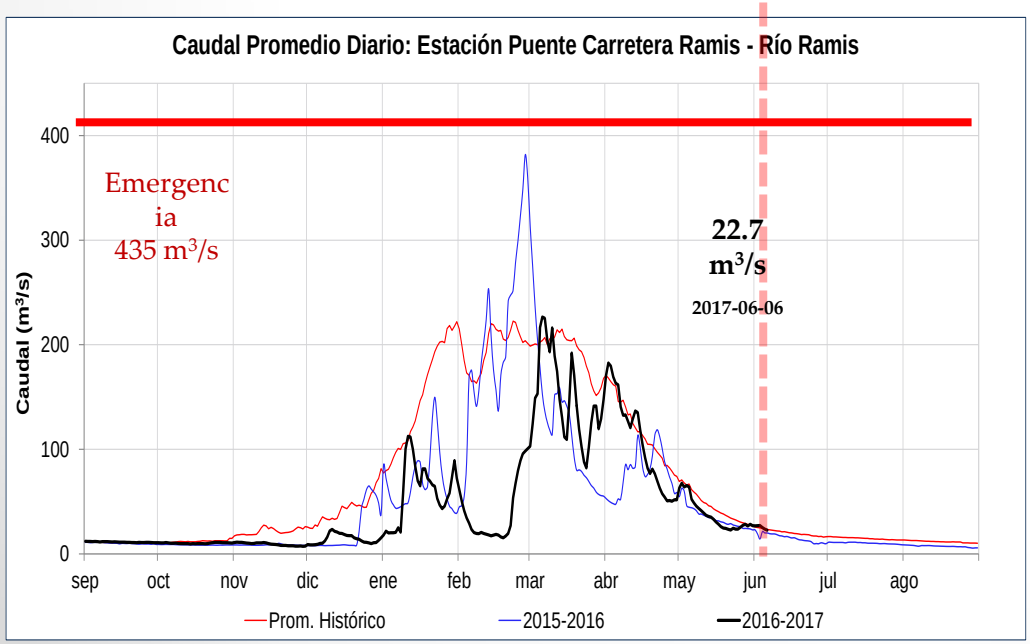


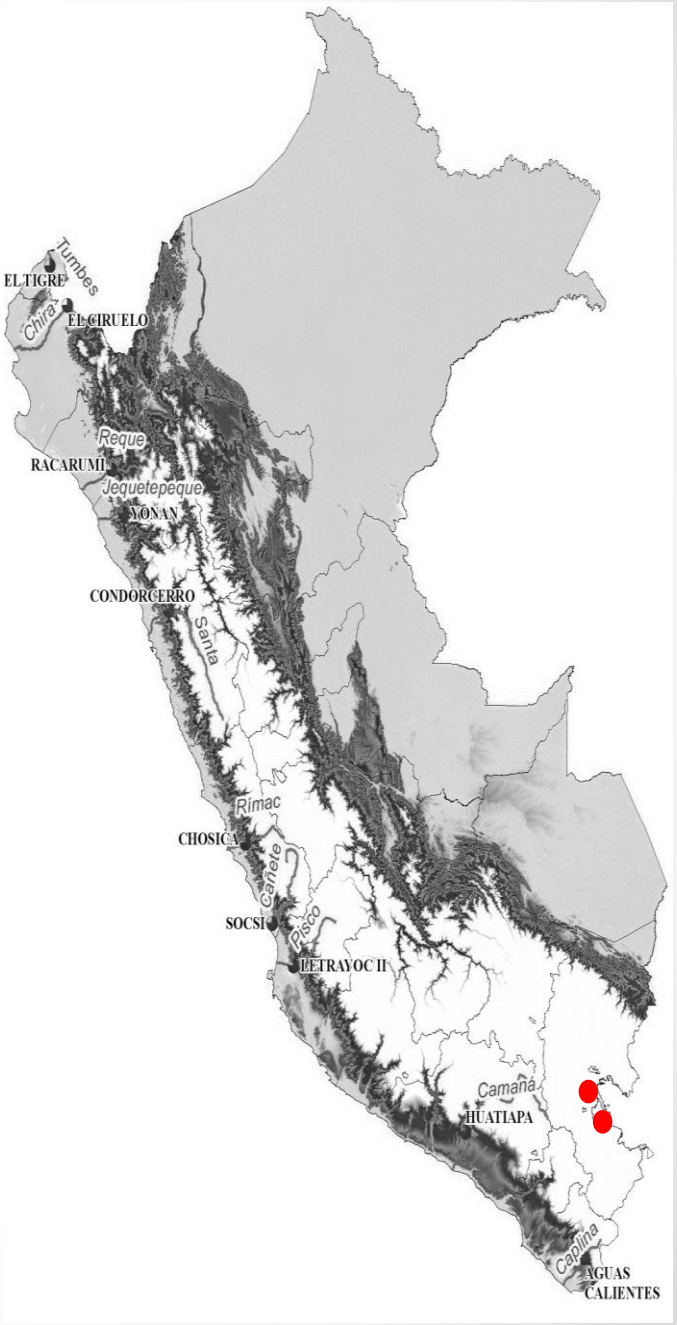




Región hidrográfica Titicaca

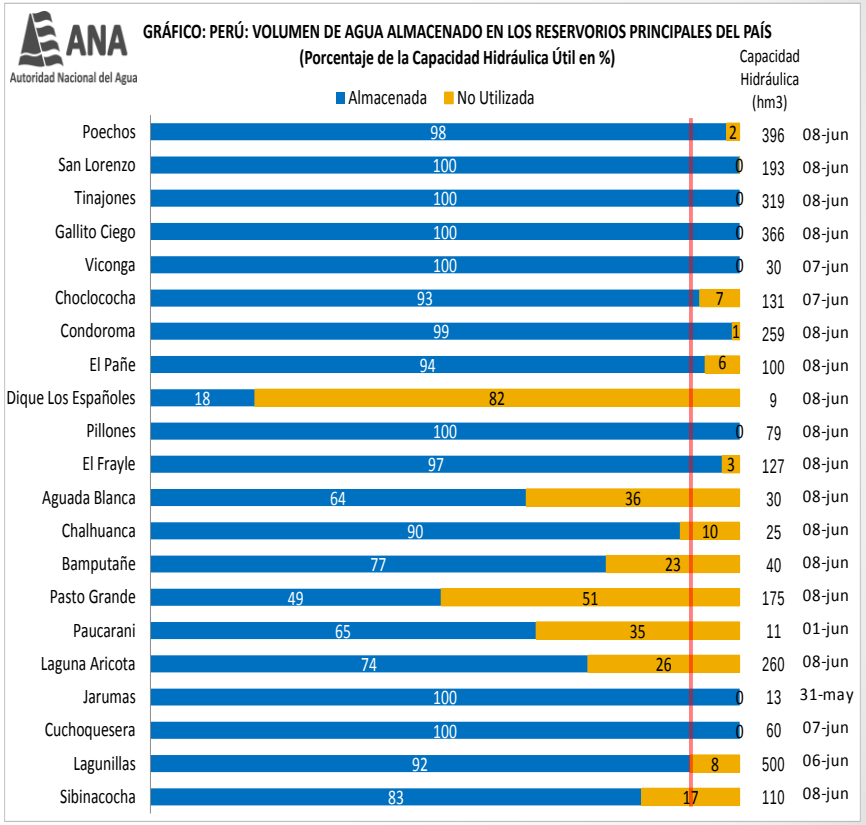






Resumen del estado de los principales embalses. mayo 2017.

Zona	Reservorio	Fecha Reporte	Departamento de Influencia	Capacidad Hidráulica (hm^3)		Capacidad Hidráulica Almacenada (%)
				Útil	Almacenada	
Costa - Norte	Poechos	08-jun	Piura	396.1	387.3	97.8
	San Lorenzo	08-jun	Piura	193.0	192.9	99.9
	Tinajones	08-jun	Lambayeque	319.0	331.3	100.0
	Gallito Ciego	08-jun	La Libertad	366.0	366.6	100.0
Costa - Centro	Viconga	07-jun	Lima	30.0	30.0	100.0
Costa - Sur	Choclococha	07-jun	Ica	131.1	122.2	93.2
	Condoroma	08-jun	Arequipa	259.0	255.8	98.8
	El Pañe	08-jun	Arequipa	99.6	93.8	94.1
	Dique Los Españoles	08-jun	Arequipa	9.1	1.6	17.7
	Pillones	08-jun	Arequipa	78.5	79.7	100.0
	El Frayle	08-jun	Arequipa	127.2	123.5	97.0
	Aguada Blanca	08-jun	Arequipa	30.4	19.4	63.8
	Chalhuanca	08-jun	Arequipa	25.0	22.5	89.9
	Bamputañe	08-jun	Arequipa	40.0	30.9	77.4
	Pasto Grande	08-jun	Moquegua	175.0	86.4	49.3
	Paucarani	01-jun	Tacna	10.5	6.9	65.5
	Laguna Aricota	08-jun	Tacna	260.0	193.0	74.2
	Jarumas	31-may	Tacna	12.5	12.5	100.0
Sierra - Centro	Cuchoquesera	07-jun	Ayacucho	60.0	80.0	100.0
Sierra - Sur	Lagunillas	06-jun	Puno	500.0	458.0	91.6
	Sibinacocha	08-jun	Cusco	110.0	91.7	83.4



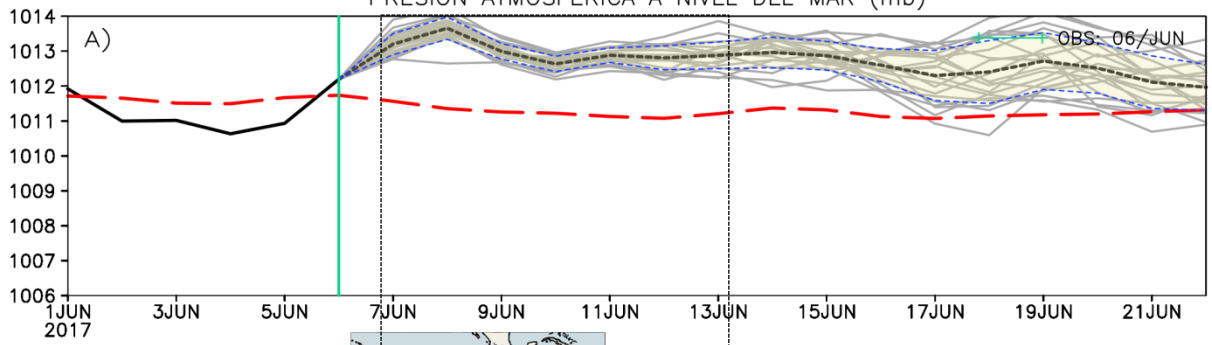
Fuente: http://snirh.ana.gob.pe/fen/EFEN_EstadoEmbalses.aspx

PERSPECTIVAS DE CORTO Y LARGO PLAZO.

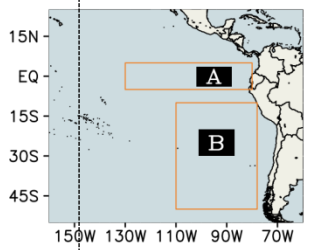
GFS "00Z" ENSEMBLES – ANALYSIS 01JUN2017

—SENAMHI DGM/SPC—DMA—

PRESION ATMOSFERICA A NIVEL DEL MAR (mb)

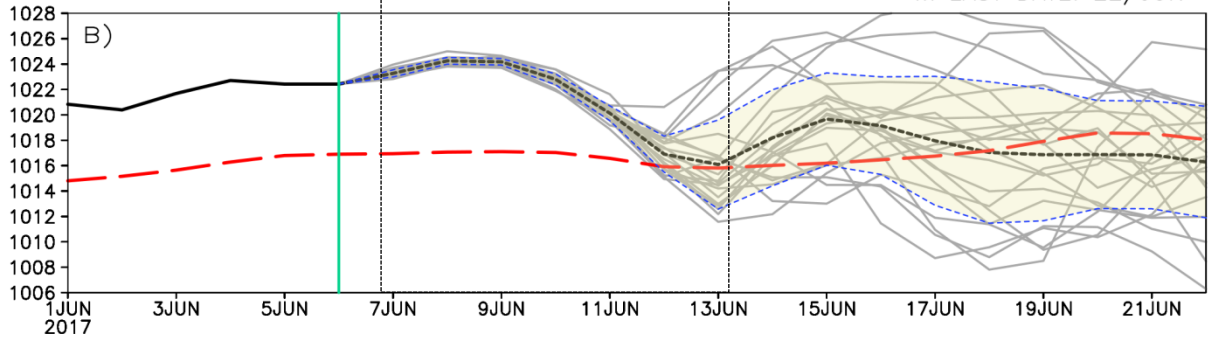


SELECTED ZONES

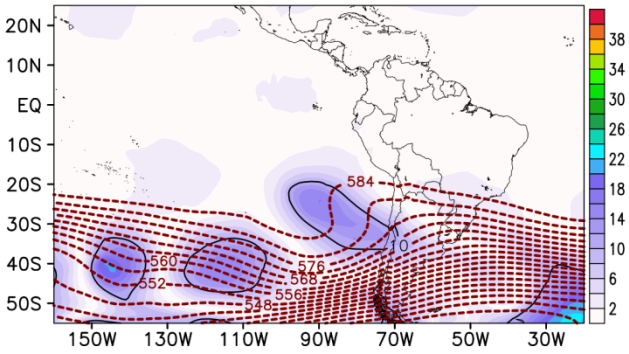


GFS daily analysis
forecast ensemble mean
individual ensemble members
multiyear–dayly mean

... LAST DATE: 22/JUN

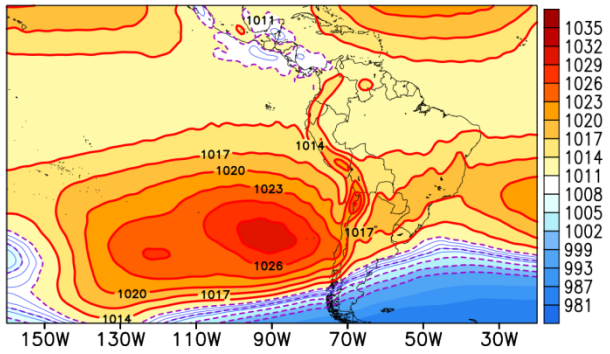


GFS–ENS. STD. DEVIATION (mgp) at 500mb



05–DAYS ENSEMBLE MEAN

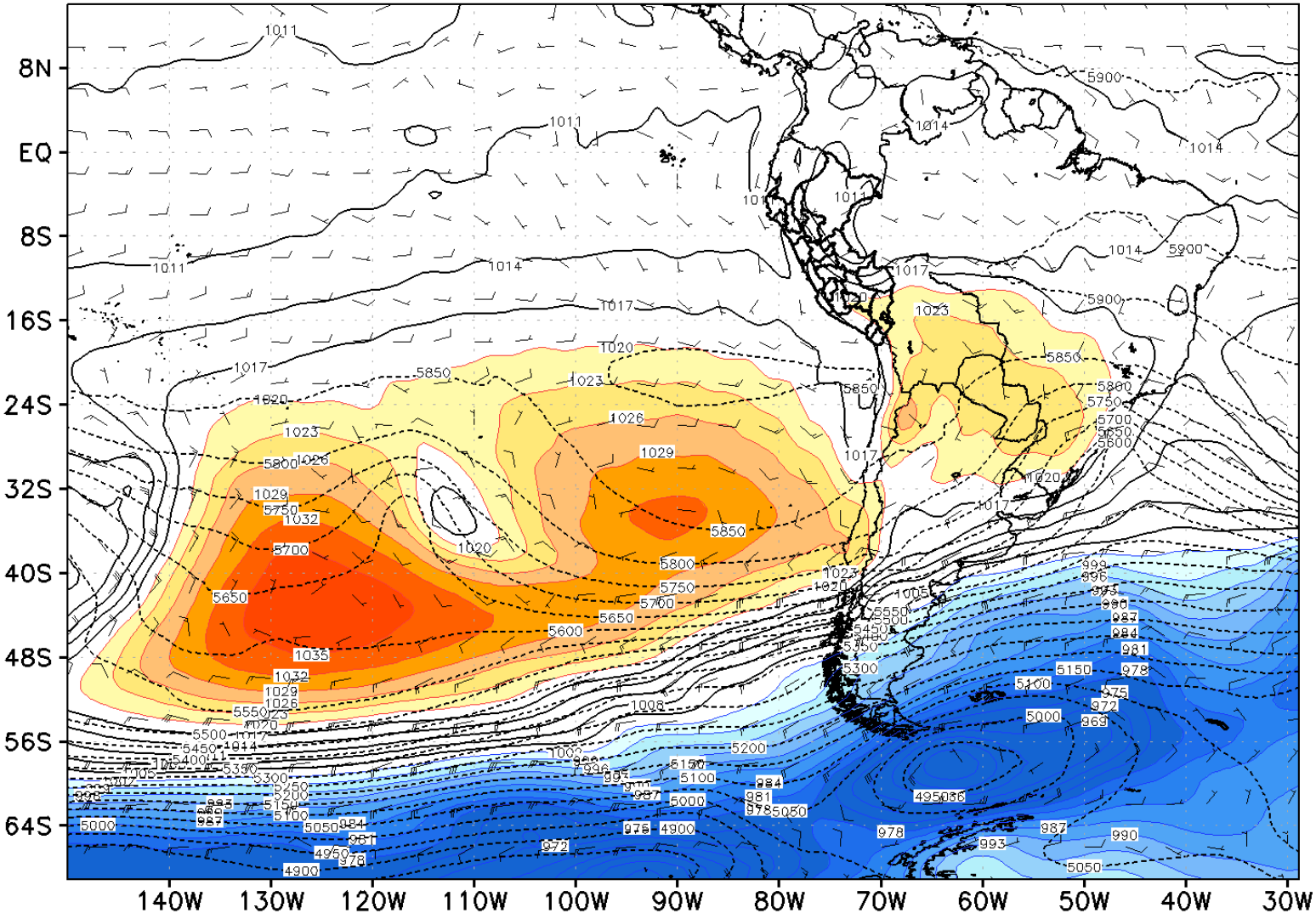
SEA LEVEL PRESSURE (msnm)



05–DAYS ENSEMBLE MEAN

Senamhi
SERVICIO NACIONAL DE METEOROLOGIA E HIDROLOGIA DEL PERU

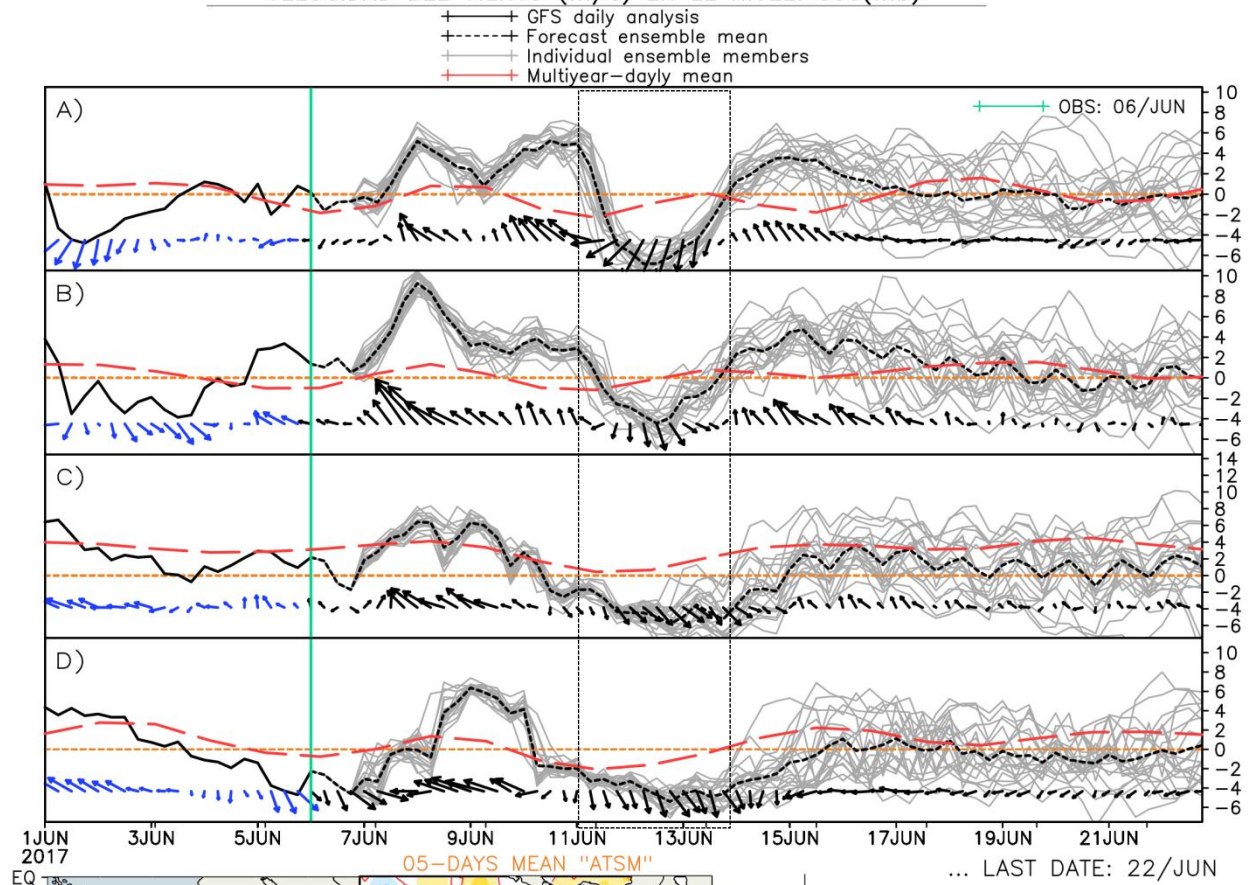
PRESION A NIVEL DEL MAR (hPa), VIENTO 850 hPa, ALT GEO 500hPa
ANALISIS: 00UTC 09JUN2017 VALIDO: 00UTC 10JUN2017



GFS "00Z" ENSEMBLES – ANALYSIS 01JUN2017

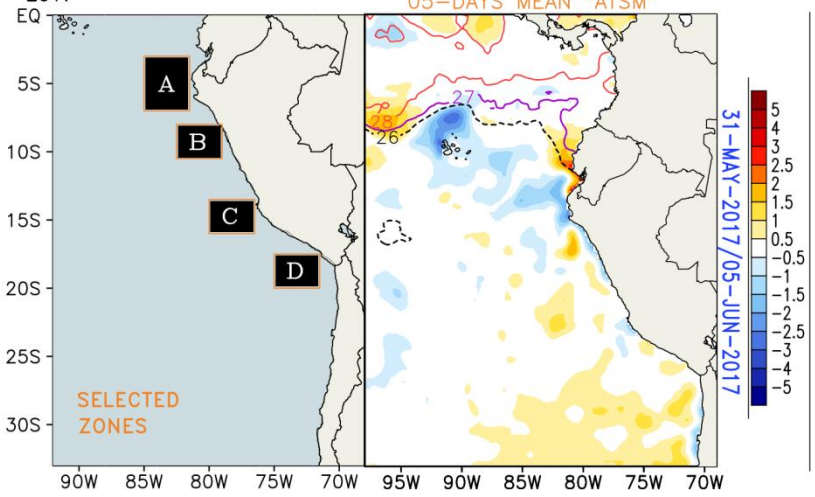
–SENAMHI DMA/SPC–

VELOCIDAD DEL VIENTO (m/s) EN EL NIVEL: 850(mb)



05–DAYS MEAN "ATSM"

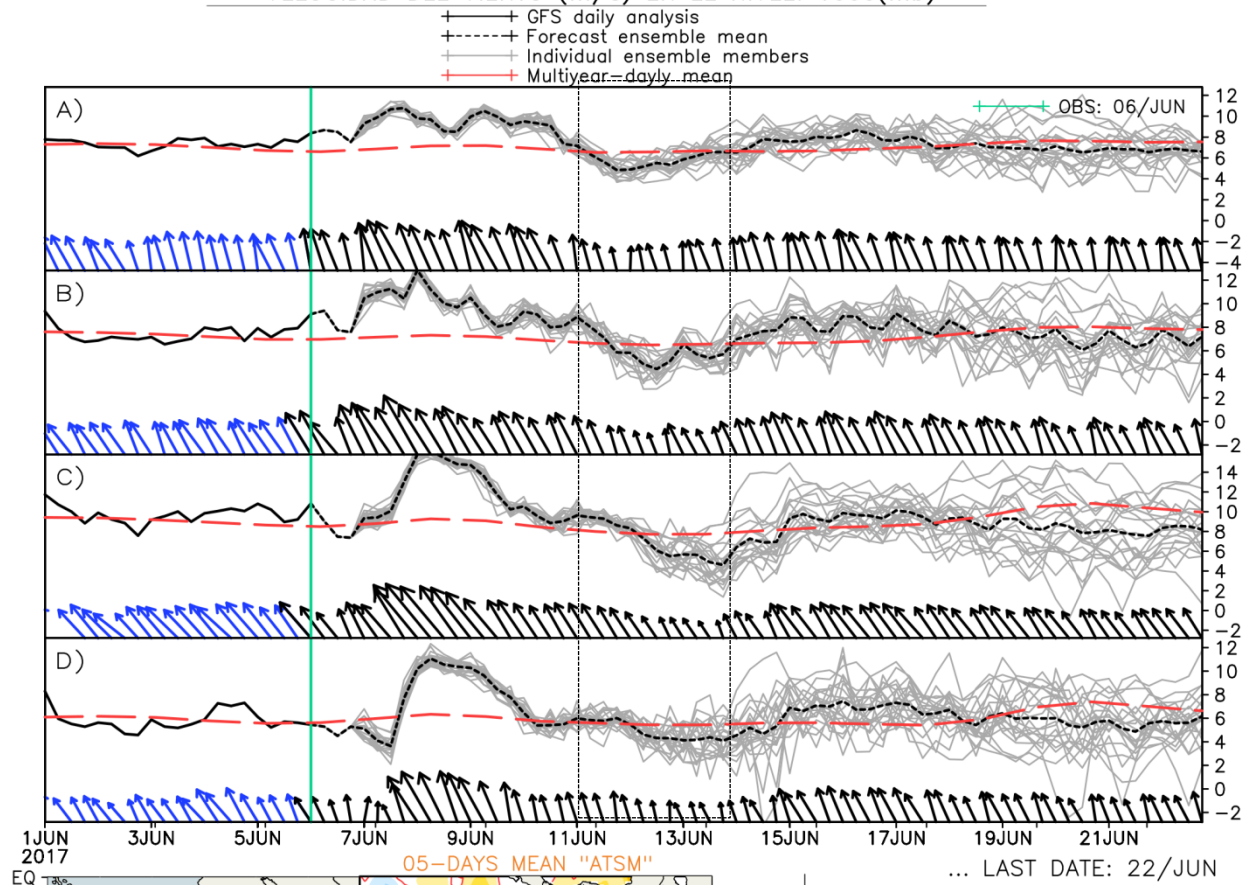
... LAST DATE: 22/JUN



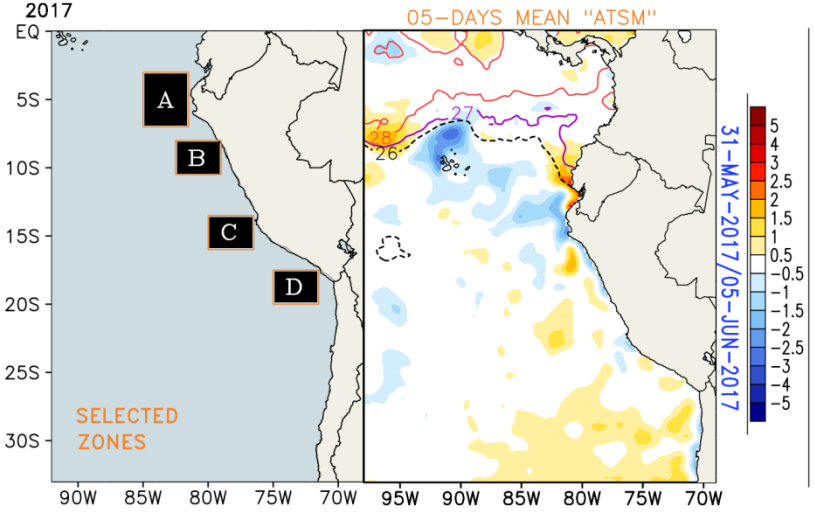
GFS "00Z" ENSEMBLES – ANALYSIS 01JUN2017

–SENAMHI DMA/SPC–

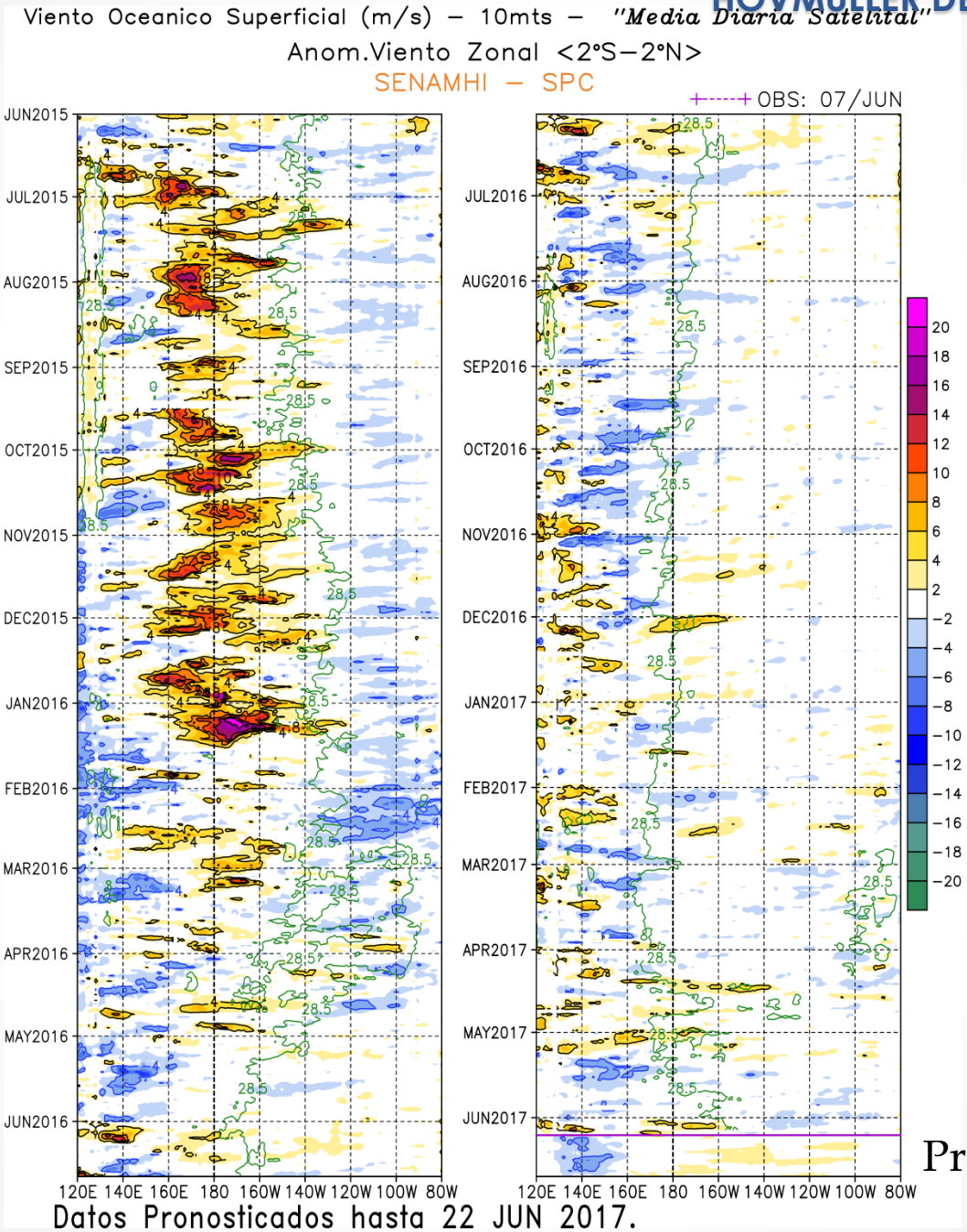
VELOCIDAD DEL VIENTO (m/s) EN EL NIVEL: 1000(mb)



... LAST DATE: 22/JUN



HOVMULLER DE ANOMALÍA DE VIENTOS



Pronóstico

Simulación de la propagación de las ondas Kelvin Ecuatoriales

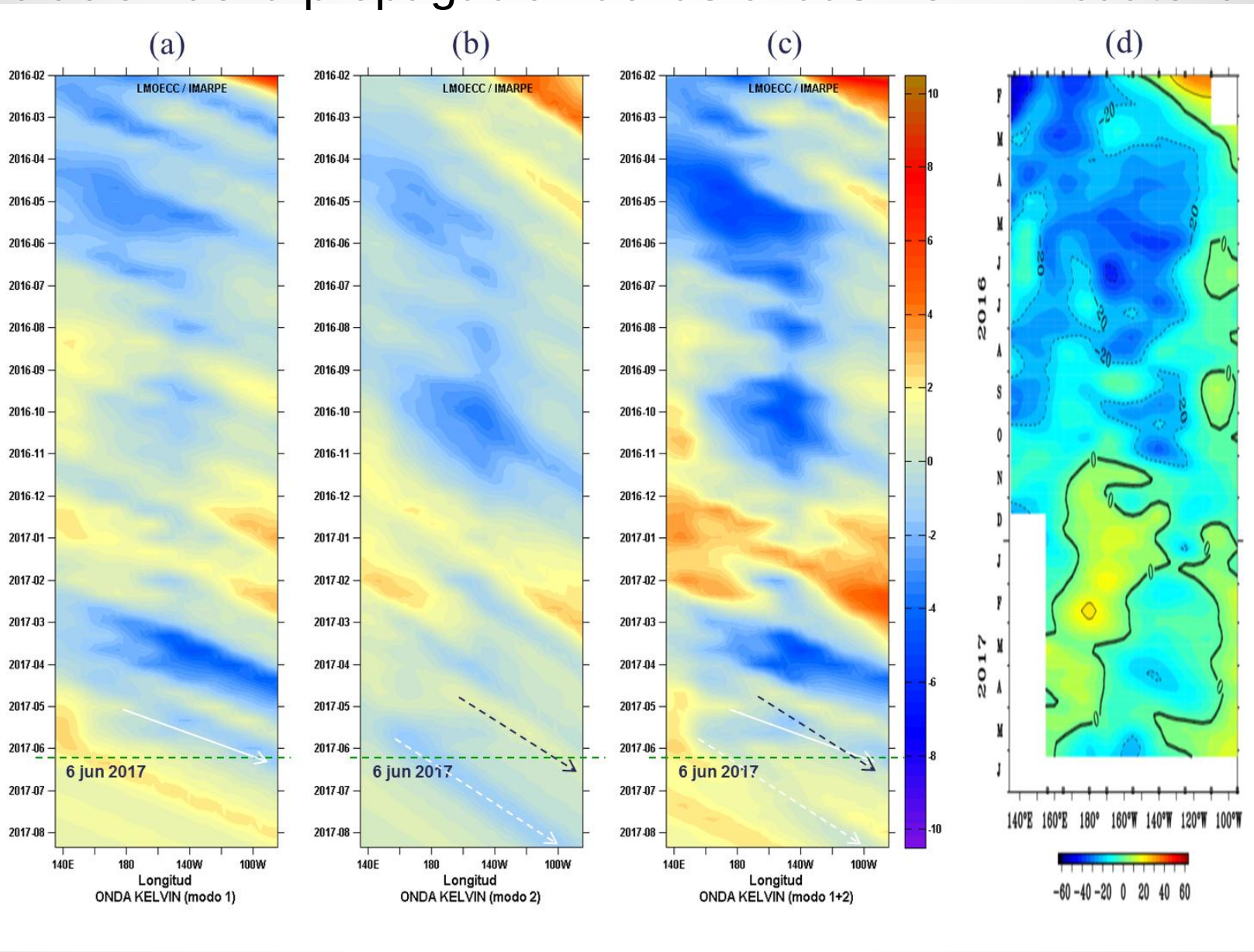
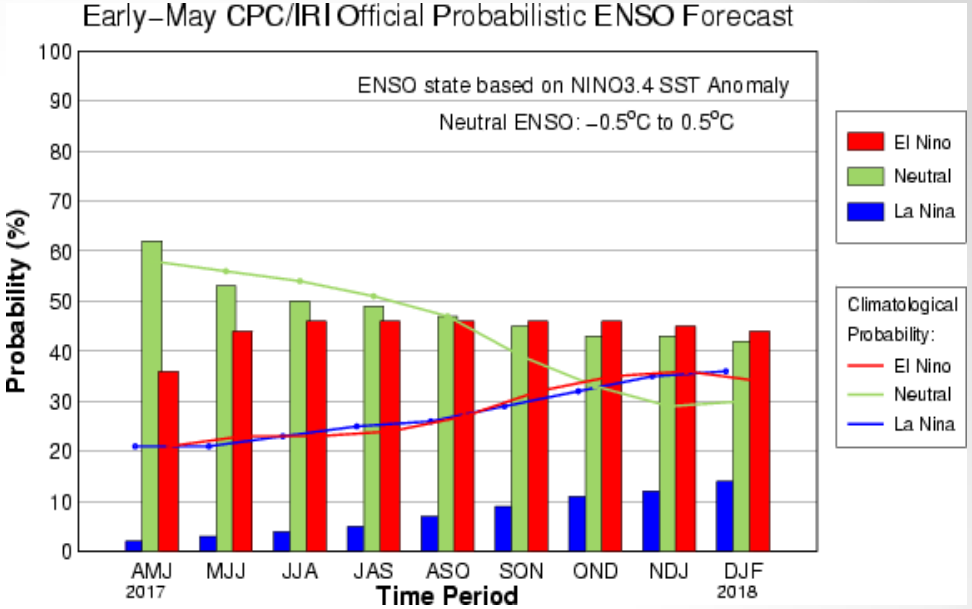


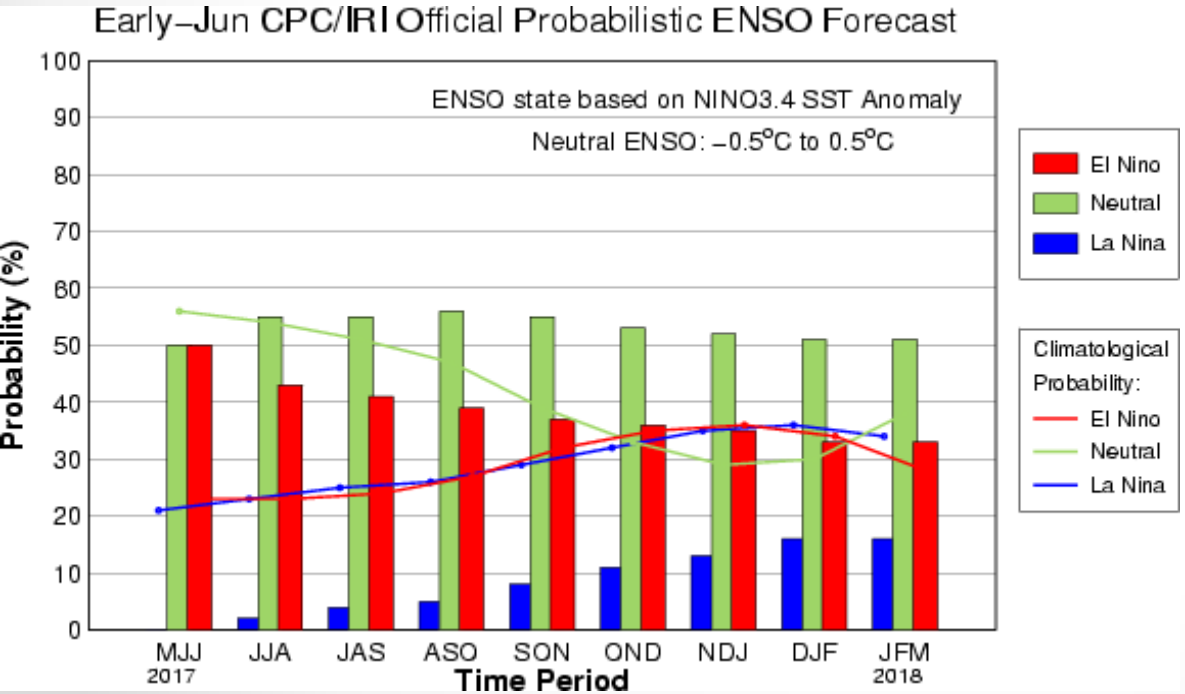
Diagrama Hovmöller longitud-tiempo de las ondas Kelvin en el océano Pacifico ecuatorial (0°N): (a) Modo 1, (b) Modo 2, (c) Modos 1+2 y (d) Anomalías de la profundización de la isoterma de 20°C (m) en la Pacifico Ecuatorial (2°S y 2°N). La línea discontinua horizontal, en verde, indica el inicio del pronóstico sin el forzante de vientos. Fuente: IMARPE, forzado con vientos de NCEP (Figuras a-c) y adaptación de TAO/PMEL/NOAA (Figuras d).

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

Corrida del mes anterior

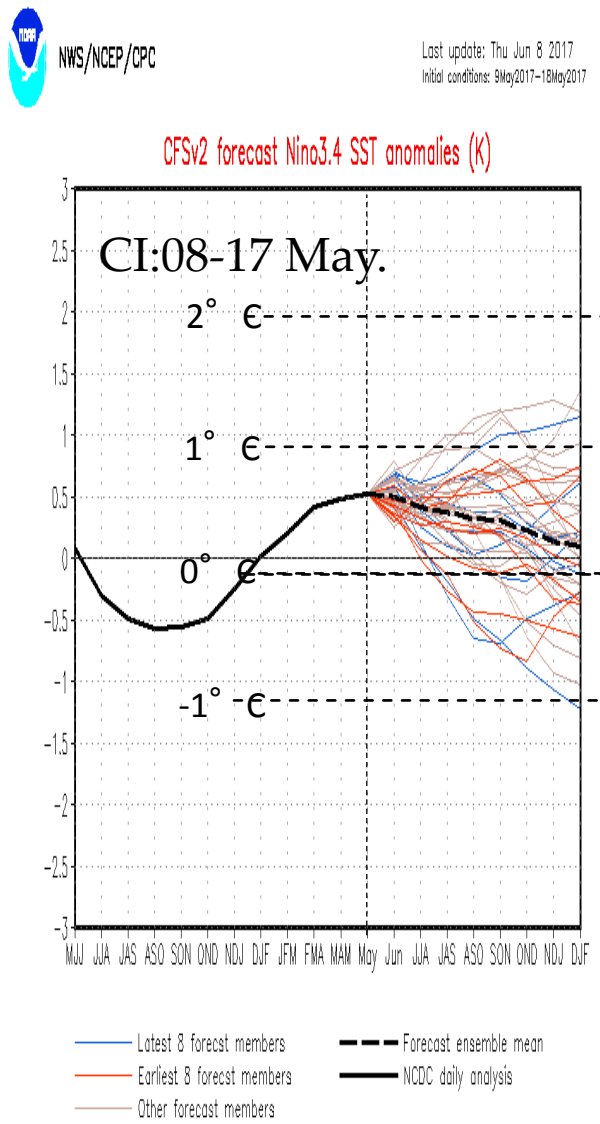


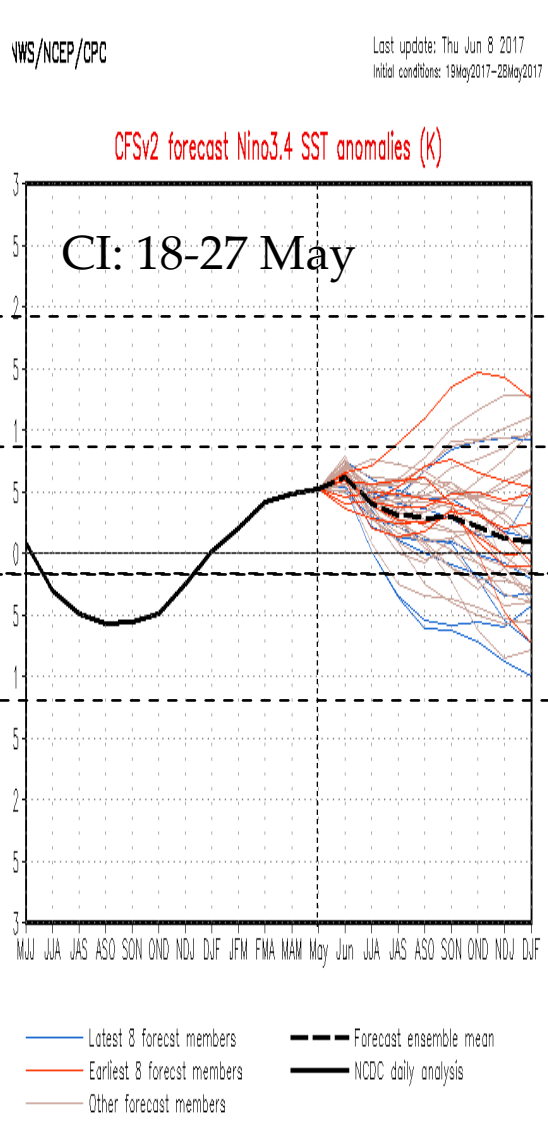
Corrida reciente

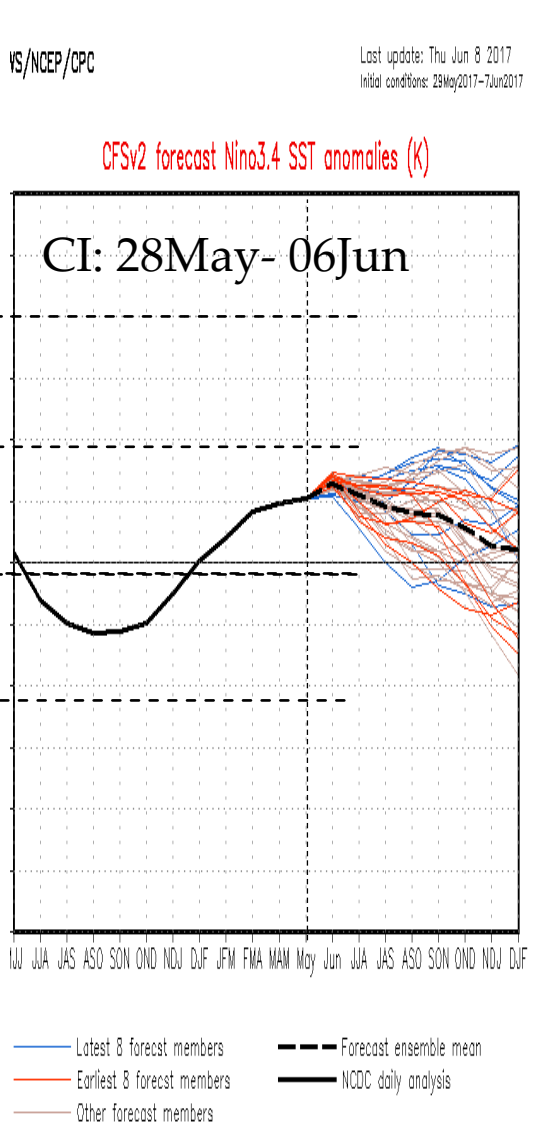


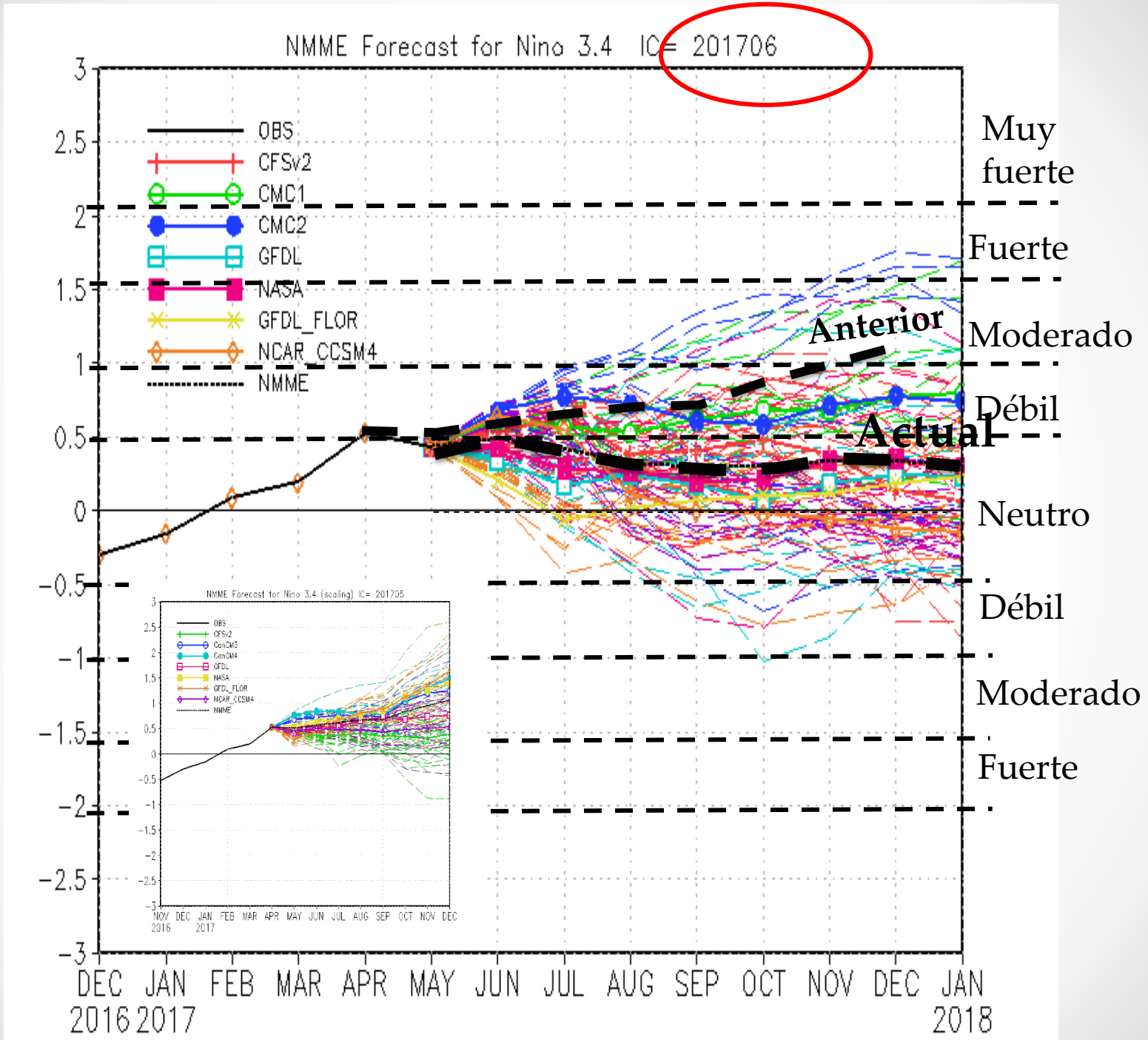
En la evaluación de junio, la probabilidad de El Niño de NOAA/IRI en diciembre bajó sustancialmente. El escenario neutro es el más probable para el resto del año y hasta el verano 2017-18. La Niña es más improbable que lo usual.

CFSv2: Niño 3.4







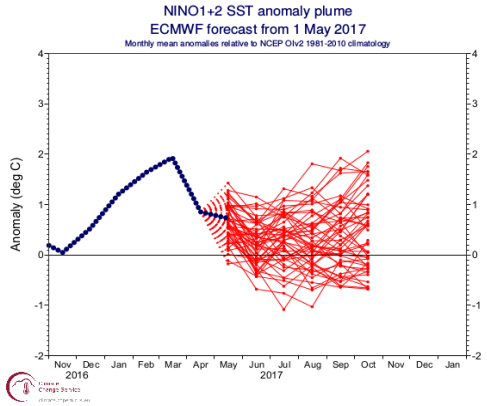

NMME Forecast for Nino 3.4 IC= 201706
OBS
CFSv2
CMC1
CMC2
GFDL
NASA
GFDL_FLOR
NCAR_CCSM4
NMME
Anterior
Actual
Muy fuerte
Fuerte
Moderado
Débil
Neutro
Débil
Moderado
Fuerte
3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN
2016 2017 2018
NMME Forecast for Nino 3.4 (scaling) IC= 201705
NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
2016 2017

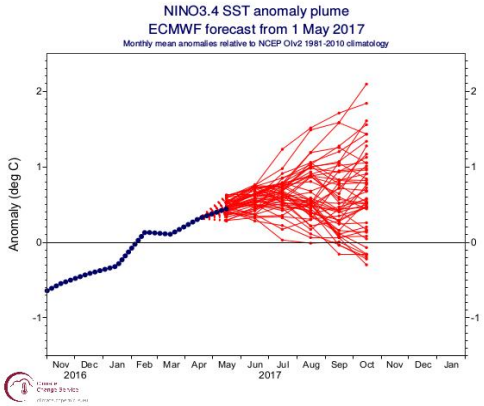
Modelos europeos (C.I. Mayo)

Niño 1+2

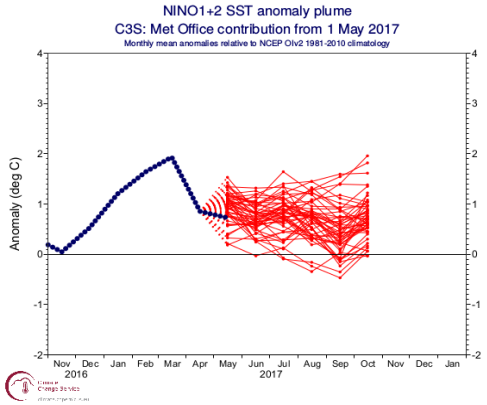
Niño 3.4

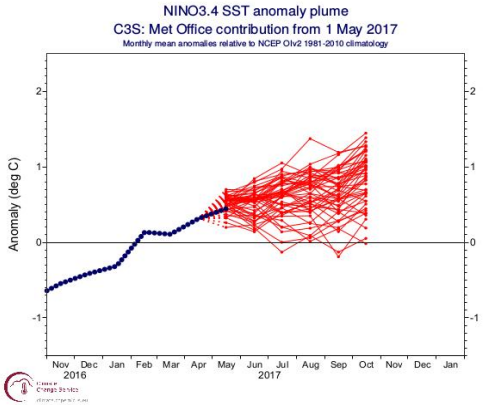
ECWMF



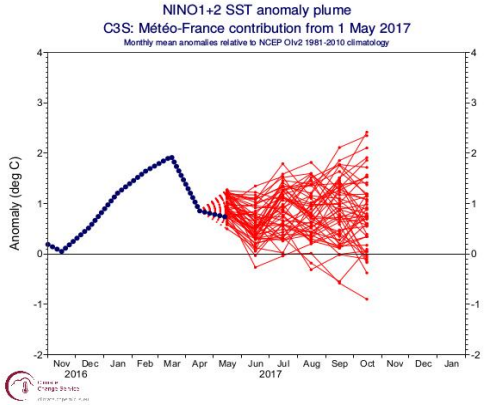


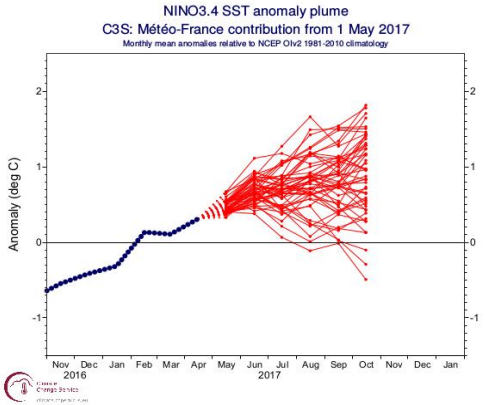
UK Met Office





Météo France





Pronósticos de ONI por modelos de NMME (promedios trimestrales de los pronósticos de las anomalías en Niño 3.4)

CI 2017 05

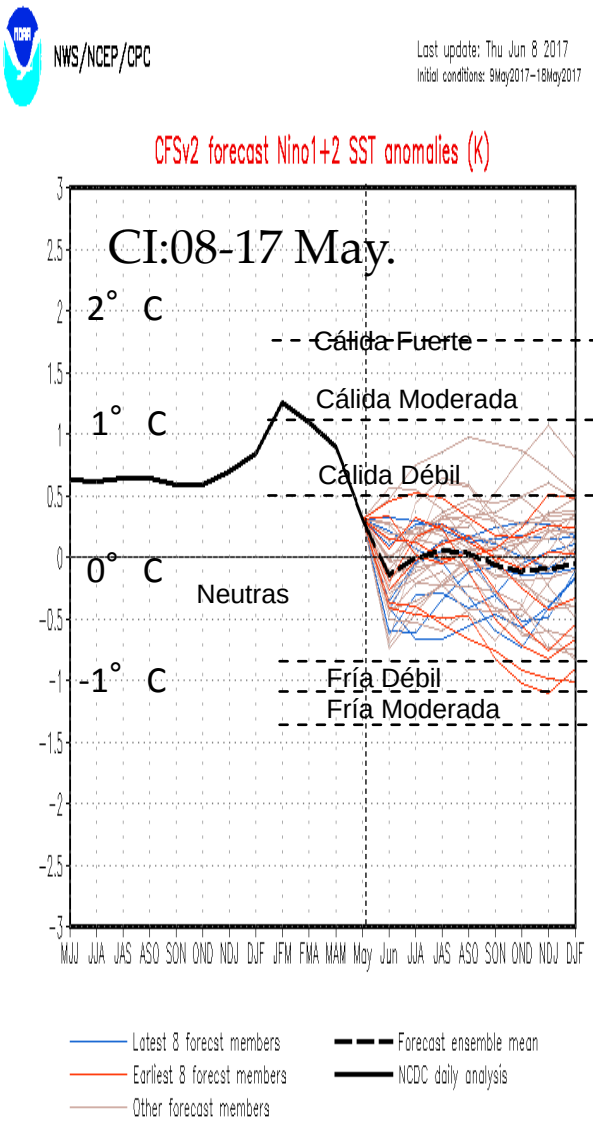
Modelo	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND
CFS2		0.47	0.52	0.50	0.49	0.45	0.42	0.41
CMC1		**0.57**	0.68	0.71	0.74	0.80	0.91	**1.05**
CMC2		0.73	**1.01**	**1.18**	**1.25**	**1.29**	**1.43**	**1.65**
GFDL		0.50	0.64	0.81	0.93	0.87	0.75	0.62
NASA		0.59	0.78	0.96	**1.13**	**1.26**	**1.40**	**1.49**
GFDL_FLOR		0.43	0.57	0.80	0.96	1.07	**1.20**	**1.37**
NCAR_CCSM4		0.47	0.51	0.55	0.56	0.54	**0.52**	**0.52**
NMME		0.54	0.67	0.79	0.87	0.90	0.95	**1.02**
ONItmp	0.38							

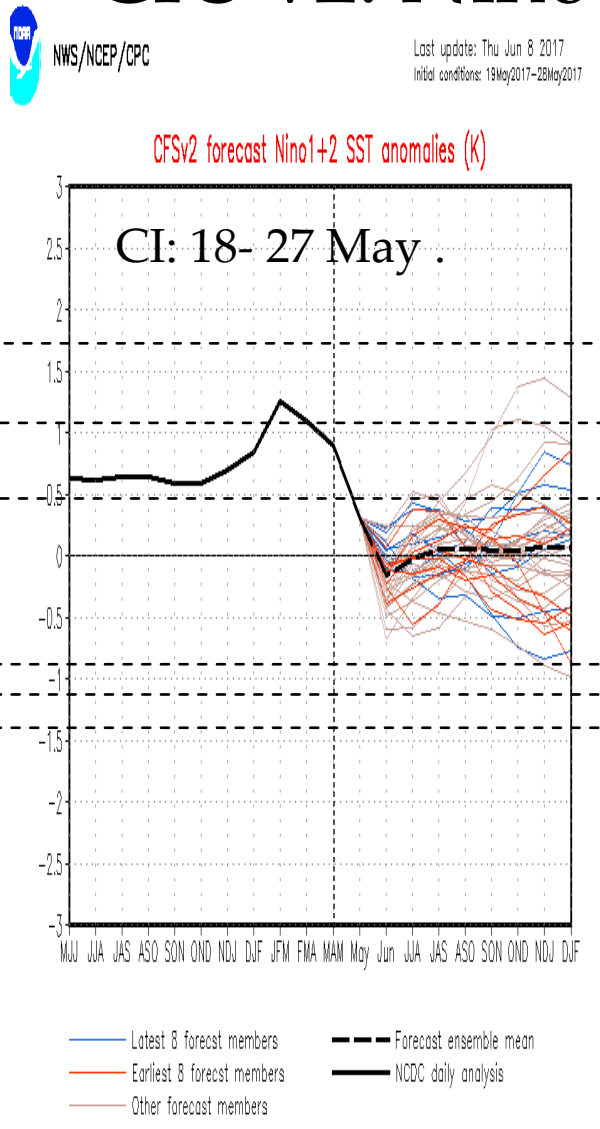
CI 2017 06

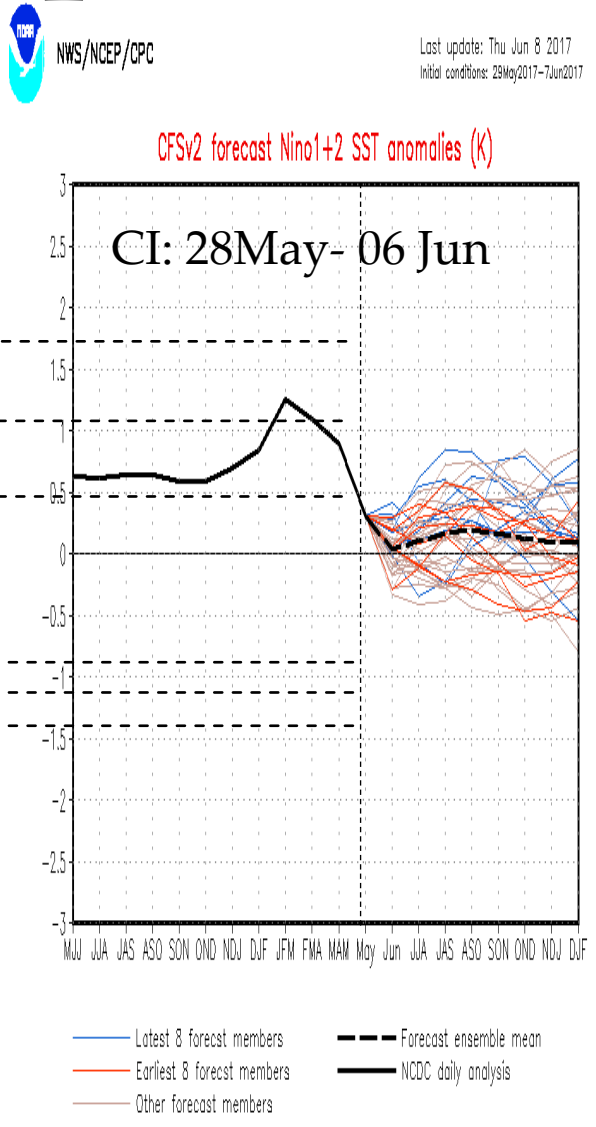
Modelo	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDE
CFS2		0.61	0.50	0.47	0.42	0.42	0.32	0.17
CMC1		0.60	0.57	0.57	0.62	0.67	0.73	0.77
CMC2		0.69	0.72	0.70	0.63	0.63	0.69	0.75
GFDL		0.37	0.26	0.21	0.17	0.14	0.16	0.22
NASA		0.42	0.29	0.22	0.21	0.25	0.31	0.33
GFDL_FLOR		**0.25**	**0.04**	**-0.03**	**-0.01**	**0.01**	**0.04**	**0.09**
NCAR_CCSM4		**0.59**	**0.42**	**0.20**	**0.01**	**-0.04**	**-0.08**	**-0.12**
NMME		**0.50**	**0.40**	**0.33**	**0.29**	**0.30**	**0.31**	**0.32**
ONItmp	**0.51**							

- **Nota:** Para el modelo CFSv2 en (MJJ), se realizó el promedio de los meses de junio y julio ; para (JJA Promedio de julio y agosto.

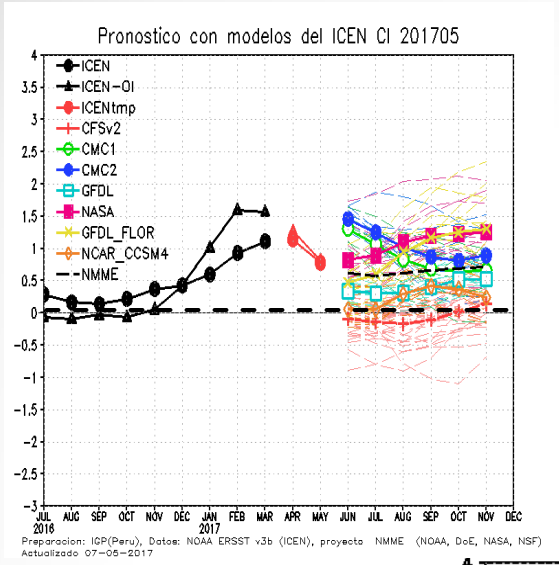
CFS v2: Niño 1+2





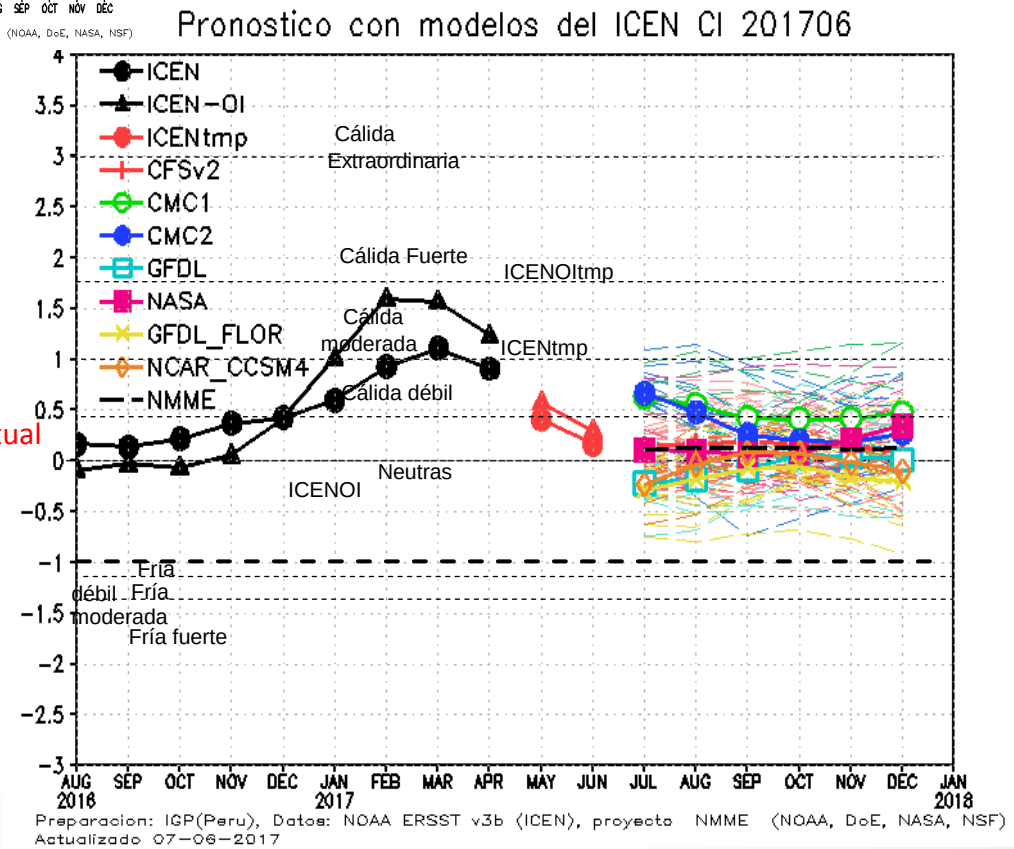


El CFS v2 es el modelo que más fuertemente ha reducido la probabilidad

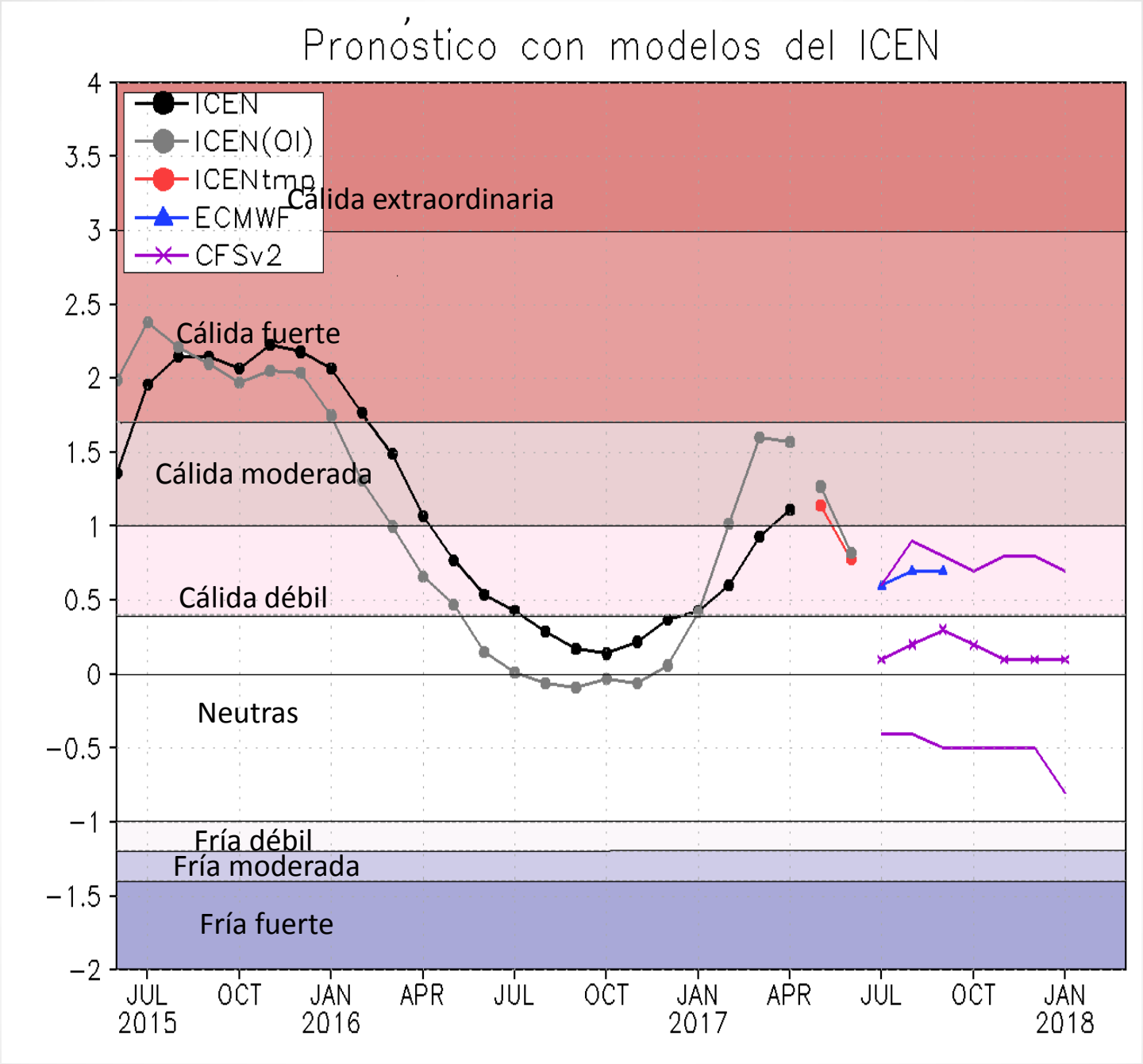


Corrida anterior

Corrida actual



Nota: Los pronósticos de los modelos CFSv2, CMC1, CMC2, GFDL, NASA , NCAR y GFDL_FLOR tienen como condiciones inicial el mes de junio de 2017.



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

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

CI 2017 05

Modelo	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND
CFS2		0.44	-0.09	-0.13	-0.17	-0.10	0.02	0.15
CMC1		**1.25**	**1.31**	**1.07**	0.83	0.69	0.64	0.66
CMC2		**1.32**	**1.46**	**1.25**	**1.03**	0.87	0.81	0.89
GFDL		0.57	0.34	0.31	0.31	0.40	0.52	0.52
NASA		0.83	0.82	0.89	**1.10**	**1.20**	**1.23**	**1.25**
GFDL_FLOR		0.58	0.47	0.60	0.94	**1.16**	**1.26**	**1.30**
NCAR_CCSM4		0.36	0.06	0.06	0.30	0.42	0.37	0.24
NMME		0.76	0.62	0.58	0.62	0.66	0.69	0.72
ICENtmp	1.14							

CI 2017 06

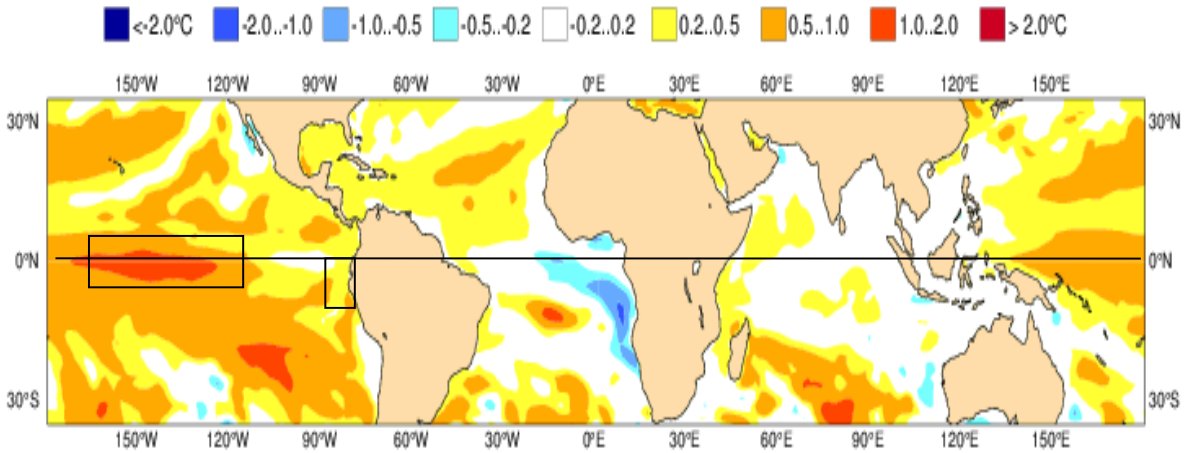
Modelo	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDE
CFS2		**0.18**	**0.14**	**0.17**	**0.19**	0.17	0.14	0.09
CMC1		0.56	0.63	0.55	0.43	0.41	0.41	0.48
CMC2		0.63	0.67	0.48	0.26	0.20	0.19	0.27
GFDL		-0.03	-0.22	**-0.18**	**-0.08**	**0.05**	**0.05**	**0.01**
NASA		0.13	0.11	**0.10**	**0.06**	**0.07**	**0.21**	**0.35**
GFDL_FLOR		**-0.12**	**-0.29**	**-0.18**	**-0.07**	**-0.05**	**-0.16**	**-0.20**
NCAR_CCSM4		**-0.14**	**-0.23**	**-0.03**	**0.08**	**0.08**	**-0.01**	**-0.10**
NMME		**0.17**	**0.12**	**0.13**	**0.12**	**0.13**	**0.12**	**0.13**
ICENtmp	0.41							

Nota: Para el modelo CFSv2 en (MJJ), se realizó el promedio de los meses junio y julio ; para (JJA) Promedio de julio y Agosto.

JAS 2017

ECMWF

C.I. Mayo

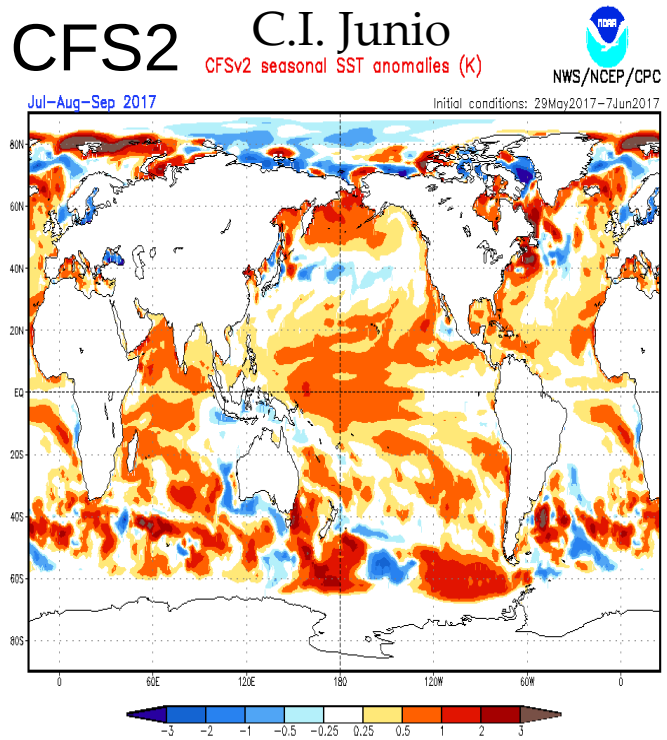


Pac. Cen.
1.2 ° C

Pac. Or.
0.6° C

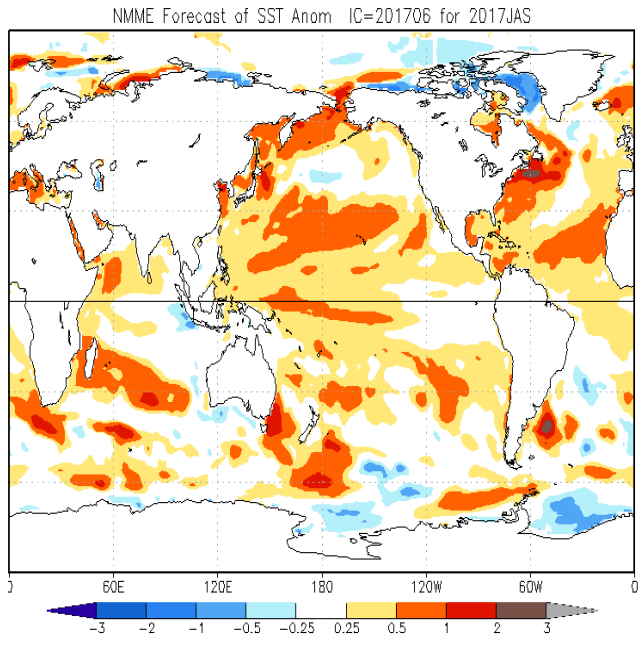
CFS2

C.I. Junio



NMME

C.I. Junio



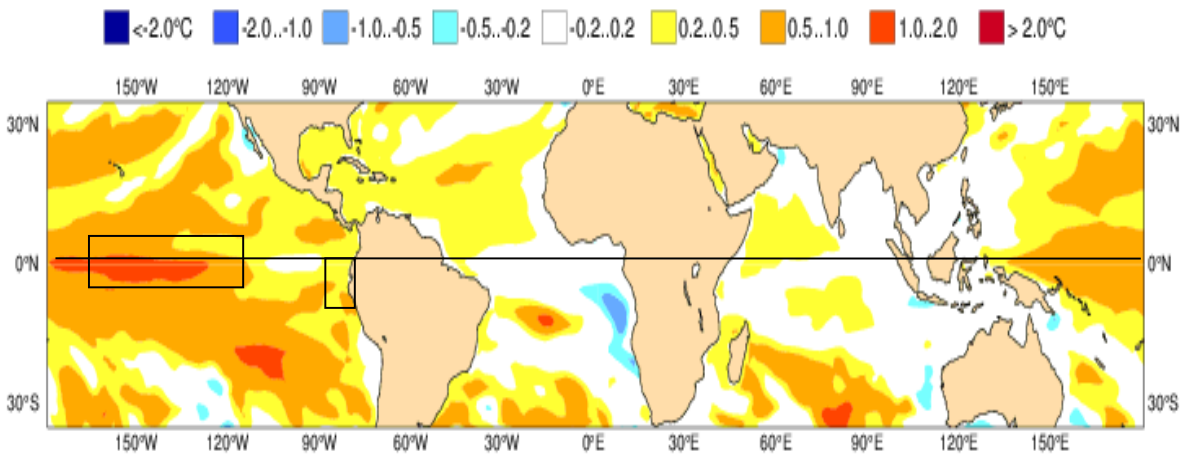
ASO 2017

ECMWF Seasonal Forecast
Mean forecast SST anomaly
Forecast start reference is 01/05/17
Ensemble size = 51, climate size = 450

System 4
ASO 2017

ECMWF

C.I. Mayo



Pac. Cen.
1.3 ° C

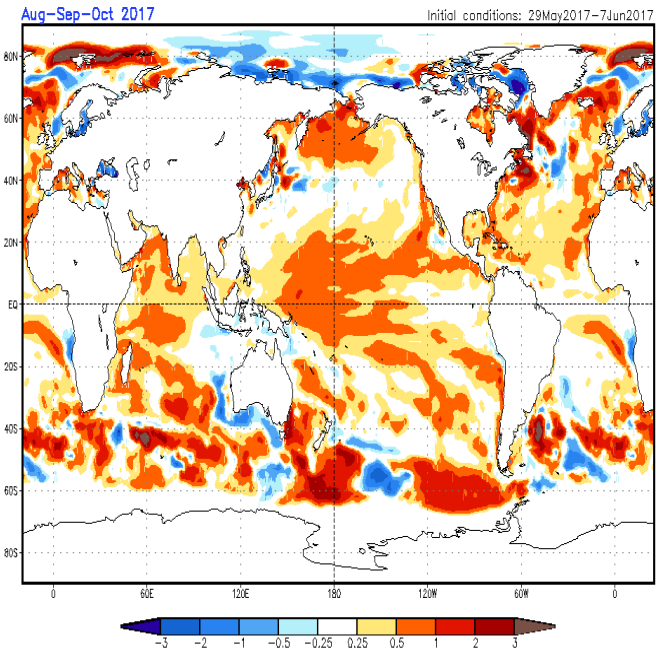
Pac. Or.
0.7° C

CFS2

C.I. Junio

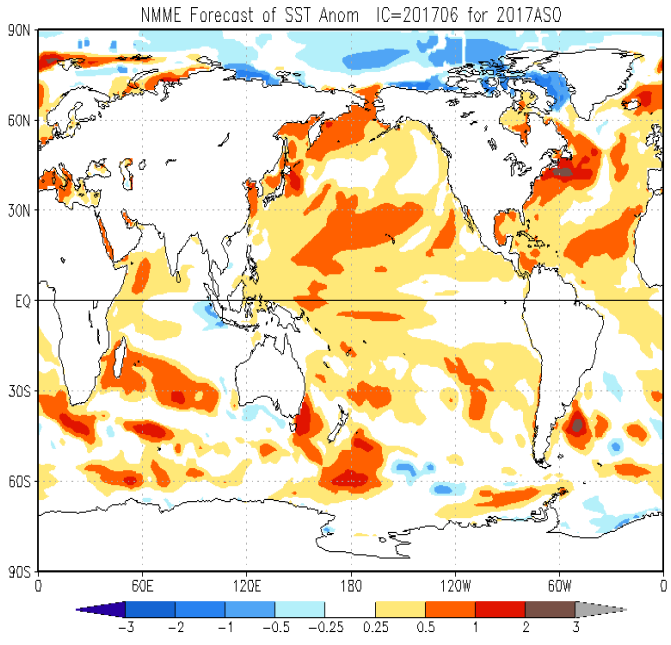
CFSv2 seasonal SST anomalies (K)

NWS/NCEP/CPC



NMME

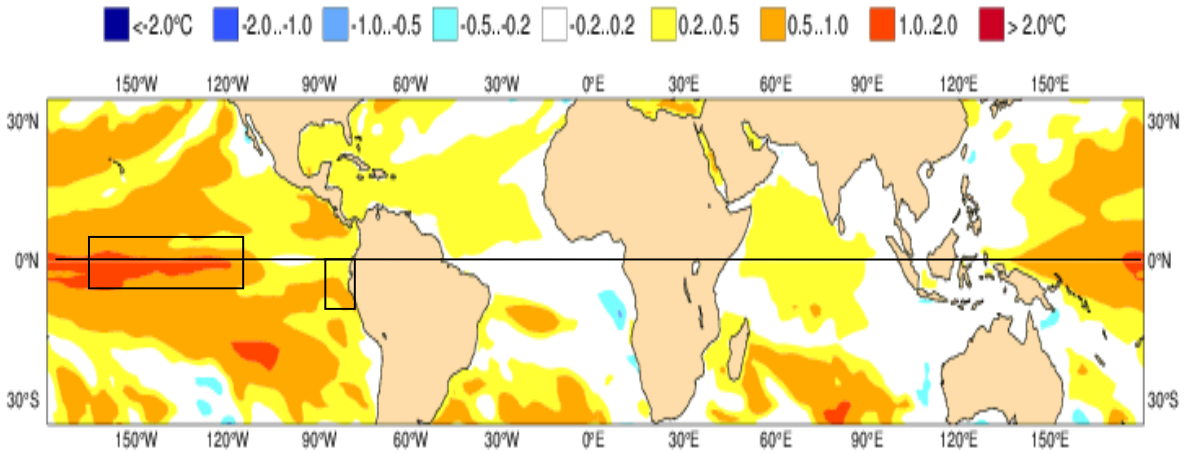
C.I. Junio



SON 2017

ECMWF

C.I. Abril

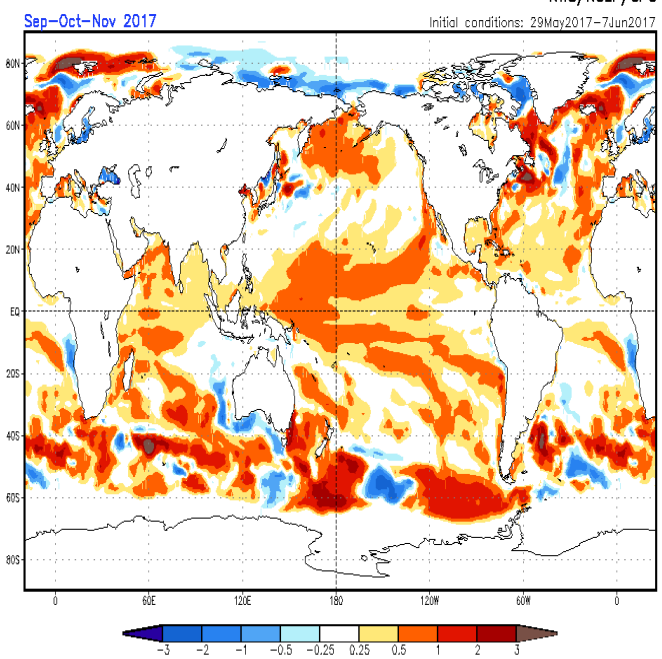


Pac. Cen.
1.3 ° C

Pac. Or.
0.7° C

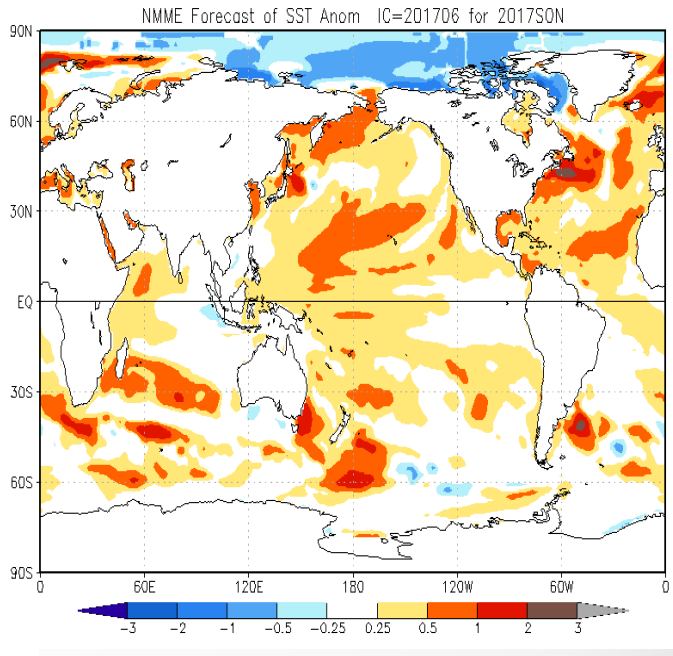
CFS2

C.I. Junio



NMME

C.I. Junio



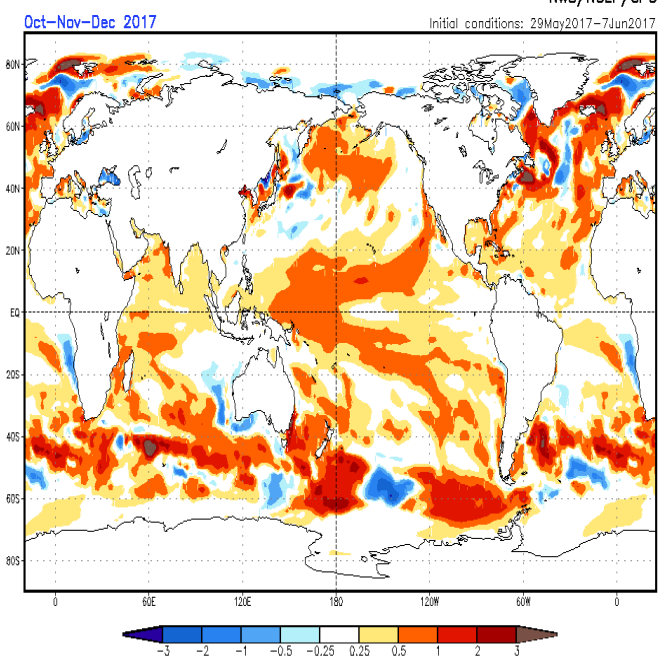
OND 2017

ECMWF

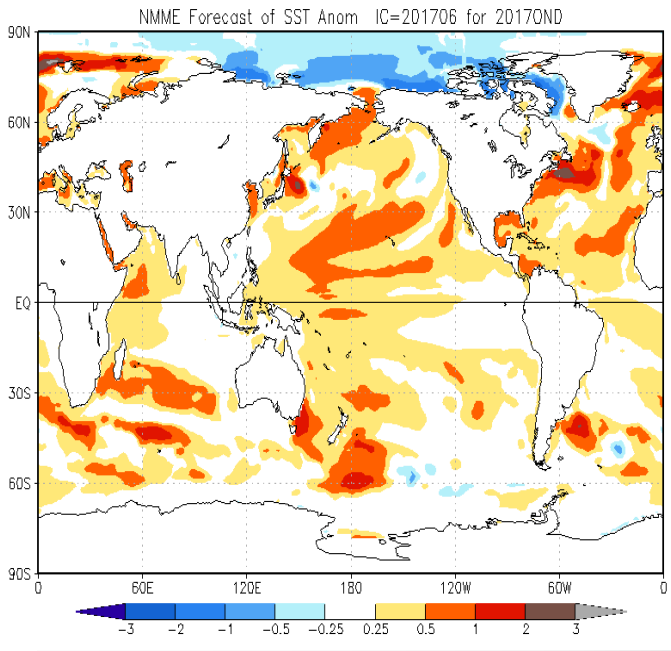
Pac. Cen.
° C

Pac. Or.
° C

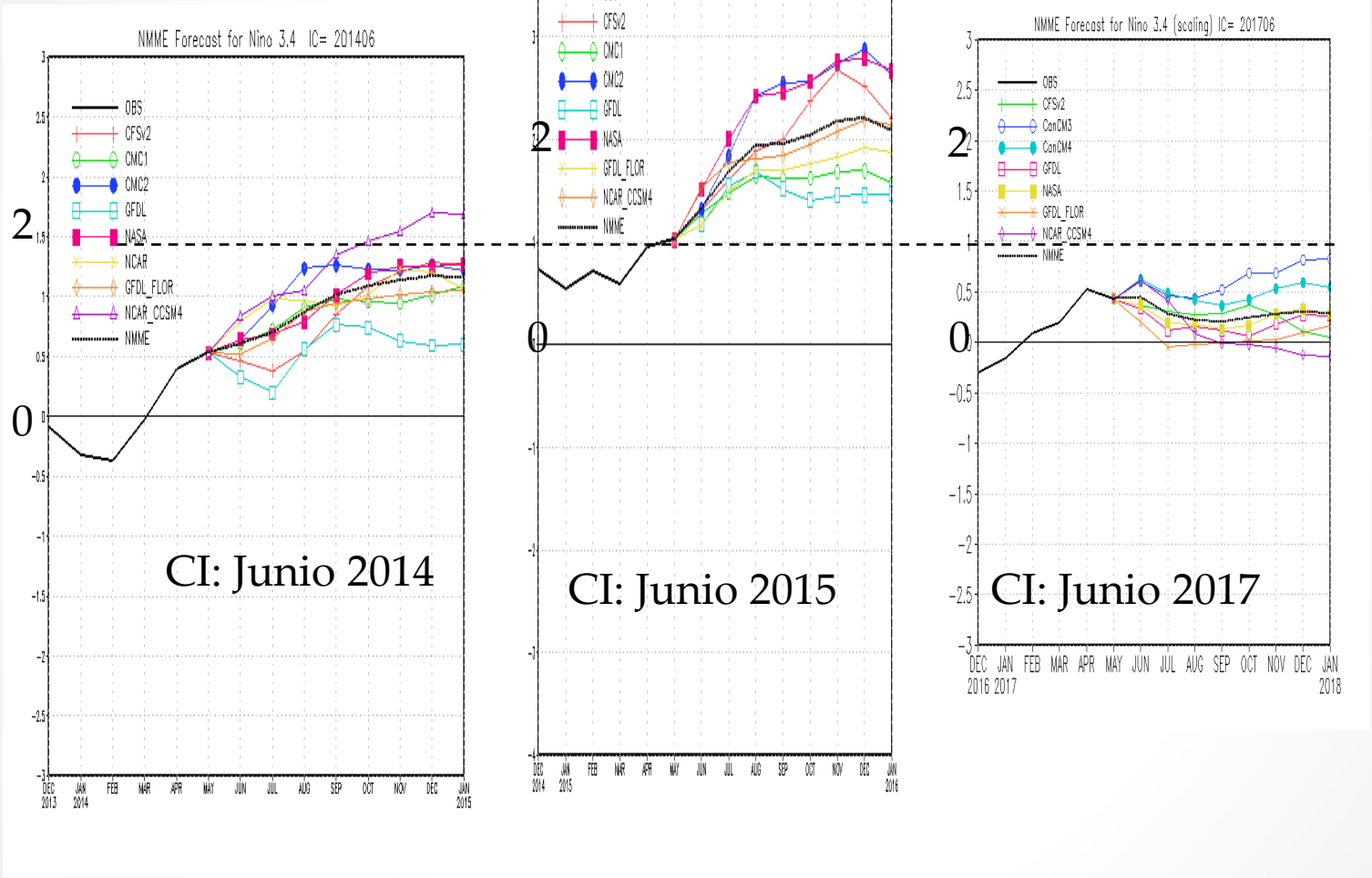
CFS2 C.I.Junio



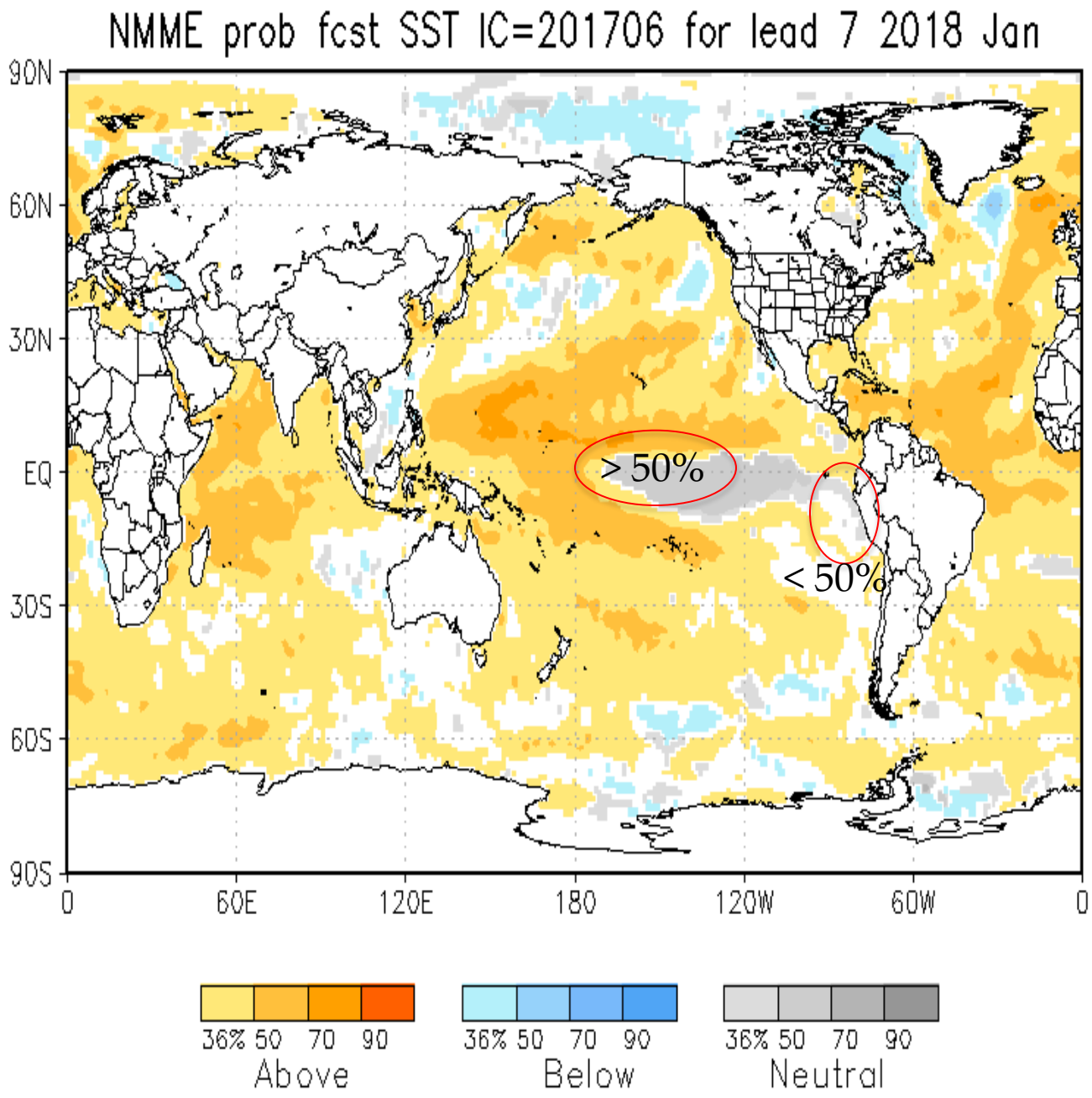
NMME C.I. Junio



Comparativo de pronósticos de Niño 3.4 de NMME



Probabilidad NMME (calib.) de ATSM en enero 2018 (c.i. junio)



Gracias.