

# Comisión Interamericana del Atún Tropical Inter-American Tropical Tuna Commission



## Floating-object fishery indicators: a 2020 report

Indicadores de la pesquería con objetos-flotantes: un informe de 2020

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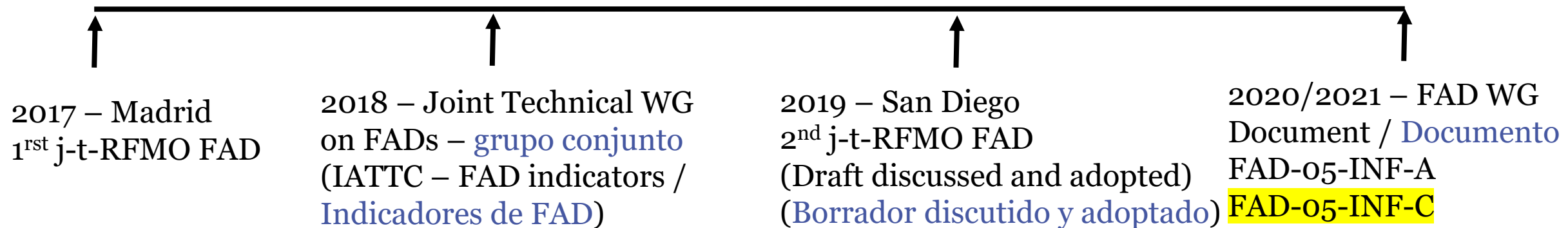
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5ª Reunión del Grupo de Trabajo *Ad hoc* sobre plantados - 06-07 de mayo de 2021 (por videoconferencia)

5<sup>th</sup> Meeting of the *Ad Hoc* Working Group on FADs - 06-07 May 2021 (by videoconference)

# Background - Introducción

- Multi-dimensional impacts of the fishery, it must be holistically monitored
- Impacto multidimensional de la pesquería que requiere ser monitorizada de manera integral



# Outline - Plan

Indicator Type	Priority - Prioridad 1 Major – Mayor, 2 Moderate - Moderada, 3 Minor – Menor	Tipo de indicador
Catch and effort	1	Captura y esfuerzo
Activity	1	Actividades
Buoy/FAD-use	1	Uso de Boyas/FAD
Capacity	1	Capacidad
Technology	2	Tecnologia
Ecosystem-Impact	2	Impacto-Ecosistema
Socio-Economico	3	Socio-Economico
Bio-Eco-Behavior	3	Bio-Eco- Comportamiento

# Data - Datos

Three main datasets – Tres bases de datos:

a. 2015-2020 AIDCP observer data for Class-6 vessels [fleet behavior, activities, and technology].

a. Datos de observadores AIDCP 2015-2020 para buques de clase 6 [comportamiento de la flota, actividades sobre plantados y tecnología]

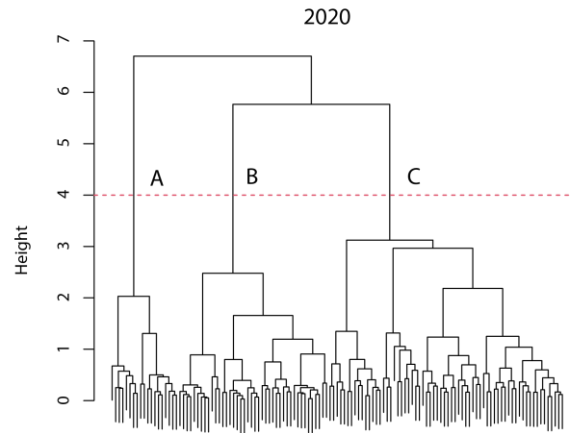
b. Catch and effort data for all vessels (Classes 1-6) [catch and effort]

b. Datos de captura y esfuerzo para toda la flota (Clase 1-6) [captura y esfuerzo]

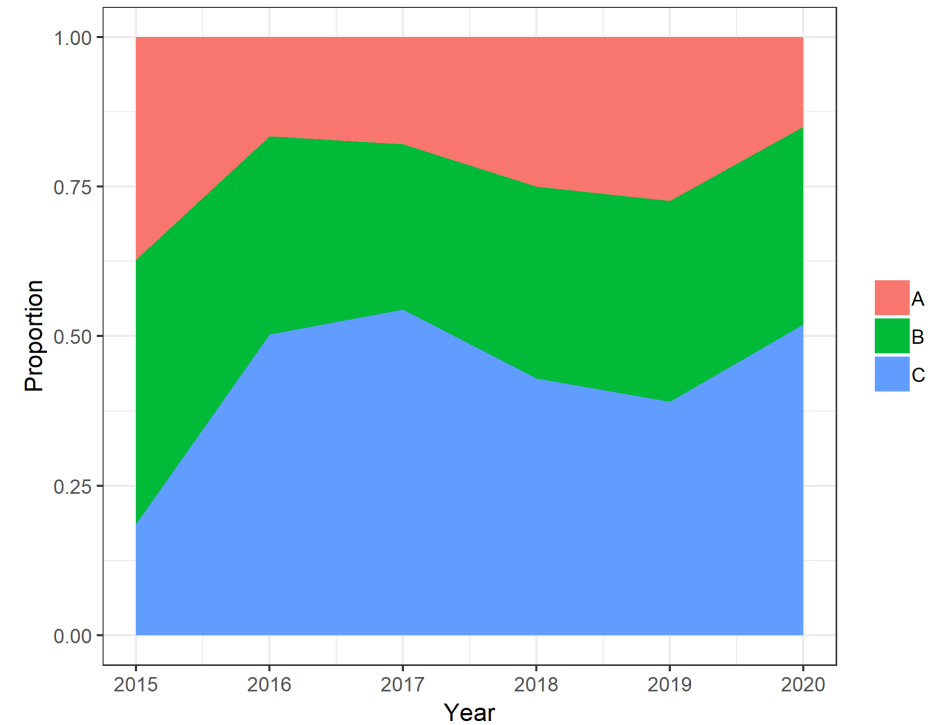
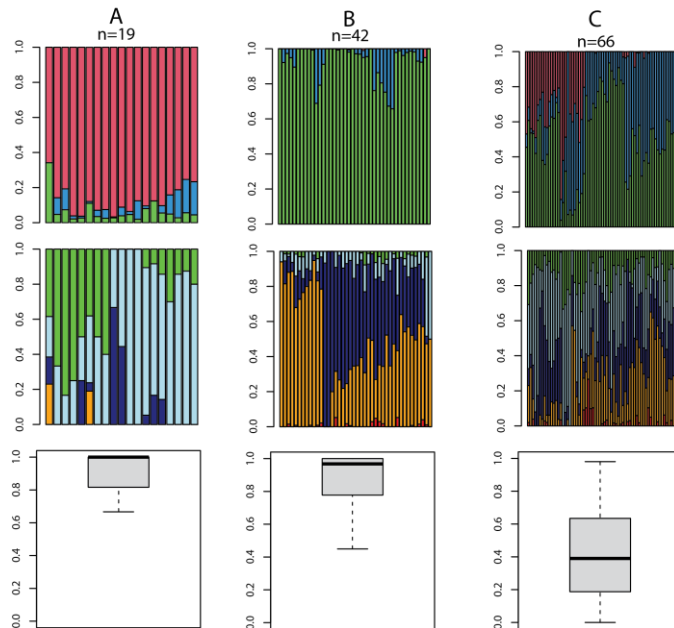
c. Daily active buoy data for 143 vessels (Classes 1-6) reporting during 2020. [buoy-based indices]

c. Datos de boyas activas proporcionados por 143 buques de clase 1-6 durante 2020 [índices basados en boyas]

# Fleet segments – Segmentos de la flota

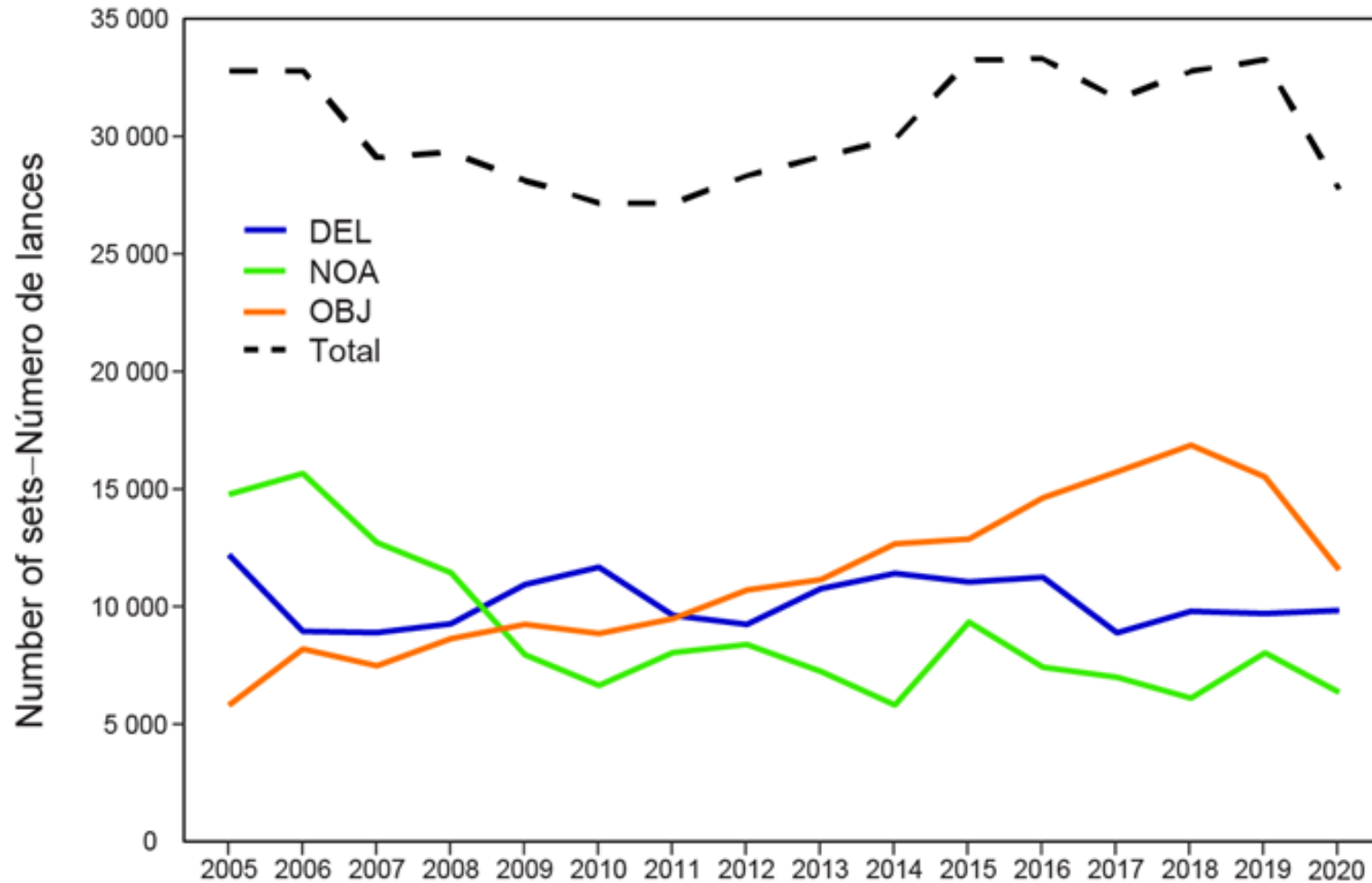


**A = > 100W + DEL and opportunistic OBJ sets**  
**B = >100W + OBJ sets (monitored)**  
**C = <100W + mix of set types**

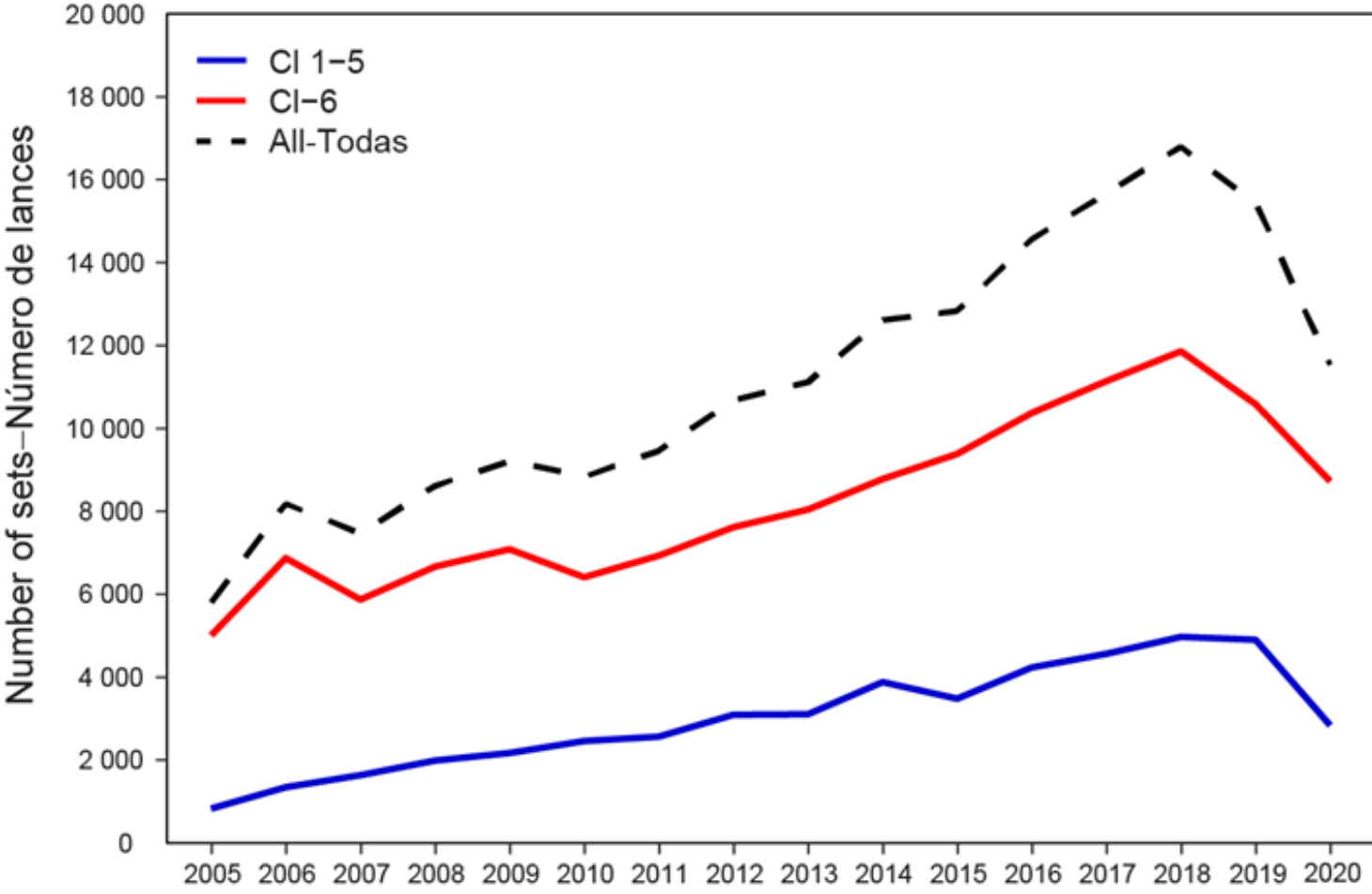


# Catch and effort - Captura y esfuerzo

# Total number of sets by set type – Numero total de lances por tipo de lance

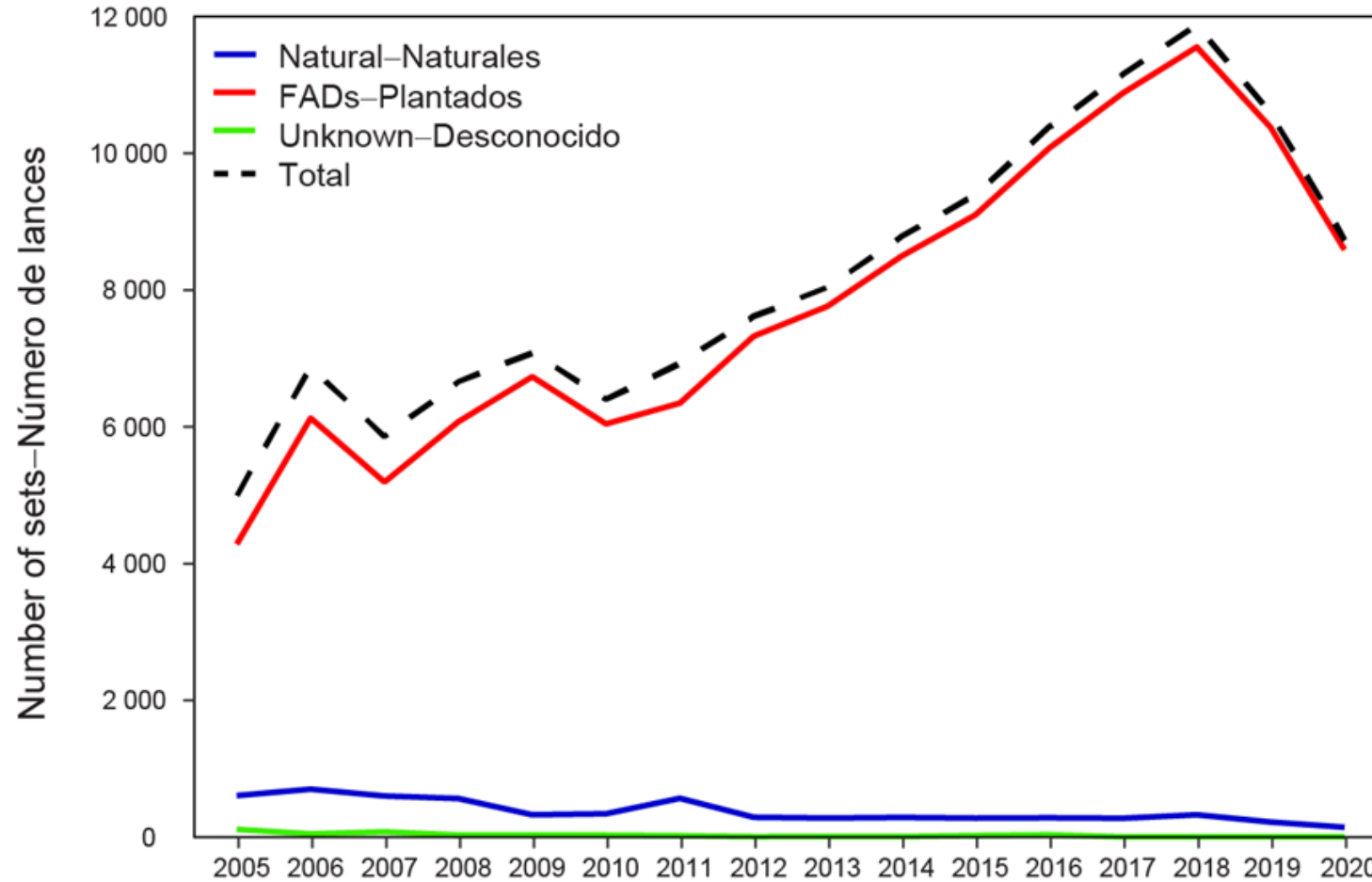


# Number of sets on floating object by Class-size vessel – Numero de lances sobre OBJ por clase

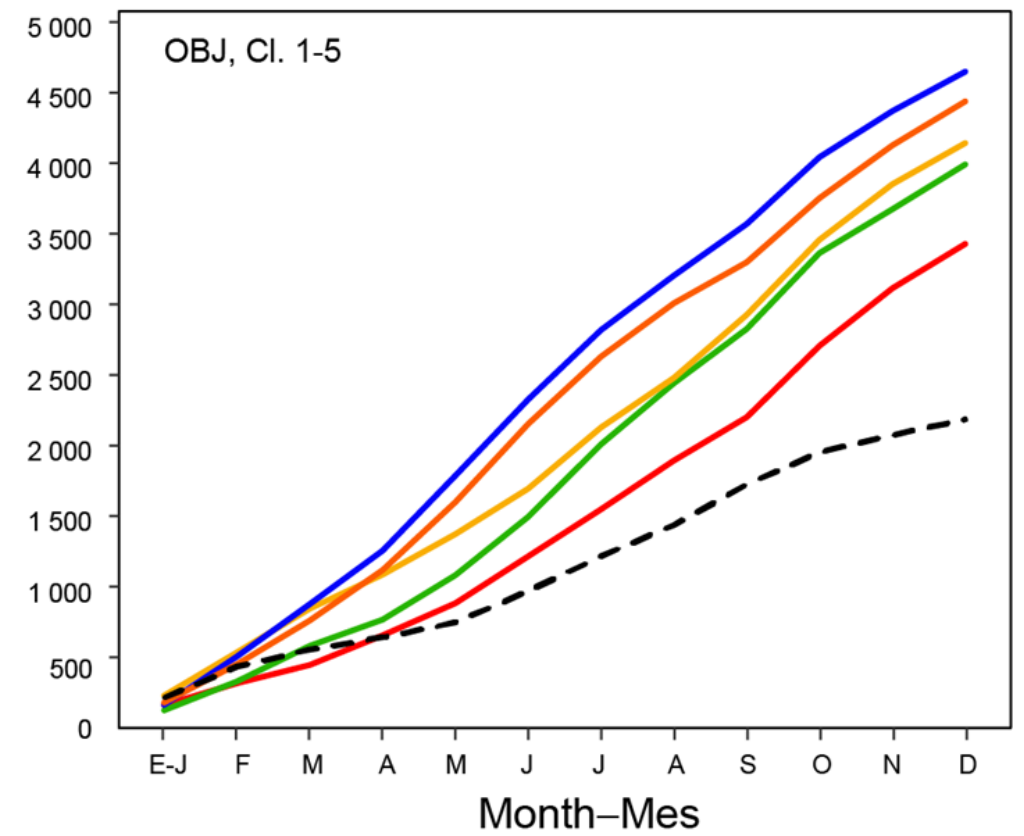
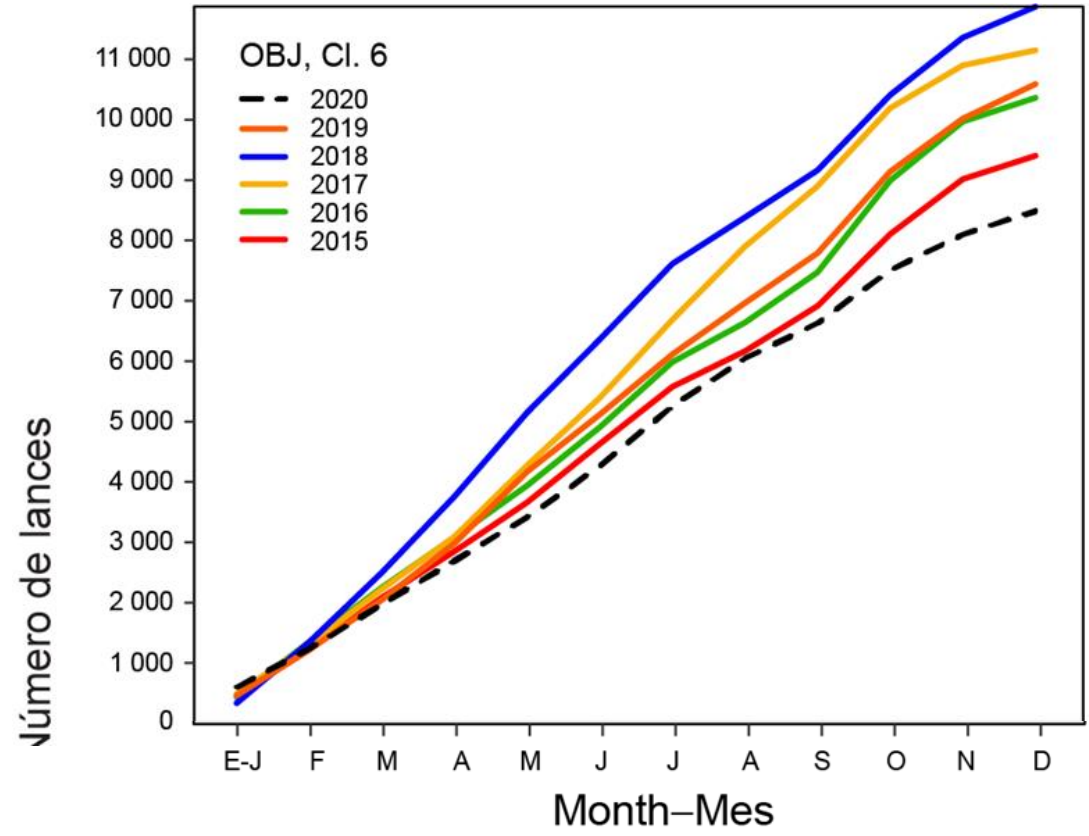




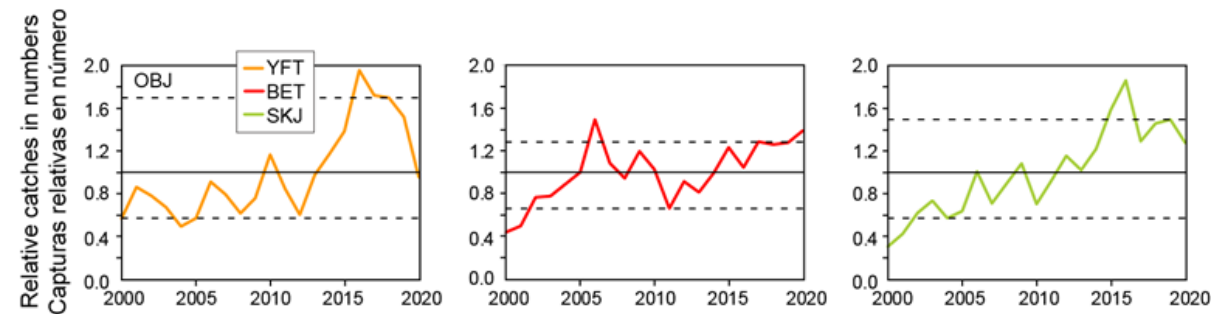
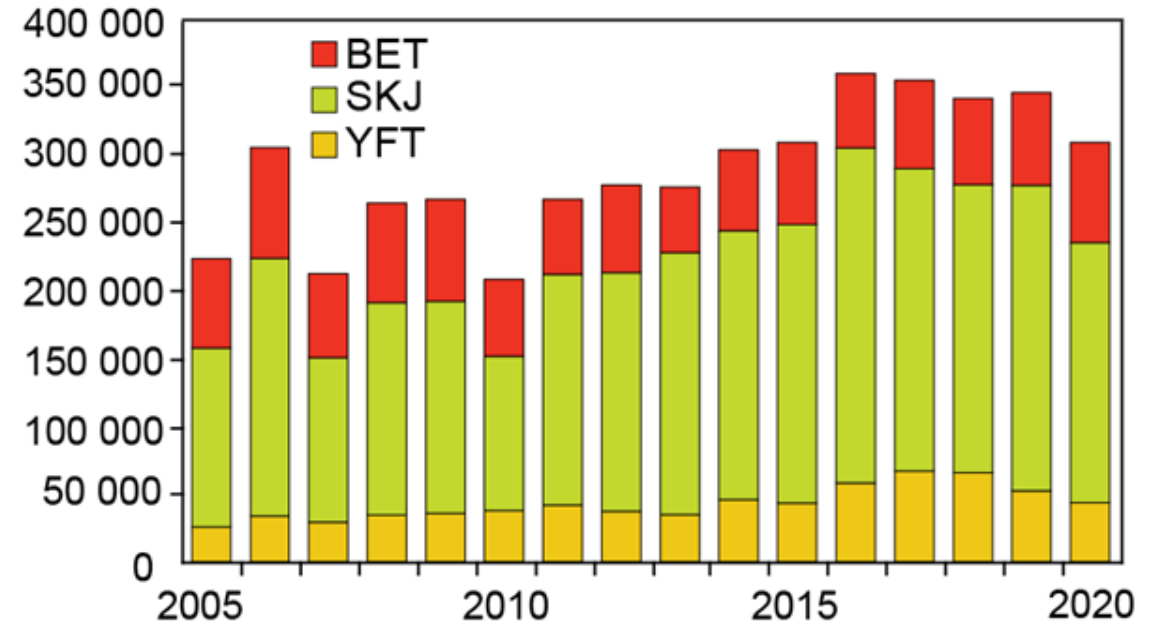
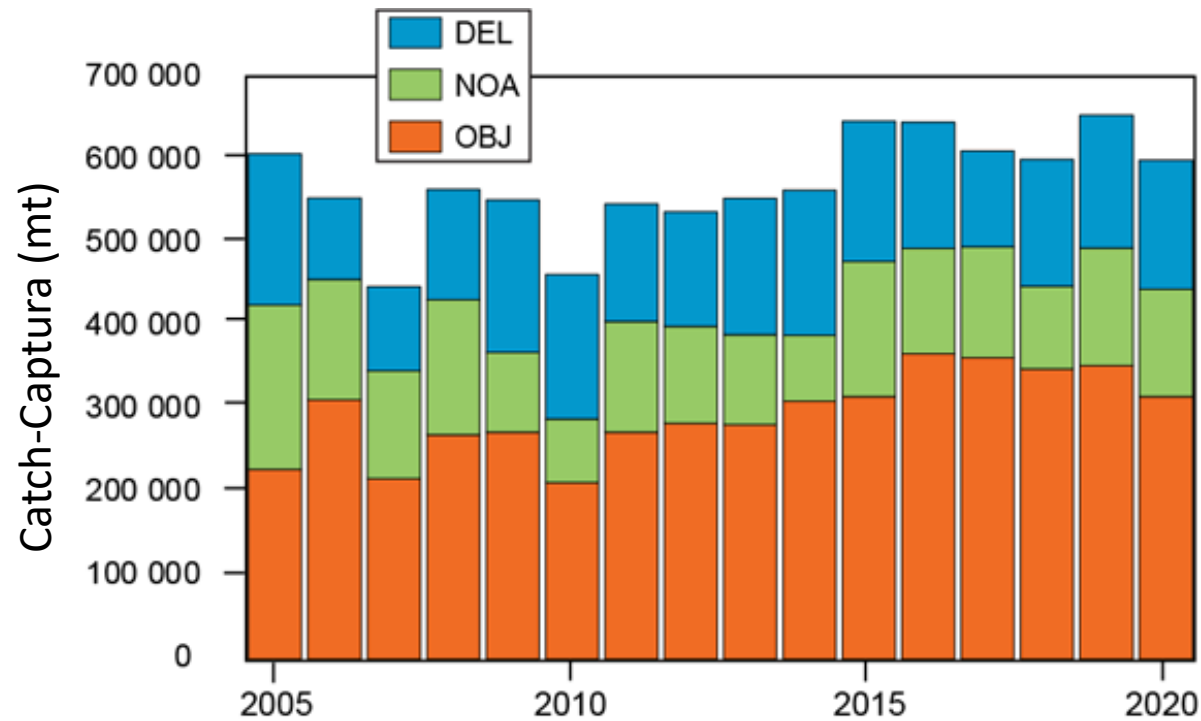
# Sets by type of floating object made by Class-6 vessels – Lances sobre diferentes tipo de objeto para los buques de clase 6



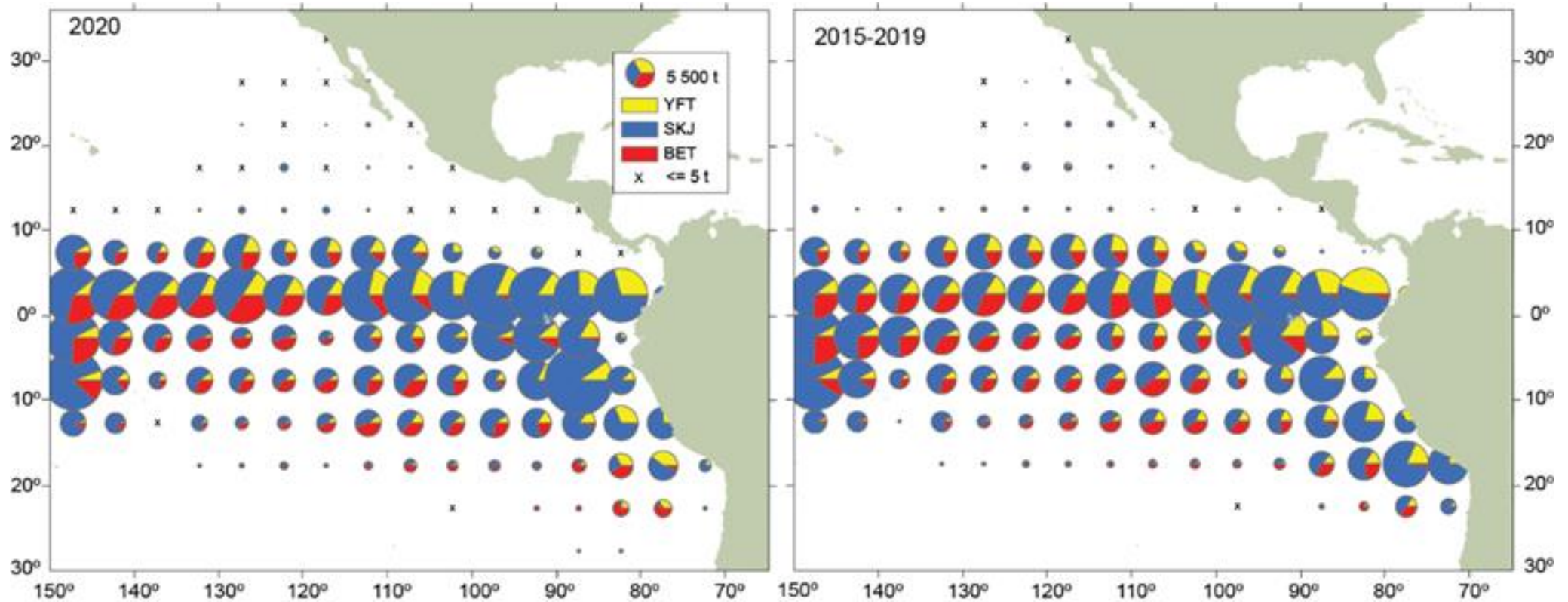
# Cumulative sets by Class-size vessel and set type – Lances acumulados para las diferentes clases de buques y tipo de lance



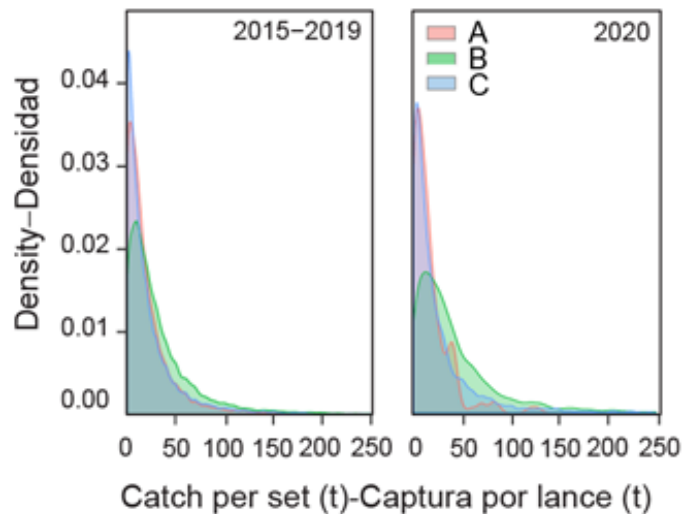
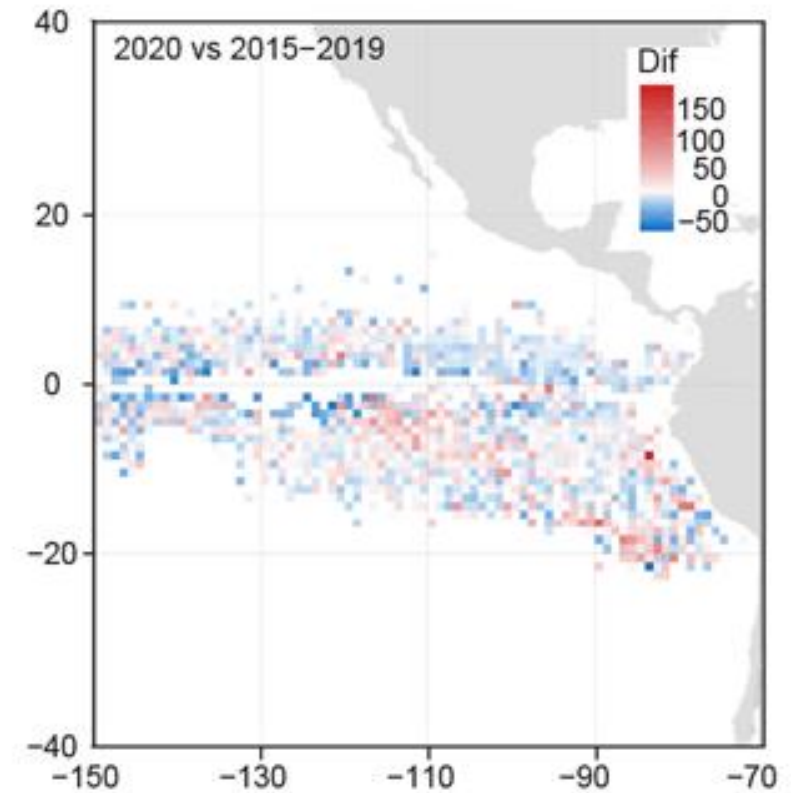
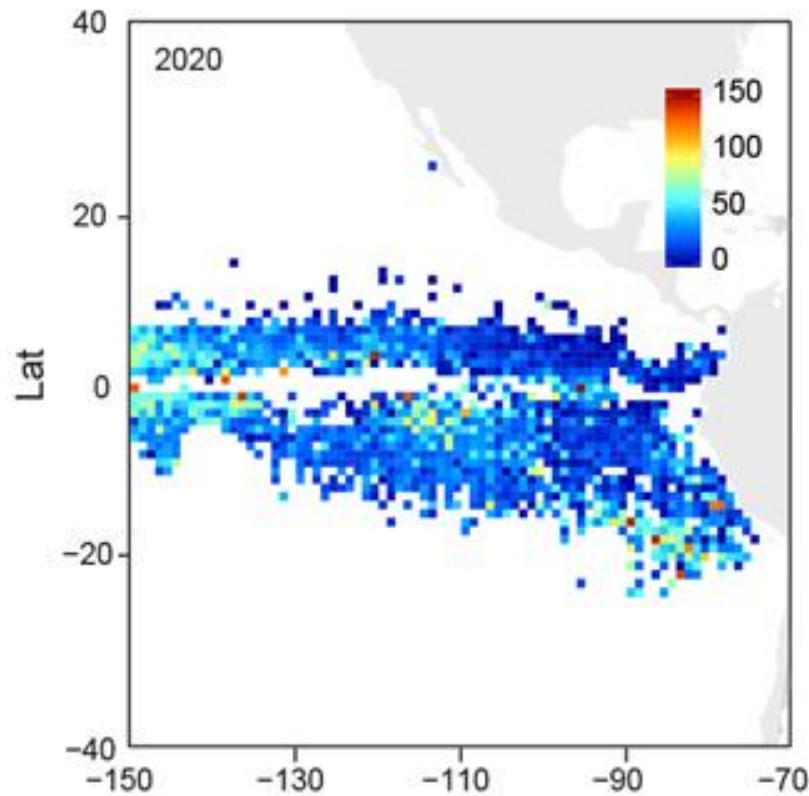
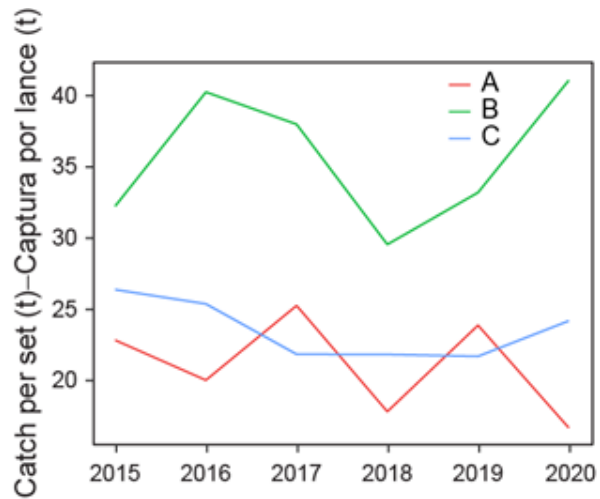
# Catch by set type (and species) – Captura por tipo de lance (y especie)



# Spatial distribution of catches – Distribución espacial de las capturas



# Catch per set – Captura por lance



# Activity on FAD – Actividad sobre FAD

# General OBJ activity table – Tabla de actividad general sobre OBJ

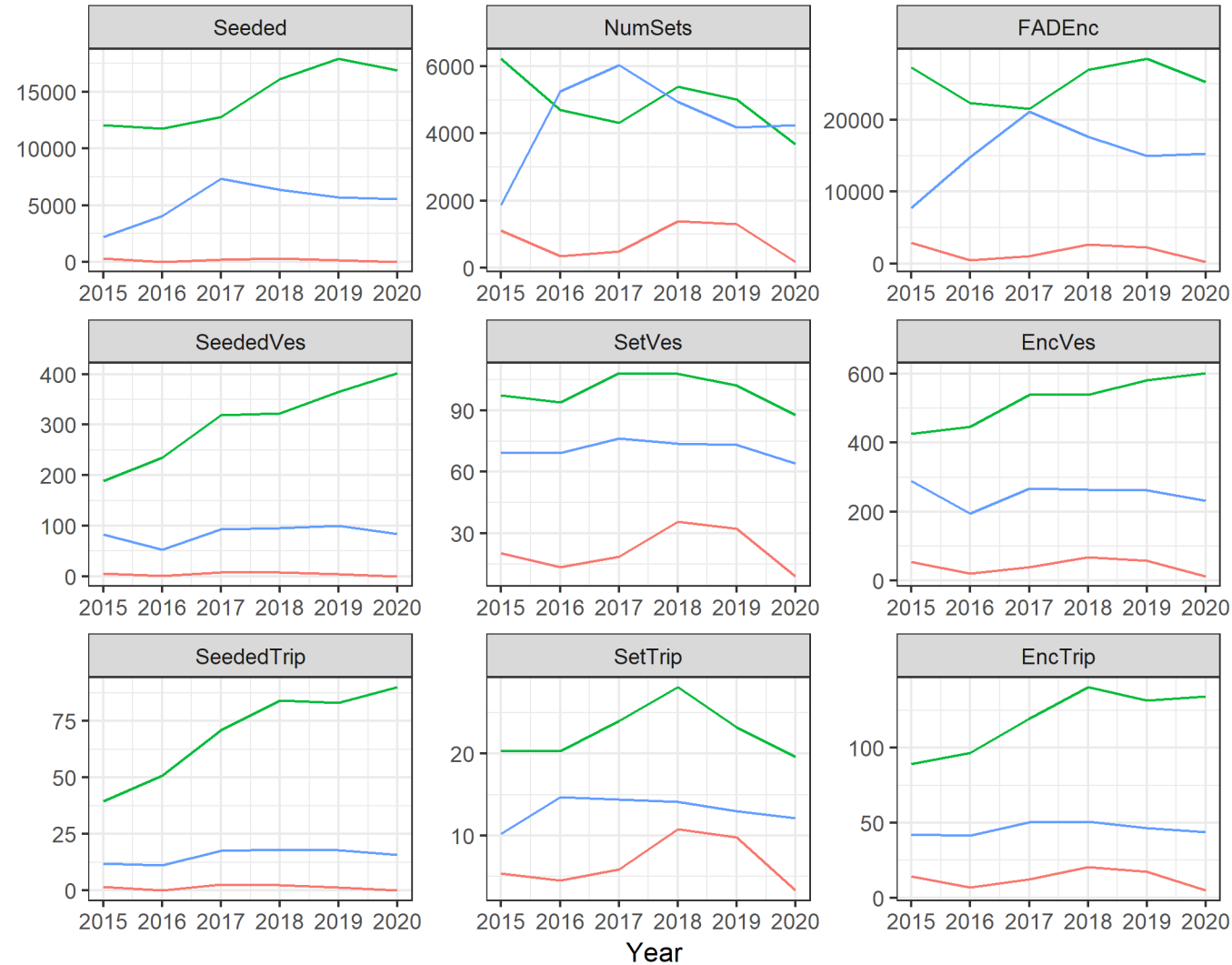
Only class 6 vessels > 5 OBJ sets – Solo buques clase 6 con > 5 lances sobre OBJ

Year	Own Now	Own Prev	Dep	Given	Taken	Adrift	Unk	Oth	Enc	Sets	Ves	Trips
2015-2019	22	7317	19460	3797	7193	2810	6	4	42462	10511	149	677
2020	8	4929	22420	3720	5323	1924	3	7	40837	8092	127	589

Year	Deployments		Encounters		Sets	
	Vessel	Trip	Vessel	Trip	Vessel	Trip
2015-2019	131.0	28.7	285.7	62.7	70.7	15.5
2020	176.5	38.1	321.6	69.3	63.7	13.7

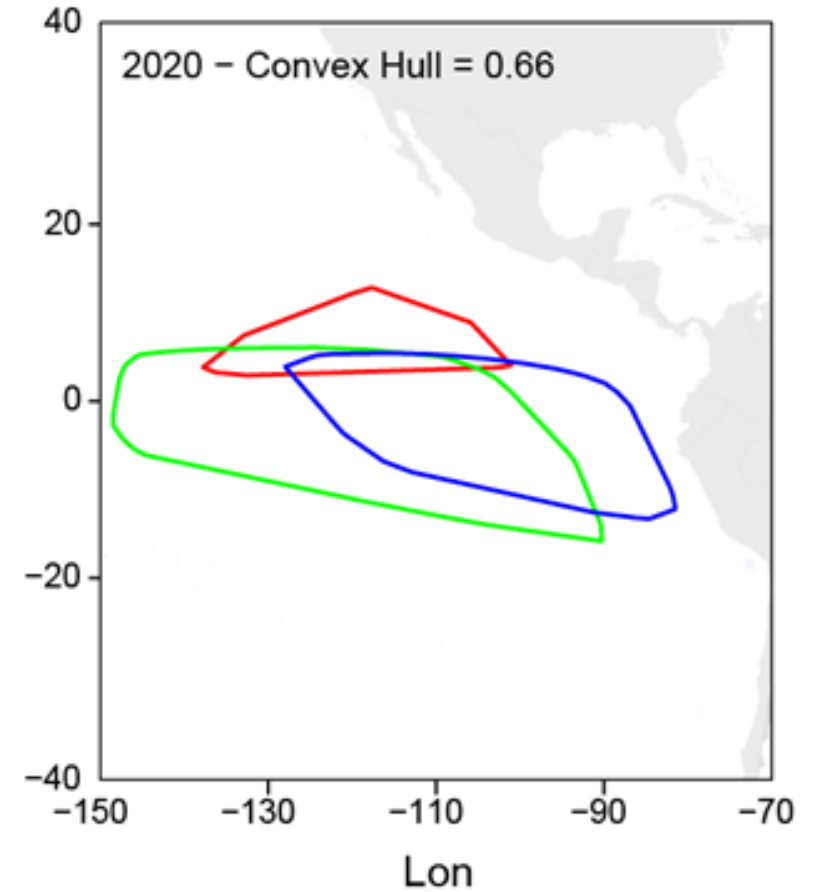
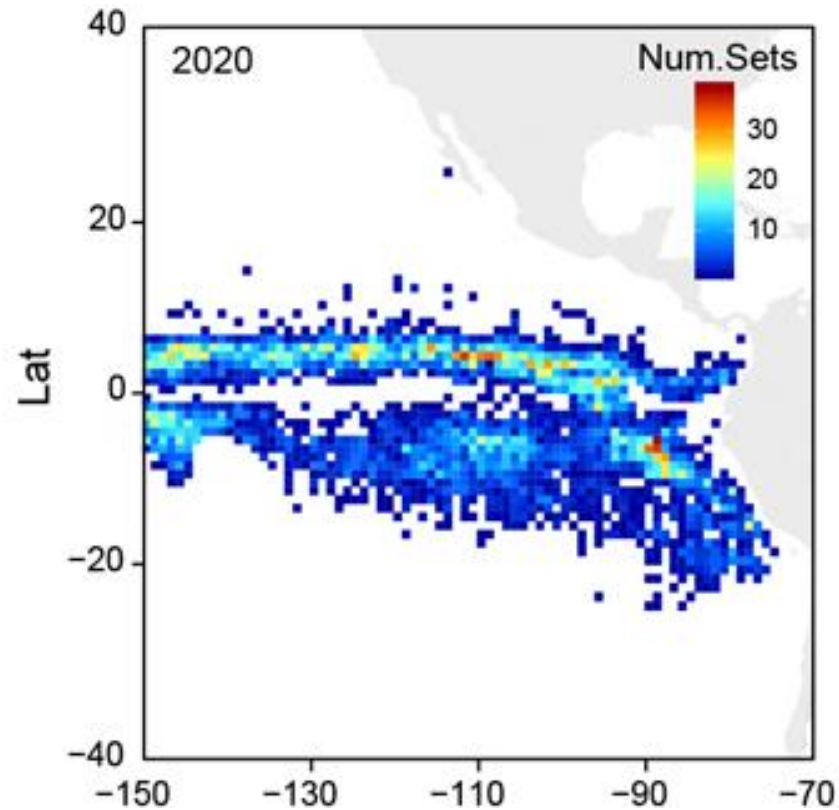
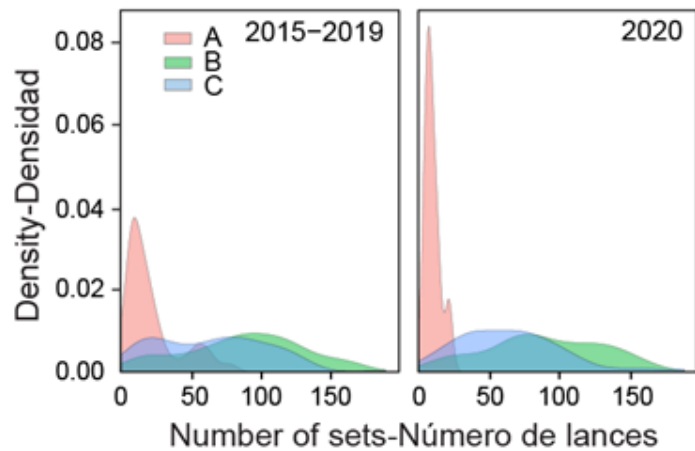
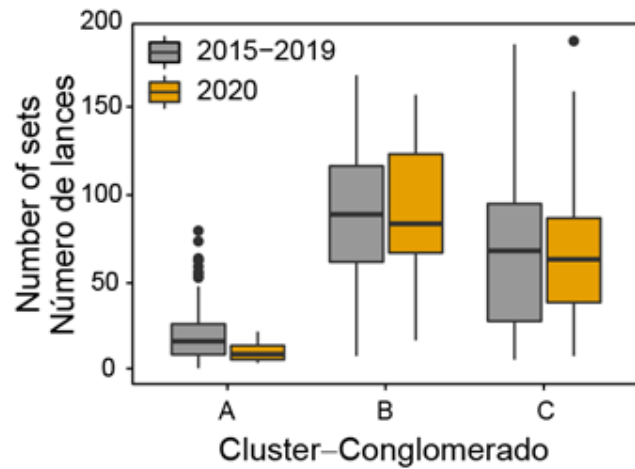
Year	Cluster	Deployments		Encounters		Sets	
		Vessel	Trip	Vessel	Trip	Vessel	Trip
2015-2019	A	5.5	1.6	51.0	15.0	25.2	7.4
	B	279.1	62.8	500.2	112.5	101.4	22.8
	C	83.9	15.7	249.5	46.7	72.8	13.6
2020	A	0.0	0.0	13.1	4.8	9.2	3.3
	B	402.3	89.9	601.6	134.4	87.6	19.6
	C	83.7	15.8	232.1	43.9	64.2	12.1

# General OBJ activity evolution – Evolución de actividad general sobre OBJ

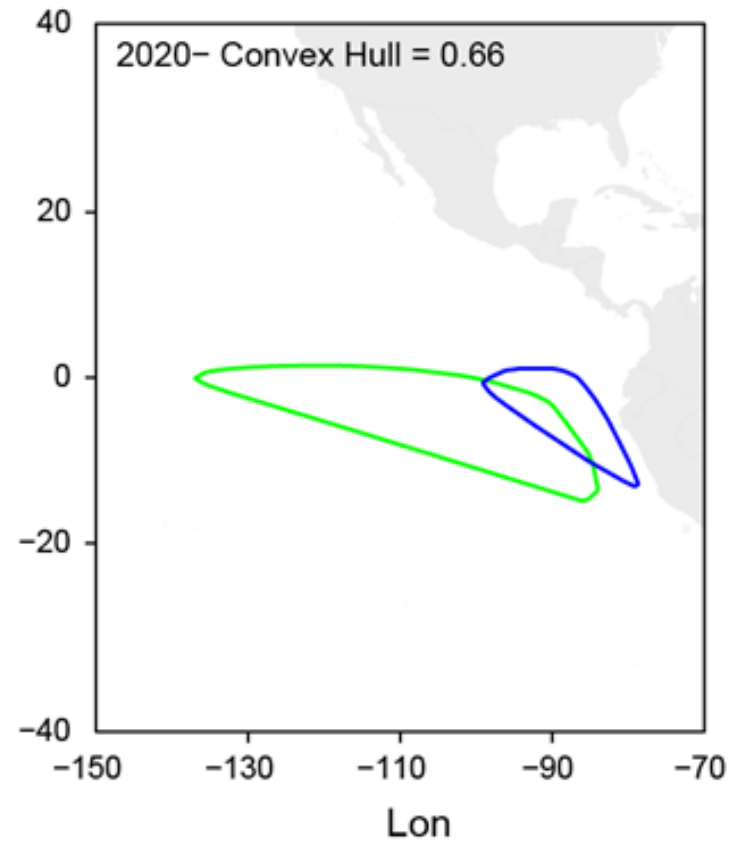
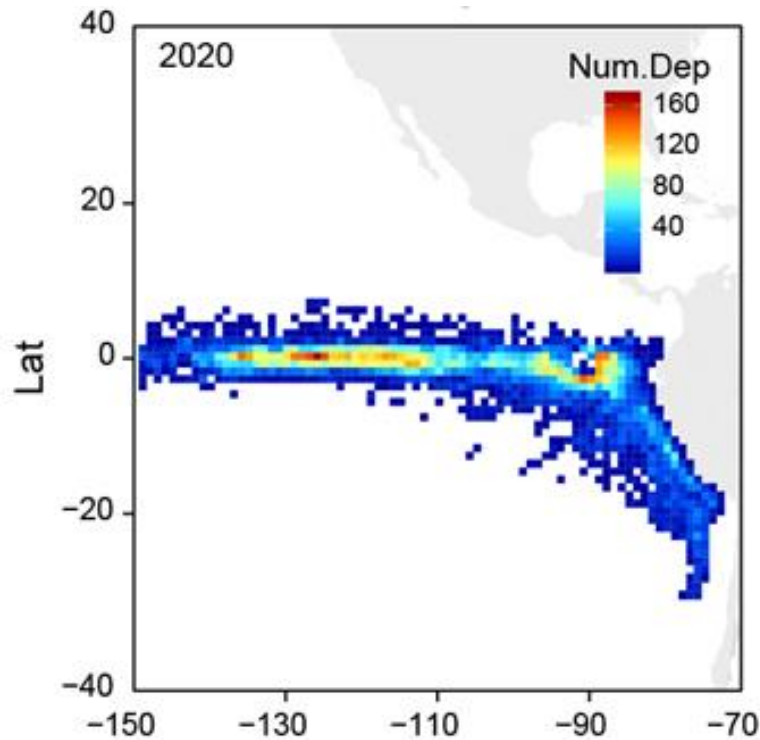
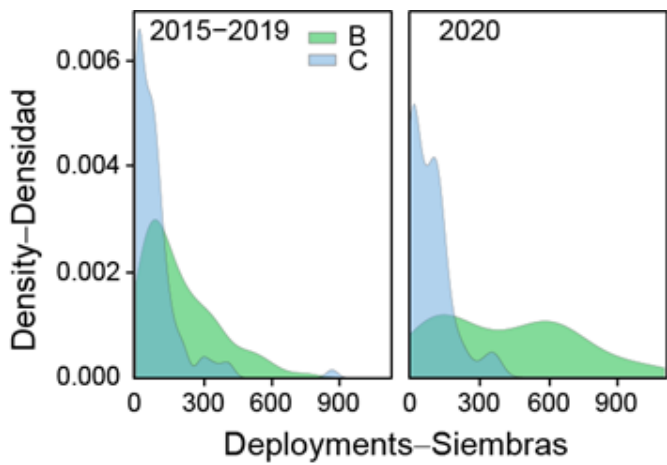
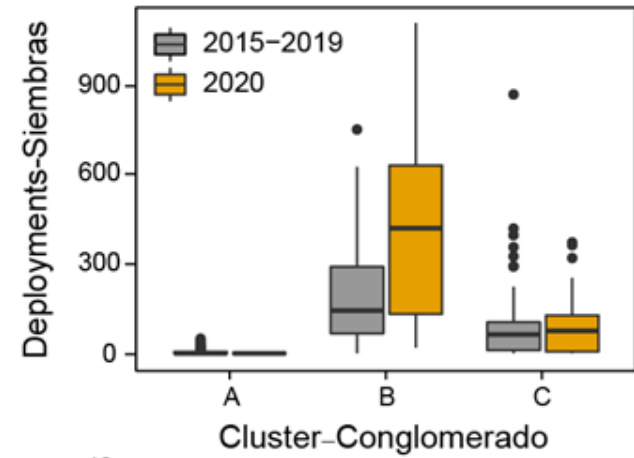




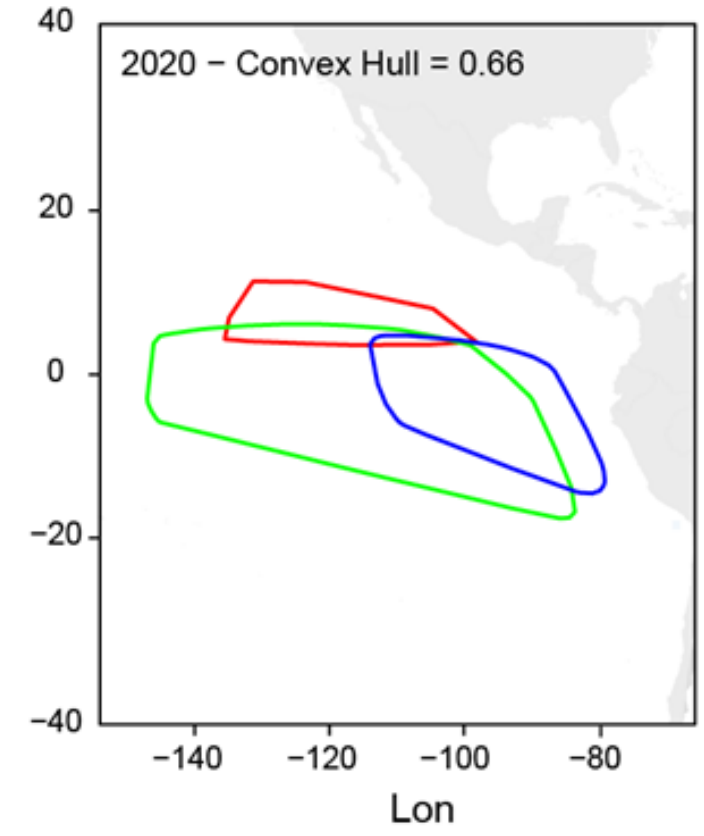
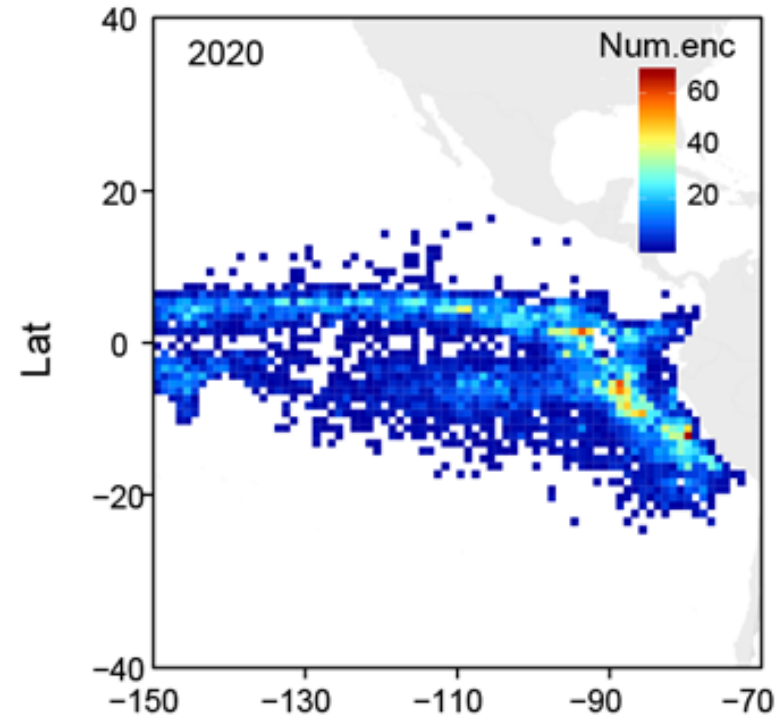
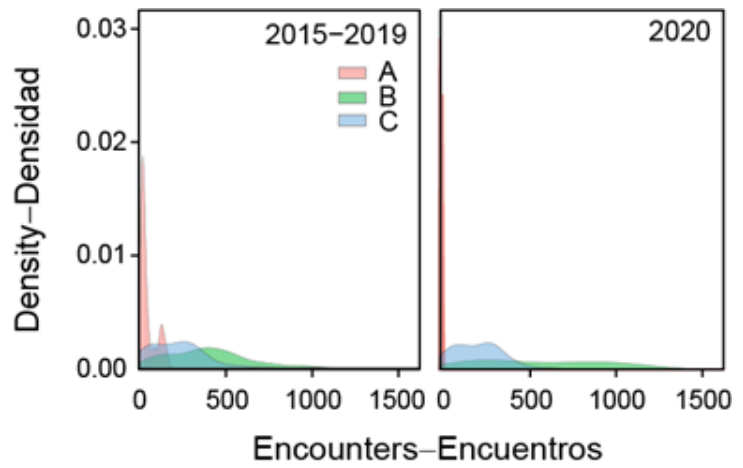
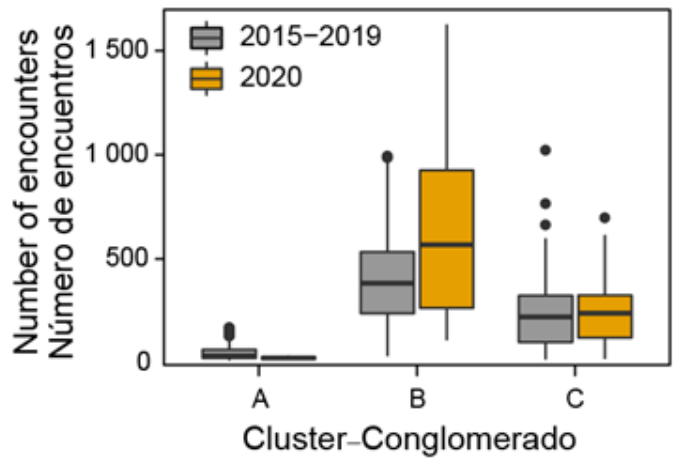
# OBJ sets – Lances sobre OBJ



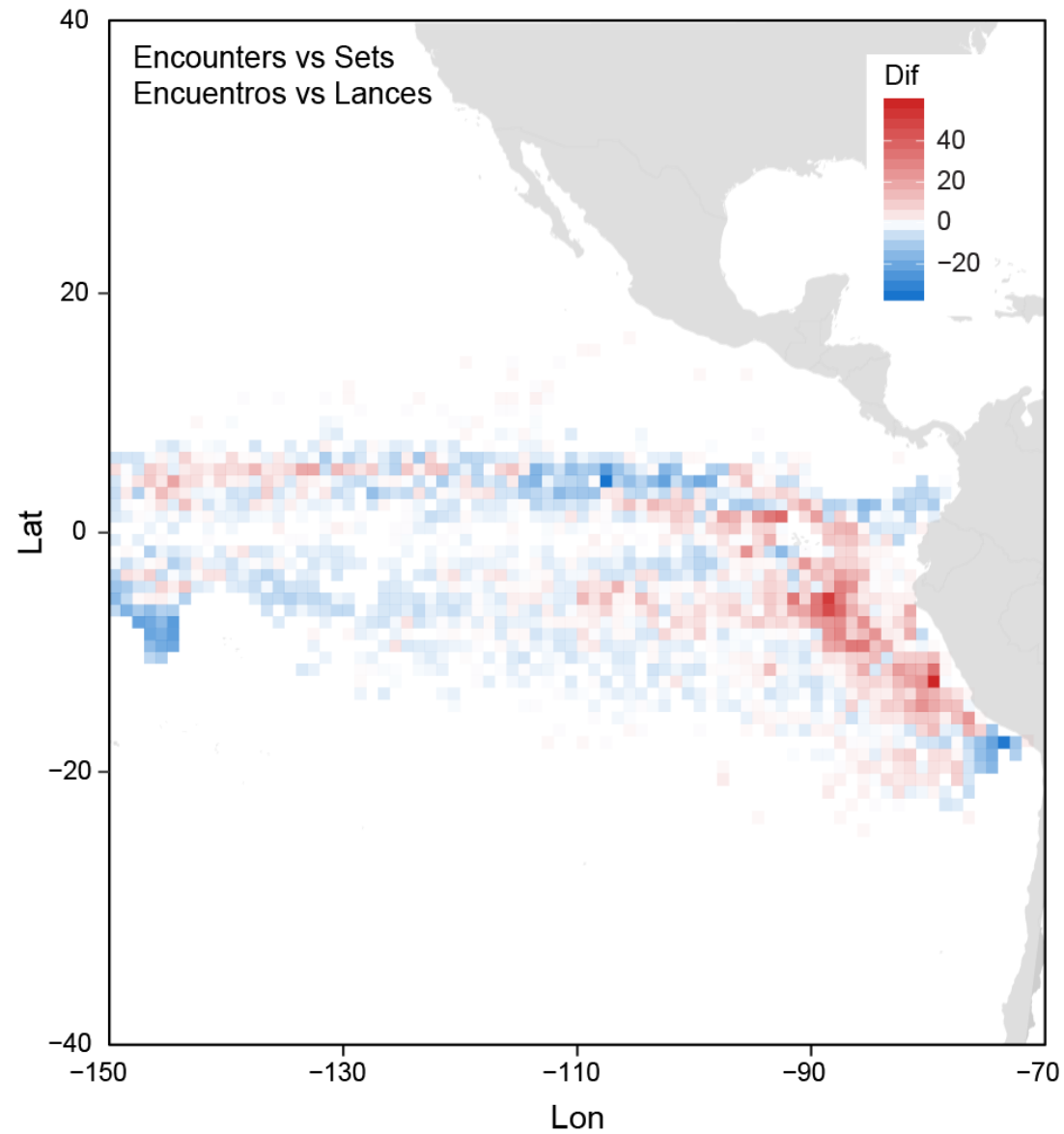
# Deployments – Plantaciones



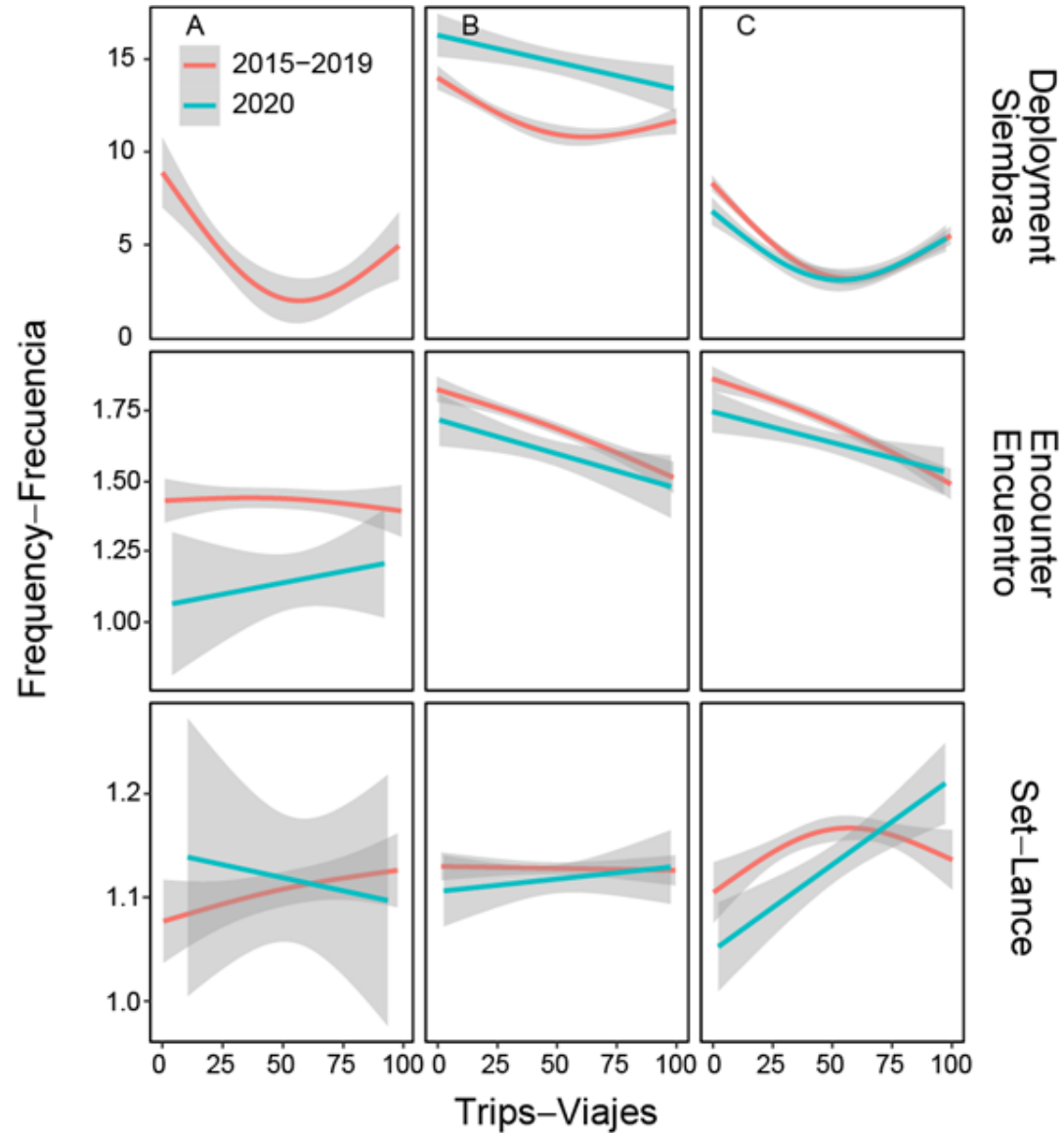
# Encounters – Interacciones



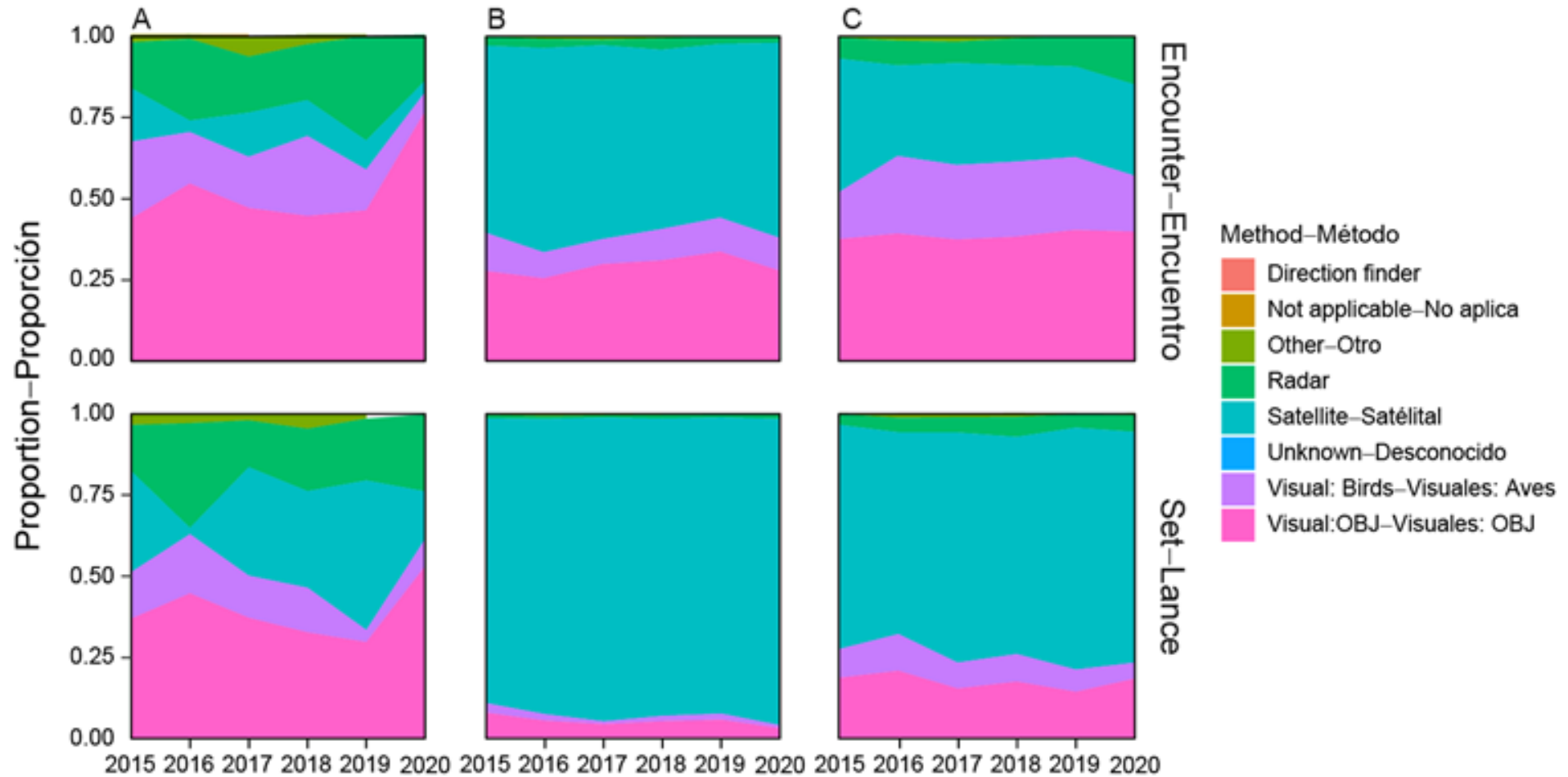
# Encounters vs Sets – Interacciones vs Lances



# Activities within the trip – Actividades durante el crucero



# OBJ Location method – Método de localización de OBJ

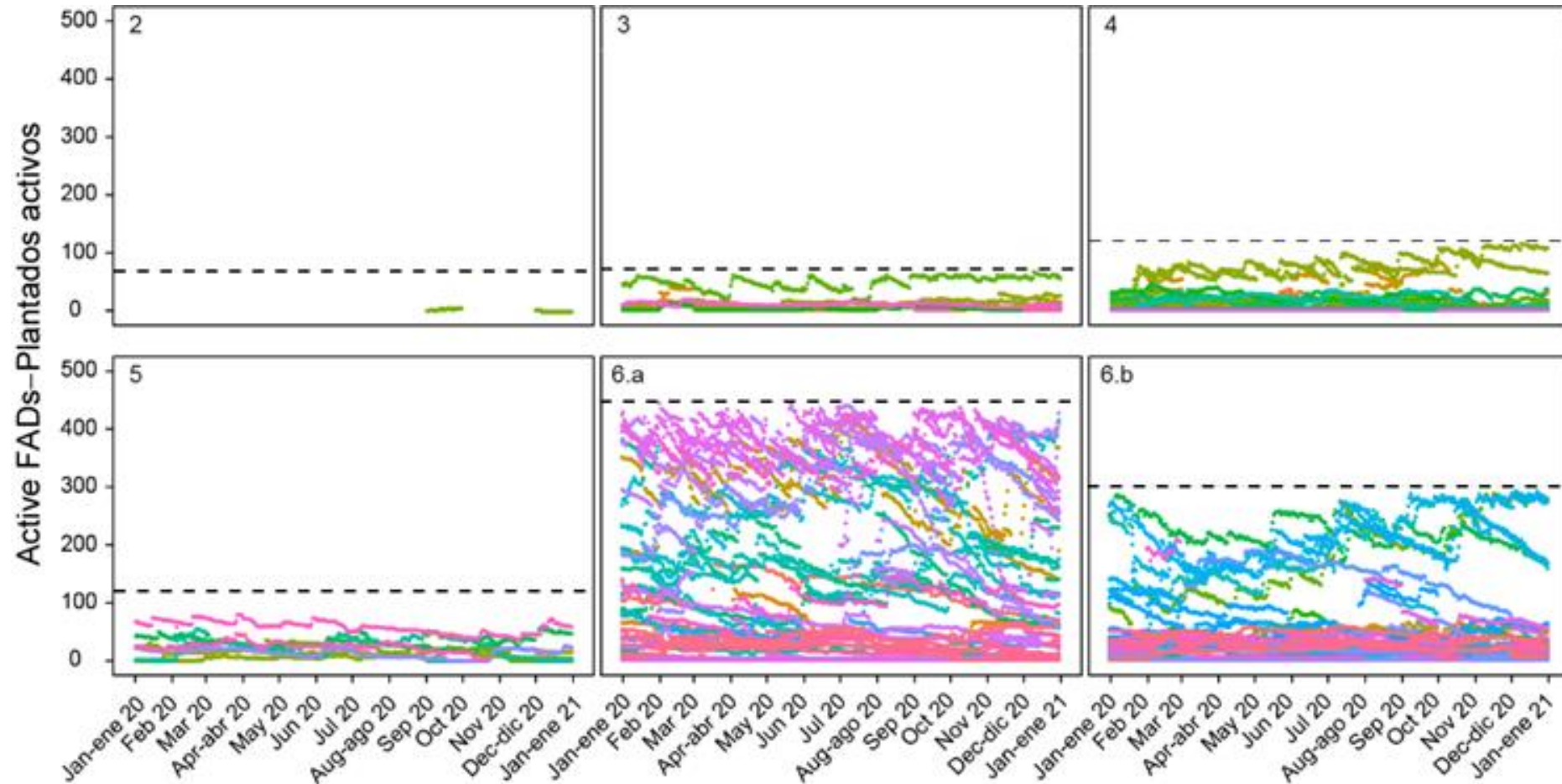


# Buoy-based – Basados en boyas

# Daily active FADs – Plantados activos diarios

Res. C-17-02

(143 buques-vessels, 7 CPCs)





# Daily active FADs – Plantados activos diarios

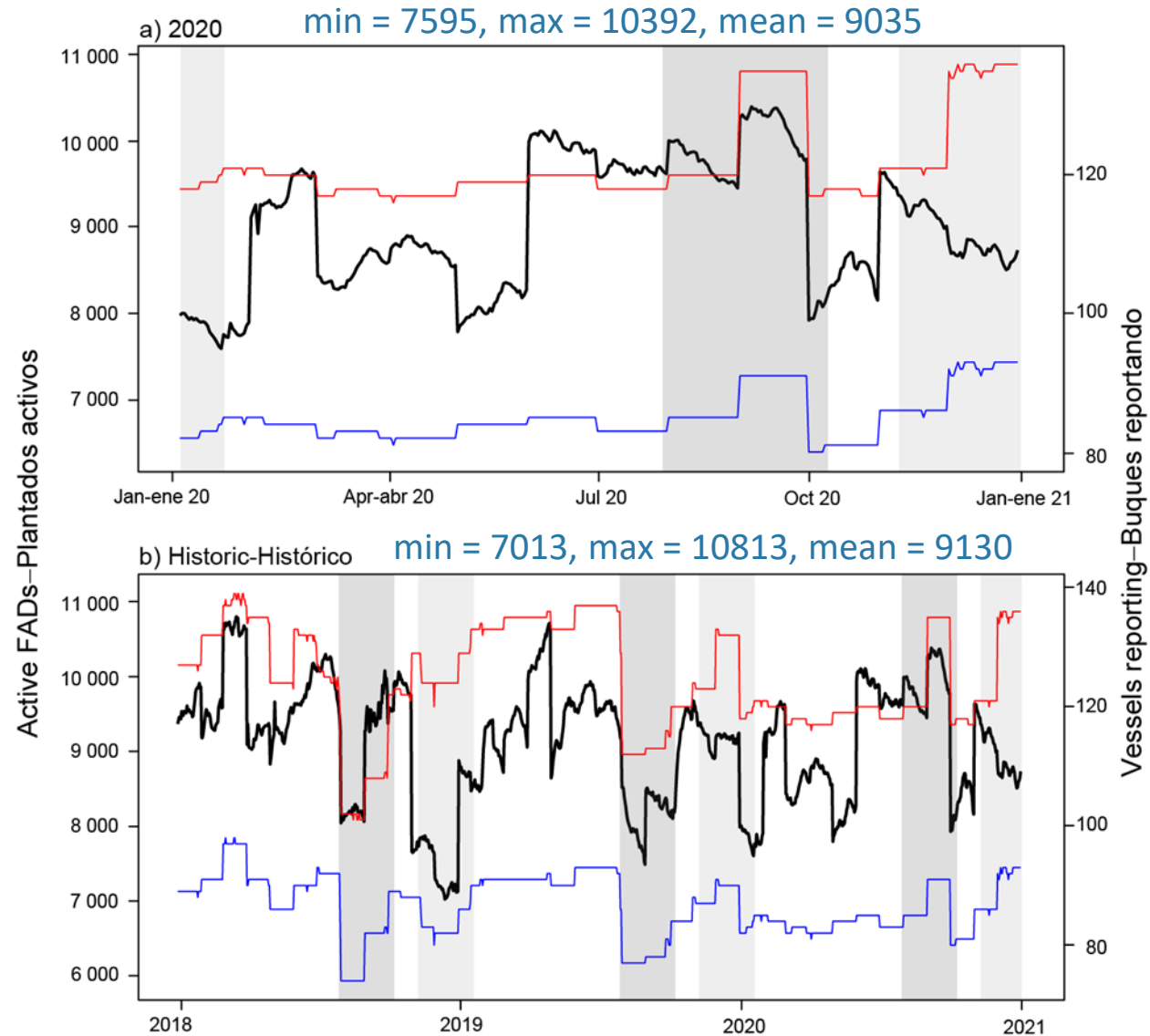
Res. C-17-02

(143 buques-vessels, 7 CPCs)

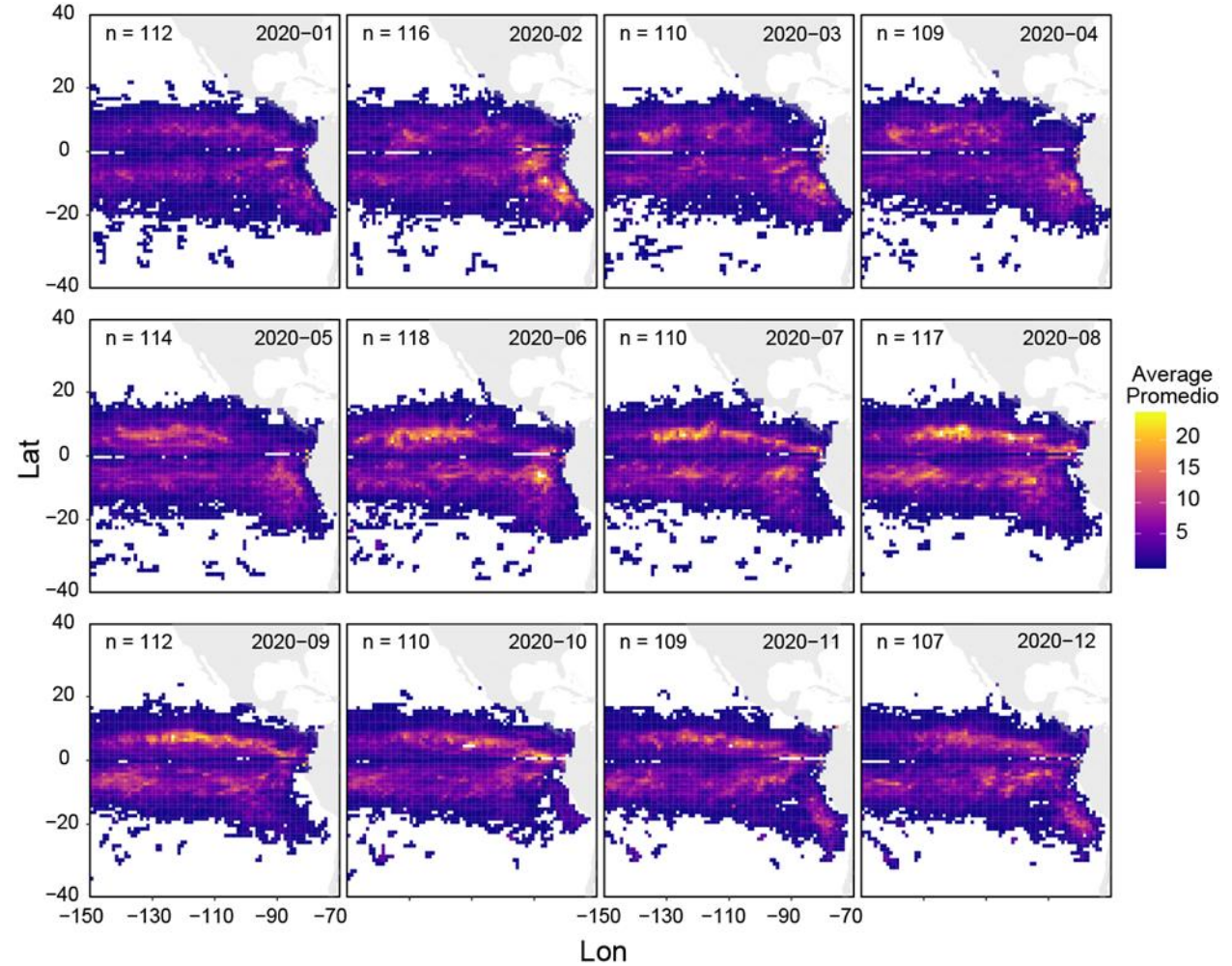
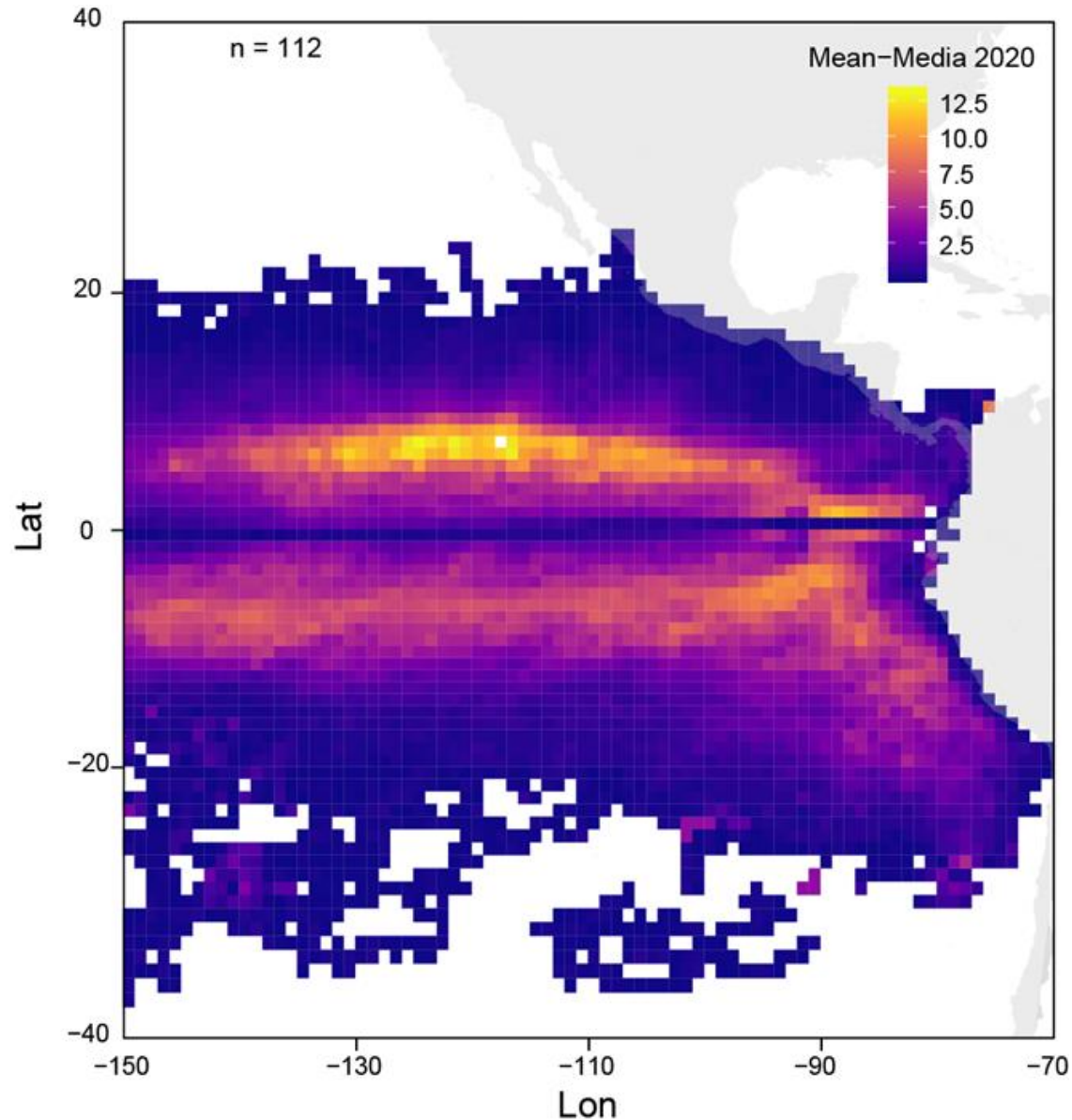


# Daily total active buoys – Boyas activas diarias

143 vessels-buques  
(98 Class 6  
44 Class 1-5, 7 CPCs)



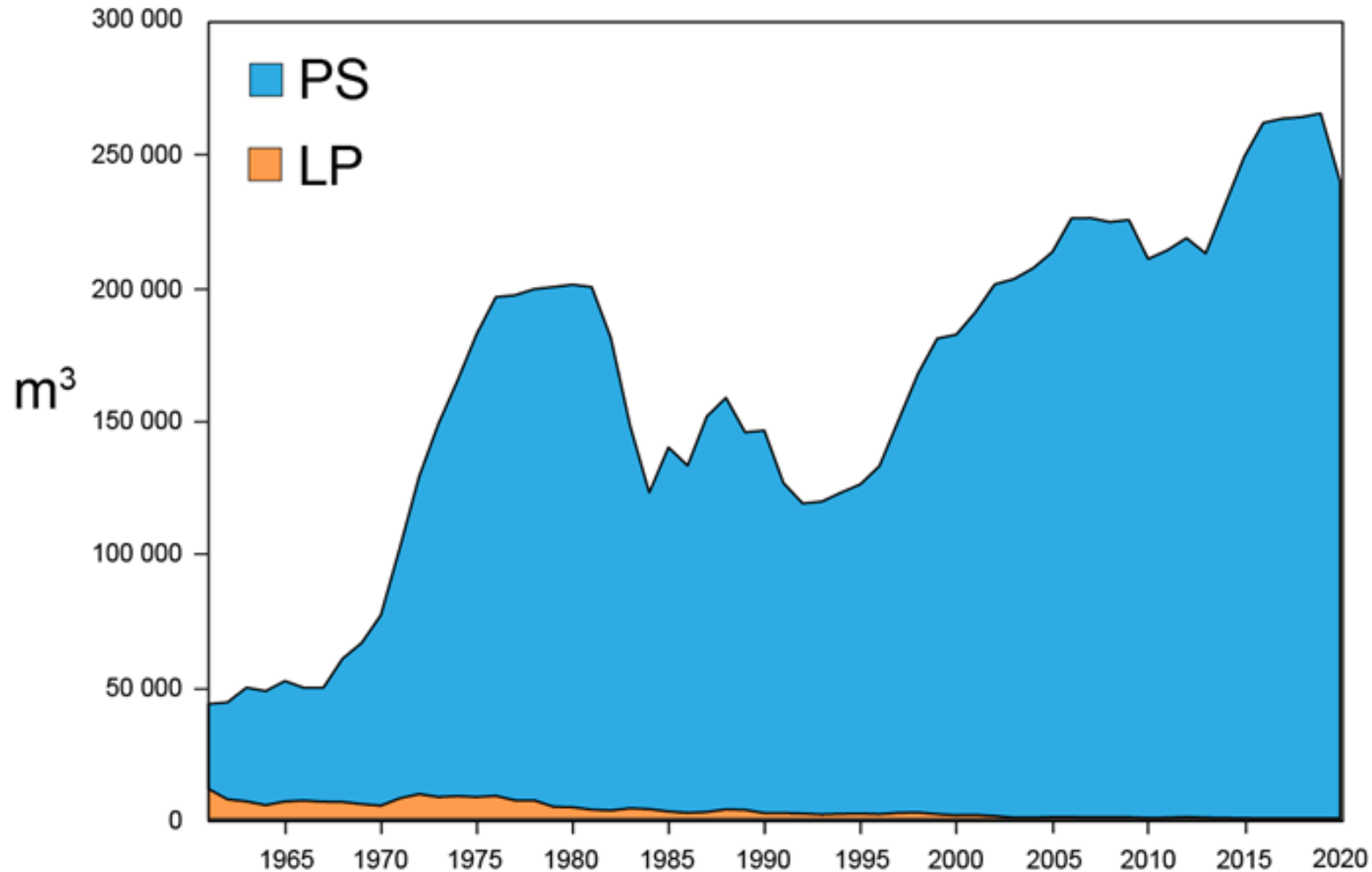
# Active FADs densities – Densidades de plantados activos



107-118 vessels-buques  
7378-11183 FADs-DCPs

# Capacity – Capacidad

# Carrying Capacity – Capacidad de la flota



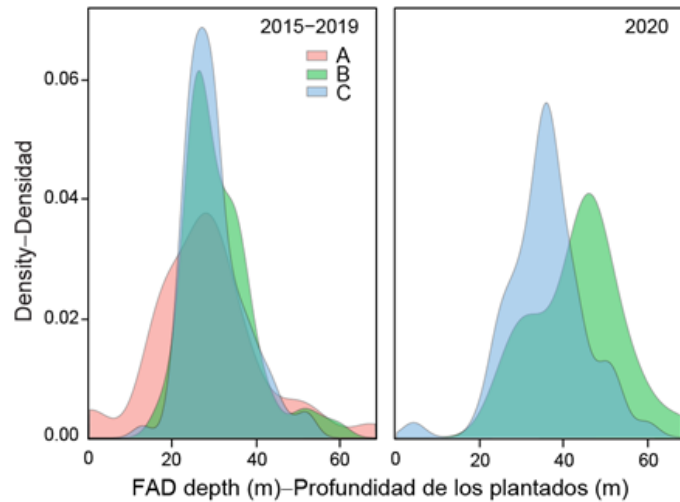
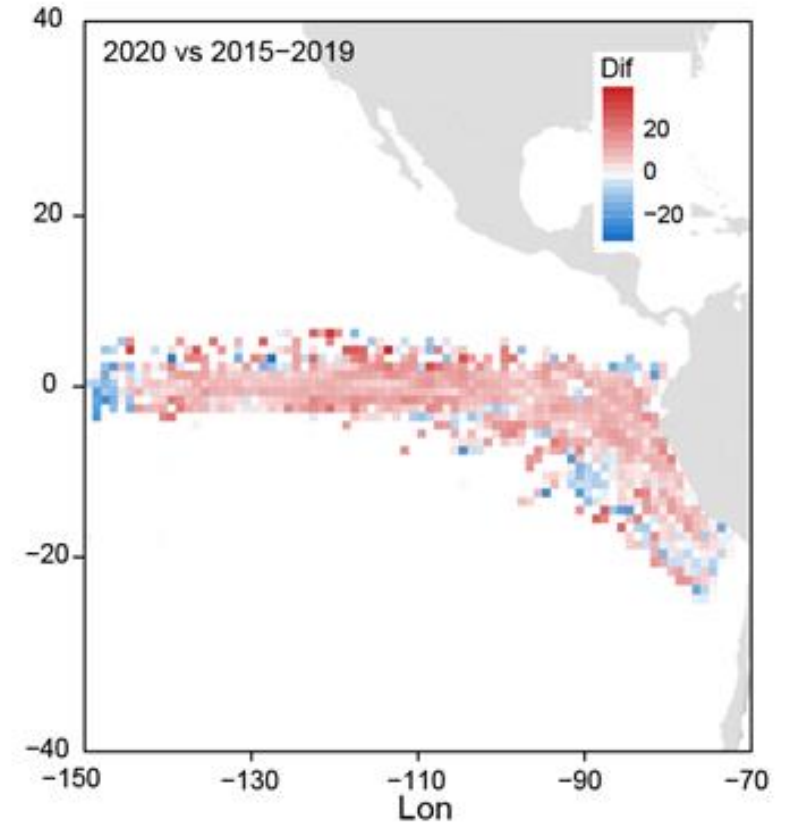
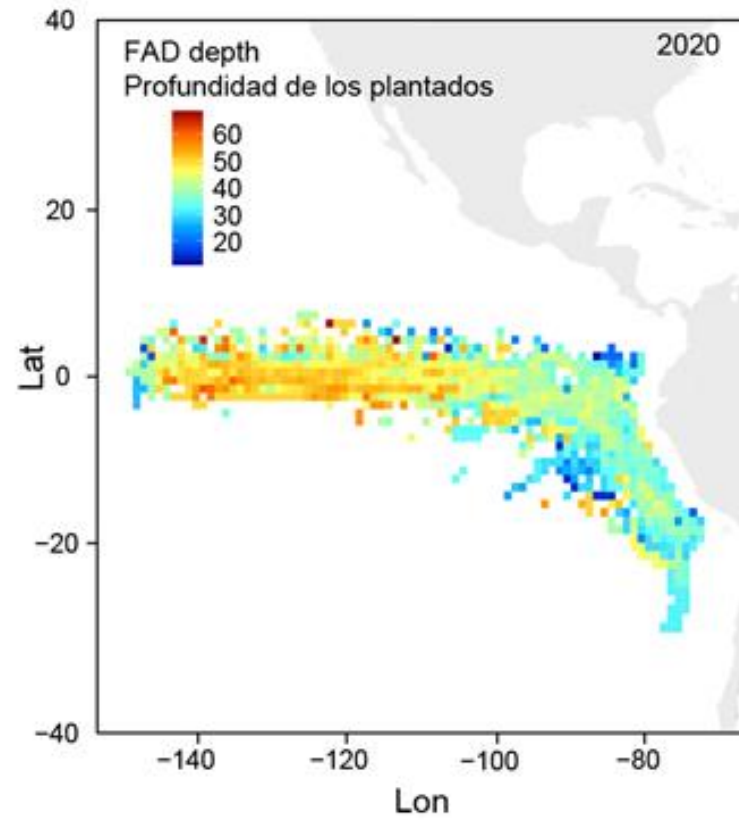
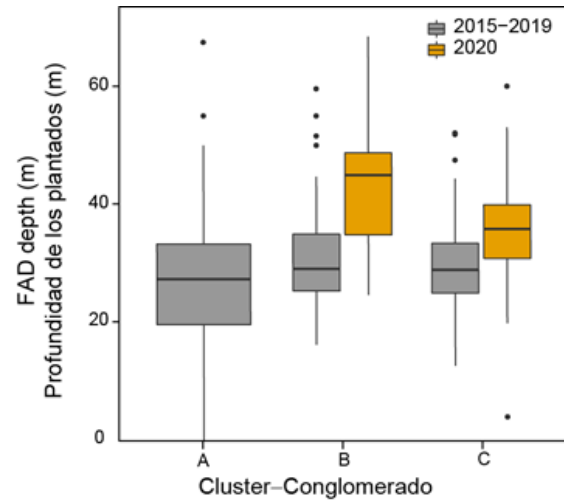
~240K annual/annual  
(240 vessels/buques)

~130K/monthly-  
mensual (~%54)

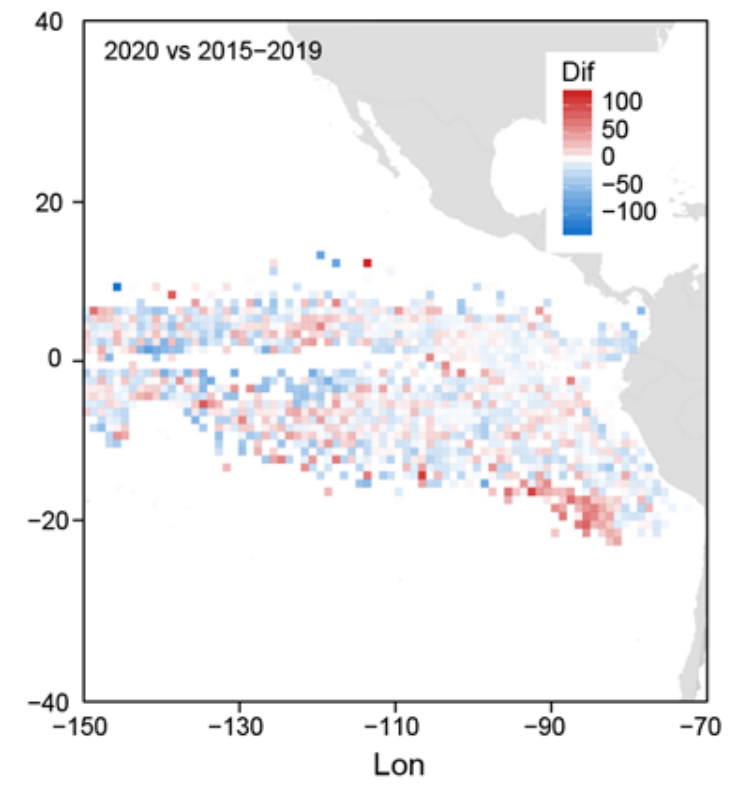
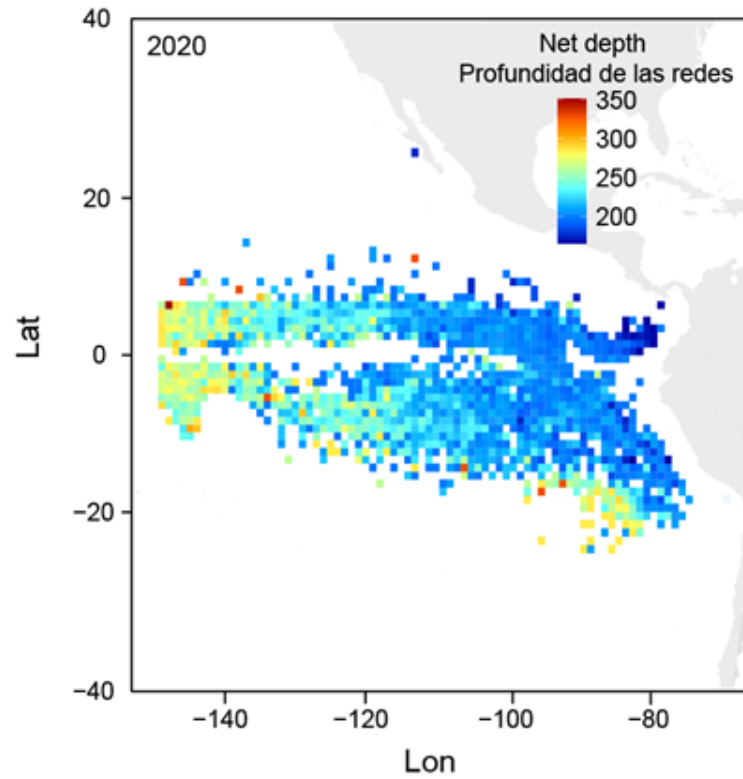
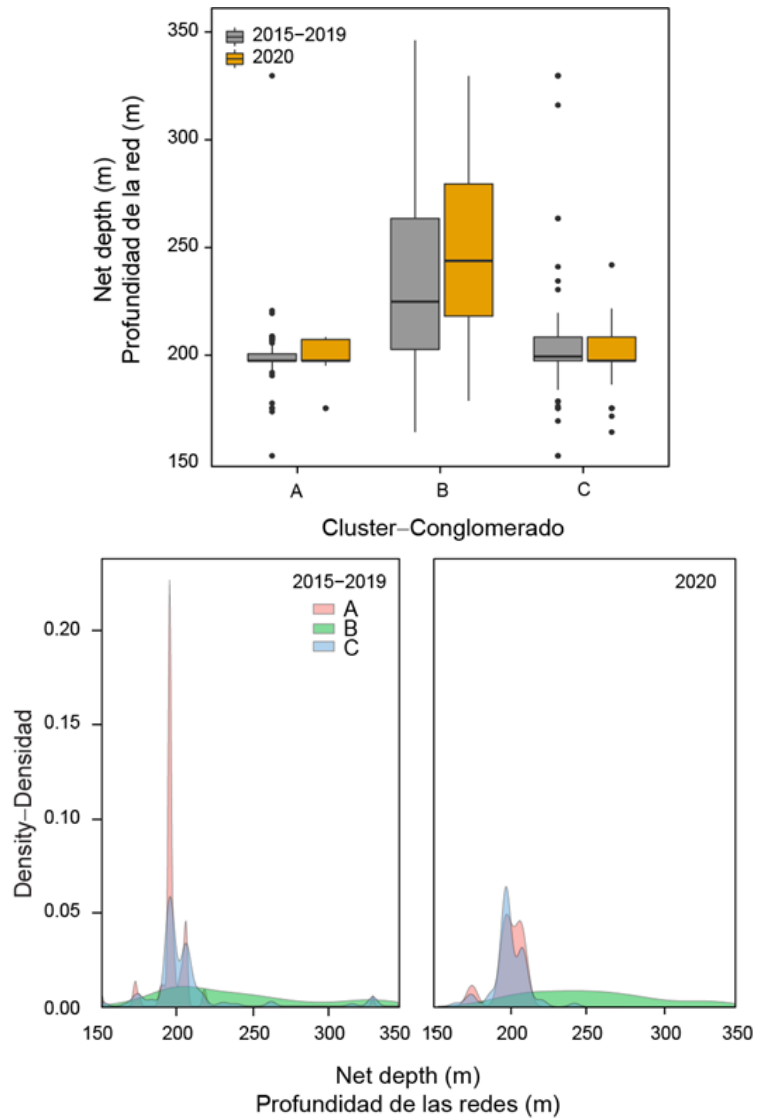
Drop of ~8%  
compared to 2019  
Caída del 8%  
comparado a 2019

# Technology – Tecnología

# FAD depth – Profundidad de plantados



# Net depth – Profundidad de red





# Onboard technology – Tecnología a bordo

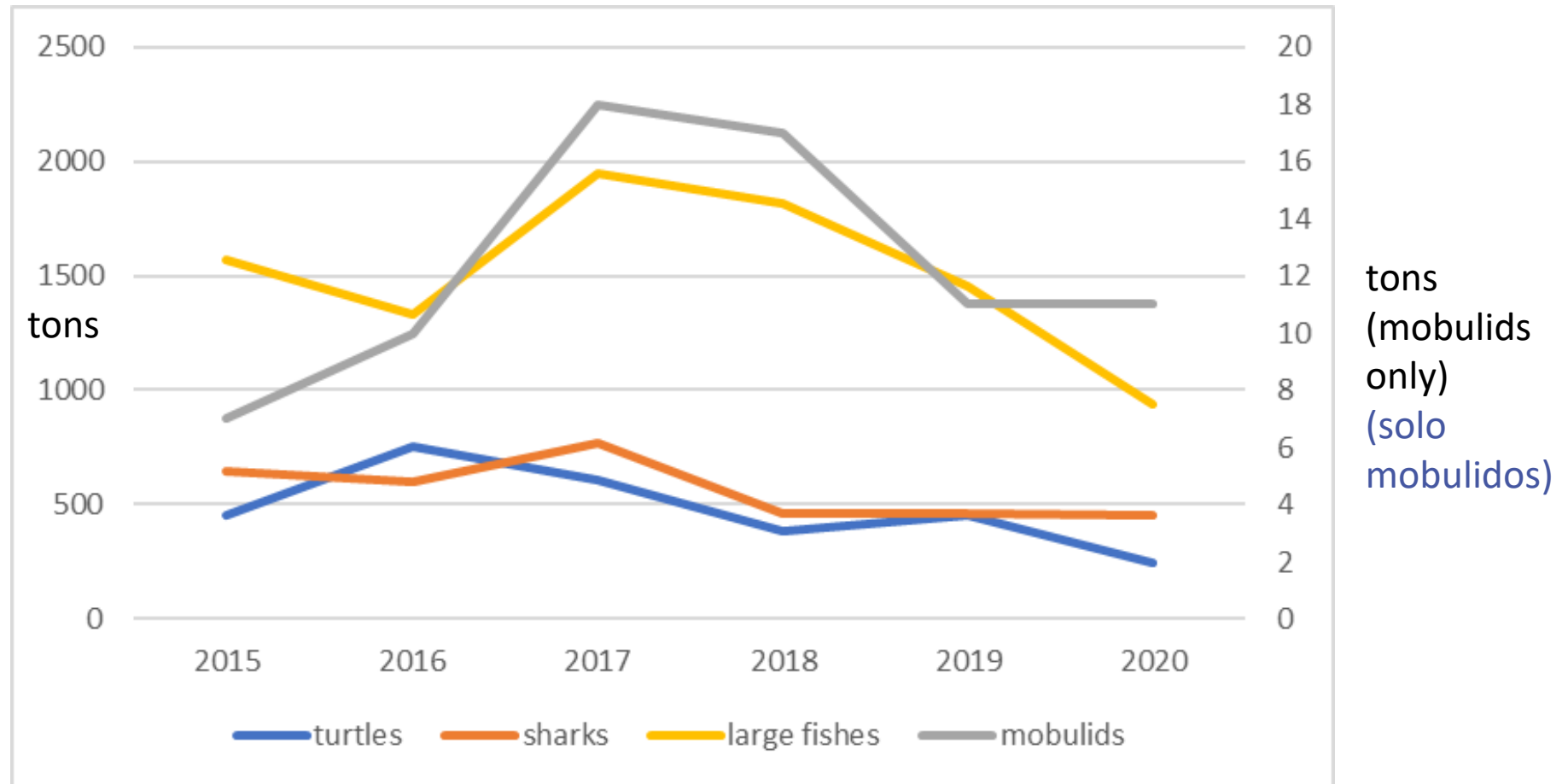


# Ecosystem impacts – Impacto sobre el ecosistema

# OBJ Bycatch ratios – Ratios de captura accesoria sobre plantados

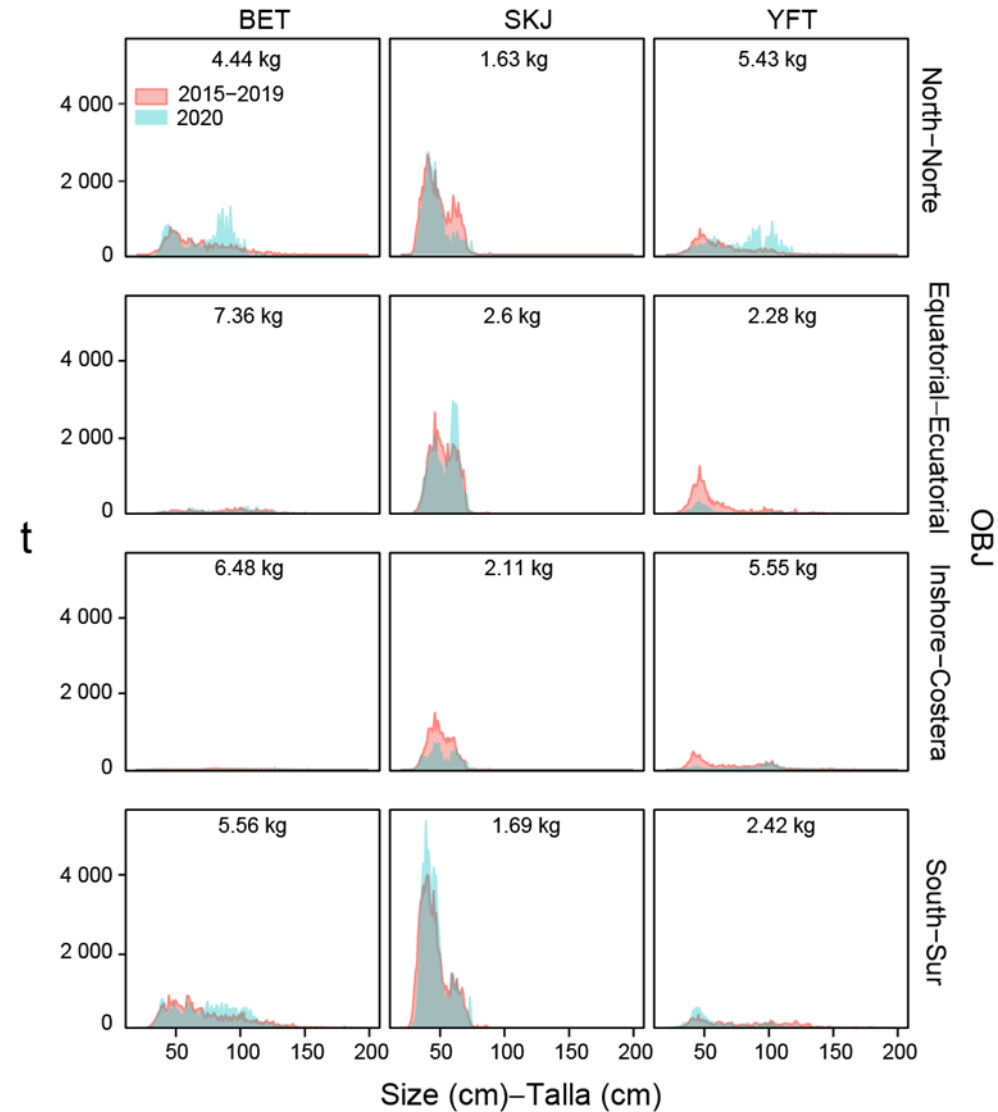
NOTE:  
Turtles are  
interactions,  
not mortality

NOTA:  
Las tortugas no  
son  
mortalidades  
sino  
interacciones



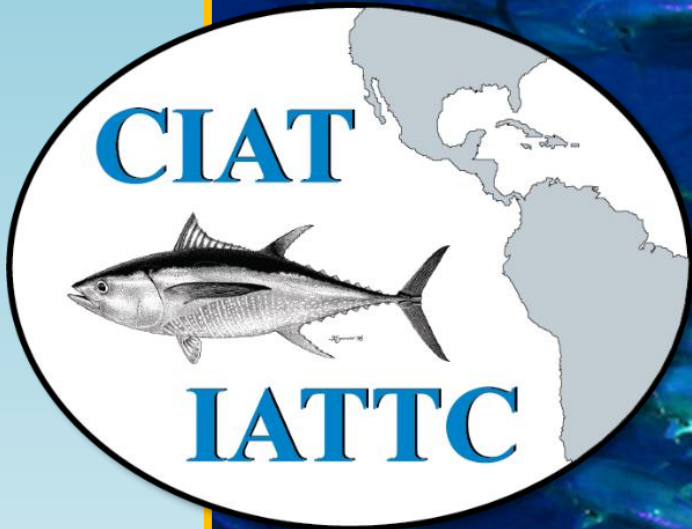
# Biology – Biología

# Size composition of tuna – Composición de tallas de atún



# Future prospects – Trabajo futuro

- Extend to include other indicators of interest: Buoy-abundance index (J.3.a), stranding events (M.5.b), etc.
- Incluir otros indicadores de interés: índices derivados de las boyas (J.3.a), cuantificación de varamientos (M.5.b), etc.
- Use fishers workshops for capacity building and collect near-real time information of fishery dynamics (started in 2020-2021)
- Usar los talleres de capitanes para mejorar las aptitudes de los pescadores pero a su vez, recolectar información de primera mano sobre las dinámicas de la pesquería (comenzado en 2020-2021)
- Support science/indicators-based decision making
- Promover decisiones de manejo apoyadas en ciencia e indicadores.



# Questions

