


Comisión Interamericana del Atún Tropical
Inter-American Tropical Tuna Commission

Floating-object fishery indicators: a 2022 report

Indicadores de la pesquería con objetos-flotantes: un informe de 2022

Jon Lopez*, Marlon Román, Cleridy E. Lennert-Cody, Mark N. Maunder, Nick Vogel, Leanne Fuller

*jlopez@iattc.org

7ª Reunión del Grupo de Trabajo *Ad hoc* sobre plantados - 12-13 de mayo de 2022 (por videoconferencia)
6th Meeting of the *Ad Hoc* Working Group on FADs - 12-13 May 2022 (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

2017 – Madrid
1rst j-t-RFMO FAD

2018 – Joint Technical WG on FADs – grupo conjunto
(IATTC – FAD indicators / Indicadores de FAD)

2019 – San Diego
2nd j-t-RFMO FAD
(Draft discussed and adopted)
(Borrador discutido y adoptado)

2020-2023 – FAD WG Document / Documento FAD-07-01

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. 2017-2022 AIDCP observer data for Class-6 vessels [fleet behavior, activities, and technology].
a. Datos de observadores AIDCP 2017-2022 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]

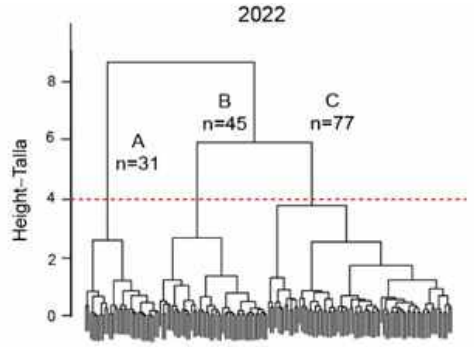
c. Daily active buoy data for 158 vessels (Classes 1-6) reporting during 2022. 165 vessels during 2018-2021 [buoy-based indices]
c. Datos de boyas activas proporcionados por 158 buques de clase 1-6 durante 2022. 165 buques durante 2018-2021 [índices basados en boyas]

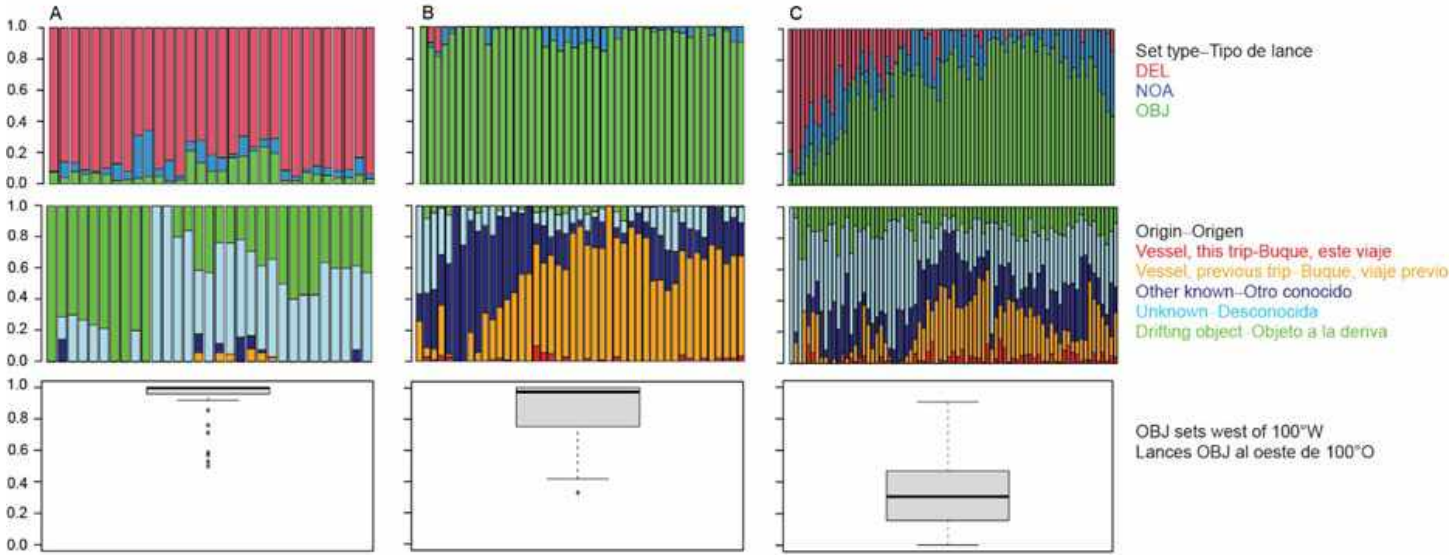
Fleet segments – Segmentos de la flota

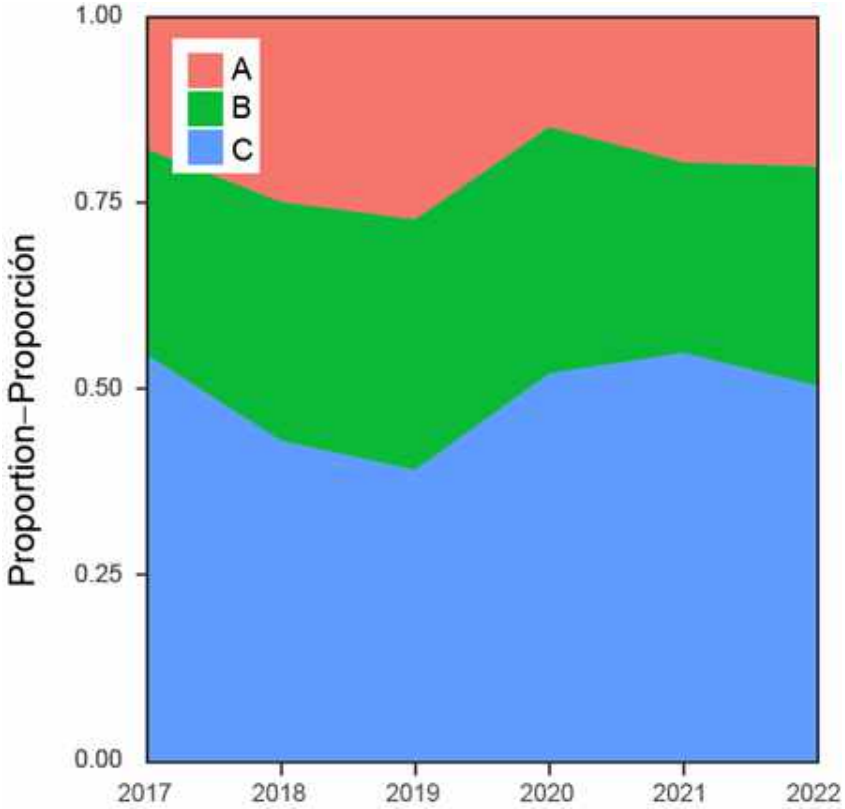
A = > 100W + DEL and opportunistic OBJ sets

B = >100W + OBJ sets (monitored)

C = <100W + mix of set types

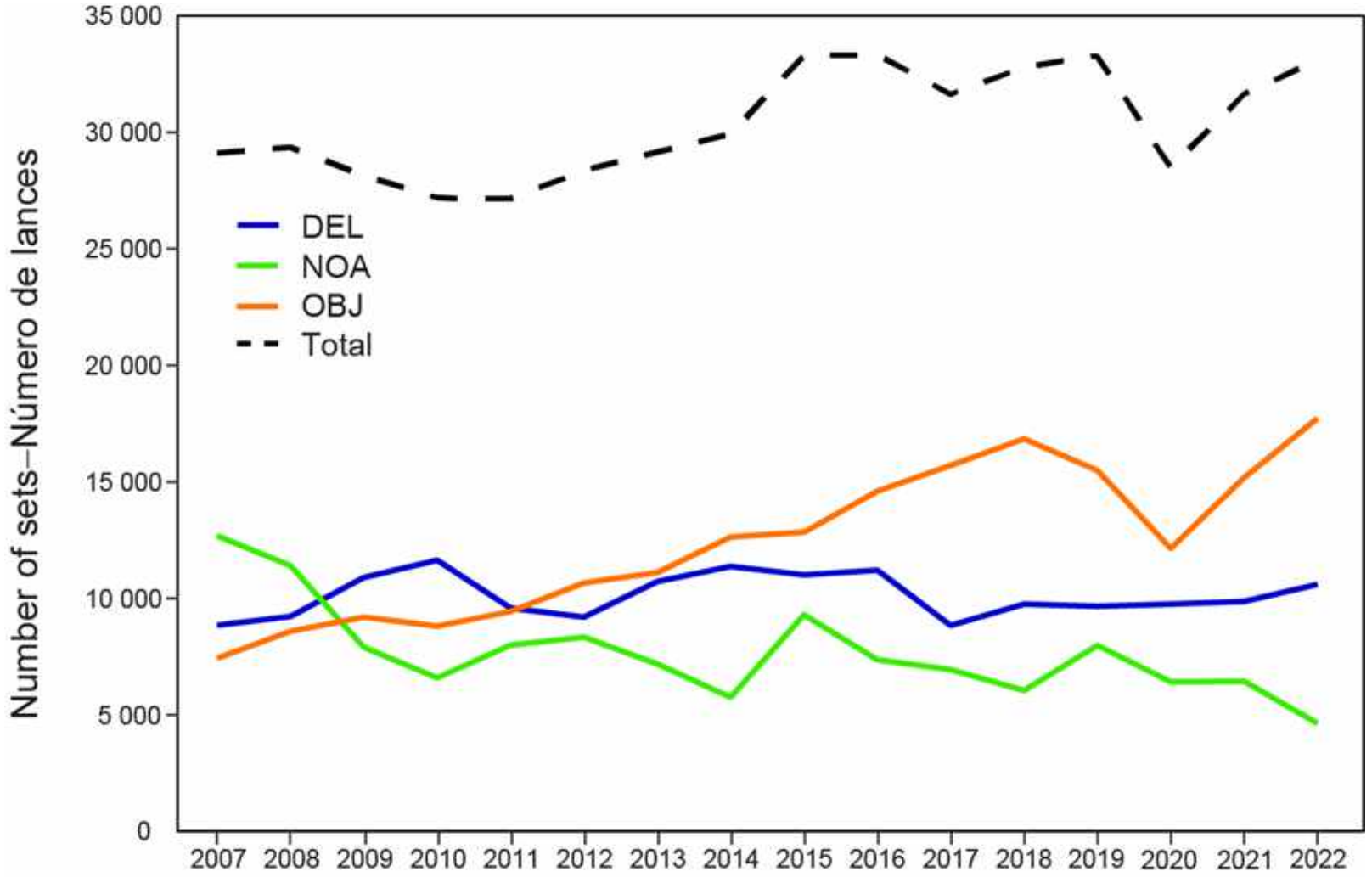




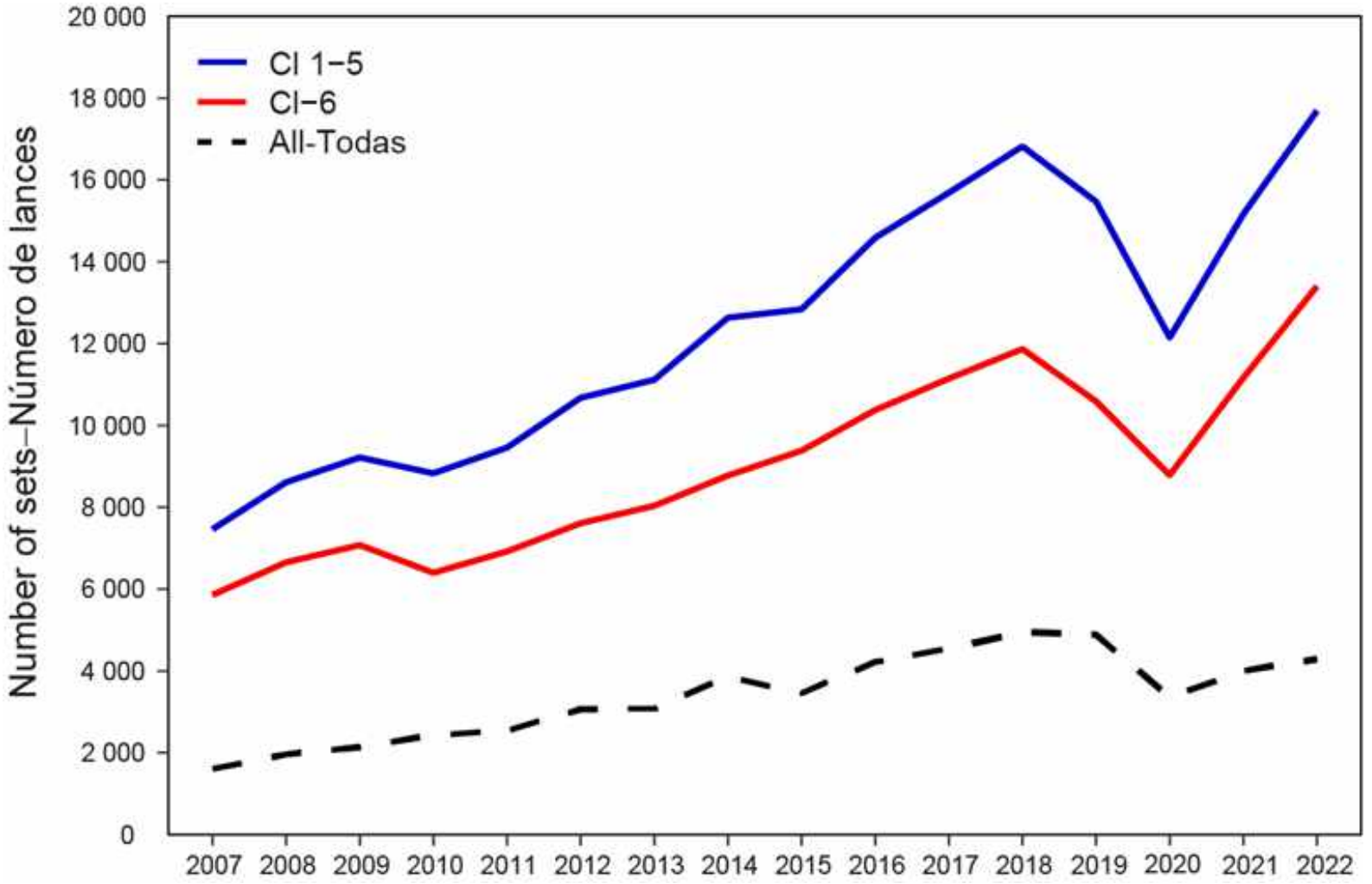


Catch and effort - Captura y esfuerzo

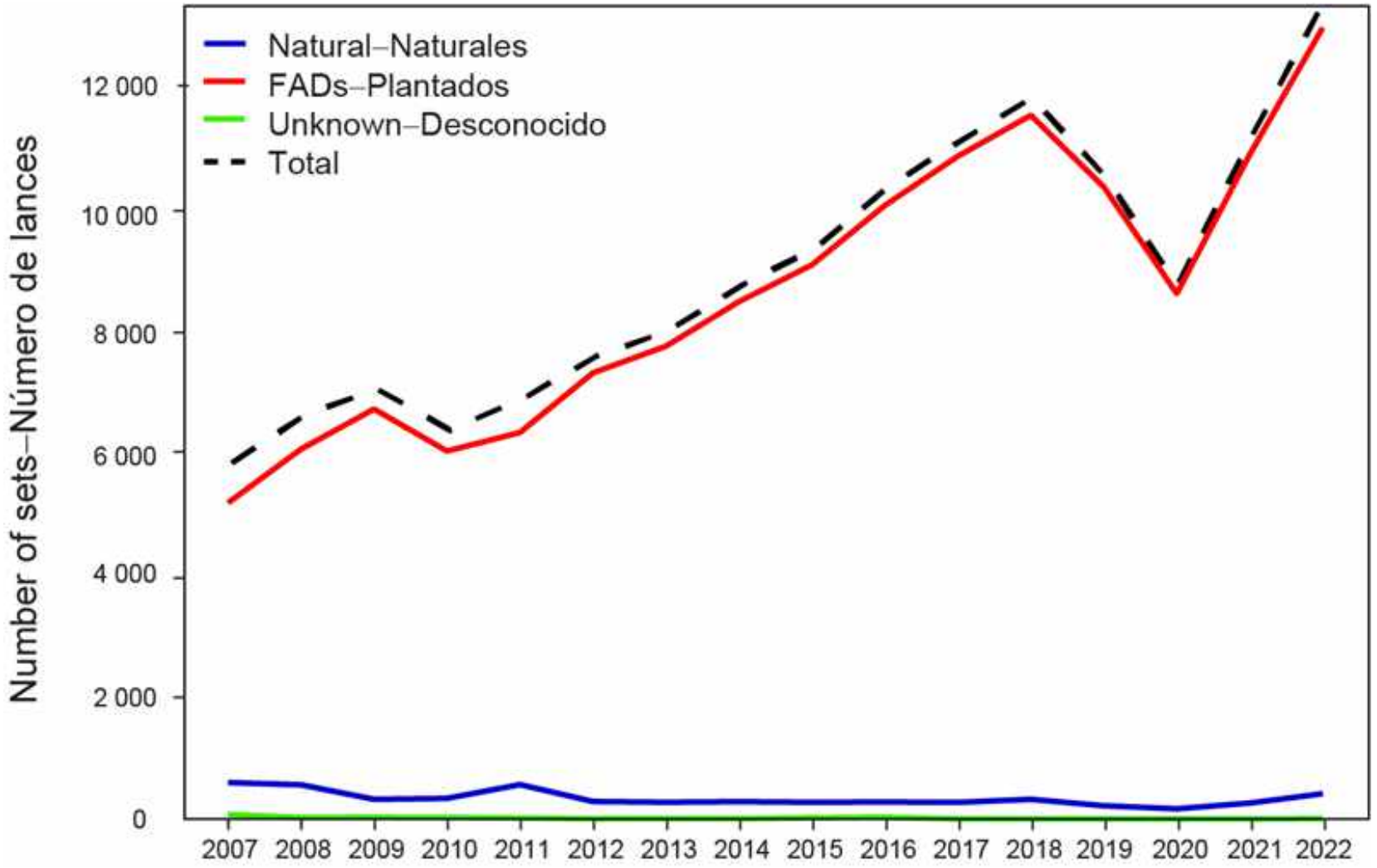
Total number of sets by set type – Numero total de lances por tipo de lance



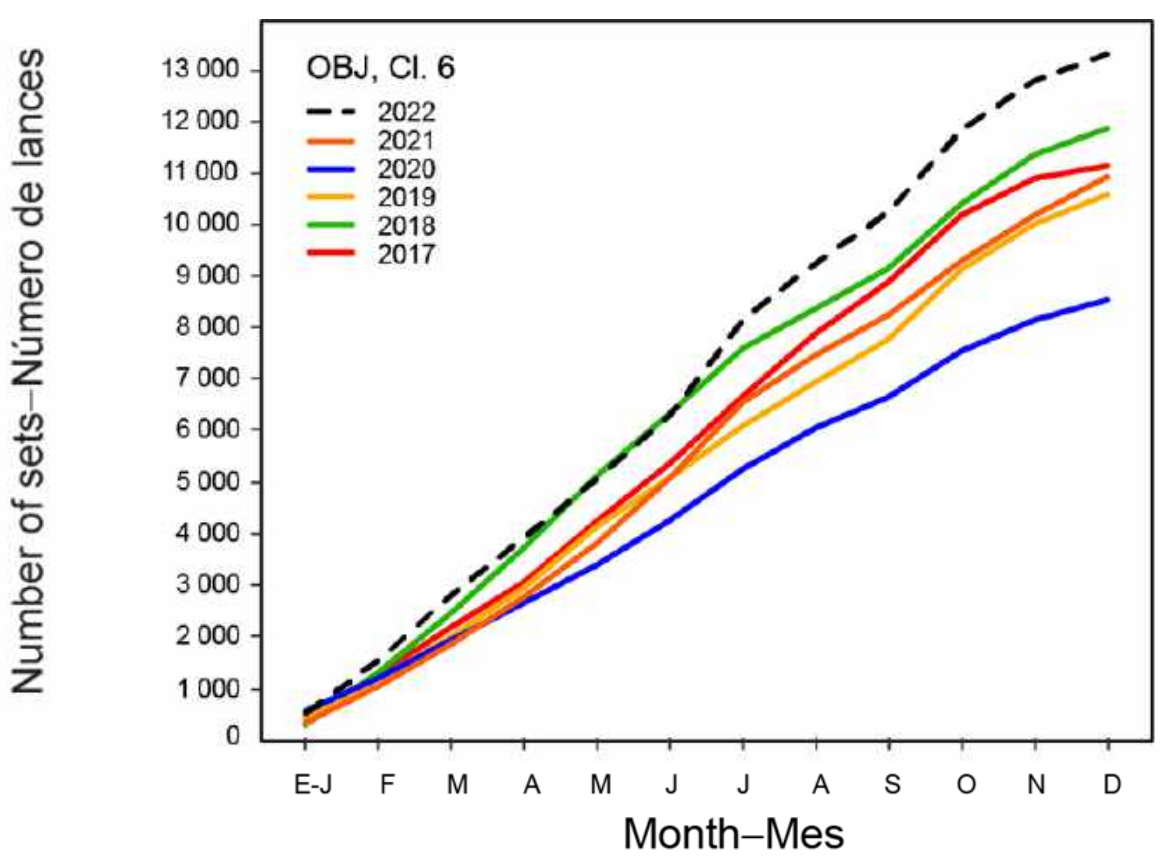
Number of sets on floating object by Class-size vessel – Numero de lances sobre OBJ por clase

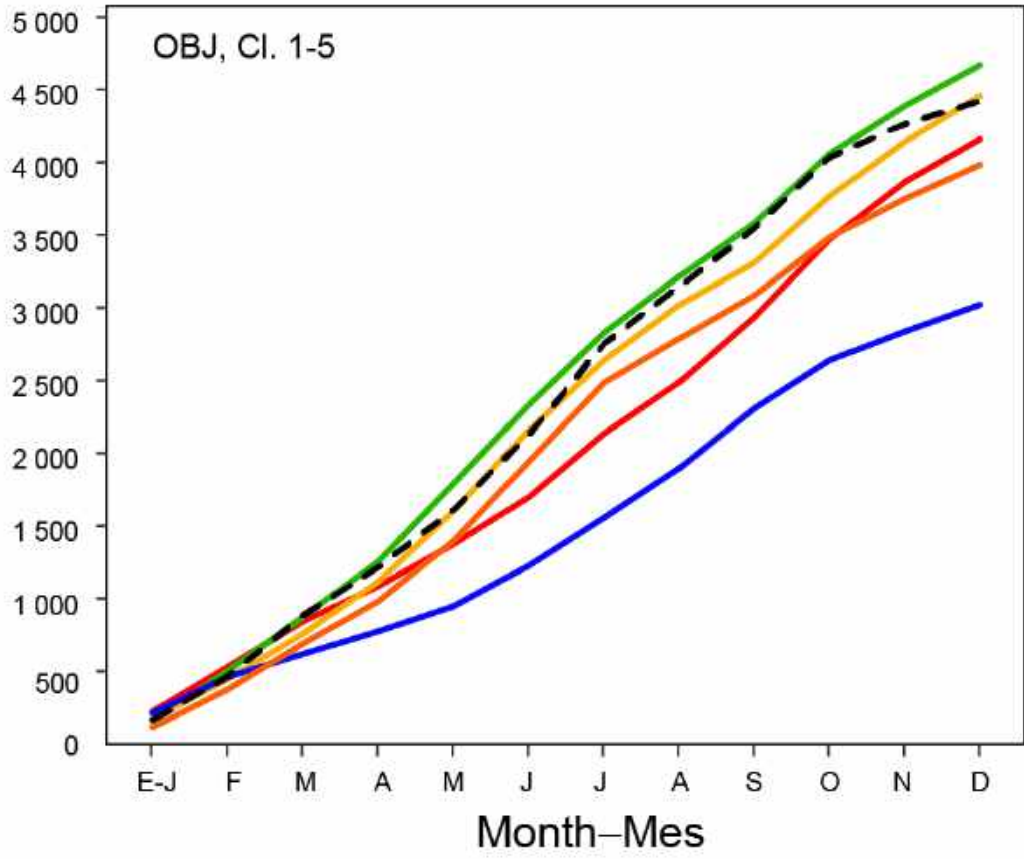


Sets by type of floating object made by Class-6 vessels – Lances sobre diferentes tipo de objeto para los buques de clase 6

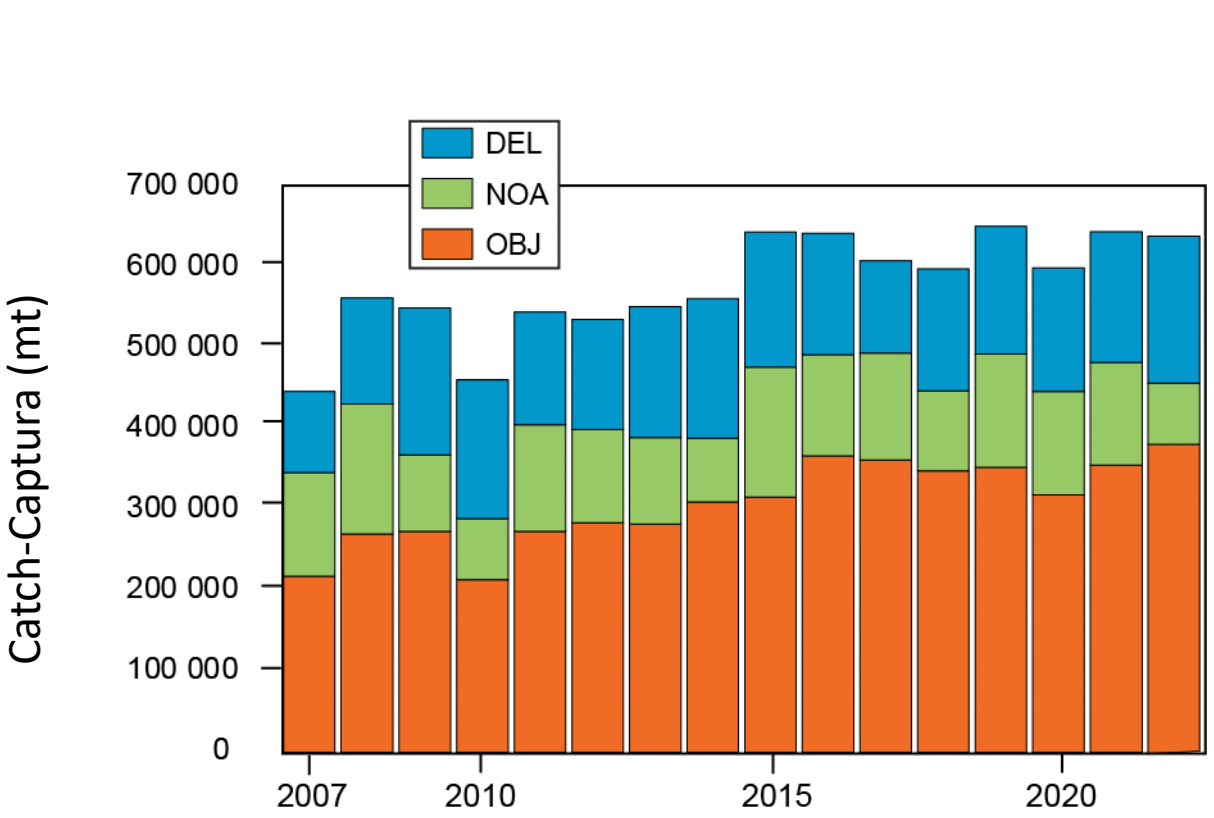


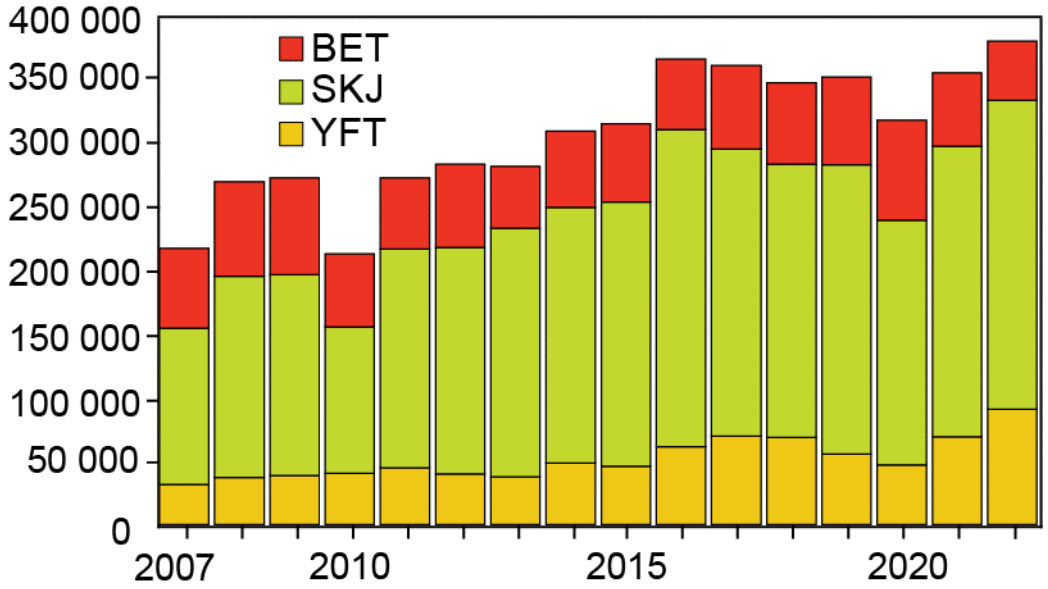
Cumulative sets by Class-size vessel and set type – Lances acumulados para las diferentes clases de buques y tipo de lance

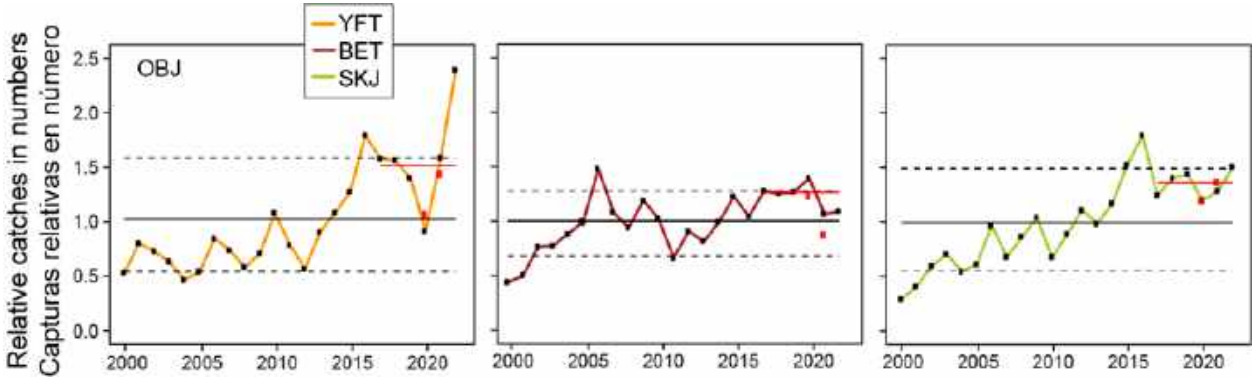




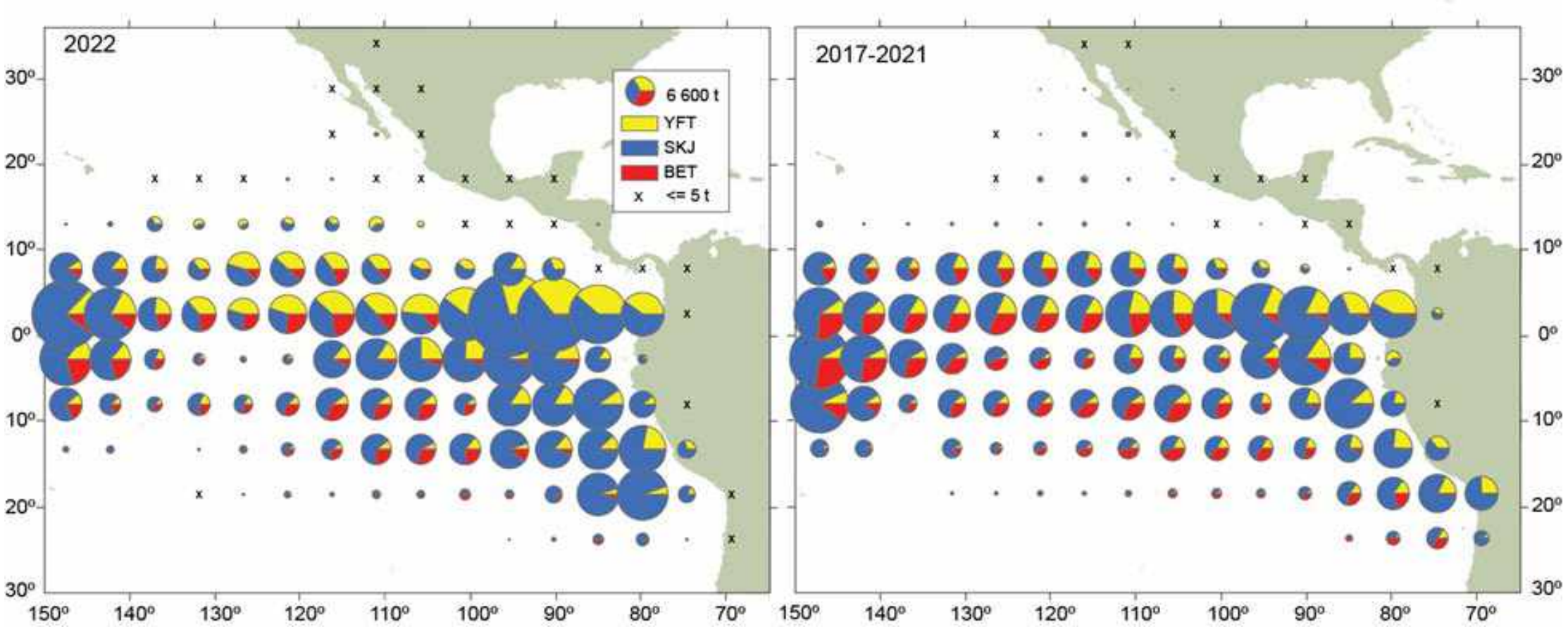
Catch by set type (and species) – Captura por tipo de lance (y especie)



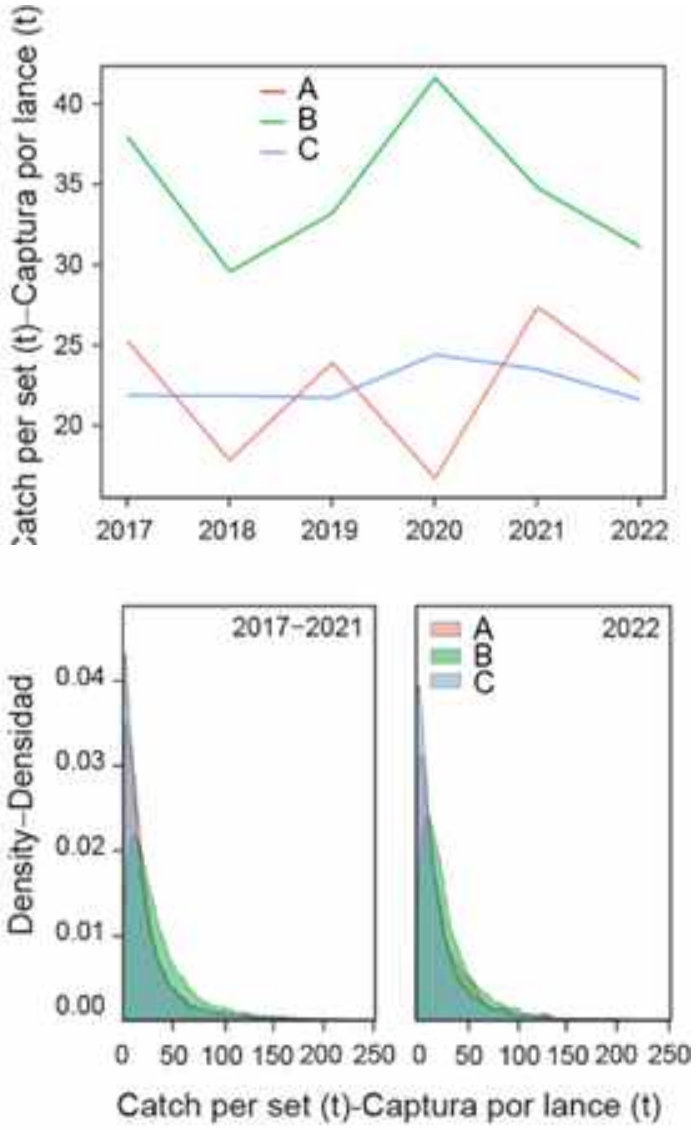


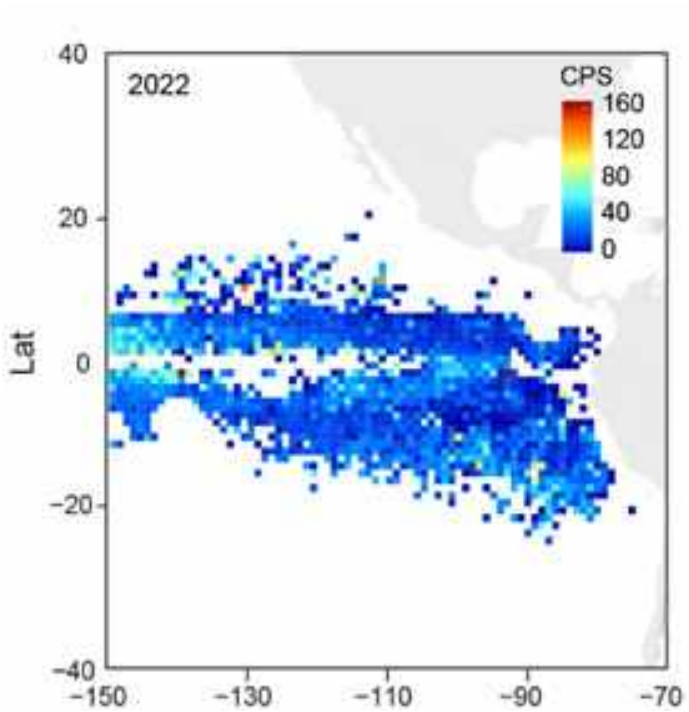


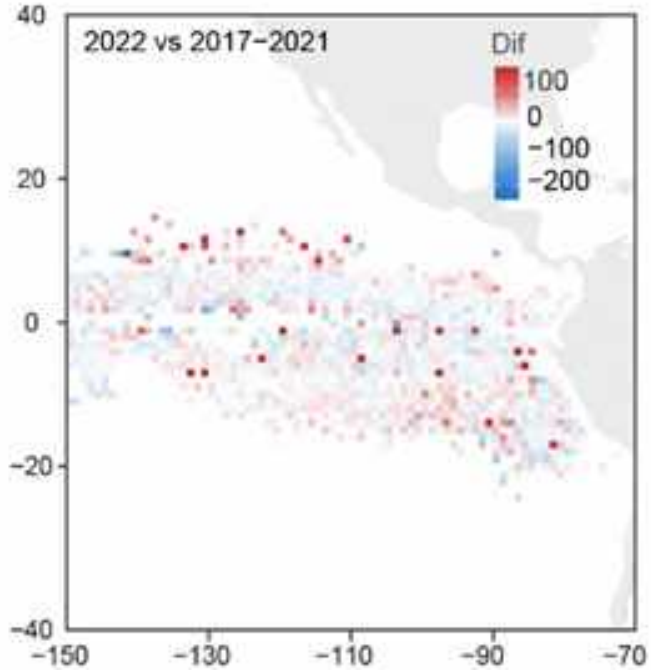
Spatial distribution of catches– Distribución espacial de las capturas



Catch per set – Captura por lance







Activity on FAD – Actividad sobre FAD

General OBJ activity table – Tabla de actividad general sobre OBJ

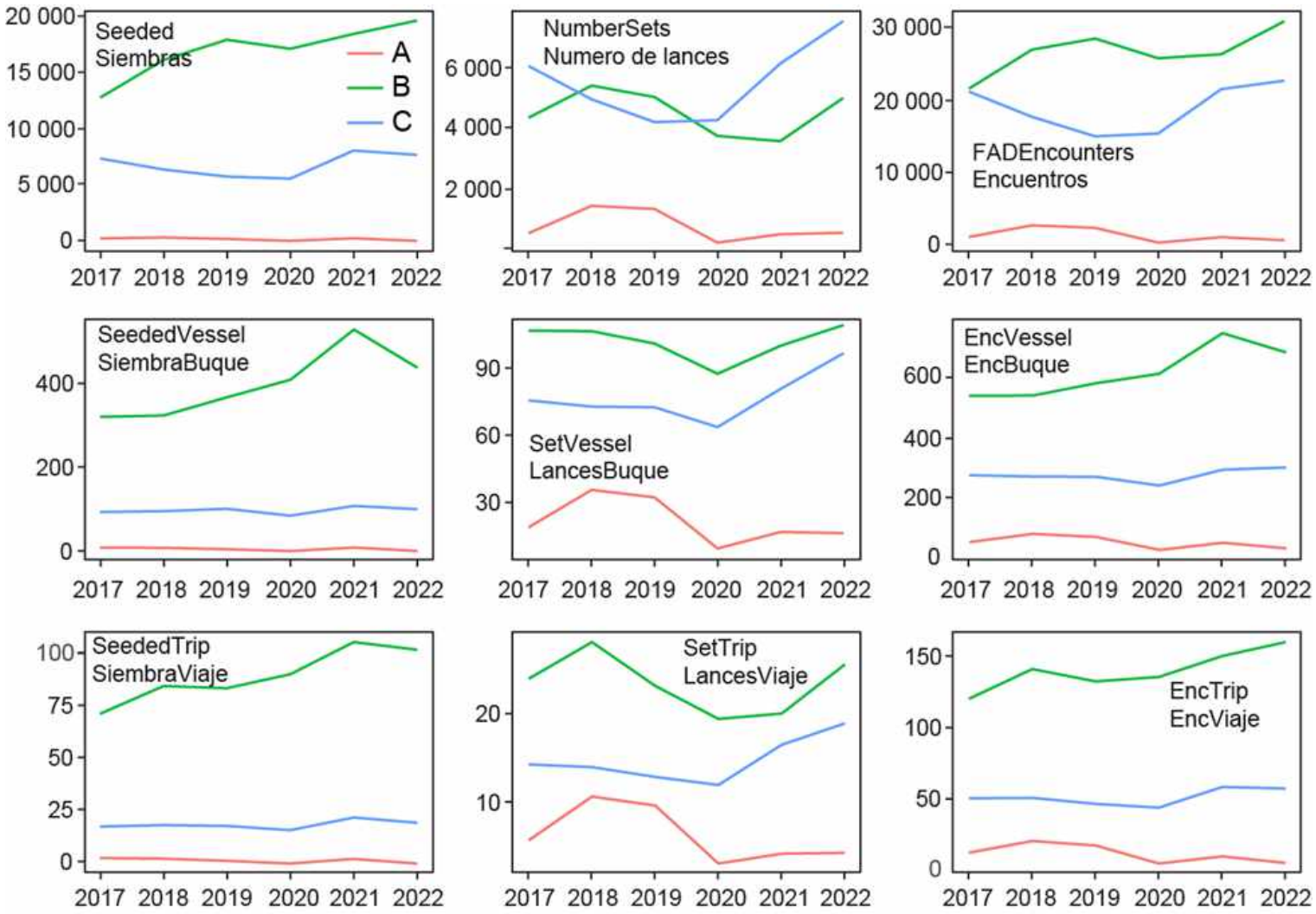
Only class 6 vessels > 5 OBJ sets – Solo buques clase 6 con > 5 lances sobre OBJ

Year	Own Now	Own Prev	Dep	Given	Taken	Adrift	Unk	Oth	Enc	Sets	Ves	Trips
2017-2021	25	6485	23252	3829	6891	2776	6	5	45367	10258	142	653
2022	21	7139	27287	4332	8446	3280	4	0	54113	13004	153	702

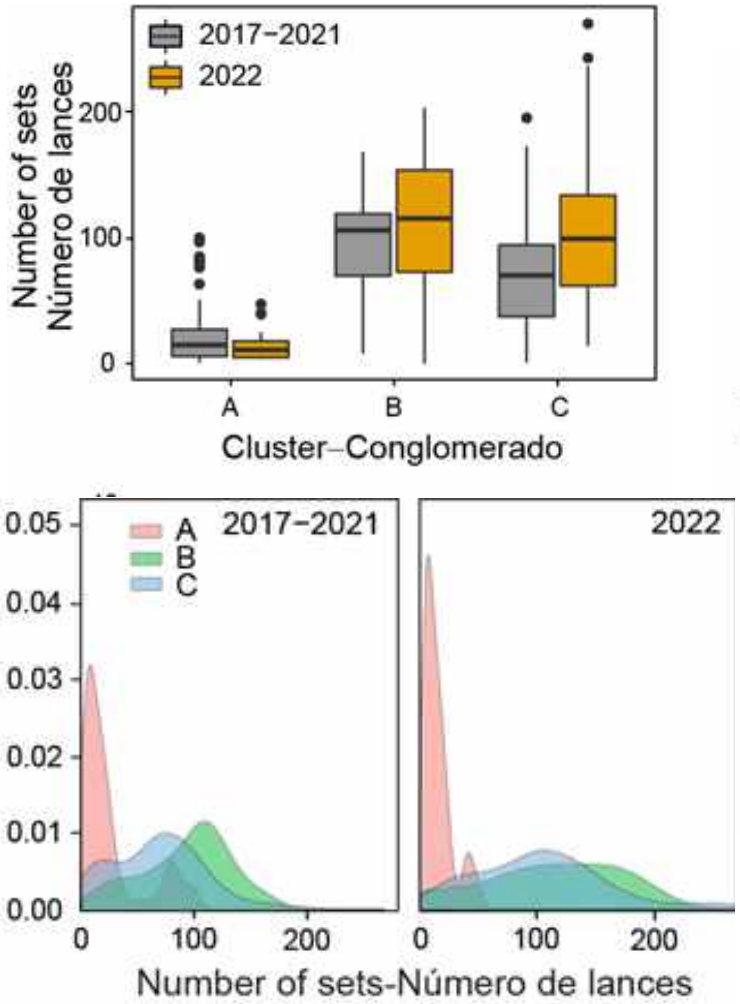
Year	Deployments		Encounters		Sets	
	Vessel	Trip	Vessel	Trip	Vessel	Trip
2017-2021	163.5	35.6	319.0	69.5	72.1	15.7
2022	178.3	38.9	353.7	77.1	85.0	18.5

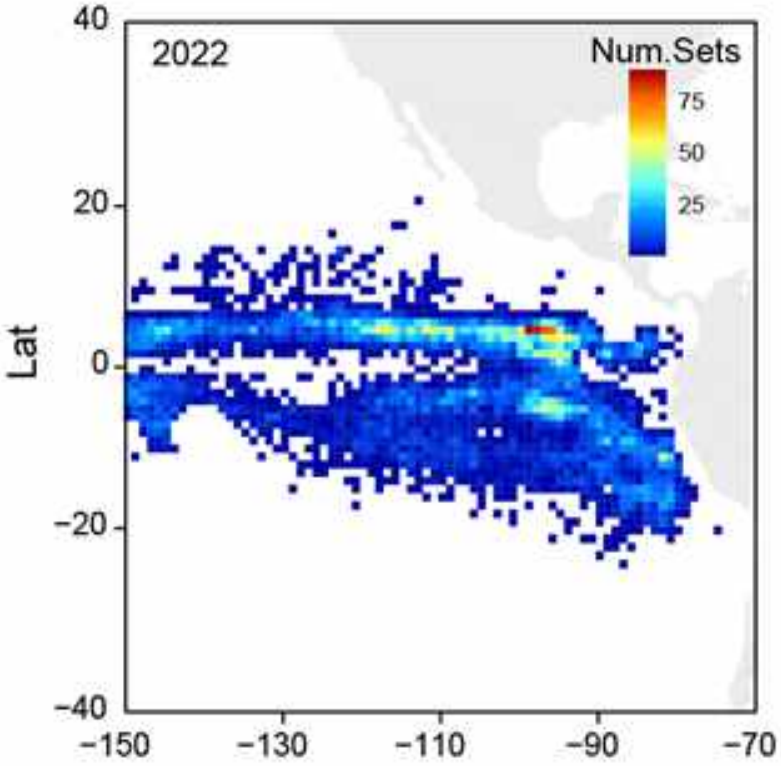
Year	Cluster	Deployments		Encounters		Sets	
		Vessel	Trip	Vessel	Trip	Vessel	Trip
2017-2021	A	6.0	1.8	47.9	14.5	25.2	7.6
	B	381.3	86.2	597.4	135.1	101.8	23.0
	C	95.9	18.2	263.3	50.0	74.1	14.1
2022	A	0.0	0.0	18.6	5.2	16.2	4.5
	B	436.2	101.2	686.3	159.2	110.6	25.6
	C	99.5	19.3	294.2	57.1	97.8	19.0

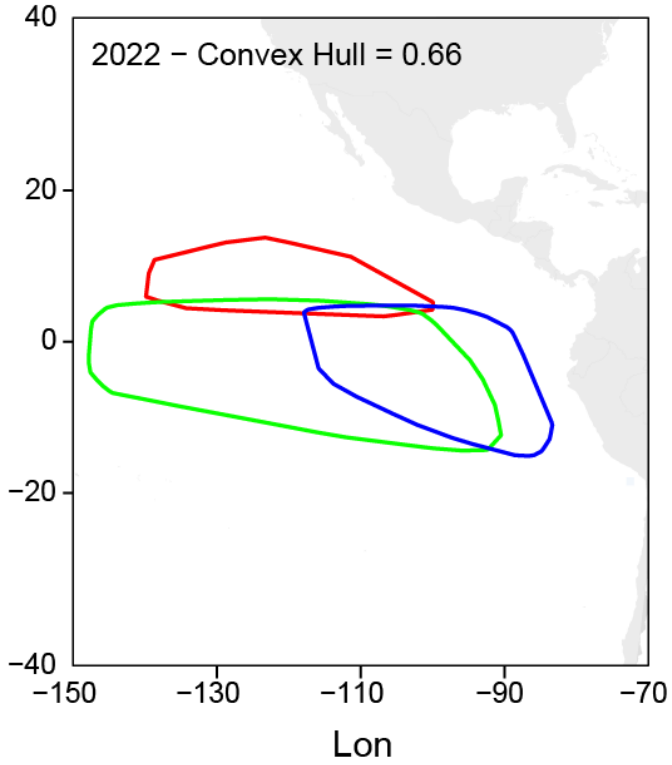
General OBJ activity evolution – Evolución de actividad general sobre OBJ



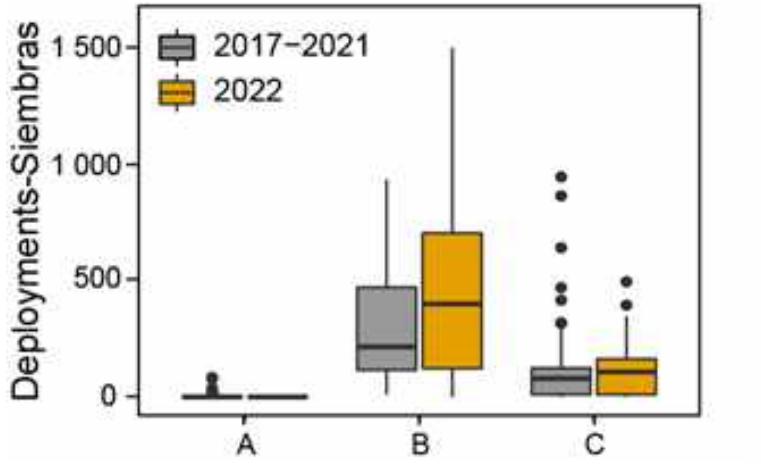
OBJ sets – Lances sobre OBJ

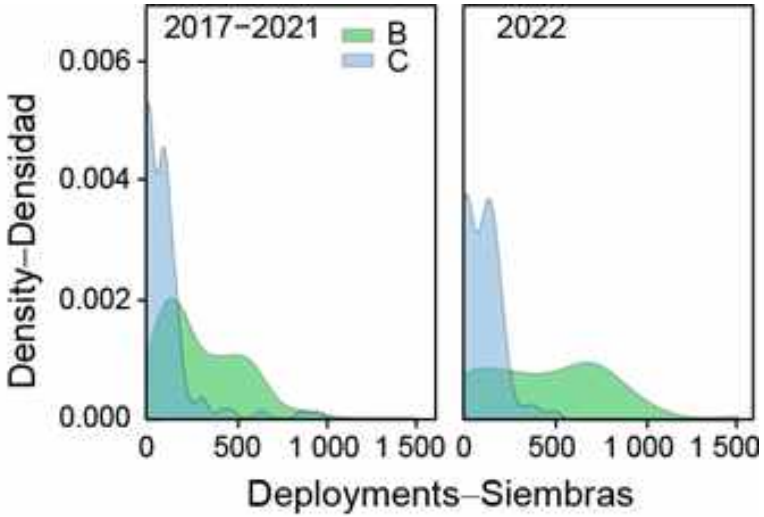


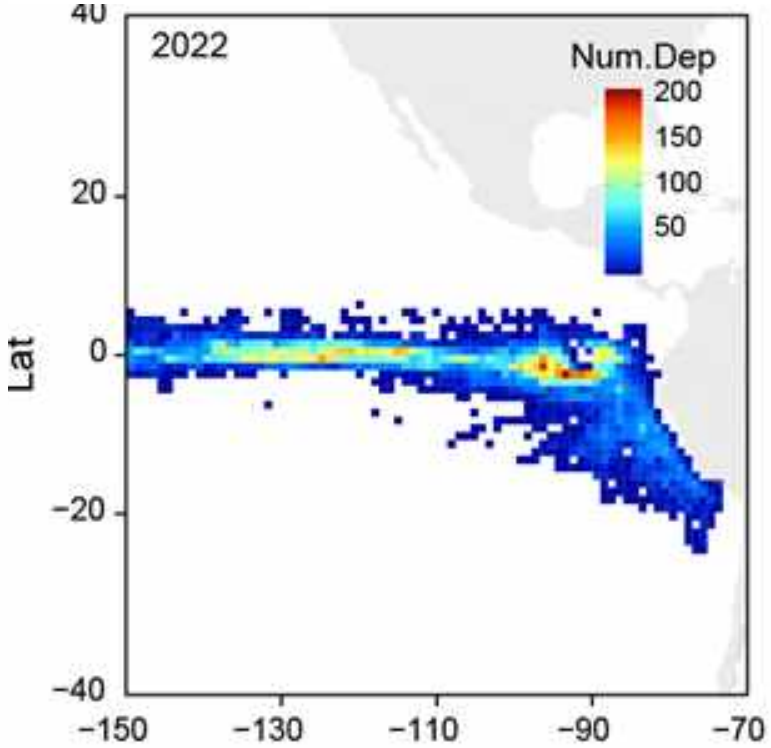


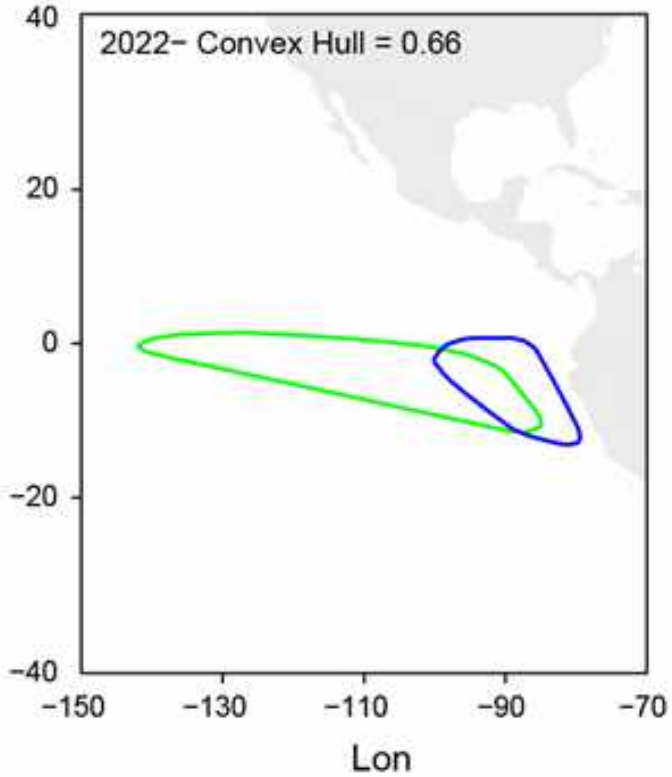


Deployments – Plantaciones

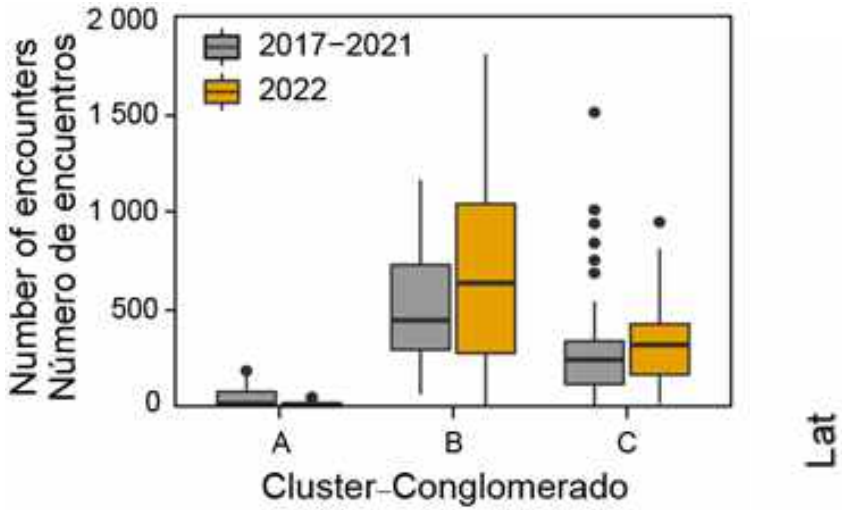


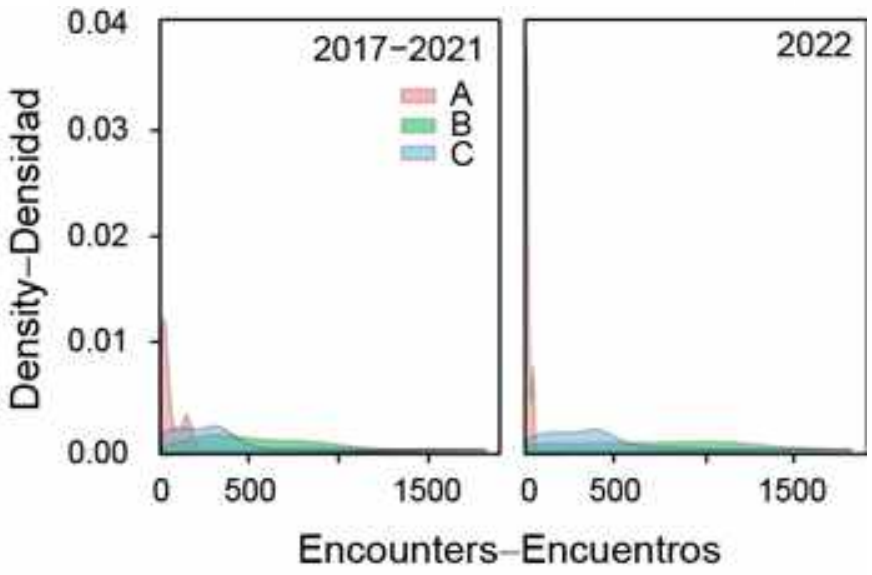


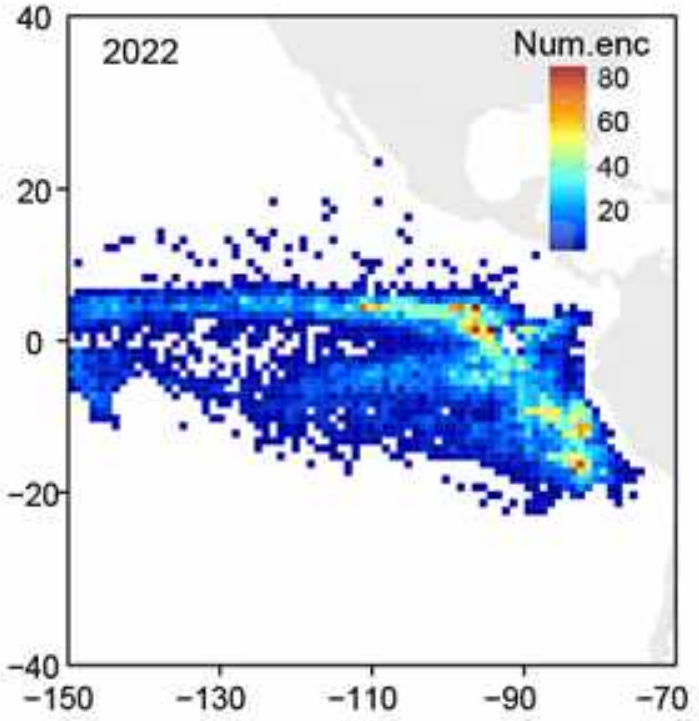


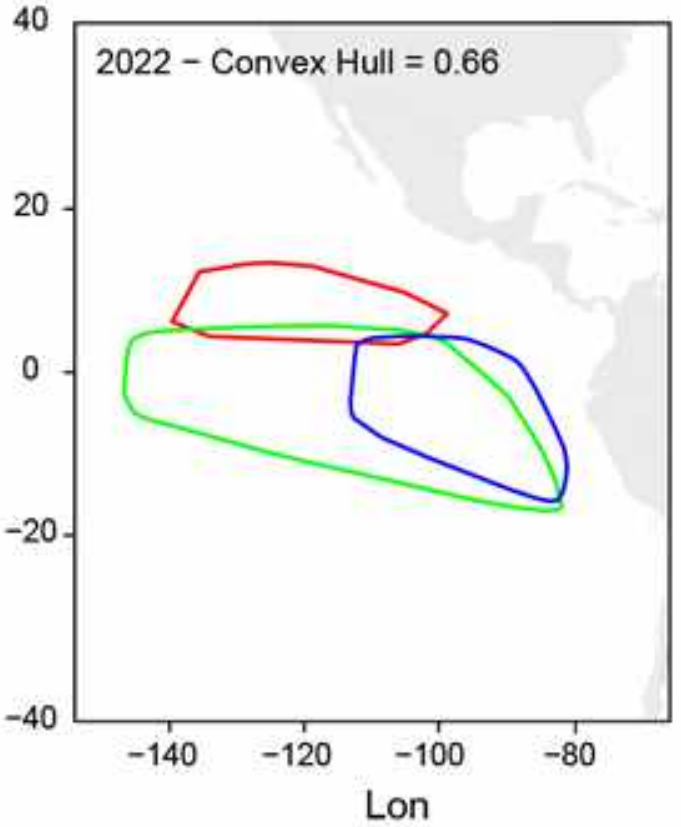


Encounters – Interacciones

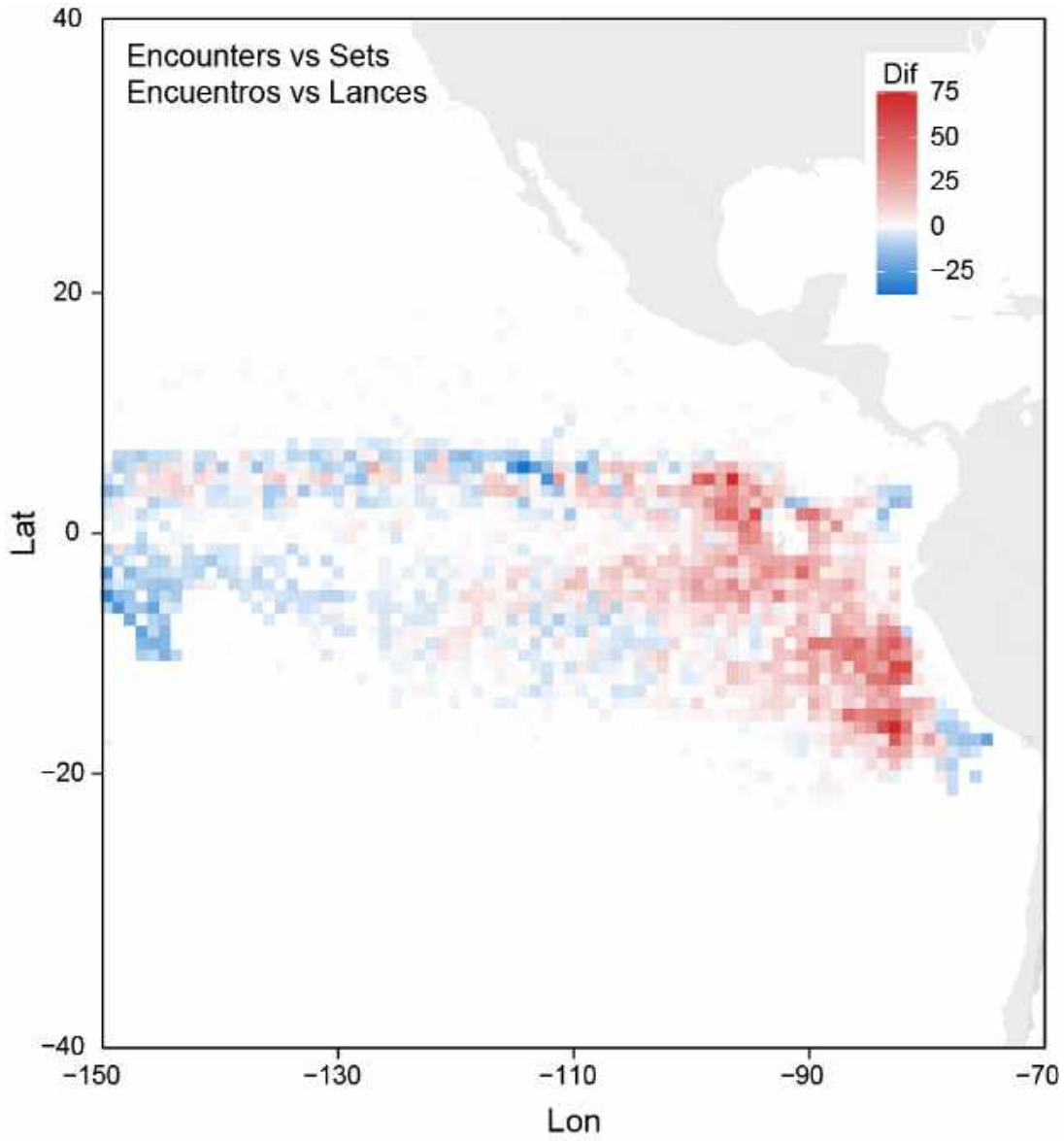




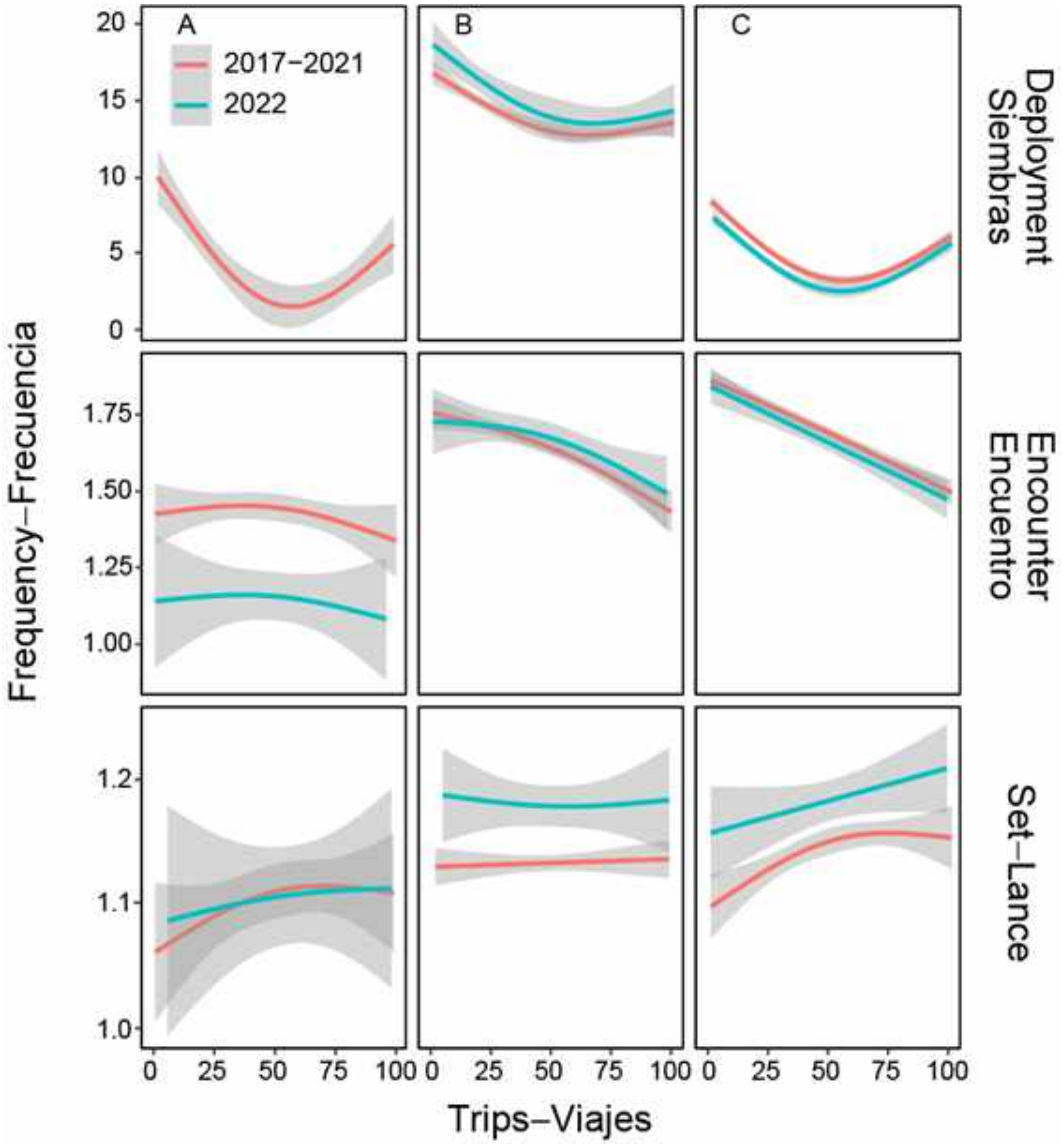




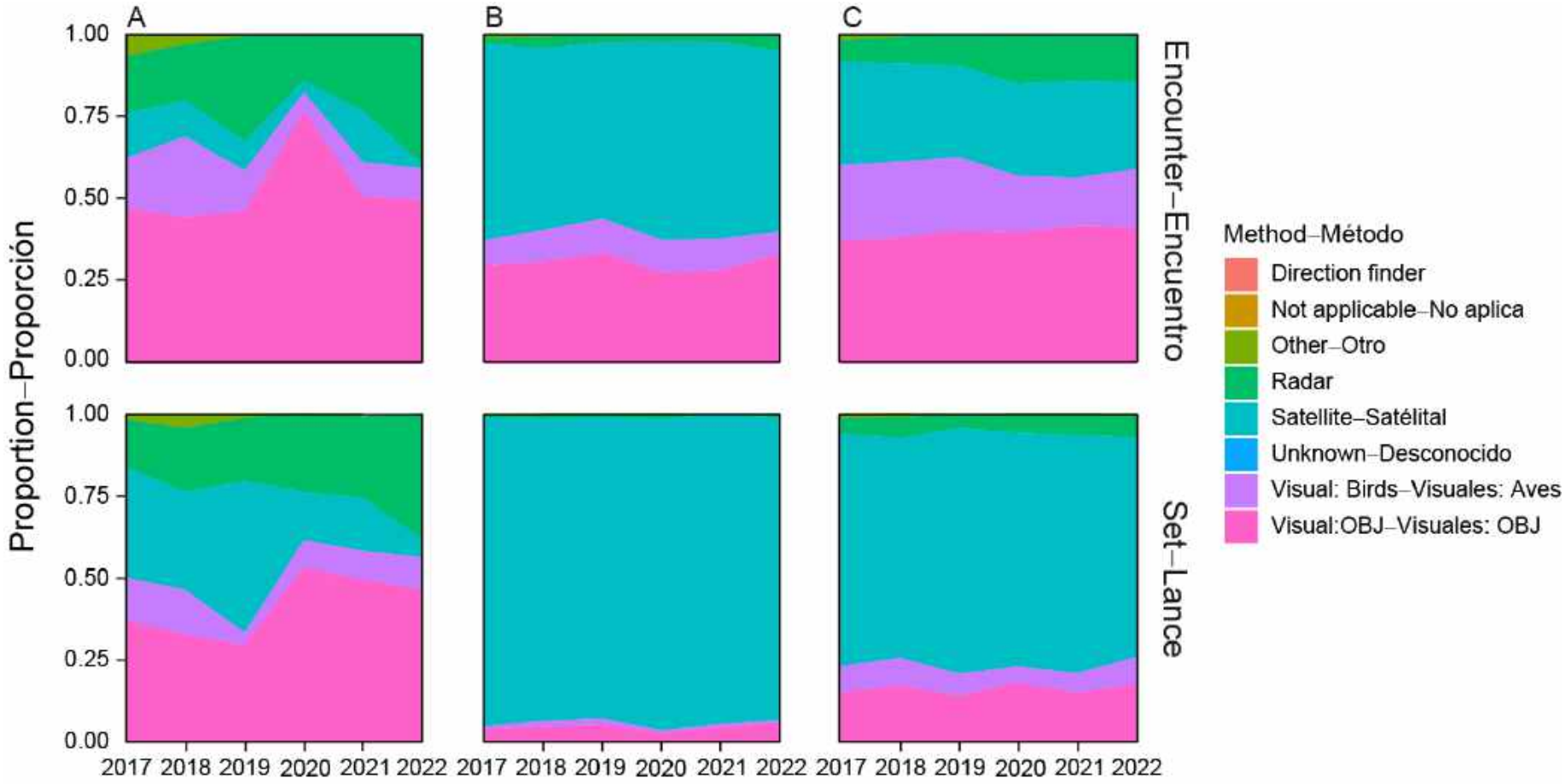
Encounters vs Sets – Interacciones vs Lances



Activities within the trip – Actividades durante el crucero



OBJ Location method – Método de localización de OBJ

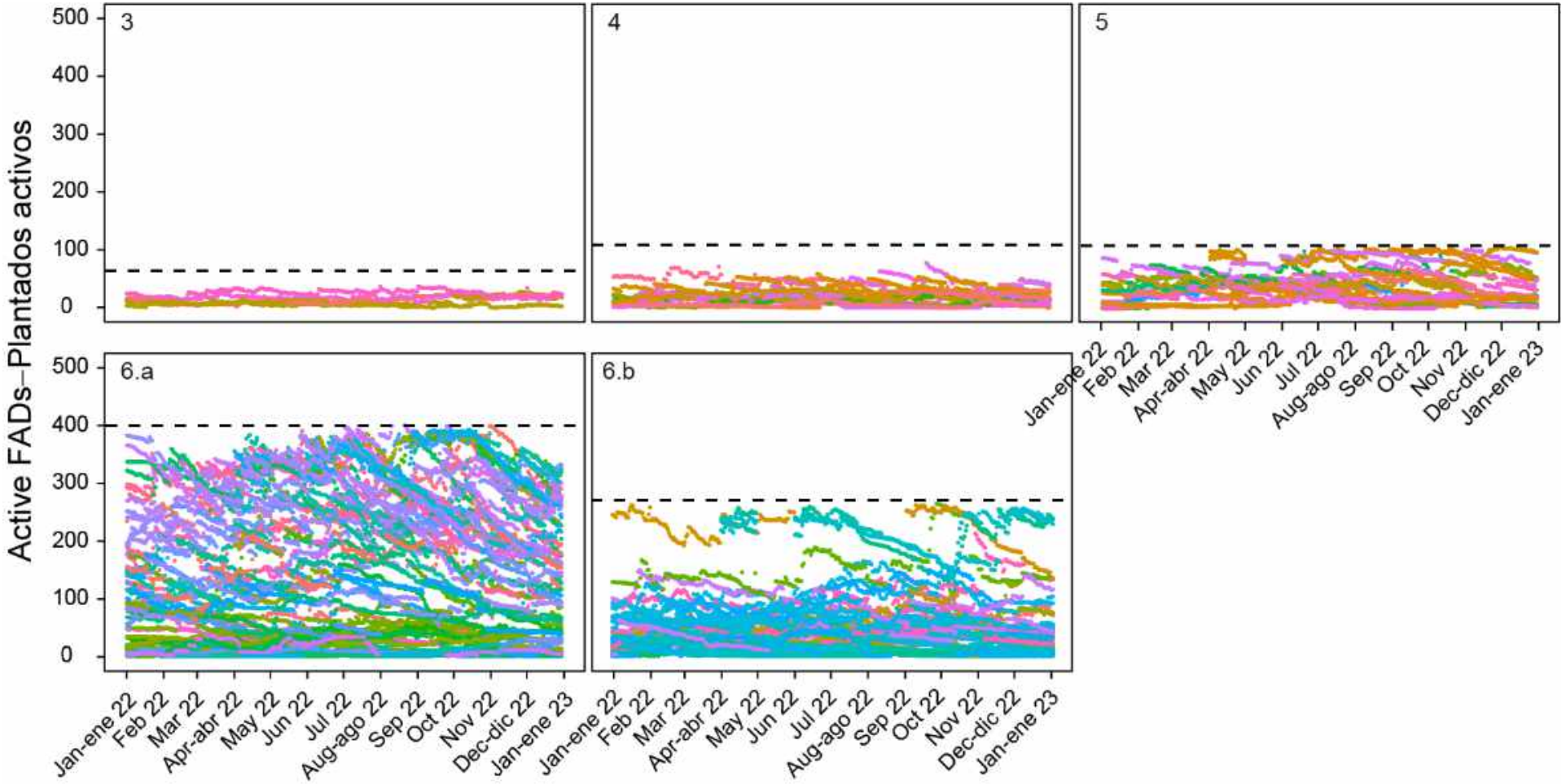


Buoy-based – Basados en boyas

Daily active FADs – Plantados activos diarios

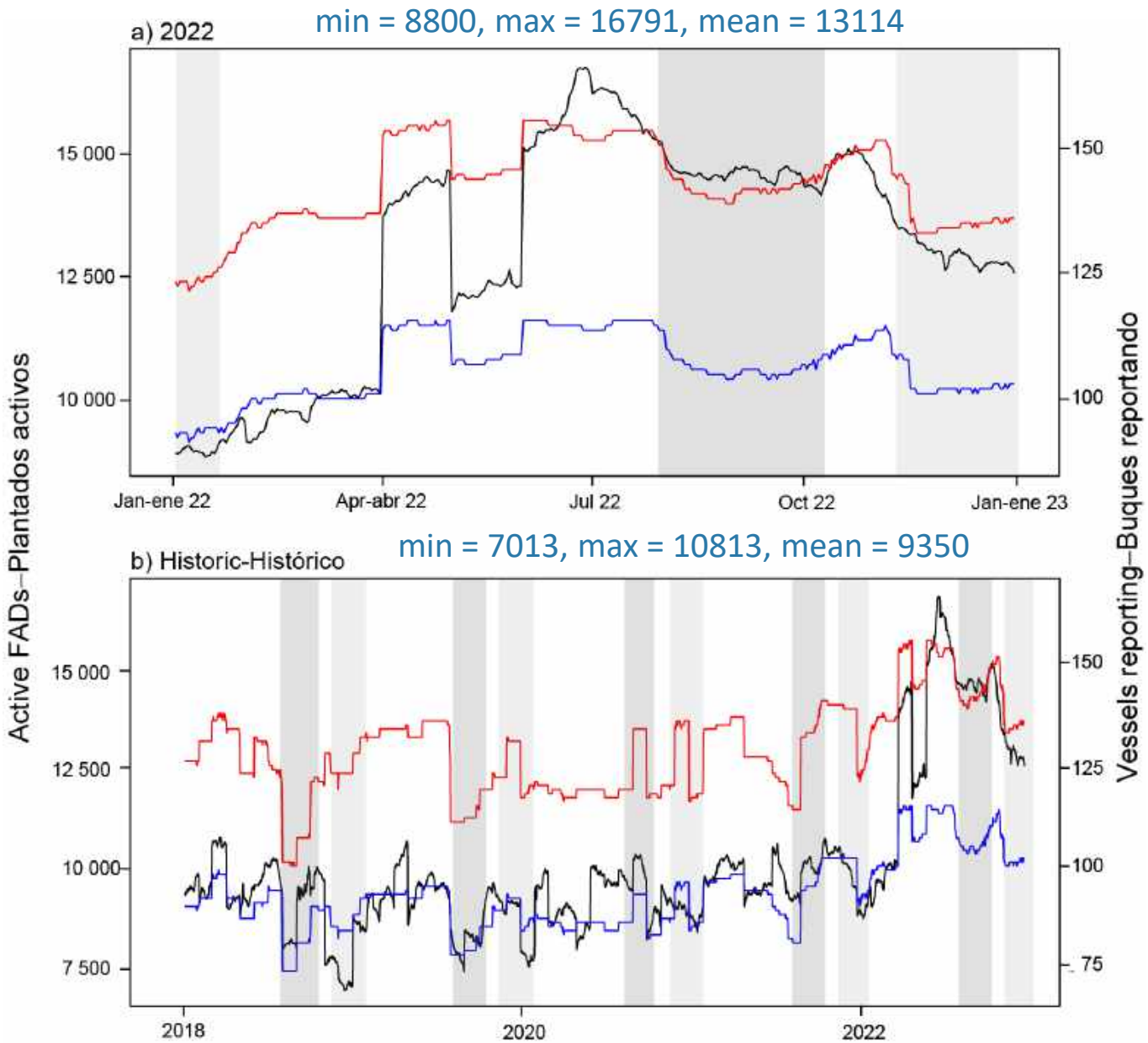
Res. C-21-04

(158 buques-vessels)

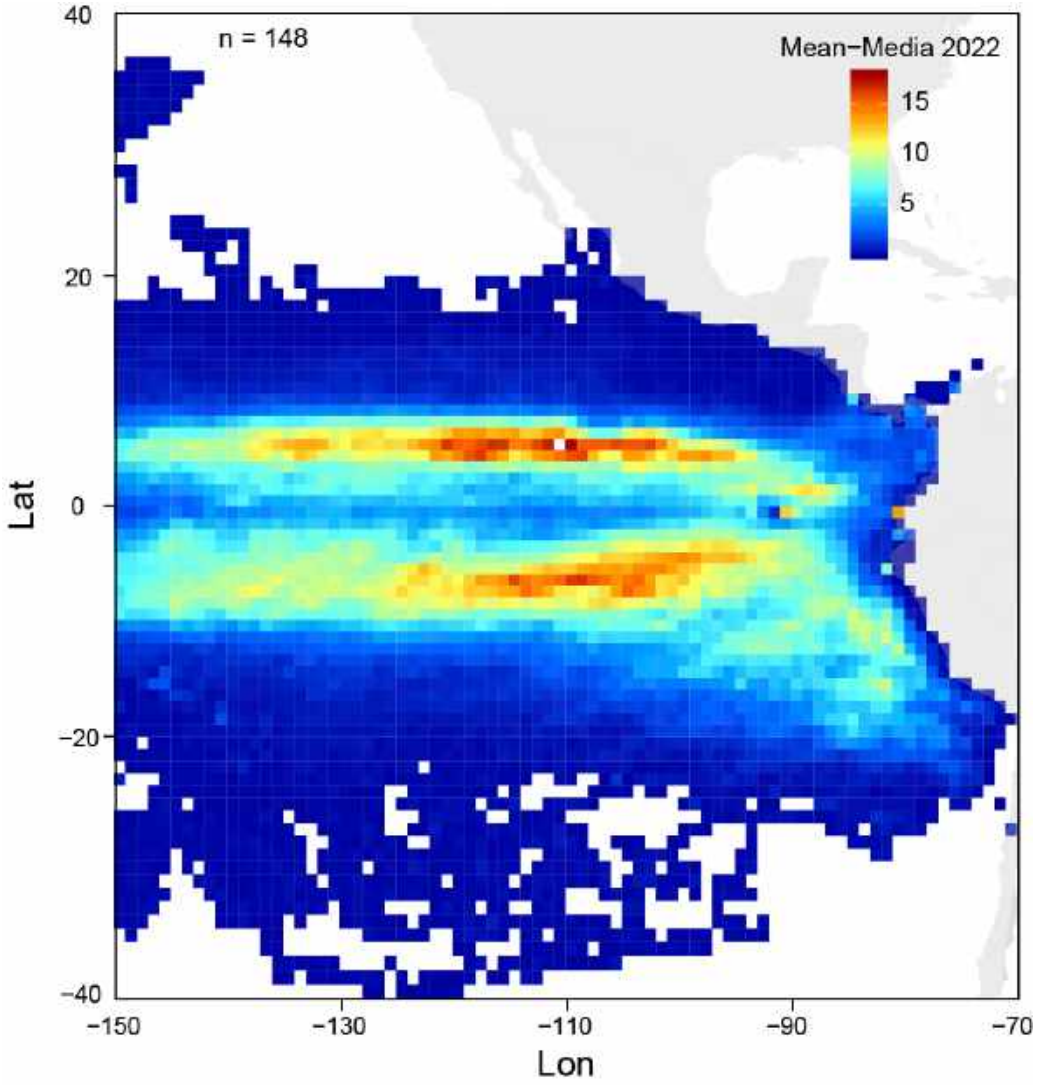


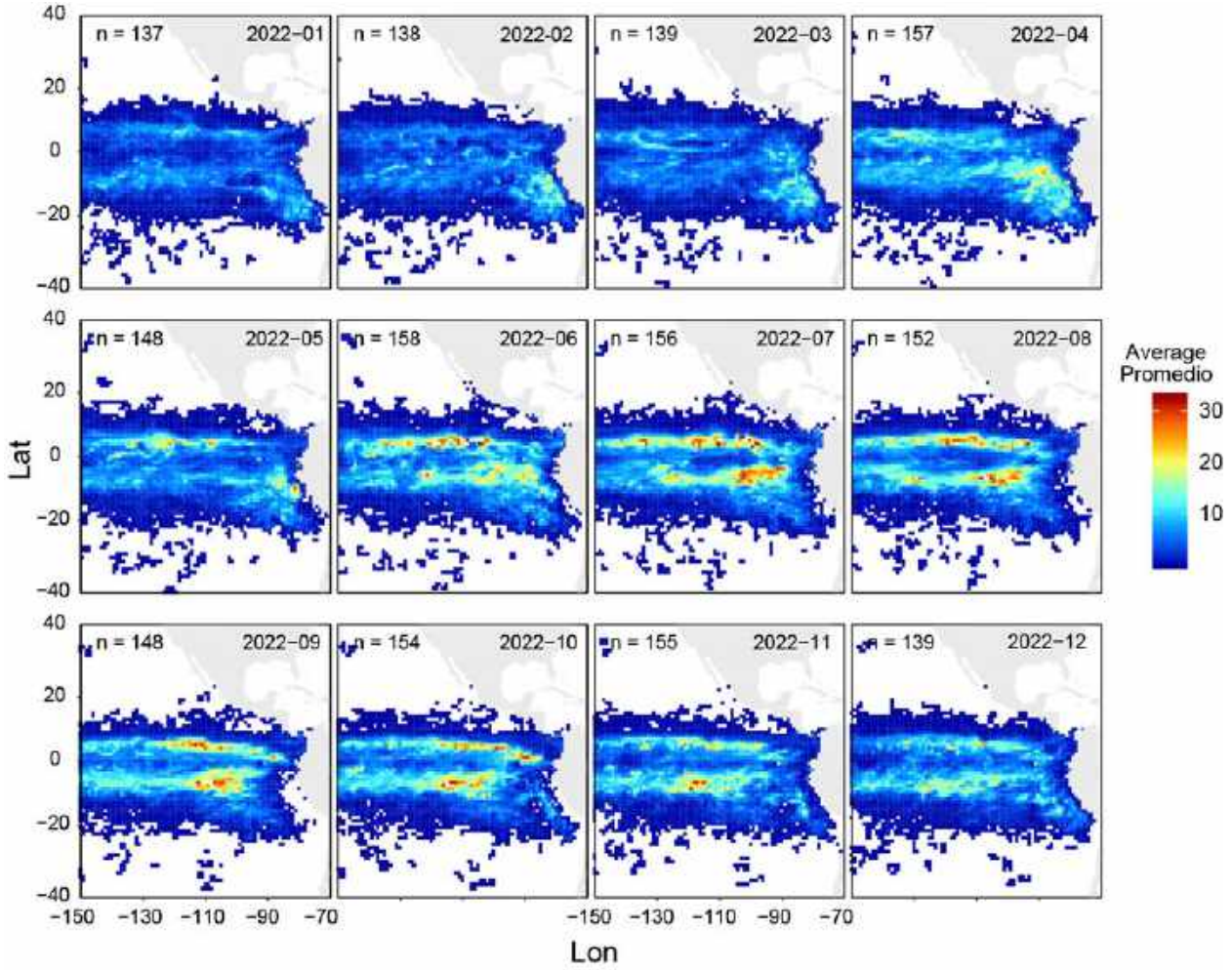
Daily total active buoys – Boyas activas diarias

158 vessels-buques
(115 Class 6
43 Class 1-5)



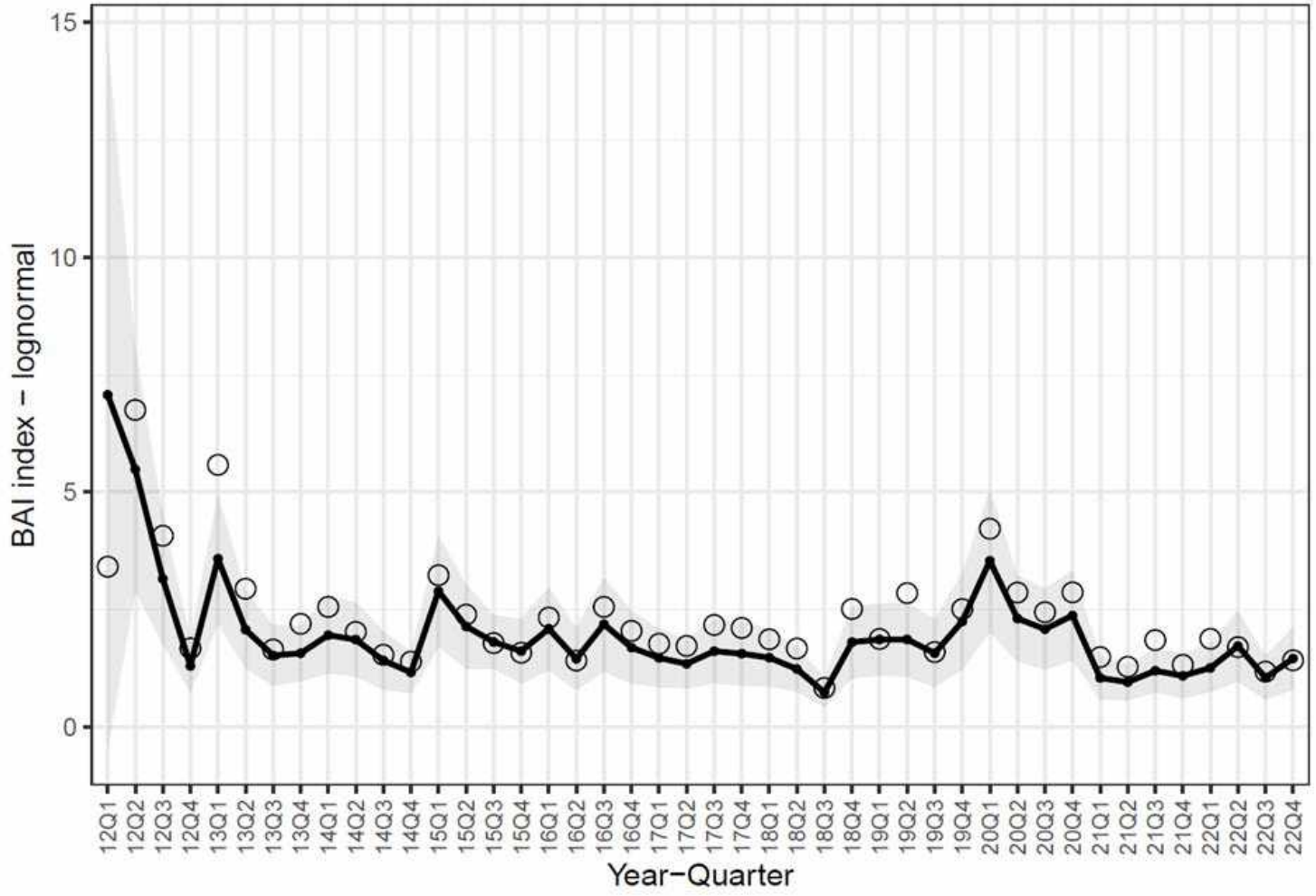
Active FADs densities – Densidades de plantados activos





137-158 vessels-buques
8550-15519 FADs-DCPs

Buoy Abundance Index – *Índice de abundancia derivado de boyas*

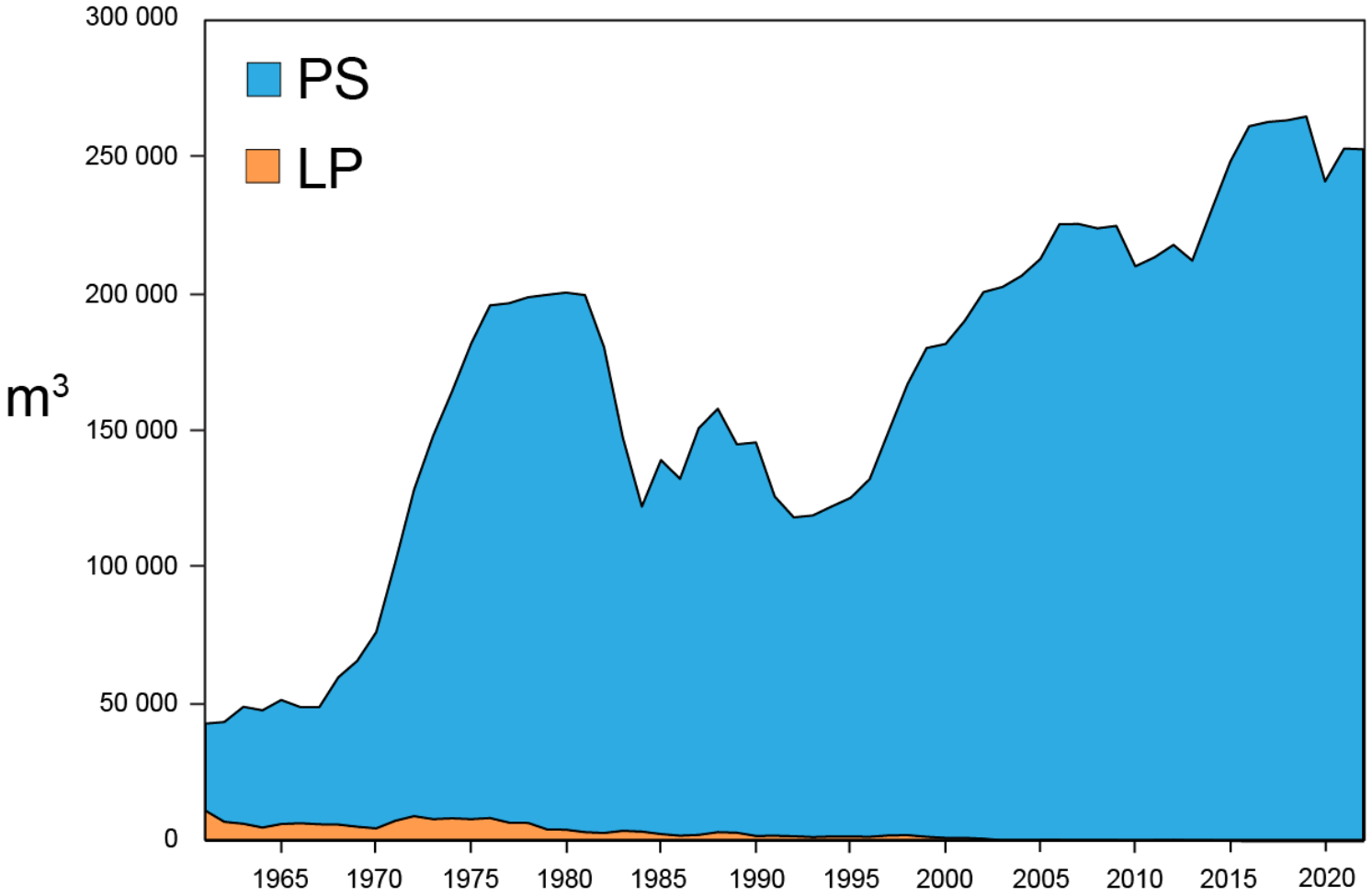


FAD-07-03 – BAI SKJ index / IAB barrilete

SAC-13-07 - SKJ assessment / evaluación de barrilete

Capacity – Capacidad

Carrying Capacity – Capacidad de la flota

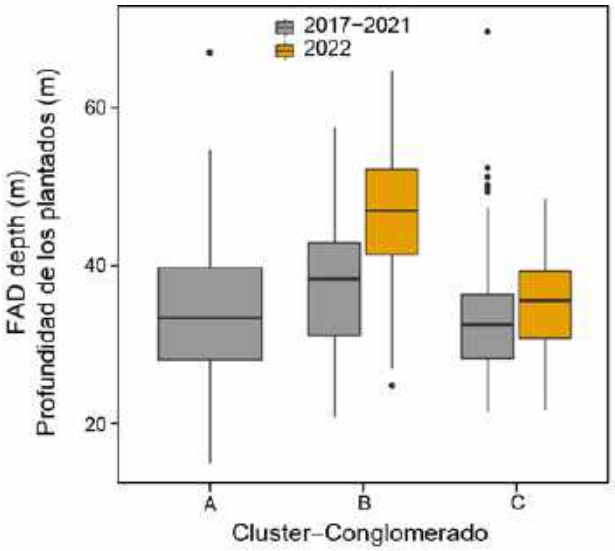


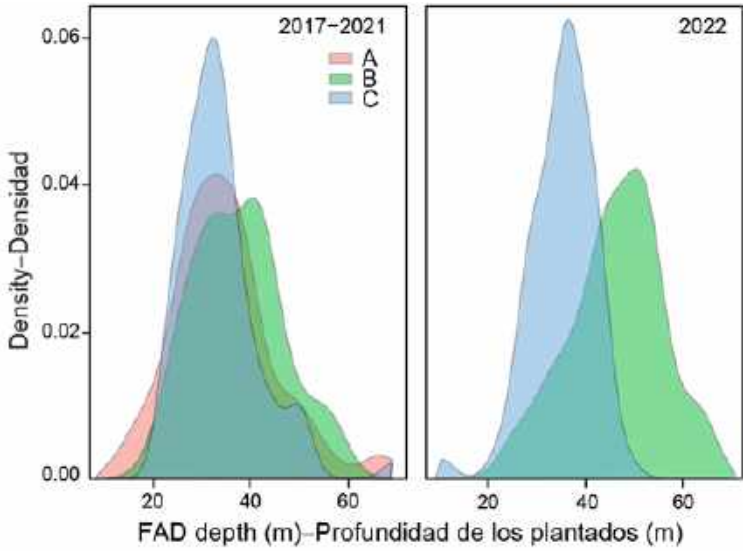
~253K annual/annual
(239 vessels/buques)

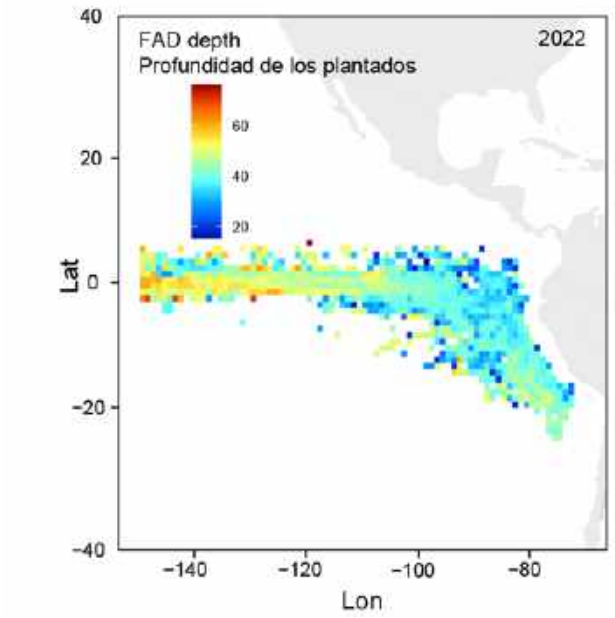
~144K/monthly-
mensual (~%59)

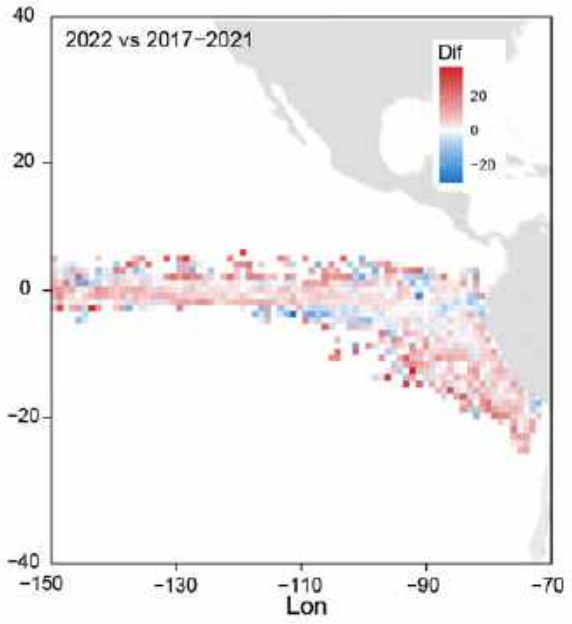
Technology – Tecnología

FAD depth – Profundidad de plantados

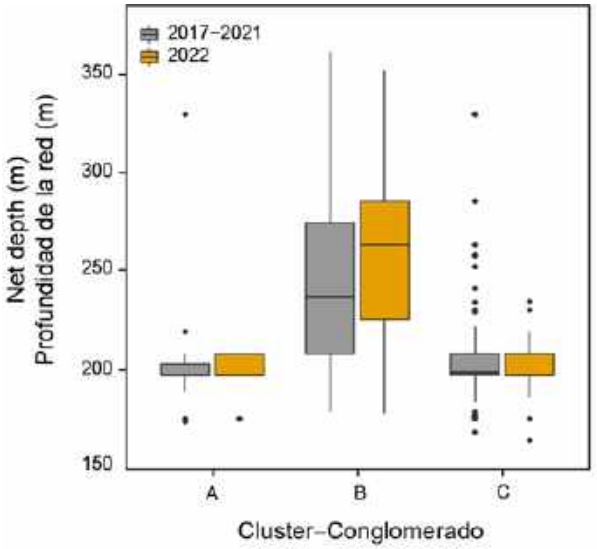


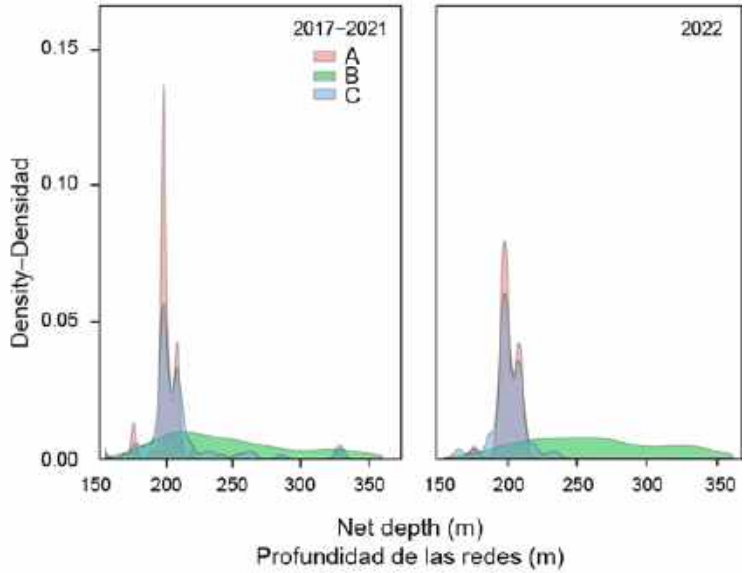


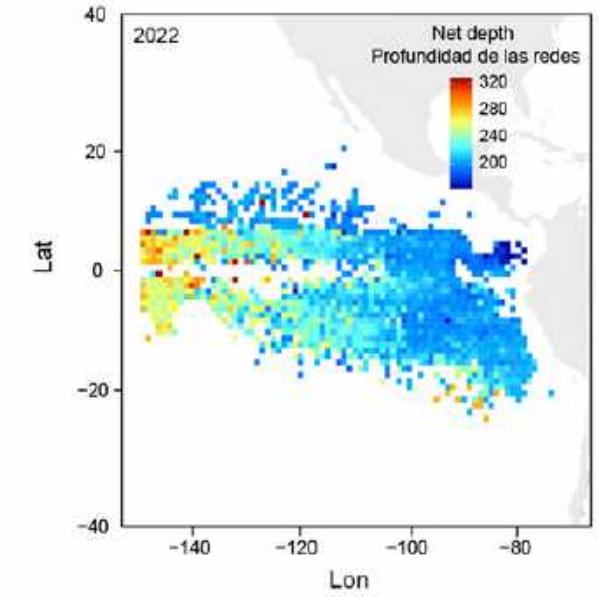


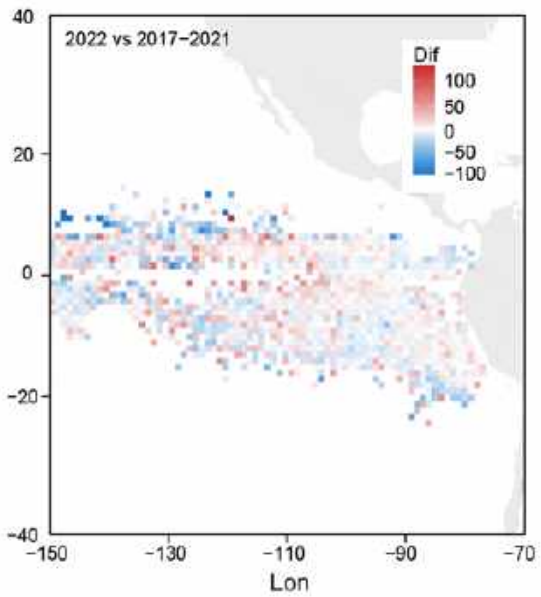


Net depth – Profundidad de red

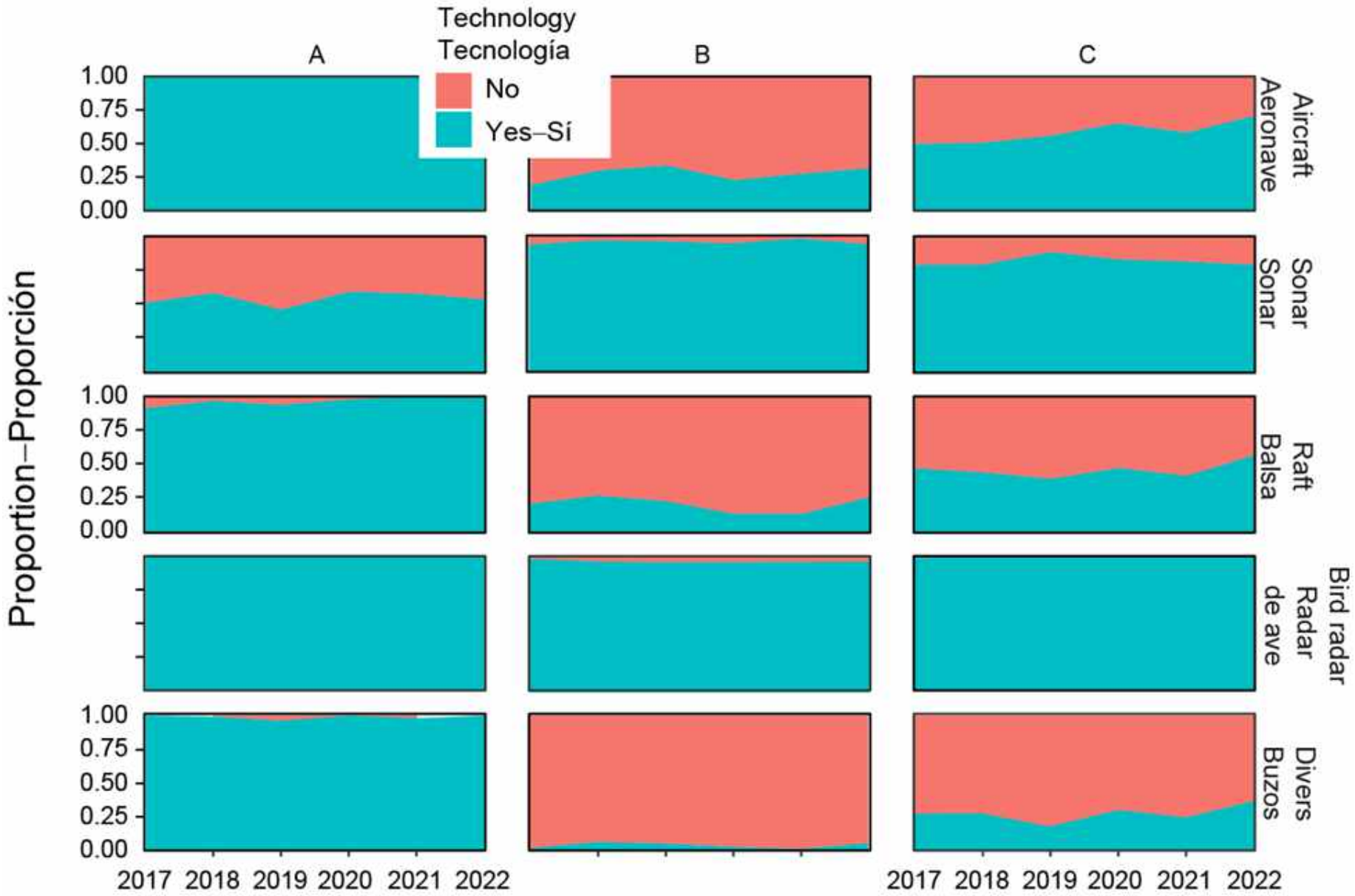








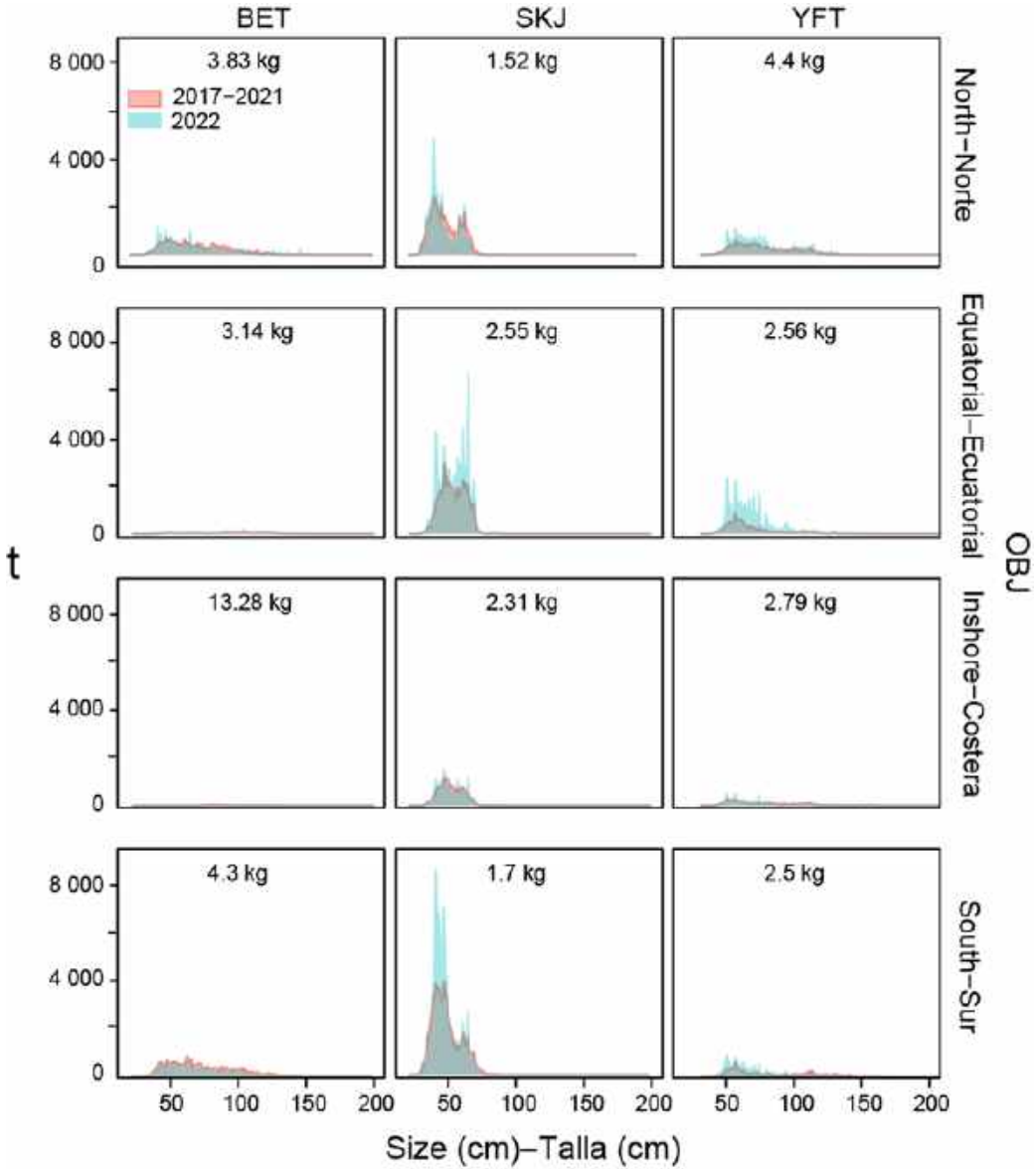
Onboard technology – Tecnología a bordo



Ecosystem impacts – Impacto sobre el ecosistema (see/ver SAC-14-11)

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.

- IATTC staff recommends: to provide to the IATTC staff the historic raw buoy data received by original users.
- El personal de la CIAT recomienda: suministrar al personal de la CIAT los mismos datos históricos crudos que reciben los usuarios originales.

CIAT

IATTC

Preguntas–Questions