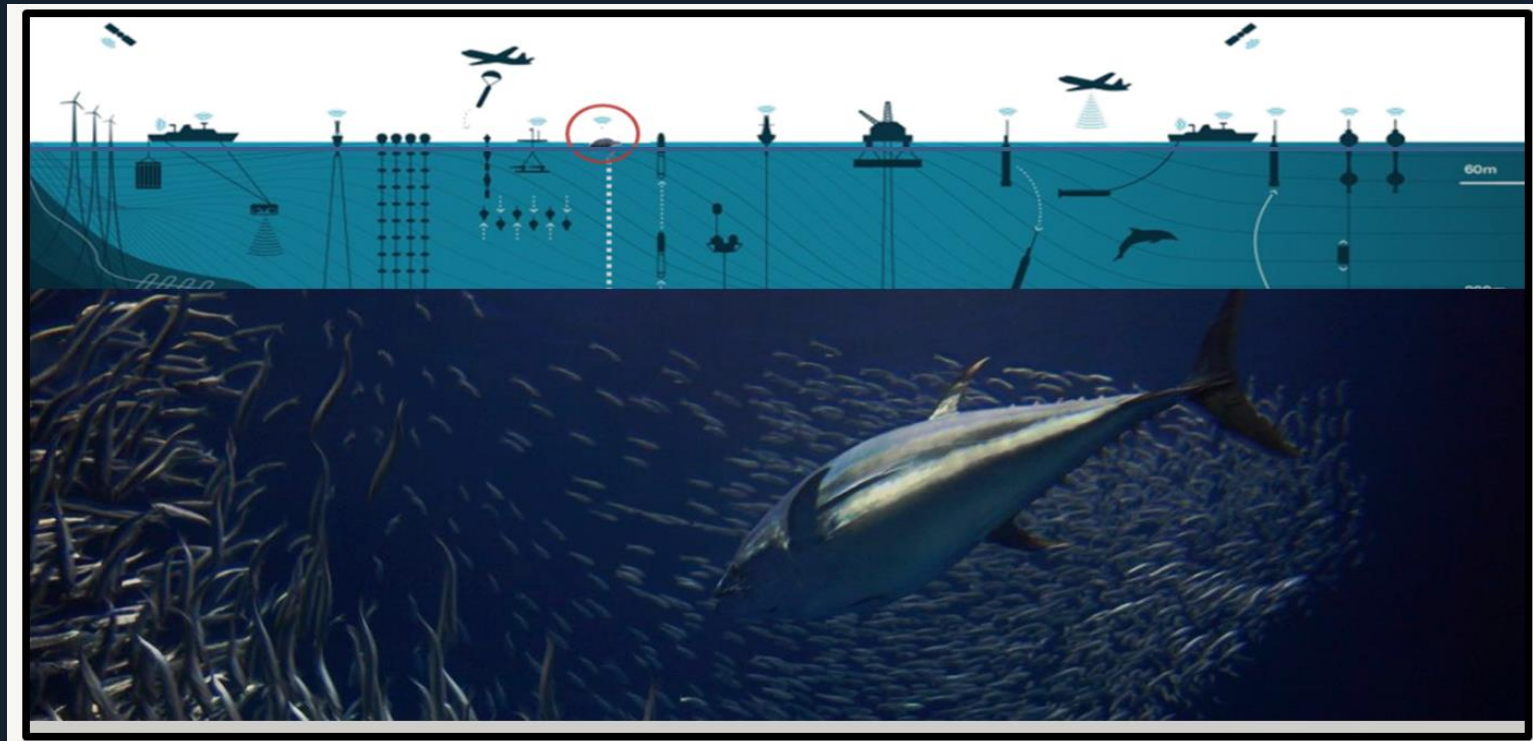


From theory to practical “operational fisheries oceanography”, an emerging field for linking species ecology, operational oceanography and fisheries assessment needs

Álvarez-Berastegui D, Hidalgo M, Reglero P, Balbín R, Barroso L, Mourre B, Hernandez I, Orfila A, Tintoré J.



9-12 September 2019 ; Gothenburg, Sweden



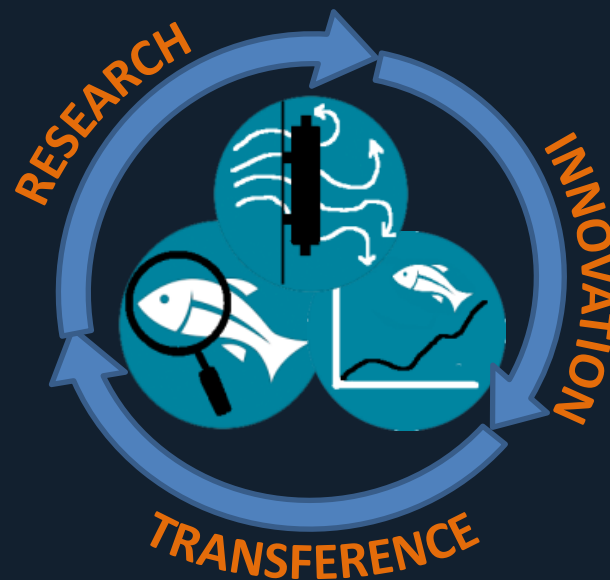
Balearic Islands
Coastal Observing
and Forecasting
System



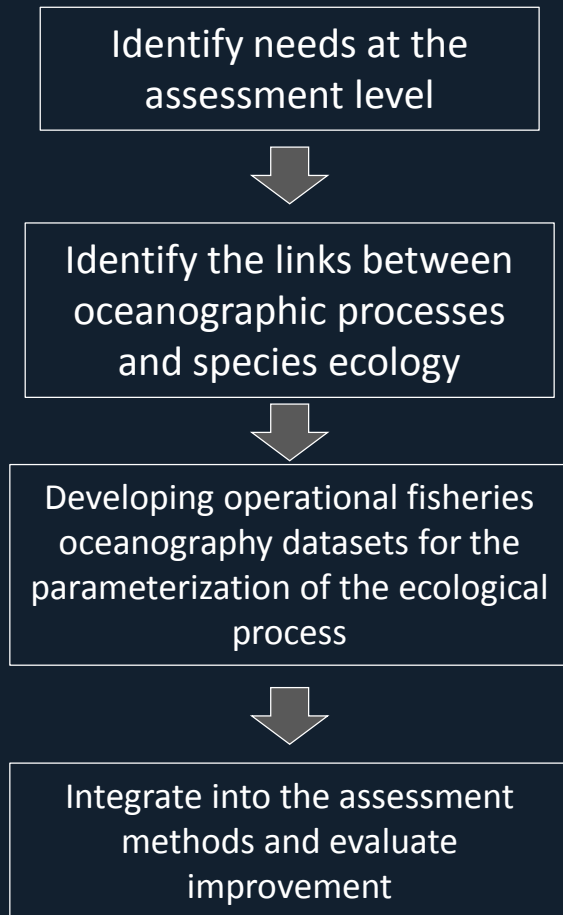
DEFINITION “OPERATIONAL FISHERIES OCEANOGRAPHY”

“A research and innovation discipline directed to link marine ecology and operational oceanography for the development of **new information** on environmental processes affecting species, and the **systematic and effective** integration of that information into the assessment and management for fisheries sustainability and conservation”

(Alvarez-Berastegui et al., 2018)



General scheme for practical implementation of “operational fisheries oceanography”



Research activities with impact in fisheries

General scheme for practical implementation of “operational fisheries oceanography”

Identify needs at the
assessment level



Identify the links between
oceanographic processes
and species ecology



Developing operational fisheries
oceanography datasets for the
parameterization of the ecological
process



Integrate into the assessment
methods and evaluate
improvement

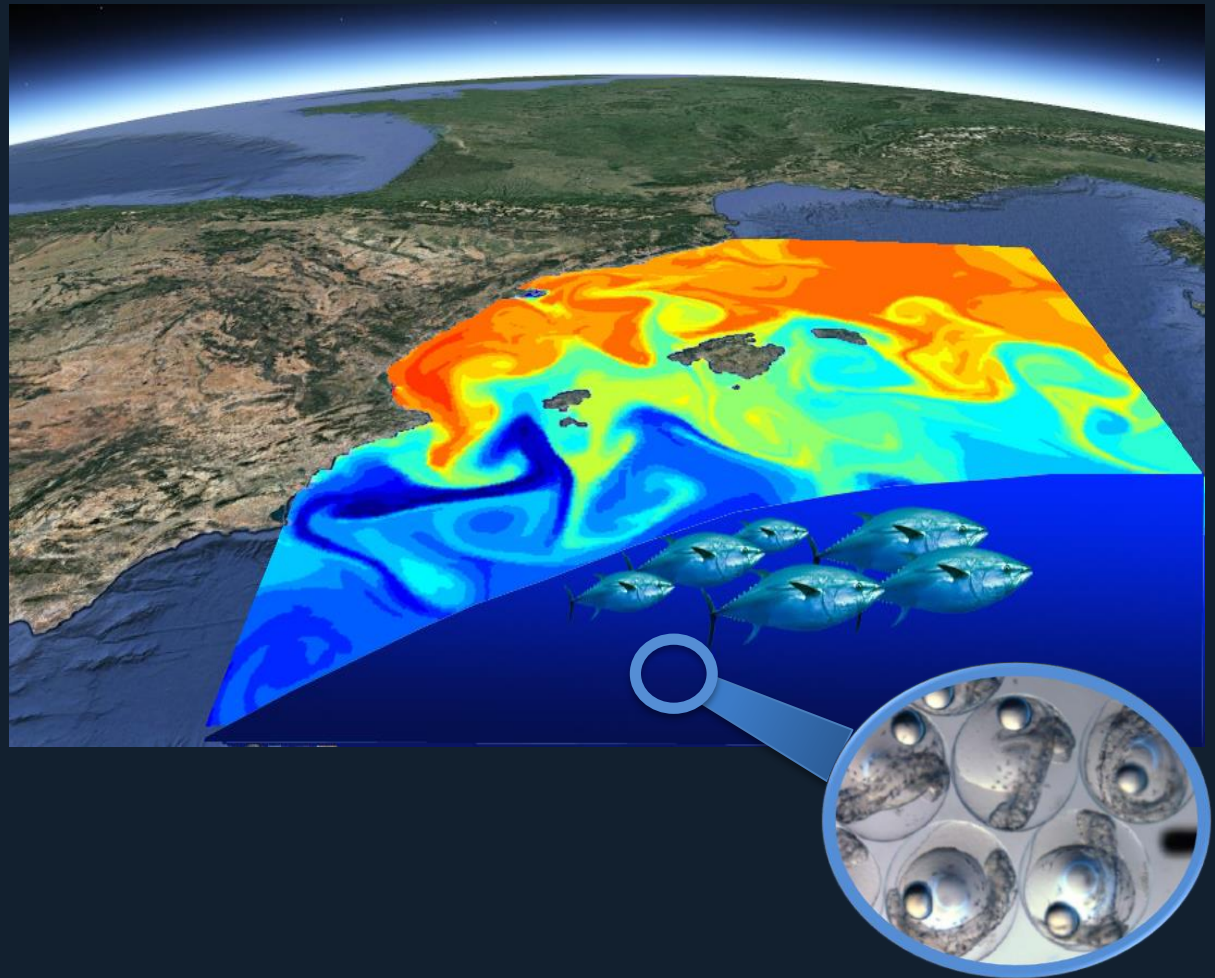
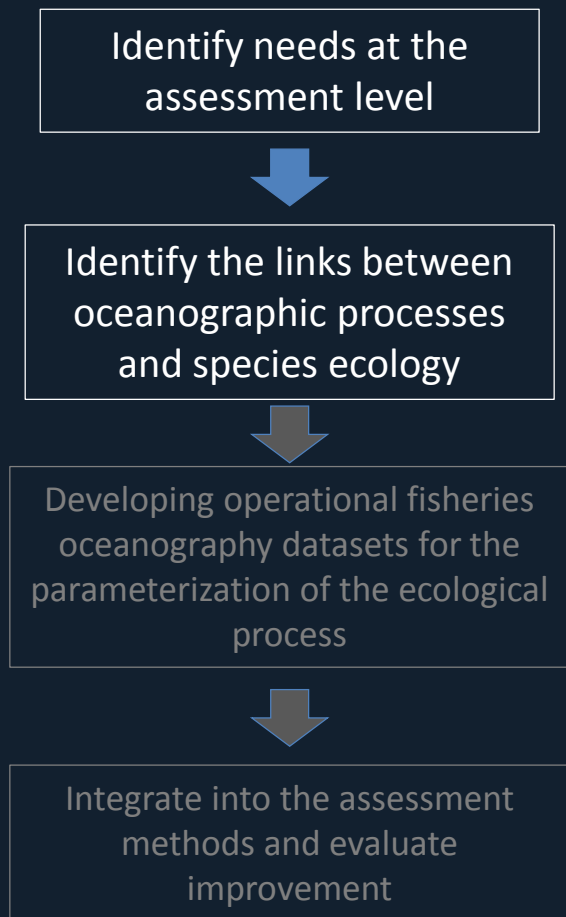
Eg. Reduce CPUE uncertainty of larval sampling used to
assess SSB

CPUE bias from changes in the overlap between sampling
areas and larval habitat distribution



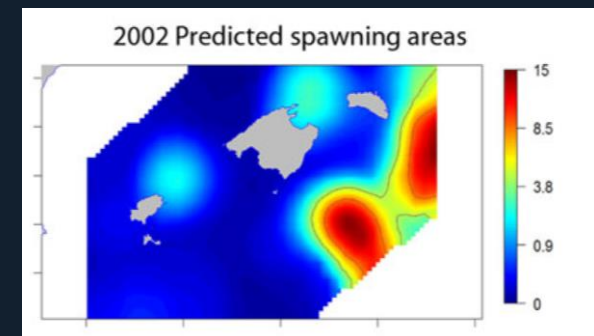
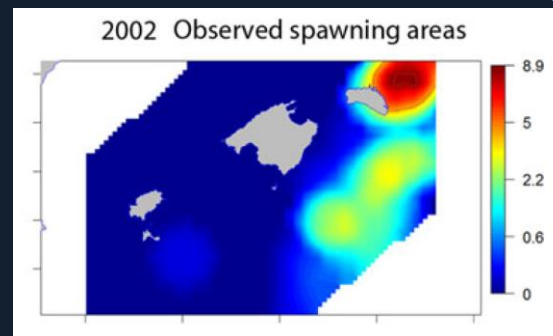
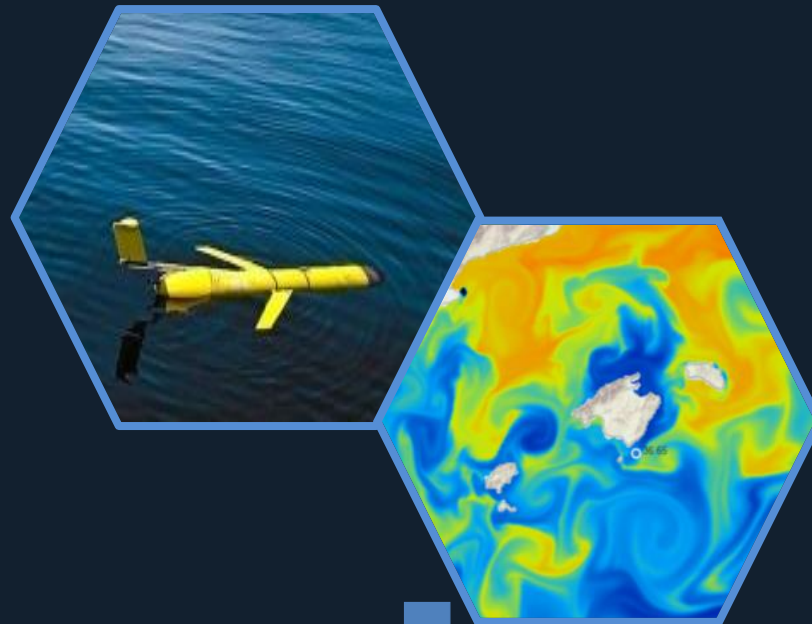
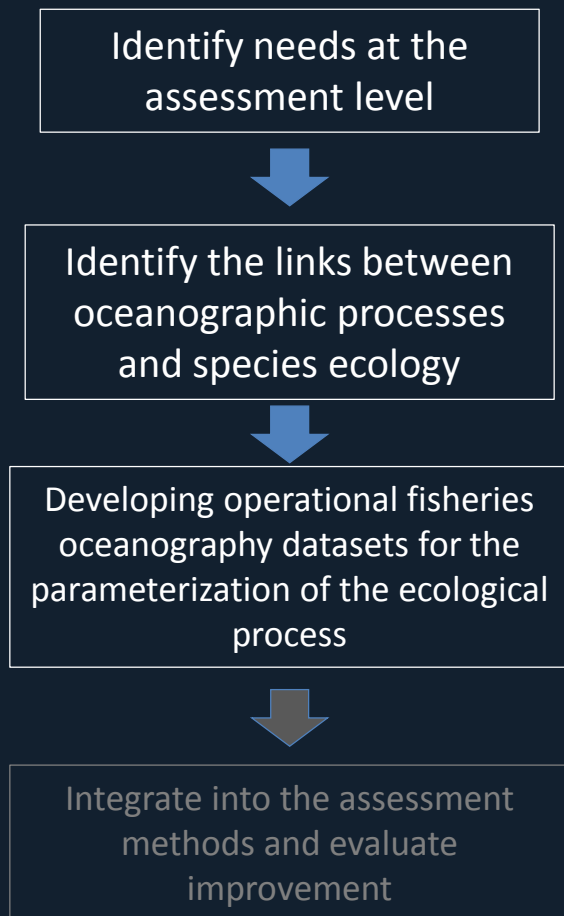
Research activities with impact in fisheries

General scheme for practical implementation of “operational fisheries oceanography”



Research activities with impact in fisheries

General scheme for practical implementation of “operational fisheries oceanography”



General scheme for practical implementation of “operational fisheries oceanography”

Identify needs at the
assessment level



Identify the links between
oceanographic processes
and species ecology



Developing operational fisheries
oceanography datasets for the
parameterization of the ecological
process



Integrate into the assessment
methods and evaluate
improvement

$$I_y = c_y p_y,$$

$$f_j(x_j) = \sum_{k=1}^{K_j} \beta_{jk} b_{jk}(x_j)$$

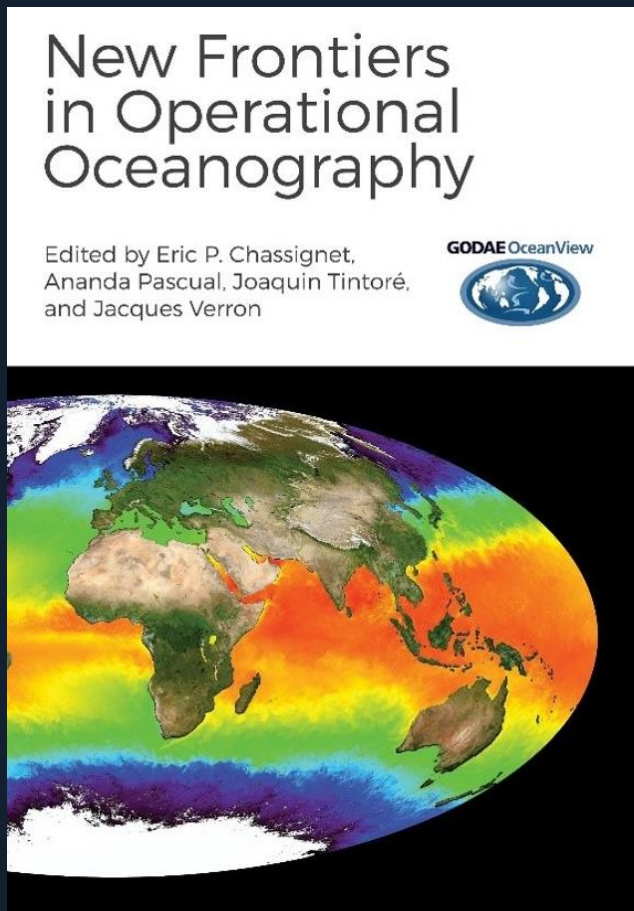
SCRS/2018/066

Collect. Vol. Sci. Pap. ICCAT, 75(2): 180-193 (2018)

**A METHOD FOR NONLINEAR STANDARDIZATION OF ZERO-INFLATED
CPUE TO ACCOUNT FOR MESOSCALE OCEANOGRAPHIC VARIABILITY**

(Alvarez-Berastegui et al. ICCAT, 2018)

Dissemination of study cases in pelagic, demersal and artisanal coastal fisheries in the Mediterranean



CHAPTER 26

Operational Oceanography and the Management of Marine Living Resources: The Mediterranean Sea as a Case-Study

Patricia Reglero¹, Diego Alvarez-Berastegui², Francisco Javier Alemany¹, Vincent Rossi³, Asvin P. Torres¹, Rosa Balbin¹, and Manuel Hidalgo^{1,4}

- Improving CPUE from habitat models
- Developing recruitment indices from environmental variability
- Integrate connectivity between stocks from larval dispersal
- Evaluate carrying capacity of coastal ecosystems affected by hydrography.

1- Interacting with WGOOFE


Archivo Editar Ver Historial Marcadores Herramientas Ayuda

Cómo curvar texto en PowerPo x WGOOFE x +

https://www.ices.dk/community/groups/Pages/WGOOFE.aspx

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Groups Committees Advisory process ICES Awards Get involved


WGOOFE

Working Group on Operational oceanographic products for fisheries and environment

Affiliation: EPDSG

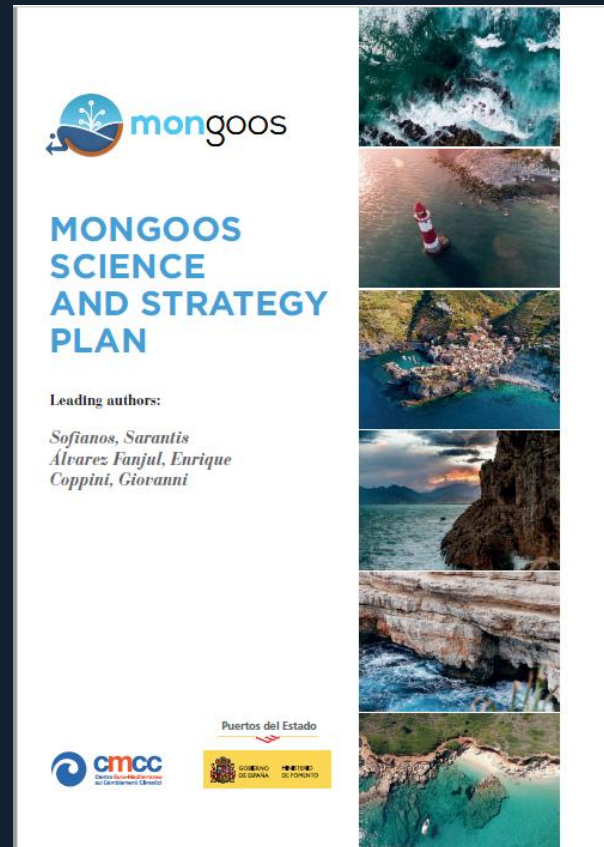
Chair: Rodney Forster, Dominique Obaton

Print it Send to f t in Share it



1- Interacting with WGOOFE

2- Coordinating a group for defining a fisheries oriented strategy in MONGOOS
(Mediterranean Operational Network for the Global Ocean Observing System)



Activities for defining gaps, challenges and a way forward

- 1- Interacting with WGOOFE
- 2- Coordinating a group for defining a fisheries oriented strategy in MONGOOS
- 3- Boosting a network for operational fisheries oceanography within CLIOTOP

Este página web se diseñó con la plataforma **WIX.com**. Crea tu página web hoy. [Comienza ya](#)

Operational Oceanography for Sustainability and Conservation of Marine Top Predators (OOSTOP)

[HOME](#) [HOW TO PARTICIPATE](#) [CASE STUDIES](#) [ARTICLES & DOCS](#) [SOFTWARE & DATA](#) [WHO IS WHO](#)

Advancing on sustainability and conservation of marine species integrating the environmental variability



WHAT IS OOSTOP?

OOSTOP is a CLIOTOP task team, aiming at improving the knowledge transference between people working on operational oceanography, species biology and management, to advance towards the conservation and sustainability of marine top predators ([Read the terms of reference document](#))

WHAT IS OPERATIONAL OCEANOGRAPHY?

In line with EuroGOOS, "Operational Oceanography" can be defined as the activity of systematic and long-term routine measurements of the seas and oceans and atmosphere, and their rapid interpretation and dissemination.

WHICH IS THE OBJECTIVE OF THIS WEBSITE?

Stablish a network of people interested in:

- Marine species ecology
- Marine resources assessment and management
- Operational oceanography

Facilitate a flow dialog between the three sectors improving decisions on "what to research/what to develop" in order to have an impact on effective management of marine ecosystems

See details on "[how to participate](#)"



Image credit: NASA/Earth Observing System/SeaWiFS

Contact: OOSTOP.team@tjmail.com

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<https://oostop.wixsite.com/oostop>

Activities for defining gaps, challenges and a way forward

- 1- Interacting with WGOOFE
- 2- Coordinating a group for defining a fisheries oriented strategy in MONGOOS
- 3- Boosting a network for operational fisheries oceanography within CLIOTOP
- 3- Organizing a workshop for operational fisheries oceanography in FISHFORUM (FAO , Rome December2018)



Regarding operational oceanography

- Availability of advanced oceanographic data products informing about specific dynamic processes driving the ecology of the species of interest (eg dispersion/retention processes)
- Data accessibility of specific datasets (e.g species habitat)
- Operational oceanography products quality control and transparency/traceability
- Existence of tools (software) for data handling (e.g. Matlab vs R)

Regarding fisheries and ecology

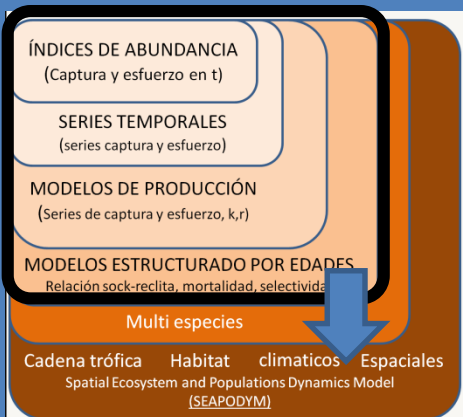
- Knowledge about environmental processes driving species key ecological processes
- Adequate identification of the operational oceanographic products
- Researchers (fisheries/ecology) background to handle oceanographic datasets
- Viability of the assessment methodology (i.e. population models) to integrate environmental variability.

RESULTS: WAY FORWARD

- Connect developers of operational oceanography data with fisheries management organizations
- Foster the capacity building in operational fisheries oceanography (into the fisheries community)
- Design and promote specific study cases
- Aligning Operational Oceanography objectives with the requirements of the fisheries end users community in marine ecosystems (GOOS->EuroGOOS,...)
- Interaction between working groups on “operational fisheries oceanography” of different institutions to maximize knowledge transference (ICES, GFCM, Tuna RFMOs)

Operational Fisheries Oceanography should **NOT** be only about fisheries assessment

Support advanced assessment methods



HOW:

From simple population
models to ecosystem
models

Integration into the MSFD

Directive 2008/56/CE

1. Biological diversity 	2. Non-indigenous species 	3. Population of commercial fish/shellfish
4. Elements of marine food webs 	5. Eutrophication 	6. Sea floor integrity
7. Alteration of hydrographical conditions 	8. Contaminants 	9. Contaminants in fish/seafood for human consumption
10. Marine litter 	11. Introduction of energy including underwater noise 	

HOW:

Boosting the
development of new
indicators of ocean
health

DIRECTIVE FOR THE MARITIME SPATIAL PLANNING

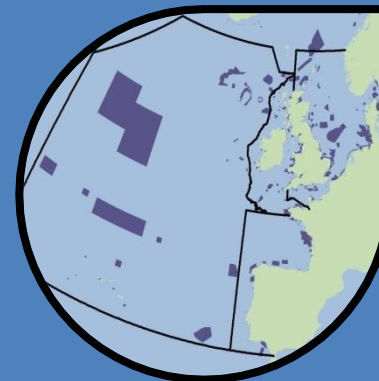
Directive 2014/89/EU



HOW:

Integrating fisheries into
the MSP initiatives

CONVENTION ON BIOLOGICAL DIVERSITY (ONU)



HOW:

Integrando políticas de
pesca y conservación en
AMPs

Founding.

The activities presented here are the results of various projects: the BLUEFIN TUNA project(funded by SOCIB and IEO) and the European Union's Horizon 2020 research and innovation program under the Grant Agreement No 773713 (PANDORA).

