

# EL PAPEL DE LA REDUCCIÓN DE LA VELOCIDAD DE LOS BARCOS EN LA PROTECCIÓN DE LAS GRANDES BALLENAS



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**Saturn**

Developing Solutions for  
Underwater Radiated Noise



# OceanPlanner

is an operational platform  
assessing cost-benefits  
of regional mitigation scenarios

**Saturn**

Developing Solutions for Underwater Radiated Noise



Shipstrikes



Underwater  
Noise



Delays



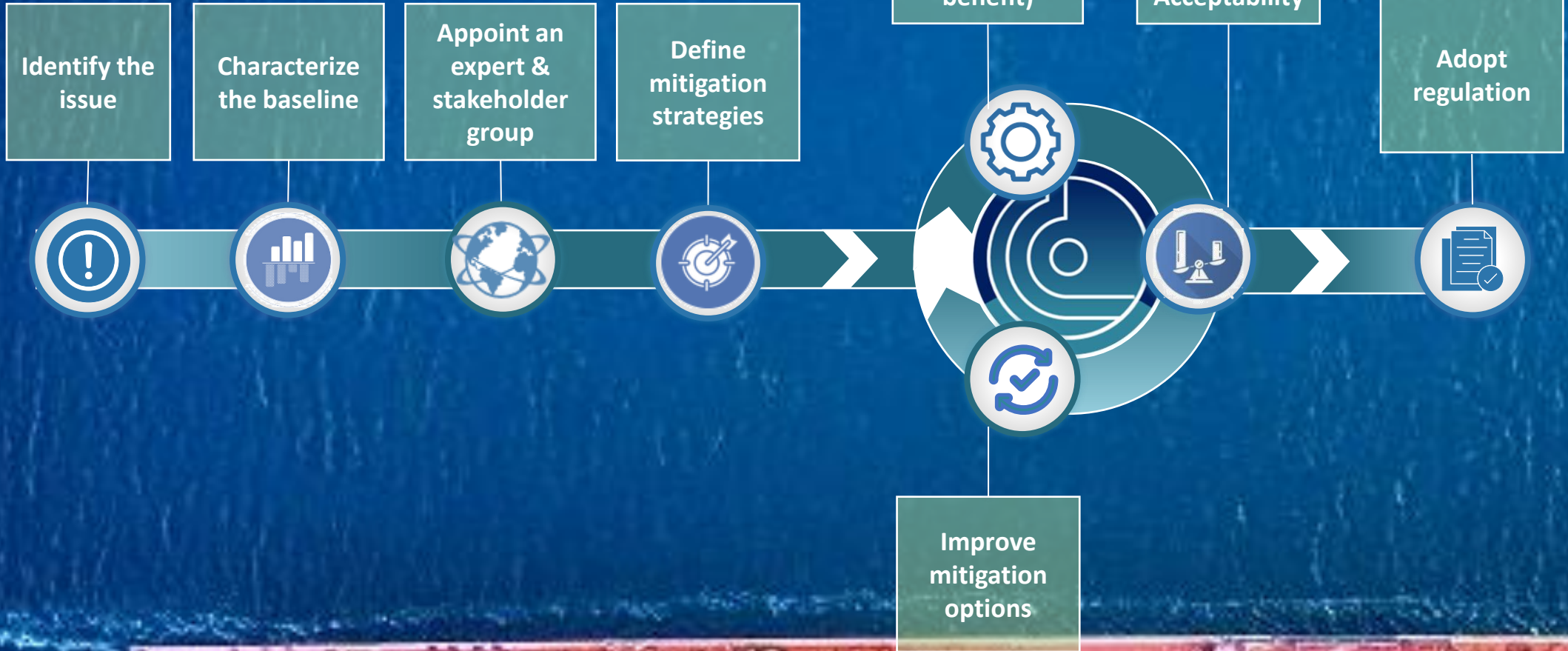
Fuel  
consumption



Greenhouse  
gas







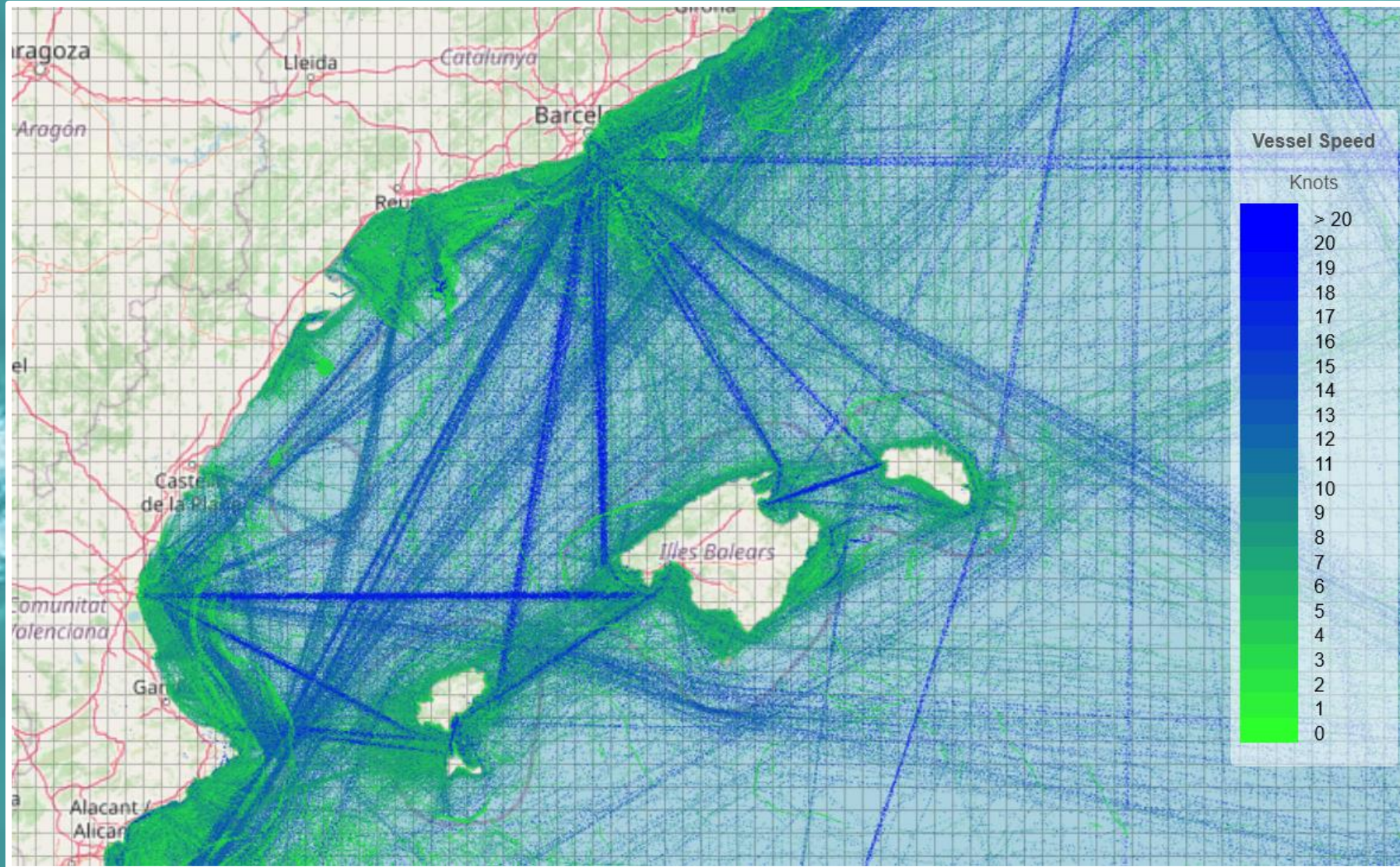


# Saturn

Developing Solutions for Underwater Radiated Noise



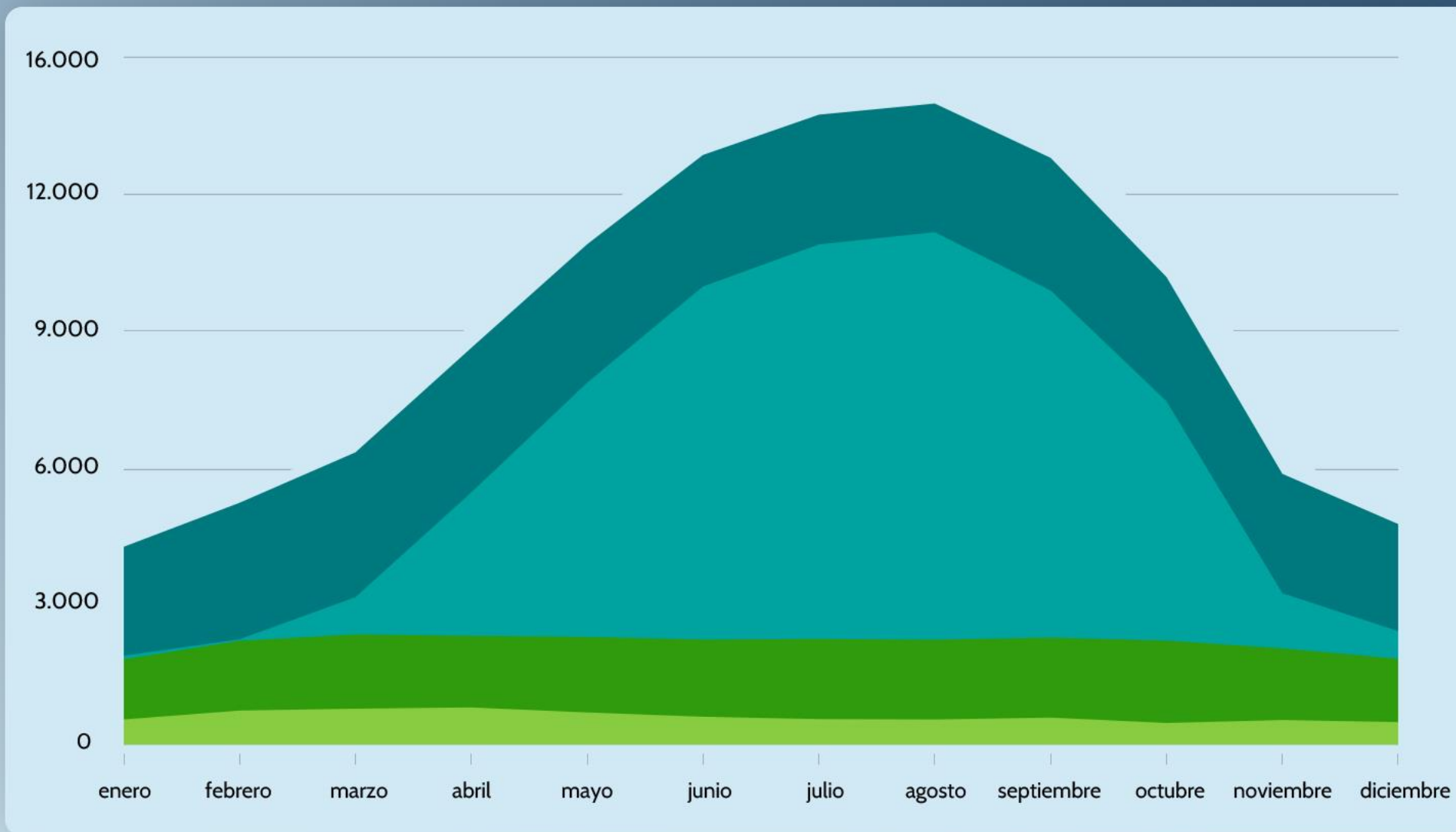
# Characterize the baseline





# EVOLUCIÓN MENSUAL DEL NÚMERO DE BARCOS

que navegaron en la ZMES del Mediterráneo noroccidental a lo largo de 2023



Legenda

● Todos los barcos

● Recreo

● Todos los barcos mercantes\*

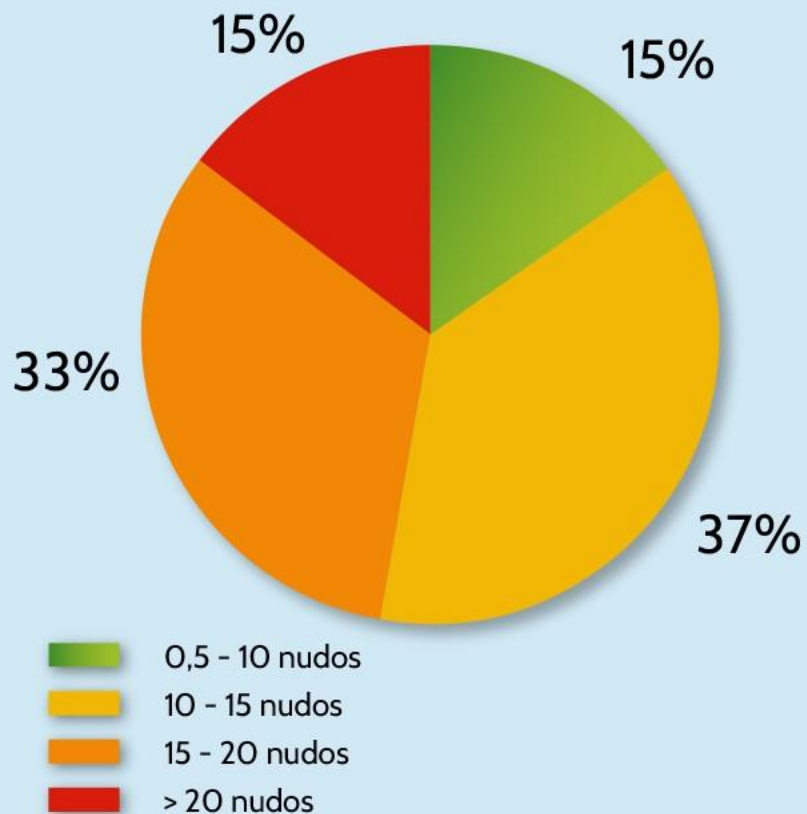
● Pesqueros

\* pasajeros, roll-on roll-off, portacontenedores, cargueros, buques cisterna, cruceros, buques de trabajo, otros

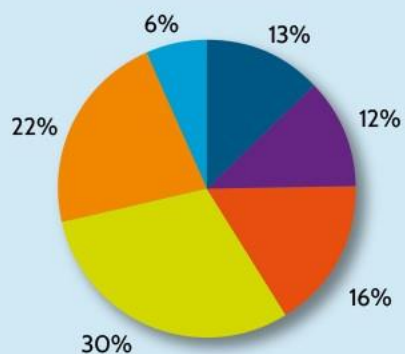
# DISTRIBUCIÓN DE DISTANCIAS RECORRIDAS POR BARCOS MERCANTES Y TRAMOS DE VELOCIDAD

en la ZMES del Mediterráneo noroccidental en 2023

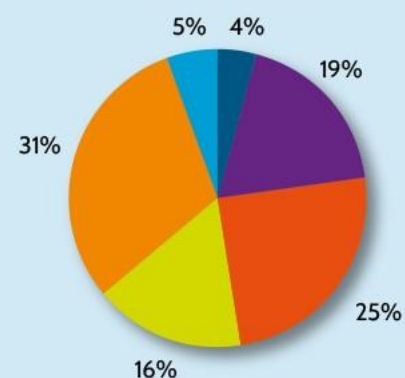
### Porcentaje de la distancia total recorrida por tramos de velocidad



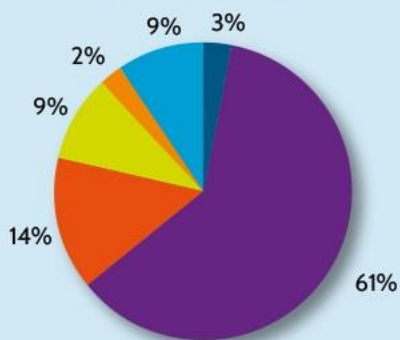
### 0,5 - 10 nudos



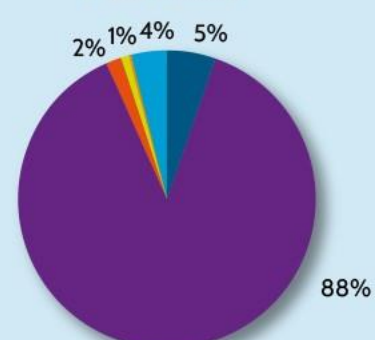
### 10 - 15 nudos



### 15 - 20 nudos



### > 20 nudos

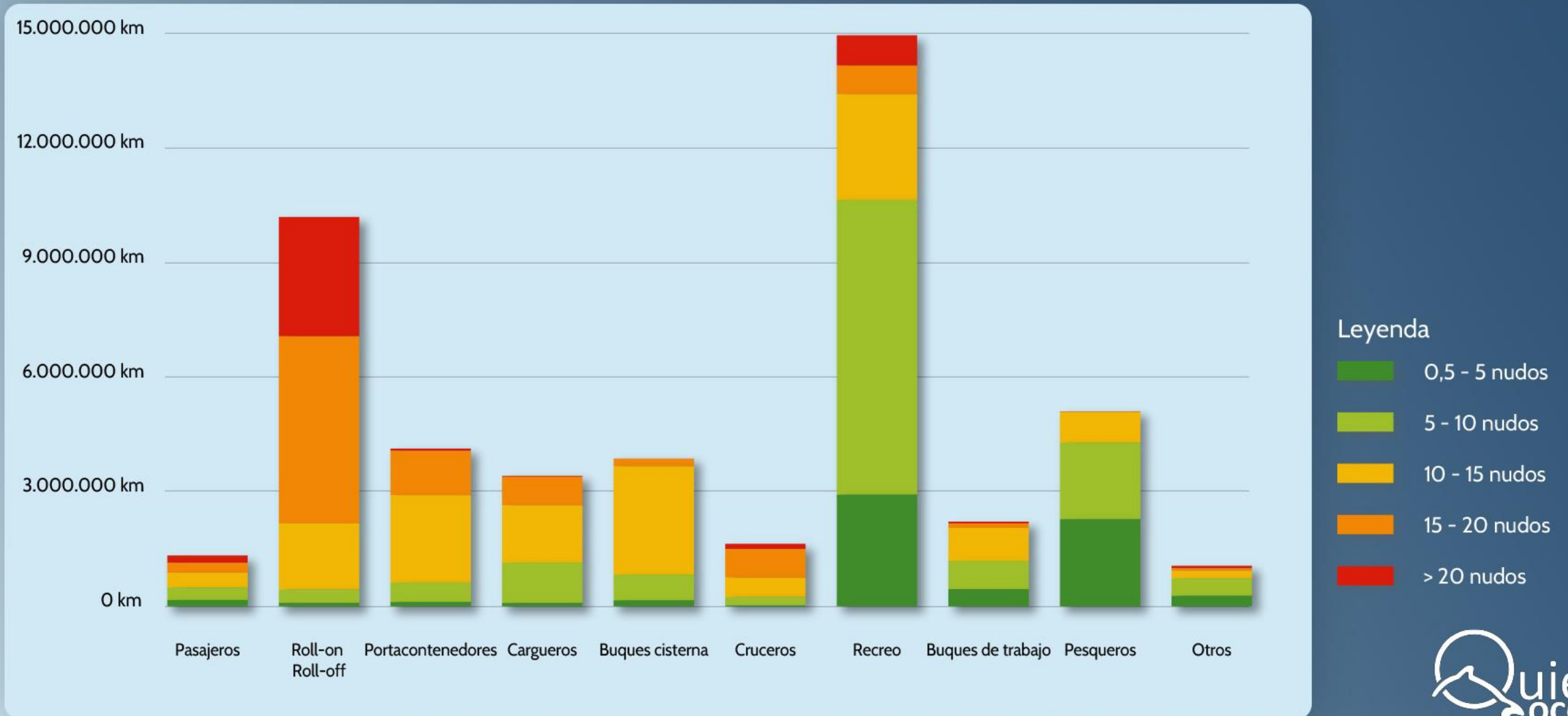


### Leyenda

- Pasajeros
- Roll-on Roll-off
- Portacontenedores
- Cargueros
- Buques cisterna
- Cruceros

# DISTANCIA TOTAL RECORRIDA POR TRAMOS DE VELOCIDAD Y TIPOS DE BARCOS

en la ZMES del Mediterráneo noroccidental en 2023







# Define mitigation strategies

## Speed limit

geographical area in which vessel speed is limited

## Exclusion zone

geographical area prohibited to navigation

## One way

Traffic Separation Scheme

## Secured area

Area equipped with a real-time anti-collision alerting system

## Shipping trend

evolution of traffic (growth or decrease)

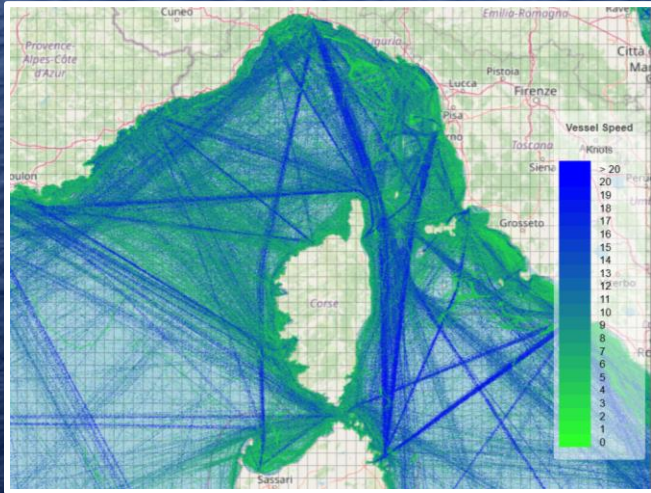




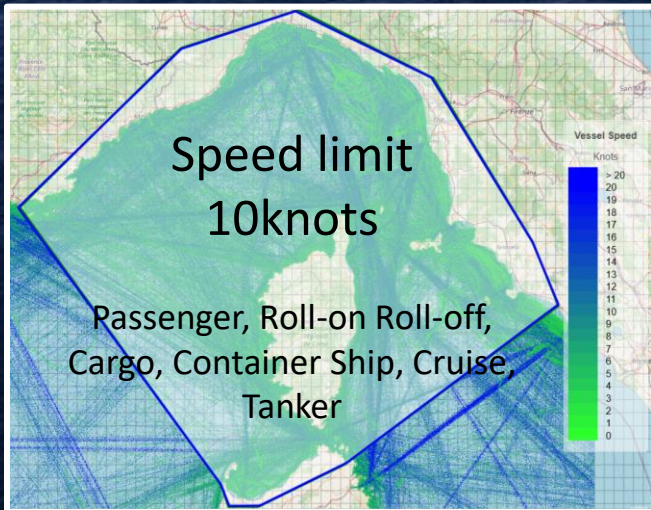


# Example of implementation

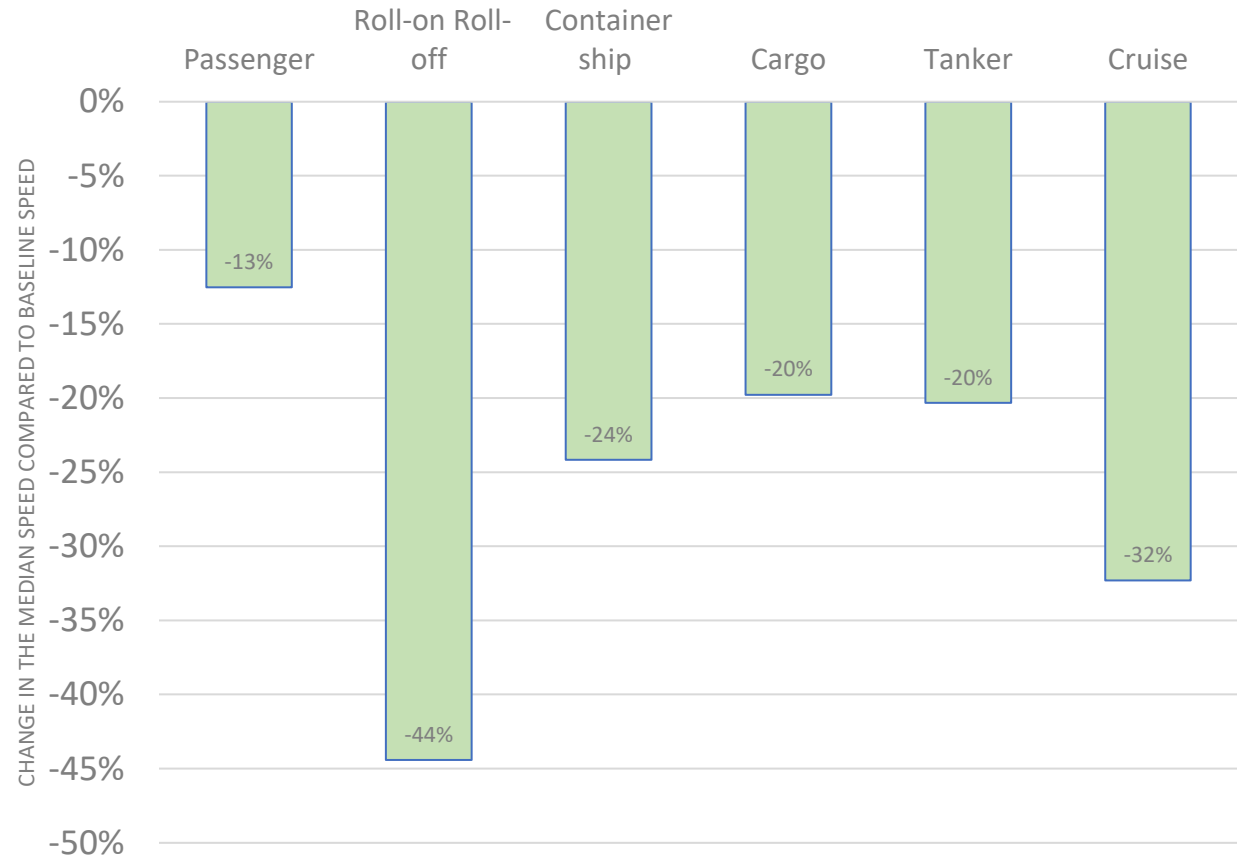
Actual



Mitigated



## Reduction of speed



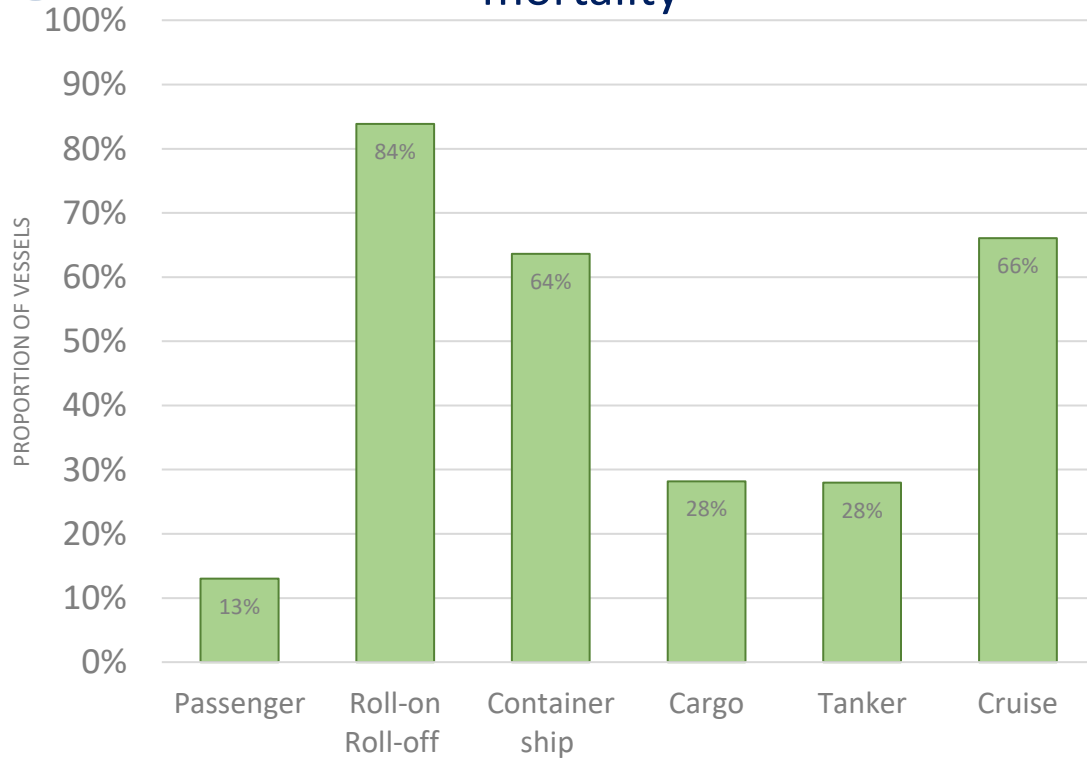




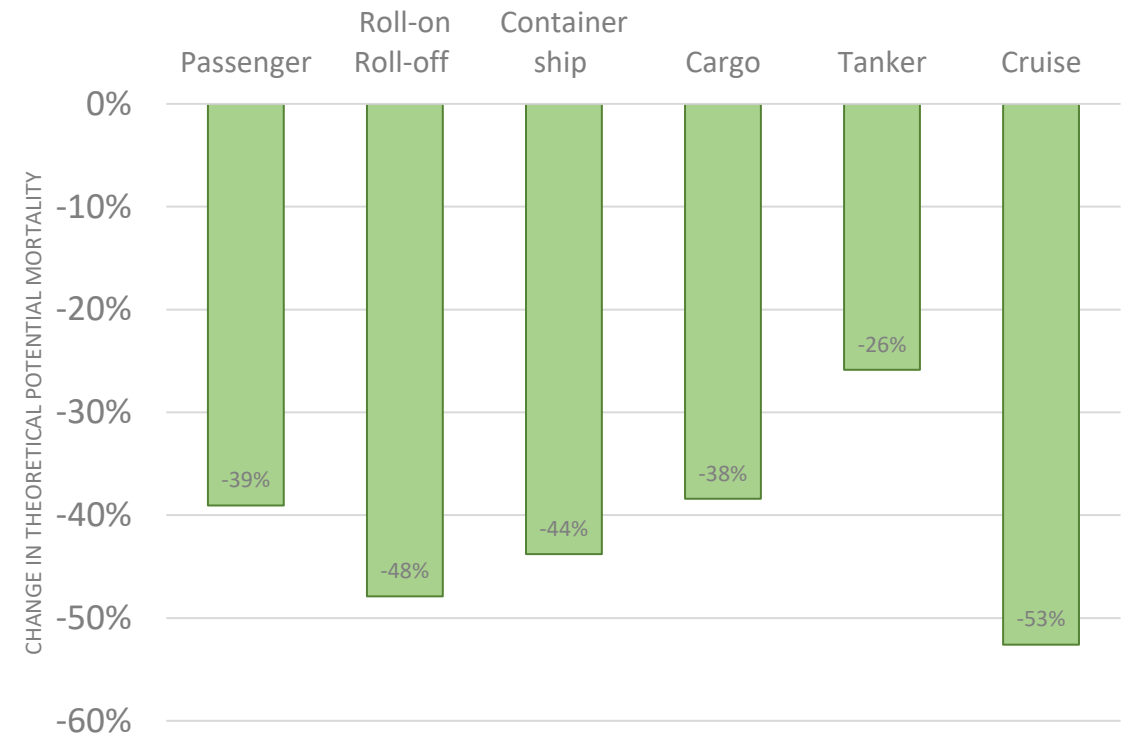
# Example of implementation



## Number of vessel lowering their risk of mortality

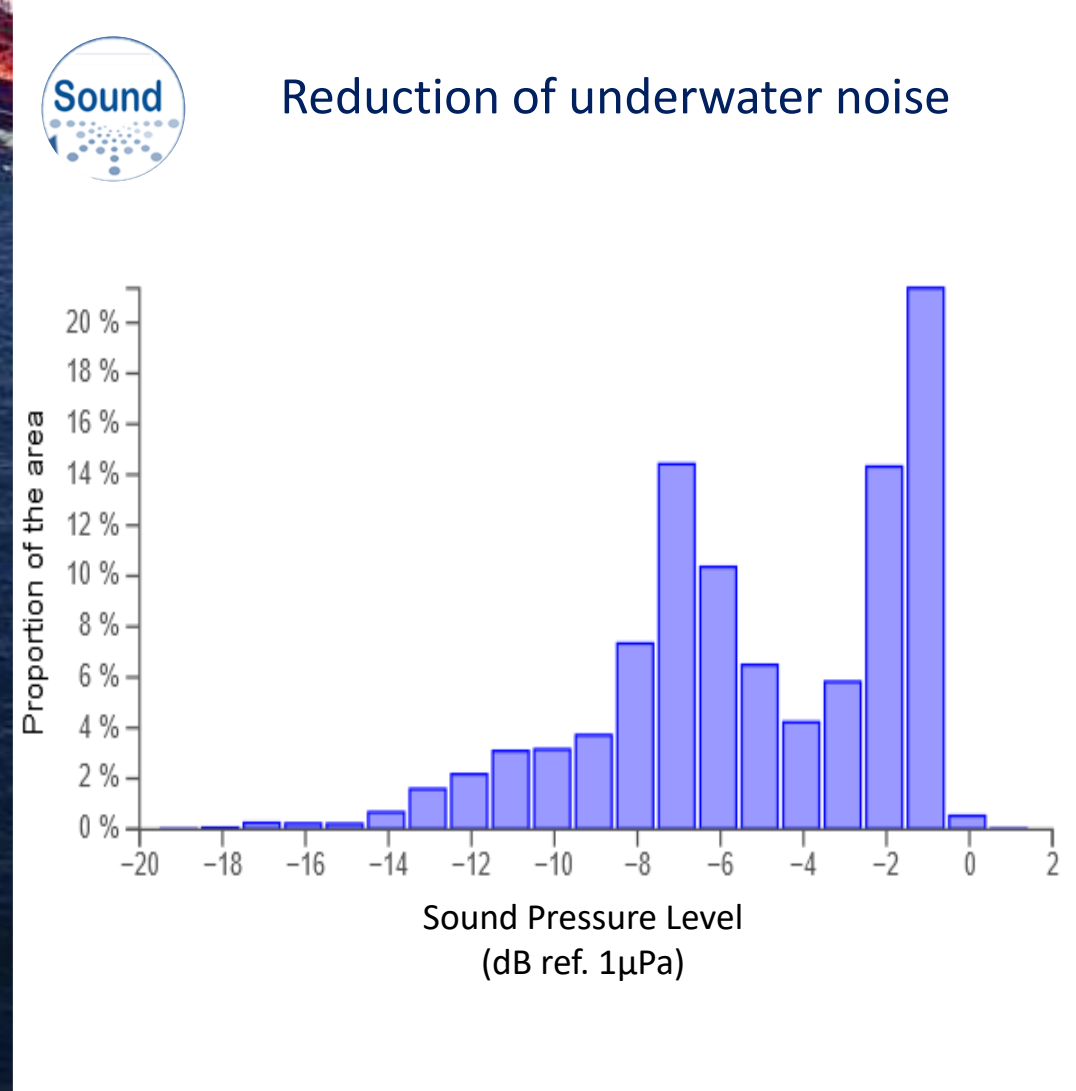
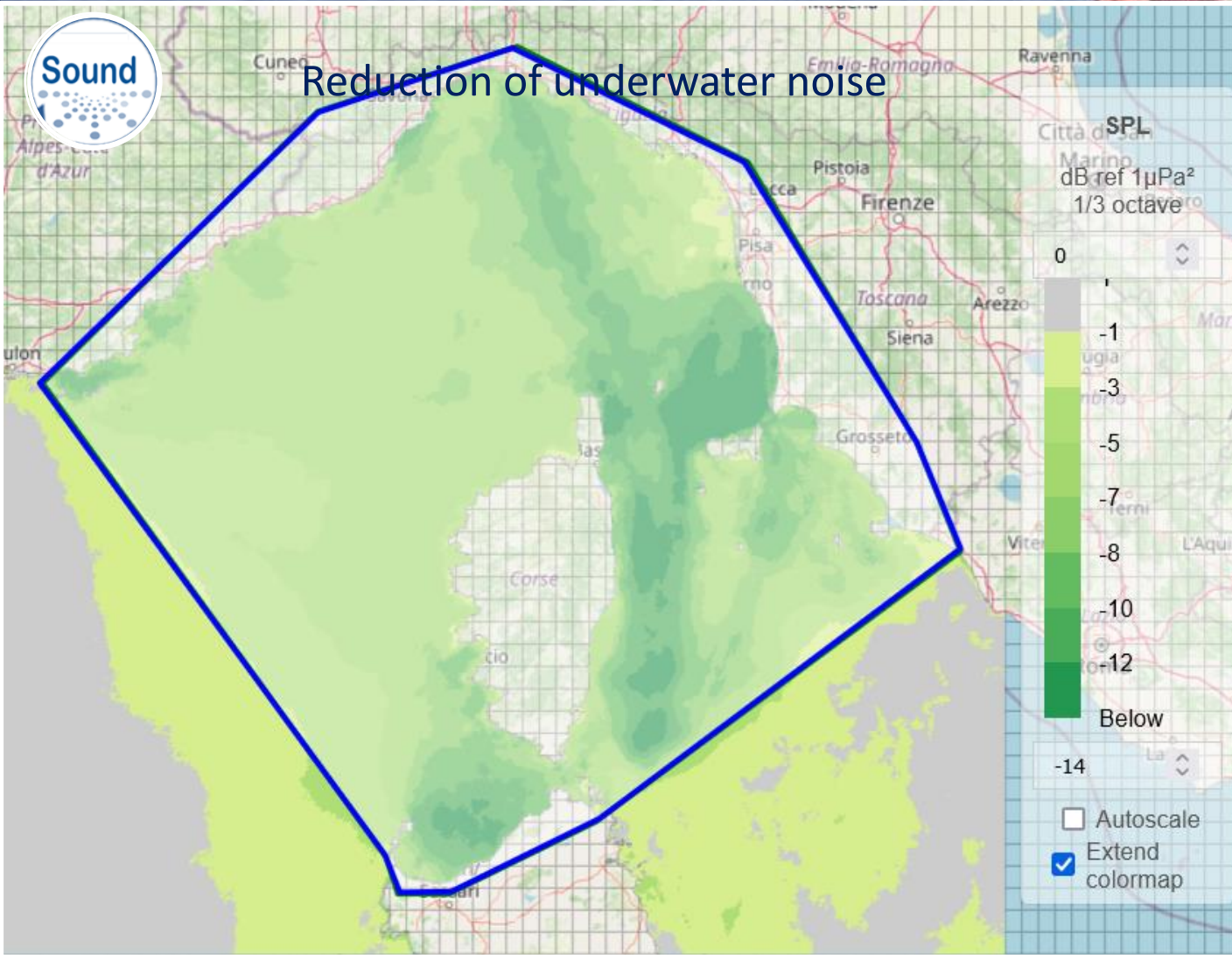


## Reduction of risk of mortality





# Example of implementation



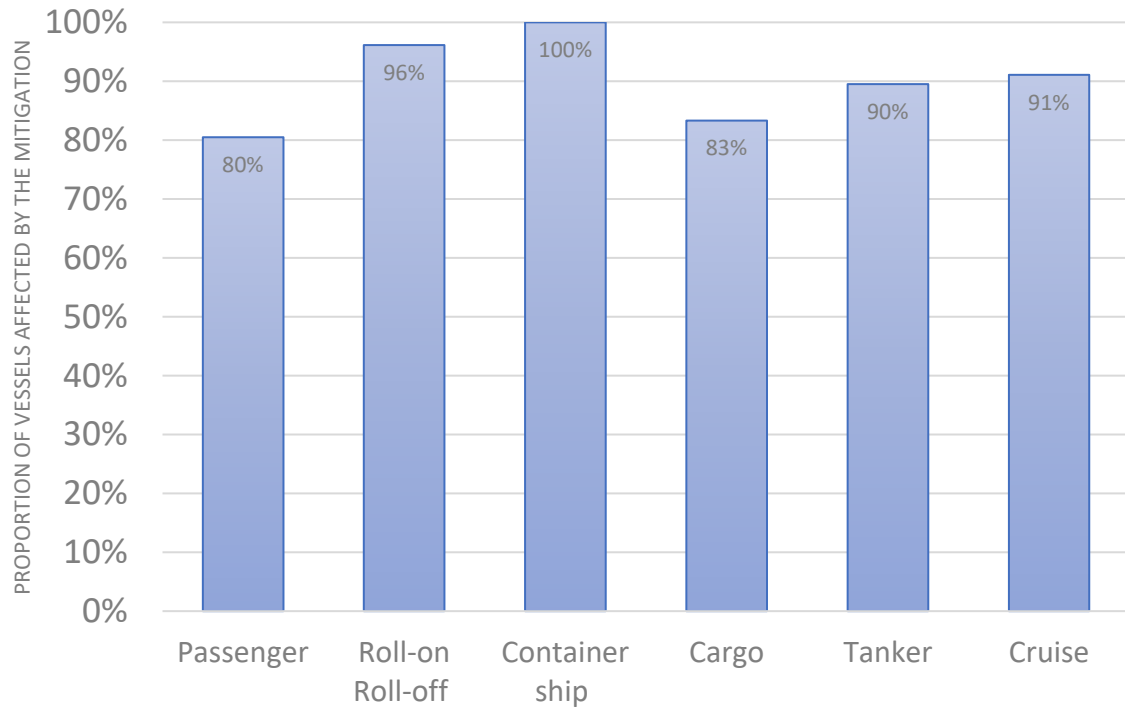




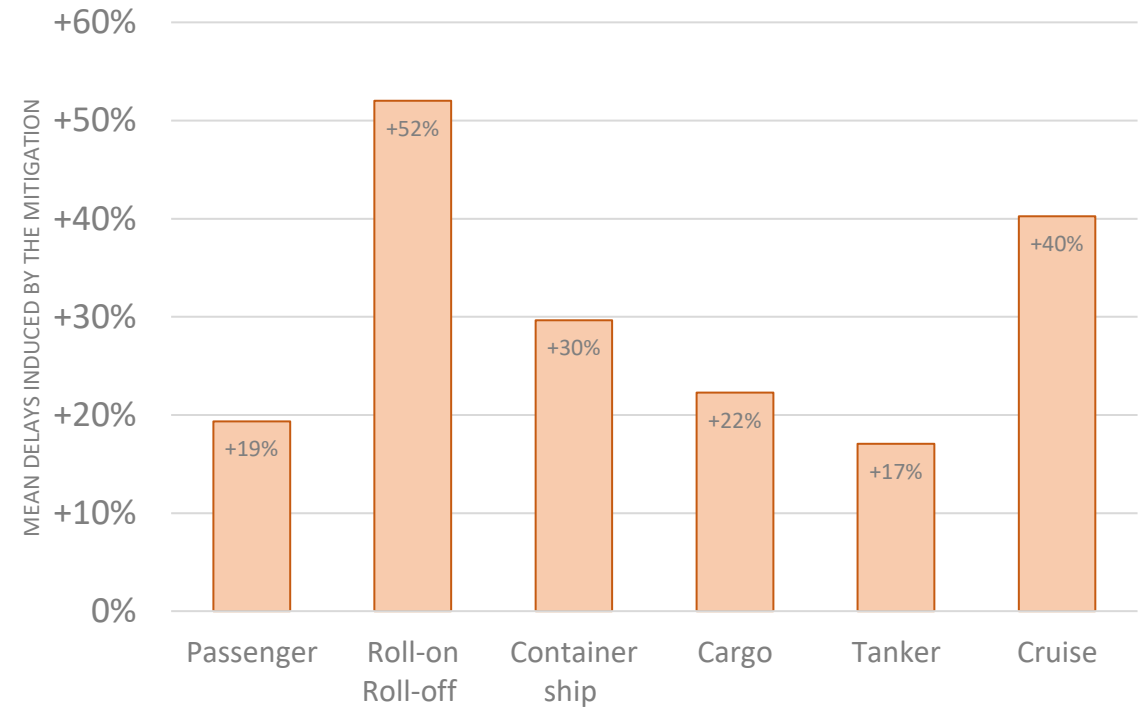
# Example of implementation



## Number of vessel suffering delays



## Delays

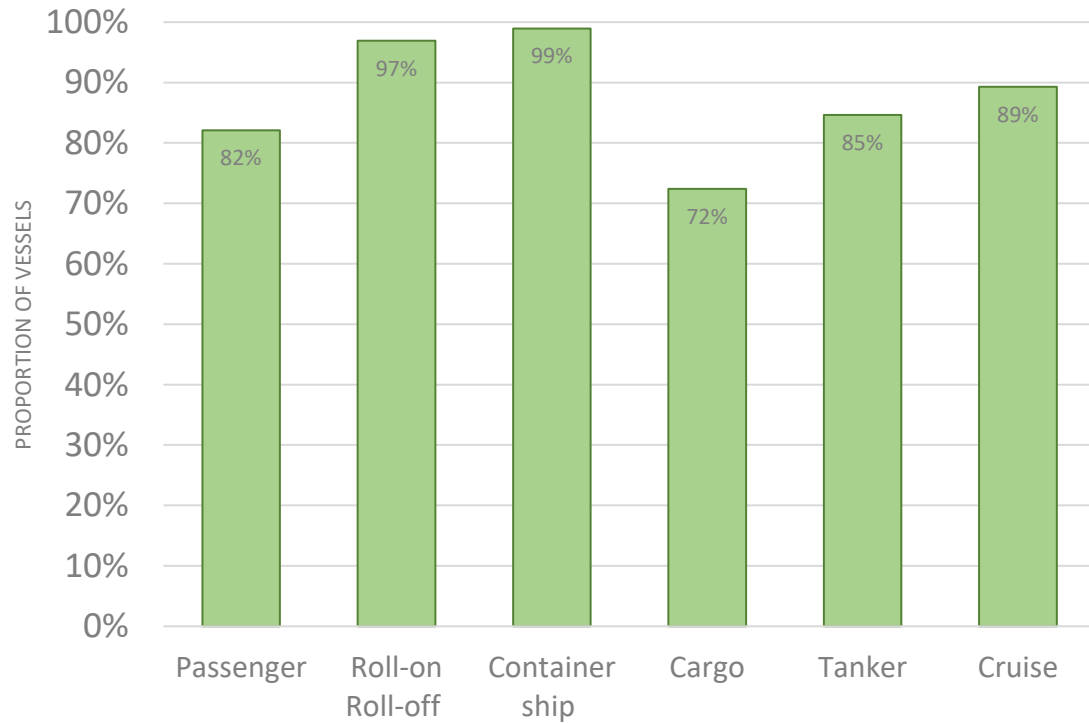




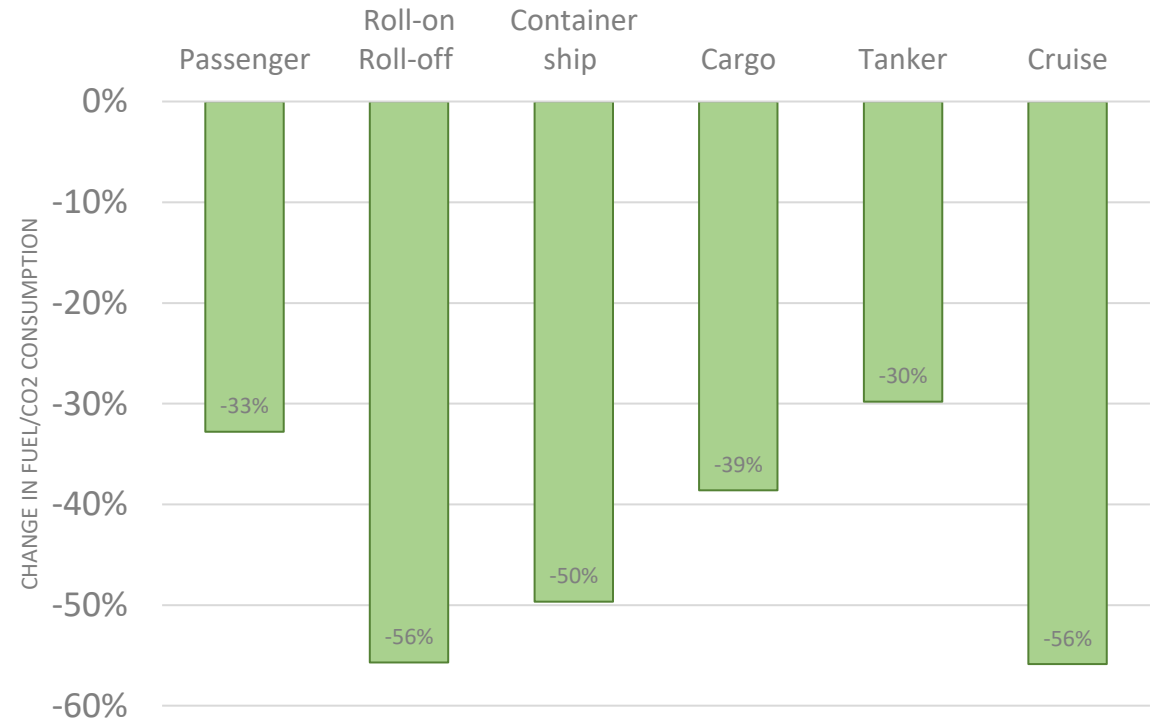
# Example of implementation



### Number of vessel reducing fuel/CO<sub>2</sub>



### Reduction of fuel/CO<sub>2</sub>







- Speed reduction most immediate, simple and efficient solution to reduce ship strikes
- Global speed reduction will lead to positive and negative impacts for the shipping industry
- The process to define a regulation is mature to achieve the best compromise between environmental benefit and socio-economic acceptability
- OceanPlanner is an operational tool that effectively supports the entire process

