



**Arab Academy**  
for Science Technology & Maritime Transport

The International Maritime  
Transport and Logistics Conference

**“Marlog 11”**

# “Impact of Oil and Gas Exploration (Seismic Survey) on Marine Environment and Maritime Activities in the Red Sea”

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Towards a  
SUSTAINABLE **BLUE**  
**ECONOMY**

20 - 22 March, 2022  
Hilton Green Plaza Hotel

## Outlines

- 1- Oil and Gas Exploration
- 2-Explanation of the Seismic Survey
- 3- Identification for the operational area in the red sea
- 4-Impact on the Marine Environment
- 5-Impact on the Maritime Activities
- 7-Marine Mammals observed in the Red Sea
- 8-Actions to protect Marine Mammals
- 9-Actions to Avoid Collision with other vessel
- 10- Consequences on fishing activities
- 11-Procedures to avoid any conflict with fishing activities

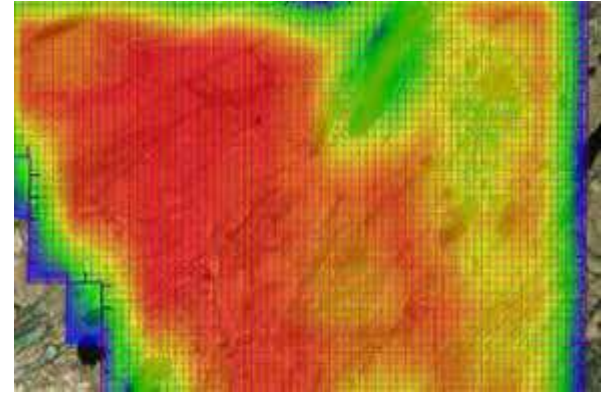
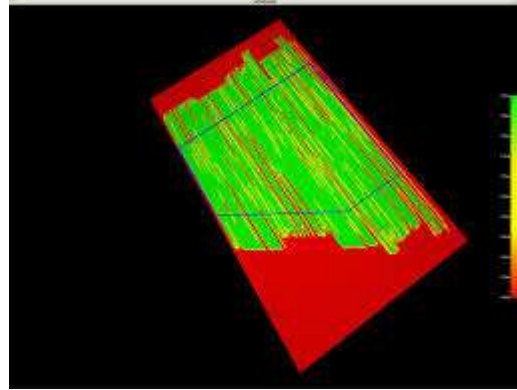
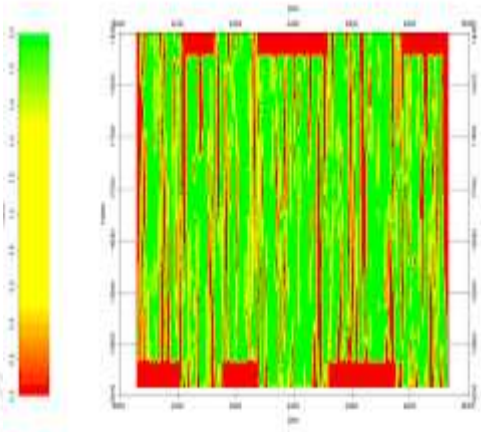
# What is the Latest Technology Used in the Oil and Gas Exploration?

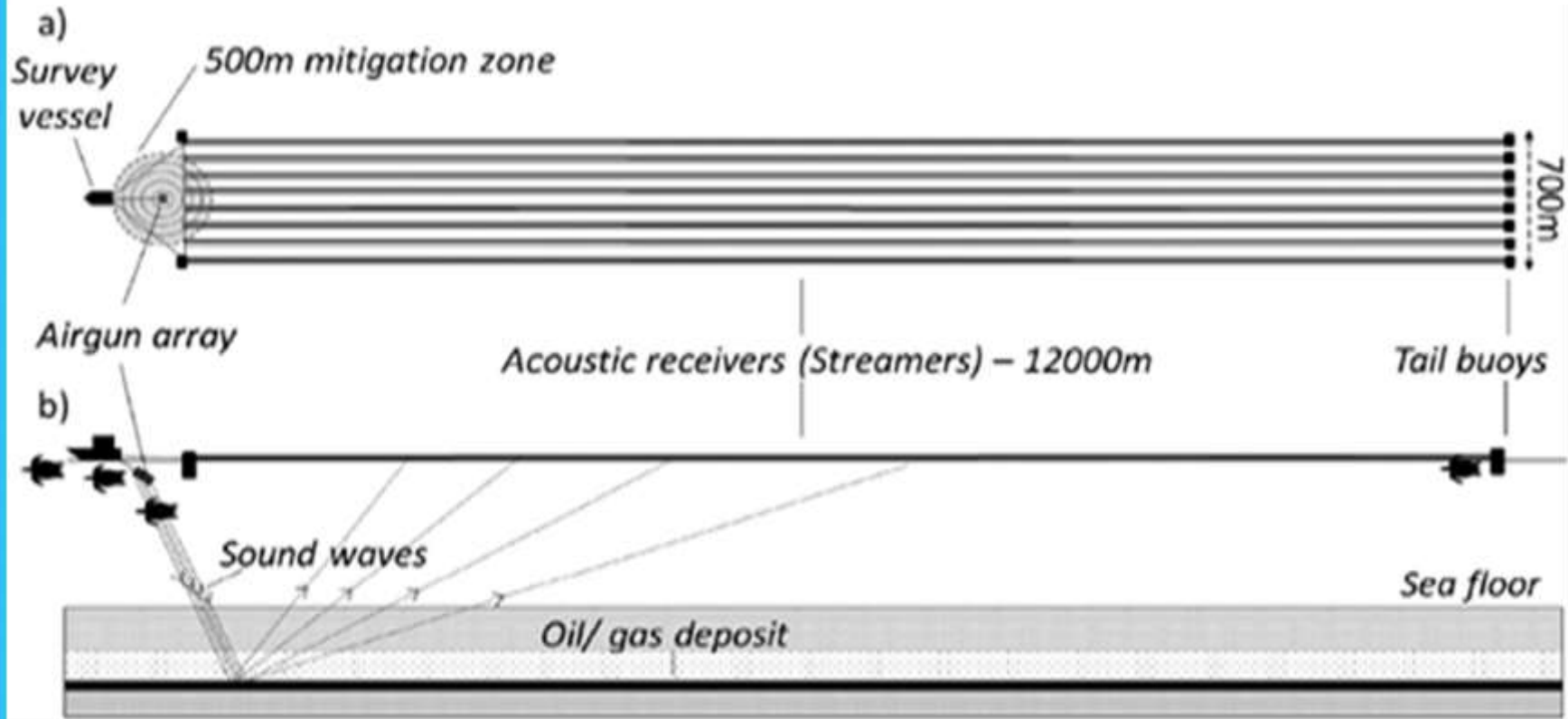


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# • SEISMIC SURVEY





Types of Seismic Survey ( 2 D, 3 D, 4 D)



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# Where are the Operational Areas in the Red Sea?



# What is the impact on the marine Environment and activities in the red sea?

- Environmental Impact on Marine Mammals
- Vessel's Traffic
- Fishing Activities



# Environmental Impact on Marine Mammals



**Bryde's Whale**



**Killer Whale**



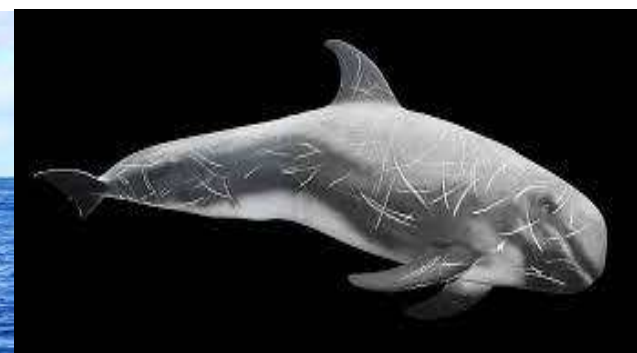
**Short finned Pilot Whale**



**Hump Back Whale**



**False Killer Whale**



**Risso's Dolphins**



# Environmental Impact on Marine Mammals



India Pacific Bottle Nose Dolphin



Indian Pacific Hump Back Dolphin



Pantropical Spotted Dolphin



Common Bottle Nose Dolphin



Indian Ocean Common Dolphin



Turtles

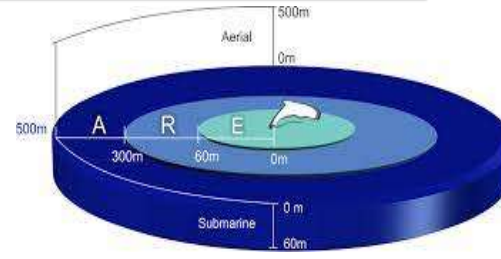
## Actions to Protect the Marine Mammals From Air Guns



**Mammal Watch**

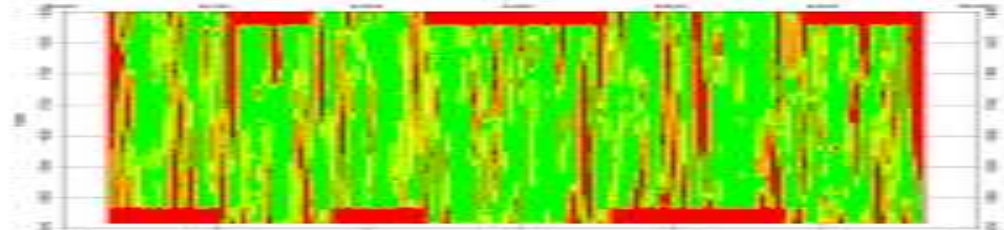


**Highest Platform**



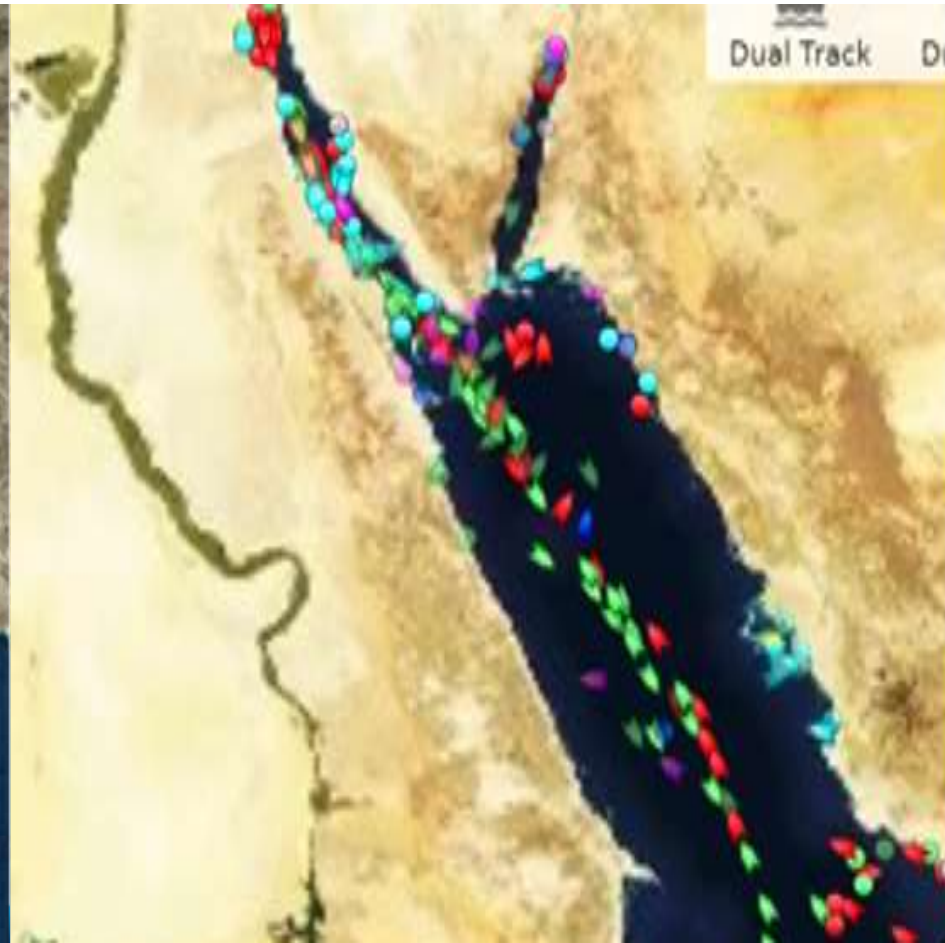
**500 m Exclusive zone**

- We need to stop the guns followed by a 30-minute mammals watch.
- Restart Shooting with a Soft Start. (20 minutes and not more than 40 minutes).
- Or Avoid the 30 minutes mammal watch and Maintain the minimum source levels during the turns before the start of the new shooting line

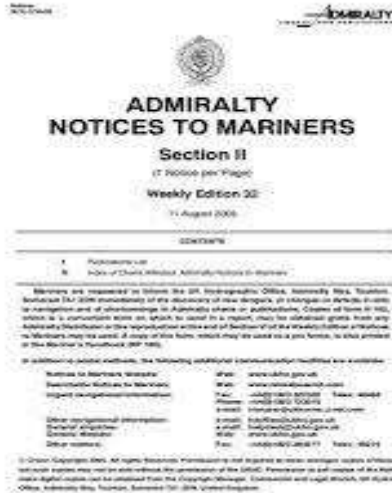




## Vessels Traffic



## *Procedures to Avoid Collision of seismic vessels gear with other Vessels*



Notice to Mariners



Chase vessels and supply Vessels



Navigational Equipment to chase vessel



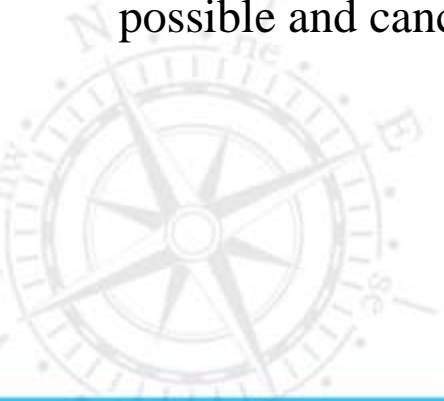
Gear Lights (Tail)



## *Procedures to Avoid Collision of seismic vessels gear with other Vessels*

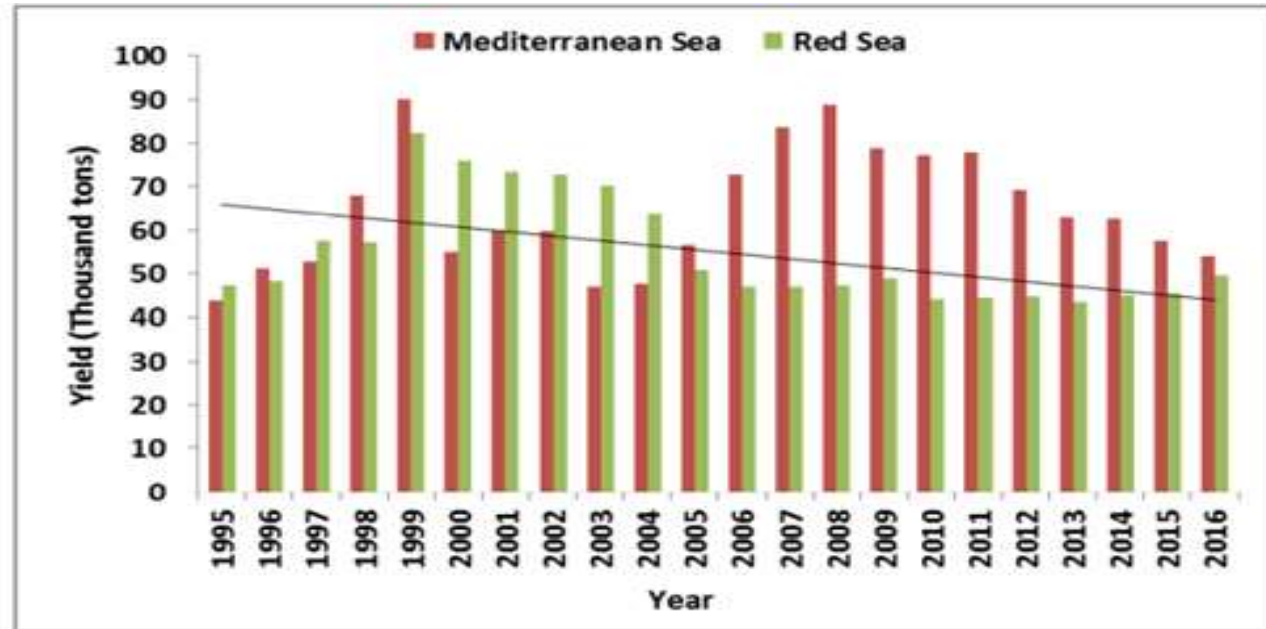


- Poor Visibility or extreme weather conditions (Operation should stop)
- Upon completion of the survey demobilization of the gears should be achieved as soon as possible and cancellation of the initial "Notice to Mariners" should be effective

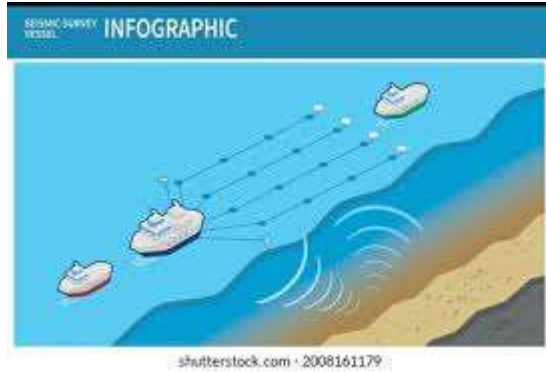


## Fishing Activities

- Barotrauma
- Damage to the fishing Gear .



## *Procedures for the protection of the fisheries activities in the Red Sea*



Fliers to Fishermen



Meeting with Fishermen



Patrols to remove obstructions 1 week before



Chase vessels with Representatives from the Fishing communities

## Results and Conclusion.

- Identified the environmental impact from the use of the acoustic energy in the water on marine mammals among other creatures.
- Highlighted the Egyptian environmental law with suggestions to deal with the seismic survey implications.
- Recommendations for procedures to be followed related to the vessel's traffic and fisheries activities.
- An aim to achieve sustainability in the exploration in Egypt from the environmental and economical point of view .



Thank YOU



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