United Nations
Educational, Scientific and
Cultural Organization

# One Planet, One Ocean

# The Ocean in the United Nations System

# The Ocean in the United Nations System

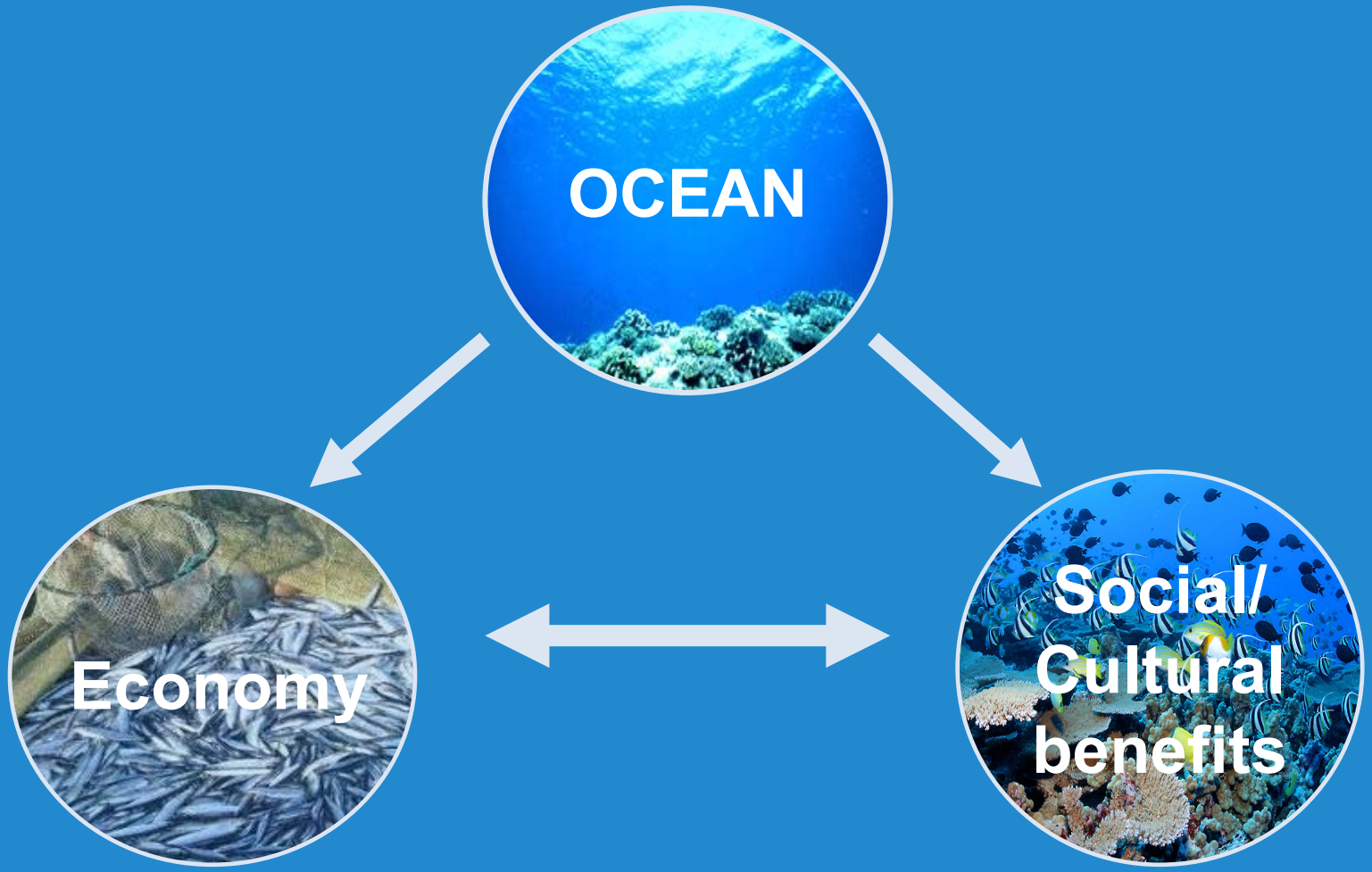
## UNESCO

**E**ducation

**S**cience

**C**ulture/
**C**ommunication

# The Ocean -
# A source of social and economic wealth



United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

United Nations Educational, Scientific and Cultural Organization

**Natural Sciences Sector**

United Nations Educational, Scientific and Cultural Organization

**Education Sector**

United Nations Educational, Scientific and Cultural Organization

The Protection of the Underwater Cultural Heritage

United Nations Educational, Scientific and Cultural Organization

World Heritage Convention

United Nations Educational, Scientific and Cultural Organization

**Small Islands Developing States**

United Nations Educational, Scientific and Cultural Organization

International Hydrological Programme

United Nations Educational, Scientific and Cultural Organization

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

# Ocean Acidification

1979 • Committee on Climate Change and the Ocean (CCCO)

1984 • $CO_2$

**2100 – 16-27% of coral-reef area** could be **lost** due to **Ocean acidification**, which translates to estimated **economic losses** of up to **$870 billion per year** (Brander et al., 2012)

n Carbon
ramme

erving System

OBIS OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM

Ocean Biogeographic Information System

Ocean Carbon Sources and Sinks

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# Ocean Acidification

1979 • Committee on Climate Change and the Ocean (CCCO)

1984 • $CO_2$ Advisory Panel

International Ocean Carbon Coordination Programme

Global Ocean Observing System

Ocean Biogeographic Information System

Ocean Carbon Sources and Sinks

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Intergovernmental Oceanographic Commission

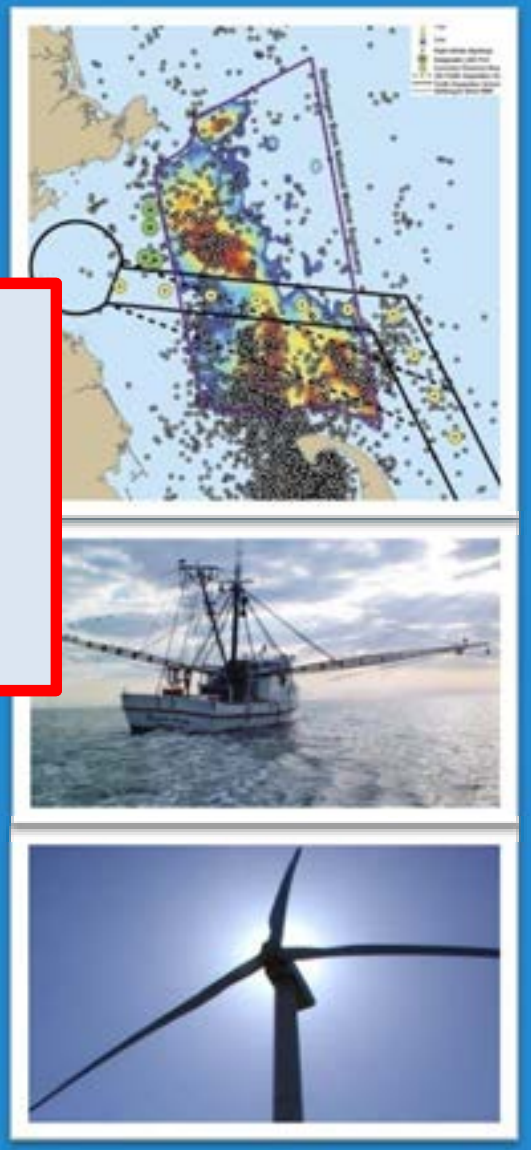
# Marine Spatial Planning

IOC is supporting nations to develop marine plans, combining economic development and environmental objectives, through
ecosystem-based,

**Assisting countries to sustainably manage their ocean areas**

**B**

- conservation…)
- Increase of predictability and certainty
- Facilitation of compatible uses
- Preservation of critical ecosystem services



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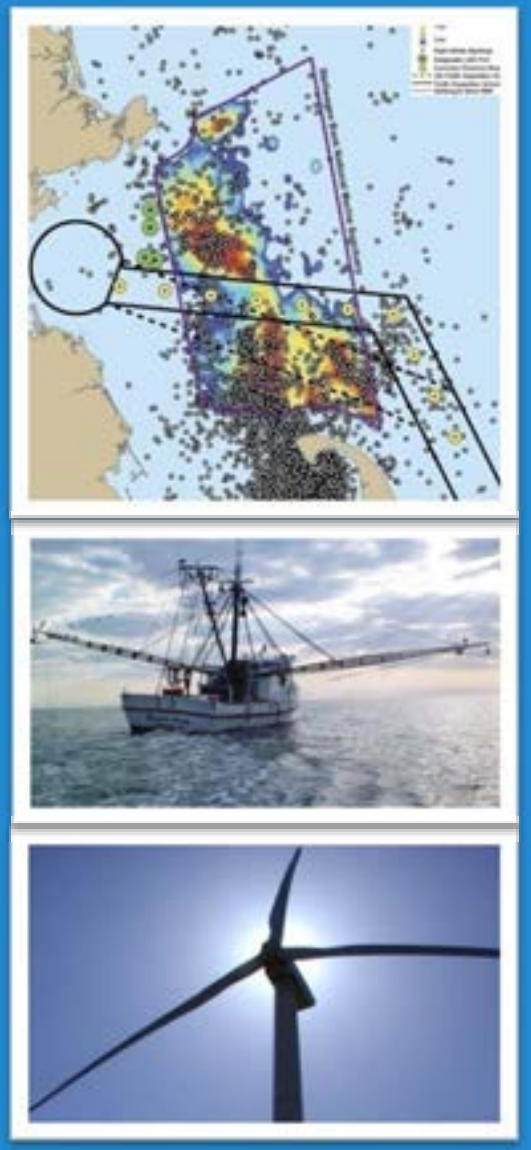
# Marine Spatial Planning

IOC is supporting nations to develop marine plans, combining economic development and environmental objectives, through a comprehensive, adaptive, ecosystem-based, and transparent planning process.

**Benefits:**

- Reduction of conflicts among uses (fisheries, energy, shipping, conservation…)
- Increase of predictability and certainty
- Facilitation of compatible uses
- Preservation of critical ecosystem services



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# IODE

Purpose is to enhance marine research, exploitation & development, by facilitating the exchange of oceanographic data & information between participating MS, and by meeting the needs of users for data ucts.

**International data exchange**

(i) To facilitate and pro ss to marine data

(ii) To encourage the lo tion, management and services of all marine data, data products, and information

(iii) To develop or use existing best practices

(iv) To assist Member States to acquire the necessary capacity to manage marine research and observation data

(v) To support international scientific and operational marine programmes, including the Framework for Ocean Observing for the benefit of a wide range of users

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# IODE

Purpose is to enhance marine research, exploitation & development, by facilitating the exchange of oceanographic data & information between participating MS, and by meeting the needs of users for data and information products.

(i) To facilitate and promote the discovery, exchange of, and access to marine data

(ii) To encourage the long term archival, preservation, documentation, management and services of all marine data, data products, and information

(iii) To develop or use existing best practices

(iv) To assist Member States to acquire the necessary capacity to manage marine research and observation data

(v) To support international scientific and operational marine programmes, including the Framework for Ocean Observing for the benefit of a wide range of users

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# Tsunami Early Warning Systems

**Indian Ocean tsunami devastated coastal areas of Indonesia, Sri Lanka, southern India, Thailand. Casualties are estimated from 228,000 to 310,000 Economic loss 3 billion USD.**


**Systems are key**
**isaster risk**

vulnerabilities and
ks

- Saving lives and reducing economic losses

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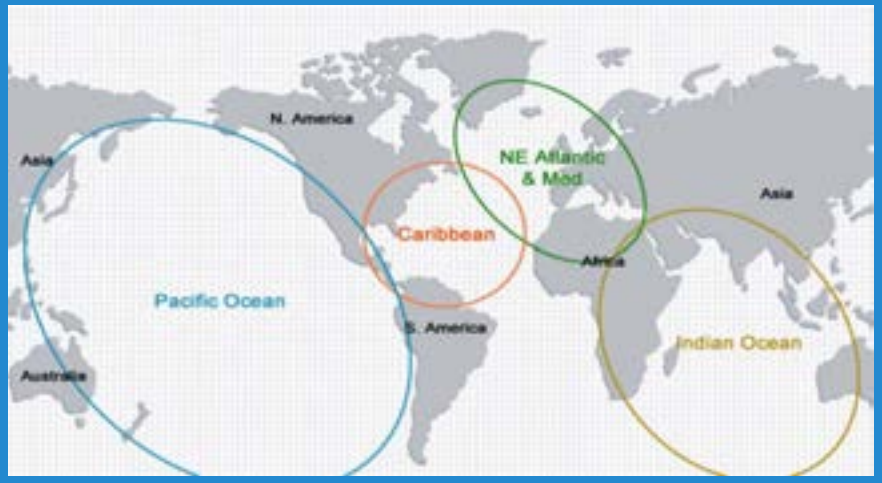
# Tsunami Early Warning Systems

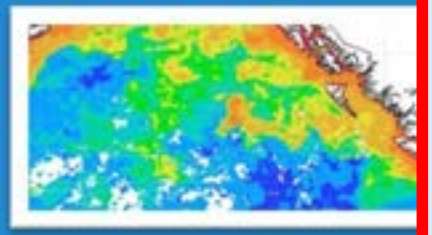



**Early Warning Systems are key elements of disaster risk reduction:**

- Minimizing vulnerabilities and disaster risks
- Saving lives and reducing economic losses

# Global Ocean Observing System

**GOOS – a** collaborative system of sustained ocean observations



**Measuring and observing ocean threats**

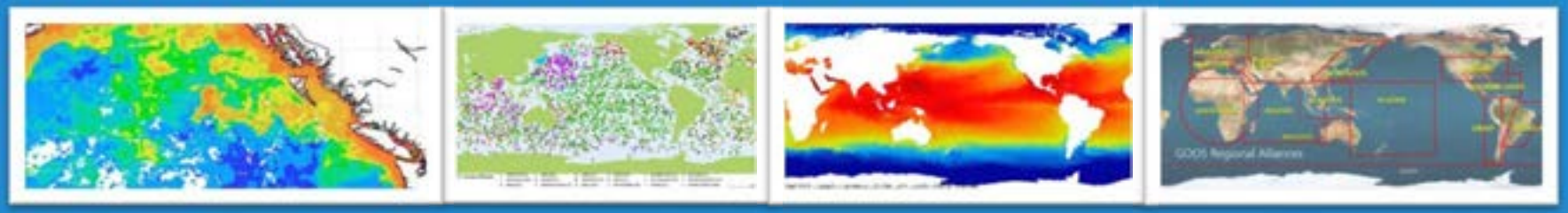
**Sustained ocea**
**Improve** scientific **knowledge** about ocean climate, ecosystems, human impact, and human vulnerability

**Apply** that **knowledge** through: early warning for ocean-related hazards, climate forecasts and projections, ecosystem assessment and management, good ocean governance based on sound science – ensuring a healthy ocean and a healthy blue economy

**We can't manage what we don't measure!**

# Global Ocean Observing System

**GOOS – a** collaborative system of sustained ocean observations



**Sustained ocean observations** are necessary to:

**Improve** scientific **knowledge** about ocean climate, ecosystems, human impact, and human vulnerability

**Apply** that **knowledge** through: early warning for ocean-related hazards, climate forecasts and projections, ecosystem assessment and management, good ocean governance based on sound science – ensuring a healthy ocean and a healthy blue economy

**We can't manage what we don't measure!**

United Nations Educational, Scientific and Cultural Organization • World Heritage Convention

# Preserving Natural Heritage

- **46** marine site
- **35** countries
- Cover about ½ **MPA's**
- **57%** of natural WH

**Protecting what is most exceptional**


United Nations Educational, Scientific and Cultural Organization

World Heritage Convention

# Preserving Natural Heritage

- **46** marine sites
- **35** countries
- Cover about **¼ by area of all MPA's**
- **57%** of natural WH


United Nations Educational, Scientific and Cultural Organization

The Protection of the Underwater Cultural Heritage

# Cultural heritage *(all traces of human existence)*

- 3 Million ancient shipwrecks (*Titanic, Mary Rose, Vasa*)
- Hundreds of sunken cities (150 in Mediterranean alone)
- Submerged lan d, Black Sea)
- Flooded caves graves (Cenotes)
- Remains of fish

**Protecting our history**

## IMPORTANT FOR

Scientific research; Education; Community identification; Urban & coastal development; Tourism

## THREATENED BY

Pillage; Commercial exploitation; Industrial work; Trawling; Scrap metal recovery

United Nations Educational, Scientific and Cultural Organization

The Protection of the Underwater Cultural Heritage

# Cultural heritage *(all traces of human existence)*

- 3 Million ancient shipwrecks (*Titanic, Mary Rose, Vasa*)
- Hundreds of sunken cities (150 in Mediterranean alone)
- Submerged landscapes with prehistoric finds (Doggerland, Black Sea)
- Flooded caves with prehistoric paintings, sacrificial sites, graves (Cenotes)
- Remains of fishing installations and ports

## IMPORTANT FOR

Scientific research; Education; Community identification; Urban & coastal development; Tourism

## THREATENED BY

Pillage; Commercial exploitation; Industrial work; Trawling; Scrap metal recovery

United Nations Educational, Scientific and Cultural Organization

International Hydrological Programme

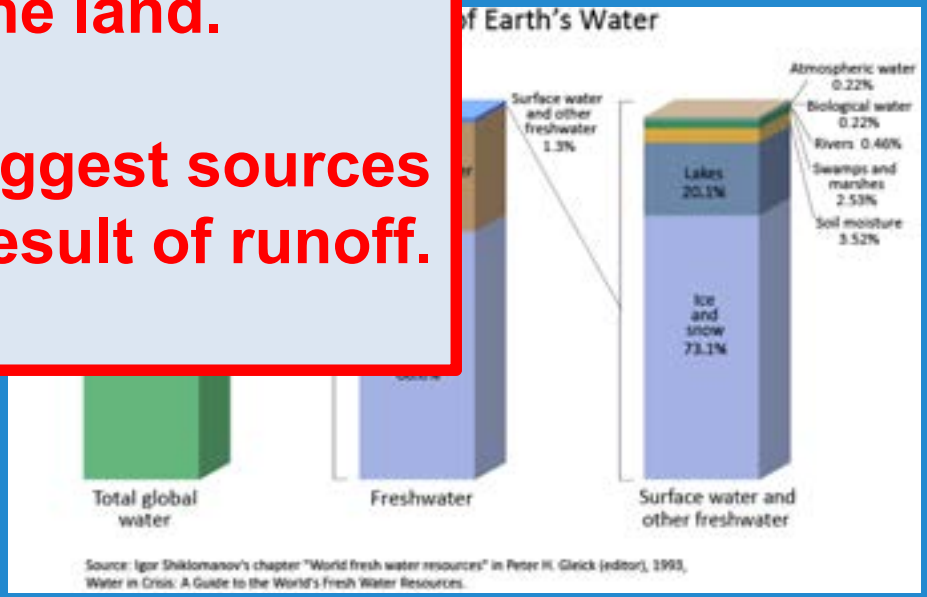
# Land – Ocean interaction

Bioaccumulation of p
the marine food chain
problem (after Böhlmann, 19

**80 % of pollution in the marine environment comes from the land.**

**One of the biggest sources occurs as a result of runoff.**

IOC and IHP have clo
on programmes relate
preparation of best-pr
recommendations on
management and on
for youth and communities.

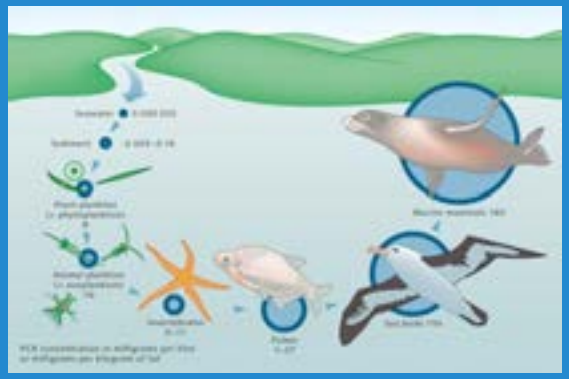


United Nations Educational, Scientific and Cultural Organization

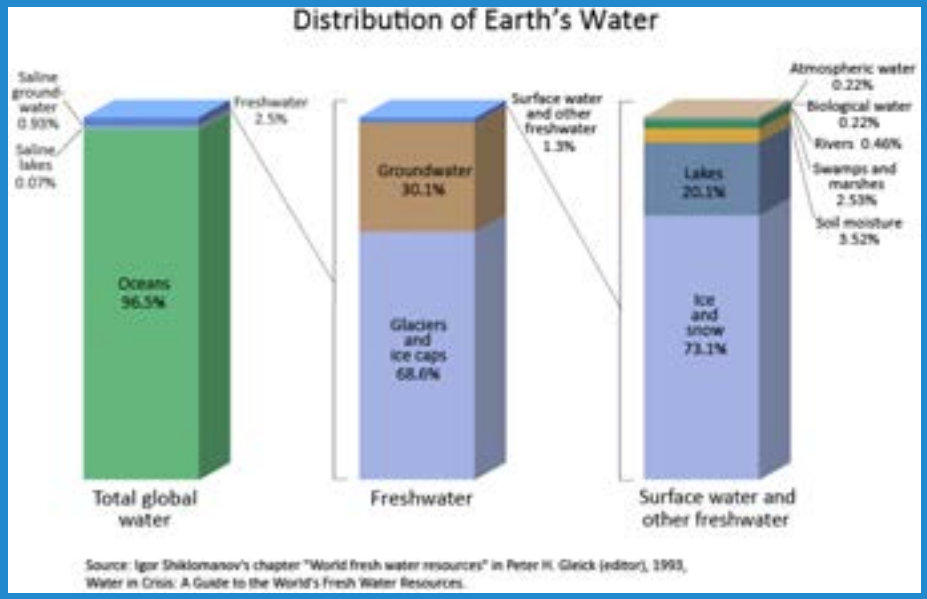
International Hydrological Programme

# Land – Ocean interaction

Bioaccumulation of pesticides originated from land in the marine food chain has long been recognized as a problem (after Böhlmann, 1991).



IOC and IHP have close cooperation on programmes related to the preparation of best-practices recommendations on coastal zones management and on water education for youth and communities.



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**Small Islands Developing States**

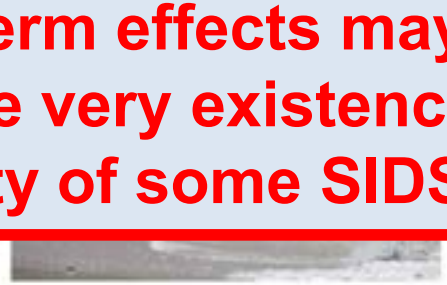
# SIDS Platform projects implemented with all programme sectors

- developing Open E… …ibbean
- using satellite imag…
- community heritag…
- developing new Ca…
- Islands of the Futu…

**Due to the high concentration of populations in coastal zones, the effects of climate change and sea-level rise present significant risks to SIDS.**

**The long-term effects may threaten the very existence and viability of some SIDS**



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Small Islands Developing States

# SIDS Platform projects implemented with all programme sectors

- developing Open Educational Resources in the Pacific and Caribbean
- using satellite imagery for climate change education
- community heritage-based initiatives in East Timor
- developing new Caribbean biosphere reserves
- Islands of the Future - interregional youth initiative

# Biodiversity - Marine, Coastal and Island Areas

Natural Sciences Sector

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UNESCO's Man and the Biosphere Programme activ
scientific researc

- Coastal marine reference sites managing coas by:
  - observing impacts o habitats
  - developing innovative guidelines for their conservation and sustainable management

**Many mangrove habitats have been lost globally because of direct conversion to urban and industrial spaces, aquaculture ponds, residential areas, ports, marinas, tourist resorts, and agricultural land.**

**k of Island and Coastal Biosphere Reserves (WNICBR)**

Small Islands Developing States

United Nations Educational, Scientific and Cultural Organization

Natural Sciences Sector

# Biodiversity - Marine, Coastal and Island Areas

UNESCO's Man and the Biosphere Programme activities span protection, scientific research and human use:

- Coastal marine biosphere reserves: reference sites for monitoring and managing coastal and marine biodiversity by:
  - observing and measuring human impacts on the coastal/marine habitats
  - developing more rigorous and innovative guidelines for their conservation and sustainable management

**26 sites within the World Network of Island and Coastal Biosphere Reserves (WNICBR)**

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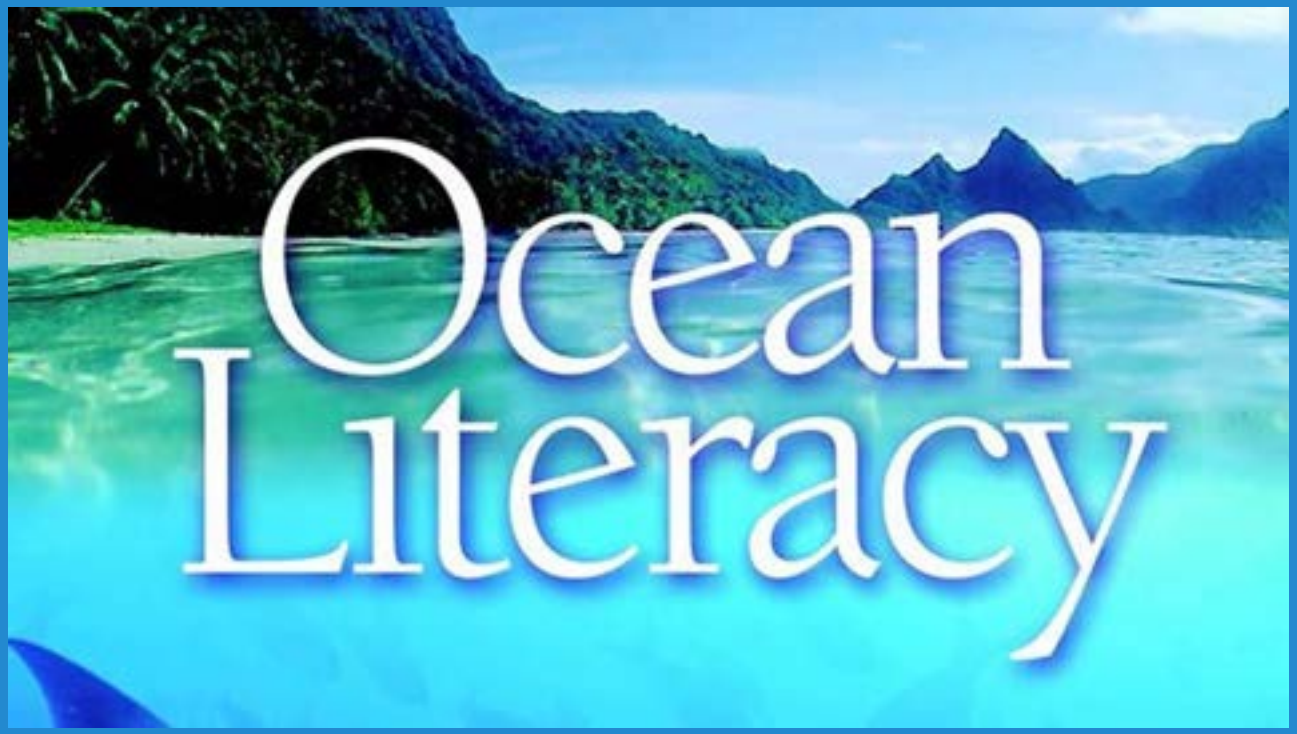
Education
Sector

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Natural Sciences Sector

# Communication and establishment of partnerships

Nausicaa

Multi One Attitude Foundation (MOAF)

Tara Expedition

Plastic Oceans

Barcelona Foundation for Ocean Sailing (FNOB) and its Barcelona World Race

Océanopolis Brest

World Underwater Federation (CMAS)

# Through building a more integrated ocean mandate and expertise, UNESCO

- **Will be better placed to contribute to ocean related issues**
  - MDG/Post 2015,
  - Sustainable Development Goals
  - UN General Assembly related processes.
- **Can provide a one-stop shop for**
  - supporting national ocean development goals
  - delivering on the ground
  - developing Open Educational Resources in the Pacific and Caribbean

**But to do that UNESCO needs MS support!**

Small Islands Developing States

Natural Sciences Sector

Education Sector

*Despite the challenges, one point is clear – **together**, we can protect the ocean.*

*Irina Bokova*