INTEGRATED VIEW OF SCIENCE, POLICY-MANAGEMENT, GOVERNANCE AND SECURITY IN COLOMBIA

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GEOGRAPHICAL CONTEXT

Marine and Coastal Zones

989.000 Km²
1,200.000 Km²

Colombia is 50% ocean

# INTEGRATED VIEW OF MARINE SCIENCE

## MARINE AND COASTAL GEOSCIENCES (GEO-PROGRAM)
- Coastal and Marine Geology.
- Oceanography and Climate.

## BIODIVERSITY AND MARINE ECOSYSTEMS (BEM-PROGRAM)
- Inventories, taxonomy and biology of species.
- Organization and Dynamics of Ecosystems.
- Biology and Conservation Strategy.

## MARINE ENVIRONMENT QUALITY (CAM-PROGRAM)
- Assessment and Monitoring of Environmental Quality.
- Prevention and Protection of Coastal and Marine Ecosystems.
- Rehabilitation of Coastal and Marine Ecosystems.

## ASSESSMENT AND RESOURCE USE (VAR-PROGRAM)
- Economic Valuation.
- Use and Sustainable Production.
- Marine Bioprospecting.

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**COORDINATION OF INFORMATION FOR MARINE AND COASTAL MANAGEMENT**

**SCIENTIFIC SERVICES COORDINATION**

**ACADEMIC COORDINATION**

**LABSIS - CDO - MHNMC - LABBIM - LABIMA - LABCAM**
SiAM STRUCTURE

**Modules**

- **Biodiversidad Marina**
  - Marine Biodiversity
- **Manejo Integrado de Zonas Costeras**
  - Integrated Coastal Zone Management
- **Monitoreo de Ambientes Marinos**
  - Marine Environments Monitoring
- **Amenazas Naturales**
  - Natural Hazards
- **Usos de los Recursos Marinos**
  - Use of Marine Resources

**Web services**

- **Taxonomía y colecciones**
  - Taxonomy and collections
- **Monitoreo y caracterización**
  - Monitoring and characterization
- **Microorganismos**
  - Microorganisms
- **Historia natural**
  - Natural history
- **Documentos planeación, políticas y guías**
  - Planning documents, policies and guides
- **Indicadores de gestión**
  - Management indicators
- **Soporte a la toma de decisiones**
  - Decision making support
- **Calidad ambiental marina**
  - Marine environmental quality
- **Ambientes marinos costeros: manglares, corales, pastos, litorales, playas**
  - Coastal marine environments: mangroves, coral reefs, sea grasses, coastlines, beaches
- **Oceanografía y clima**
  - Oceanography and climate
- **Geológicas**
  - Geological
- **Cambio climático mares y costas**
  - Seas and coasts climate change
- **Erosión costera**
  - Coastal erosion
- **Pesquerías artesanales**
  - Artisanal fisheries
- **Caladeros de pesca**
  - Fishing grounds

[www.invemar.org.co/siam](http://www.invemar.org.co/siam)
NATIONAL ENVIRONMENTAL COUNCIL
Ensures consistency between development and environment
Approves national environmental policies

MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (MADS)
Constructs and designs National Environmental Policies

Regional Autonomous Corporations
Departmental Environmental Authorities
(Execute)

Sustainable Development

Universities, ONG`s, Research Centers, Colombian Navy (ARC) and others that offer information

Research Institutes
Execute, advise and provide information
IDEAM
IAvH,
INVEMAR,
SINCHI, IIAP

SINA
INTEGRATED VIEW

MINISTRY OF DEFENSE

MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (MADS)

NATIONAL ENVIRONMENTAL COUNCIL

SINA

REGIONAL AUTONOMOUS CORPORATIONS

Sustainable Development

Universities, ONG`s, Research Centers, Colombian Navy (ARC) and others that offer information

Oceanographic and hydrographic research institutes

Security and defense

INVEMAR
GOOS PRINCIPLES VS COLOMBIAN VISION

• User-Driven design - SiAM (ecosystems, natural hazards, productive activities –fisheries) and DIMAR information systems

• Sustained observations - SiAM Monitoring (water quality, coral reefs, mangrove, fisheries, meteocean, erosion)

• Regular evaluation – Annual report on status of marine environment

• Global standards and best practice – Colombian NODC, CTN Diocean (GT-MIM and GT-MPGD)

• Open data – multi thematic database (SiAM), CECOLDO, REDMPOMM

• Capacity development – PhD and MSc education in marine sciences, RTC Latin America, cooperation, strategic synergies ??
VALUE OF OCEAN OBSERVATIONS: COLOMBIA

SiAM tools to support decision makers - Social benefit

Meteocean (DIMAR), INVEMAR, IDEAM, Ser. Geol. Colombiano - Services

Assessments

Scientific analysis

Meteocean (DIMAR) IDEAM, Ser. Geol. Colombiano - Forecast systems

SiAM subsystems, CECOLDO, REDMPOMM - Data management systems

SiAM subsystems, CECOLDO, REDMPOMM - Sustained ocean observations

INVEMAR (deep research, bioprospecting), DIMAR research institutes - Research innovations
COLOMBIA 50% OCEAN towards achieving SDG 14

THANKS FOR YOUR ATTENTION

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• **Objective**
  – Research cooperation, exchange information, share lessons learnt and scientists from different disciplines working together

• **Members**
  – Armada Nacional - DIMAR
  – Universidad de Antioquia
  – Universidad Nacional
  – Universidad del Valle
  – Universidad Jorge Tadeo Lozano
  – INVEMAR
  – Otros Interesados

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