

Cuban Oil Spill Contingency Plan

General Overview

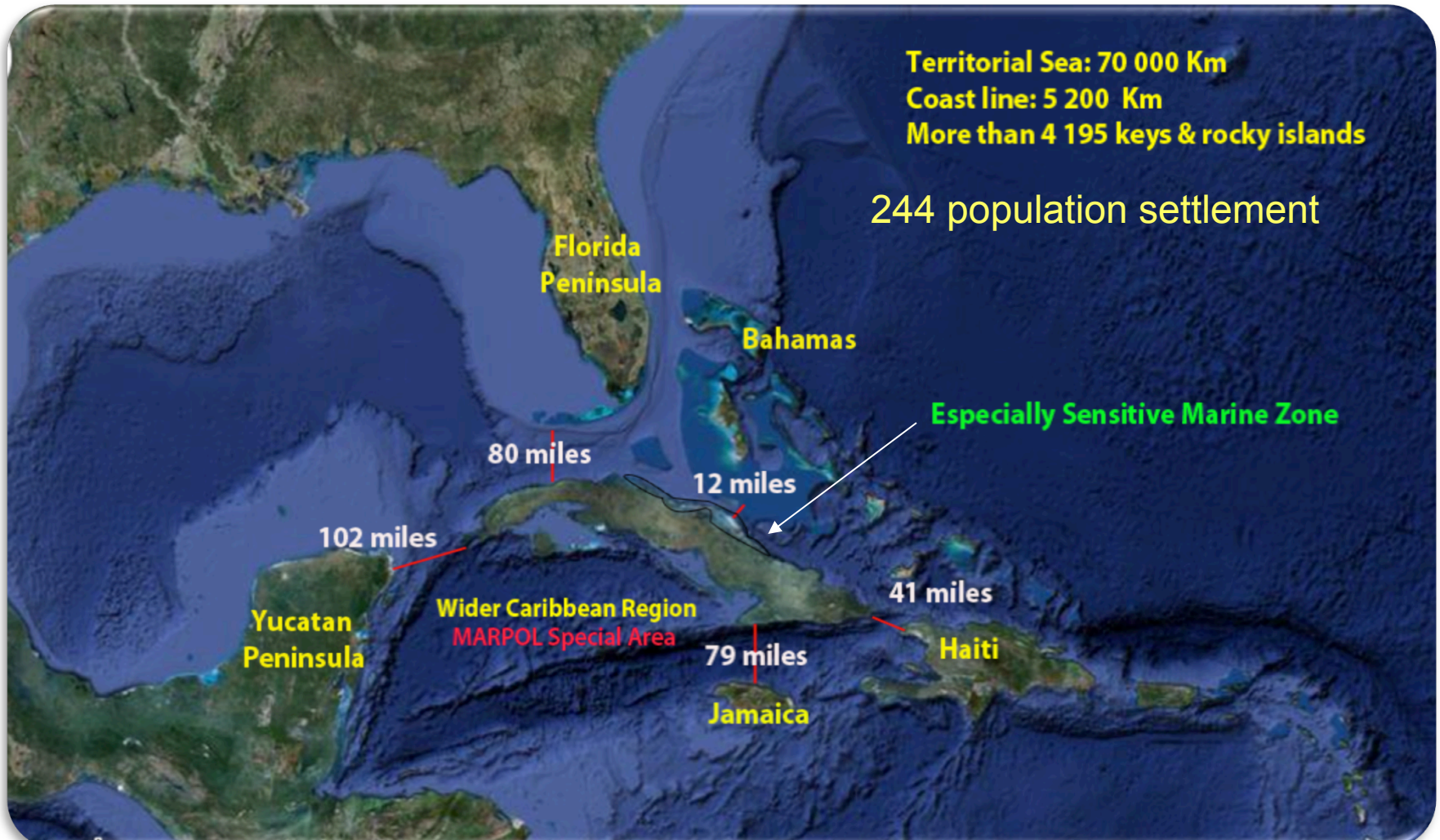


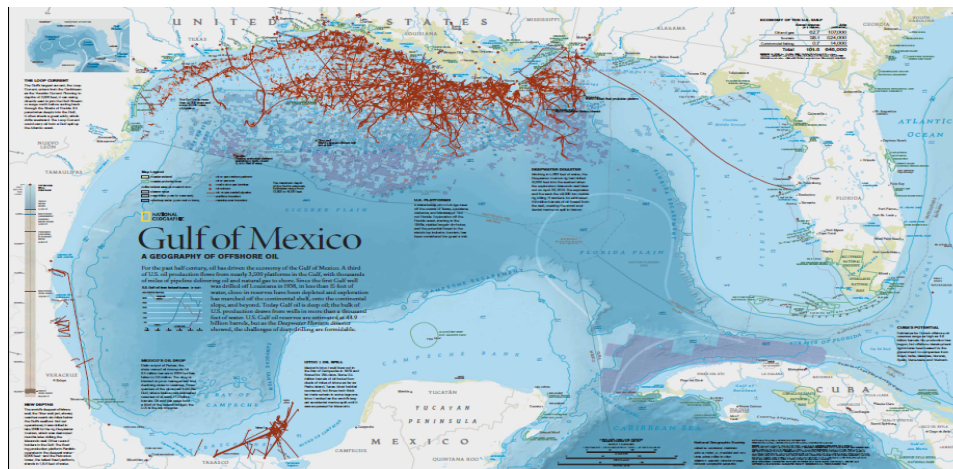
MSc. Raúl R. Costa Gravalosa

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BACKGROUND

Geographical Ubicaction







CIVIL DEFENCE SYSTEM IN CUBA

It is a system integrated by all resources and forces of society and state, aimed at protecting people and their possessions, social infrastructure, economy, natural resources, from disaster hazards and the consequences of climate change.



LEGAL BASIS

- **Cuban Constitution.**
- **Law 81 for Environmental Proteccion.**
- **Decree Law No. 170: Civil Defense System Measures.**
- **Decree Law No. 200: Integrated coastal management.**
- **Resolution No. 211/97. National implementation of Marpol 73/78 annex V.**
- **Resolution No. 2/98. National implementation of Marpol 73/78 annexes I and II.**
- **Resolution No. 54/03. National implementation of the MODU Code.**
- **Resolution No. 144/09. National Oil Spill Contingency Plan.**
- **Resolution No. 31ORASEN. Safety case for MODUs**
- **Resolution No. 73 ORASEN. Safety case suplement (well desing)**

CIVIL DEFENCE SYSTEM STRUCTURE

State Council's President

Minister FAR

EMNDC

Ministries

Units

Units

Economic
Entities

Units

Units

Social
Institutions

Provinces

Municipalities

People's
Councils

Main body of leadership of the system, in charged of leading and controlling state's and government's policies and enforcing the civil defence measures and also international norms and conventions that Cuba is member, related to civil protection

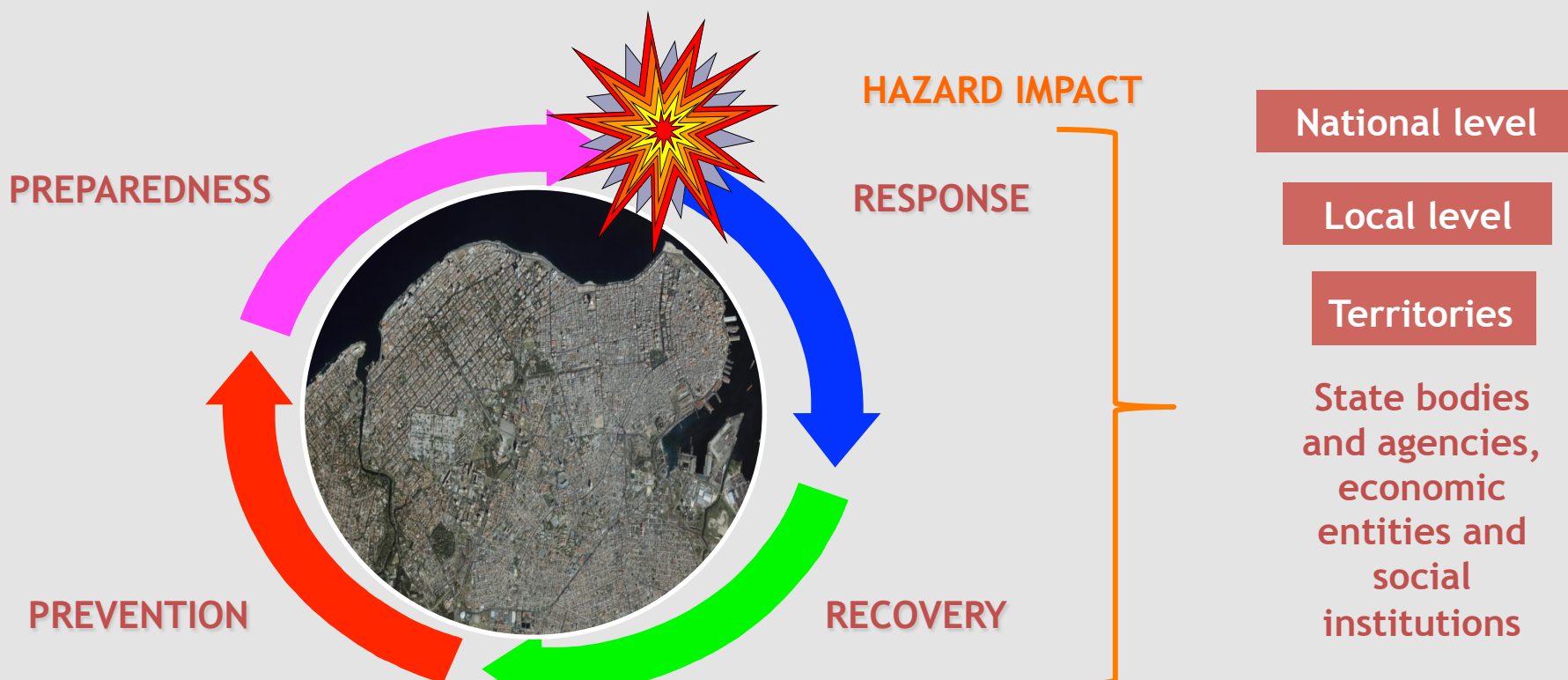




DISASTER REDUCTION PROCESS

DECREE-LAW NO. 170: ARTICLE 2:

A group of preventive, preparedness, response and recovery activities which are established in order to protect the population, the economy and the environment, from the destructive effects of disasters.



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NATIONAL OIL SPILL CONTINGENCY PLAN. PLANNING PROCESS

Compatibilization Process

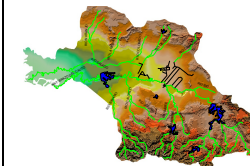
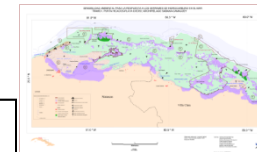
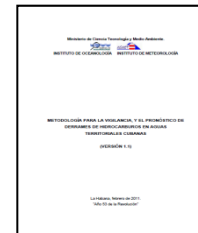
Hazard and risk assessment

Elaborating the concept of operations

Allocation of responsibilities of the governmental agencies

Discussion and writing of the national plan

Writing of the participating agencies' plans



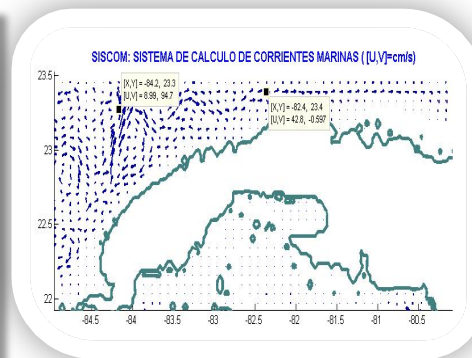
The goal of the response operations is protecting the coastal ecosystems and the human beings from the contamination caused by an oil spill.

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OIL SPILL MANAGEMENT MAIN ELEMENTS

- A response organization with functional teams to address command, planning, operations, logistics and finance/legal.
- Population capacitation
- Clear roles and responsibilities
- Effective communications
- Suitable resources (at Tiers 1, 2 and 3)





NATIONAL OIL SPILL CONTINGENCY PLAN (NOSCP)

- The National Oil Spill Contingency Plan outlines Cuba's arrangements for responding to oil spills in the marine environment, with the aim of protecting against environmental pollution as a result of oil contamination and where this is not possible, minimise the effects.



GENERAL REQUIREMENTS. EMNDC

- The Disaster Reduction Plan requires as annexes contingency plans for:

- Blowout and Well Relief Drilling
- Oil Spills
- H₂S Releases
- Hurricanes and Earthquakes
- Helicopter accidents
- Fires/Explosions
- Vessel collisions
- Structural failure and grounding
- Accidents with radioactive materials
- Terrorist attacks
- MEDEVAC
- **National Oil Spill Contingency Plan (NOSCP).**





NATIONAL OIL SPILL CONTINGENCY PLAN (NOSCP). STRUCTURE



4 Chapters

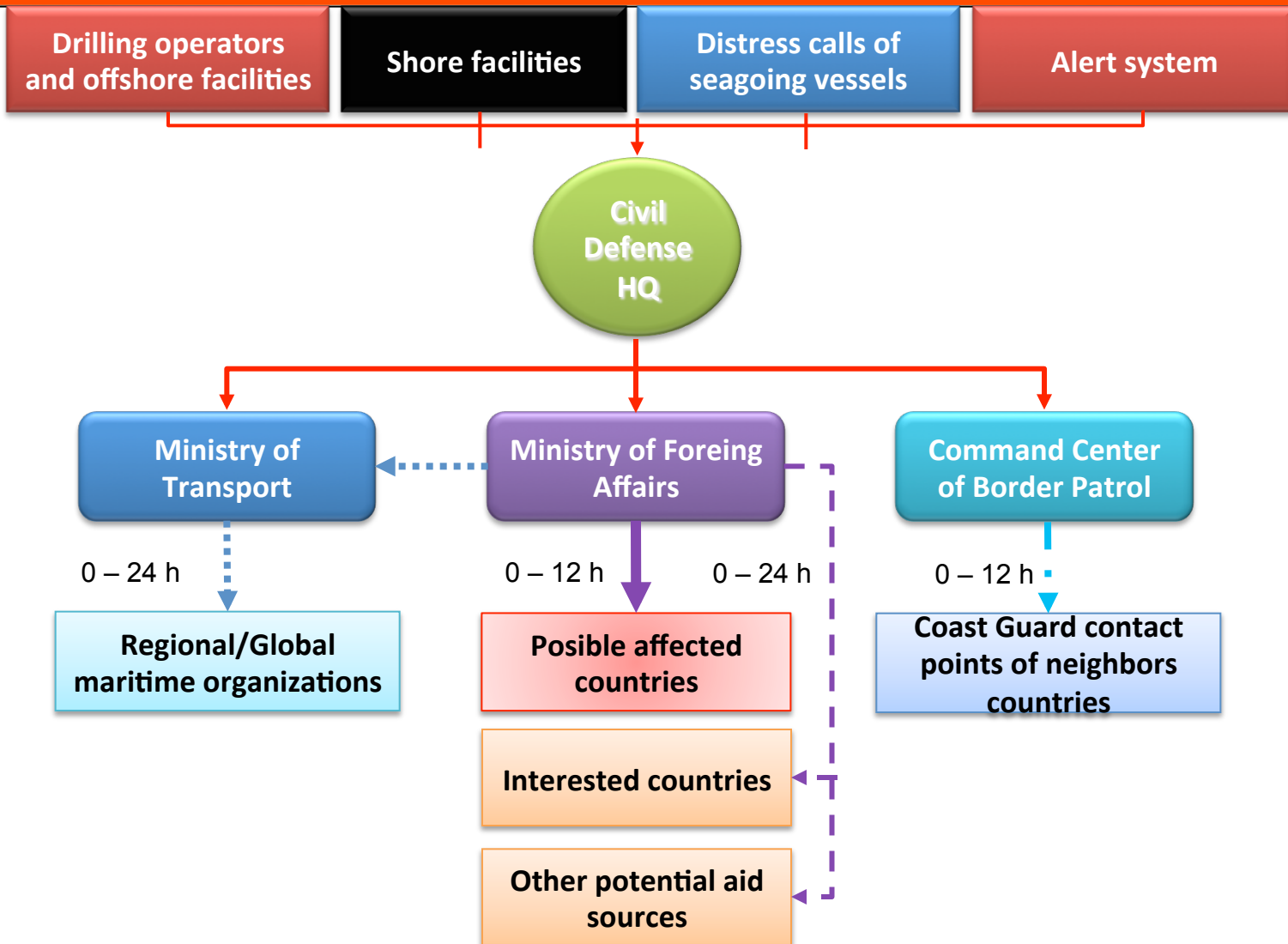
- Chapter 1. Introduction.
- Chapter 2. Organization and planning.
- Chapter 3. Oil Spill Response Management.
- Chapter 4. Alerting system.

8 Annexes

- Annex I. References.
- Annex II. Emergency contact addresses and phone numbers.
- Annex III. Oil spill notification protocol (CARIBPOL REP).
- Annex IV. Help request and customs formalities procedures.
- Annex V. Oil spill response procedures.
- Annex VI. Watchkeeping and timely response system specifications (alert system).
- Annex VII. Inventory of oil spill response equipment.
- Annex VIII. Shore line response and cleaning options.



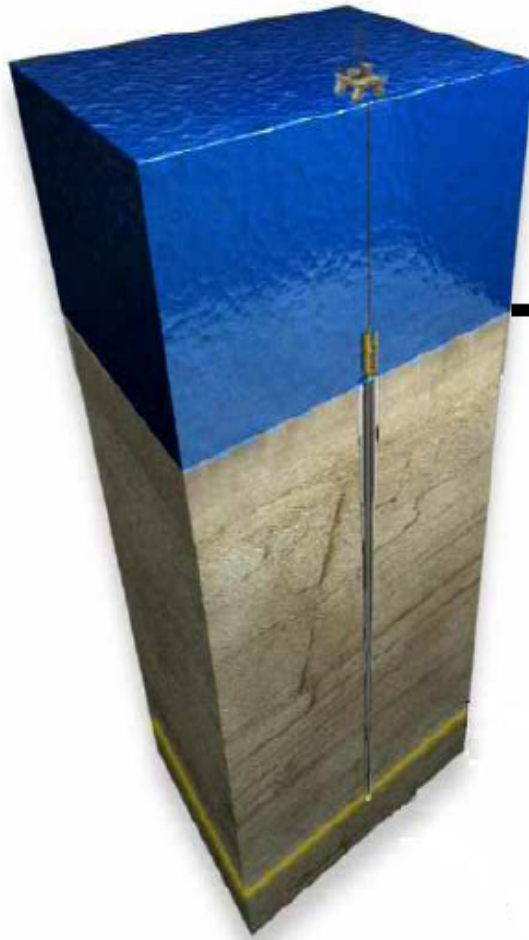
NOTIFICATION PROTOCOL



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NATIONAL PLAN ACTIVATION



Tier 1

- Oil Spill Modeling
- Oil Slick Surveillance
- Operator's operations oversight
- Environmental monitoring (partially)
- Partial Activation of the National Defense Council

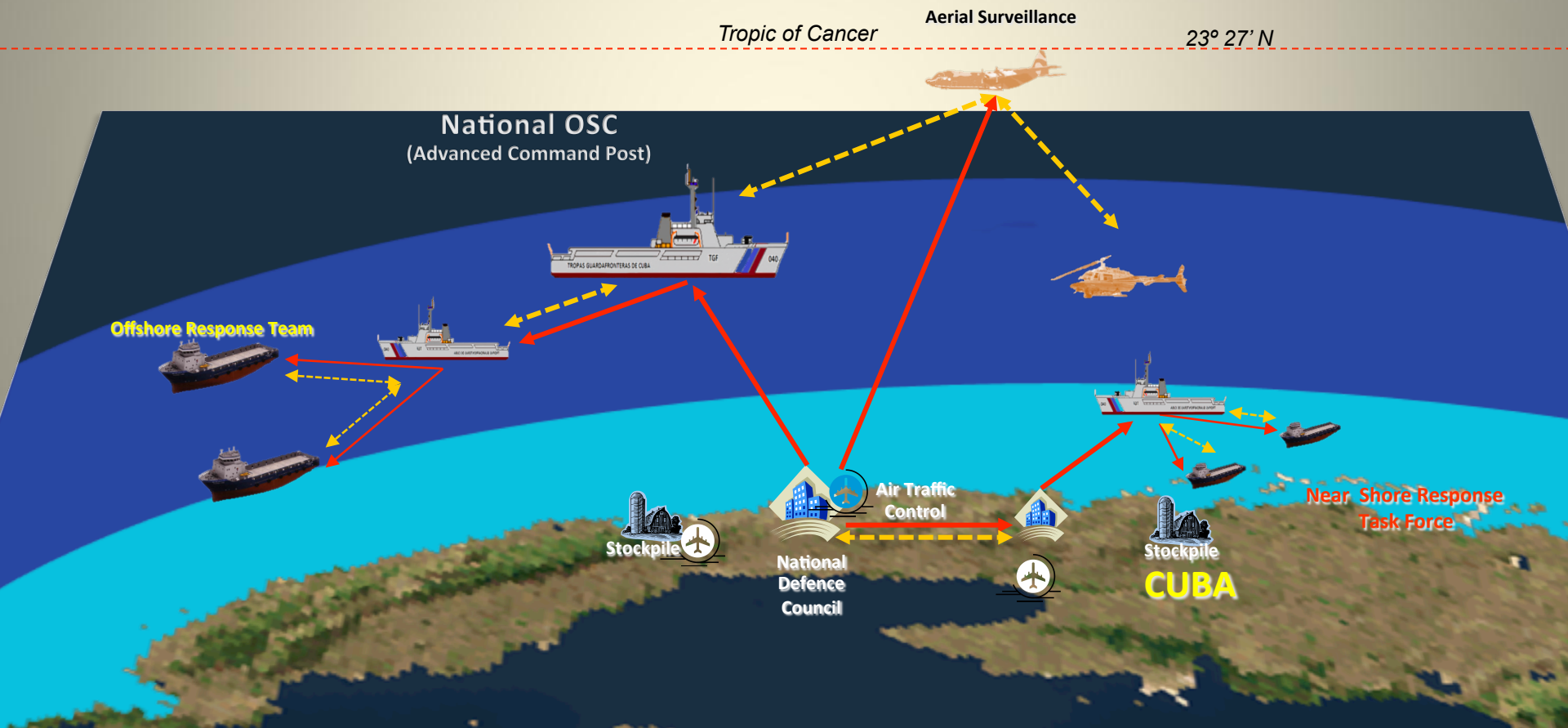
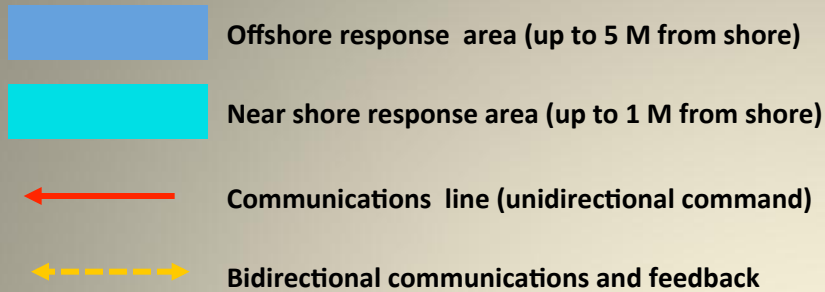
Tier 2

- Provincial Defense Council of the Potentially Affected Province
- Full Activation of the National Defense Council

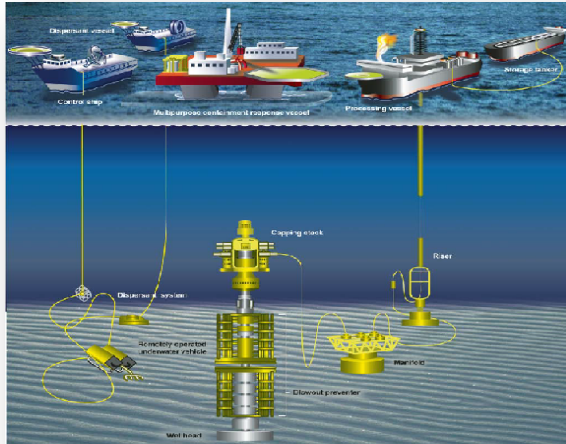
Tier 3

- Full Activation of National Capabilities

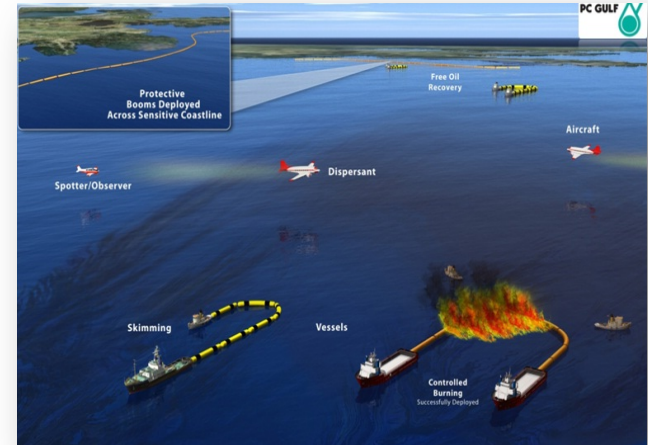
STRUCTURE OF THE RESPONSE ON THE SEA



RESPONSE ACTIONS: FOUR OPERATION ZONES



1. Well control operations zone



2. Surface operations for hydrocarbons containment and removal

4. Shoreline cleanup operations



3. Coastal protection operations

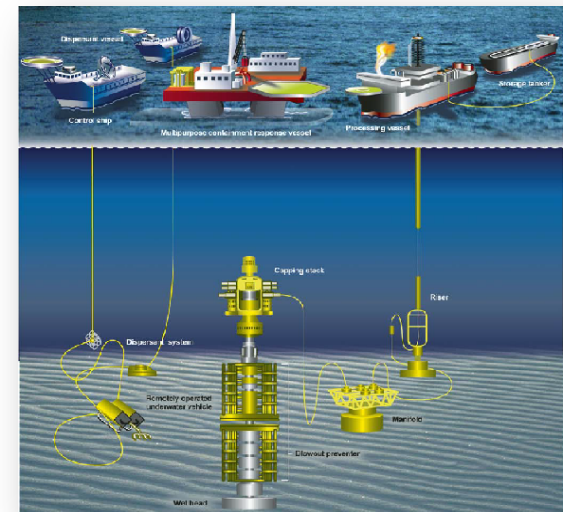




1. WELL CONTROL OPERATIONS ZONE

- **Primary response by the operator and response contractors with sub sea operations capabilities.**

- Capping & stacking
- Debris removal capabilities
- Subsea dispersants injection
- Subsea containment
- Relief well drilling



- **Operations support provided by the National Response Organization (NDC).**
 - Aerial and maritime traffic control
 - Provision of supplies
 - Land based support operations services for the operator, OSROs and other contracted organizations involved in the well control

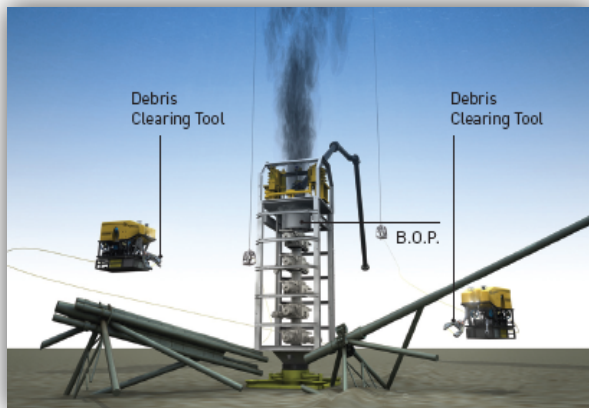


**OPERATIONS OVERSIGHT
BY THE NATIONAL
DEFENSE COUNCIL (NDC)**

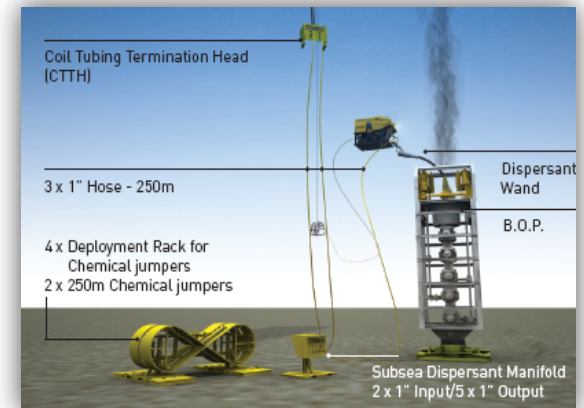


1. WELL CONTROL OPERATIONS ZONE

ALL EQUIPMENT IS PROVIDED BY THE OPERATOR AND THE RESPONSE CONTRACTORS WITH SUB SEA RESPONSE CAPABILITIES

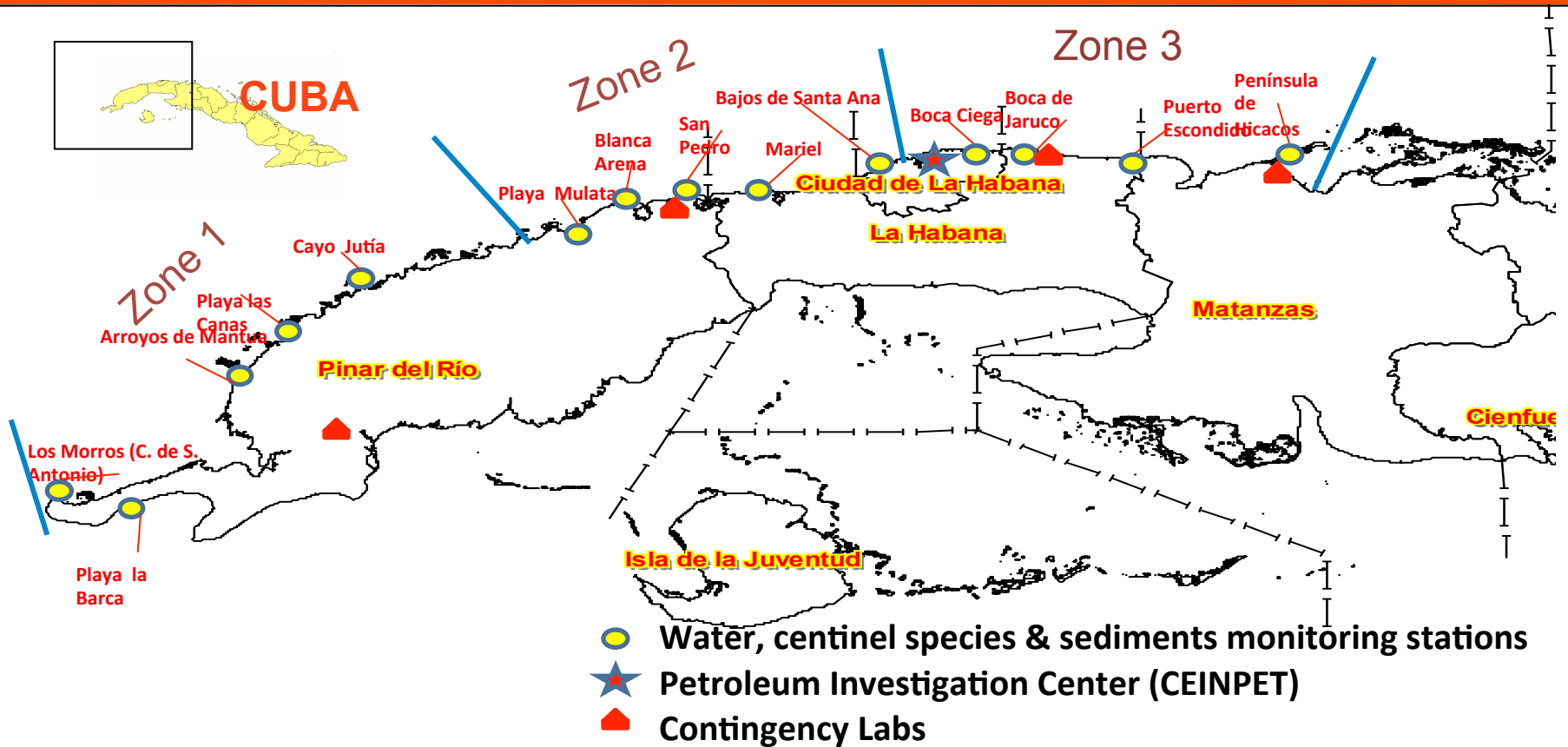




- Debris removal capability
- Capping stack
- Sub-sea dispersant injection
- Sub-sea collection capability

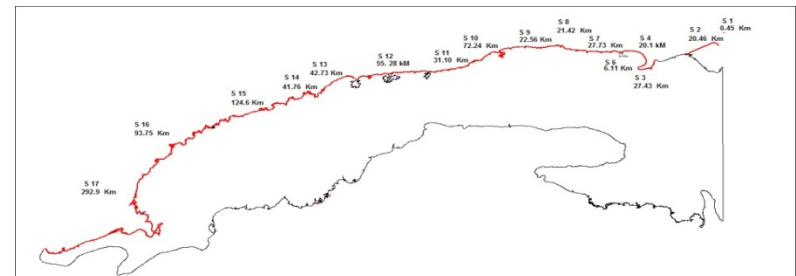




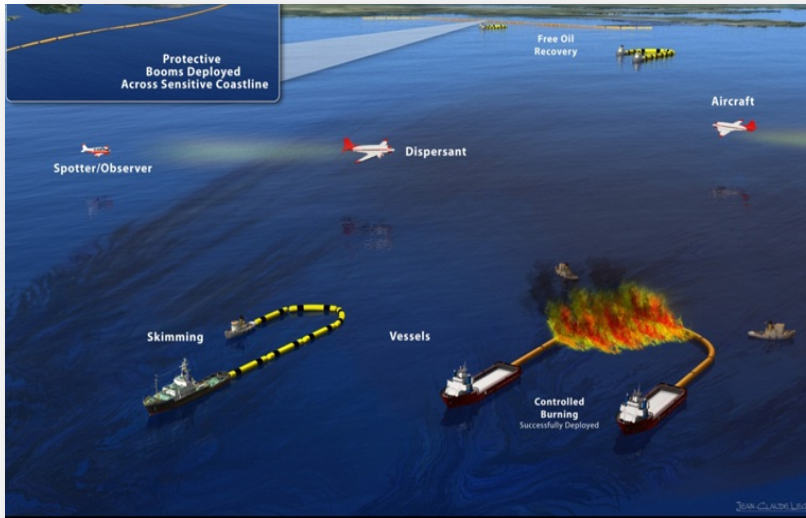
VALIDATION AND VERIFICATION OF MODELS BY ON SITE TEST SAMPLING AND MONITORING.



Tipo de costa	Enfrentamiento y limpieza
Arrecifes de coral (sectores 15 al 17) 	<ul style="list-style-type: none"> En los arrecifes franjeantes (como los que existen en la costa noroccidental de Cuba), no se realizan labores de limpieza. Se deja que se limpie con acción natural. En las áreas lagunares entre la barrera de coral y la costa, pueden usarse barreras y desnatadores.
Manglares (sectores 1, 12 al 17) 	<ul style="list-style-type: none"> Recuperación mecánica del hidrocarburo en la superficie lejos de las costas mediante el empleo de barreras, desnatadores u otros medios mecánicos. Protección de las costas con barreras rústicas absorbentes en las riveras, ensenadas y riachuelos del manglar o marisma Uso de bioremediadores en las zonas impactadas si todo lo anterior falla



2. SURFACE OPERATIONS FOR HYDROCARBON CONTAINMENT AND REMOVAL



- **Operations support provided by the National Response Organization.**

- Aerial and maritime traffic control
- Provision of supplies
- Land-based support
- Aerial surveillance
- Facilitate international assistance

- **Primary response by operator, response contractors, opportunity vessels, national and international specialized teams.**

- Containment
- Mechanical oil collection
- Use of surface dispersants
- In-situ burning

- **Operations are carried out from a minimal distance of 5 miles from shore up to the well control operation zone under supervision of the National Response Organization (NRCO).**



2. SURFACE OPERATIONS FOR HYDROCARBON CONTAINMENT AND REMOVAL

ALL EQUIPMENT IS PROVIDED BY THE OPERATOR AND THE RESPONSE CONTRACTORS



- Chemical Dispersion
- In-Situ Burning
- Containment & Protection
- Mechanical Recovery
- Temporary Storage
- Telecommunications



3. COASTAL PROTECTION OPERATIONS



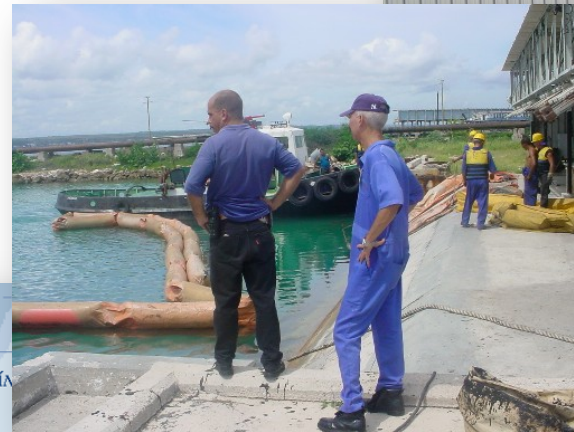
- **Response by National Response Agencies**
 - Oil containment**
 - **Mechanical oil collection**
 - **Use of surface dispersants (prior approval)**
 - **Case by case analysis for in-situ burning (prior approval)**
 - **Protection of sensitive coastal areas and cays with mechanical booms, hand made booms and makeshift barriers**
 - **Divert oil slick to less sensitive areas in the shoreline**





3. COASTAL PROTECTION OPERATIONS (CONT.)

- Equipment provided by the national oil company (CUPET) and response organizations under the Ministry of Transport and the Provincial Defense Council
- Equipment limited to be used up to 5 milles with good weather conditions (1,5 meter weave length or shallow waters)





3. COASTAL PROTECTION OPERATIONS (CONT.)

- **Operations directed by the National Defense Council. All national resources needed to face a disaster are available to the National Defense Council**
 - Border patrol surface naval units
 - Specialized tugs boats
 - Ro/Ro medium size cargo ships
 - Small tankers (900 TRB)
 - More than 3000 small boats and fishing vessels





4. SHORELINE CLEANUP OPERATIONS

- **Primary response by the local governments under the direction National Defense Council**
 - Damage assessment
 - Coastal ecosystem protection
 - Manual and mechanical oil collection
 - Shoreline cleanup
 - Bioremediation techniques
 - Waste management
 - Personal protection
 - Population protection



- **Logistic support is managed locally by the provincial governments**
- **Additional resources provided through international assistance, operator and the National Defense Council**



4. SHORELINE CLEANUP OPERATIONS

- Resources are also provided by the local industry acting under the Provincial Defense Council





4. SHORELINE CLEANUP OPERATIONS

- Additional non standard resources and manpower are prepared by the Provincial Defense Council

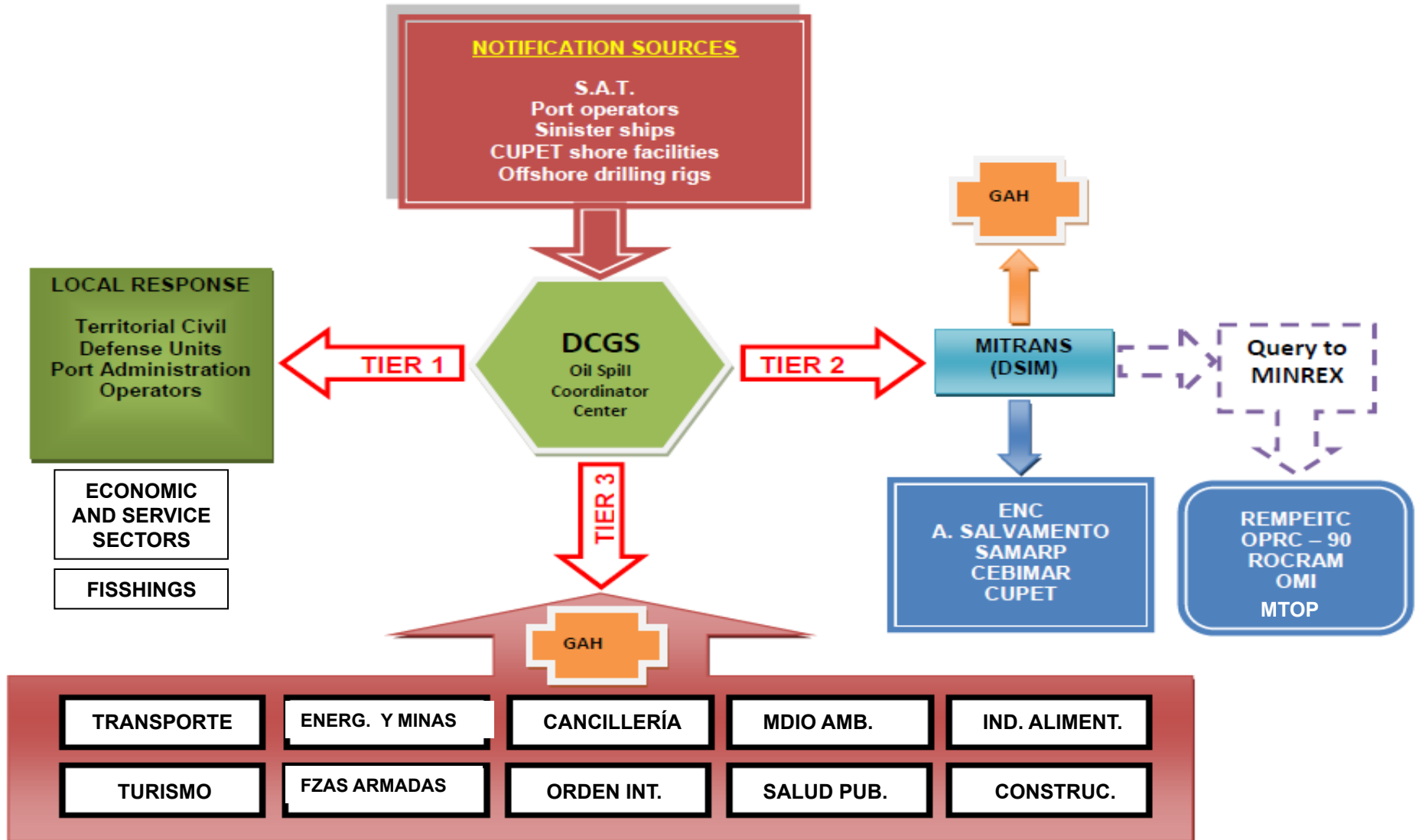


**More than 3000
people trained
in basic shore
cleaning tasks in
18
municipalities**





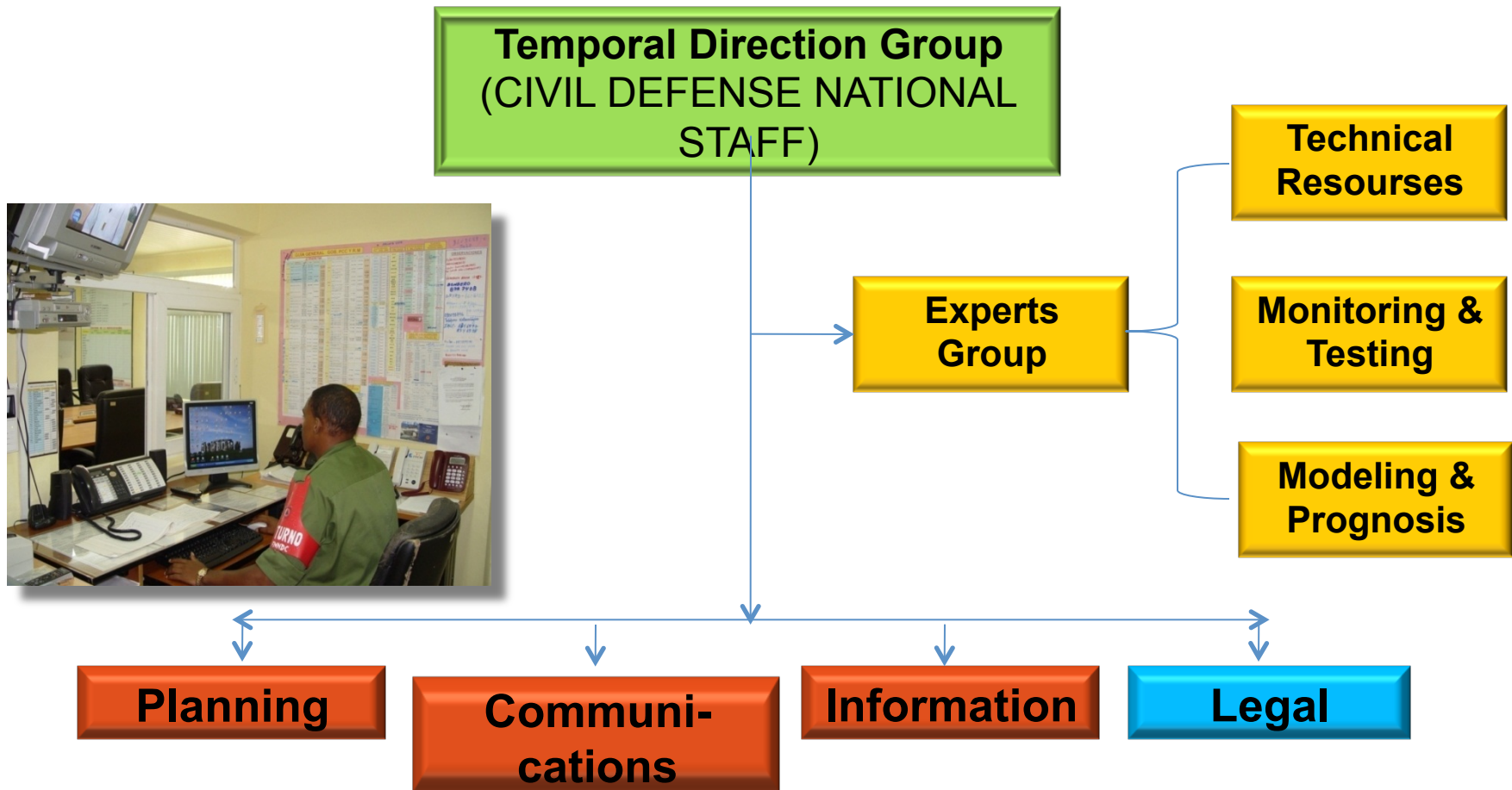
COMMAND AND DIRECTION ORGANIZATION OF THE RESPONSE (NOTIFICATION)





COMMAND AND DIRECTION ORGANIZATION OF THE RESPONSE

STRUCTURE OF THE TEMPORAL DIRECTION GROUP FOR OIL SPILL RESPONSE (TIER 1 AND 2)

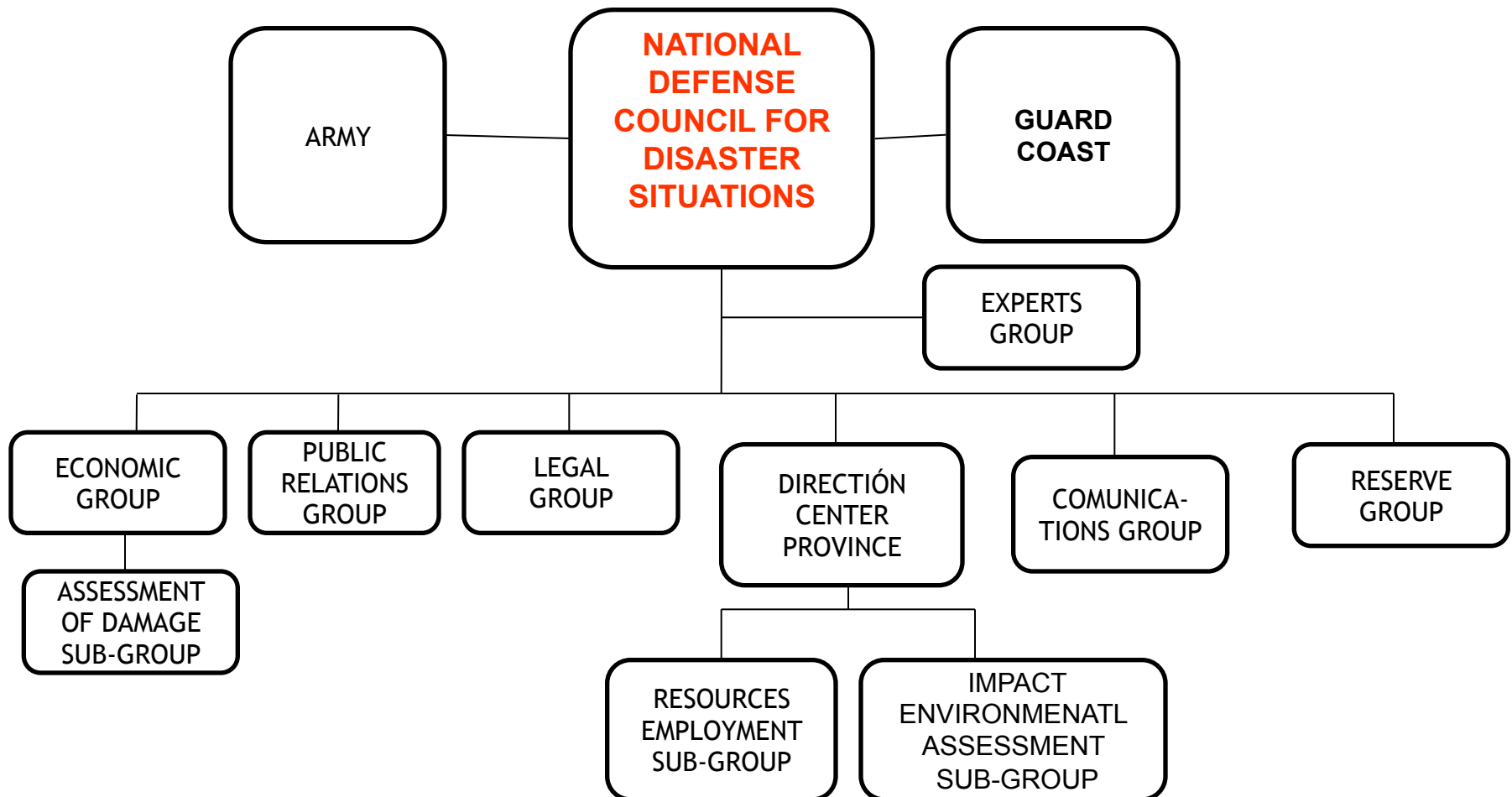


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COMMAND AND DIRECTION ORGANIZATION OF THE RESPONSE

STRUCTURE OF THE DIRECTION GROUP FOR OIL SPILL RESPONSE (TIER 3)





**Our common goal: "A safe
Sea, Clean Sea"**

Thank you