

# Implementation of a Vessel Monitoring System pilot project in Lebanon

Tunis – October 1, 2013



*“Technical Assistance to the Ministry of Agriculture  
in the field of fishery development”*

**CIHEAM**  
IAM BARI

**PESCA LIBANO Project – CIHEAM IAM BARI**



# CIHEAM-PESCA LIBANO Project



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VMS pilot action  
in Lebanon

The Lebanese  
fisheries context

- Short coastline
- Nr and typology of the vessels
- Reduced budget and staff devoted to fisheries

**THE TESTED SYSTEM IS OVERSIZED**  
in terms of cost-effectiveness  
and legal framework

**➔ For NATIONAL purposes => NON conventional VMS**

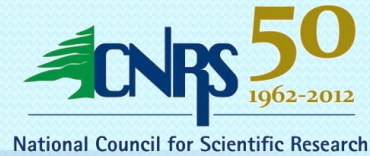
- *Ad-hoc* devices
- System owned by the Government able to send data to RFMO and GFCM-FMC
- Development of existing web interface and tools by IT specialists (FAO?)
- GPRS platform to transfer the data (good coverage, low fares, high-rate & real time)
- GIS expert, IT specialist, operator and control station

→ **this implies a high level of accountability of the Lebanese Government**  
→ **creation of an out-dated/obsolete system needing to be harmonised**

**➔ For SUPERNATIONAL purposes => Centralised Satellite-Based VMS**

→ **this will increase Leb capability of monitoring territorial waters and future EEZ**  
→ **this will reduce direct responsibilities held by the Government**

# CIHEAM-PESCA LIBANO Project



## **GENERAL OBJECTIVE**

To contribute to the strengthening of the Ministry of Agriculture in implementing policies that could bring economical and social benefits to the fishery sector

## **SPECIFIC OBJECTIVE**

Supporting and strengthening the Ministry of Agriculture in the management of marine fisheries toward the activation and development of the potentialities of Lebanon's marine coastal resources

## **FINAL BENEFICIARY**

Ministry of Agriculture of the Republic of Lebanon



## EXPECTED RESULTS

1. FULL DIGITALIZATION OF ON LAND MARINE FISHERY FACILITIES FOR SOCIO-ECONOMIC EXPLOITATION AND DEVELOPMENT
2. MARINE RESOURCES MAPPED, IDENTIFIED AND BETTER EXPLOITED
3. INSTITUTIONAL BUILDING
4. VISIBILITY AND PROMOTION

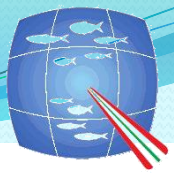


**Task 1.5** - A feasibility analysis and a pilot **study on the use of VMS system** to be developed on few vessels to be carried out in cooperation with GFCM



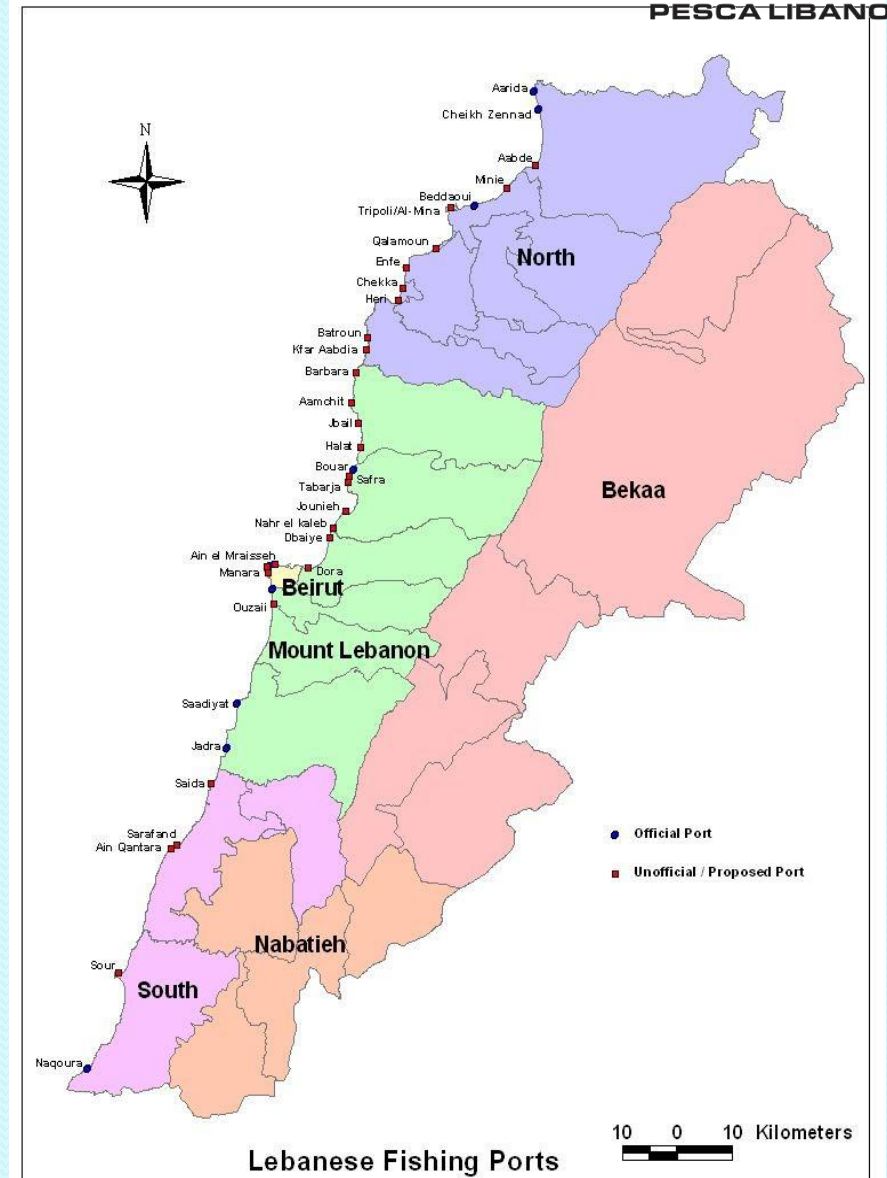


# LEBANESE CONTEXT



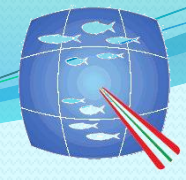
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- ✓ 44 ports and landing sites
- ✓ Small scale artisanal wooden vessels
- ✓ Majority with length less than 12 m
- ✓ In 2004, 2.836 registered fishing vessels
- ✓ Fishing techniques are mostly based on passive gears such as gillnets, trammel nets, longlines, purse seines
- ✓ Few vessels have a Global Positioning System (GPS), while the rest have very limited navigational or safety equipment
- ✓ The fleet is built almost exclusively for small scale and inshore activities
- ✓ The marine capture fisheries production in the last 10 years is around 3,500 tons/year





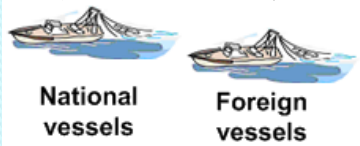
# VMS Pilot Action in Lebanon



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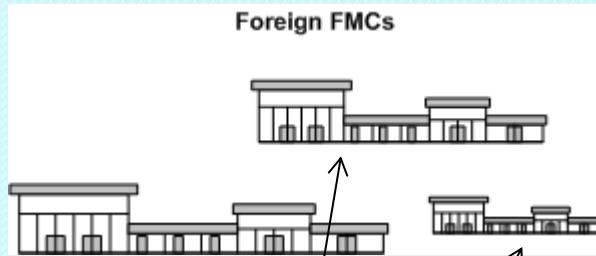
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SatCom Provider (Argos, Inmarsat, Iridium, etc.)



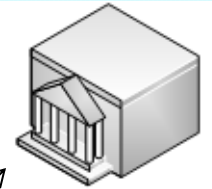
National vessels

Foreign vessels



Foreign FMCs

2



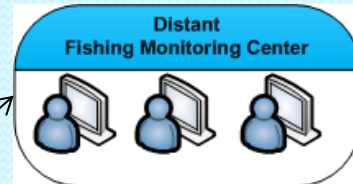
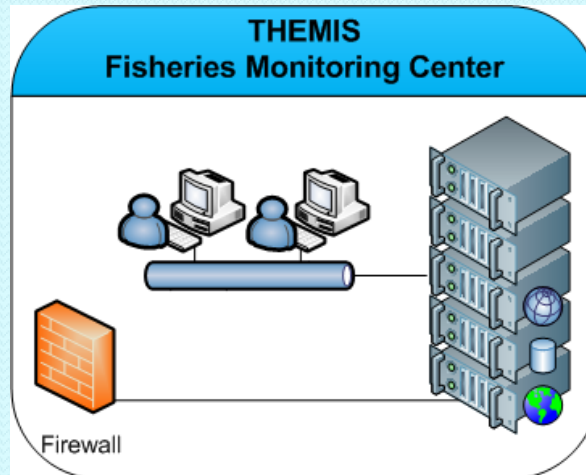
Regional Fishery Management Organizations

https

https

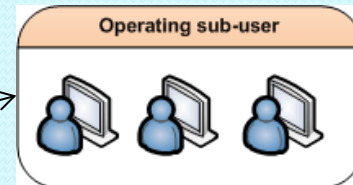
https

1



Distant Fishing Monitoring Center

Web



Operating sub-user

3



INTERNET







# VMS Pilot Action in Lebanon



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## How the transmitter works

### 1, TO TURN IT ON

Push the ON/OFF button for 5 seconds to start the transmitter. A **GREEN** flashing light will indicate the unit is working correctly. This will flash every 10 seconds in normal conditions.



### 2, TO SEND A REQUEST FOR ASSISTANCE

In case of an emergency, lift the protective cover and push the **ASSISTANCE** button for at least 2 seconds. A **RED** flashing light every 10 seconds indicates the unit is transmitting the request for assistance.

*Caution: Rescue operations may be organised as soon as an assistance message is sent.*



### 3, TO CANCEL THE REQUEST FOR ASSISTANCE

Push the **ASSISTANCE** button for 2 seconds. Once the unit has registered the cancellation, the **GREEN** light will flash for confirmation.



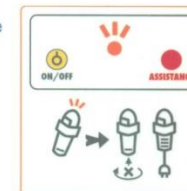
### 4, TO RECHARGE THE BATTERY

When the **ORANGE** light flashes, the transmitter doesn't function in nominal mode, it is time to recharge the battery. With the low battery, the assistance mode still functions operationally for 5 days.

Open the base cap with the yellow opening key provided.

Plug in the charger.

Wait for 6 hours before stopping the charge. The charger's **GREEN** light flashes to confirm the charging cycle is finished.



### 5, TO TURN IT OFF

Push the ON/OFF button for 3 seconds then release it to stop the transmitter. The light will stop flashing.







# VMS Pilot Action in Lebanon

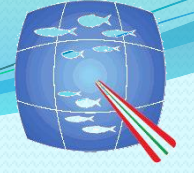


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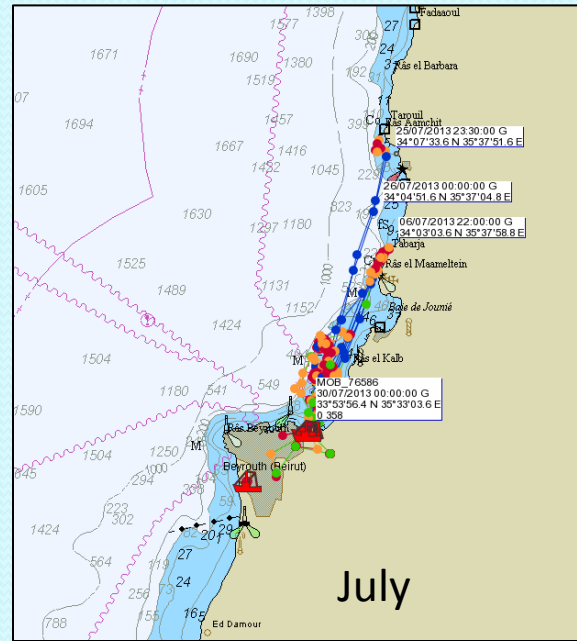
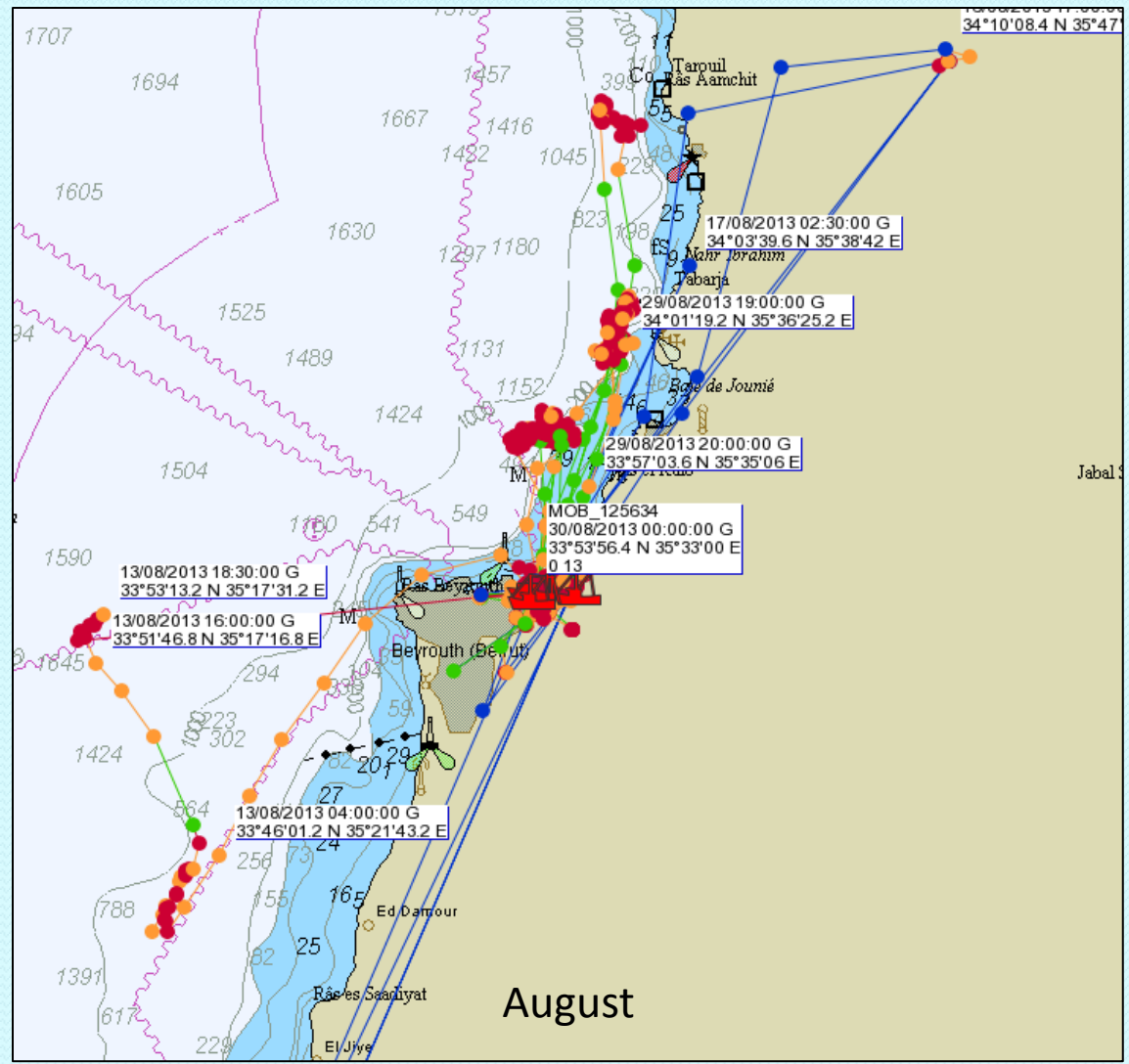
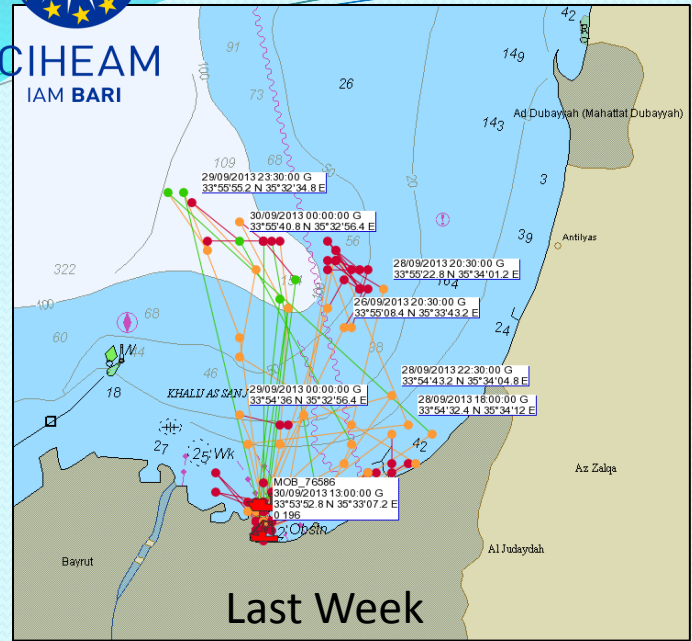




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## Advanced Asset Tracker

- 📶 Vibration Feedback Confirming Successful Button Operation
- 📶 Water Resistant
- 📶 Full Power Management
- 📶 Thumb Sized Button Allowing Easier Emergency Alert or Instant Geo-fence Setting
- 📶 400 Hours Standby Time, Up to 200 Days Standby Time With External Battery Accessory



## GPS Tracker

- 📶 Wide Operating Voltage Range 8 to 32V DC
- 📶 Multiple Inputs/Outputs
- 📶 Zero Power Consumption when Ignition Off
- 📶 Water Resistant, IPX6 Compliant
- 📶 Internal Relay with Latched Circuit



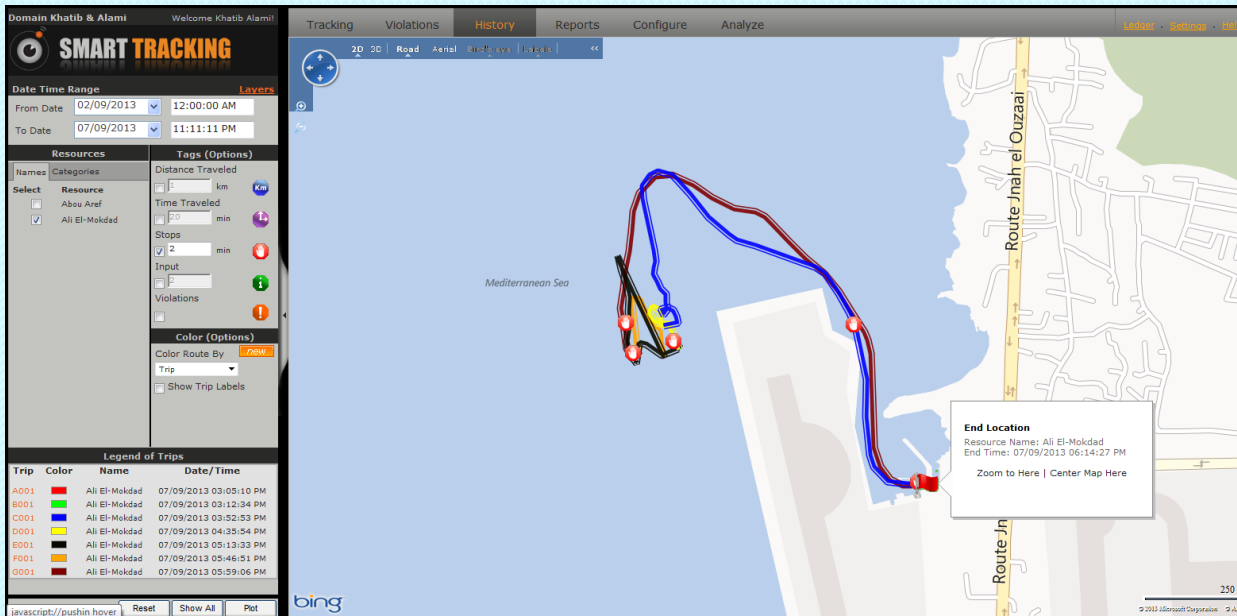
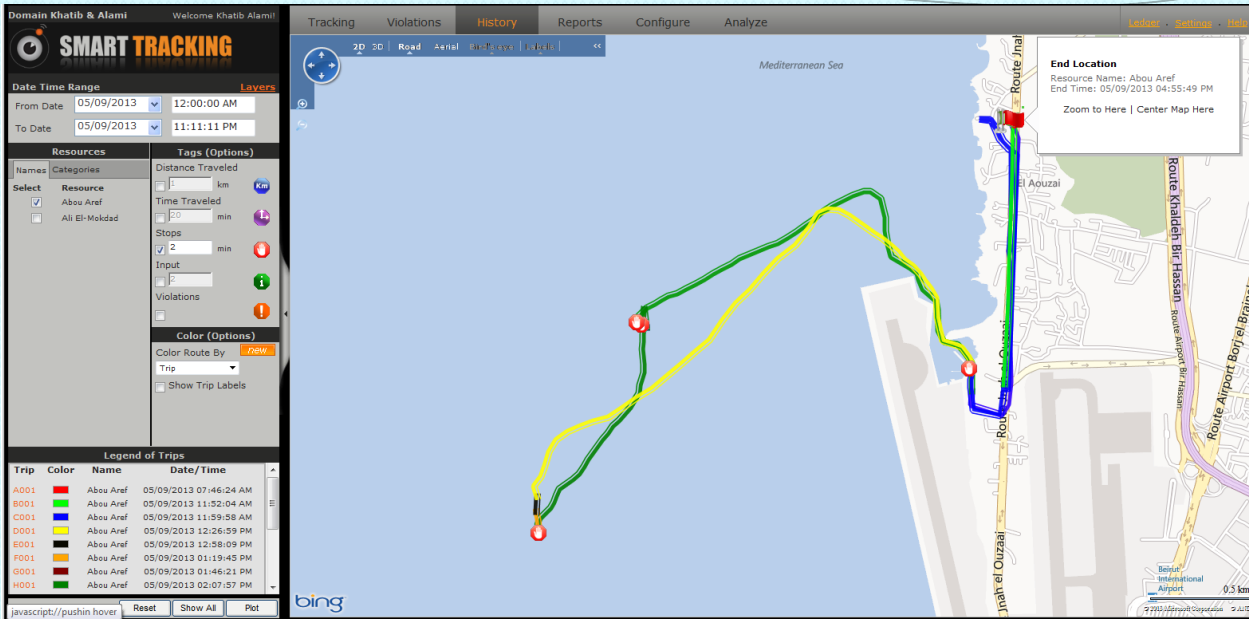
ESRI Lebanon



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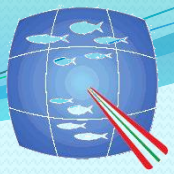


ESRI Lebanon





# PESCA LIBANO WebGIS



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pescalibano.cnrs.edu.lb/en/gis/

Pesca Libano Project GIS Publications Fish Atlas Restaurants Ocean data Metadata Admin Logout

GIS Viewer

Map Layers

- VMS
  - VMS Tracking Data
- Restaurants
  - Restaurants
- Stock Assessment
  - RC-TYRE Survey 2006/07
  - CNRS-NAQOURA Survey 2006/07
  - RC-BATROUN Survey 2006/07
  - CIHEAM-PESCA Libano Survey 2006/07
- Ports
  - Vessels (15 to 20 m length)
  - Vessels (12 to 15 m length)
  - Vessels (9 to 12 m length)
  - Vessels (0 to 9 m length)
  - Ports
- Environmental
  - Rivers
  - Protected Areas Proposals
  - Natural Reserves
  - Environmental NGOs
  - Coast Line
  - Land Cover
  - Potential Sites for Aquaculture

Study Area

Study Area

Pesca Libano Project GIS Publications Fish Atlas Restaurants Ocean data Metadata Admin Logout

GIS Viewer

Map Layers

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  - Coast Line
  - Land Cover
  - Potential Sites for Aquaculture
  - Bathymetry
- Boundaries
  - Villages
  - Caza
  - Study Area
- Pesca Layers

Tiles Courtesy of MapQuest Portions Courtesy NASA/JPL-Caltech and U.S. De



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**Thank you  
for your attention**



## TENTATIVE BREAKDOWN: Rough/indicative figures

	CLS	ESRI	“Internal”
<b>Beacon</b>	750 €	200 €	?
	-	250 €	-
<b>Data transfer (airtime)</b>	75 €/vess once	-	-
	50 €/year/vess	36 €/year/vess	36 €/year/vess
<b>Web Interface</b>	60 €/year	30,000 €	8/10,000 €
<b>Maintenance</b>	0	10,000 €	0
<b>Internet</b>	0	36 €/year/ves	0