



Location Map



UTM Zone



References

 Study Area Limit

 Country Limit

**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**

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**General Location
of Study Area**

Number

1



Location Map



References



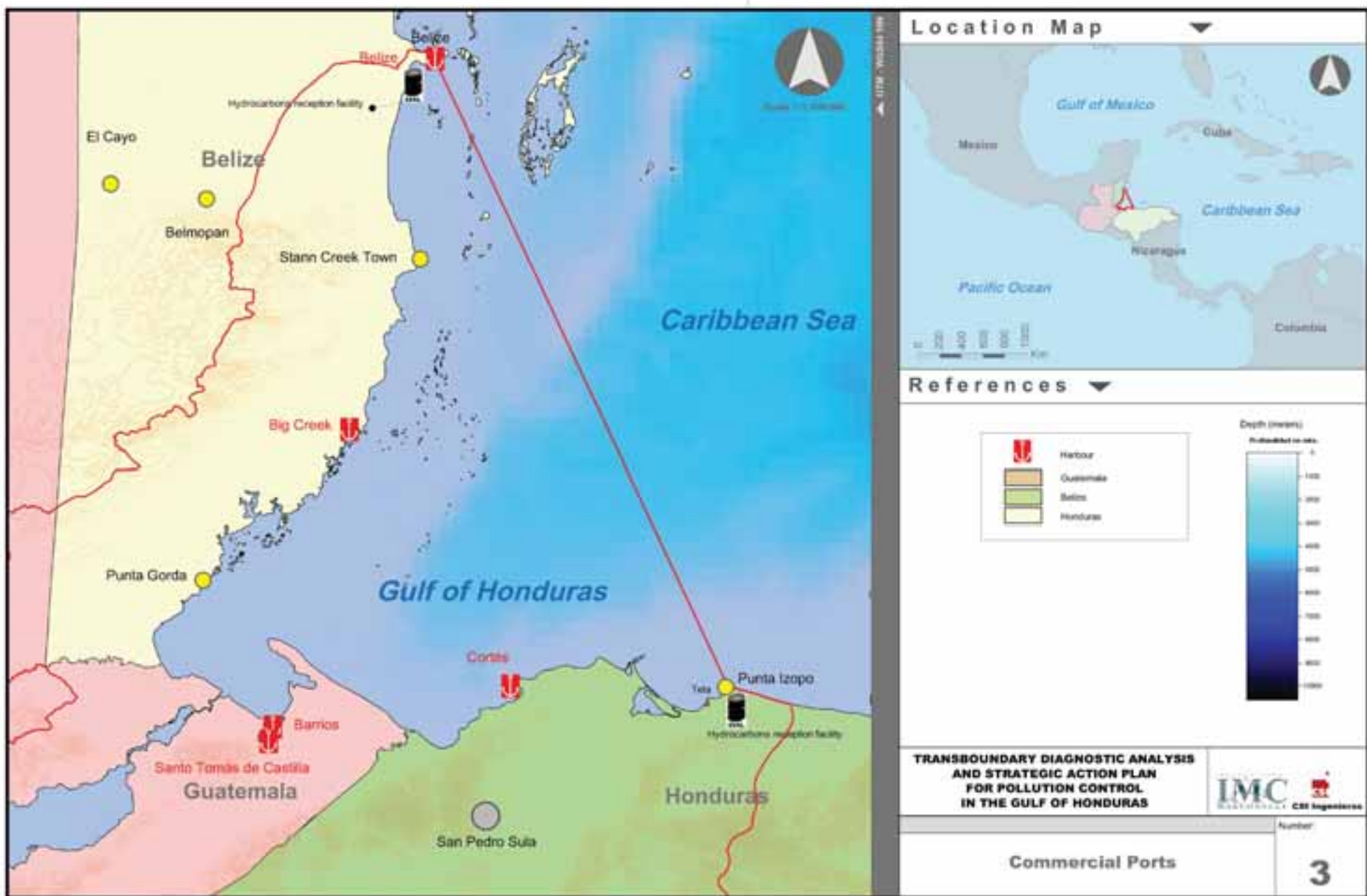
**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
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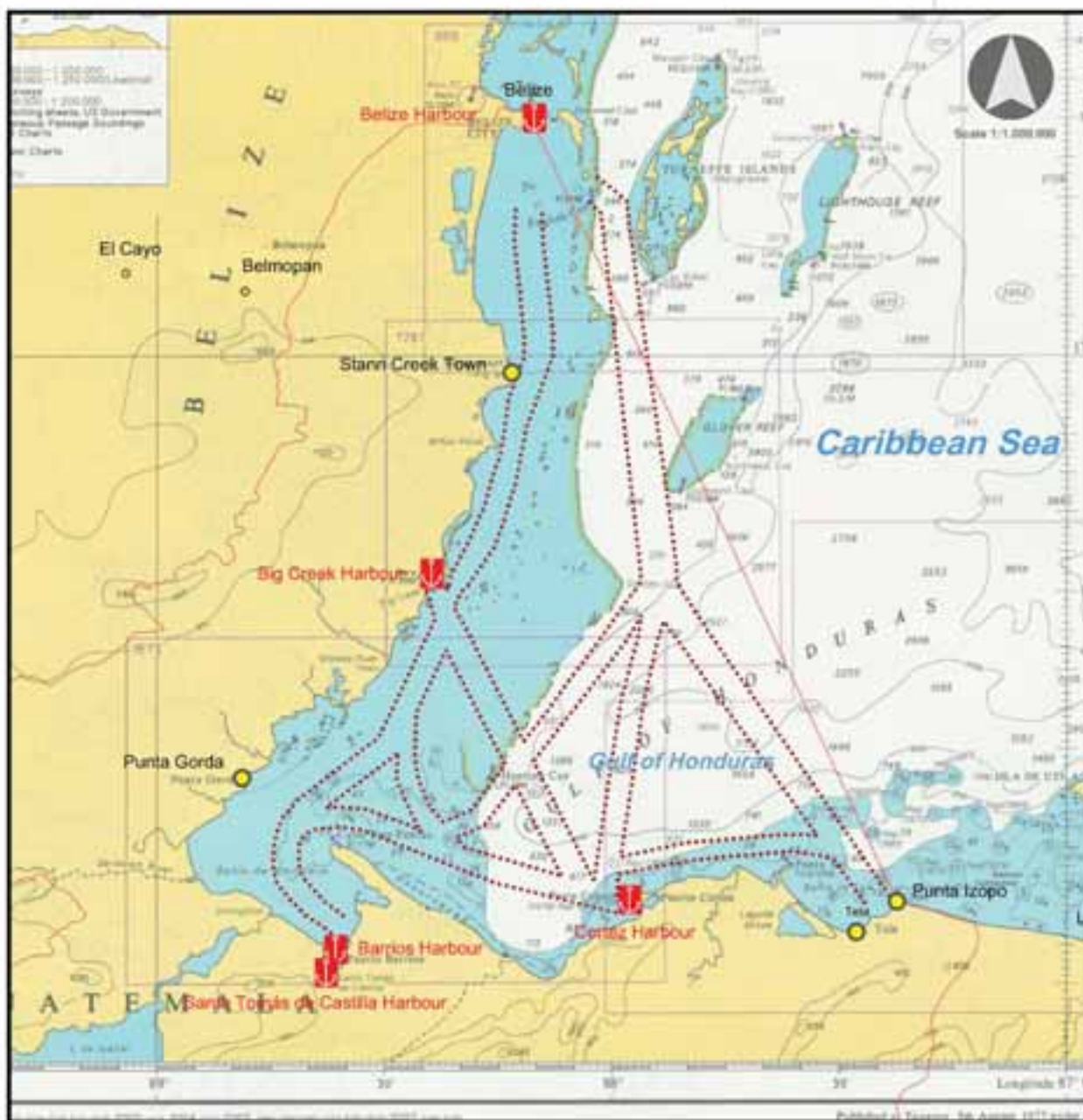


Study Area

Number

2





Location Map



References



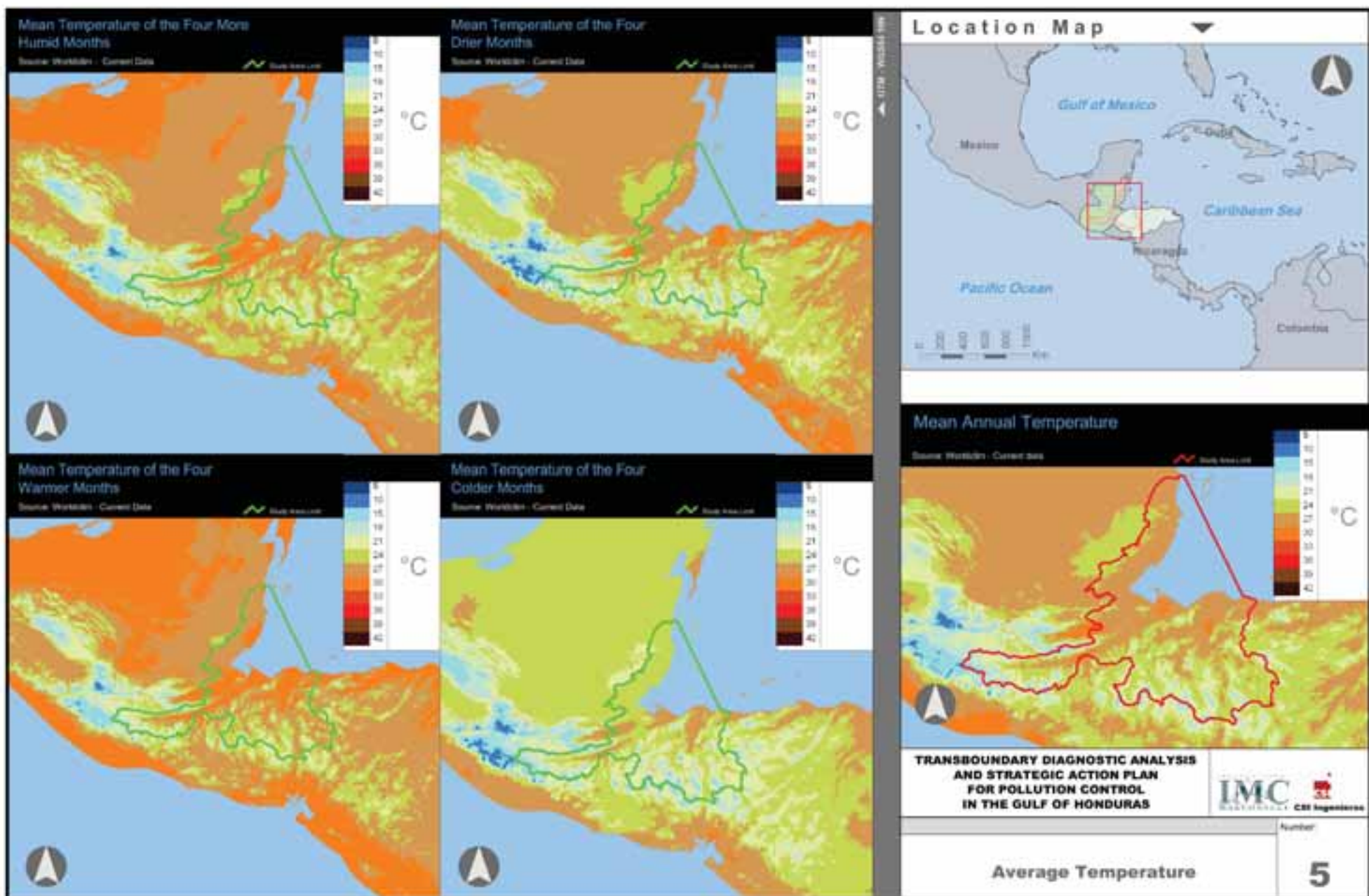
**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
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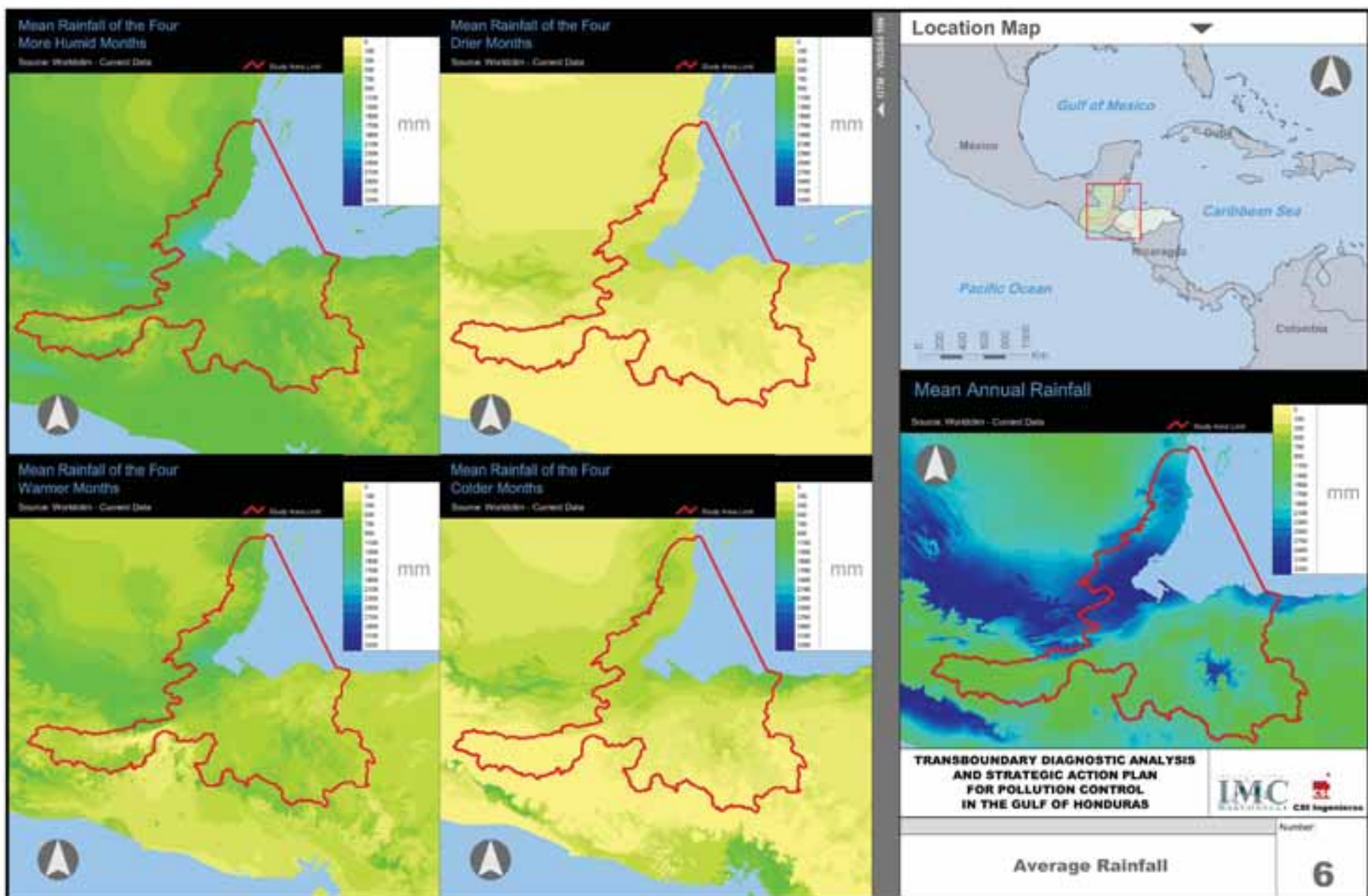


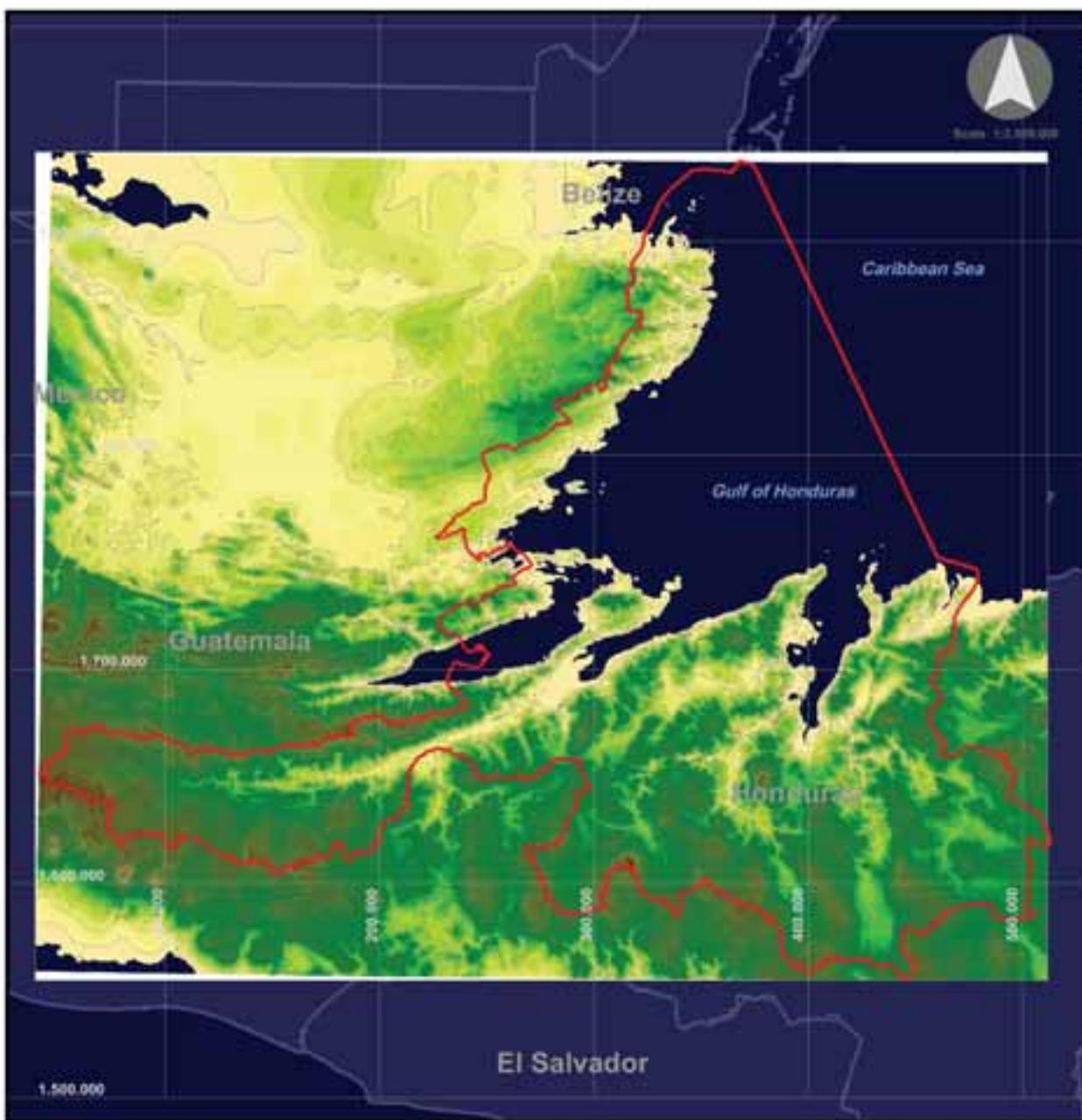
Navigation Routes

Number

4





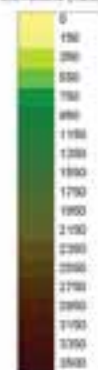


Location Map

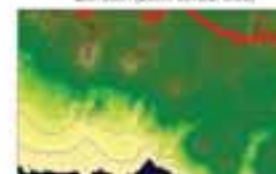


References

Elevations (meters)



Elevation (200m contour lines)



- Country limit
- Study limit

Note: Elevation data obtained from the world digital land elevation model developed by the U.S. National Aeronautics and Space Administration (NASA) known as "Shuttle Radar Topography Mission" SRTM

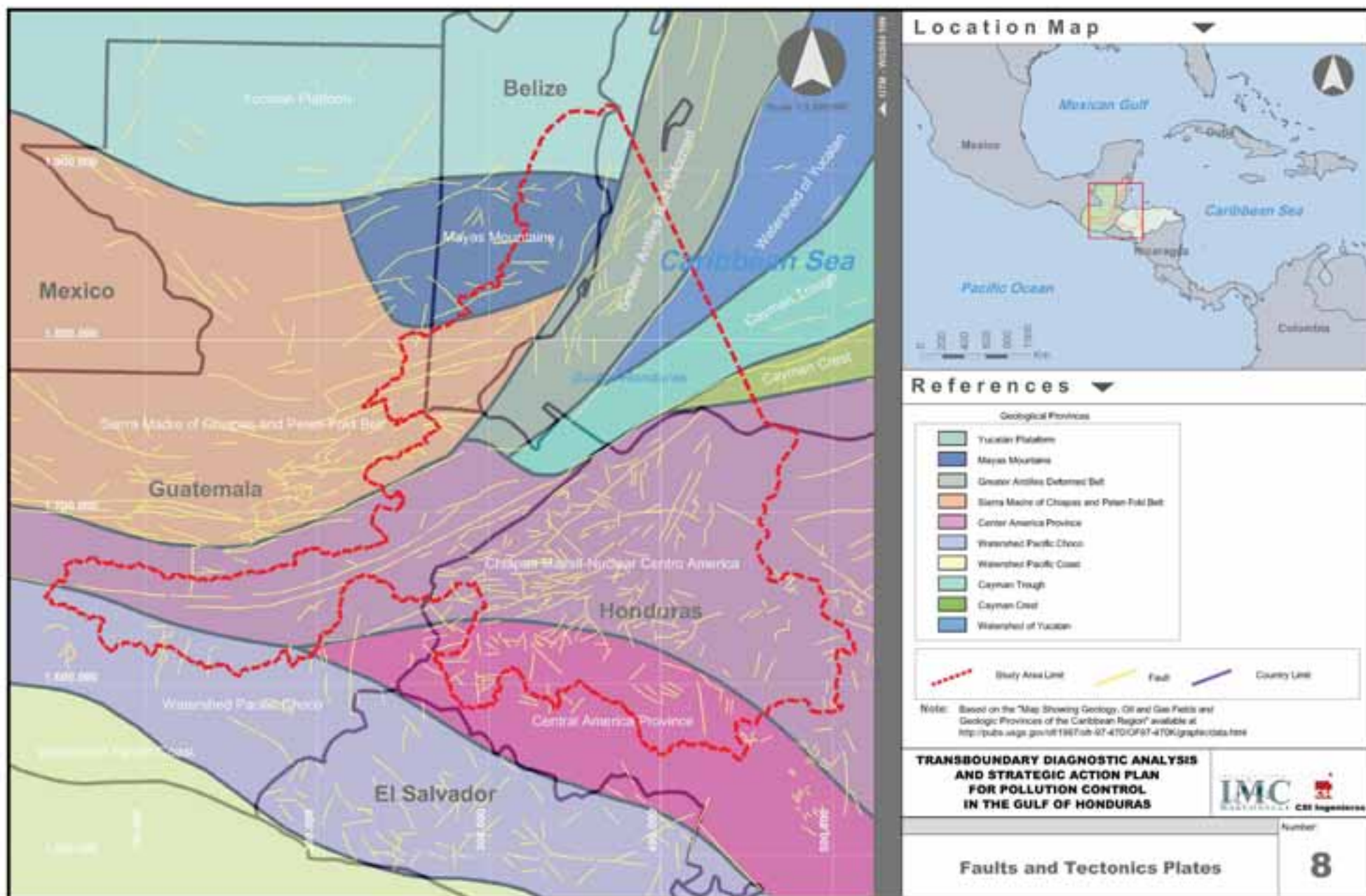
**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
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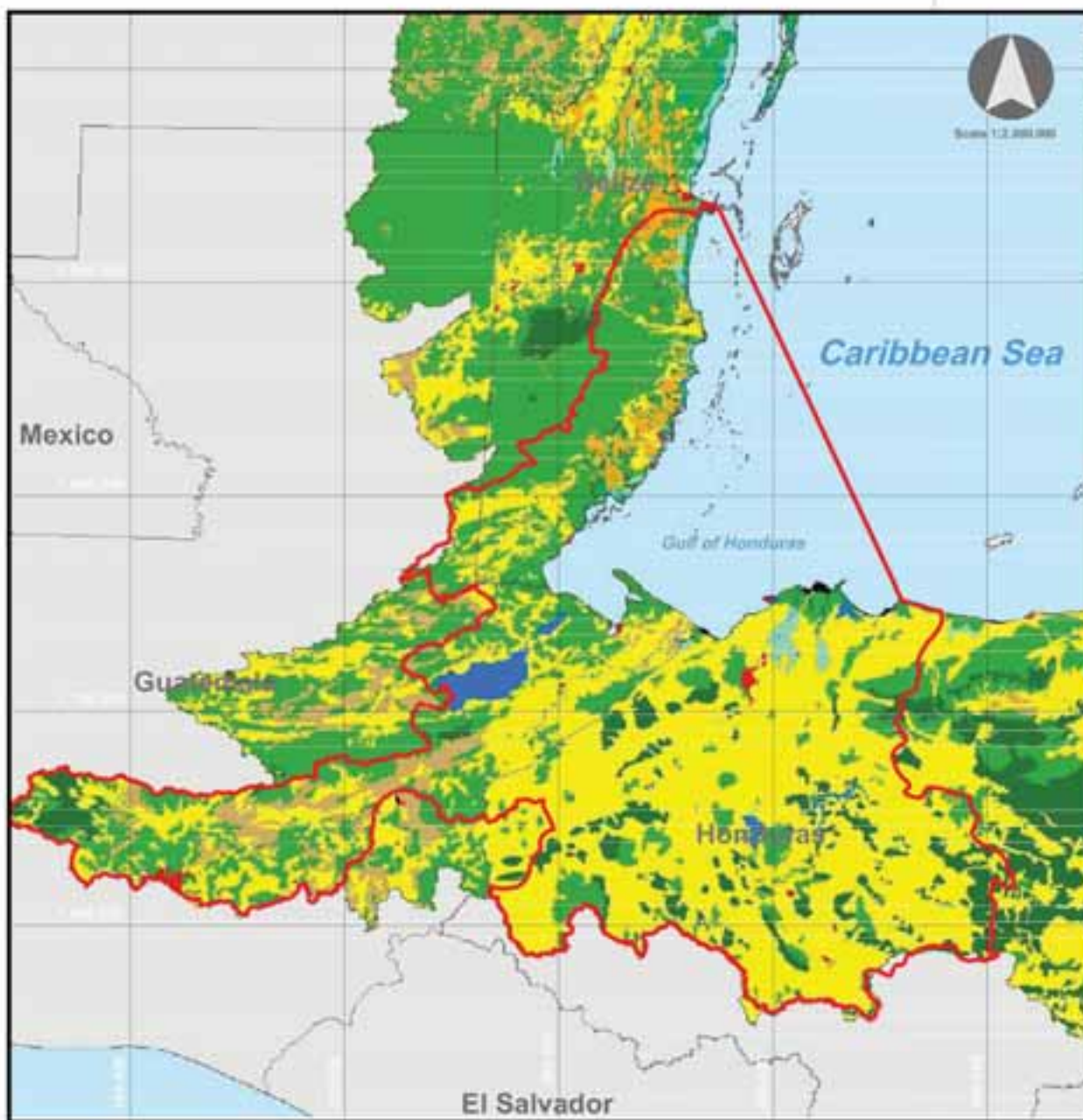


Number

Topography

7





Location Map



References

Land Use



Study Area Limit

Note:

Based on Information Corresponding to the "Soil and Terrain Database for Latin America and Caribbean (SOTERLAC)" Available at <http://www.isric.org/LAC/About/GRAC/Projects/Trade+Records/SOTERLAC.htm>

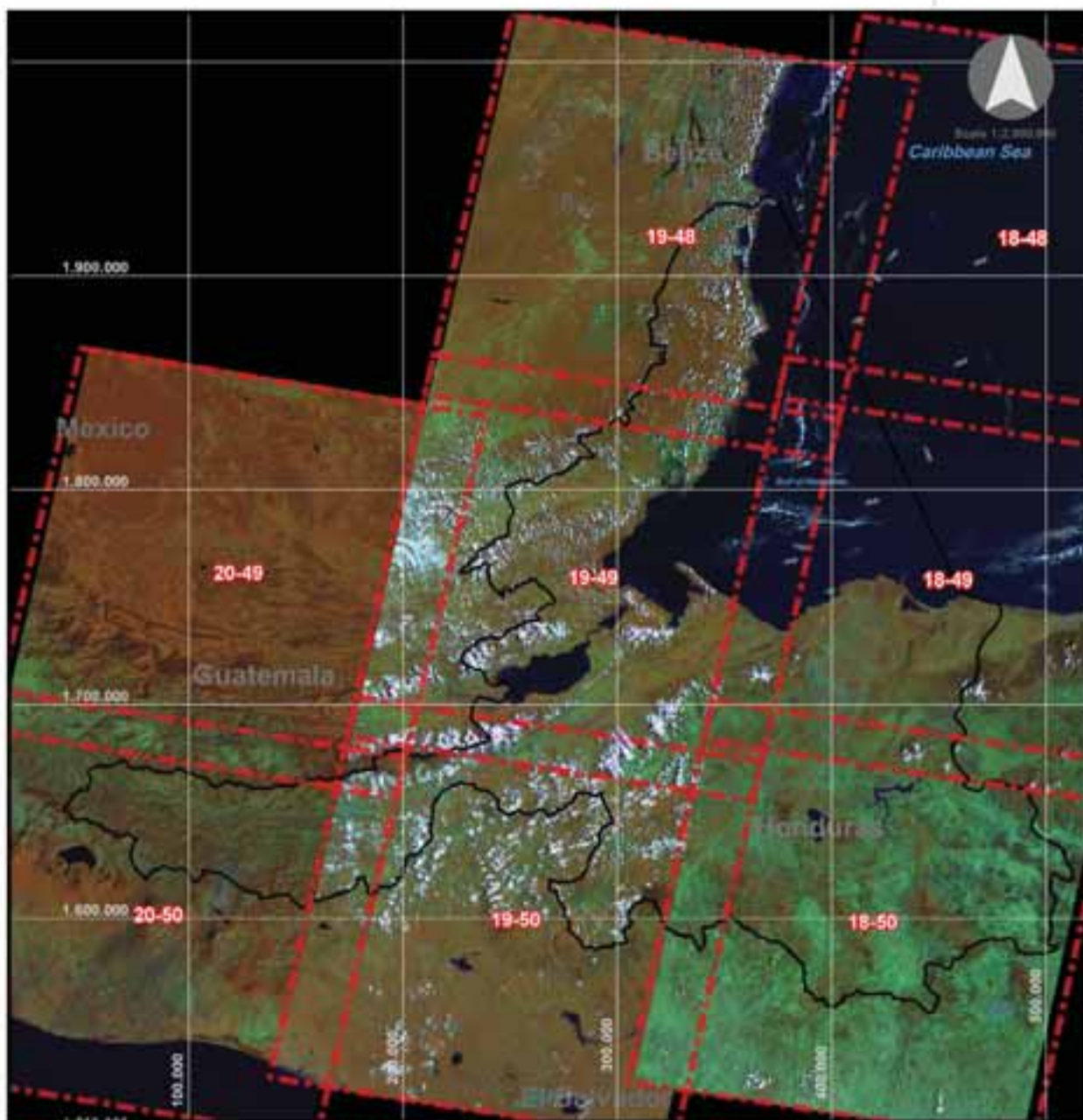
**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
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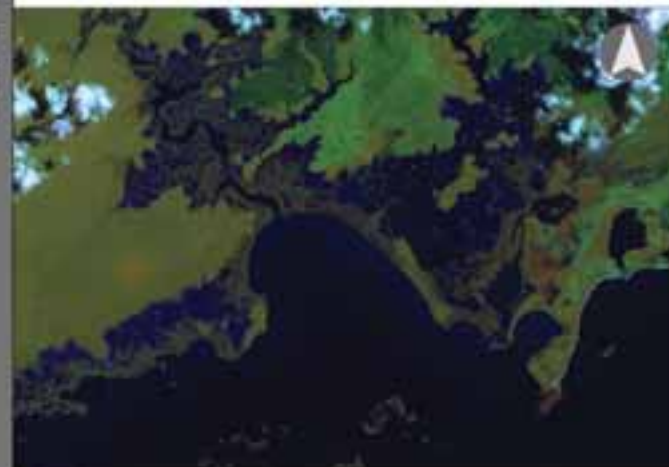
Land Use

Number

10



Details



Landsat scene grid



References

Study Area Limit
Landsat Scene

Note: Year 2000 scenes processed with RGB colour +53. The footage was obtained from the USGS Website

**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



Landsat ETM+ Images Coverage

Number

11



Note: Data obtained from CCAD's SRS available at <http://cannabis.wisc.edu>

**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



Amount

Watersheds

12



Location Map



Location of the Nautical Chart



References



Study Area Limit



Drainage Basin Limit

Note: Based on the Nautical Chart N° 1220 "Gulf of Honduras and Yucatan Channel", scale 1:1,000,000, edition 1995, elaborated by the United Kingdom Hydrographic Office.

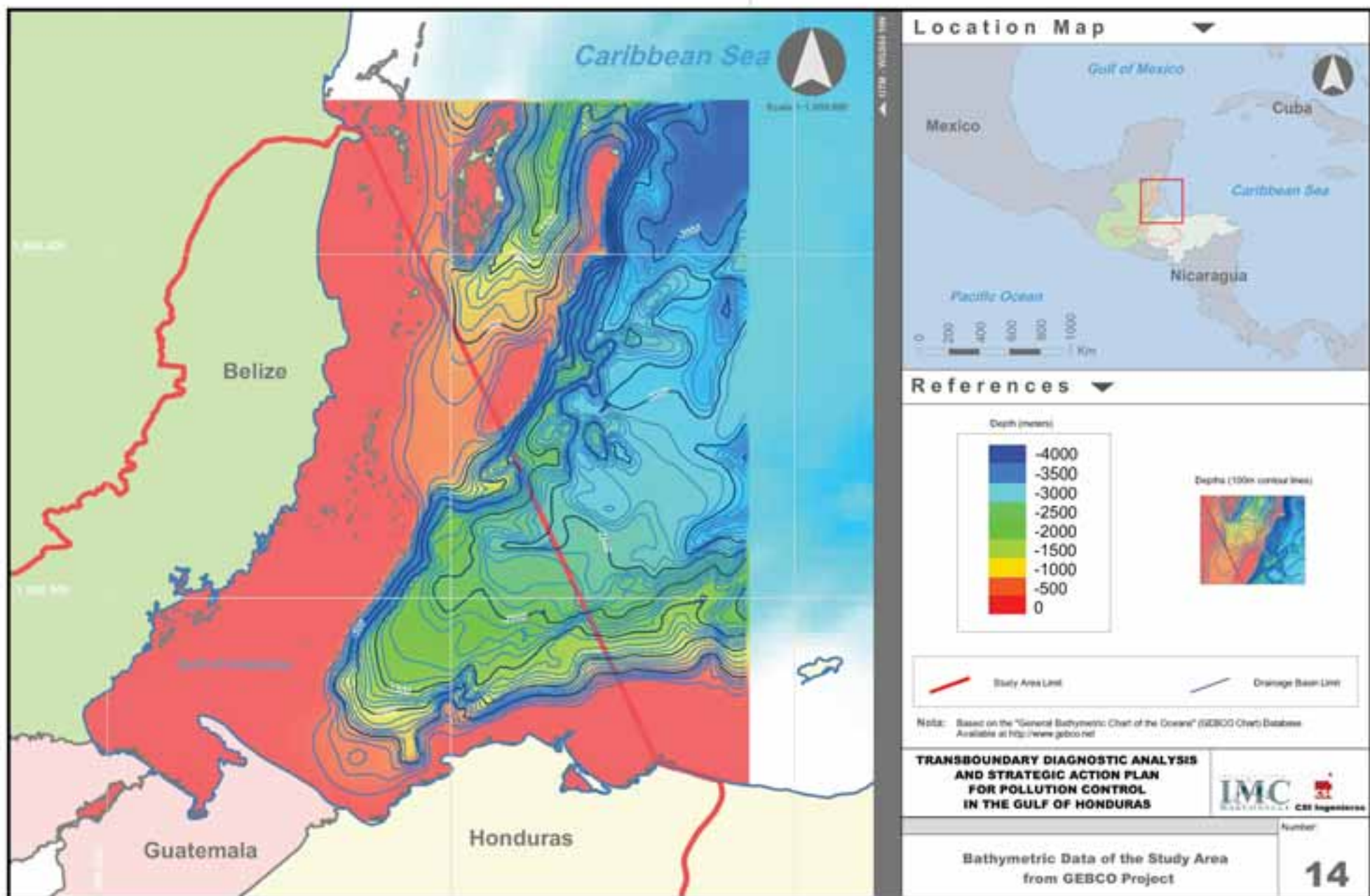
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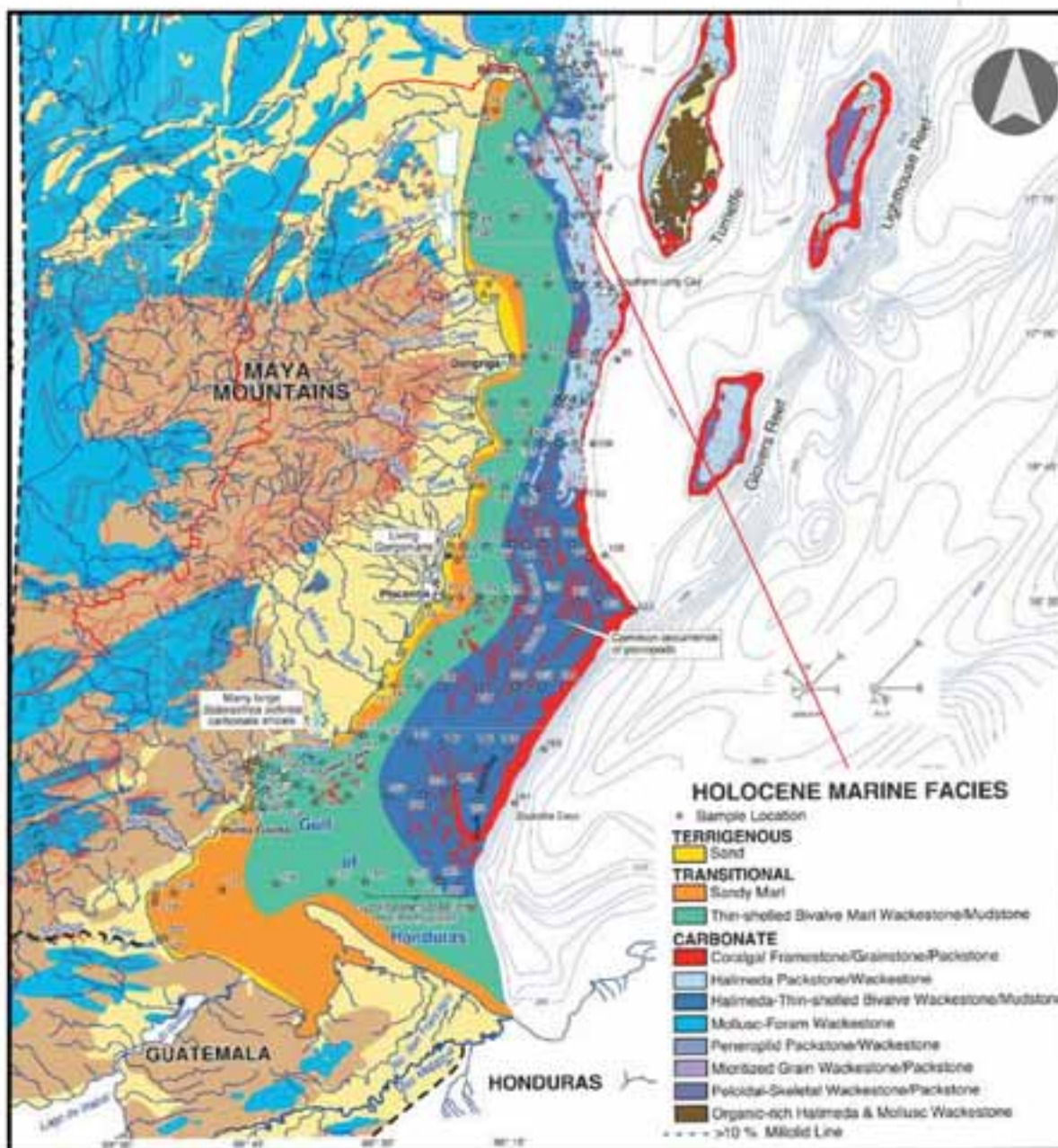


Bathymetric Data obtained from the
Nautical Chart N° 1220 (UKHO)

Number

13

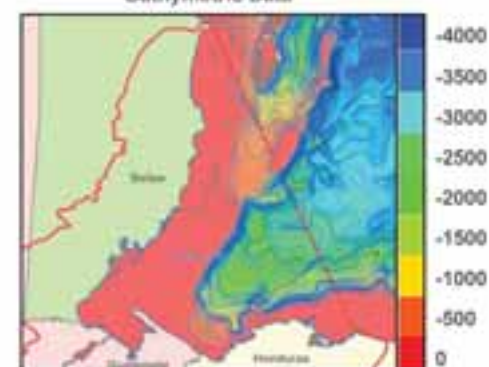




Location Map



Bathymetric Data



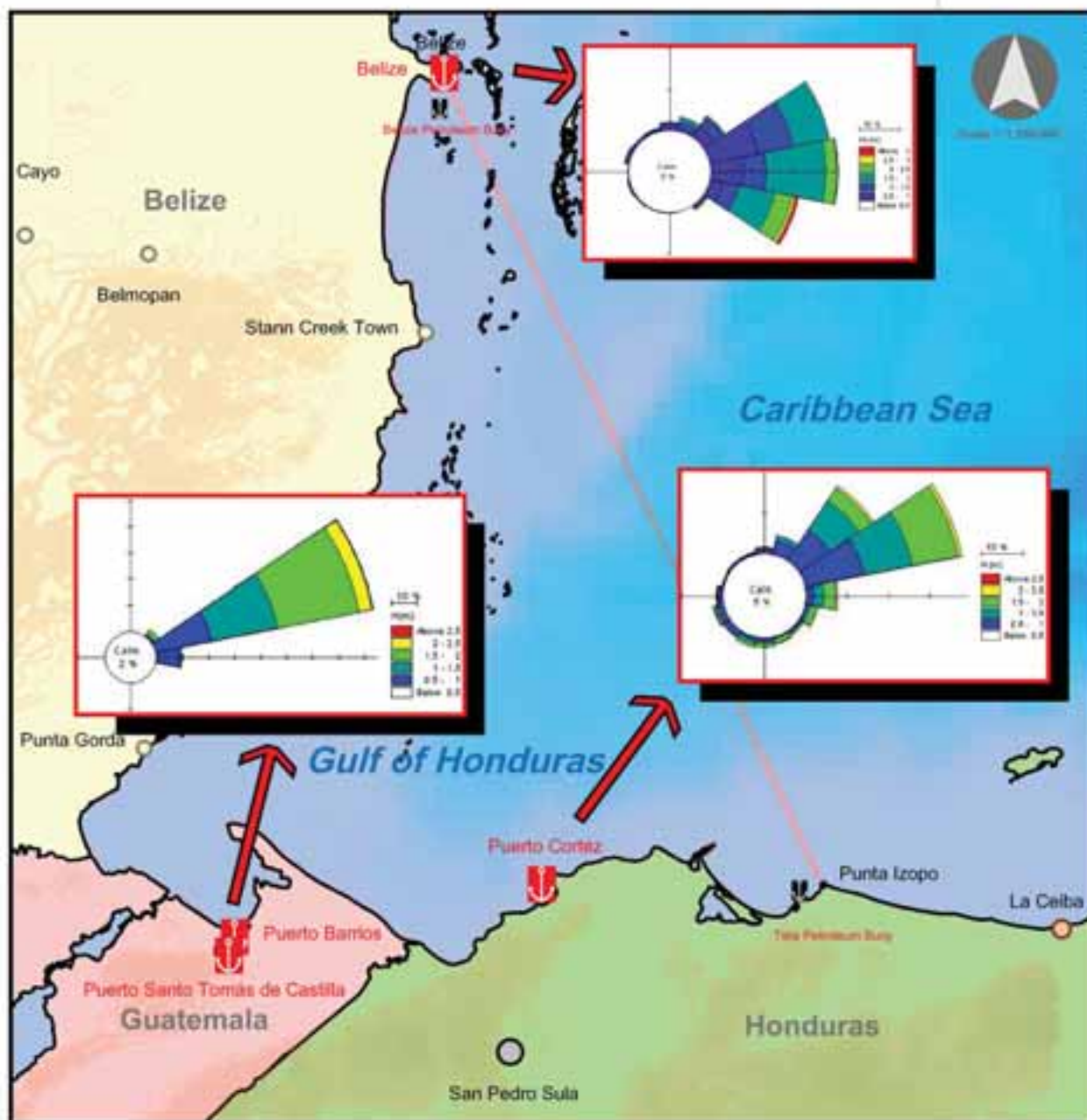
Note: Based on Probst & Gortler (2003)

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Sedimentary Facies

15



Location Map

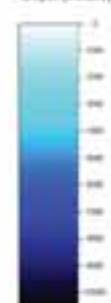


References

- Petroleum Bury
- Harbour
- Study Area
- Guatemala
- Belize
- Honduras
- Other places

- Islands**
- less than 50 000
 - between 50 000 y 100 000
 - between 100 000 y 250 000
 - between 250 000 y 500 000

Depth (meters)



Note: Data obtained from ALATEC (Ingenieros Consultores y Arquitectos) - Valencia Port (2007)

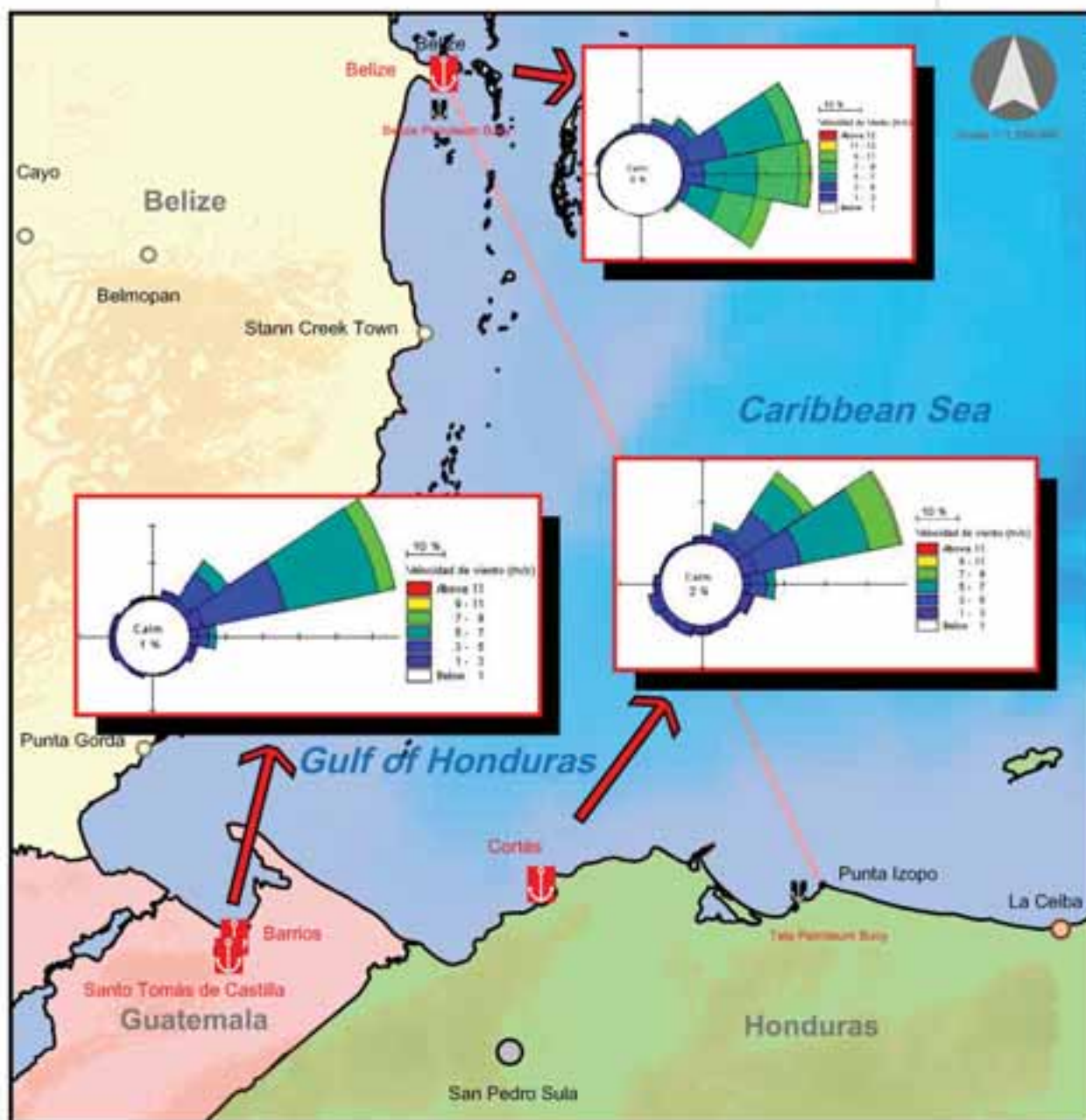
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**Waves Heights at the
Study Area Ports**

Number

16



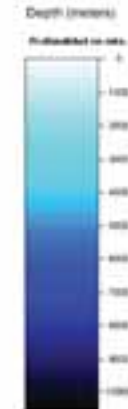
Location Map



References

- Petroleum Bay
- Harbour
- Study Area
- Guatemala
- Belize
- Honduras
- Other places

- Islands**
- less than 50 000
 - between 50 000 y 100 000
 - between 100 000 y 250 000
 - between 250 000 y 500 000



Nota: Data obtained from ALATEC (Ingenieros Consultores y Arquitectos) - Valencia Port (2007)

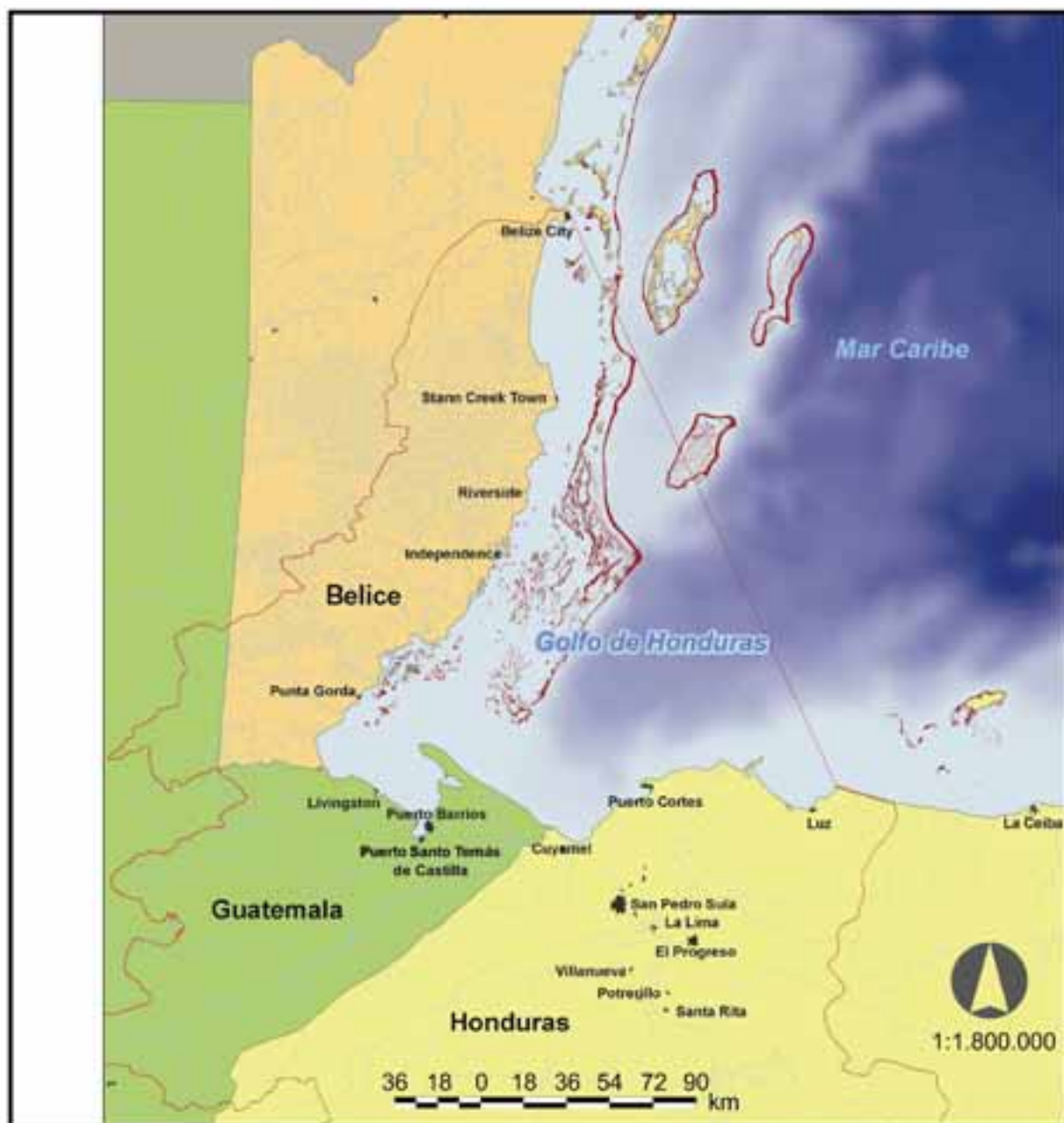
**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
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FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



Wind Speeds at the Study Area Ports

Number

17



Location Map



References



Note: Based on information provided by "The Nature Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecoregional Assessment of the Mesoamerican Reef System" (Arriaga y Wroblewski, 2008)

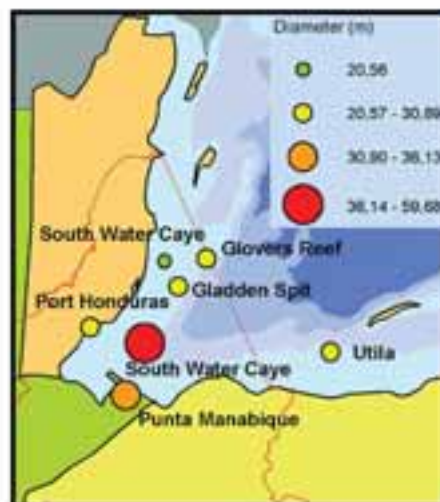
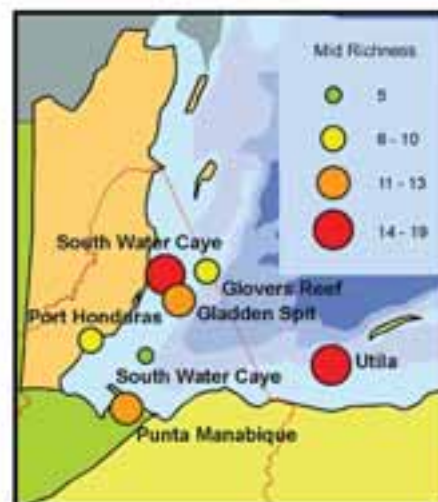
TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND STRATEGIC ACTION PLAN FOR POLLUTION CONTROL IN THE GULF OF HONDURAS



Coral Reefs Distribution

Number

18



Map Location



References



Note: Based on information provided by "The Nature Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Antigua y Woodward, 2008)

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Structural indicators of coral
reef ecosystems

Number

19



Map Location



References



Note: Based on information provided by "The Nature Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecoregional Assessment of the Mesoamerican Reef System" (Arriaga y Winderich, 2008).

**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
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FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



**Reef Fish Spawning Aggregation
Sites**

Number

20



Location Map



References



Note: Based on information provided by "The Natural Conservancy" (TNC) part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Arellano y Windenholz, 2008)

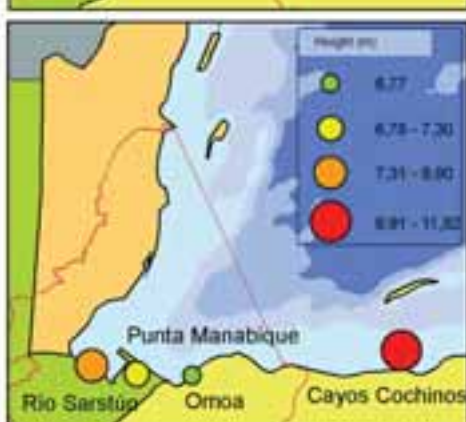
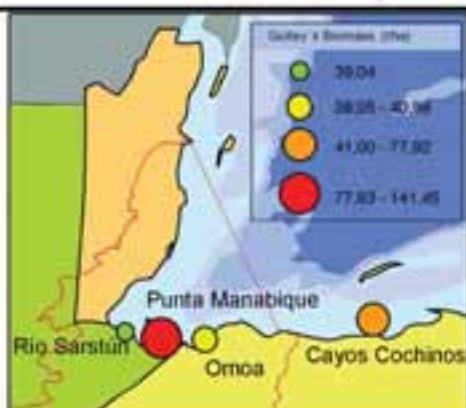
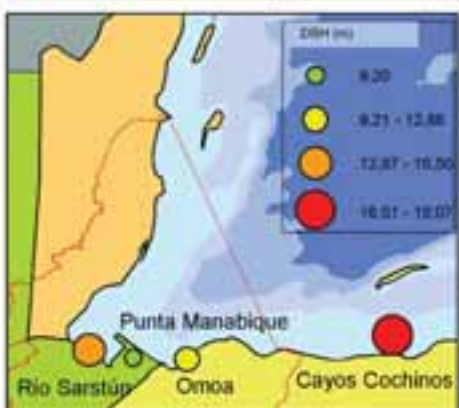
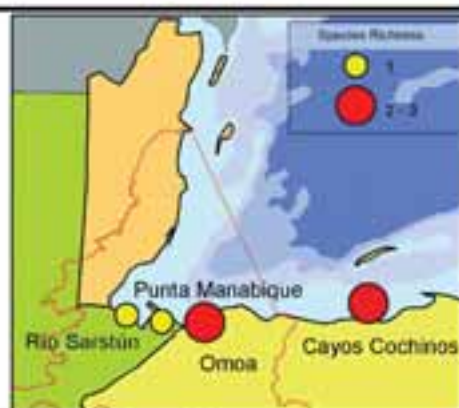
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Mangrove Distribution

Number

21



Species Distribution

Site	Spaces
Manabique Point/Bay	<i>Rhizophora mangle</i>
La Graciosa	<i>Avicennia germinans</i> , <i>Rhizophora mangle</i> , <i>Conocarpus erectus</i>
Cochinos Cayes	<i>Rhizophora mangle</i> , <i>Avicennia germinans</i> , <i>Rhizophora mangle</i> , <i>Legumularia racemosa</i>
Rio Sarstún	
Omoa	



1:6,122,337



Location Map



References



Note: Based on information provided by "The Natural Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Amthage & Windward, 2008)

TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND STRATEGIC ACTION PLAN FOR POLLUTION CONTROL IN THE GULF OF HONDURAS



Structural indicators of Mangrove
Ecosystems

Number

22



Location Map



References



Note: Based on information provided by "The Natural Conservancy" (TNC), part of the Geographic Information Systems developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Arrillaga y Wroblewski, 2008)

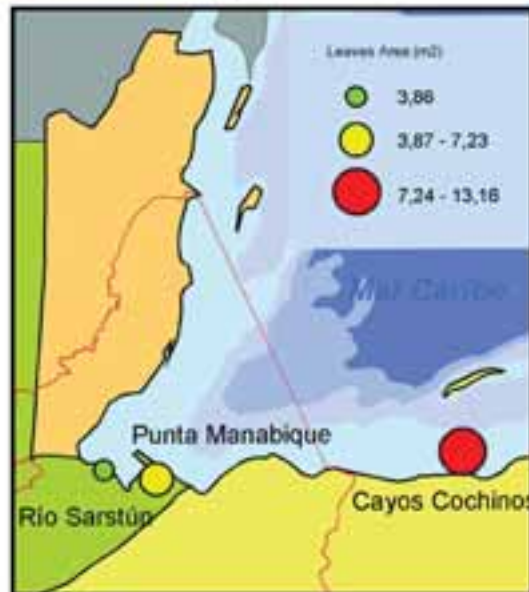
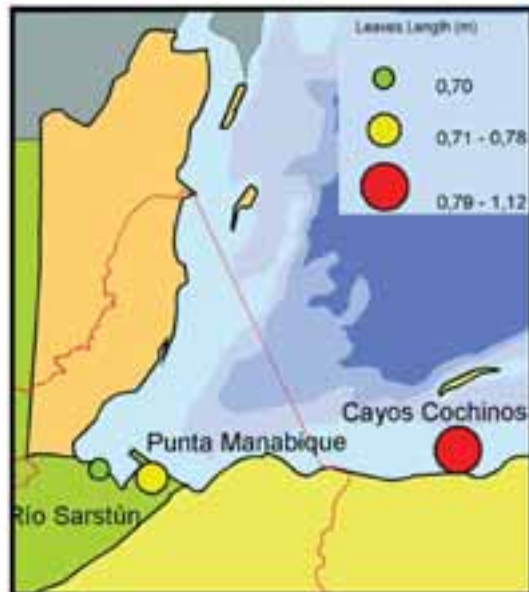
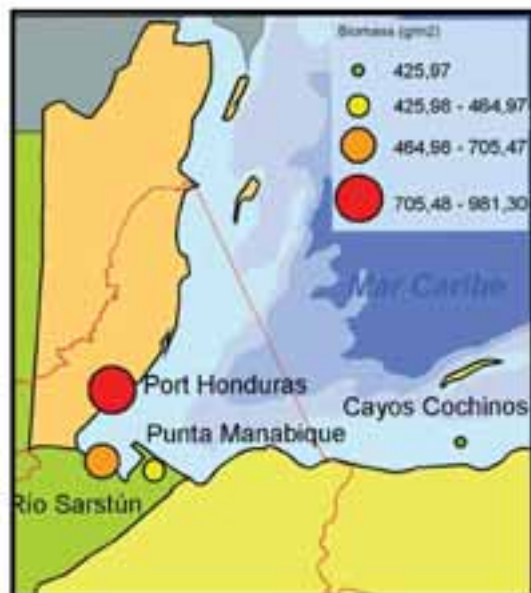
TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND STRATEGIC ACTION PLAN FOR POLLUTION CONTROL IN THE GULF OF HONDURAS



Seagrass Distribution

Number

23



Location Map



References



Note: Based on information provided by "The Nature Conservancy" (TNC); part of the Geographic Information System developed for its recent publication "Ecoregional Assessment of the Mesoamerican Reef System" (Arriaga y Windoverhol, 2008)

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Structural indicators of Seagrass
Ecosystem

Number

24



Location Map



References



Note: Based on information provided by "The Nature Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecoregional Assessment of the Mesoamerican Reef System" (Amthor & Wirtz, 2008).

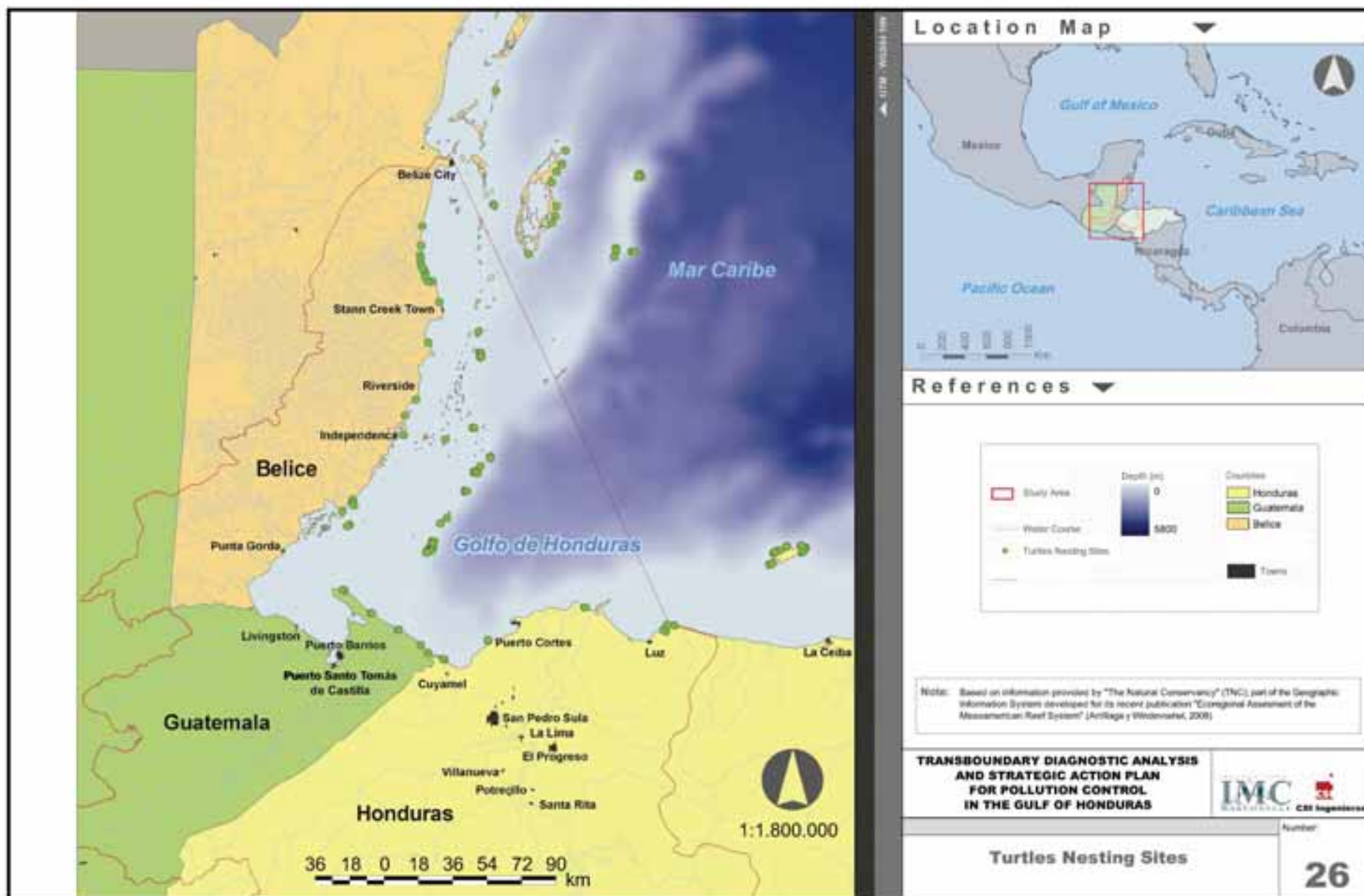
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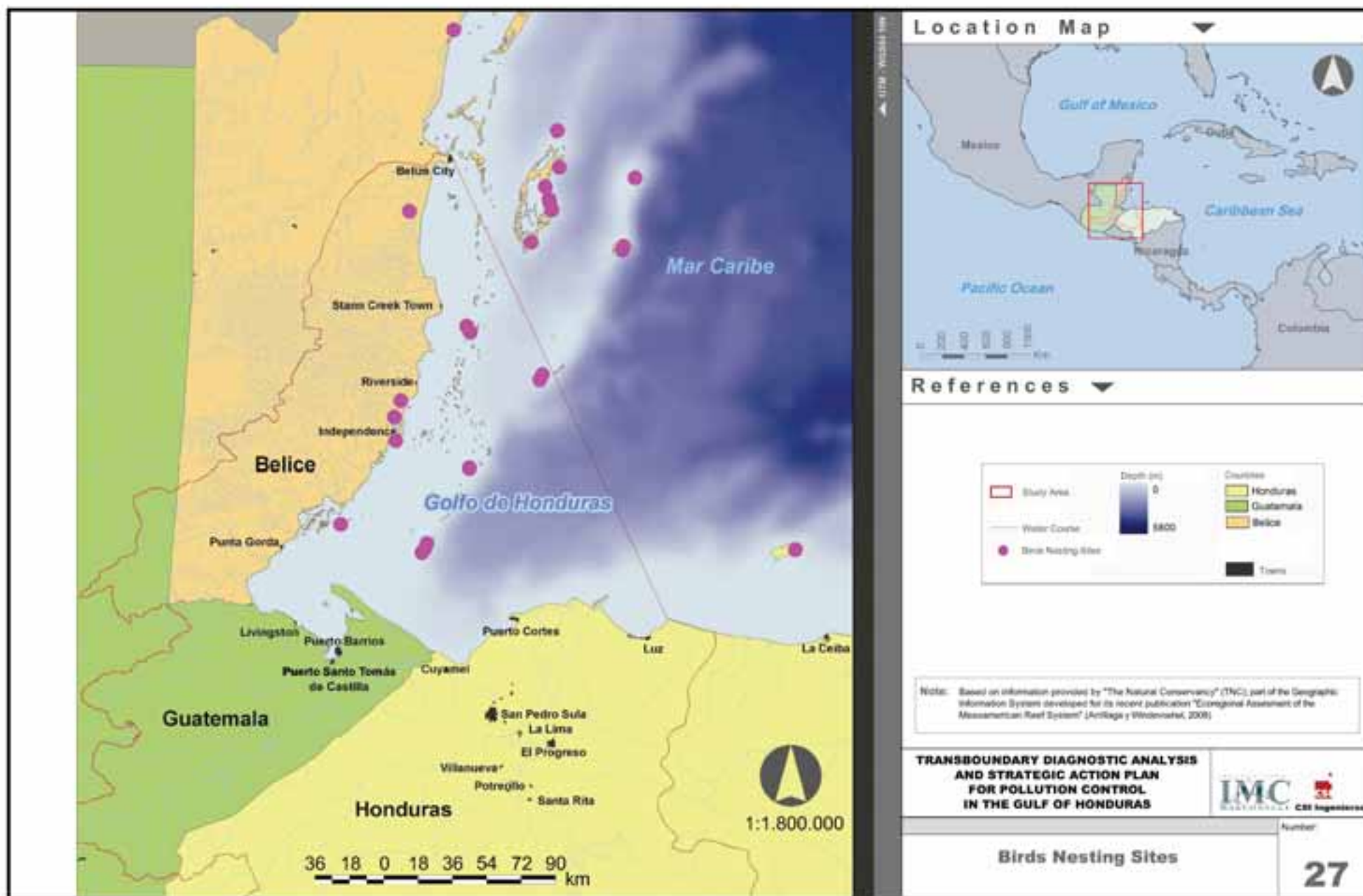


Distribution of sandy beaches

Number

25







Location Map



References



Note: Based on information provided by "The Natural Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Amthor & Wernicke, 2008).

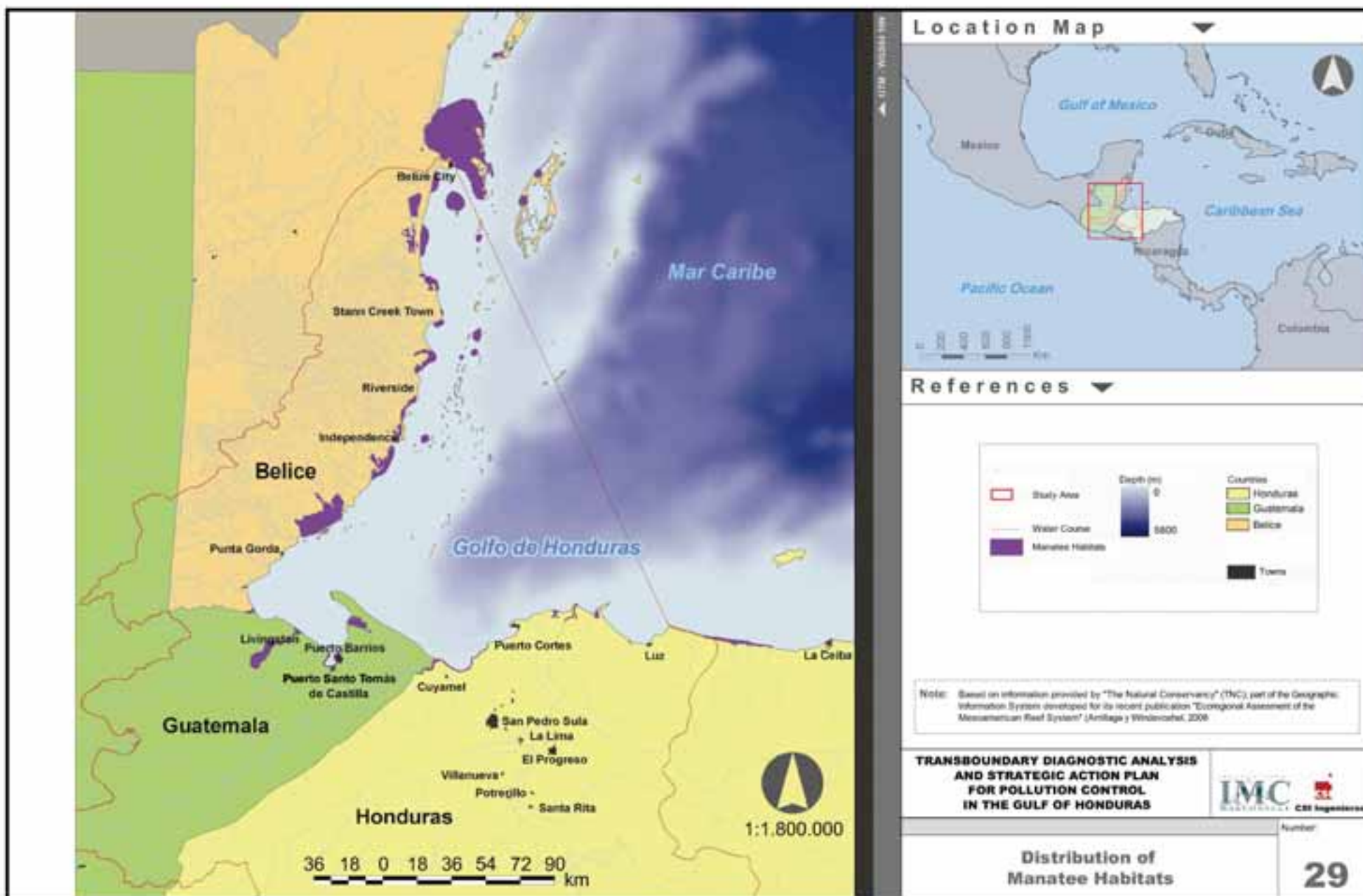
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**Distribution of Estuaries
and Coastal Lagoons**

Number

28





Location Map



References



Note: Based on information provided by "The Natural Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Ayllaga y Windward, 2008).

TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND STRATEGIC ACTION PLAN FOR POLLUTION CONTROL IN THE GULF OF HONDURAS



Crocodile Nesting Sites

Number

30



Location Map



References



Note: Based on information provided by "The Natural Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Ayllón y Windward, 2008).

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**Feeding Areas of the
Whale Shark**

Number

31



Location Map



References



Note: Based on information provided by "The Natural Conservancy" (TNC) part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Antilla y Wroblewski, 2008)

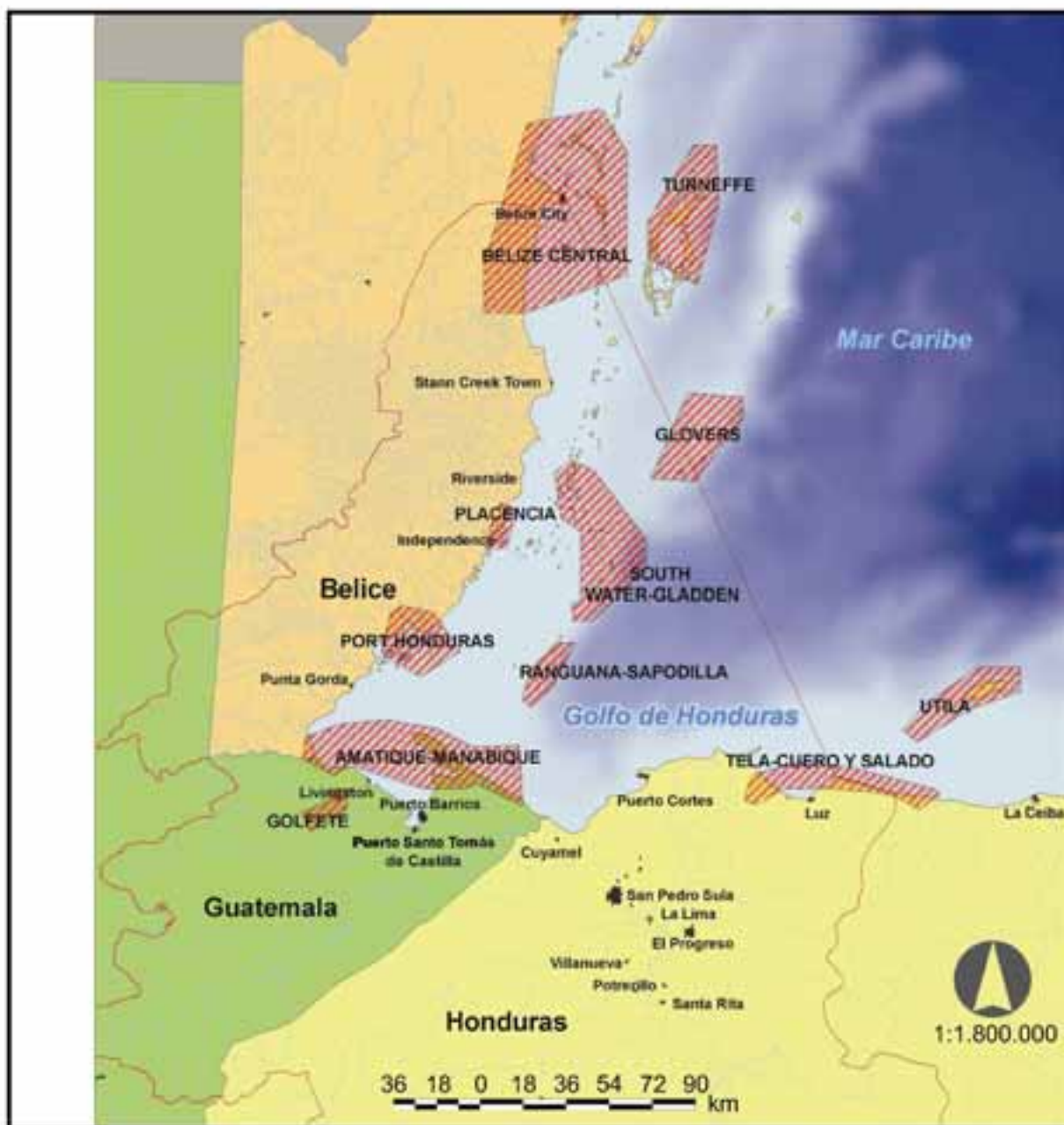
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Protected Areas

Number

32



Location Map



References



Note: Based on information provided by "The Nature Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Arellano y Windward, 2008).

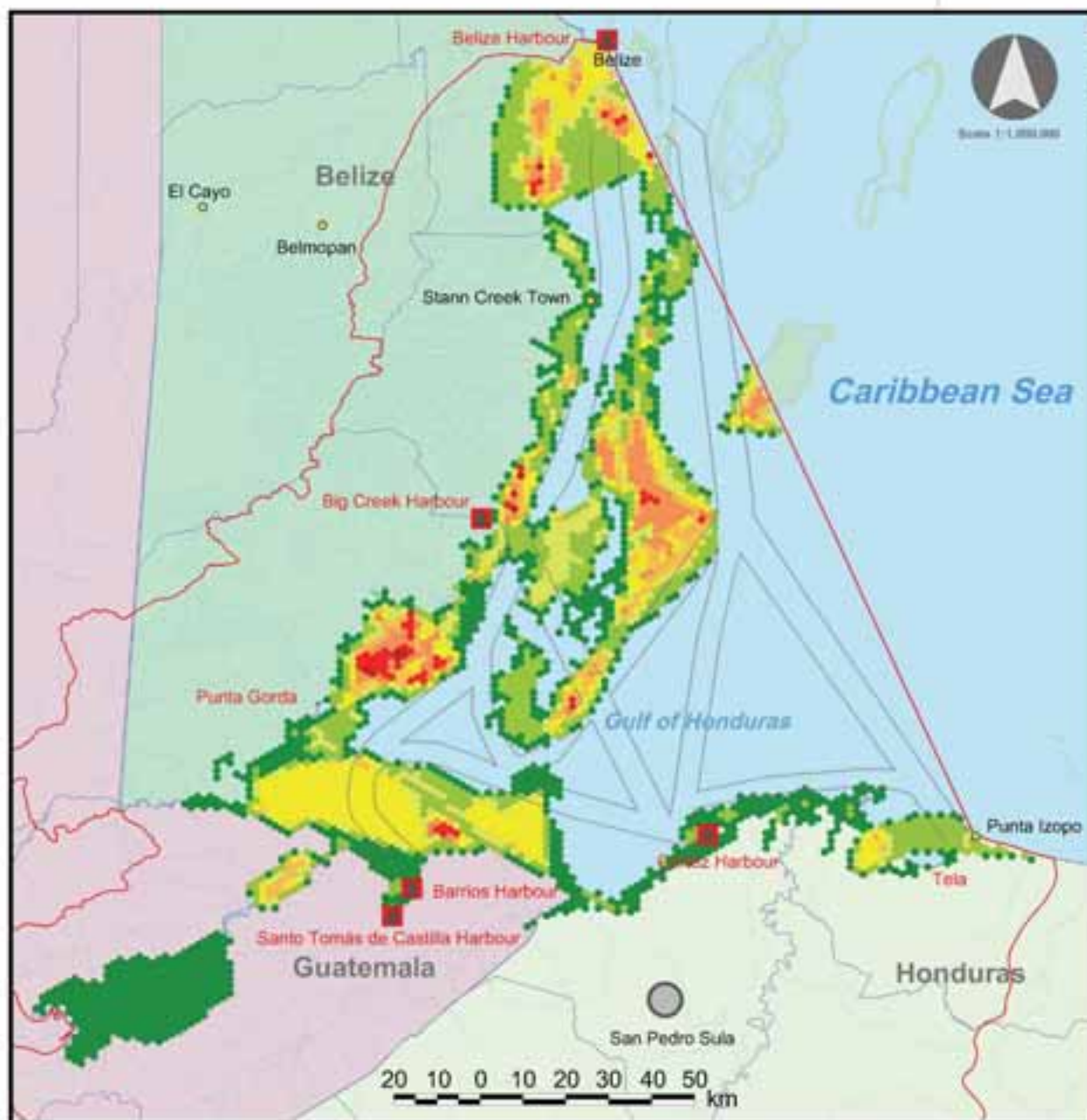
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TNC Priority Sites

Number

33



Location Map



References



Harbour



Study Area



Navigation Routes



Guatemala



Belize



Honduras



Other Countries

Towns



less than 50,000



between 50,000 y 100,000



between 100,000 y 250,000



between 250,000 y 500,000

Environmental Sensitivity Index (ESI)

0% ≤ ESI < 15%
15% ≤ ESI < 30%
30% ≤ ESI < 40%
40% ≤ ESI < 50%
50% ≤ ESI < 60%
60% ≤ ESI < 70%
70% ≤ ESI < 80%
80% ≤ ESI < 90%
90% ≤ ESI < 100%

**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
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FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



Number

Environmental Sensitivity Map

34

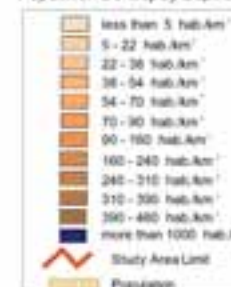


Location Map



References

Population Density by Department *



Towns (in inhabitants)



* The data refer to censuses in:

- Belize: 2000
- Guatemala: 2002
- Honduras: 2001

**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



Demography
Status Period 2000-2002

Number

36

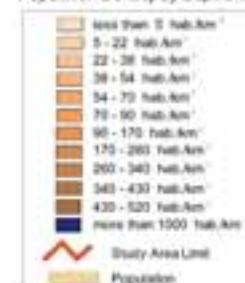


Location Map



References

Population Density by Department *



Towns (in habitants)



* The data correspond to projections for the years 2006-2008.

**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



Demography
Status Period 2006-2008

Number

37

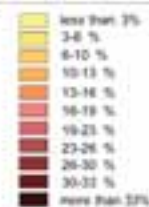


Location Map



References

Population Growth Rate by Department



Study Area Limit

Population difference between the periods 2000-2002 and 2006-2008

Towns (in habitants)



**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



**Demographic Variation
2000/2002 - 2006/2008**

Number

38



Location Map



Details



References

- Water Course
- Study Area Limit
- Sampling Point

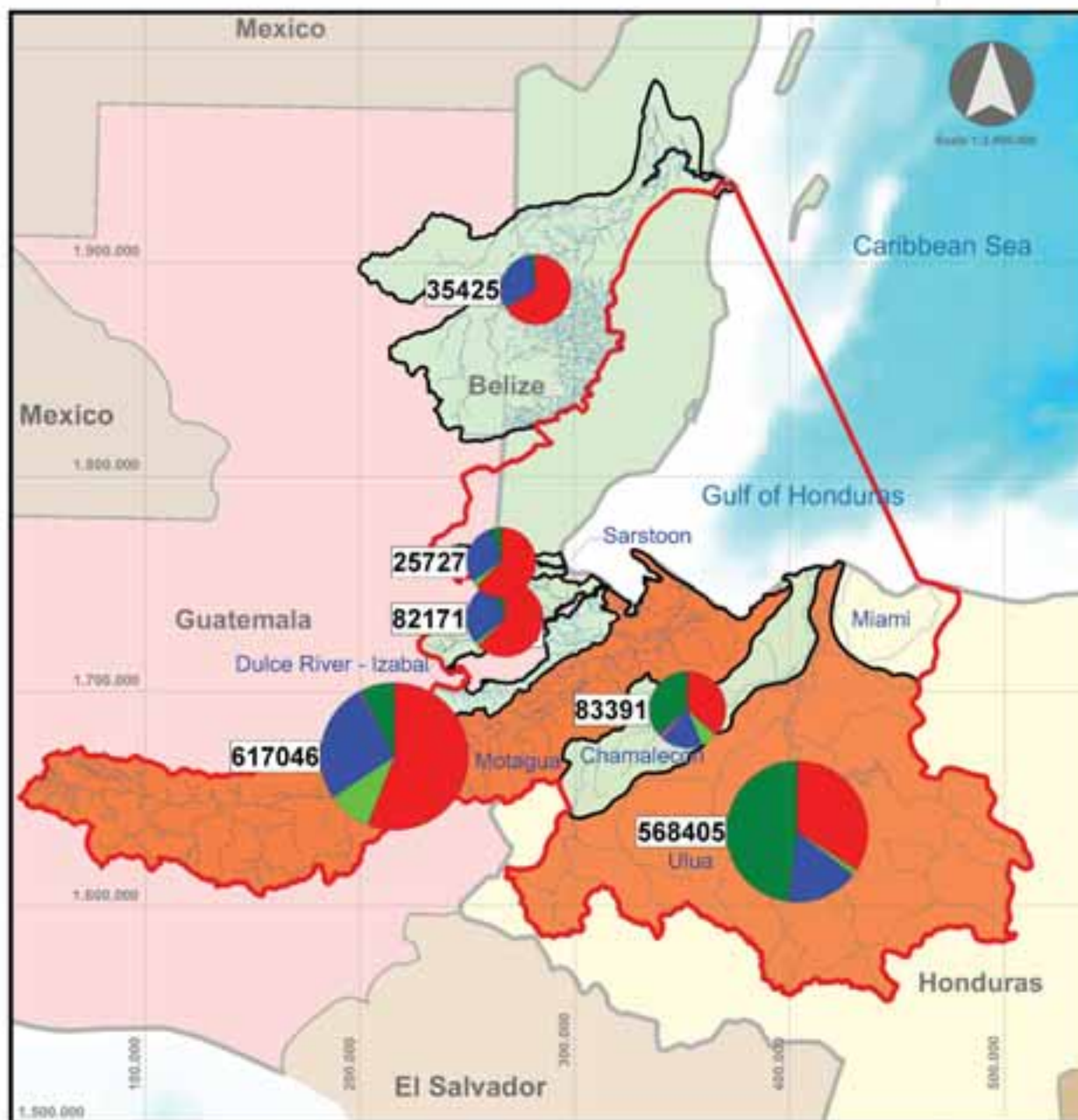
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IN THE GULF OF HONDURAS**



Environmental Monitoring Plan

Number

39



Location Map



References



Load of BOD₅ (Total Values)
 Study Area Limit
 Watershed Limit
 Watershed Name
 Water Course



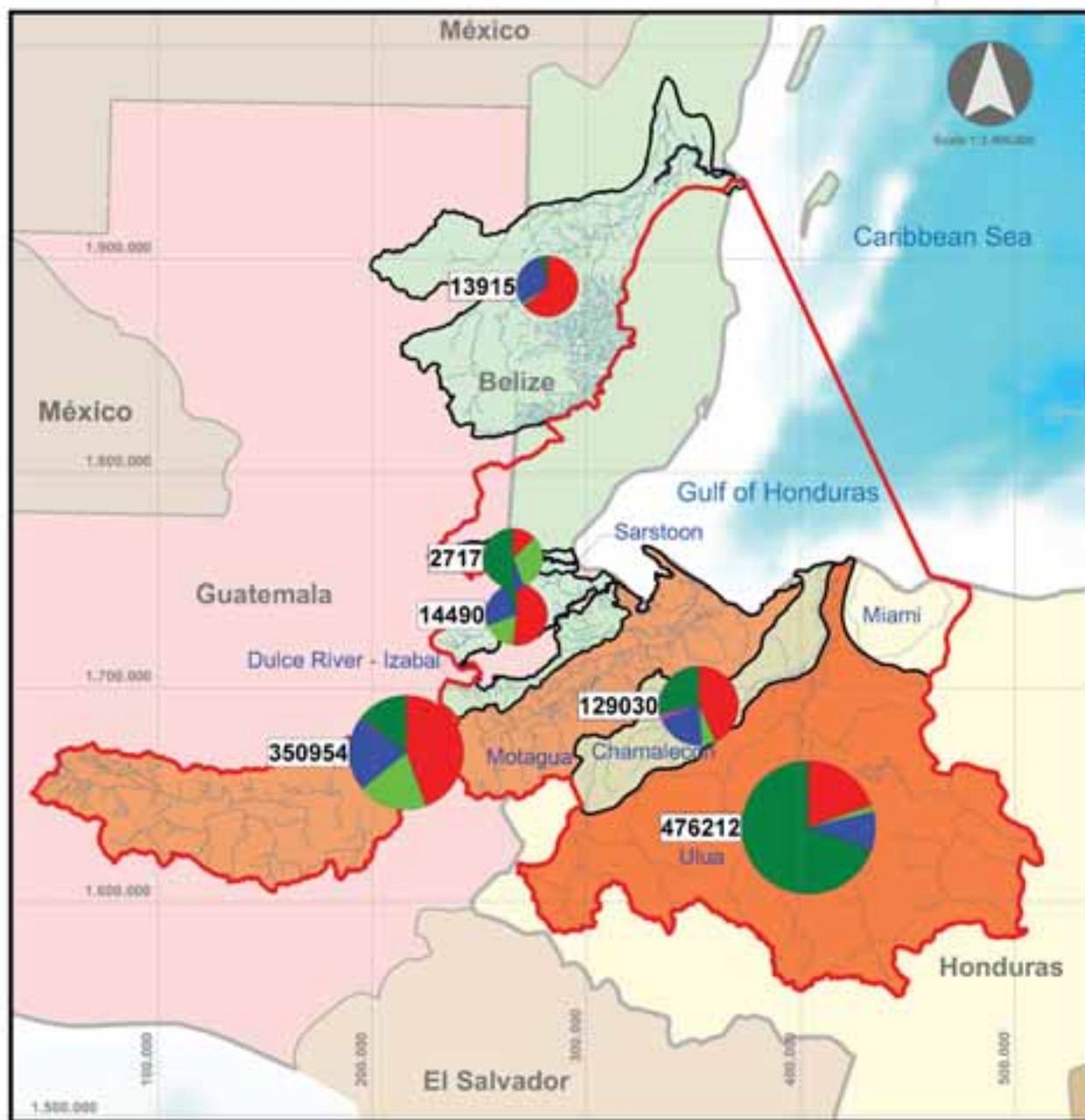
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 IN THE GULF OF HONDURAS**

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 CRI Ingenieros

**BOD₅ Load (year 2003) by
 Watershed and Input Source**

Number

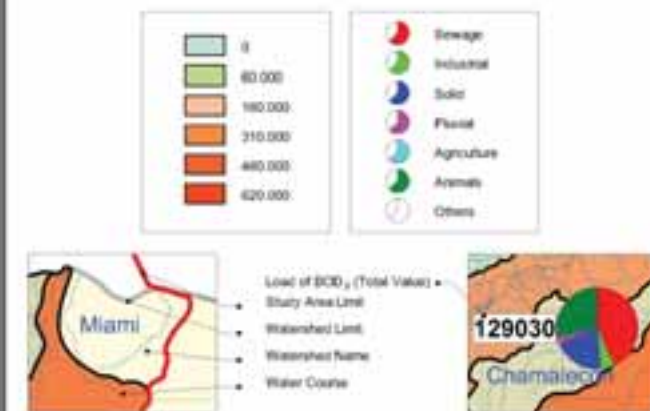
40



Location Map



References



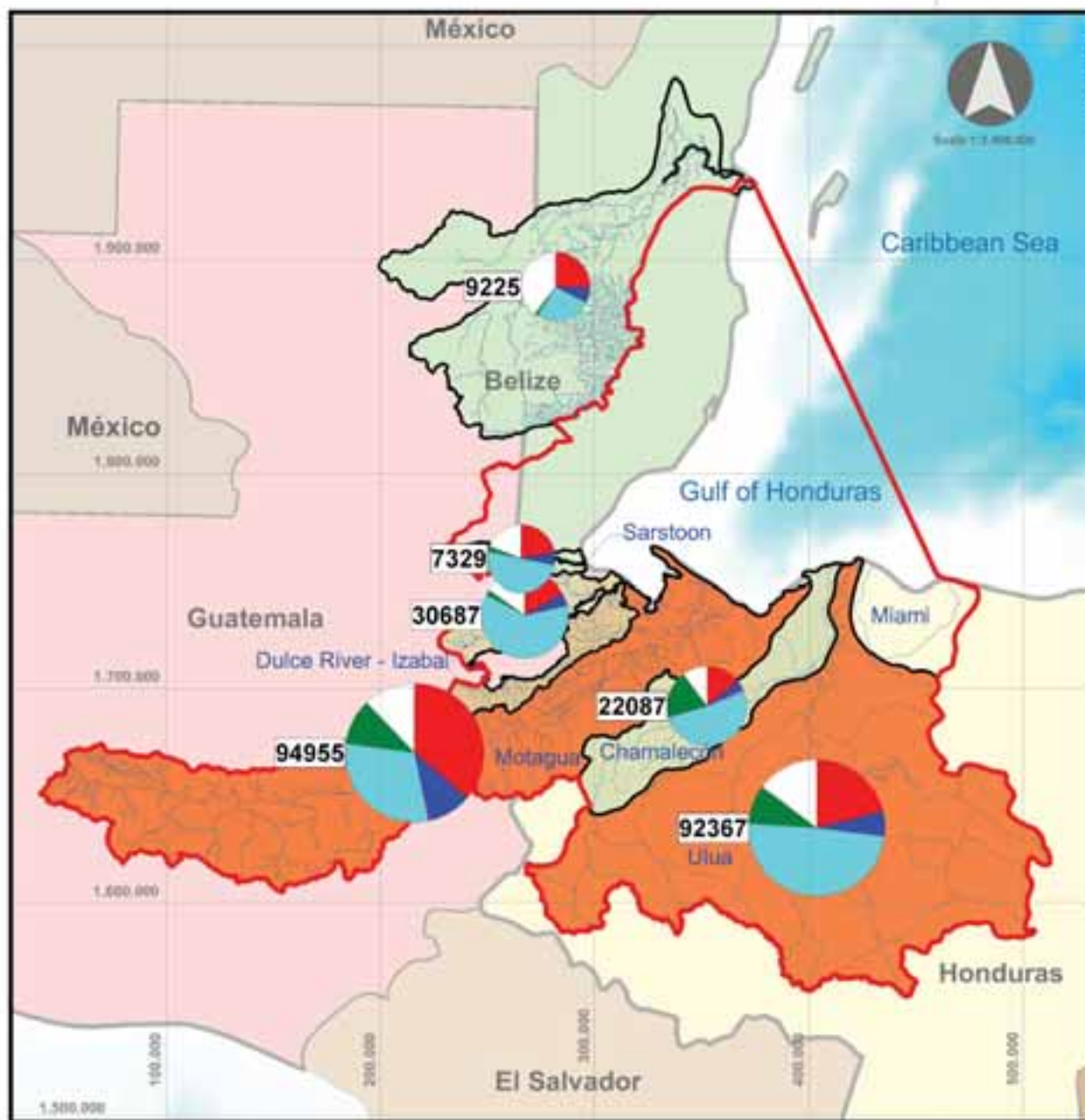
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AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**

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**BOD₅ Load (year 2007) by
Watershed and Input Source**

Number

41



Location Map



References



**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
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FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**

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**Nitrogen Load (year 2003) by
watershed and input source**

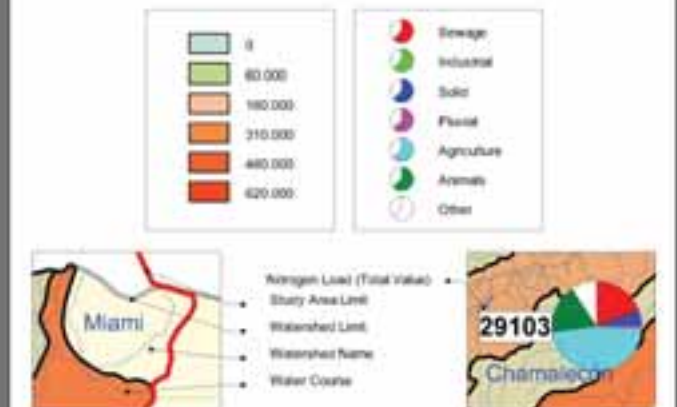
42



Location Map



References



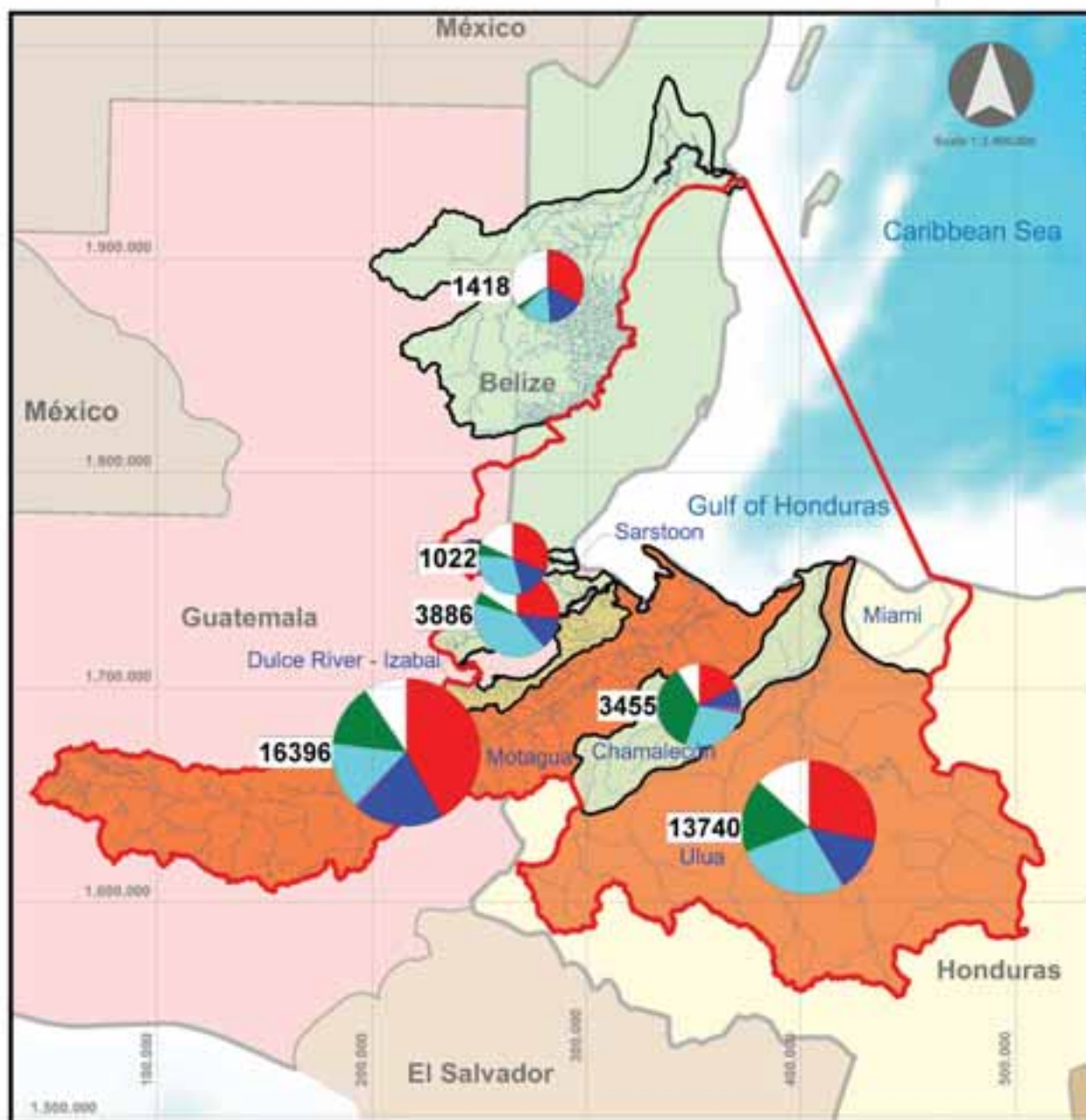
**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



**Nitrogen Load (year 2007) by
Watershed and Input Source**

Number

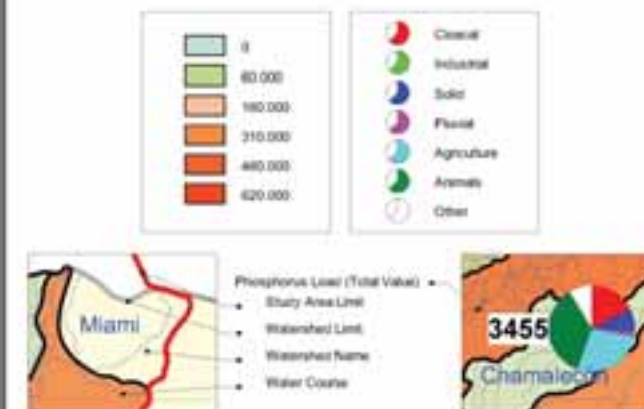
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Location Map



References



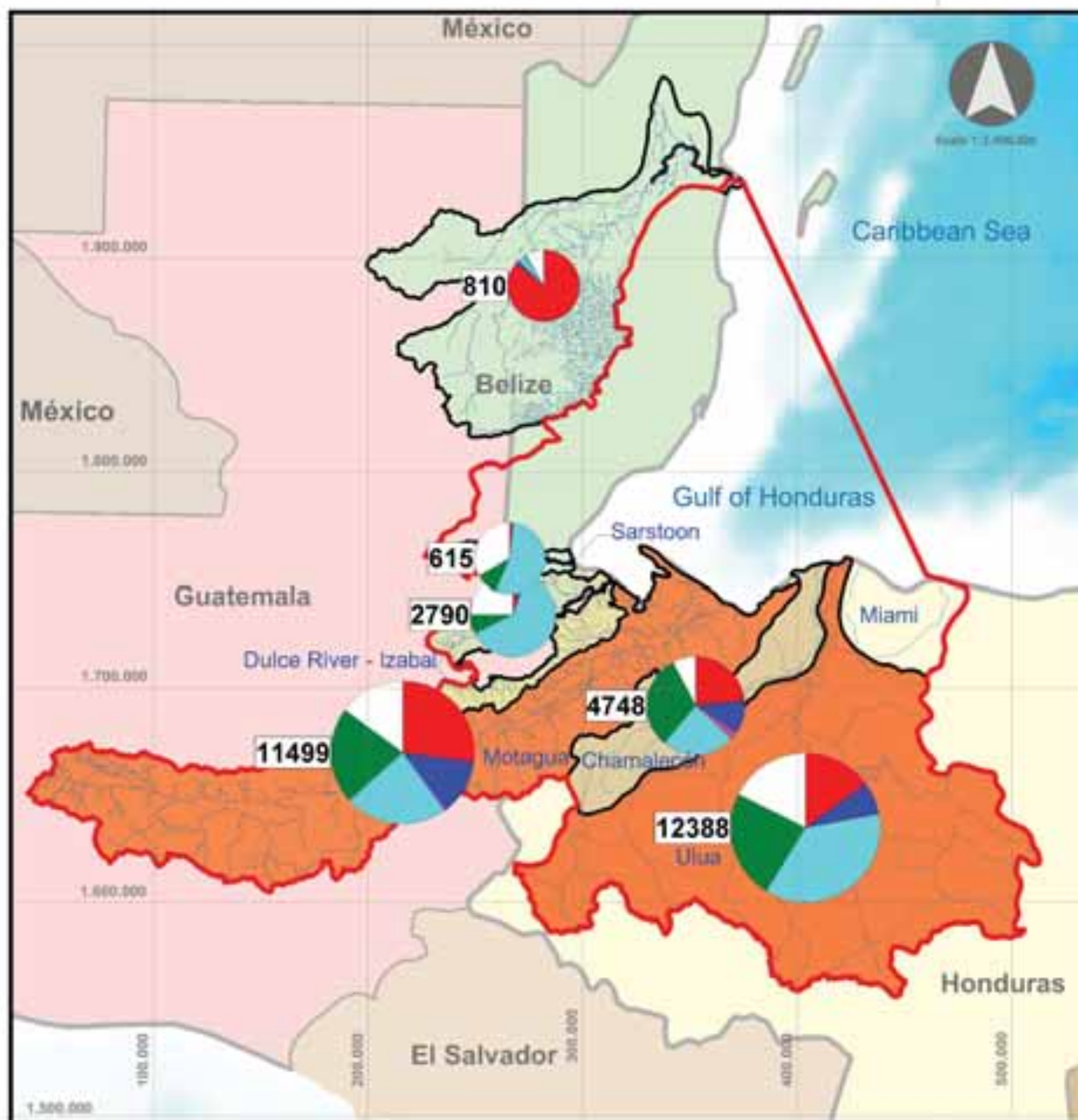
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AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



**Phosphorus Loads (year 2003) by
watershed and input source**

Number

44



Location Map



References



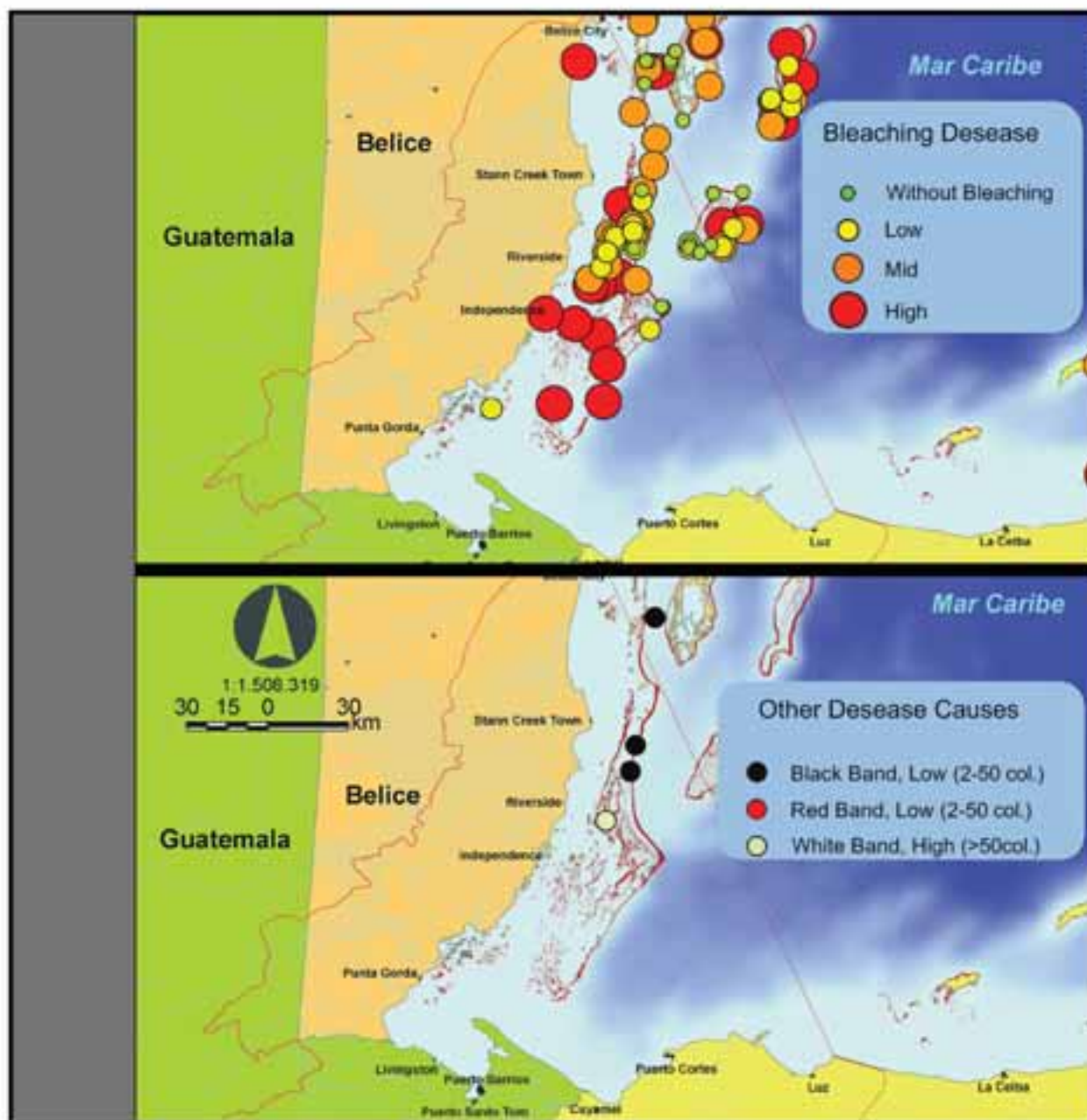
**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
FOR POLLUTION CONTROL
IN THE GULF OF HONDURAS**



**Phosphorus Loads (year 2007) by
watershed and input source**

Number

45



Location Map



References



Note: Based on information provided by "The Natural Conservancy" (TNC), part of the Geographic Information System developed for its recent publication "Ecological Assessment of the Mesoamerican Reef System" (Antigua y Windward, 2008)

**TRANSBOUNDARY DIAGNOSTIC ANALYSIS
AND STRATEGIC ACTION PLAN
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IN THE GULF OF HONDURAS**

IMC
INSTITUTO MARI-COASTAL
CIBI Ingenieros

Coral Disease

Number

46