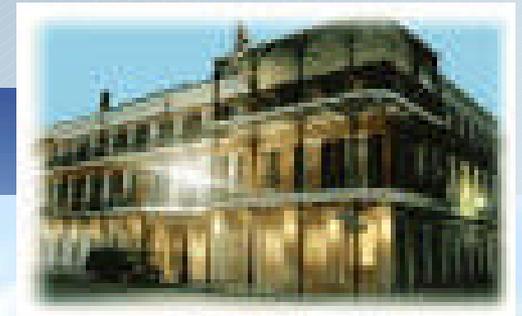


# **Binational Plan for the Attention of Harmful Algal Blooms- A proposal**



*New Orleans, Louisiana., Jun 2003*



# Servicios de Salud de Veracruz

## Dirección de Regulación y Fomento Sanitario

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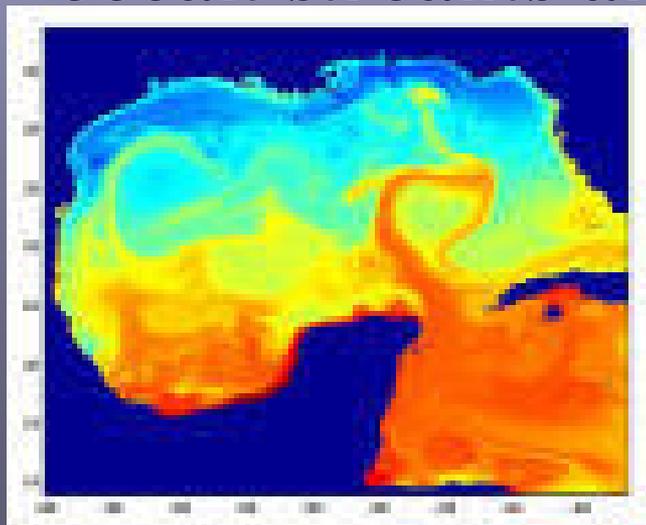
# Background

- *The harmful algal blooms are structured by several microalgae*
- *They may be present in both salt and fresh water.*
- *They are commonly called “Red Tide” due to the red color that appears on the water.*



# Background

- *10% of the Red Tides are harmful to humans*
- *Red Tides are produced by a microalgae overpopulation generated by the influence of several environmental factors such as temperature, sunlight, water salinity, changes in ocean streams and pollution.*



- *Actually they are called Harmful Algal Blooms*

# Background

*•In 2001, the harmful algal blooms of the dinoflagellate Karenia brevis caused serious damages.*

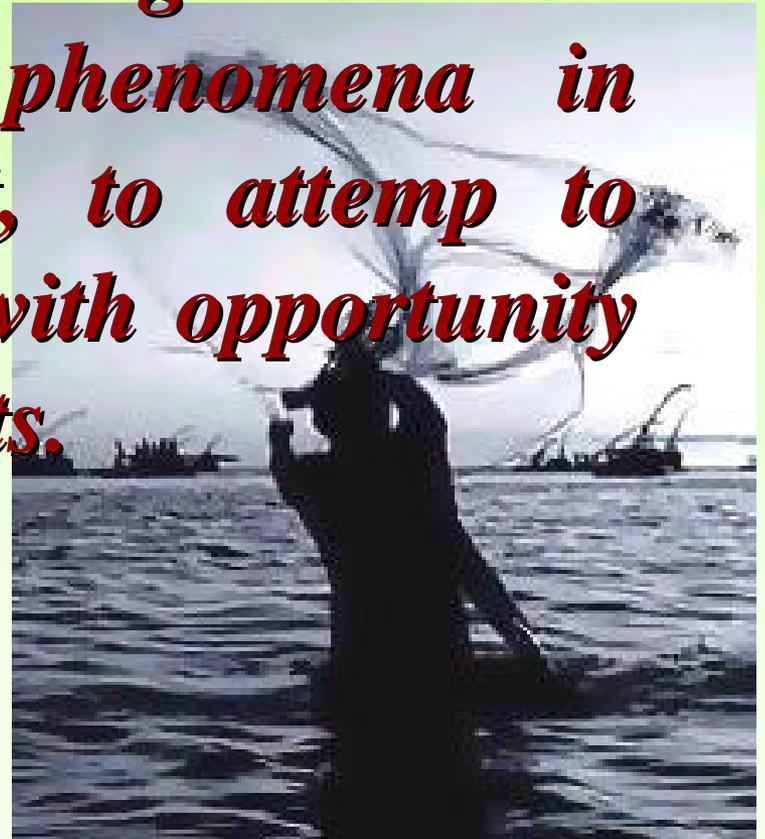
*•This phenomena affects the whole Gulf of Mexico region irrespective of national borders.*



*•Therefore, it is decided to implement the Binational Vinculation Project in order to front it and take the respective control meseasures.*

# Objective

- *To increase knowledge on the behavior of this phenomena in order to predict it, to attempt to control and to act with opportunity to minimize its effects.*

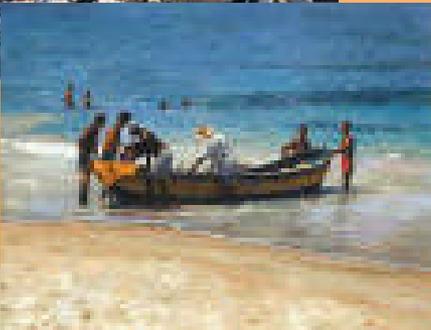


# Benefits

- *To establish a harmful algal blooms monitoring network and broadcast the results through an accessible electronic system (web page), that will allow us collectively to evaluate its behavior.*
- *The knowledge of the phenomena will allow us to take opportune preventive actions.*



# Benefits



➤ *To avoid economic damage to the tourist sector.*

➤ *To avoid economic damage to the fishing sector .*

➤ *To prevent threats to public health.*

# Needs of action

- *Binational information exchange*
- *Data base installation for analysis and transference to users*
- *Use of regional observation system*
- *Develepment of collaboratives scientific research*



# Needs of action

- *Training programs on sampling and identification methods with unified criteria*



- ✓ *phytoplankton sampling and analysis*
- ✓ *Quick methods for brevetoxins quantification*

- *Monitoring equipment acquisition*

# Advances

*•This program began in February 2002 as part of the projects included in the Health, Ecology and Environment Panel of the Gulf of Mexico States Accord.*



# Advances

## *Regional Information Systems*

*•At the moment we have additional information on parameters such as water pH and temperature at monitoring sites.*

*•We expect to use remote sensing techniques for the red tide monitoring in collaboration with Papaloapan Development Council (CODEPAP).*



# Advances

## *Recolección de Información Binacional*

*•It has been established contact with the National Oceanic and Atmospheric Administration (NOAA).*

*•The monitoring information is part of the Florida Southwest Coast bolletin.*

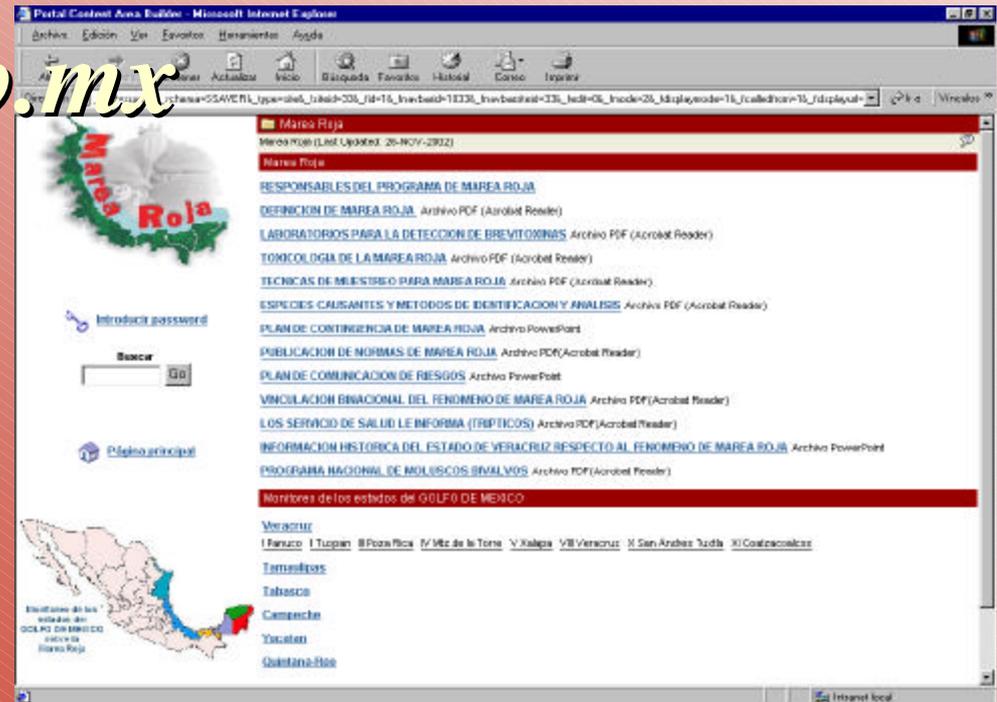


# Advances

## Data Base

*A web page of harmful algal blooms was built inside the Health Services of Veracruz.*

*www.ssaver.gob.mx*

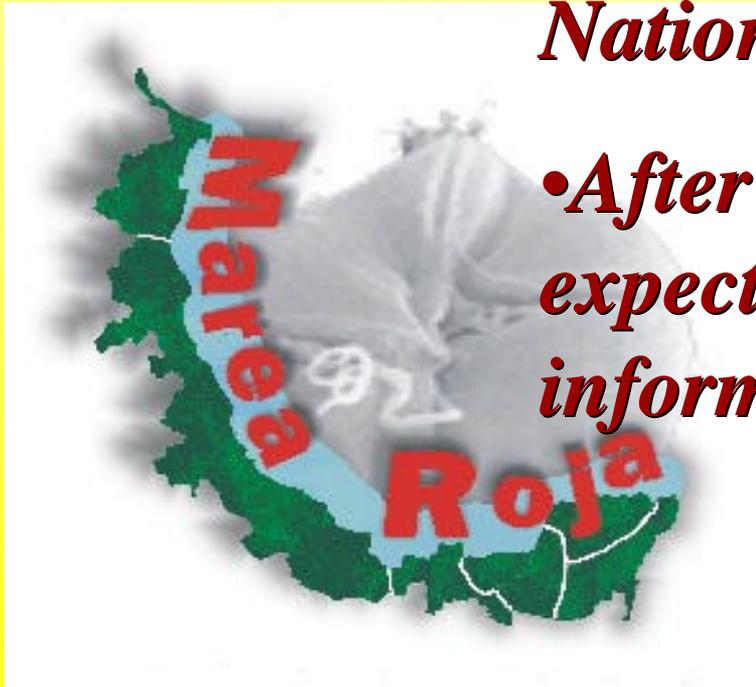


# Advances

## *Data Base*

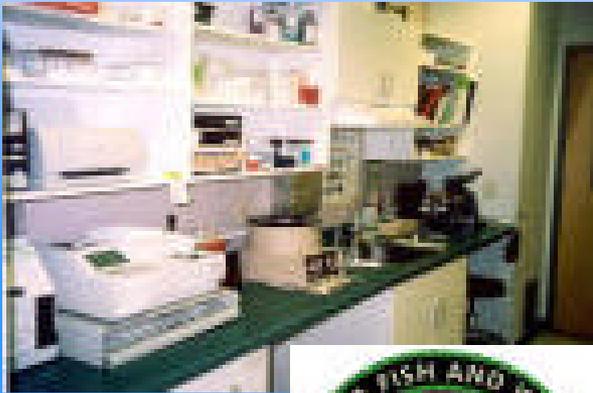
*•The Red Tide Gulf of Mexico States Forum was organized at National level.*

*•After the training meeting, we expect to include the States information.*



# Advances

## *Training on sampling and identification methods*



*•In 2001 a workshop on Red Tide identification was organized with attendance of the Gulf of Mexico States.*

*•The personnel of the Veracruz State Laboratory of Public Health, will receive training on species and brevetoxins identification at the Florida Research Laboratory on July, 2003.*



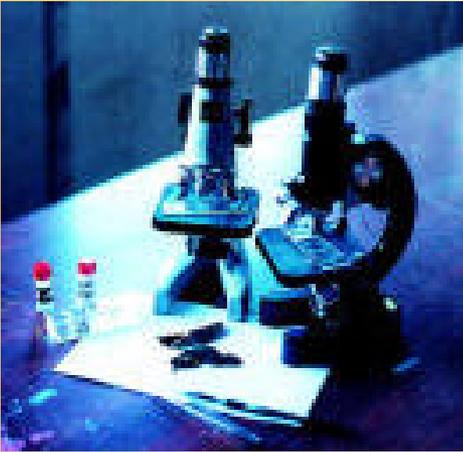
# Advances

## *Training on sampling and identification methods*

*The training program will be repeated in August, 2003 for GOMSA states members, to homogenize the sampling criteria and phytoplankton identification, with the attendance of Gulf of Mexico States.*

# Advances

## *Detection Equipment*



*•For the phytoplankton identification we have some microscopies and various sampling material.*

*•To determinate the brevitoxins on oyster samplings, we send the samples to National Laboratory of Public Health at Mexico City.*



# Advances

## *Detection Equipment*

*The Veracruz State Laboratory is proposed as the Mexican GOMSA states regional laboratory for red tide monitoring.*

*The personnel will be trained in all our states, therefore we seek further funding in order to implement techniques for brevetoxins detection.*



# Resources Needs

*Need of Short term resources :*

➤ *Information exchange between the two countries.*

➤ *Training programs*

➤ *Stablishment of a regional observation system*

➤ *Biotoxins detection equipment .*

➤ *Development of common scientific programs.*



# Resources Needs



## *Information exchange*

➤ *2 workshops per year with the participation of scientific personnel US \$ 15,000 per event*

➤ *A harmful algal blooms date base construction an oceanographic information and the use of internet. US \$ 30,000*

# Resources Needs

## *Training*

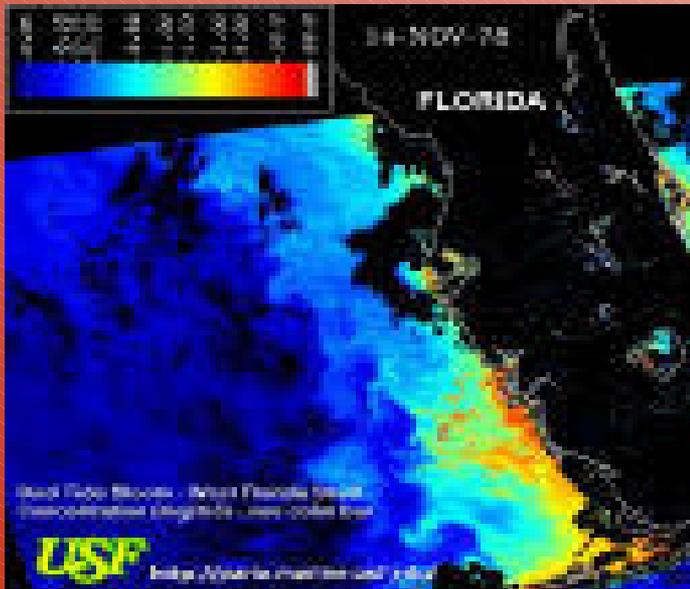
- *Training for 15 people for a week requires US \$60,000.*
- *A scholarship program for two mexican graduate students to do scientific studies on red tide relate subjects US \$ 40,000 per year.*

# Resources Needs

## *Stablishment of a regional observation system*

➤ *Complement the present system in mexican waters*

➤ *3 automated satellite transmission coastal observation system to be located in Campeche, Quintana Roo y Veracruz.*



# Resources Needs

## *Stablishment of a regional observation system*



➤ *In order to measure environmental parameters such as water salinity and temperature, swell and meteorological conditions .*

➤ *Each system requires an invesment of US \$30,000, plus US \$20,000 per installation.*

# Resources Needs

## *Biotoxin detection equipment*

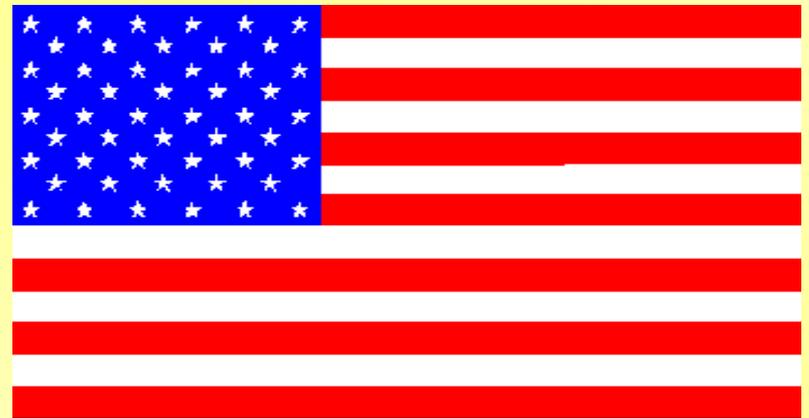
- *Materials to make the ELISA test, US \$ 50,000.*
- *This equipment will be assigned to the Veracruz State Laboratory of Public Health.*



# Resources Needs

*Development of common scientific programs.*

➤ *Workshop to discuss strategies for bilateral studies development. USD \$ 50 000.00*



# Resources needs

*US*

➤ <i>Information exchange</i>	<i>\$ 60.000</i>
➤ <i>Training</i>	<i>\$ 100.000</i>
➤ <i>Stablishment of a regional observation system</i>	<i>\$ 110.000</i>
➤ <i>Biotoxin detection equipment</i>	<i>\$ 50.000</i>
➤ <i>Development of common scientific programs.</i>	<i>\$ 50.000</i>
	<hr/>
<i>TOTAL</i>	<i>\$370,000</i>

# Participant States

Louisiana

Texas

Florida

Alabama

Mississippi

Tamaulipas

Veracruz



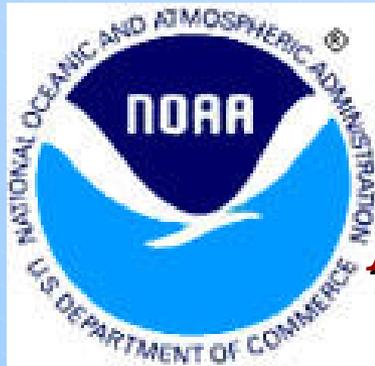
Yucatan

Tabasco

Quintana Roo

Campeche

# Participant Institutions



*Environmental Protection  
Agency.*



*National Oceanographic and  
Atmospheric Administration*

*Florida Marine Research  
Institute.*



# Participant institutions



➤ ***CODEPAP***

➤ ***Gulf of Mexico States Health Services***

➤ ***COFEPRIS***



*Comisión Federal para la Protección  
contra Riesgos Sanitarios  
Protección de la Salud*

• *Due to their continuing participation, we are convinced that with the development of programs in a coordinated manner between our two nations, we have joined our efforts for common objective...*

*The health and progress of our countries.*



*Thank you*