



E-News Bulletin

Gulf of Mexico

Large Marine Ecosystem (GoMLME)





Joint Meeting of the Gulf of Mexico Alliance & the Hypoxia Task Force

La Alianza del Golfo de México y el Grupo de Tarea de Hipoxia llevaron a cabo su reunión conjunta anual del 1-5 de Agosto en el Hotel Westin Canal Place de New Orleans.

El Proyecto del Gran Ecosistema Marino del Golfo de México participó en este evento, que consistió de tres días de trabajo con una sesión plenaria para la inauguración el primer día. El Coordinador del Proyecto GoM LME Dr. Porfirio Alvarez fue invitado a participar en la sesión inaugural presentando un mensaje por parte de la Delegación Mexicana asistente al evento. Esta presentación incluyó una visión general del proyecto GoM LME y destacó que este programa representa un mecanismo de coordinación regional y una plataforma acordada para la colaboración y construida sobre la base de acuerdos y marco binacional existente.

Asimismo, se presentó una revisión histórica del Golfo de México, destacando la evolución a

New Orleans, Louisiana,

The Gulf of Mexico Alliance and the Hypoxia Task Force held their joint annual meeting on August 1-5 at the Westin New Orleans Canal Place.

The GoM LME Project participated in this meeting, that consisted of three working days with an opening plenary session on the first day. The GoM LME's Chief Technical Advisor Dr. Porfirio Alvarez Torres, was graciously invited by GOMA executive director to give an introductory remarks on behalf the participant Mexican delegation. That included an overview of the LME project, pointing out that the Gulf of Mexico Large Marine Ecosystem represents an appropriate regional coordination mechanism and an agreed US-Mexico collaboration platform that is building upon the existing bi-national frameworks and agreements.

través del tiempo, que incluye la explotación de madera para la construcción de embarcaciones así como las plantaciones de caña de azúcar en México, Louisiana y el Misisipi, lo que derive también en el cultivo de algodón, pesca de camarón y el desarrollo de otras industrias como el petróleo y gas, así como el florecimiento de asentamientos urbanos alrededor de las áreas costeras del Golfo.

Las actividades subsecuentes del evento consistieron de sesiones en grupos de trabajo para cubrir diversos temas como son:

- Acelerar el progreso sobre temas de interés común para el Grupo de Tarea de Hipoxia y de la Alianza del Golfo de México
- Restauración en el Consejo Nacional de Oceanos del Golfo y la Planeación de la Costa y el Mar
- Oportunidades de investigación en el Golfo de México
- El reporte del Golfo
- Valoración de Servicios Ecosistémicos del Golfo de México
- Integración Internacional

Se llevó a cabo un evento social y la exhibición interactiva de programas y productos incluyendo:

- Temas prioritarios de la Alianza del Golfo de México
- Grupo de Tarea para la Restauración del Golfo de México
- Consejo Nacional de Oceanos y Planeación de la Costa y el Mar
- Prioridades del Grupo de Tarea de Hipoxia
- Consejo Nacional de Investigación
- Modelado SPARROW (USGS)
- Investigación de la NOAA
- Iniciativa de Cuenca Sana del Río Misisipi (USDA)

A historic overview of the Gulf of Mexico was also presented, highlighting its evolution in time, that started with the exploitation of timber for boat construction and the plantation of sugar cane in Mexico, Louisiana, and Mississippi, and that derived in cotton farming, shrimp fishing and the development of industries such as oil and gas and tourism, as well as the flourishing of urban settlements around the Gulf coastal areas.

Subsequent activities consisted on concurrent break-out sessions during the following days addressing several issues such as:

- *Accelerating Progress on Issues of Common Interest to Hypoxia Task Force and the Gulf of Mexico Alliance*
- *Restoration in the Gulf National Ocean Council and Coastal & Marine Spatial Planning*
- *Gulf Research Opportunities*
- *Gulf Report Card*
- *Gulf of Mexico Ecosystems Services Valuation*
- *International Integration*

An Evening Social with Interactive Exhibits was also held, including:

- *Gulf of Mexico Alliance Priority Issues*
- *Gulf Coast Ecosystem Restoration Task Force*
- *National Ocean Council and Coastal & Marine Spatial Planning*
- *Hypoxia Task Force Priorities*
- *National Research Council*
- *SPARROW Modeling (USGS)*
- *Research (NOAA)*
- *Mississippi River Basin Healthy Watersheds Initiative (USDA)*

Environmental Education and Public Participation, the meeting started with a general overview of potential funding in an effort to identify alternative sources to accomplish the action plan of the

El proyecto del Gran Ecosistema Marino del Golfo de México también participó en el tema de Educación Ambiental y Participación Pública, la reunión dió inicio con una revisión general del potencial de financiamiento y un esfuerzo de identificación de fuentes alternativas para cumplir con el plan de acción de la Alianza del Golfo de México. Esta sesión se caracterizó por la discusión de posibles Fuentes de financiamiento para acciones locales y nacionales; sin embargo el ámbito internacional no fue abordado.

Como parte del grupo de educación ambiental de GOMA, el proyecto del Gran Ecosistema Marino del Golfo de México GoM LME presentó los logros alcanzados en este tema durante el periodo de trabajo 2010-2011, con una gran colaboración binacional. La presentación destacó el proceso de planeación llevado a cabo para construir una propuesta de Alianza de Educadores Ambientales del Golfo de México. Además de lo anterior, se mencionaron algunas de las actividades realizadas por los proyectos piloto en la Laguna de Términos, Campeche por parte del proyecto GoM LME y su staff.

Finalmente, el esfuerzo continuo de colaboración binacional mediante la educación ambiental fue destacado en un esfuerzo para avanzar en acciones de lo local hacia acciones binacionales en temas que podrían discutirse mediante una colaboración efectiva.

Diferentes instituciones presentaron sus avances y logros así como los resultados de algunos de los programas apoyados por GOMA. Para concluir se presentaron varios argumentos para identificar vías de avance para el Plan de Acción II y otras iniciativas.



Gulf of Mexico Alliance. This session was characterized by the discussion of possible funding for local and national actions; however the international part was not addressed.

As part of the environmental education group of GOMA, the GoM LME Project presented the main achievements in regard to environmental education and public participation during 2010-2011. The presentation pointed out the planning process that was conducted to build up the proposal for the Gulf of Mexico Environmental Educators Alliance. Additionally, some activities developed at Terminos Lagoon by the pilot projects and other GoM LME staff, were mentioned. Finally, the continuous effort of bi-national collaboration through environmental education was highlighted in an effort to move forward from local to bi-national actions in issues that could be addressed through effective collaboration.

Different institutions presented successes and outcomes of some of the larger GOMA Environmental Education supported programs. To conclude some arguments were developed in order to identify ways to move forward in terms of the Action Plan II and other initiatives.



Symposium “Roadmap to restoring ecosystem health of the Gulf of Mexico after the BP oil spill”

Merida, Yucatan, Mexico, August, 21-25, 2011

The Society for Ecological Restoration (SER) 4th World Conference on Ecological Restoration was an important forum for addressing the global challenges of biodiversity and habitat loss, climate change, and sustainable development. It provided a global venue for professionals, researchers, students and the public to come together, learn and share their knowledge and experiences, and identify practical solutions for restoring nature and sustaining critical ecosystem goods and services.

The Gulf of Mexico Large Marine Ecosystem program participated at the 4th International Conference on Ecological Restoration, event organized by the Society for Ecological Restoration. The meeting was dedicated to share experiences on restoration of scientists, planners, designers, administrators, practitioners, consultants, researchers, students, indigenous peoples, landscape architects, philosophers, teachers, engineers, natural areas managers, nursery workers, community activists, writers and volunteers, among others. SER 2011 Conference’s overall goals were to present and discuss cutting-edge

research and new developments in the science and practice of ecological restoration and networking opportunities.

During SER 2011 the International Union for Conservation of Nature (IUCN) organized a Symposium for the Gulf of Mexico Oil Spill. IUCN invited Dr. Porfirio Alvarez to chair the Panel 3 of the Symposium “Roadmap to restoring ecosystem health of the Gulf of Mexico after the BP oil spill”. The overall goal of this panel was to achieve a common understanding of what ecological restoration means in environmental recovery of the Gulf through discussions in three panels of specialists from the US and Mexico who examined approaches to ecosystem restoration in the Gulf of Mexico one year after the 2010 BP managed MC252 DWH offshore oil spill.

Summary of Congress Activities

SER 2011 was held on 21-25 August and brought together restoration professionals, researchers, and students from diverse backgrounds including the earth sciences, landscape architecture, ecological engineering, natural resource and land

management, public policy and economics, and indigenous peoples and community organizers. It provided a critical platform to assist in defining the principles of restoration, understanding its methods and goals, and closing the gap between the science of restoration ecology and the practice of ecological restoration.

The SER 2011 conference included presentations and discussions on cutting-edge research and new developments in the science and practice of ecological restoration as well as numerous exciting networking opportunities.

Each of the three days of the scientific program featured a morning plenary that addressed in turn the economic, social, and biodiversity aspects of ecological restoration. Each plenary consisted of a keynote address and panel discussion followed by a press conference. The late morning and afternoon of each day featured 12-14 concurrent sessions including regular and special sessions, symposia, and workshops.

Symposium

The Symposium “Roadmap to Restoring the Ecological Health of the Gulf of Mexico after the BP Oil Spill” was a parallel event organized by IUCN-CEM & SER which included 3 panels, each with one main topic as described below:

- **Panel 1:** Ecological Restoration vs. Environmental Recovery in the Gulf of Mexico
- **Topic:** Challenges posed by oil spills to coastal GoM ecosystems
- **Panel 2:** Restoration Best Practices in Comparative Ecosystems
- **Topic:** Applying restoration lessons learned to GoM ecosystems



- **Panel 3:** Achieving a Common Understanding of Ecological Restoration for the GOM
- **Topic:** International marine policy challenges posed by GoM spills

As moderator of Panel 3, the GoM LME's Chief Technical Advisor Dr. Porfirio Alvarez focused the discussion on specific international marine policy challenges posed by oil spills in the Gulf of Mexico. In addition, he briefly summarize the key issues that emerged throughout the previous panels and identify 'next steps' in the run-up to the 2011 State of the Gulf Summit hosted by Harte Research Institute in December 2011.

The discussion brought up relevant aspects of the previous panels linked to the Panel 3 main topic. After each of the panelists' presentations they were challenged with questions or remarks that lead to consensus on what is needed in our GoM region. Panelists also gave their opinions on the need to highlight basic or historic differences, views, priorities, and political and technical gaps or even barriers that impede a truly regional integrated approach.

The activities that organizations like CONANP-Mexico, HRI, and TNC are currently conducting or

promoting in the Gulf of Mexico were introduced by their representatives, highlighting the most relevant aspects to the oil spill such as coordination efforts, restoration processes, planning, key solutions, science technology needs, coordinating gaps, policy making strategies, or others. Such vision enabled the audience to see that there are many options to follow, and there is a need to call for a more integrated “roadmap” that will enhance the natural connectivity of the Gulf in order to ensure conservation of its assets whether cultural, economic, or ecological.

Symposium’s overall conclusions:

Panel 1

- We translate the injury to natural resources into a legal-based damage claim for restoration.*
- NRDA drives the restoration process, but requires demonstration of injury*
- NOAA is in the process of producing a programmatic environmental impact statement for the types of NRDA projects in the Gulf*
- Restoration is a long-term multinational, multidisciplinary challenge*
- There is a need for baseline information and long-term monitoring*
- Both the Ixtoc I and BP oil spills demonstrated connectivity and need for closer international cooperation*
- Population, employment and education drive levels of resource extraction and affect natural productivity*
- Lessons learned are soon forgotten (we are not willing to change our consumption patterns and lifestyle)*
- Restoration strategy, coordination, support, and engagement of local stakeholders*
- The option of restoration has value*
- A suggestion for deep ocean restoration is to select an equivalent habitat site to protect*

- Industry and other stakeholders must play a proactive and self-regulative role in response and restoration*
- Rethink corporate and industry culture so that accountability and responsibility should go hand in hand*

Panel 2

- The option of restoration has value*
- A suggestion for deep ocean restoration is to select an equivalent habitat site to protect*
- Industry and other stakeholders must play a proactive and self-regulative role in response and restoration*
- Rethink corporate and industry culture so that accountability and responsibility should go hand in hand*

Panel 3

- There is room for international collaboration and continued dialogue*
- Joint forces towards a Regional Strategic Action Plan*
- Enhance multilateral conditions for partnership*
- US Strategy for Gulf Restoration could be use in the Southern*
- Mexico’s preparation to the Oil Spill*
- Oil spill assessment and baseline studies in Mexico, pollution contingency plan and emergency mechanism in place*
- Community level contingency plan participation*
- Joint Databases for the Gulf, exchange of Info and expertise*
- Shared lessons learned for future actions*
- The Gulf Summit a Regional opportunity to strengthen links*
- Need to restore Gulf resilience (ecological Economic Sustainable*
- Network of MPAs with Mexico and Cuba*
- Gulf of Mexico Long term Common Vision*
- Build Strategy upon the Score Card*



Kick-off meeting of the project “In-situ study of the bio-optical properties of algal blooms in the Yucatan Platform”

Merida, Yucatan, Mexico August 26th 2011

The project “In-situ study of the bio-optical properties of algal blooms in the Yucatan Platform” is an initiative developed by the National Commission for the Knowledge and Use of Biodiversity of Mexico (CONABIO) co-financed by the Center for Disaster Prevention (CENAPRED) of the Ministry of the Interior (SEGOB) and supported by the Gulf of Mexico Large Marine Ecosystem Project (GoM LME).

The purpose of this meeting was to launch the project and to reach consensus with all participant federal, state and academic institutions, such as the Ministry of the Navy, Ministry of Environment

and Natural Resources, CINVESTAV, UABC, USF, and the GoM LME among others. The meeting addressed the basic agreements and arrangements for the deployment of a buoy in Mexican Waters of the Northern Yucatan Peninsula.

The project’s kick-off meeting was conducted at the Hyatt Regency Hotel, Merida on 26 August with the aim of establishing the basic agreements and arrangements to achieve the project’s general objective: to conduct a preliminary study of the bio-optical properties of algal blooms (toxic and non-toxic) that flourish every year in the Yucatan Platform.

Harmful Algal Blooms HABs is a major issue in the Gulf of Mexico, where the GoM LME Project plays a significant role and is working towards the harmonization of a united integrated system between the US and Mexico.

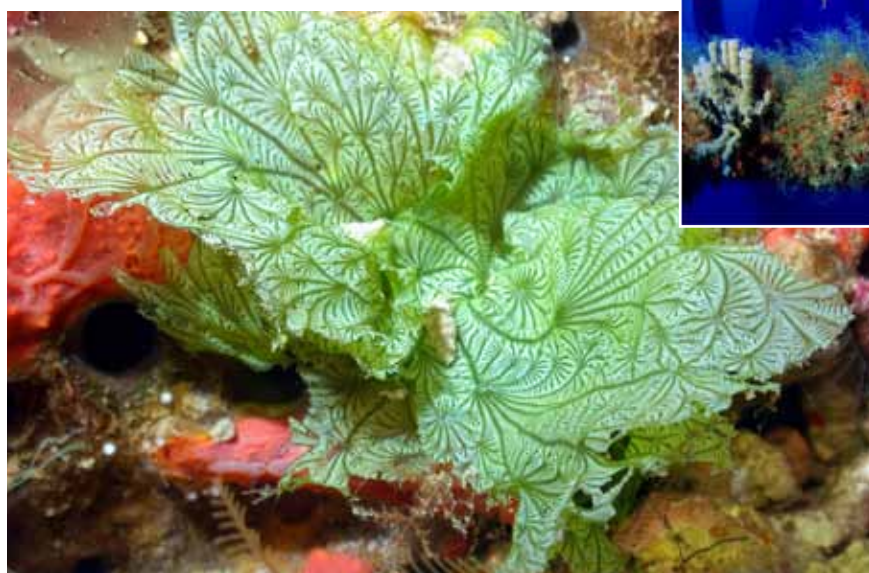
The Mexican Government through its National Commission for Biodiversity (CONABIO) has started the consolidation of a nation-wide program to monitor Harmful Algal Blooms HABs and the development of satellite images composition and interpretation products that are accessible to the public.

The deployment of a buoy equipped with in situ optic sensors and satellite tracking devices becomes CONABIO's pilot project in the GoM LME region to create a network of buoys in the Mexican Gulf's waters. This is a multi-institutional effort to forecast, detect and identify HABs. SEMARNAT, SEMAR, SEGOB, SCT, CINVESTAV, UABC, UNAM, and the GoM LME Project are the supporting institutions of this initiative, and have established a strategic partnership with the University of South Florida (USF).

This first buoy will be deployed in Mexican waters in northern Yucatan Peninsula, and will allow monitoring, identification, and forecast of HABs in this region, which is considered as a transboundary issue, due to natural oceanic current features that maintain connectivity between the Caribbean sea and the Gulf of Mexico.

The Mexican Ministry of the Interior (SEGOB) has provided with a grant for this purpose, and the Mexican Navy will be in charge to install and maintain the buoy assisting the Academic institutions engaged in the program.

The GoM LME team participating in this meeting also supported the first field trip to collect samples of a HAB phenomena extending in coastal waters of the Yucatan Peninsula towards Dzilam de Bravo and Holbox Island areas.





Reporte preliminar de la participación en el trabajo de campo como parte del proyecto “Estudio in situ de las propiedades bio-ópticas de los florecimientos algales en la Plataforma de Yucatán”.

Dzilam de Bravo, Yucatán (27-28 Ago. 2011) e Isla de Holbox, Quintana Roo (28-30 Ago. 2011).

Participantes:

- **Dr. Sergio Cerdeira Estrada**
Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO). Dirección General de Bioinformática. Dirección de Geomática.
- **M.C. Inia Soto**
IMaRS-USF (Institute for Marine Remote Sensing), Colegio de Ciencias Marinas, Universidad del Sur de la Florida (USF). St. Petersburg, FL
- **Dr. Eduardo Santamaría del Ángel**
Facultad de Ciencias Marinas de la Universidad Autónomas de Baja California (UABC).
- **Dr. Thomas Heege**
EOMAP GmbH & Co.KG. (Earth Observation and Mapping) www.eomap.de
- **Dr. Raúl Aguirre**
Instituto de Geografía, de la Universidad Nacional Autónoma de México (UNAM).

Resumen

El objetivo principal del proyecto es estudiar las propiedades bio-ópticas de los florecimientos algales (tóxicos o no) de la Plataforma de Yucatán a través de mediciones in situ, útil para el desarrollo de nuevos algoritmos de detección satelital.

Específicamente se pretende conocer preliminarmente las propiedades ópticas inherentes del océano, como son la absorción, el coeficiente de retrodispersión (bb) y la fluorescencia; y las propiedades ópticas aparentes del océano, como la reflectancia teledetectada R_{rs} (λ) y el coeficiente de atenuación difusa (K_d), en áreas de florecimientos algales en la Plataforma de Yucatán. De igual forma proveeremos recomendaciones sobre como implementar algoritmos de detección de florecimientos algales para la Península de Yucatán basado en los resultados alcanzados.

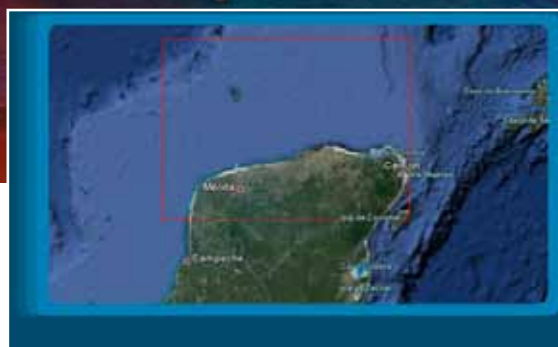
Por otra parte, con el muestreo realizado se pretende obtener un protocolo que describa la metodología del muestreo bio-óptico en aguas mexicanas del Golfo de México. En específico se describirán paso a paso los métodos y



la logística necesaria para la determinación de los parámetros ópticos a medirse y del post-análisis de los datos; así como determinaremos cuáles medidas ópticas tienen el potencial para el desarrollo de algoritmos de detección y deben ser prioridad para futuras campañas, así como cuáles deben añadirse o eliminarse. Evaluar además los instrumentos y la logística de la salida de campo que sirva de base para proponer recomendaciones para el futuro.

Con el proyecto pretendemos fortalecer las actuales capacidades humanas y tecnológicas de mediciones de parámetros bio-ópticos marinos en México consolidando así el conocimiento de nuestros mares. Los resultados que los investigadores participantes de México, EE.UU. y Alemania generen de este estudio complementarán a los propuestos por ellos para dicha región dentro del proyecto FOPREDEN.

Para ello se realizó un muestreo in situ durante los días 27 al 30 de agosto del 2011 en 15 estaciones repartidas frente a las costas de Dzilam de Bravo en Yucatán e Isla de Holbox en Quintana Roo.



Durante el muestreo se utilizaron equipos ópticos existentes en instituciones de México y los EE.UU. y apoyados por imágenes satelitales del sensor MODIS del color del océano producidas por el Sistema Satelital de Monitoreo Oceánico de la CONABIO.

En total fueron 4 días de muestreo en el mar: 2 días saliendo desde Dzilam de Bravo, Yucatán (27 (día 1) -28 (día 2) Ago. 2011) y 2 días desde la Isla de Holbox, Quintana Roo (28 (día 3) -30 (día 4) Ago. 2011). En total se muestrearon 15 estaciones: Día 1 (4 estaciones), Día 2 (5 estaciones), Día 3 (3 estaciones), Día 4 (3 estaciones).

Con el estudio de cada localidad (Dzilam de Bravo e Isla de Holbox) se mostraron tres posibles escenarios: un florecimiento declarado con un parche masivo de gran magnitud (en Dzilam de Bravo), un lugar sin florecimiento (I. Holbox), y un débil florecimiento con parches en forma de filamentos (I. Holbox).



“Society for Ecological Restoration International 4th World Conference on Ecological Restoration”

Merida, Mexico. 21-25 August, 2011

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ples, landscape architects, philosophers, teachers, engineers, natural areas managers, nursery workers, community activists, writers and volunteers, among others.

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economics, and indigenous peoples and community organizers. It provided a critical platform to assist in defining the principles of restoration, understanding its methods and goals, and closing the gap between the science of restoration ecology and the practice of ecological restoration.

Presentations and discussions on cutting-edge research and new developments in the science and practice of ecological restoration as well as numerous exciting networking opportunities were included throughout the conference.

Each of the three days of the scientific program featured a morning plenary that addressed in turn the economic, social, and biodiversity aspects of ecological restoration. Each plenary consisted of a keynote address and panel discussion followed by a press conference. The late morning and afternoon of each day featured 12-14 concurrent sessions including regular and special sessions, symposia, and workshops.

Several of the lectures attended were very relevant, and experiences shared, discussions held, and consensus built during the whole conference will certainly have a significant contribution to the GoM LME's mangrove pilot project's restoration strategy in Terminos Lagoon, Campeche in its five action lines: a) environmental diagnosis, b) definition of restoration actions,



c) organization for the implementation of restoration actions, d) monitoring of success indicators and e) environmental education.

Prior to starting the Conference, the GoM LME offered a Training Course on Mangrove Forest Ecology, Management and Restoration with the goal of providing participants with an introduction to mangrove forest ecology, management options and problems, as well as a general overview of international restoration design issues.

Case studies of successful and failed mangrove restoration projects from around the world were discussed and analyzed. The emphasis of the course was on cost-effective mangrove management and Ecological Mangrove Restoration methods for successful restoration. Participants were invited to bring in pending project designs or case studies already in implementation for professional review and critique. During the training course participants visited several mangrove restoration sites in Yucatan.

A total of fourteen participants successfully completed the course.

