

Memorandum of Understanding
Between the
Gulf of Mexico Coastal Ocean Observing System Regional Association
and
Universidad Autónoma de Baja California
April 20, 2018

PURPOSE:

This Memorandum of Understanding (MOU) constitutes agreement by the undersigned representatives of the Texas A & M University on behalf of the Gulf of Mexico Coastal Ocean Observing System Regional Association (GCOOS-RA) and the Universidad Autónoma de Baja California (UABC), hereafter referred to as "the parties," confirming their commitment to collaborate on science and education matters of critical importance to the Gulf of Mexico environment and economy.

RATIONALE:

For those States within the United States and Mexico that share a coastline along the Gulf of Mexico and Caribbean (hereafter referred to as the "Gulf States"), these coastal regions and territorial seas host economically valuable ecosystem goods and services, for example, mineral and energy industries, tourism, fishing and seafood industries, coastal resilience, water quality, and many natural areas of critical importance to wildlife, protected species, and natural resources. Importantly, they are also home to some of the most sensitive coastal and marine ecosystems in the world that are subject to increasing stress from a variety of natural and human-induced disturbances. It is critically important, therefore, that the Gulf States share assets and engage in collaborative efforts to sustain Gulf ecosystem goods and services for generations to come.

International mandates call for leadership and integration with other regional Gulf of Mexico ocean science and education programs, including:

- National Research Council's 1999 report, *Building Ocean Science Partnerships: US and Mexico Working Together*¹ describes potential ocean science projects for cooperative research between scientists from the United States and Mexico, barriers to cooperation between scientists, and methods to overcome such barriers.
- Mexico and United States 2009 framework of the Global Environment Facility's (GEF) International Waters Program established an association for the assessment and

¹ Available at <https://www.nap.edu/catalog/5874/building-ocean-science-partnerships-the-united-states-and-mexico-working>

² http://www.semarnat.gob.mx/archivosanteriores/temas/ordenamientoecologico/cimares/Documents/pnme%20_ingles_f inal.pdf

³ http://www.semarnat.gob.mx/archivosanteriores/temas/ordenamientoecologico/cimares/Documents/pnme%20_ingles_f inal.pdf

⁴ <http://www.cigom.info/consorcio/>

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integrated management of the Gulf of Mexico Large Marine Ecosystem Program (GoM LME), intended to recommend and implement pertinent changes in human activities to promote a sustainable management of Gulf ecosystems and adjacent watersheds and basins.

- The 2008-2013 Transboundary Diagnostic Analysis/Strategic Action Program, produced by the GoM LME program, identified transboundary issues of the Gulf region, and guidance for sectoral policies, need to mitigate environmental stress factors, and priority strategic actions to enhance the quality of the Gulf of Mexico with the goal of achieving economic growth, secure food provision and ecosystem resilience.

- The Consortium of Marine Research Institutes of the Gulf of Mexico and the Caribbean (Consortio de Instituciones de Investigación Marina del Golfo de México y el Caribe, CiiMAR-GoMC) is an initiative and partnership created in year 2012 to promote and strengthen collaboration among Mexican academic research institutions and international ones devoted to marine sciences in the Gulf of Mexico. CiiMAR-GoMC's goal is to significantly increasing regional collaboration to enhance the ecological and economic health of the Gulf of Mexico and its portion in the Caribbean. Supported by federal and state government organizations, academia, businesses and non-governmental organizations in the region. CiiMar-GoMC also aims at placing scientific knowledge as the foundation for decision-making at the state, regional, national and international level and to consolidate public policies that benefit these regions. CiiMAR-GoMC partners are engaged in regional initiatives such as the Commission for Oceanographic Research of the Mexican Ministry of the Navy, the Mexican Integrated Coastal and Ocean Observing System (Mex-ICOOS) program currently under development and the Gulf of Mexico Large Marine Ecosystem Program.

- In 2007-2008, the Mexican government mandated the creation of the Interministerial Commission for Oceans and Coasts (CIMARES) and formulation of a National Policy on Oceans and Coasts to coordinate the actions and work of all Mexican federal agencies partners and stakeholders engaged in ocean and coastal issues, including a work plan for marine spatial and land use planning and the development of adequate policies³. Through its CIMARES members, the Mexican government approved and published its National Policy for Oceans and Coasts, indicating the need to 'continue the work towards the sustainable development of the oceans and coasts and to enhance sectoral activities in the Gulf Region.

- The Research Consortium of the Gulf of Mexico (Consortio de Investigación del Golfo de México (CIGOM) was created to serve a Project in the Gulf Region funded by the Mexican National Council of Science and Technology (CONACYT) and the Ministry of Energy (SE), with the aim to perform physical, chemical and biological measurements to establish a baseline of the current state and natural variability of the great ecosystem of the Gulf of Mexico. Generate and use state-of-the-art technologies to observe the ocean continuously and in some cases in real time, which can be used in the case of a spill and which, together with numerical models, allow estimating its dispersion and possible consequences. Construct physical, biogeochemical and hydrocarbon transport models that



incorporate weathering processes and generate risk maps, arrival times and impact estimation in an efficient manner and taking into account the chemical characteristics of the hydrocarbons and the position and depth of possible spills⁴.

This agreement is intended to formalize collaboration of the Parties toward these ends.

COLLABORATIVE ACTIVITIES:

Pursuant to the MOU purpose, the Parties hereby agree to engage in collaborative activities, including but not limited to:

- **Communications:** A UABC representative will be invited to participate on GCOOS-RA Board teleconferences to discuss priorities and progress. The Parties will schedule at least one annual face-to-face meeting at meetings of opportunity. The GCOOS-RA Executive Director, when possible and by invitation, will participate by Webinar during UABC meetings.
- **Regional Initiatives:** The parties will share their strategic plans (goals, objectives, and outputs). The parties will share position papers on Gulf regional initiatives. Examples of shared research interests and policy issues include: oil/gas exploration, development and impacts; nutrients and low oxygen; climate change and sea level rise; coastal habitat degradation; sustainable fisheries; Gulf-wide observing system; bioremediation; shared oceanographic assets; socio-economic valuation of ecosystem services; and human health science, education and outreach.
- **Data Sharing and Data Access:** The parties will share and provide open access to data to the greatest extent practical. The GCOOS-RA will provide publication support of surface oceanic currents generated by UABC through the Mexican network of high frequency radars of the Gulf of Mexico through the use of the GCOOS data portal. The Intellectual Property Rights of any data provided by UABC to the GCOOS data portal belong to the data originator.
- **Outreach and Education:** The parties will seek opportunities to create Gulf-wide syntheses and products required by decision- and policy-makers for managing Gulf ecosystem goods and services, and for promoting public ocean literacy.
- **GCOOS-RA and UABC** will cooperate in the identification of existing mechanisms and/or funds for the future partial financing support, to strengthen and consolidate an International Network of High Frequency Radars of the Gulf of Mexico, for the benefit of both signatory institutions.

PARTIES' MISSIONS:

GCOOS-RA:

The GCOOS-RA seeks to establish a sustained observing system for the Gulf of Mexico to provide observations and products needed by users in this region for the purposes of:

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- Detecting and predicting climate variability and consequences.
- Preserving and restoring healthy marine ecosystems.
- Ensuring human health.
- Managing resources.
- Facilitating safe and efficient marine transportation.
- Enhancing national security, and
- Predicting and mitigating against coastal hazards.

The GCOOS-RA envisions sharing data, models, and products via the internet for the common benefit of all participants, including industry, NGOs, academia, and federal, state, regional, and local government agencies. It is understood that this Gulf of Mexico observing system will be integrated with other regional coastal ocean observing systems, in particular to create an integrated and sustained U.S. component of the ocean observing system.

The GCOOS-RA recognizes that the system will require sustained financial support from a combination of government, private, and non-governmental organizations. That will be possible only if the system is built and remains responsive to the needs of these organizations and to the public. Thus, the system will be subject to continuing oversight by representatives of such organizations and of the public.

The GCOOS-RA recognizes that the system will benefit and strengthened by establishing an International Network of High Frequency Radars of the Gulf of Mexico for a better understanding of the oceanographic characteristics of the Gulf and in close collaboration with the UABC and other Mexican associated institutions.

Collaboration with other nations bordering the Gulf of Mexico is to be actively sought in the design and implementation of this regional observing system.

UABC:

Through the UABC's Regional Coastal Oceanographic Observatory (Observatorio Oceanográfico Regional Costero, OORCO) composed of the Radio Oceanographic laboratory of the Oceanographic Research Institute (Instituto de Investigaciones Oceanológicas, IIO) academic and scientific researchers and with the support of other national and international academic and research centers, particularly the Consorcio de Investigación del Golfo de Mexico (CIGOM) and the Consortium of Marine Research Institutes of the Gulf of Mexico and Caribbean (CiiMAR-GoMC). For the purpose of achieving this goal, UABC parties agreed to jointly-develop and participate in the following activities:

- Promote communication networks among the members of UABC and local, state, regional and federal authorities; and organizations and international authorities to move on in the mission of it.
- Develop and promote in a regional way, strategies based on science that involves multidisciplinary and inter-institutional cooperation to approach Gulf of Mexico problems.
- Identify and generate opportunities for the members of UABC to support ongoing

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research conducted by participant institutions and through expert support of each of them to generate research and academic programs.

- iv. Cooperate in the response to natural disasters that may impact the Gulf of Mexico including the coastal communities and its habitats.
- v. Cooperate in joint studies aimed to the Gulf of Mexico regional development, strategies and specific guidelines to enhance sustainable economic growth.

SUNSET AND MODIFICATION:

The Parties agree that, on or before April 20 of 2021, the President of the UABC the Director of IIO and the researcher responsible of OORCO and the President of the GCOOS-RA Board will submit to each Party an analysis of MOU activities and positive impacts. Within sixty days after delivery of this Summary, the Parties shall meet and determine whether the MOU purpose is being met, whether modifications to this MOU are appropriate, and whether the MOU should continue.

IN WITNESS WHEREOF, the parties have caused this MOU to be executed:

Barbara Kirkpatrick

Dr. Barbara Kirkpatrick, Executive Director, GCOOS

June 1, 2018

Date

Juan Manuel Ocegueda Hernández

Dr. Juan Manuel Ocegueda Hernández, President UABC

Date

Alejandro Cabello Pasini

Dr. Alejandro Cabello Pasini, Director IIO-UABC

30 - Abril - 2018

Date

Xavier Flores Vidal

Dr. Xavier Flores Vidal, Responsible OORCo-UABC
Researcher IIO-UABC

Date

