

# Jorge Brenner, PhD

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## EDUCATION

- 2002-2007 PhD Marine Science (Coastal Zone Management & Ecological Economics), Catalonia Polytechnic University, Barcelona, Spain. Dissertation: "Valuation of Ecosystem Services in the Catalan Coastal Zone." Advisors: Dr. Jose A. Jiménez & Dr. Rafael Sardá. *Cum Laude*.
- 1995-1997 MSc Environmental Engineering (Geospatial Science), Monterrey Technology Institute (ITESM), Monterrey, Mexico. Thesis: "Bathymetry Estimation Using Multispectral Data: La Nacha Lagoon, Tamaulipas Case Study." Advisor: Dr. D. Fabian Lozano.
- 1991-1995 BS Biochemical Engineering (Marine Science & Aquaculture), Monterrey Technology Institute (ITESM), Guaymas, Mexico.

## PROFESSIONAL EXPERIENCE

- 2021 – present Executive Director. Gulf of Mexico Coastal Ocean Observing System, Houston, Texas, USA.
- 2020 – present Owner & Principal. Jupiter Data Factory, LLC, Houston, Texas, USA.
- 2018 – 2020 Associate Director of Marine Science and Fisheries. The Nature Conservancy of Texas, USA.
- 2011 – 2018 Associate Director of Marine Science. The Nature Conservancy of Texas, Houston, USA.
- 2010 - 2011 Gulf of Mexico Project Director. The Nature Conservancy of Texas, Houston, USA.
- 2007 – 2010 Post-Doctoral Research Associate. Harte Research Institute for Gulf of Mexico Studies, Texas A&M University-Corpus Christi, Texas, USA.
- 2002 – 2007 Graduate Research Assistant. Marine Engineering Laboratory, Catalonia Polytechnic University, Barcelona, Spain.
- 1999 – 2002 Coordinator of Strategic Conservation Planning and Director of Conservation Data Center. Pronatura Noreste, A.C., Monterrey, Mexico.
- 1998 Research Scientist. Geographic Information Systems Laboratory, Environmental Quality Center, Monterrey Technology Institute (ITESM), Monterrey, Mexico
- 1995 – 1997 Graduate Research Assistant. Geographic Information Systems Laboratory, Environmental Quality Center, Monterrey Technology Institute (ITESM), Monterrey, Mexico.

## PROJECT FUNDRAISING & MANAGEMENT

- 2019 – 2021 Implementing a Marine Biodiversity Observation Network (MBON) in South Florida to advance ecosystem-based management (co-PI)  
Funded by NOAA (ONR NA19NOS0120199) (\$1.1M); managed by University of South Florida. This project builds on the foundations laid by the National Marine Sanctuary (FKNMS) Demonstration Marine Biodiversity Observation Network (MBON, 2014-2020). Specifically, the objectives are to: 1) Further integrate and synthesize information from ongoing monitoring programs through the Integrated Ocean Observing System (IOOS); 2) Refine details for practical marine Essential Biodiversity Variables (EBVs) and Essential Ocean Variables (EOVs), including a) Advancing understanding of time-varying marine biogeography using Seascapes, b) Integrating traditional and new technologies to assess animal movement and ambient sounds to understand distribution of organisms and biodiversity hotspots, and c) Biodiversity assessments through emerging molecular methods; 3) Integrate biodiversity measurements in a relational database; 4) Establish a protocol for MBON information to dynamically update Sanctuary Condition Reports, NERR

assessments, IEA, and FWC resource management needs; and 5) Serve as MBON Team Leader to link and coordinate national MBON efforts, and support and coordinate with international programs (Group on Earth Observations/ GEO BON, MBON, Blue Planet, and the International Oceanographic Commission/IOC: the Global Ocean Observing System/GOOS, the Ocean Biogeographic Information System/OBIS, the Ocean Best Practices System/OBPS, and others).

- 2016 – 2020 Coral Reef Health and Resilience Baseline Using AGRRA (co-PI)  
Funded by The Nature Conservancy, Ocean Research and Education Foundation, Sea & Reef, and Harte Research Institute-TAMUCC (\$20k). This project used the Atlantic and Gulf Rapid Reef Assessment (AGRRA) framework to assess the ecological condition of three coral reefs in Veracruz, Mexico. The project aims at developing a publicly available ecological baseline that can be used to assess ecological changes in the reefs. Outputs: Three year base line of condition, and training of ten students with Veracruz State University on benthos, coral and fish protocols. Publication: Arguelles, J., **J. Brenner**, y H. Pérez-España. 2019. Línea base para el monitoreo de los arrecifes del Sistema Arrecifal Veracruzano (PNSAV) a través de la metodología AGRRA. Universidad Veracruzana - The Nature Conservancy – Sea & Reef. Boca del Rio, 26 pp.
- 2016 – 2018 Identification of tuna migratory pathways in the Gulf of Mexico (PI)  
Funded by the Anne Ray Charitable Trust (\$50k). First, this project First mapped tuna species range within the Gulf of Mexico, high use habitats, and used a variety of data sources to map the migratory corridors for key Atlantic/Gulf tuna species – e.g., Albacore, bonito, bigeye tuna, bluefin tuna, blackfin tuna, little tunny, skipjack tuna, and yellowfin tuna. Second, we Identified threats to tuna and their conservation areas in the Gulf of Mexico. We analyzed the spatial data compiled for the species to identify a portfolio with areas of the Gulf that should be conserved to complete the full life cycles of as many species as possible and for specific fisheries. This process involved the development of species and multispecies spatial models of habitat use for the identification of the fidelity of species to specific habitats and pathways required to maintain healthy populations for their multiple benefits and the spatial optimization model MARXAN. Publications: **Brenner, J.**, and V. McNulty. 2018. Gulf of Mexico tuna migrations. The Nature Conservancy. Arlington, 24 pp.
- 2016 – 2007 Spatial Patterns of Ecosystem Services Value of Private Protection Strategy in North America (PI)  
Funded by The Nature Conservancy. This project used a spatially explicit value transfer analysis to assess the economic value provided by the diversity of ecological habitats protected in each project site. Outputs: Ecosystem services value transfer geodatabase, and site value map portfolio.
- 2015 – 2020 Gulf of Mexico Migratory Species Conservation (PI)  
Funded by Lyda Hill Foundation, Shell Oil (\$325k) and The Nature Conservancy (\$200k). This project identified spatially explicit migratory corridors of marine megafauna species in the Gulf of Mexico using a database of more than 1200 individual satellite tracks contributed by more than 100 academic and governmental collaborators. The project aimed at informing managers and decision-makers of opportunities for site-based conservation and threat abatement. Outputs: Technical and decision-making reports and online decision support system at <https://maps.migratoryblueways.org>. Publications: **Brenner, J.**, C. Voight, and D. Mehlman. 2016. Migratory species in the Gulf of Mexico large marine ecosystem: Pathways, threats, and conservation. The Nature Conservancy. Arlington, 93 pp.; **Brenner, J.**, and V.

McNulty. 2018. Gulf of Mexico tuna migrations. The Nature Conservancy. Arlington, 24 pp;  
**Brenner, J.**, and V. McNulty. *in preparation*. Conservation status of migratory species in the Gulf of Mexico. Coastal and Ocean Management.

- 2015 – 2017 Inventory of Gulf of Mexico Ecosystem Indicators using an Ecological Resilience Framework (co-PI)  
Funded by NOAA's RESTORE Science Program (NA15NOS4510227) (\$250k). This project identified ecological and ecosystem services indicators using an integrity framework that includes both the condition of key ecosystem types in the Gulf and the variety of benefits that they provide. Monitoring metrics for five major Gulf of Mexico habitat types were identified -i.e., salt marsh, mangrove, seagrass, oyster beds/reefs, and coral reefs. Outputs: Final reports to RESTORE Act Program. Publication: Goodin, K.L., D. Faber-Langendoen, **J. Brenner**, *et al.* 2018. Ecological resilience indicators for five northern Gulf of Mexico ecosystems. NatureServe. Arlington, 381 pp.
- 2014 – 2016 Prioritization of Critical Marsh Conservation and Restoration Areas based on Future Sea Level Rise Scenarios (PI)  
Funded by NOAA's Coastal Management Program through the Texas General Land Office (15-032-000-8374) (\$150k). This project developed a high-resolution SLAMM-based (Sea-Level Affecting Marshes Model) and scenarios, and a series of spatial indicators of coastal resilience in support of restoration in Copano Bay and San Antonio Bay in Texas. Outputs: Final report to TGLO and online data platforms at [www.slrportal.org](http://www.slrportal.org) and <http://maps.coastalresilience.org/gulfmex/>. Publication: **Brenner, J.**, M. Murdock, and M.K. Brown. 2016. Prioritization of critical marsh conservation and restoration areas based on future sea-level rise scenarios in Copano and San Antonio Bays, Texas Area. The Nature Conservancy. Arlington, 77 pp.
- 2014 – 2016 Texas Coastal Bend Regional Climate Change Vulnerability Assessment (PI)  
Funded by EPA through the CBBEP (1512) (\$70k). This project completed a climate change vulnerability assessment for the central Texas coast. Nature and critical and other infrastructure were evaluated for their risks to several types of climate stressors – e.g., sea-level rise, temperature and precipitation increase, storms, etc. Outputs: Final report to CBBEP and public stakeholder workshop at Mission-Aransas NERR. Publication: Murdock, M., and **J. Brenner**. 2016. Texas Coastal Bend regional climate change vulnerability assessment. The Nature Conservancy. Arlington, 80 pp.
- 2012 – 2013 Sea Level Rise Affecting Marsh Model (SLAMM) in Corpus Christi Bay (co-PI)  
Funded by EPA, TCEQ, and CBBEP (1306). This project used the SLAMM and ADCIRC models to assess the implications of sea-level rise and storm surge, respectively. The goal was to assess the resiliency of the coastal habitats and communities in the Corpus Christi, Bay area in Texas to these climate stressors. The project used spatial indicators to assess socio-ecological components of coastal resilience. Outputs: Final reports to the Coastal Bend Bays and Estuaries Program (CBBEP) and TCEQ. Publication: Geselbracht, L., K. Freeman, A. Birch, **J. Brenner**, and D. Gordon. 2015. Modeled sea level rise impacts on coastal ecosystems at six major estuaries on Florida's Gulf coast: Implications for adaptation planning. PLoS ONE 10(7): e0132079.
- 2011 – 2014 Assessing Nature-based and Engineered Adaptation Solutions to Climate Change (co-PI)  
Funded by NOAA's Climate and Society Initiative (CSI) (29326550-50792-A) (\$250k). This project used and developed new InVEST (Integrated Valuation of Ecosystem Services and

Tradeoffs) models to assess benefits provided by oyster reefs, salt marshes and fresh marshes in protecting the coast, sequestering blue carbon and supporting fisheries in Galveston Bay area in Texas. Findings include the identification of marsh and oyster reef habitat size and distance to the shoreline to provide different ecosystem services to coastal communities. The changes in their value (market and non-market) were also assessed. Outputs: Final report to NOAA and the Lone Star Coastal Alliance. Publication: Ruckelshaus, M., G. Guannel, K. Arkema, G. Verutes, R. Griffin, A. Guerry, J. Silver, J. Faries, **J. Brenner**, and A. Rosenthal. 2016. Evaluating the benefits of green infrastructure for coastal areas: Location, location, location. *Coastal Zone Management Journal* 44(5): 504-516.

- 2010 – 2013 Gulf of Mexico Sea-level Rise Data Platform (PI)  
Funded by NOAA through the Mississippi Department of Marine Resources (S-08-TNC-GOMA-01) (\$800k). This project developed SLAMM-based sea-level rise and ADCIRC-based storm surge future scenarios for Galveston Bay and Jefferson County coast in Texas, St. Andrews Bay and Choctawhatchee Bay in Florida, and Grand Bay NERR in Mississippi. All products were published in an offline and online data platform to support the Gulf of Mexico Alliance. Outputs: Final reports to the Gulf of Mexico Alliance and online data platforms at [www.slrportal.org](http://www.slrportal.org) and <http://maps.coastalresilience.org/gulfmex/>. Publication: Thompson, M., **J. Brenner**, and B. Gilmer. 2014. Informing conservation planning using future sea-level rise and storm surge modeling impact scenarios in the Northern Gulf of Mexico. *Ocean and Coastal Management* 100: 51-62.
- 2010 Biodiversity of Gulf of Mexico (BioGoMx) Spatial Patterns and Geodatabase (co-PI)  
Funded by Harte Research Institute-TAMUCC. This project used geospatial technologies to create a geodatabase of the spatial representation of more than 15,000 marine species of the Gulf of Mexico. The species inventory developed by Felder and Camp 2009 was turned into a searchable geodatabase application and published online at <https://www.gulfbase.org/species?term=&type=species>. Outputs: most complete basin-wide list of species from bacteria to birds created to date and was accepted as a collaborating project of the Census of Marine Life initiative. This project also served as the basis for IUCN's Red List update of conservation status of bonny fish in 2011 and beyond.
- 2008 – 2009 Gecoserve: An Ecosystem Services Valuation Database (Post-doc Researcher)  
Funded by the Harte Research Institute-TAMUCC. This project compiled a database of monetary value provided by nature as ecosystem services. Empirical economic estimates published in peer-reviewed literature using contingent and other valuations were mined and summarized by coastal habitat type. Output: The database was initially provided freely via gecoserve.org app as a tool to conduct value transfer analysis to assess the contribution of natural capital to people's well-being. At present it is available at [www.bluevalue.org](http://www.bluevalue.org).
- 2008 Human Footprint Along the Texas Coast (PI)  
Funded by the Harte Research Institute-TAMUCC. This project assessed the spatial extent of human uses and impacts along the Texas coastal zone (counties). Using geospatial tools, the footprint of human activities was assessed using several spatial indicators of magnitude, extent, persistence, etc. and their impact in different land cover and habitat types. Spatial statistics and geodatabase tools were central to the assessment. Output: geodatabase and portfolio of maps depicting the sprawl of uses of the coastal zone.
- 2007 – present Trinational Initiative for Marine Science and Conservation in the Gulf of Mexico & Western Caribbean (Founding Member)

Funded by the Ocean Foundation, Harte Research Institute-TAMUCC, Environmental Defense Fund, and others. This network of researchers, organizations and government agencies was created during the first core team workshop in Cancun, Mexico in 2007. Representatives of US and Cuba-based institutions developed the basis for the joint agreement to support marine sciences in the region - <http://www.trinationalinitiative.org>. The goal was to support scientific collaboration across the Gulf of Mexico Large Marine Ecosystem and western Caribbean to promote the conservation of its natural resources. Five species-focused working groups were formed to promote the interaction and the development of joint proposals among researchers from the three countries. Output: several workshops, annual meetings and projects were supported while at Harte Research Institute and The Nature Conservancy.

*Note: projects prior to 2007 are not listed.*

**PEER-REVIEWED PUBLICATIONS** (student co-authors are underlined)

- Kiene, W., and **J. Brenner**. *in preparation*. Protected area diplomacy is a key in securing the health of America's ocean ecosystem. AAAS Science Diplomacy.
- Brenner, J.**, and V. McNulty. *in preparation*. Conservation status of migratory species in the Gulf of Mexico. Coastal and Ocean Management.
- Whitten, M., and **J. Brenner**. *submitted*. Highly migratory fish species in the Gulf of Mexico: An evaluation of provided goods and services and gaps in current conservation structure. Ecosystem Services.
- Kohler, A.S., A. Renfro, **J. Brenner**, et al. *submitted*. The central role of the Mississippi River and its Delta on the oceanography, ecology and economy of the Gulf of Mexico: A modern synthesis. Oceanography.
- Victoria, M., H. Perez, **J. Brenner**, and Y. Okolodkov. 2021. A method to assess diver impacts on hermatypic corals. *Examines in Marine Biology and Oceanography* 4(1): 1-3.
- Gil-Aguedo, D.L., C.E Cintra-Buenrostro, **J. Brenner**, P. Gonzalez-Diaz, W.E. Kiene, C. Lustic, and H. Perez-Espana. 2020. Coral reefs in the Gulf of Mexico large marine ecosystem: conservation status, challenges and opportunities. *Frontiers in Marine Science* 6: 807.
- Dunn, D.C., A.L. Harrison, C. Curtice, S. DeLand, B. Donnelly, E. Fujioka, E. Heywood, C.Y. Kot, S. Poulin, M. Whitten, S. Åkesson, A. Alberini, W. Appeltans, J.M. Arcos, H. Bailey, L.T. Ballance, B. Block, H. Blondin, A.M. Boustany, **J. Brenner**, et al. 2019. The importance of migratory connectivity for global ocean policy. *Proceedings of the Royal Society B* 286(1911): 20191472.
- Ruckelshaus, M., G. Guannel, K. Arkema, G. Verutes, R. Griffin, A. Guerry, J. Silver, J. Faries, **J. Brenner**, and A. Rosenthal. 2016. Evaluating the benefits of green infrastructure for coastal areas: Location, location, location. *Coastal Zone Management Journal* 44(5): 504-516.
- Reddy, S., G. Guannel, R. Griffin, J. Faries, T. Boucher, M. Thompson, **J. Brenner**, J. Bernhardt, G. Verutes, S. Wood, J. Silver, J. Toft, A. Rogers, A. Maas, A. Guerry, J. Molnar, and J. DiMuro. 2016. Evaluating the role of coastal habitats and sea-level rise in hurricane risk mitigation: An ecological economic assessment method and application to a business decision. *Integrated Environmental Assessment and Management* 12(2): 328-344. [*IEAM Best Paper of 2016*]
- Dupras, J., L. Parcerisas, and **J. Brenner**. 2016. Using ecosystem services valuation to measure the economic impacts of land-use changes on the Spanish Mediterranean coast (El Maresme, 1850-2010). *Regional Environmental Change* 16: 1075-1088.
- Schill, S., G. Raber, J. Roberts, E. Tremblay, **J. Brenner**, and P. Halpin. 2015. No reef is an island: Integrating coral reef connectivity data into the design of regional-scale marine protected area networks. *PloS ONE* 10(12): e0144199.
- Geselbracht, L., K. Freeman, A. Birch, **J. Brenner**, and D. Gordon. 2015. Modeled sea level rise impacts on coastal ecosystems at six major estuaries on Florida's Gulf coast: Implications for adaptation planning. *PLoS ONE* 10(7): e0132079.

- Thompson, M., **J. Brenner**, and B. Gilmer. 2014. Informing conservation planning using future sea-level rise and storm surge modeling impact scenarios in the Northern Gulf of Mexico. *Ocean and Coastal Management* 100: 51-62.
- Reyna, P., J. Bello, L. Ortiz, H. Perez, P. Arceo and **J. Brenner**. 2014. Incorporating expert knowledge for development spatial modeling in assessment ecosystem services provided by coral reefs: A Tool for decision-making. *Revista de Biología Marina y Oceanografía* 49: 279-292.
- Brenner, J.**, J.A. Jiménez, R. Sardá, and A. Garola. 2010. An assessment of the non-market value of the ecosystem services provided by the Catalan coastal zone, Spain. *Ocean and Coastal Management* 53: 27-38.
- Arismendez, S.S., H. Kim, **J. Brenner**, and P. Montagna. 2009. Application of watershed analyses and ecosystem modelling to investigate land-water nutrient coupling processes in the Guadalupe Estuary, Texas. *Ecological Informatics* 4: 243-253.
- Brenner, J.**, J.A. Jiménez, and R. Sardá. 2008. Environmental indicators GIS of the Catalan coast. *Journal of Coastal Conservation* 11: 185-191.
- Brenner, J.**, J.A. Jiménez, and R. Sardá. 2006. Definition of homogeneous environmental management units for the Catalan coastal zone. *Environmental Management* 38: 993-1005.

**BOOK CHAPTERS, TECHNICAL REPORTS & BLOGS** (student co-authors are underlined)

- Brenner, J.**, and J. Bergan. *submitted*. Conservation of the Laguna Madre Ecosystem. In J.W. Tunnell and K. Withers (Eds.), *Laguna Madre of Texas and Tamaulipas, Second Edition*. Texas A&M University Press. College Station.
- Arguelles, J., **J. Brenner**, y H. Pérez-España. 2019. Línea base para el monitoreo de los arrecifes del Sistema Arrecifal Veracruzano (PNSAV) a través de la metodología AGRRA (Atlantic and Gulf Rapid Reef Assessment). Universidad Veracruzana - The Nature Conservancy – Sea&Reef. Boca del Rio. 26 pp.
- Brenner, J.**, and V. McNulty. 2018. Gulf of Mexico tuna migrations. The Nature Conservancy. Arlington, 24 pp.
- Goodin, K.L., D. Faber-Langendoen, **J. Brenner**, S.T. Allen, R.H. Day, V.M. Congdon, C. Shepard, K.E. Cummings, C.L. Stagg, C.A. Gabler, M. Osland, K.H. Dunton, R.R. Ruzicka, K. Semon-Lunz, D. Reed, and M. Love. 2018. Ecological resilience indicators for five northern Gulf of Mexico ecosystems. NatureServe. Arlington, 381 pp.
- Brenner, J.**, and V.P. McNulty. 2017. Unlocking the mysterious journeys of migratory species in the Gulf of Mexico. *Cool Green Science*.
- Brenner, J.**, M. Murdock, and M.K. Brown. 2016. Prioritization of critical marsh conservation and restoration areas based on Future sea-level rise scenarios in Copano and San Antonio Bays, Texas Area. Report submitted to the Coastal Management Program of the Texas General and the National Oceanic and Atmospheric Administration. The Nature Conservancy. Arlington, 77 pp.
- Murdock, M., and **J. Brenner**. 2016. Texas coastal bend regional climate change vulnerability assessment. Coastal Bend Bays and Estuaries Program. Report submitted to the Coastal Bend Bays and Estuaries Program (CBBEP). The Nature Conservancy. Arlington, 44 pp.
- Reguena, G., S. Casas, R. Cámara Artigas, **J. Brenner**, J. Morales. 2016. Modelo de captura y almacén de carbono en la Cuenca Guayalejo – Tamesí (Tamaulipas, México). In: pages 122-140, *Cambio climático en la zona noroeste de México*, R. Jaramillo, et al. (Eds.). Pearson Educación México.
- Brenner, J.**, C. Voight, and D. Mehlman. 2016. Migratory species in the Gulf of Mexico large marine ecosystem: Pathways, threats and conservation. The Nature Conservancy. Arlington, 93 pp.
- Brenner, J.**, C. Voight, and D. Mehlman. 2016. Migratory species in the Gulf of Mexico large marine ecosystem: Executive summary. The Nature Conservancy. Arlington, 20 pp.
- Guannel, G., A. Guerry, **J. Brenner**, J. Faries, M. Thompson, J. Silver, R. Griffin, J. Proft, M. Carey, J. Toft, and G. Verutes. 2014. Changes in the delivery of ecosystem services in Galveston Bay, TX, under a sea-level rise scenario. *The Natural Capital and The Nature Conservancy*. Stanford, 121 pp.

- National Research Council (**J. Brenner** co-author and Committee Member). 2014. An Ecosystem Services Approach to Assessing the Impacts of the Deepwater Horizon Oil Spill in the Gulf of Mexico. Final Report of the Committee on the Effects of the *Deepwater Horizon* Mississippi Canyon-252 Oil Spill on Ecosystem Services in the Gulf of Mexico. Ocean Studies Board of the National Research Council, National Academies Press, Washington, D.C., 235 pp (ISBN: 978-0-309-28845-3).
- Brenner, J.**, B. Gilmer, and Sheets, J. 2012. Sea-level Affecting Marshes Model (SLAMM) runs and conservation planning data platform development – for three focal areas in the Northern Gulf of Mexico: Galveston Bay and Southern Jefferson County in Texas, and Grand Bay NERR/NWR in Mississippi. A report from The Nature Conservancy to the Habitat Conservation and Restoration Priority Issue Team of the Gulf of Mexico Alliance. The Nature Conservancy. Corpus Christi.
- Gilmer, B., **J. Brenner**, and J. Sheets. 2012. Informing conservation planning using sea-level rise and storm surge impact estimates in Saint Andrew and Choctawhatchee Bays, Florida. The Nature Conservancy. Seattle, 25 pp.
- National Research Council (**J. Brenner** co-author and Committee Member). 2012. Approaches for ecosystem services valuation for the Gulf of Mexico after the Deepwater Horizon oil spill. Interim Report of the National Research Council to the National Oceanic and Atmospheric Administration. The National Academies Press, Washington, D.C., 127 pp (ISBN: 978-21179-6).
- Brown, C., K. Andrews, **J. Brenner**, J.W. Tunnell, C. Canfield, C. Dorsett, M. Driscoll, E. Johnson, and S. Kaderka. 2011. Strategy for restoring the Gulf of Mexico (A cooperative NGO report to the Gulf Coast Ecosystem Restoration Taskforce of EPA). The Nature Conservancy. Arlington, 23 pp.
- Gilmer, B., **J. Brenner**, and J. Sheets, J. 2011a. Informing conservation planning using sea-level rise and storm surge impact estimates in the Grand Bay NERR/ NWR area in Mississippi. The Nature Conservancy. Seattle, 21 pp.
- Gilmer, B., **J. Brenner**, and J. Sheets. 2011b. Informing conservation planning using sea-level rise and storm surge impact estimates in the Galveston Bay and Jefferson County. The Nature Conservancy. Seattle, 26 pp.
- Sheets, J., **J. Brenner**, and B. Gilmer. 2011. Assessing the potential impact of sea-level rise and climatic hazards on ecological and human communities within the Northern Gulf of Mexico. The Nature Conservancy. Corpus Christi, 34 pp.
- Montagna, P.A., **J. Brenner**, J. Gibeaut, and S. Morehead. 2011. Coastal Impacts. Pages: 96-123 in G.R. North, J. Schmandt, and J. Clarkson (Eds.), *The Impact of Global Warming in Texas*. Second Edition. University of Texas Press. Austin, 336 pp (ISBN 978-0292723306).
- Boyd, C., C.S. Villasante, **J. Brenner**, and R. Enriquez. 2010. Fisheries. Pages 83-126 in Bovarnick, A., F. Alpizar, C. Schnell (Eds.), *The Importance of Biodiversity and Ecosystems in Economic Growth and Equity in Latin America and the Caribbean: An economic valuation of ecosystems*. United Nations Development Programme (UNEP), 291 pp.
- Brenner, J.**, J.A. Jiménez, and R. Sardá. 2010. Environmental indicators GIS of the Catalan coast. Pages: 359-370 in D. Green (Ed.), *Coastal and Marine Geospatial Technologies, Coastal Systems and Continental Margins Book Series*, Vol. 13. Springer, New York. (ISBN 978-1-4020-9719-5).
- Brenner, J.**, and S. Arismendez. 2009. Large marine ecosystems. *Encyclopedia of Earth*.
- Brenner, J. et al.** (chapter 3 co-author). 2009. Identificación y puesta en valor de los bienes y servicios ambientales. Pages: 488-494 in A.M. Ayuso et al. (Eds.), *Sostenibilidad local: una aproximación urbana y rural*. Observatorio de la Sostenibilidad en España (OSE). Madrid.
- Brenner, J.** 2007. Alternative looks of wealth: the ecosystem services. In: J. Antequera, A. Jiménez and S. Neus (Eds.), *1st Sustainability Report of the Girona Comarcas*, Observatori de Sostenibilitat - Generalitat de Catalunya, Girona. 160-162 (ISBN 99920-58-03-X).
- Brenner, J.** 2000. Tortugas y mamíferos marinos. Pages: 79-84 in E. Enkerlin, G. Cano, A. N. Correa y A. G. Robles (Eds.), *Vida, Ambiente y Desarrollo en el Siglo XXI: Lecciones y Acciones*, Grupo Editorial Iberoamérica, Mexico, D.F. (ISBN 970-6252258).



## **PATENT**

Camaronato. Brand Registration # 560535 (1995-2006), Mexican Institute of Intellectual Property.

## **CONSULTING EXPERIENCE**

- 2021 International Crane Foundation (ICF), USA.
- 2020 Coastal Bend Bays and Estuaries Program (CBBEP), Corpus Christi, USA. Environmental Indicators Report 2020.
- 2010 United Nations Industrial Organization (UNIDO), Mexico D.F. Climate change in the Gulf of Mexico Large Marine Ecosystem (chapter). Transboundary Assessment. Gulf of Mexico Large Marine Ecosystem Project.
- 2010 United Nations Development Programme (UNEP). Corpus Christi, USA. Publication: Boyd, C., C.S. Villasante, **J. Brenner**, and R. Enriquez. 2010. Fisheries. Pages 83-126 in Bovarnick, A., F. Alpizar, C. Schnell (Eds.), The Importance of Biodiversity and Ecosystems in Economic Growth and Equity in Latin America and the Caribbean: An economic valuation of ecosystems, United Nations Development Programme (UNEP), 291 pp.
- 2007 Observatori de Sostenibilitat - Generalitat de Catalunya, Girona, Spain. Publication: **Brenner, J.** 2007. Alternative looks of wealth: the ecosystem services. In J. Antequera, A. Jiménez and S. Neus (Eds.), 1St Sustainability Report of the Girona Comarcas, Observatori de Sostenibilitat - Generalitat de Catalunya, Girona, Spain, 160-162 (ISBN 99920-58-03-X).
- 2006 - 2007 Global University Network for Innovation (GUNI), Barcelona, Spain. Geospatial analysis and visualizations for two anual reports.

## **TEACHING VISION**

My teaching philosophy is to develop a sustainable society through science-based and available knowledge. I believe that access to data, critical thinking skills, problem-based learning opportunities and technological innovation are key to generate relevant information in support of our betterment. I have taught continuously throughout my career (even as a student). From full semester university courses to condensed thematic courses to technical workshops in Spain, USA, Mexico and Cuba. I think the value of open learning and research tools that make research results reproducible is an essential complement to industry standards and promote innovation in scientific developments in all sectors of society. My overall experience includes building content and curricula, lecturing and mentoring students in undergraduate and graduate programs at universities, research centers, NGOs, and government agencies. I have also continuously mentored national and international students in key topics for the development of their future scientific careers, offered them a place in research teams dealing with real-world projects, and served in graduate program student committees at master's and doctoral levels. My success as lecturer and mentor has its roots in a wealth of background research that promotes confidence from project execution to communication, problem-based learning that sparks critical thinking feedback useful in adapting research questions and methods, technology tools that support reproducible results and help mainstream solutions, and a 'learning together' process between student and supervisor that achieves project objectives by adaptively growing the intellectual and personal capacity of the entire team.

## **TEACHING EXPERIENCE**

- 2019 Guest lecturer at Animove Summer School, Yale University, New Haven, USA.
- 2019 Satellite-based animal movement analysis and corridor conservation course to Fisheries Research Center and National Center of Protected Areas, Varadero, Cuba.



- 2012 – 2014 Special Appointment to the Graduate Faculty of the Coastal and Marine System Science Doctoral Program at Texas A&M University – Corpus Christi, USA.
- 2013 SLAMM model and sea-level rise impacts to coastal zone course to Advanced Studies Research Center (CINVESTAV) of National Polytechnic Institute, Merida, Mexico.
- 2011 – 2013 Conservation planning and MARXAN course to National Center of Protected Areas of Cuba (CNAP), Havana, Cuba.
- 2008 – 2010 Guest lectures on Ecosystem Services and Conservation Science in Environmental Science Class (undergraduate), Environmental Economy Class (graduate), Wetland Ecology Class (graduate), Marine Biodiversity Class (graduate), Texas A&M University-Corpus Christi, USA.
- 2008 Guest lecture to McNair Conversations Honors Program (undergraduate) on Student Research Do's and Don'ts, Texas A&M University-Corpus Christi, USA.
- 2006 Guest lecture on Our Capitals in Engineering, International Cooperation, and Social Responsibility (undergraduate), Catalonia Polytechnic University, Barcelona, Spain.
- 2006 Instructor of Introduction to GIS and Arcview, XXI National Forum on Statistics: Biostatistics, Mexican Association of Statistics, Acapulco, Mexico.
- 2003 – 2006 Lecturer of several introductory courses on Geographic Information Systems and ArcView to: External Debt Observatory, and Sustainable Development Observatory, UNESCO Chair, Catalonia Polytechnic University, Barcelona, Spain.
- 2005 Professor of Geographic Information Systems (graduate), Master of Science Program in Sustainable Development, Catalonia Polytechnic University, Barcelona, Spain.
- 2002 Guest lecturer on Ecoregional Planning and Conservation, Master Program in Environmental Engineering (graduate), Monterrey Technology Institute (ITESM), Monterrey, Mexico.
- 1999 Professor of Ecology and Sustainable Development (undergraduate), Monterrey Technology Institute (ITESM), Monterrey, Mexico.

## **STUDENT MENTORING**

- 2020 - present Manuel Victoria, Marine Science Institute, Veracruz State University, Mexico. Master's Program. Thesis: Assessment of impacts of SCUBA diving industry in coral reefs at the Veracruz National Park.
- 2019 - present Savannah Hartman, College of Marine Science, University of Southern Florida. Doctoral Program. Dissertation: Spatial and temporal environmental heterogeneity impacts on marine biodiversity
- 2019 - present Jonathan Aguilera, Marine Science Institute, Veracruz State University, Mexico. Doctoral Program. Dissertation: Development of an assessment model of ecological integrity of mesophotic coral reefs using artificial intelligence.
- 2019 Jimmy Arguelles, Marine Science Institute, Veracruz State University, Mexico. Doctoral Program. Visiting Scholar 1/19. Publication: Arguelles, **Brenner**, and Pérez-España 2019.
- 2019 Jamie Smyth, Dalhousie University, Halifax, Canada. Master's Program. Visiting Scholar 5-8/19.
- 2018 – 2019 Meredith Whitten, Nicholas School of the Environment, Duke University. Master's Program. Visiting Scholar 7-8/18. Thesis: Movement ecology and conservation of sharks in the Gulf of Mexico. Manuscript submitted to Ecosystem Services Journal: Whitten and Brenner.
- 2016 – present Melissa Mayorga, Marine Science Institute, Veracruz State University, Mexico. Dissertation: Spatial modeling of mesophotic coral reefs of the Veracruz National Park.
- 2016 Abigail Uribe, Geography Doctoral Program, National University of Mexico. Visiting Scholar 1/16.
- 2011 – 2018 Jacobo Santander, Marine Science Doctoral Program, Autonomous University of Baja California Sur, Mexico. Dissertation: Inventory and management of coral reefs in Mexico.
- 2011 – 2014 Pedro Reyna, Marine Science Doctoral Program, Veracruz State University, Mexico.

- Dissertation: Assessment of ecosystem services provided by the coral reefs. Publication: Reyna *et al.* 2014.
- 2011 – 2013 Harriet Nash, Marine Science Doctoral Program, Texas A&M University-Corpus Christi. Dissertation: Designing an international network of marine protected areas.
- 2009 – 2014 Nelly Glenda Requena, Geography Doctoral Program, University of Seville, Spain. Dissertation: Ecosystem services models and valuation.

## **PROFESSIONAL SERVICE ACTIVITIES**

- 2021 – present Member of Board of Affiliates, Professional Science Masters of School of Natural Sciences, Rice University.
- 2021 – present Member of Plan 2021-2025 Working Group, Quality Assurance Quality Control of Real Time Oceanographic Data (QARTOD), Integrated Ocean Observing System (IOOS), NOAA.
- 2019 – present Member of Marine Biodiversity Observation Network (MBON) of IOOS, NOAA.
- 2019 – present Member of Animal Telemetry Network of IOOS, NOAA.
- 2018 – present Member of Advisory Panel of Atlantic Highly Migratory Species Southeast Data, Assessment, and Review (SEDAR). National Marine Fisheries Service (NMFS), NOAA.
- 2018 – 2020 Member of Advisory Group of the Synthesis and Legacy Core Area 8: Knowledge Exchange with User Communities: Lessons Learned an Operational. Gulf of Mexico Research Initiative (GOMRI).
- 2018 – present Member of Diving Control Board (DCB). Texas State Aquarium.
- 2017 - present Member of Technical Advisory Committee (TAC) of the Texas Coastal Resiliency Master Plan. Texas General Land Office (TGLO).
- 2017 – present Member of Policy Advisory Board of the Marine Migratory Connectivity Project. Duke University and the Global Ocean Biodiversity Initiative of Germany.
- 2016 - 2020 Member of Scientific Diving Control Board (DCB). The Nature Conservancy.
- 2015 – present Texas OneGulf Center of Excellence Network of Experts (TONE). Harte Research Institute at Texas A&M – Corpus Christi.
- 2015 – 2018 Expert Committee of Mississippi River/Gulf of Mexico interactions project. RESTORE Science Program, NOAA.
- 2015 Member of Proposal Review Committee. Florida RESTORE Center of Excellence. Florida Institute of Oceanography (FIO).
- 2014 - present Reviewer of Elsevier journals: Environmental Management; Estuarine, Coastal and Shelf Science; Fisheries Research; Ocean and Coastal Management; Ecological Indicators.
- 2013 – 2016 Member of Sanctuary Advisory Council (SAC). Flower Garden Banks National Marine Sanctuary (FGBNMS), NOAA.
- 2013 – present Member of Steering Committee. Wildlife Conservation Fund, Texas State Aquarium.
- 2013 – 2015 Member of Steering Committee. Gulf of Mexico Coast Vulnerability Assessment. USFWS, USGS and NOAA.
- 2012 – 2018 Member of Scientific Committee. Gulf of Mexico Coast and Prairies Landscape Conservation Cooperative. USFWS.
- 2012 – present Member of Steering Committee. NatureServe Alumni Group. NatureServe.
- 2012 – present Member of Partners Council. Lone Star Coastal National Recreational Area proposal of SSPEED Center at Rice University and National Parks Conservation Association.
- 2012 – 2018 Member of Scientific Committee. Gulf of Mexico Atlas, NOAA.
- 2012 – present Member of Products Council. Gulf of Mexico Coastal Ocean Observing System (GCOOS) at Texas A&M University, NOAA.
- 2011 - 2013 Member of Committee. Effects of the Deepwater Horizon Mississippi Canyon-252 Oil Spill on Ecosystem Services in the Gulf of Mexico, National Research Council (NRC), National Academies.

- 2011 - present Member of Workgroup on Red List Assessment of the Gulf of Mexico Marine Fishes. International Union for Conservation of Nature (IUCN).
- 2011 Chair. Defining a Healthy Gulf of Mexico Session at the State of the Gulf of Mexico Summit, Harte Research Institute at Texas A&M - Corpus Christi.
- 2011 Co-Organizer. Member of the Scientific Steering Committee. State of the Gulf of Mexico Summit of Harte Research Institute at Texas A&M – Corpus Christi.
- 2011 Chair. Gulf of Mexico Science for Conservation Symposium, International Marine Conservation Congress of the Society for Conservation Biology, Victoria, Canada.
- 2009 – 2010 Vice-President. Working Group for Ecological Economics and Sustainability Science (WGEES), Society for Conservation Biology (SCB).
- 2009 Curator of ecosystem services topic. InfoHUB: Ecosystem-based Management Information Portal at GulfBase.org.
- 2008 – 2010 Co-Organizer. Member of the Scientific Steering Committee. International Conference on Sea-Level Rise in The Gulf of Mexico, Harte Research Institute at Texas A&M – Corpus Christi.
- 2008 – 2009 Chair-Elect. Working Group for Ecological Economics and Sustainability Science (WGEES), Society for Conservation Biology (SCB).
- 2007 – present Founding member. Trinational Initiative for Marine Science and Conservation in the Gulf of Mexico & Western Caribbean.
- 2006 – 2009 Channel Steward. Socio-Economic Information. Conservation Geoportal.
- 2006 Co-Organizer. Defining, Measuring, and Modelling Sustainability, keynote by Dr. Robert Costanza, Gund Institute, University of Vermont at 1st International Conference on Sustainability Measurement and Modelling, Terrassa, Spain.
- 1999 Co-Organizer. VI Neotropical Ornithology International Congress, Monterrey, Mexico.

### **COMMUNITY SERVICE ACTIVITIES**

- 2019 Assistant Coach at Memorial Ashford Little League, Houston, USA.
- 2008 – 2009 Member of Sister Cities Council, City of Corpus Christi, USA.

### **AWARDS & RECOGNITIONS**

- 2020 Champions Group. The Nature Conservancy, Austin, USA.
- 2016 Alumni Award. NatureServe, Washington, D.C., USA.
- 2011 - 2013 Member of Committee on the Effects of the Deepwater Horizon Mississippi Canyon-252 Oil Spill on Ecosystem Services in the Gulf of Mexico of the National Research Council of the National Academies, Washington, D.C., USA.
- 2009\* Candidate to the National Research System. National Science and Technology Council (CONACyT), Mexico. \*Decided not to renew after that.
- 2009 Visiting Researcher. Center for Advanced Studies of Blanes, National Council for Scientific Research (CSIC), Spain. Topic: ecosystem services valuation and conservation.
- 2007 *Cum Laude* Honor for PhD dissertation. Catalonia Polytechnic University, Barcelona, Spain.
- 2006 Visiting Scholar. Gund Institute for Ecological Economics, University of Vermont, USA. Topic: non-market valuation of ecosystem services and eco-informatics.
- 2005 Award. Marie Curie Conferences and Training Courses Awards, European Commission, Nice, France.
- 2004 Award. Marie Curie Conferences and Training Courses Awards, European Commission, Seville, Spain.
- 2002 – 2006 Doctoral Fellowship. National Science and Technology Council (CONACyT), Mexico.
- 2002 – 2004 Doctoral Fellowship. Ford, MacArthur & Hewlett Regional Fellowship Program, USA.
- 1996 - 1997 Master's Scholarship. National Science and Technology Council (CONACyT), Mexico.

1995                    Master's Scholarship. Monterrey Technology Institute (ITESM), Monterrey, Mexico.  
1991 – 1995            BS Scholarship. Monterrey Technology Institute (ITESM), Guaymas, Mexico.

### **PROFESSIONAL SOCIETY MEMBERSHIP**

American Fisheries Society (AFS), member since 2016.  
Ecosystem Services Partnership (Wageningen University), member since 2009.  
Gulf and Caribbean Fisheries Institute, member since 2015.  
International Bio-logging Society, member since 2018.  
International Society for Reef Studies (ISRS), member since 2016.  
International Society for Environmental Information Sciences, member since 2010.  
Society for Conservation Biology (SCB), member (2008). VP of Working Group for Ecological Economics and Sustainability Science (2009 - 2010). No longer a member.  
Society for Conservation GIS (SCG), member since 2001.

### **ONLINE DECISION SUPORT TOOLS**

<http://slr.stormsmart.org/>            Sea-level rise, storm surge and social-ecological resilience future scenario data platform based in of coastal vegetation migration capacity for Gulf of Mexico Alliance community and public.

<https://maps.coastalresilience.org/gulfmex>            Gulf of Mexico migratory megafauna pathways and other social-ecological data platform with dedicated community of interest apps to assess risks, enhance management and inform of conservation opportunities.

### **TECHNICAL SKILLS**

Software:

Scientific: R, Python, Primer, JMP.

Geospatial: Geographic Information Systems (ArcGIS Pro, StoryMaps, QGIS); remote sensing (ArcGIS, Imagine).

Models: Machine learning, SLAMM, Stella, InVEST, MARXAN.

Cloud: Google Cloud Platform, Google Data Studio.

Field Equipment: GPS, CTD, ROV, hydrophone, fluorescence, satellite and acoustic telemetry.

Research platforms: Vessel, ROV, SCUBA diving, drone, airplane.

### **PROFESSIONAL CERTIFICATES & COURSES**

Sustainability and Climate Risk (SCR™) Certificate. Global Association of Risk Professionals, Jersey City, USA (*in progress*).

Do-It-Yourself Geo Apps. ESRI (2021).

Google Data Studio Certificate. Google Analytics Academy (2021).

Remote Sensing of Coastal Ecosystems. ARSET, NASA (2020).

Data Analytics in R Certificate. eCornell (2020).

Fishpath Coaches Network course. The Nature Conservancy, Miami, USA (2020).

Fishery Pre-Assessment Consultant course. Marine Stewardship Council, Washington, D.C., USA (2019).

Highly Migratory Species Safe Handling, Release, and Identification Vessel Operator Certificate, Angler Conservation Education, NMFS-NOAA, Galveston, USA (2018 - 2020).

Fish Surveyor Certificate, Atlantic and Gulf Rapid Reef Assessment (AGRRA), Ocean Research & Education

Foundation, Veracruz, Mexico (2017).

Texas Boater Education Certificate. Texas Parks and Wildlife Department, Austin, USA (2014).

Reef Fish Surveyor Certificate. Reef Environmental Education Foundation (REEF), Galveston, USA (2013).

Emerging Leaders Certificate. The Nature Conservancy, Washington, D.C., USA (2013).

Environmental Quality Assessment Diploma. Monterrey Technology Institute (ITESM), Monterrey, Mexico (1998).

Water Quality Assessment Diploma. Monterrey Technology Institute (ITESM), Monterrey, Mexico (1997).

### **SCUBA DIVING CERTIFICATES**

Science of Diving. SSI (*in progress*).

Scientific Diver Certificate. American Academy of Underwater Sciences (AAUS) (2016; night dive 2017, deep dive 2018).

React Right. SSI (2018).

Master Diver. SSI (2018).

Rescue Oxygen. DAN (2016).

Stress & Rescue Diver. PADI (2016).

CPR/AED/First Aid. Red Cross (2016).

Advanced Diver. SSI (2013).

Photo & Video. SSI (2013).

Deep Diving. SSI (2013).

Night & Limited Visibility. SSI (2013).

Nitrox EAD<sub>40</sub> Diver. SSI (2013).

Leadership Diver. NAUI (1992).

Open Water Diver. FMAS/CMAS (1991).

### **LANGUAGES**

English (100%), Spanish (100%), Catalan (60%).