

Erick Raul Olvera-Prado

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Date of Birth	26 th June 1985	Email	erick@atmosfera.unam.mx
Marital status	Married		

Education

2014 -2019 PhD, Physical Oceanography (Spring 2019)

Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, FL
'Contribution of the wind and Loop Current eddies to the circulation in the Western Gulf of Mexico'
Supervisor: Prof. Eric P Chassignet

2010-2014 MS, Earth Sciences

Center for Atmospheric Sciences, National Autonomous University of Mexico, Mexico City
'Hydrodynamic response of the Papaloapan estuary to atmospheric forcing'
Supervisor: Dr. Jorge Zavala Hidalgo

2004-2010 BSc, Engineering in Hydrology

Autonomous Metropolitan University, Mexico City
'Hydrodynamics of the Alvarado lagoon with a barotropic model'
Supervisor: Dr. Jorge Zavala Hidalgo

Professional Experience

Mar 2020 - present Center for Atmospheric Sciences, UNAM, Mexico City
Postdoctoral Researcher UNAM-DGAPA, Supervisor: Dr. Rosario Romero Centeno
Project: Studying the physical mechanisms governing the Campeche Bay circulation using numerical modeling.

Jan 2019 - Feb 2020 Center for Atmospheric Sciences, UNAM, Mexico City
Postdoctoral Researcher CIGOM, Supervisor: Dr. Jorge Zavala Hidalgo
Project: Identifying recurrent circulation patterns in the the Gulf of Mexico using Hilbert EOFs and.

Jan 2015 - Dic 2018 Center for Ocean-Atmospheric Prediction Studies, FSU, Tallahassee, FL
Research Assistant
On the investigation about the role of the wind and the Loop Current in driving the circulation in the western Gulf of Mexico using the HYCOM model.

Aug -2011 Sep 2012 Center for Atmospheric Sciences, UNAM, Mexico City
Master thesis
Field measurements of sea level change, temperature, salinity, bathymetry and currents on lagoons and rivers of the Papaloapan basin. Post-processing and interpretation of collected data, and presentation of results. Project: *Hydrodynamics of the Alvarado Lagoon*, developed for Institute of Ecology, A.C. Collaboration on the Project: Inventario, delimitación, caracterización y uso sustentable de los humedales de la cuenca del río Papaloapan, México.

- Jan 2011 - Jul 2013** Center for Atmospheric Sciences, UNAM, Mexico City
Research assistant
 Implementation of the Advanced Circulation Model (ADCIRC) for the Gulf of Mexico and Mexican Pacific domains. Project: *Sistema de Pronostico de Marea de Tormenta, Marejadas y Oleaje para los mares mexicanos y zona costera*, developed for the Mexican National Weather Service (SMN) and the National Water Commission (CONAGUA).
- Jan 2011 - Feb 2011** RV Justo Sierra MARZEE-II, UNAM, Mexico City
Student
 CTD (Conductivity Temperature Depth) and SADC (Shipboard Acoustic Current Profiler) operations, data acquisition, and analysis of results. This project was focused on establishing the regional hydrography of the Mexican shelf, following monitoring in Mexican waters in search of possible oil contamination due to the BP oil spill.

Teaching Experience

- Semester 2021 - 1** Posgrado en Ciencias del Mar y Limnología, UNAM
Subject Teacher
 Course: "Oceanografía Dinámica 1" (Dynamic Oceanography 1)
- Semester 2020 - 1** Licenciatura en Ciencias de la Tierra, Facultad de Ciencias, UNAM
2020 - 2 **Subject Teacher**
 Course "Taller de modelación numérica" (Numerical modeling)
- Jan 2018 - May 2018** Earth Ocean and Atmospheric Science, FSU, Tallahassee, FL
Teaching Assistant - OCE1001-Elementary Oceanography
 Answer student inquiries and hold office hours; supervise students during tests.

Journal Publications

1. Tenorio-Fernandez, L., **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., 2019: Seasonal variations of river and tidal flow interactions in a tropical estuarine system. In: *Continental Shelf Research*.

Publications in preparation

1. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., Moreles-Vazquez, E. (2020): Upper-lower layer coupling of recurrent ocean circulation patterns in the Gulf of Mexico.
2. **Olvera-Prado, E.R.**, Chassignet, E.P., Morey, S.L., Dukhovskoy, D., Bozec, A. (2021): Contribution of the wind and Loop Current Eddies to the circulation in the Western Gulf of Mexico.

Technical Reports

1. Zavala Hidalgo, J., **E. Olvera Prado**, M.E. Osorio Tai, F. Magariños, O. Díaz García, O. Gómez Ramos, E. López Espinoza, R. Romero Centeno., 2011: Informes de la primera y segunda etapas del proyecto: Sistema de pronóstico numérico operativo de mareas de tormenta, marejadas y oleaje para los mares mexicanos y zona costera. CNA/SMN-UNAM 06-2011.

2. Zavala-Hidalgo, J., **E. Olvera Prado**, R. Romero-Centeno, M. E. Osorio Tai, A. Mateos Jasso, Abraham Juárez, 2012: Batimetría, variaciones en el nivel de la superficie e hidrografía en las lagunas y ríos de la Cuenca del Papaloapan. CONACYT-SEMARNAT.
3. Angel Ruiz-Angulo, **Erick R. Olvera Prado**, Jorge Zavala Hidalgo, Rosario Romero Centeno, Nidia Taylor Espinosa (Febrero, 2012). Reporte técnico de los datos de la campaña oceanográfica MARZEE-2. UNAM, 2012. Sección de Oceanografía Física. Elaborado para el INE (Instituto Nacional de Ecología).
4. Jorge Zavala-Hidalgo, Angel Ruiz-Angulo, Rosario Romero-Centeno, **Erick R. Olvera Prado**, Ovel Díaz García, Adolfo Contreras Ruiz-Esparza, Mariela Prospero Díaz. ADQUISICIÓN Y ANÁLISIS DE DATOS HIDROGRÁFICOS DURANTE LA CAMPAÑA MARZEE-3. 2014 (Elaborado para el INE).

Conferences and Talks

1. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., Moreles-Vázquez, L. E., 2020: Recurrent ocean circulation patterns in the Gulf of Mexico. Ocean Sciences Meeting (Poster), San Diego, CA, February 16-21, 2018.
2. Moreles-Vázquez, L. E., Zavala-Hidalgo, J., **Olvera-Prado, E.R.**, 2020: Influence of the Atmospheric Forcing on the Circulation in the Gulf of Mexico.. Ocean Sciences Meeting (Poster), San Diego, CA, February 16-21, 2018.
3. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., 2019: Recurrent ocean circulation patterns in the Gulf of Mexico. Unión Geofísica Mexicana (UGM), Puerto Vallarta, México, November, 2019.
4. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., 2019: Recurrent ocean circulation patterns in the Gulf of Mexico using CEOFs. Gulf of Mexico Research Consortium (CIGOM) annual meeting, Merida, Yuc., April, 2019.
5. **Olvera-Prado, E.R.**, Chassignet, E.P., 2018: Comparison of Loop Current Eddy characteristics in two different numerical experiments. Center for Ocean-Atmospheric Prediction Studies (COAPS) Seminar, June, 2018.
6. **Olvera-Prado, E.R.**, Chassignet, E.P., 2018: Contribution of the Wind and Loop Current eddies to the Circulation in the Western Gulf of Mexico. First Conacyt Grant Holders Meeting in North America, Washington, DC, March 14-16, 2018.
7. **Olvera-Prado, E.R.**, Chassignet, E.P., Morey, S., Bozec, A., Dukhovskoy, D., 2018: Contribution of the Wind and Loop Current Eddies to the Circulation in the Western Gulf of Mexico. Poster at the Ocean Sciences Meeting, Portland, OR, February 11-16, 2018.
8. Tenorio-Fernandez L., Zavala-Hidalgo J., **Olvera-Prado, E.R.**, 2018: Influence of river in the tidal and subtidal hydrodynamics in the Alvarado-Papaloapan, tropical estuarine system. Ocean Sciences Meeting (Poster), Portland, OR, February 11-16, 2018.
9. **Olvera-Prado, E.R.**, Chassignet, E.P., 2017: Impact of the wind on the Loop Current Variability. COAPS Seminar, November, 2017.
10. **Olvera-Prado, E.R.**, Chassignet, E.P., 2016: The wind-driven circulation in the Gulf of Mexico using HYCOM. COAPS Seminar, June, 2016.
11. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., 2013: Sea level variation in the Papaloapan river estuary. 22nd Biennial Conference of the Coastal and Estuarine Research Federation (CERF), San Diego, CA, November, 2013.
12. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., 2013: Hydrodynamic response of the Papaloapan river estuary to a potential future sea-level rise. American Geophysical Union (AGU) Meeting of the Americas, Cancún, México, May, 2013.
13. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., 2012: Hidrodinámica de la Laguna de Alvarado a partir de Observaciones. Unión Geofísica Mexicana (UGM), Puerto Vallarta, México, November, 2012.
14. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., 2012: Hydrodynamics of the Papaloapan basin lagoons from measurements and numerical modeling. The Physics of Estuaries and Coastal Seas Symposium (PECS 2012), New York, NY, August, 2012.

15. **Olvera-Prado, E.R.**, Zavala-Hidalgo, J., 2012: Unstructured grid models, ADCIRC and FVCOM. Gulf of Mexico Modeling Meeting, Organized by: Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE) and Universidad Nacional Autónoma de México, Ensenada, BCN México, February, 2012.

Workshops and Summer Schools

- **GODAE Ocean View International School: New Frontiers in Operational Oceanography**
October 2017 – Mallorca, Spain
Impact of the wind on the Loop Current Variability (Poster)
Organized by: IMEDEA, SOCIB, COAPS and IGE
- **ADCIRC (Advanced Circulation Model) Workshop and Boot Camp**
April 2012 – Silver Spring, MD
Organized by: U.S. Army Engineer Research and Development Center's Coastal and Hydraulics Laboratory
- **Workshop on coastal oceanography and shelf seas**
July 2011 – Merida Yucatan, Mexico
Organized by: Instituto de Ingenieria, Universidad Nacional Autónoma de México and CINVESTAV
- **Climate Statistics and Climate Variability and Change**
Oct 2010 – Mexico City, Mexico
Organized by: Center of Atmospheric Sciences, National Autonomous University of Mexico
- **Third Spring Workshop about Tropical Cyclones**
March 2010 – La Paz, BCS Mexico
Organized by: National Autonomous University of Mexico and Inter-American Institute for Climate Change Research

Academic Activities

- Chair of BSc Thesis:
 1. Oscar Navarro Sanchez: "Estudio de la configuración de una simulación numérica del Golfo de México usando el modelo HYCOM: optimización de las condiciones de frontera laterales". Licenciatura en Ingeniería Geofísica, UNAM (expected defense date: **July 2021**).
 2. Susana Higuera Parra: "El efecto del acoplamiento de 2 vías de la transferencia de momento en la variabilidad de la Corriente del Lazo". Licenciatura en Física, UNAM (expected defense date: **July 2021**).

Computer Skills

- **MATLAB**
- **Fortran**
- **Shell**
- **Python**
- **IDL**
- **GMT**
- **HTML**
- **High Power Computing**

Activities and Outreach

- **Member of the Fellows Society, Florida State University**
- **Member of the Hispanic Graduate Student Association, Florida State University**
- **Public Outreach Volunteer, 2017 COAPS Open House**
- **Public Outreach Volunteer, 2016 COAPS Open House**
- **Public Outreach Volunteer, 2016 Tallahassee Science Festival**

Grants and Awards

- **Postdoctoral Scholarship– 2020-2021**
Awarded by UNAM - DGAPA
- **Full scholarship and travel expenses to attend the GODAE Ocean View International School**
Awarded by the COPERNICUS Marine System
- **Complement Scholarship for Graduate Studies – 2016-2018**
Awarded by the Center for Ocean-Atmospheric Prediction Studies, FSU
- **Complement Scholarship for Graduate Studies – 2014-2016**
Awarded by the Mexican Secretariat of Public Education
- **Dean's Scholarship Fund for New Doctoral Students – 2014**
Awarded by the Graduate School, Florida State University
- **PhD Student Scholarship – 2014-2018**
Awarded by the Mexican National Council for Science and Technology
- **Fellowship to retrieve bathymetric, CTD and sea-level data in the Papaloapan estuary**
Awarded by the National Autonomous University of Mexico
- **Master's Student Scholarship – 2010-2012**
Awarded by the Mexican National Council for Science and Technology

References

Name Eric P Chassignet
Institution COAPS, FSU
Position Director/Professor
Contact echassignet@coaps.fsu.edu

Name Jorge Zavala Hidalgo
Institution CCA, UNAM
Position Research Scientist
Contact jzavala@atmosfera.unam.mx

Name Angel Ruiz Angulo
Institution Icelandic Meteorological Office
Position Research Scientist
Contact angel@vedur.is