Department of Environmental Science and Policy Seminar Series

Human Use of Ocean Space: Data-Driven Evidence for Marine Policy

Speaker: Juan Carlos Villaseñor-Derbez

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🗓️ **Date**: Friday, 02/06/2026
⏰ **Time:** 12 PM
📍 **Room:** UNGAR 230-E

Abstract: How do marine policies and a changing environment influence human behavior at sea, and how do these behavioral responses feed back into the systems being managed? My talk will cover two projects that examine different components of this question. First, I ask whether large-scale marine conservation can succeed in the high seas. I explore this in the context of tuna fisheries in the Western and Central Pacific, where purse-seine fishing in a high-seas pocket was prohibited in 2010. I find that significantly curtailing fishing effort in the high seas is possible, but that the anticipated fishery and conservation benefits have not materialized. The second portion of my talk investigates how tropical cyclones disrupt fishing activity in the Gulf of Mexico. I employ a novel database of vessel-monitoring-system records and hurricane wind-field reconstructions to show that hurricanes induce both preemptive and compensatory increases in fishing effort. Viewed together, these results underscore the need to analyze human–ocean systems as fully coupled and dynamically linked.

Bio: Juan Carlos Villaseñor-Derbez is an Assistant Professor in the Department of Environmental Science and Policy and a Core Faculty member at the Frost Institute for Data Science and Computing. His research uses modern data-science approaches, georeferenced fisheries datasets, and extensive vessel-tracking records to examine the human dimensions of marine policy and environmental change, with a focus on how human behavior shapes and responds to ocean governance. He holds a B.Sc. in Oceanography from UABC in Mexico and a master's and Ph.D. in Environmental Science and Management from UC Santa Barbara.

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