

ENVIRONMENTAL SCIENCES SEMINAR SERIES, **WINTER 2025**

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Speaker: Dr Corey Garza

Title: A Game of Drones: Advancing discovery and innovation in marine ecology

Abstract: Coastal habitats, such as kelp forests and the rocky intertidal, are some of the most heavily studied ecosystems in the world owing to their economic and ecological value. Traditional data gathering methods, such as SCUBA and quadrats, have provided valuable data on the processes that structure coastal ecosystems. However, these approaches come with limitations centered on the spatial and temporal scales across which they can be used. With ongoing climatic shifts, new approaches are needed to improve our understanding of how a changing climate is affecting coastal habitats across temporal and spatial scales that may be missed by traditional data gathering approaches. Aerial drones have seen increased use in coastal studies due to their ability to rapidly capture multi-scale data on the distribution and abundance of coastal resources at a relatively low cost. Aerial drones, outfitted with high-resolution digital cameras, provide a method for capturing multi-scale data on coastal habitat distribution and community composition at scales of a few centimeters up to hundreds of meters. In this talk, I will describe two studies that demonstrate how drones can support data collection that bridge the gap between macro and microscale data collection approaches to further our understanding of the ecological processes structuring coastal ecosystems.