

Department of Marine Ecosystems and Society Seminar Series

Mangroves: this still little-known biome Jaime Polania

National University of Colombia

DATE: Friday, 04/03/2020 Time: 10:30 AM Location: SLAB 103



Abstract: Mangroves are typically tropical or subtropical coastal biomes, which have aroused human curiosity for over a thousand years. A letter to Science in 2007 warned that we can lose the ecosystem services of mangroves (mitigation of impacts from river sedimentation, protection of coastal communities against rising sea levels, storm surges, and tsunamis, etc.) within the next 100 years. While global deforestation rates have declined in the last decade, we have lost 35% of all wetlands since 1970, and they are now disappearing three times faster than any other ecosystem. Mangroves are critical in the carbon cycle, they reduce greenhouse gas emissions and help mitigate the impacts of climate change, but the pressures of coastal urban and industrial developments and sea level rise put them in critical danger or threat in 26 of the 120 countries that host them. Their contemporary dynamics is mainly driven by anthropogenic threats, such as pollution, overextraction, and conversion to aquaculture and agriculture. Furthermore, it is well documented that the loss of functional diversity will result in extinctions. Since mangroves have low redundancy of plant species, such a loss will mean less buffering of tensors in beds of seagrasses and coral reefs as well as less support for terrestrial and marine food networks; neighboring human communities would lose sources of essential foods, fibers, wood, chemicals and medicines, and perhaps they could disappear. While some aspects of the ecosystem are still poorly characterized compared to other terrestrial forests—mostly due to practical difficulties when measuring and monitoring mangrove biomass and their carbon reserves—not all news is bad. For example, the restoration of mangroves in Senegal increased its biodiversity, rice yields, and populations of fish, oysters, and shrimp.

Bio: Dr. Jaime H. Polania is a marine biologist and professor in the Department of Forest Engineering at the National University of Colombia in Medellín. He has worked on mangrove ecosystems in Colombia and throughout Central America and the Caribbean. His research has touched on a variety of topics including physiology, ecosystem services, and restoration. Polania holds a BS from University Jorge Tadeo Lozano in Bogotá, Colombia, and a doctoral degree from the University of Vienna, Austria.

