

# CHARACTERIZING LONG-TERM ECOLOGIC RESPONSES TO HYDROLOGIC CHANGE IN IMPAIRED DEPRESSIONAL WETLANDS IN TAMPA BAY, FL

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The hydrologic regimes of depressional wetlands are intricately connected to their ecological structure and function. Anthropogenic changes to wetland hydrology in the form of groundwater abstraction and land-use intensification will thus elicit strong ecological responses. In Tampa Bay, groundwater abstraction accounts for approximately 60% of potable drinking water supply resulting in almost 90 million gallons being withdrawn from active wellfields across Hillsborough and Pasco County each day. Additionally, population size has grown 11% in the Tampa metropolitan area over the past ten years resulting in increased impervious surface coverage and reduced groundwater recharge. Water management agencies in the area have been monitoring over 300 wetlands hydrologic and ecologic responses to these anthropogenic changes for 40 and 15 years respectively providing a unique opportunity to study long-term hydrologic changes and their subsequent ecologic responses. This project seeks to utilize this data to explain differences in ecological responses in the form of plant community shifts and biodiversity in over 170 depressional wetlands by looking at several hydrologic, geomorphic, and landscape drivers such as wetland type, area, predominant soil type, normal pool offset, hydroperiod, surrounding land-use/land cover, and legacy groundwater abstraction among others. Analyzing these long-term trends will ultimately help improve wetland conservation and protection especially in areas where this level of data collection may be impossible given financial or labor resource limitations.

**PRESENTER BIO:** Jessica is pursuing a doctoral degree in the integrative biology department at the University of South Florida that will assess the relationships between water management decisions and wetland condition utilizing both ecohydrologic and ethnographic data. She received her BS in Environmental Science from American University in Washington DC in 2017.