

## INVESTIGATING COASTAL TOURISM AND CLIMATE CHANGE IN THE COASTAL PONDS OF RHODE ISLAND: A MULTI-METHODS APPROACH

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Recreational use of the coastal ponds in Rhode Island is one of the major factors that makes the southern part of the state a tourism-dependent economy. The coastal ponds are highly valued for a wide range of recreational activities such as fishing, clamming, boating, and water tubing. Weather considerably affects an individual's decisions to recreate outside, especially on the water. Climate change will affect the summer weather in Rhode Island, thereby affecting if and how people recreate in the coastal areas of the state. The survival and prosperity of coastal tourism requires understanding of how it might change and how to adapt. Climate change in New England is expected to lead to overall warmer air and water temperatures, increased windiness, increased precipitation, and sea level rise (among many other factors). Previous research has examined how relative changes in weather might affect tourists' decisions to go to the beach and how that might change with climate change. This mixed methods study focused on how sensitive different types of uses (e.g. sailing, swimming, fishing) are to different weather, water, and tide conditions and how much weather plays a role in the decision making process. Boat-Based Transect Surveys, a method originating in natural science, is one of the two main methods used to study human use. This observational data was used to determine how much each weather variable affects each use using a regression model. Intercept surveys of users of the coastal ponds were used to determine how much weather played a role in the decision to come to the pond that day. Users were asked to list and rank factors that led to their decisions. Based on the strength of relationships between different weather, water, and tidal factors and each recreational use and the stated importance of weather to the users, predictions are made about how recreational uses of the coastal ponds in Rhode Island might change with climate change. This information can then be communicated to local business owners involved in the coastal tourism industry in Rhode Island to lead to better preparation for possible changes in consumer demand.