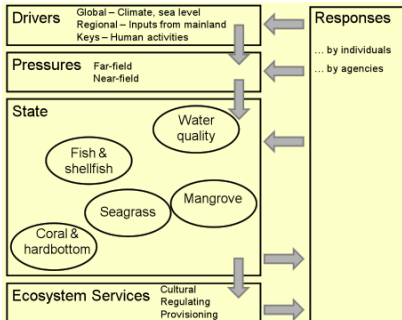


# Florida Keys Water Quality Integrated Conceptual Ecosystem sub-Model (ICEM)

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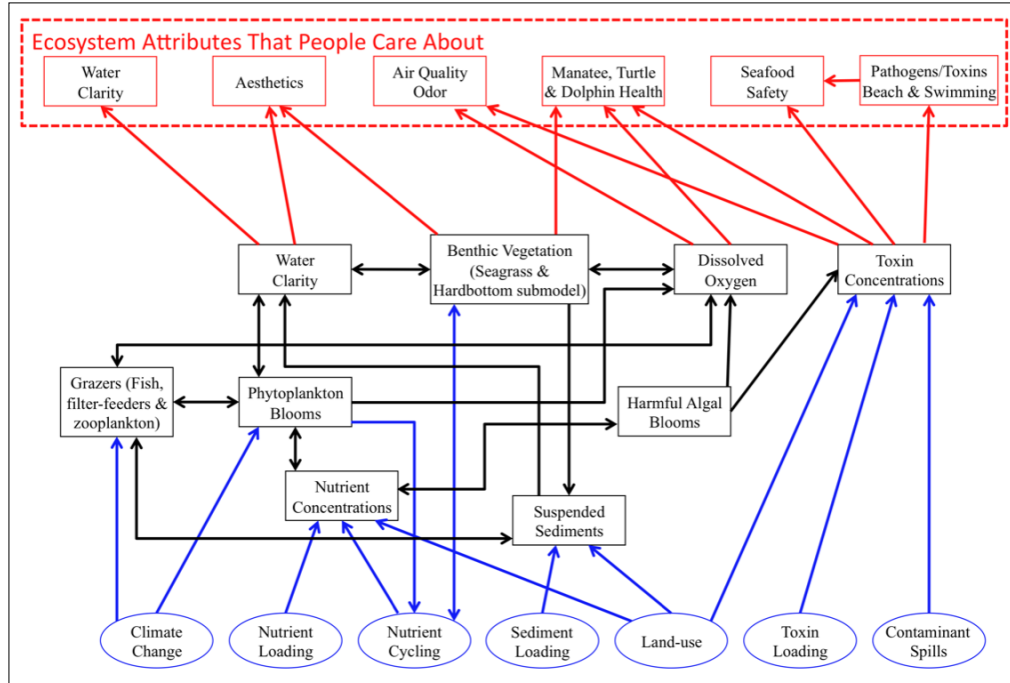
## INTRODUCTION

The water quality ICEM is one of five sub-models that together describe the state of the Florida Keys marine ecosystem within the Marine and Estuarine Goal Setting for south Florida (MARES) Driver-Pressure-State-Ecosystem services-Response (DPSER) Integrated Conceptual Ecosystem Model (ICEM). The goal of the ICEM is to integrate our knowledge of the natural and human components of the ecosystem in a format useful to guide ecosystem based management decisions.



**Figure 1. Schematic depicting the ICEM for the Florida Keys and Dry Tortugas ecosystem.**

The water quality sub-model encompasses the physical, chemical and biological characteristics of the water column. This is a highly oligotrophic system with low phytoplankton biomass, low nutrient concentrations and clear water (Boyer and Jones 2002). It must remain oligotrophic to support the highly valuable and characteristic benthic habitats, including seagrass, hardbottom and coral reefs.



**Ecosystem Attributes That People Care About**  
 These ecosystem attributes link directly to ecosystem services in the ICEM. They are the attributes of the ecosystem that the majority of the general public perceives as important.

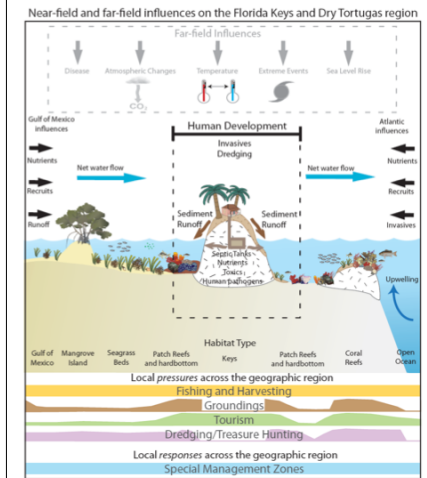


**State (Measurable Ecosystem Attributes)**  
 Ecosystem attributes that are directly measured compose the state attributes in black. They respond directly to pressures and directly affect the ecosystem attributes that people care about.

**Figure 2. Images depicting ecosystem attributes that people care about (from left to right; aesthetics, water clarity, aesthetics/air quality and dolphin health).**

## Pressures

The pressures depicted in blue at the bottom of the ICEM are derived from drivers and directly affect the state attributes of water quality. These pressures are the result of far-field and near-field activities.



**Figure 3. Schematic depicting the distribution of pressures, both far-field and near-field, in the Florida Keys marine ecosystem.**

## Acknowledgments

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## For Further Information:

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