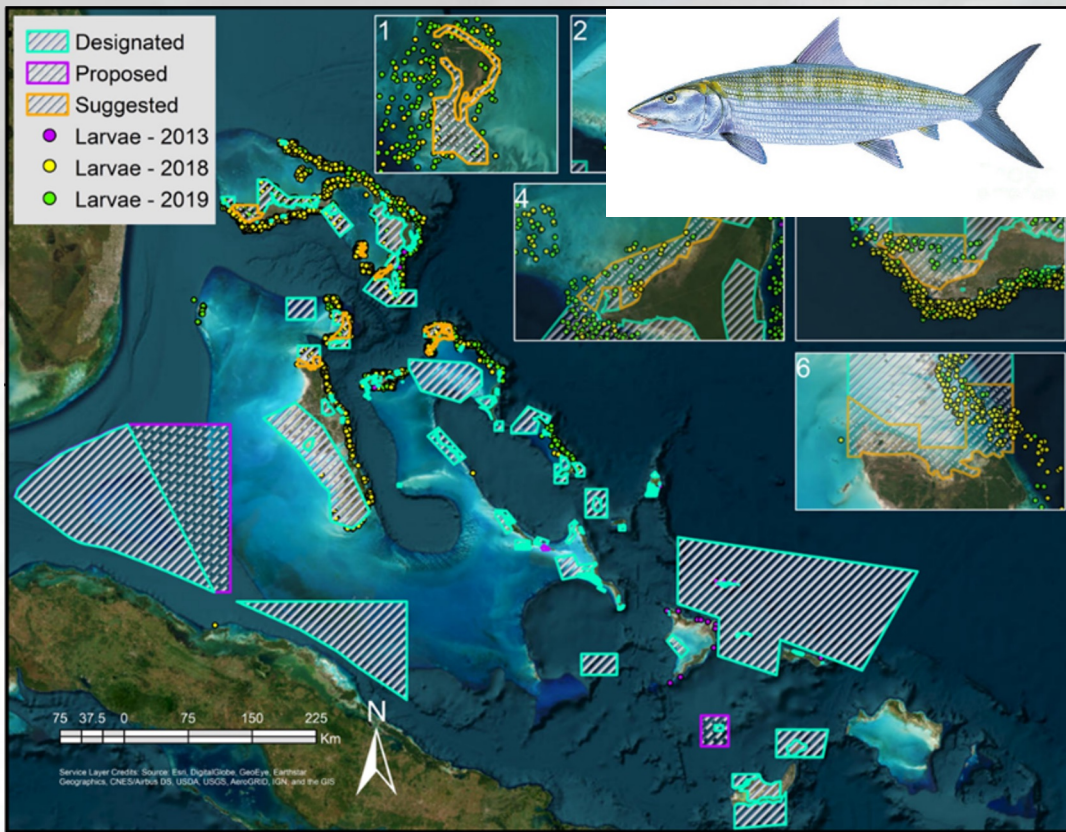


Linking Remote Sensing to Coastal Conservation

Aaron Adams

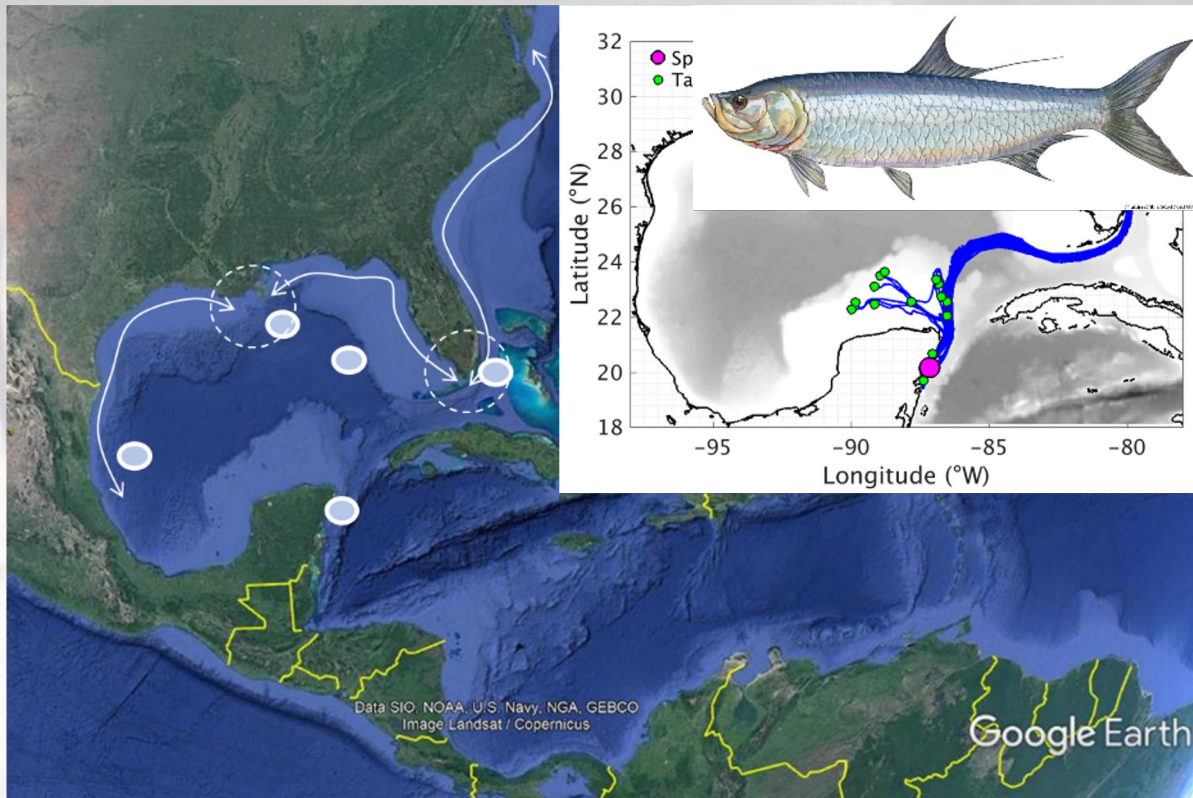
Bonefish & Tarpon Trust

Informing protected area networks



- In situ
 - Collaboration
 - Management agencies
 - NGOs
 - Stakeholders
 - Spawning site identification
 - Habitat use
 - Migration pathways
- Remote sensing
 - Larval transport
 - Habitat identification and mapping

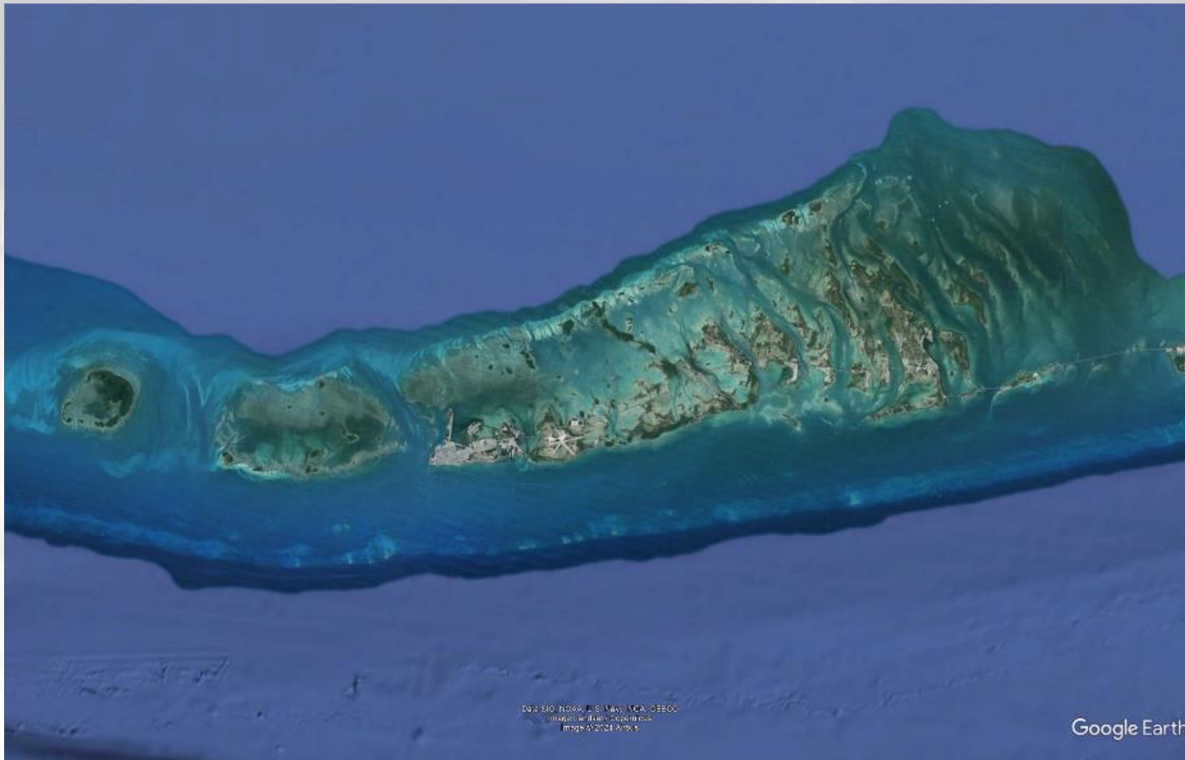
Tarpon Regional Management



- In situ
 - Collaboration
 - Management agencies
 - NGOs
 - Stakeholders
 - Adult migrations, diet, habitat
 - Juvenile habitats
 - Genetic population structure
- Remote sensing
 - Larval transport

DRIFTCAST™

Florida Keys Tarpon Fishery



- Global Processes
 - Water Quality
 - Climate
- Habitat
 - Description
- Biological
 - Vegetation
 - Prey
- Infrastructure
 - Wastewater Locations
- Transportation
 - Vehicle Traffic
 - Vessel Traffic

Large
Vehicle Traffic
Mullet Harvest (GOM)
Calc. Algae Abundance
Water Temp. (Wet Season)
Thalassia Abundance
Windy Days
Small Vessels
Salinity (Dry Season)
Turbidity (Wet Season)
Bathymetry Deepest



Bonefish
& Tarpon
TRUST

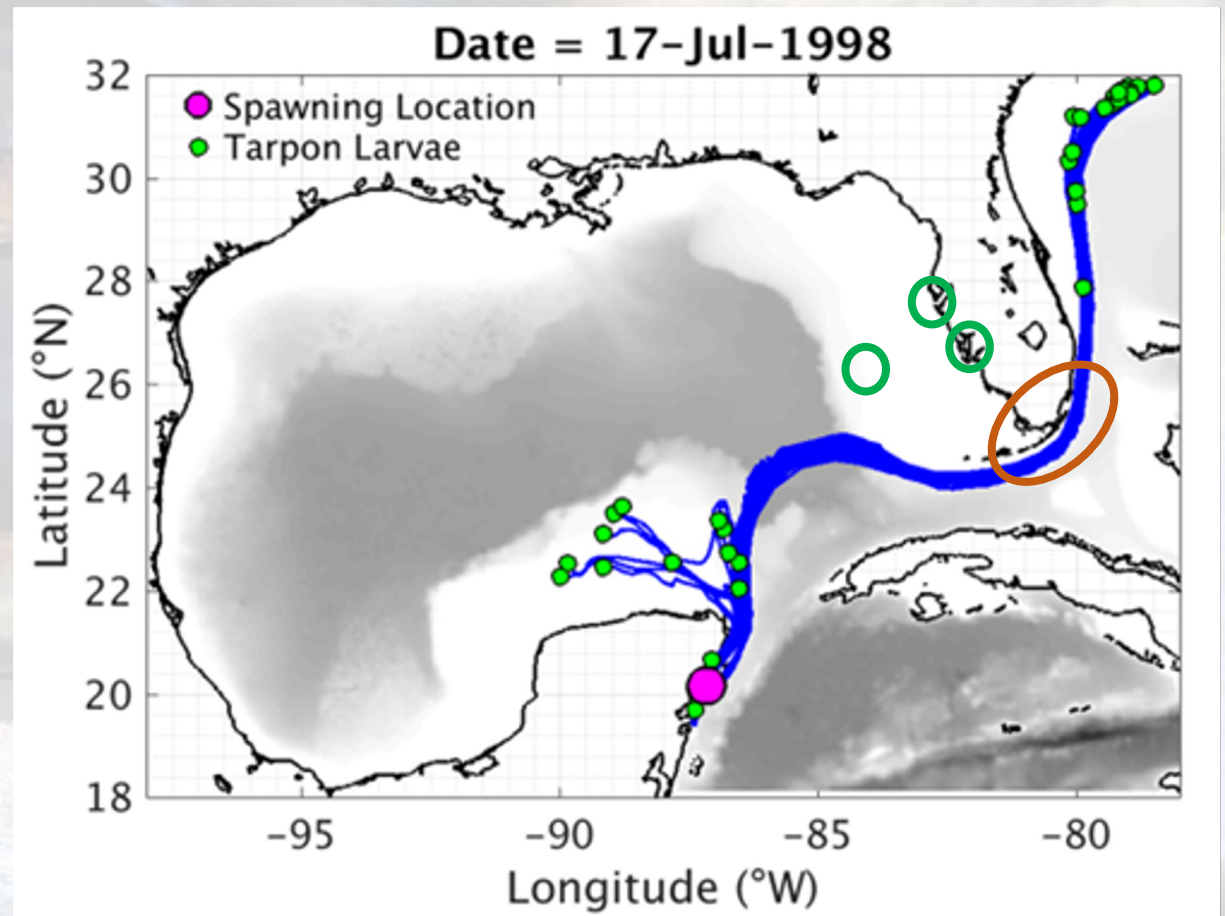


Current and Future Needs

Oceanographic-Coastal Processes



- Ocean-coastal model integration
 - Larval transport
 - Terrestrial inputs
 - Fish biology connectivity

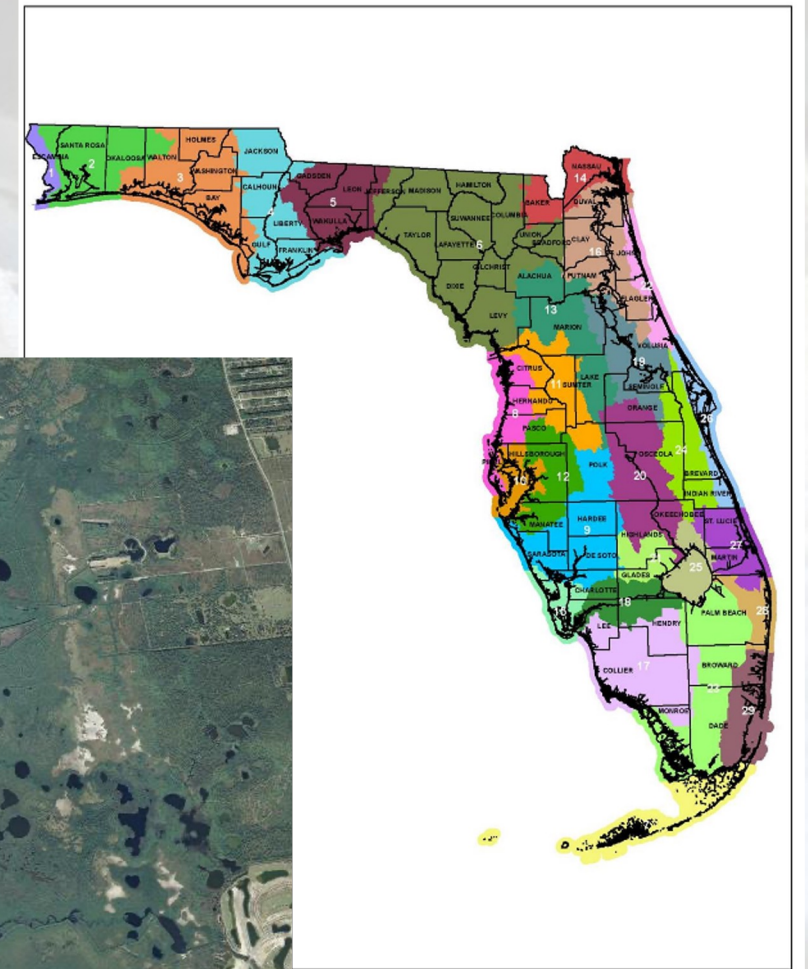


DRIFTCAST™

Terrestrial-Coastal Linkages



- Watershed-estuary integration
 - Landscape conservation approach
 - Terrestrial
 - Watershed delineation
 - Freshwater flows
 - Coastal habitat mosaic



Data Needs



- Better data accessibility, useability, affordability
- Improved stakeholder/end-user integration
- Data continuity
- Improved inshore data
 - Dissolved oxygen, salinity, pH, Nutrients (NH_3 , NH_4 , NO_3^- , PO_4^{3-})
 - Differentiate seagrasses from benthic macroalgae
- Higher resolution imagery
 - Dwarf mangroves
 - Boat traffic

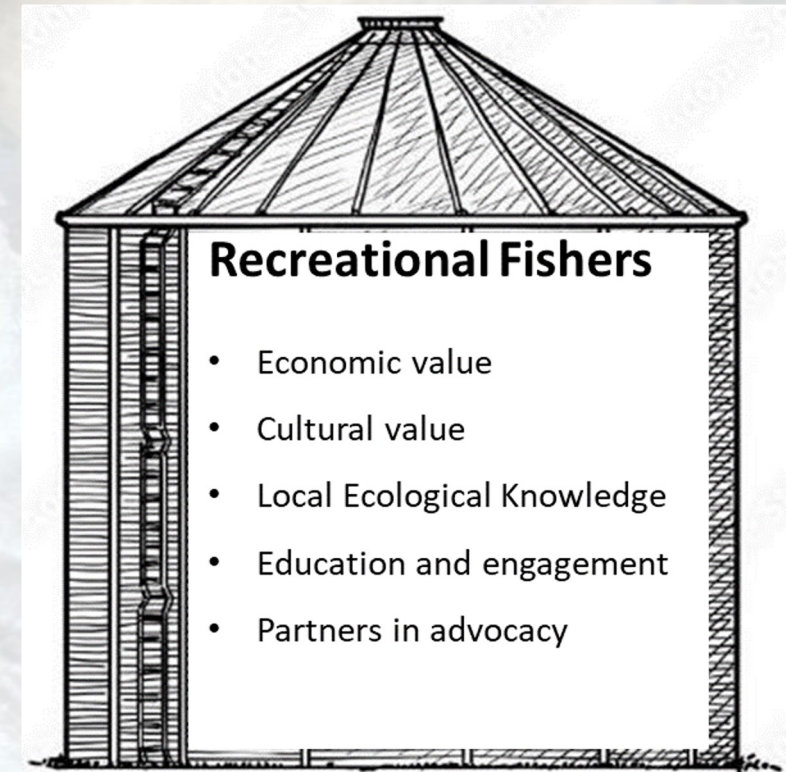
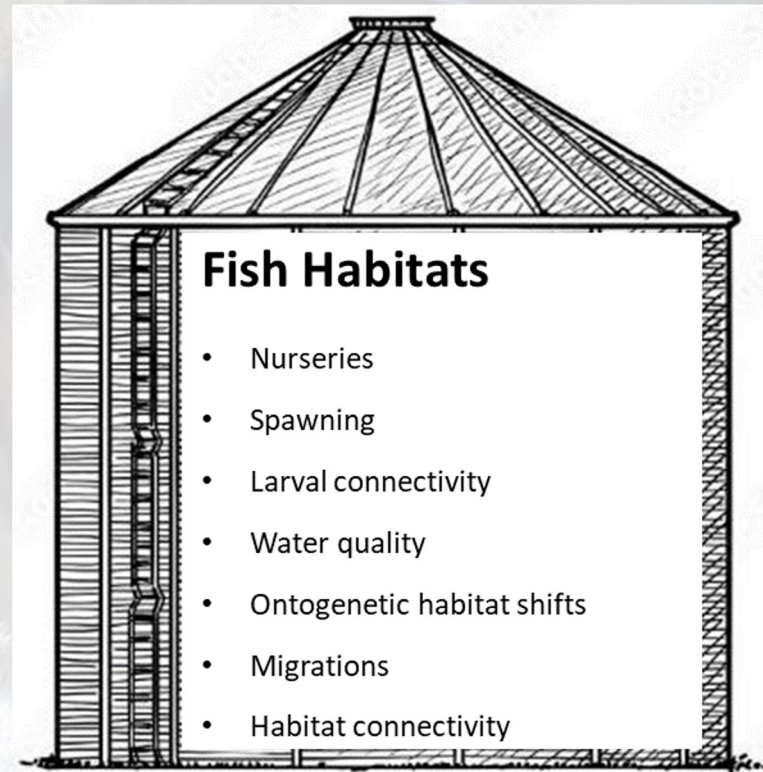
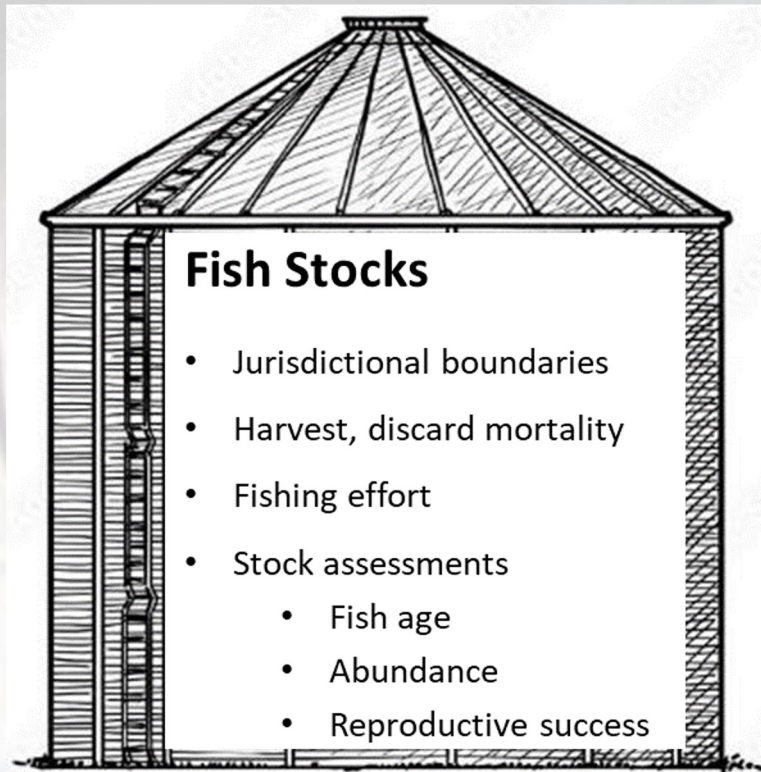




Challenges

Information Silos In Marine Fisheries Management

Information Silos



Structural Challenges



- Lack of spatial (habitat) integration in marine fisheries management
 - End users can't apply data to regulations
- Information and management silos
 - Within and between agencies
- Institutional capacity issues
 - Mission limitations
 - Institutional structure
- Education silos



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