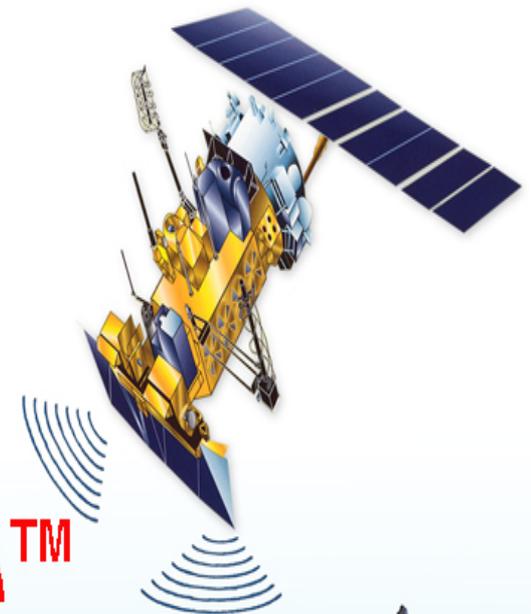


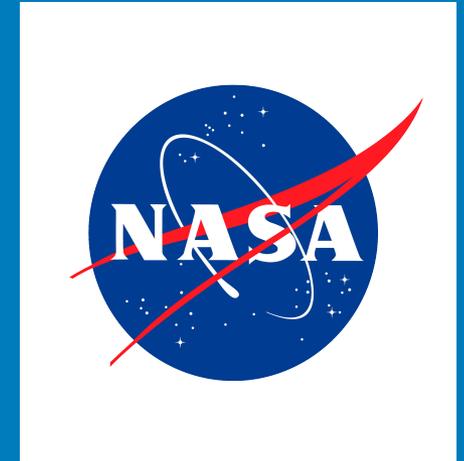
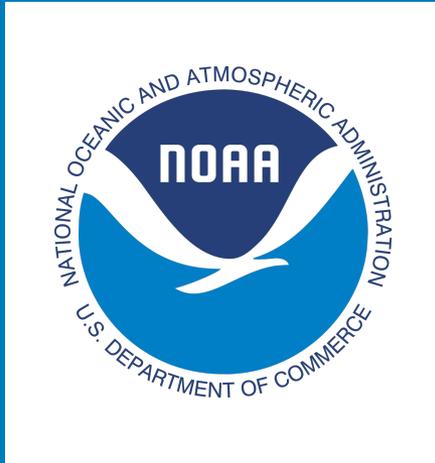


ROFFS™



ROFFER'S OCEAN FISHING FORECASTING SERVICE, INC.

Thank You



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Steering Committee

Huge Scientific Challenge:

- Understand and quantify the dynamics and health of marine and coastal ecosystems (recruitment, growth, migration/distribution, mortality, food quality), assess the state, predict changes, and develop scenarios for the future.

and our (operational) obligation to society is to:

- Deliver useful science based information and services about the potential changes in the marine living resources and habitat.

For this, we need to be able to:

- Describe and quantify the dynamics of marine ecosystems continuously in time and space.



Fisheries Overview

- How is the changing climate impacting fisheries of the South Atlantic, Gulf of Mexico and Caribbean regions?
- What are the science information needs to inform management?
 - monitoring, habitat preferences, modeling.....

All sectors are here:

Government: state, regional, federal

Private: fishing industry, consultants, NGO's

Academic: public and private

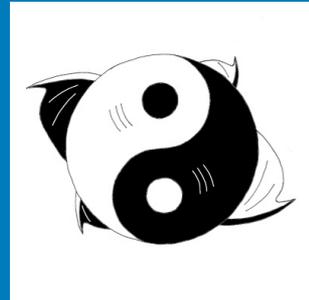


What do we know?
What don't we know?



Opportunity: Increased Complexity

Single Species vs. Integrated Ecosystem Assessments



Levels	Scientific Advice					Management Framework
EBM Ecosystem Based Management	Fisheries	Development	Energy	Eco Tourism	Oil & Gas	Regional Ocean Plans
	Conservation	Marine	Sanctuaries	Aquaculture	Etc	
EBFM Ecosystem Based Fisheries Management	Fisheries	Climate	Habitat	Predator		Fisheries Ecosystem Plan
	Fisheries	Climate	Habitat	Predator		
EAFM Ecosystem Approach to Fisheries Management	Fisheries	Climate	Habitat	Predator		Fishery Management Plan
	Fisheries	Climate	Habitat	Predator		
SS Single Species	Single Species					Fishery Management Plan

<http://www.sab.noaa.gov/Meetings/2015/August/SAB%20Mtg%20Pres%20Aug2015%20NOAA%20Respn%20EBFM.pdf>



How much more salary you can ask for based on complexity?

How is management going to respond to climate change?

- How are fish stock assessments going to address climate variability and change?
- What are the research and monitoring needs related to including climate variability in stock assessment modeling and processes?





**You Will Decide the
Needs and Priorities to be Used
for Science & Management**



It's not all about the fish: Embed social sciences issues in climate policy should include insights into controversial social and behavioral issues.

**While we may think that we are wonderful here,
We must look outside our small group for consequences.**



Svendsen-IMBER

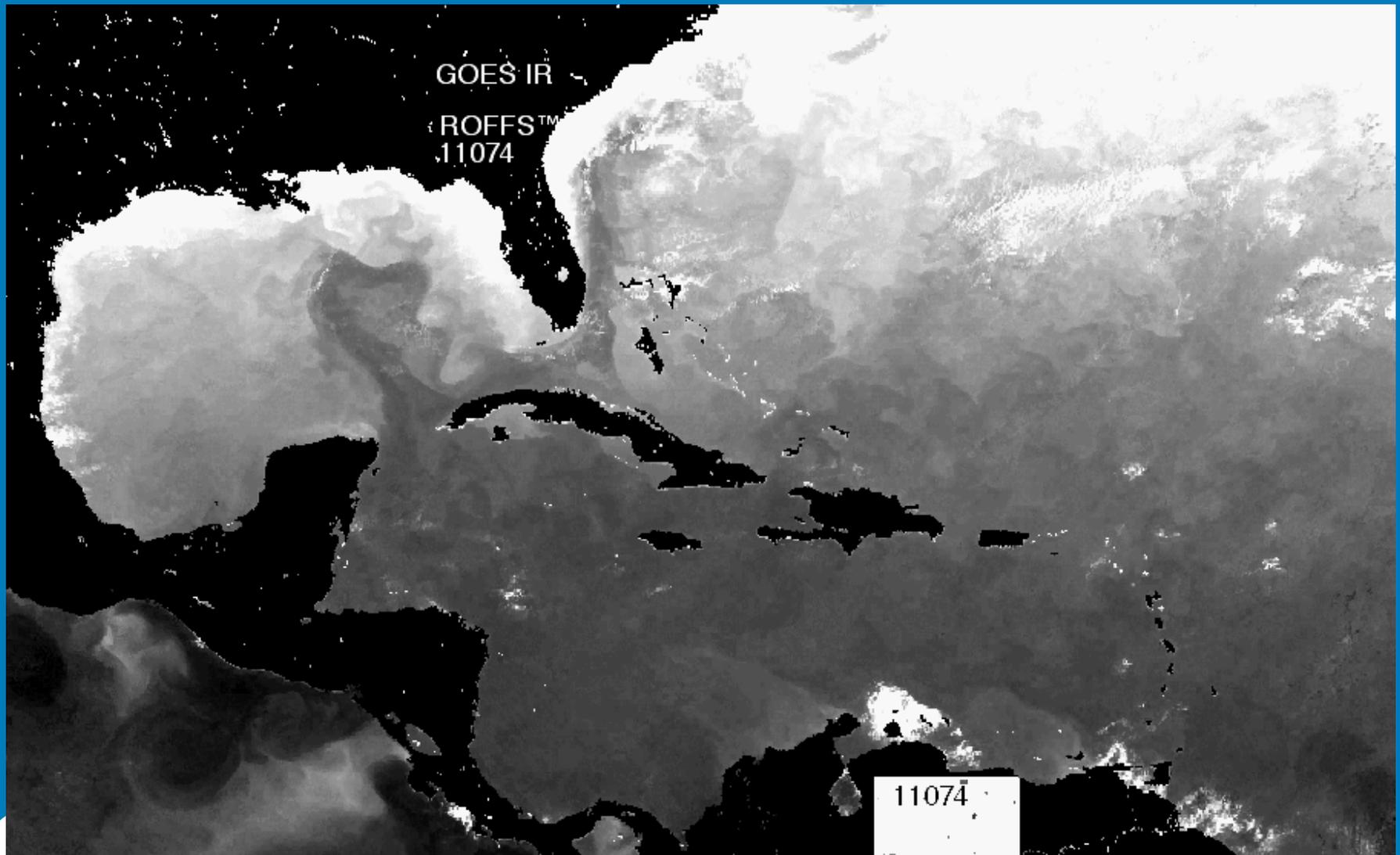
davidbakasov

**THE PESSIMIST COMPLAINS
ABOUT THE WIND; THE
OPTIMIST EXPECTS IT TO
CHANGE; THE REALIST
ADJUSTS THE SAILS.**

- WILLIAM ARTHUR WARD



We are all connected



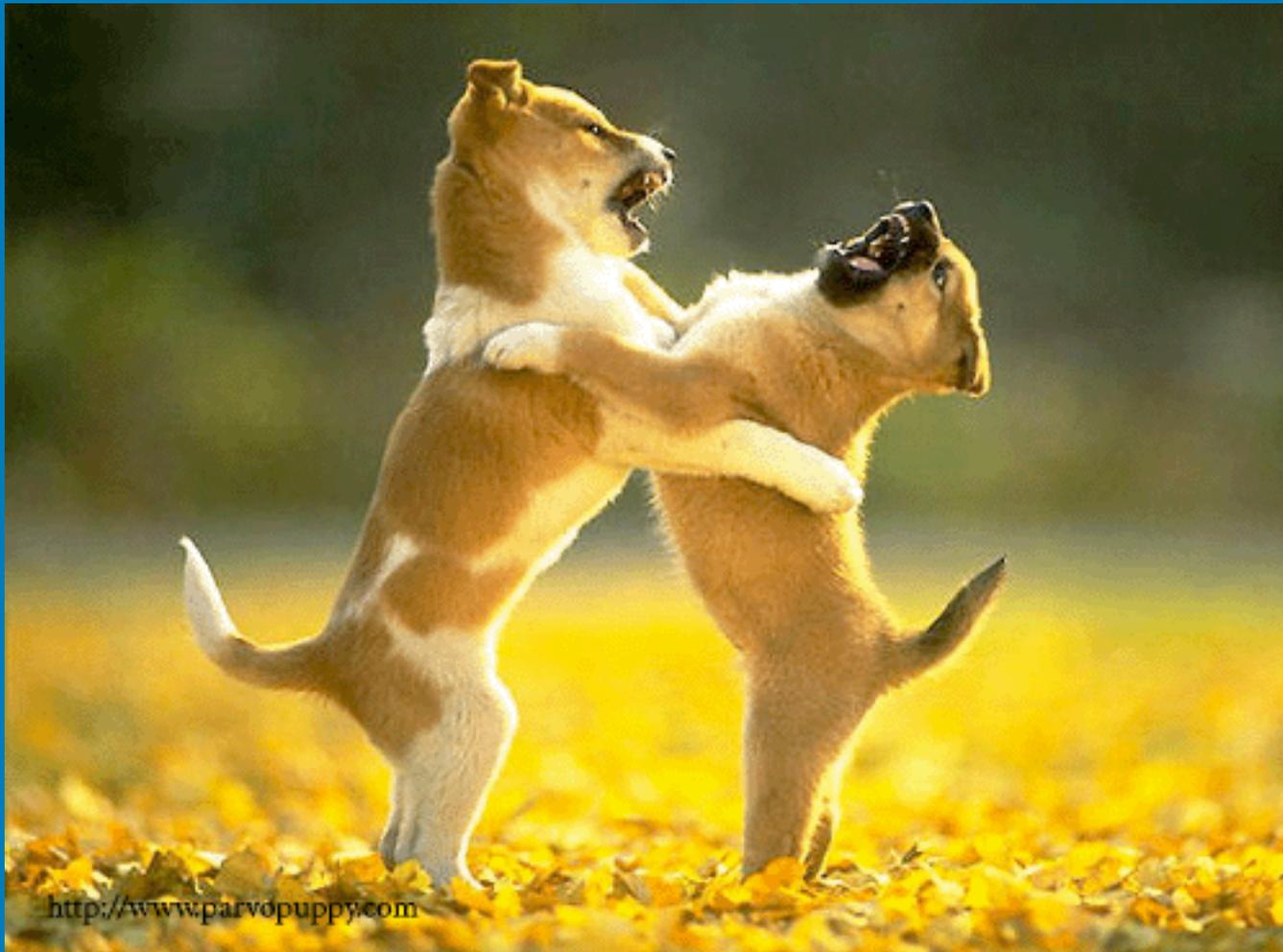
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WE'RE ALL
IN THIS
TOGETHER

<http://www.ablogaboutlove.com/>



So Let the Fun Begin



<http://www.parvopuppy.com>