

# Developing a Decision-Making and Governance Framework for a Coordinated Gulf-Wide Observational Program



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# Framing the Issue:

## *A Gulf-Wide Observing and Monitoring System*



- What is a Gulf-wide Observation and Monitoring (and Assessment) System?
- Is it a single system? Funded by a single entity?
- Process for developing/organizing it?
- Who funds it?
- What is the Governance framework?
  - Who operates/manages it?
  - How are decisions made?

# Gulf Ecosystem Observing and Monitoring



## What?

- Deepwater Horizon Oil Spill (DWHOS) penalties contribute to new Gulf-wide science-based, observing and monitoring program that integrates interdisciplinary measurements, modeling, and research
- Monitor estuaries to deep sea off Alabama, Florida, Louisiana, Mississippi, and Texas (Gulf States)
- Integrate with all Gulf partners (Mexico, Cuba).

## How?

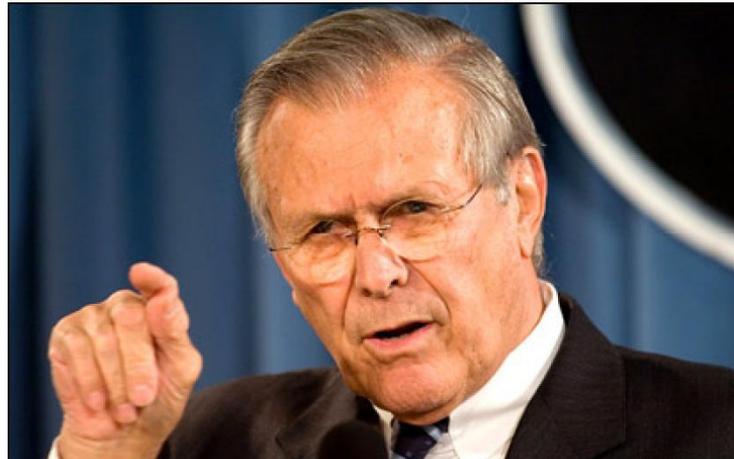
- Gulf of Mexico Coastal Ocean Observing System (GCOOS) build-out plan framework
- Target restoration indicators/gaps
- Enhance existing capabilities
- Integrate under one responsible co-managed organization
- Engage stakeholders to develop, implement, and sustain operations and science products
- Fund “system-of-systems” by permanent fund (aka Alaska GulfWatch); interest supports annual ops costs.

# Why are we observing and monitoring anyway?



*“Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns- the ones we don't know we don't know.”*

**–Donald Rumsfeld**



# Drivers of Long-Term Information?

Regulatory Agencies/  
Managers

We know that  
we know...  
*Apply to  
management  
and monitor  
over time*

We don't know  
that we don't  
know...  
*Deploy a  
suite of  
technologies  
to observe  
the system*

Observationalists

We know that  
we don't know...  
*Use the  
scientific  
approach to  
understand  
the system*

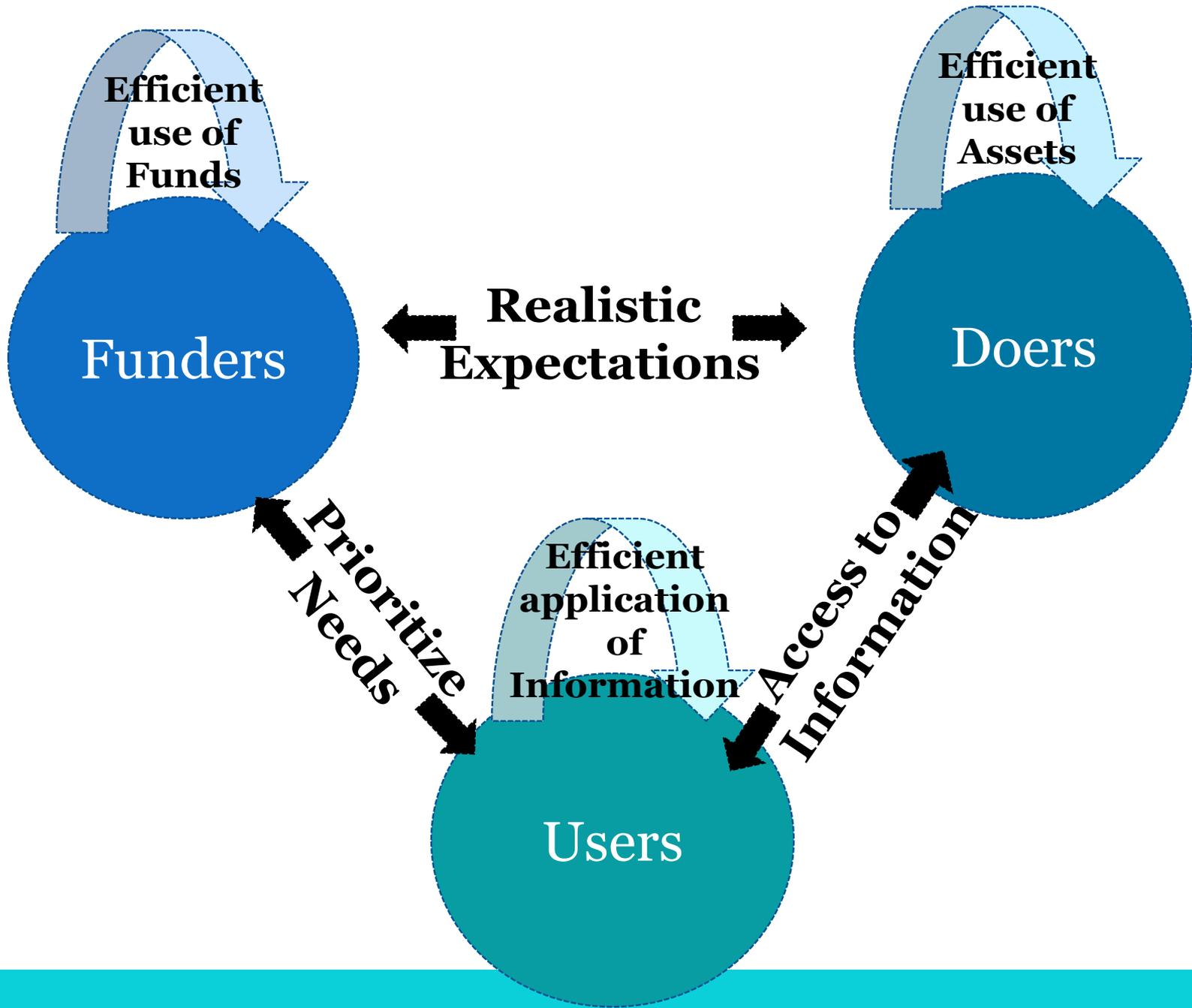
Scientists

# Long-Term “Big Data” Collection

## *Does one size fit all?*



- **Integrated Ocean Observing System (IOOS):** “...access to data and generation of information products...”
- **GOMA: Water Quality:** “...ensure healthy beaches and safe seafood in our coastal areas...”
- **NSF-Funded Ocean Observing Initiative (OOI):** “...understand processes at all oceanographic scales...”



# A Three Act Play

(and all three acts are occurring simultaneously!)



## Funders

RESTORE 1603  
RESTORE 1604  
RSETORE 1605  
NFWF  
NAS  
State Agencies  
NSF  
NOAA  
EPA, USGS,BOEM  
DoD  
Private

## Doers

Academia  
NGO's  
State/Federal Scientists  
Citizenry

## Users

Scientists  
State/federal resource  
Health agencies  
Industry  
Private citizenry  
State/federal Security  
Weather/climate  
forecasters  
Search and Rescue  
Damage  
Assessment/Liability  
Response and  
Remediation

**Different Missions, Priorities and Information Requirements**

# Challenges to Managing a System



- Scale of the effort across jurisdictional lines: International, State-Federal, Interstate and Local
- Meeting varied end-user priorities
- Different Funding source missions, requirements, restrictions
- Making different data types accessible and transferrable

# Building Consensus and Vision: Can it be Accomplished?



## Gap Analysis Approach

- Efforts to compile dozens of local, regional, state, federal and international programs (e.g., effort facilitated by Ocean Conservancy).
  - Who is doing what? Why are they doing it? When, Where and how?
  - How do we put needed resources to fill critical gaps and sustain vulnerable programs?

# Building Consensus and Vision: Can it be Accomplished?



## **Logic Model Approach**

Building Vision based on series of stated Outcomes (GOMA-led effort, facilitated by NOAA 1604).

Broad participation from:

- Managers/Regulators, Observationalists, Scientists
- Funders, Doers, Users

# Governance and Management of a Gulf-Wide System



Is it Unified or Coordinated system? Is a single, large (funded) System or a multitude of independently funded Systems?

If only Coordinated, where is the mandate to coordinate and who sets the rules?

- *Governance Option:* Confederated 'System of Systems' with strong communication among Funders, Doers and Users

If Unified, how do we balance the needs among varied Missions, Priorities and Information requirements?

- *Governance Option:* Single management and governance structure (Who? How decided?)
- *Governance Option:* *Adaptive* Co-Management and governance structure as a means to focus on system integration among varied players

# Summary



- The need for Gulf-wide Observation and Monitoring efforts is even more compelling following DWH, but not limited to only restoration.
- Missions, Priorities and Requirements are varied among Funders, Doers and Users
- The Drivers of Long-term data collection are varied depending on outcomes desired among Managers/Regulators, Observationalists and Scientist.
- Governance and management of a Unified Gulf System may not be possible, and alternate structures should be entertained (e.g., Co-Management) to maximize coordination and communication for an effective and efficient Gulf-wide system.

**“You only get one shot, do not miss your chance... This opportunity comes once in a lifetime. “**

**-Eminem**