

# A Case Study of Distributed Data Access in the Gulf of Maine Ocean Observing System's (GoMOOS's) Northern Shrimp Demonstration Project (NSDP)

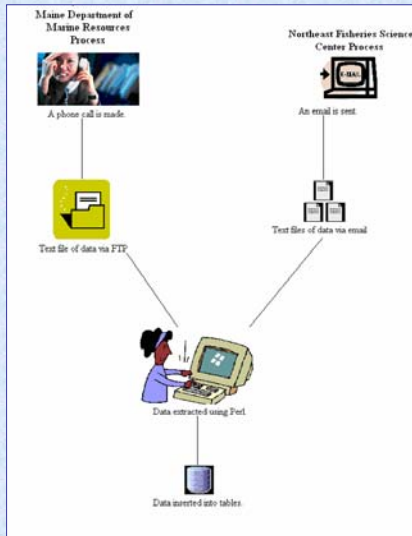


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## Problem

The NSDP currently relies on non-standard and manual technologies.



Non-standard, manual solution.

## Ideal Solution

The ideal solution is distributed and on-demand and standardized across multiple institutions.

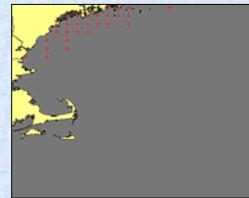


Ideal Solution

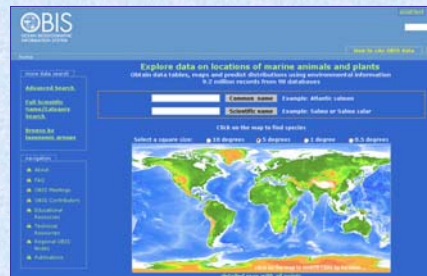
## Possible Ideal Solution #1

### **DiGIR**

DiGIR is a web service that serves data based on the OBIS schema.



USM DiGIR Provider Data Visualized Using Mapserver at GoMOOS.



OBIS Portal

### *Advantages*

- Maturing biological metadata standards.
- Pre-existing data sharing community.
- Portals integrate providers for data & map display.

### *Disadvantages*

- Difficulty serving physical data.
- Inactive development community.
- Installation difficulties & lack of support.

## Possible Ideal Solution #2

### **Web Feature Services (WFS)**

Web Feature Services are web services that serve geographic and other data using the Geography Markup Language.



USM WFS Server Data Visualized Using Mapserver at GoMOOS.

### *Advantages*

- Range of geographic structures.
- Uses Open Geospatial Consortium standard.
- Many ways to implement.

### *Disadvantages*

- Extra effort to serve OBIS-compliant data.
- Knowledge of spatial databases needed.
- No oceanographic standard for WFS.

## Interesting Alternative Approaches

### **Google Earth**



It allows us to utilize the broad-based Google Earth community.

Furthermore our data can be accessed in a cost-free GIS application for all.

### **Database Connection**

It is a low cost and relatively low maintenance approach. The target is data sources who do not wish to have data sharing infrastructure.

### Conclusions

DiGIR and WFS provide standardized, distributed, on-demand data access, yet there are alternatives.

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