

Turning BeachWatch Data into Information

Larry Cooper

Background

- Increasingly, organizations and agencies use the web as a primary means of disseminating data
- The public expects information to be readily available via the web

Problem:

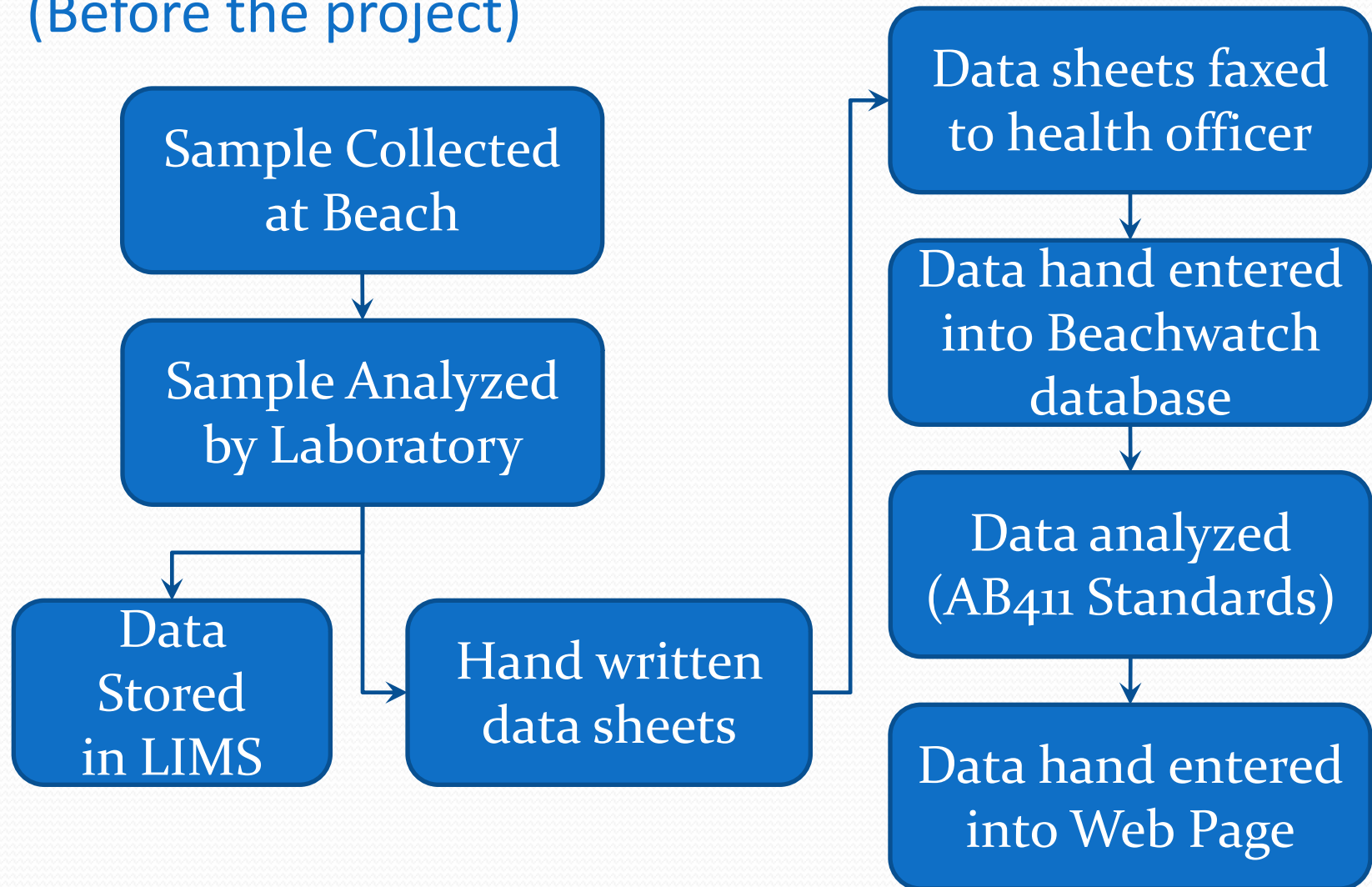
- Presenting information on the web requires specific expertise and multiple steps
 - Error prone
 - Time consuming

Solution:

- Develop a tool set to facilitate dynamic data processing and web presentation
- Case Study: San Luis Obispo Environmental Health

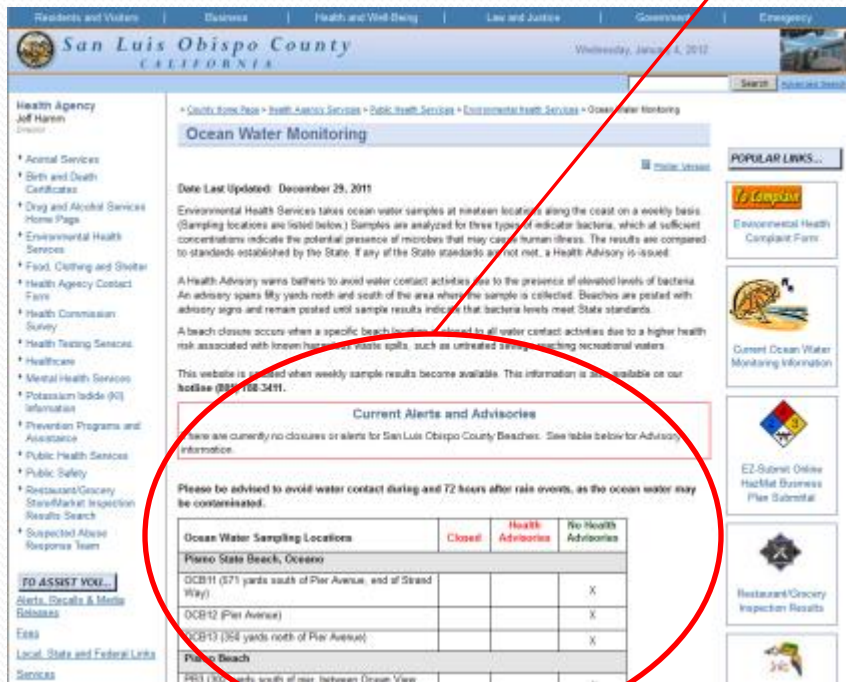
Data Flow

(Before the project)



Web presentation

(before dynamic data processing)



Current Alerts and Advisories

There are currently no closures or alerts for San Luis Obispo County Beaches. See table below for Advisory information.

Please be advised to avoid water contact during and 72 hours after rain events, as the ocean water may be contaminated.

Ocean Water Sampling Locations	Closed	Health Advisories	No Health Advisories
Pismo State Beach, Oceano			
OCB11 (571 yards south of Pier Avenue, end of Strand Way)			X
OCB12 (Pier Avenue)			X
OCB13 (350 yards north of Pier Avenue)			X
Pismo Beach			
PB3 (302 yards south of pier, between Ocean View and Park Avenue)			X
PB4 (14 yards south of pier)			X
PB5 (338 yards north of pier, Wadsworth Avenue)			X
Shell Beach			
SEW7 (Silver Shoals Dr., Shell Beach)			X
Avila Beach			
AB8 (149 yards east of pier by last stairs, San Luis St.)			X
AB9 (176 yards west of pier, halfway between San Luis Creek and pier)			X
Olde Port Beach			
OLDE12 (131 yards west of restrooms)			X
Hazard Canyon			
HAZ10 (Hazard Canyon, Montana De Oro State Beach)			X

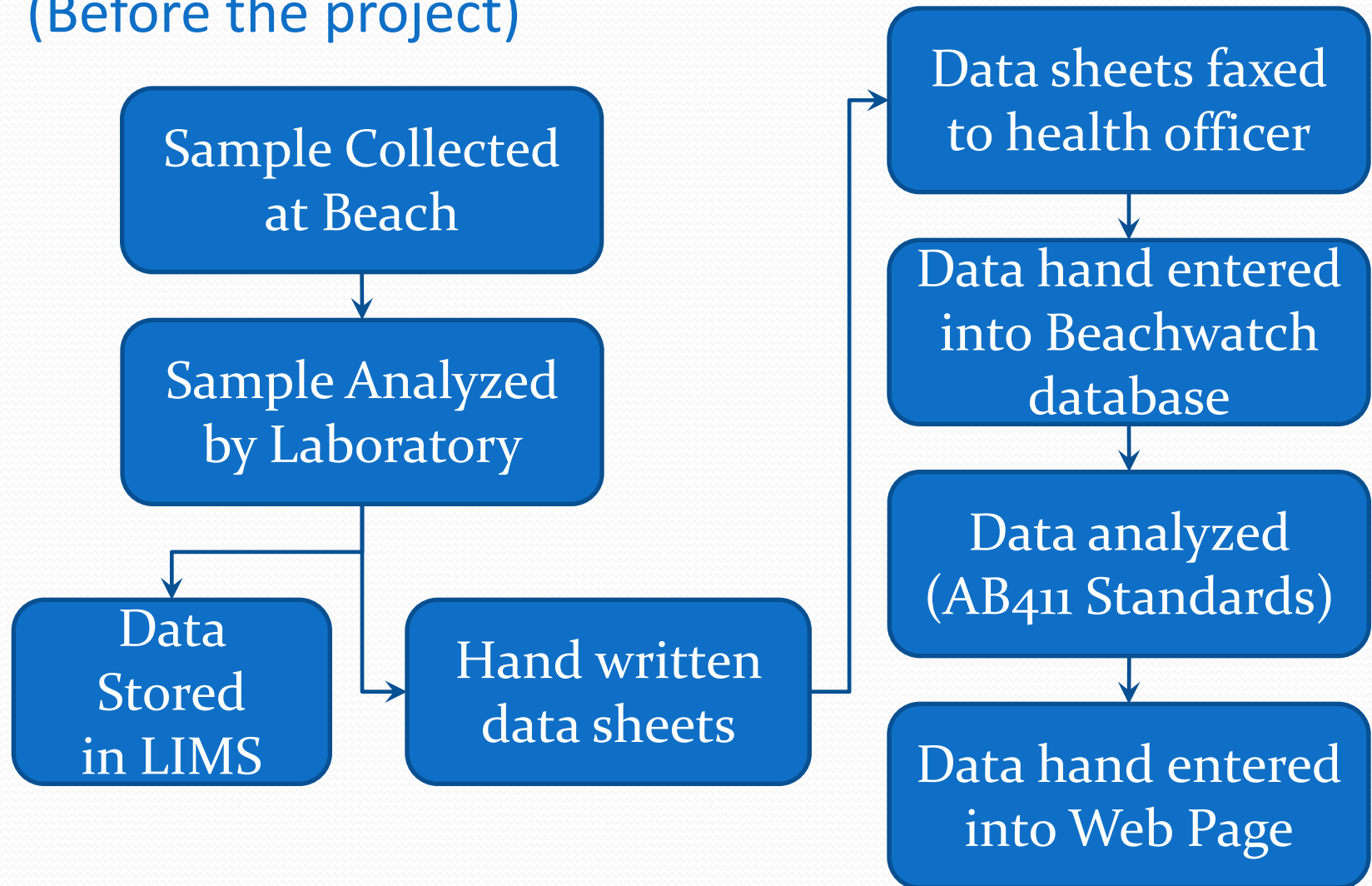
Goals

San Luis Obispo Environmental Health Department

- Speed up data flow from the field to the web
 - Streamline data import from LIMS system
 - Eliminate redundant data entry: Faster and less error prone
 - Reduces personnel cost
 - Create an intuitive web interface based on web-mapping technology
 - Streamline the web page update process

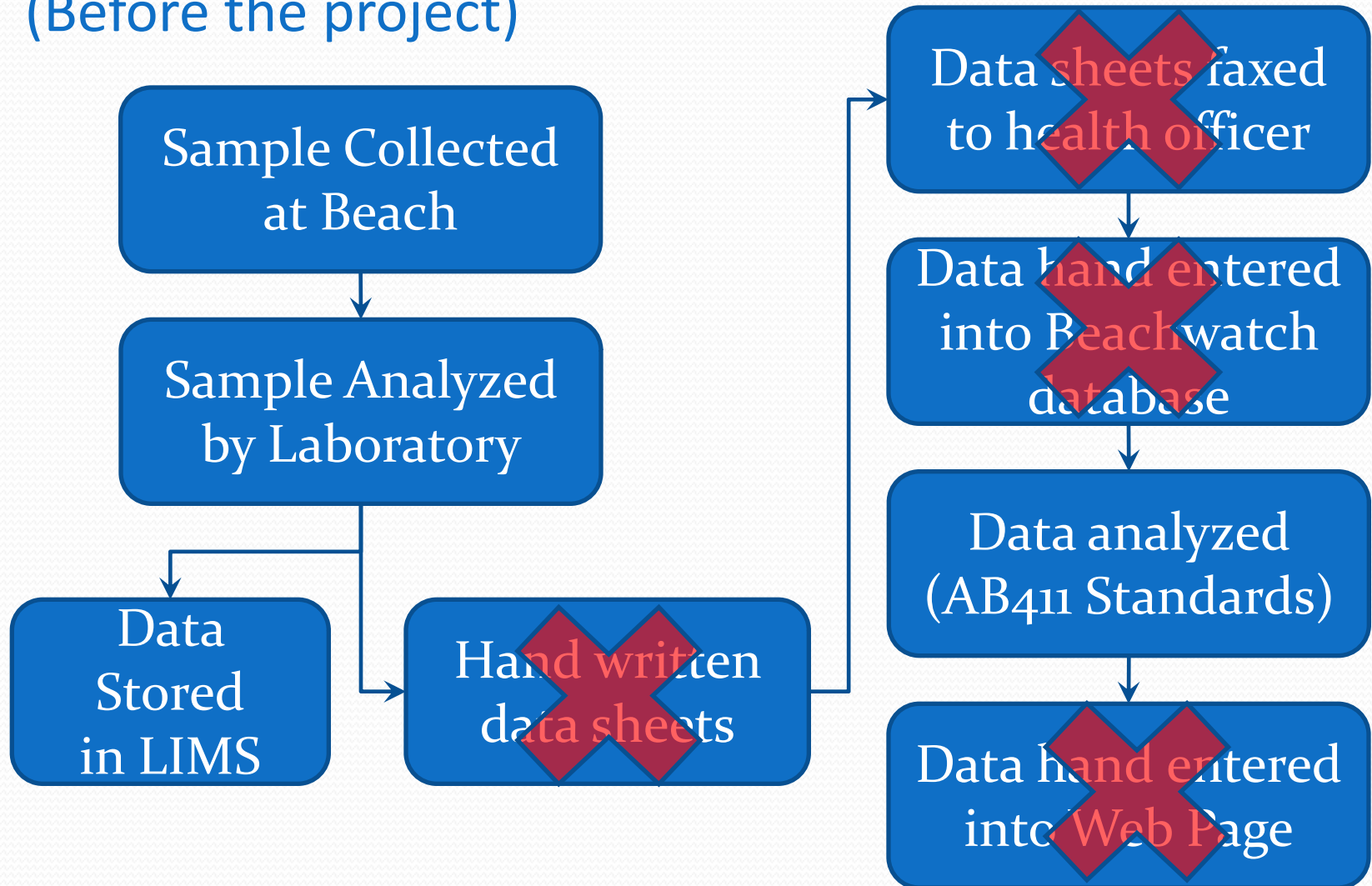
Data Flow

(Before the project)



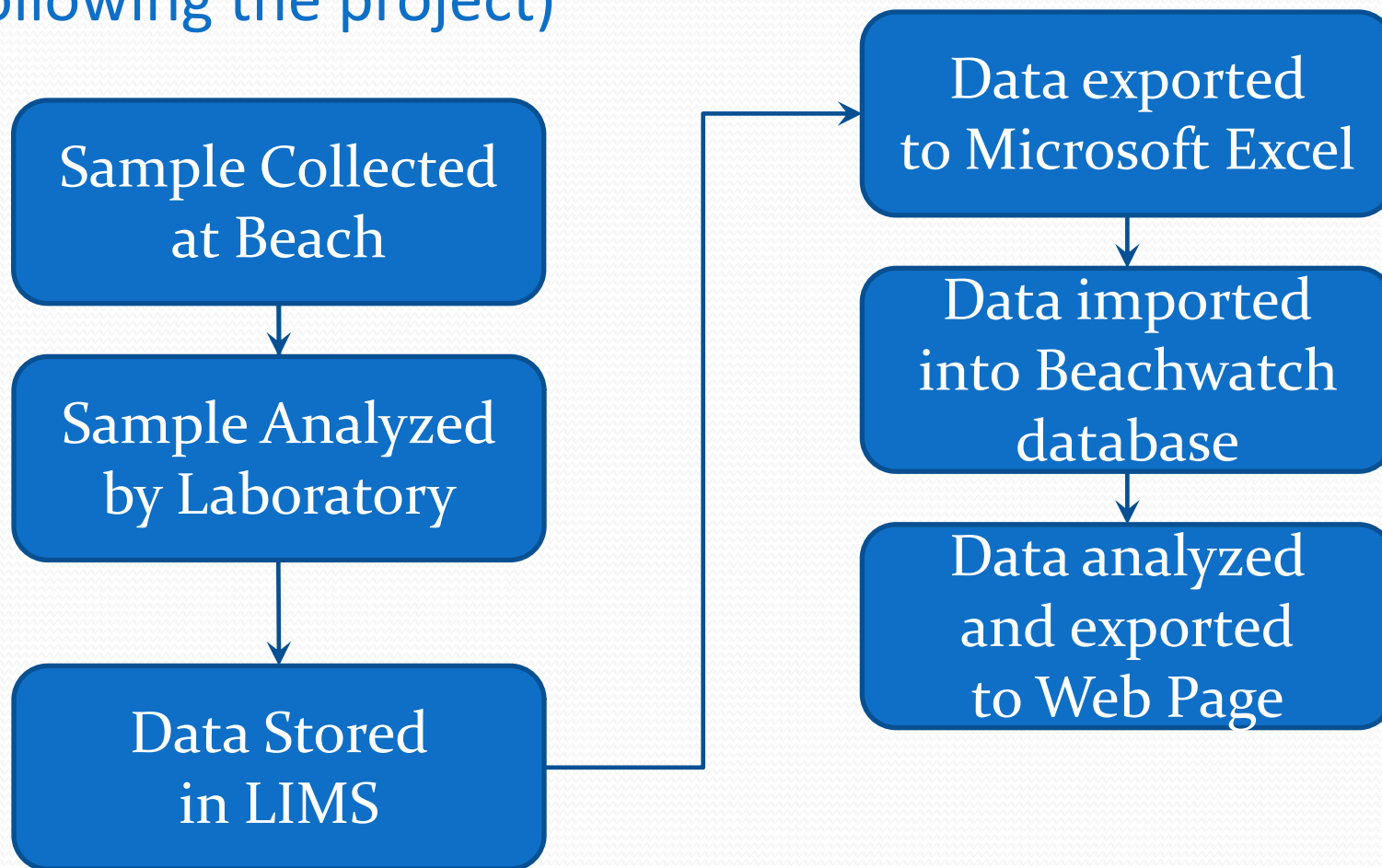
Data Flow

(Before the project)

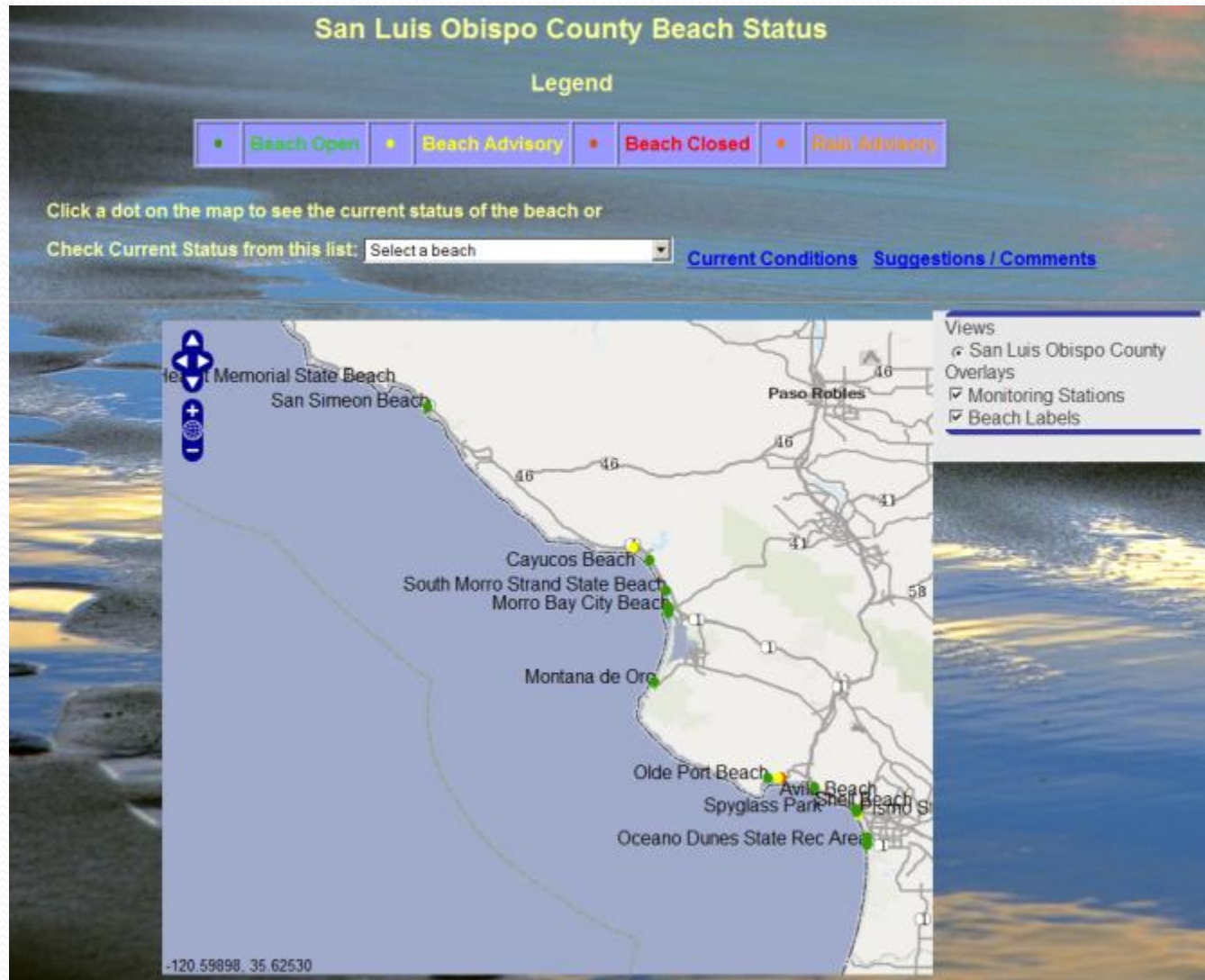


Dynamic Data Flow

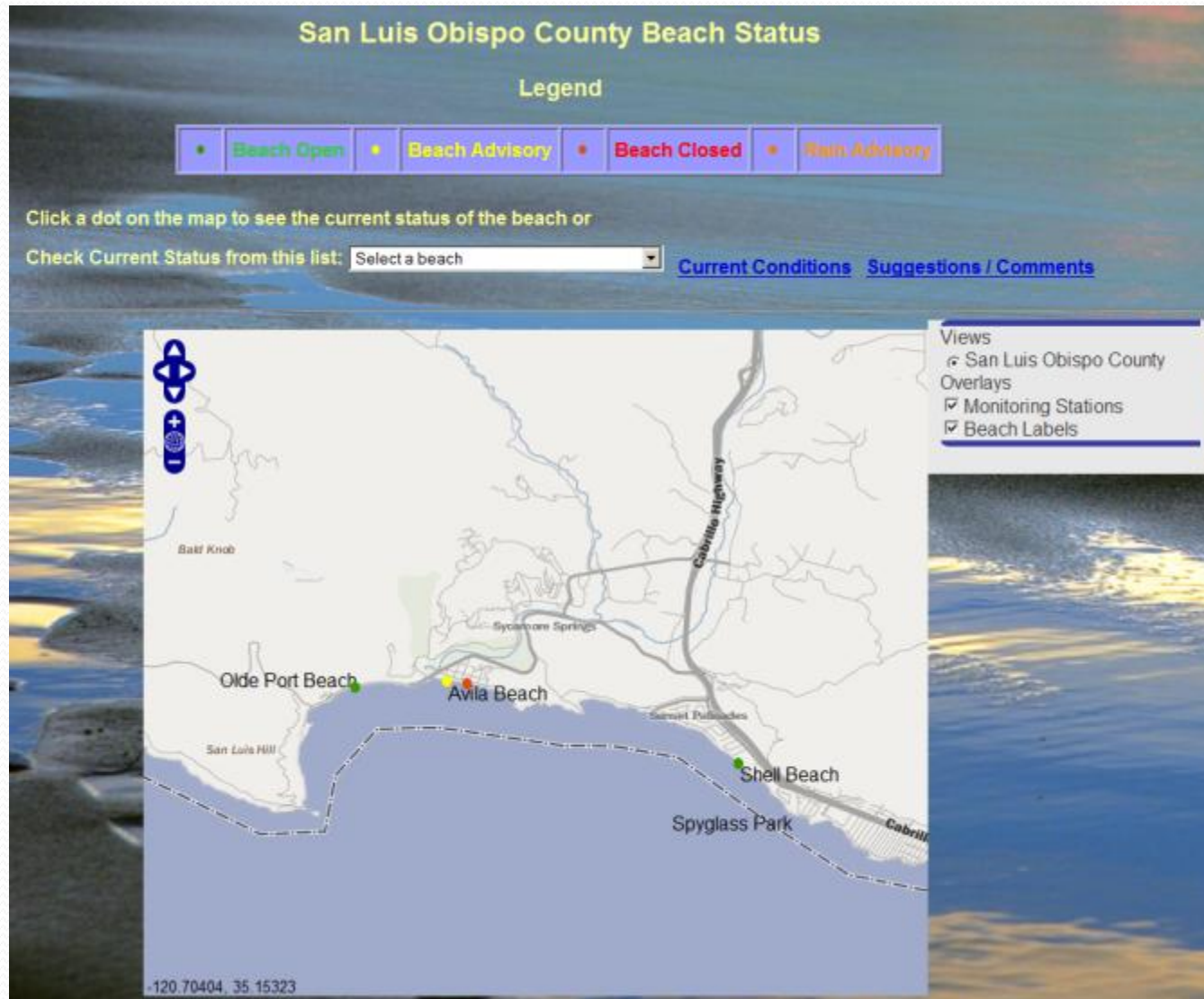
(Following the project)



SLO Web Display (After dynamic programming)



Map can be zoomed in



Information is displayed for selected beach

San Luis Obispo County Beach Status


Legend

- Beach Open
- Beach Advisory
- Beach Closed
- Rain Advisory

Click a dot on the map to see the current status of the beach or
Check Current Status from this list:

[Current Conditions](#) [Suggestions / Comments](#)

Avila Beach (AB8)
249 yds east of pier by last steps on rock wall-San Luis St
AB8(Lat= 35.178 , Lon= -120.733)



Currently Closed

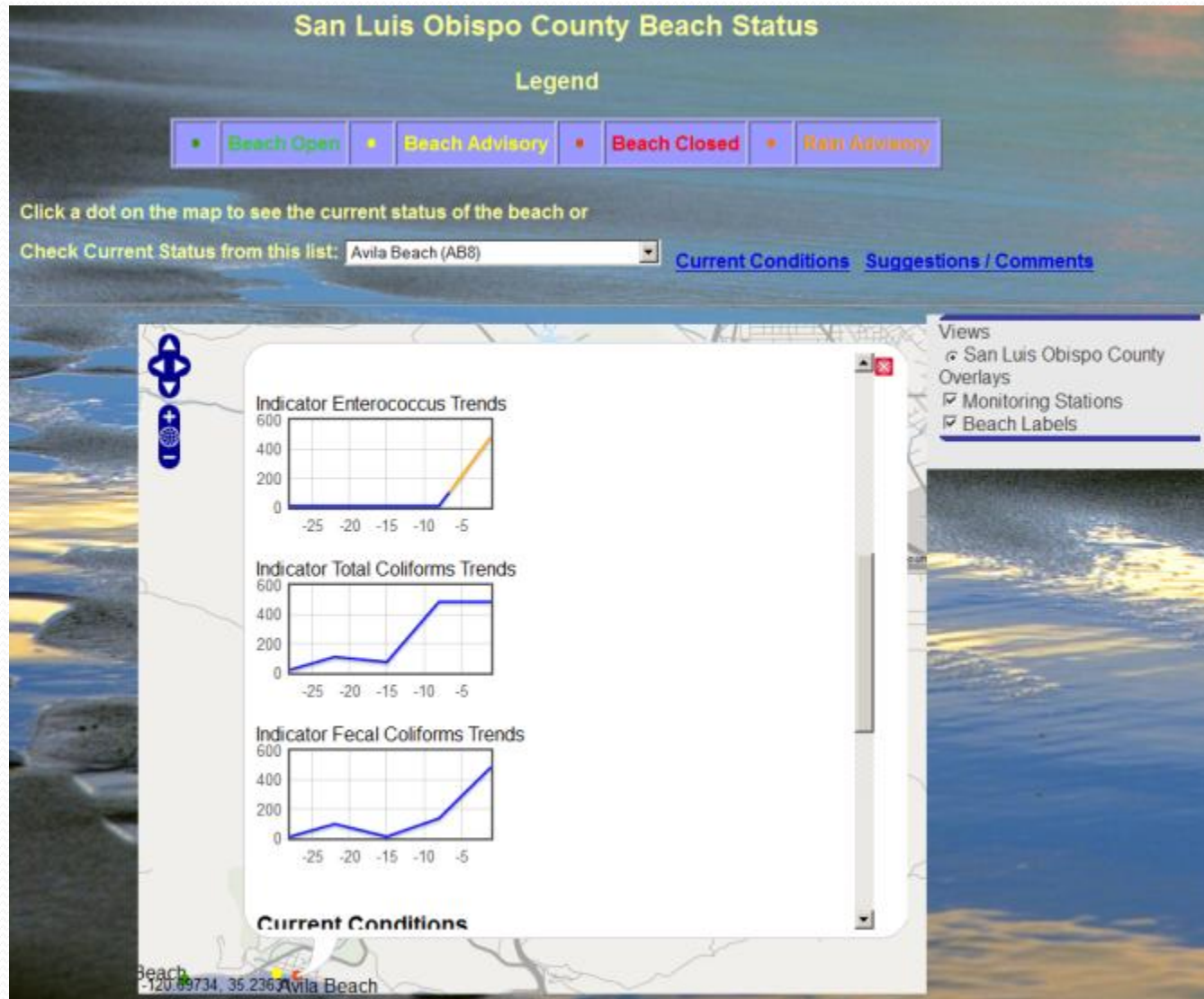
Last 30 days of data

Sample Date	Enterococcus	Fecal Coliforms	Total Coliforms
8/2/2011	10	10	20
8/8/2011	10	97	109
8/15/2011	10	10	73
8/22/2011	10	135	487
8/29/2011	487	487	487

Views
San Luis Obispo County
Overlays
☒ Monitoring Stations
☒ Beach Labels

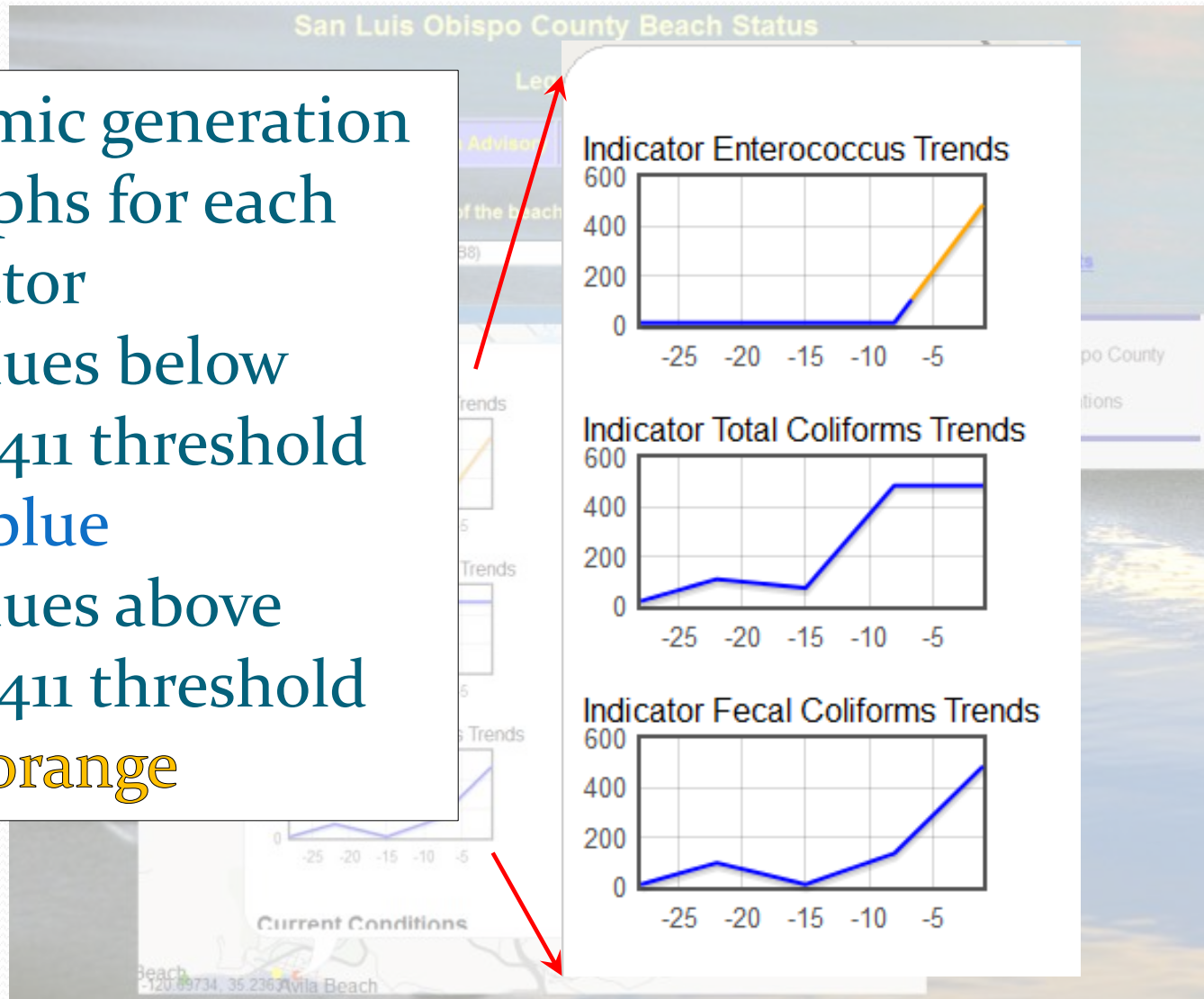
Beach
-120.70798, 35.2270
Avila Beach

Indicator Trend Graphs



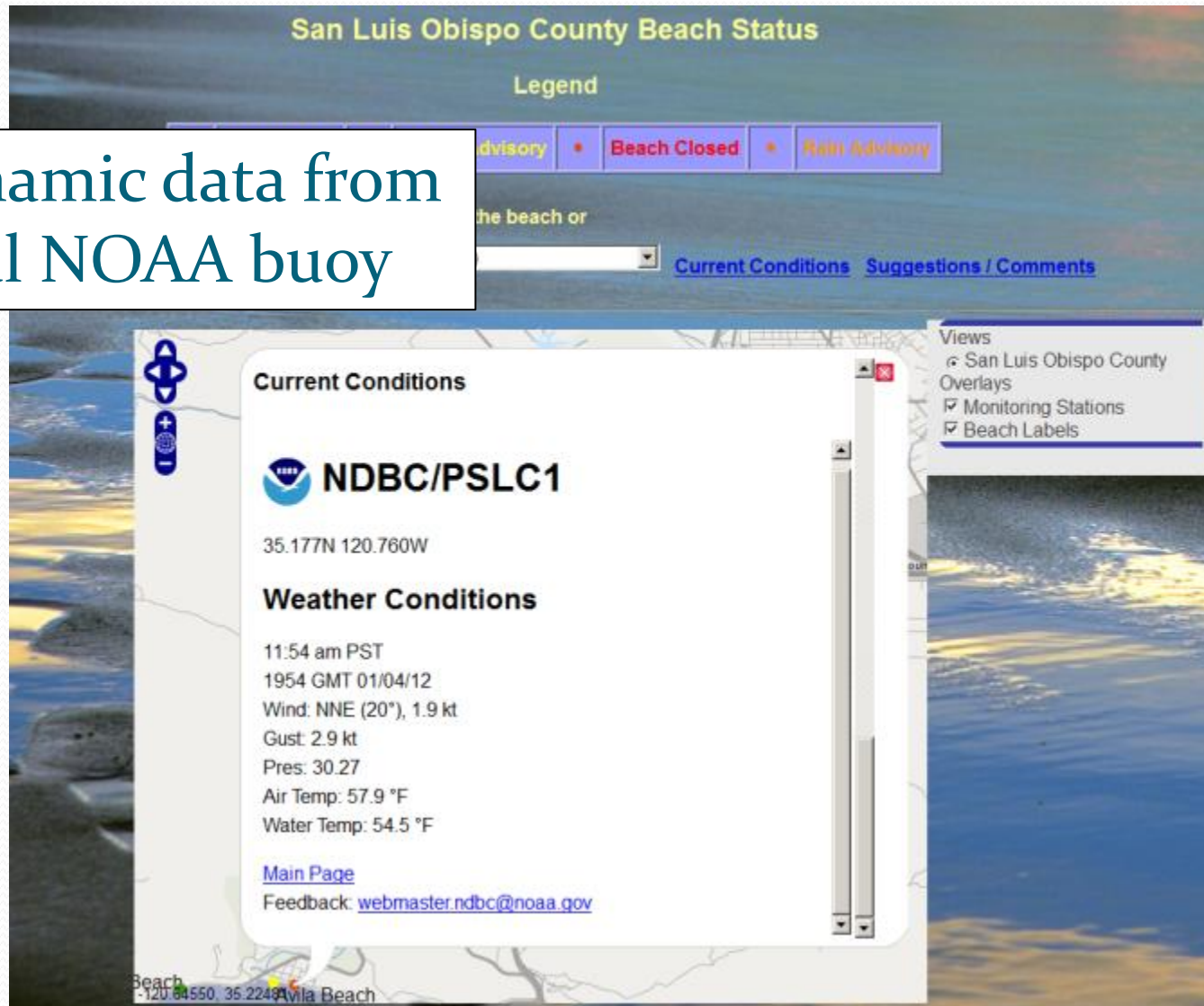
Indicator Trend Graphs

- Dynamic generation of graphs for each indicator
 - Values below AB₄₁₁ threshold in blue
 - Values above AB₄₁₁ threshold in orange



Integration of other data streams

- Dynamic data from local NOAA buoy



Where do we go from here:

- SLO case demonstrates successful implementation of dynamic tools
- Continue to develop code library and apply it in other dynamic data display contexts and applications
- Extend the use of dynamic data handling in modeling applications



Questions?