



Florida Keys National Marine Sanctuary

Water Quality Protection Program

Data Integration System

- *Corals (CREMP)*
- *Seagrasses*
- *Water Quality*
- *Special Projects*



Daniel Kiermaier
Fish and Wildlife Research Institute
Daniel.Kiermaier@MyFWC.com

Presentation Summary

- STORET Update
- Website status
- Future Plans



STORET

- **STO**rage and **RET**rieval (epa.gov)
- FWRI is putting the finishing touches on a 'technical' User Manual to explain complexities regarding raw data received from field offices and the processes needed to prepare data for STORET input. This is intended to supplement the user manuals that accompany the FDEP STORET system. Considered 90% complete.

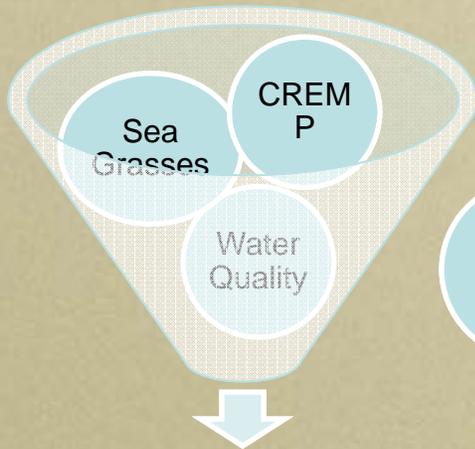


STORET

- FWRI continues to upload monitoring programs' data to Florida DEP and STORET National Warehouse.
- FWRI works with Florida DEP as needed to edit/reformat WQPP data so they may be used to calculate Total Maximum Daily Loads (TMDLs).



STORET Workflow



Raw Data



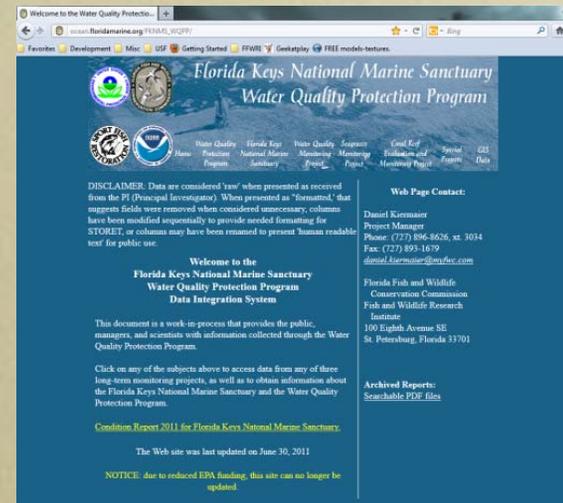
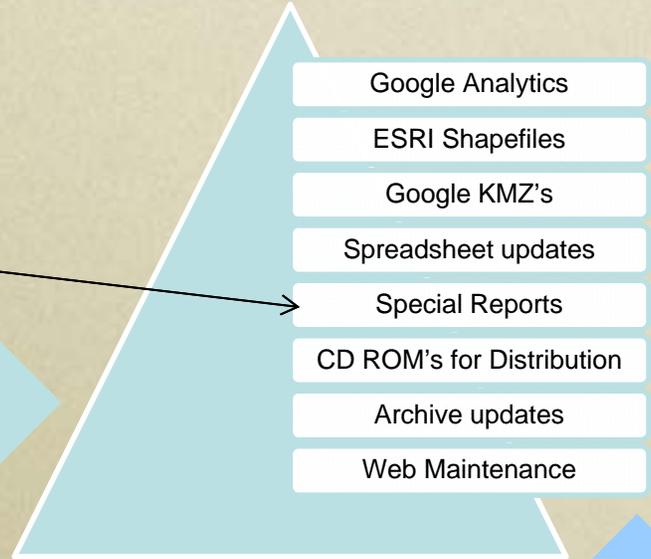
- Field Reorder

- Validate order; Missing Fields
- Create STORET Input Files

- Validate Data
- Update STORET Database



- Upload to Florida DEP / Federal DEP



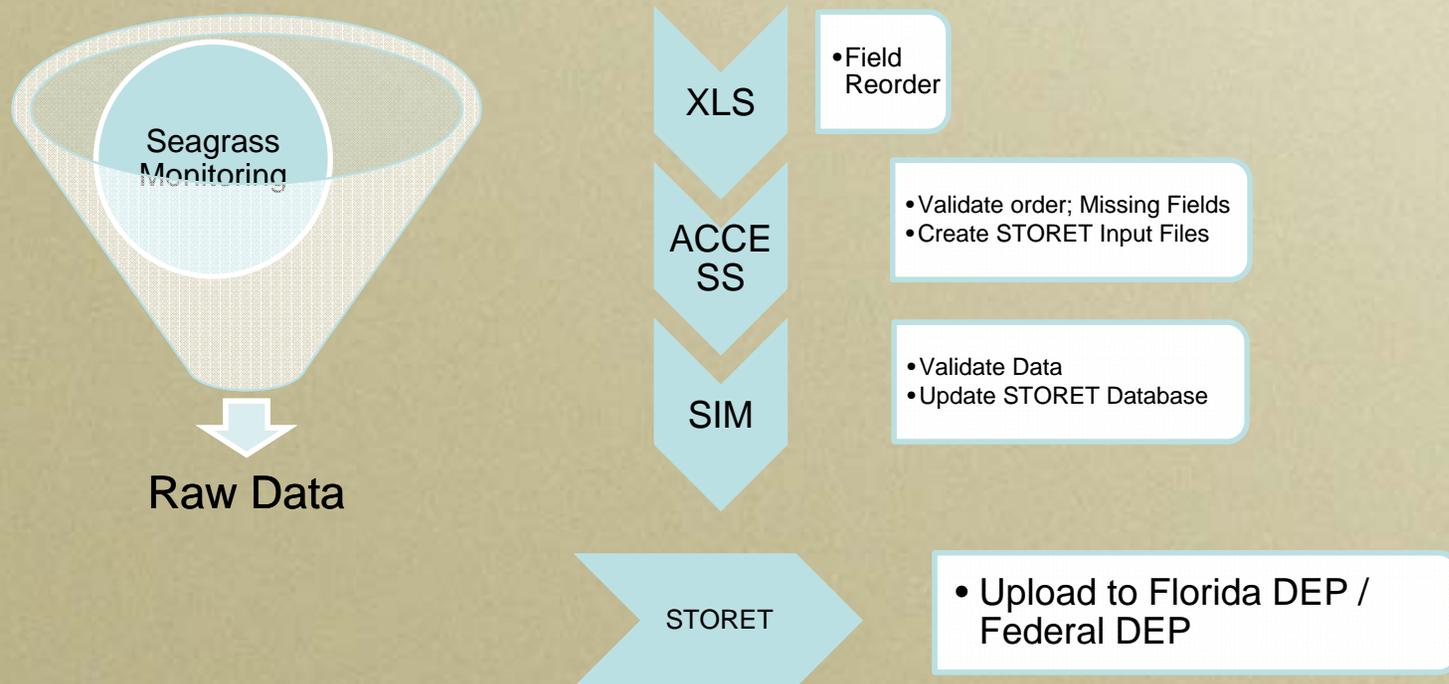
STORET

- CREMP data (corals):
 - **Coral Reef Evaluation and Monitoring Project**
 - *2009 through 2011* CREMP data were entered into STORET and uploaded to the National STORET Database and Florida STORET.
 - *CREMP and SECREMP Metadata updated and uploaded to website.*
- CREMP archives:
 - Updated through 2011
 - Usually a year in arrears



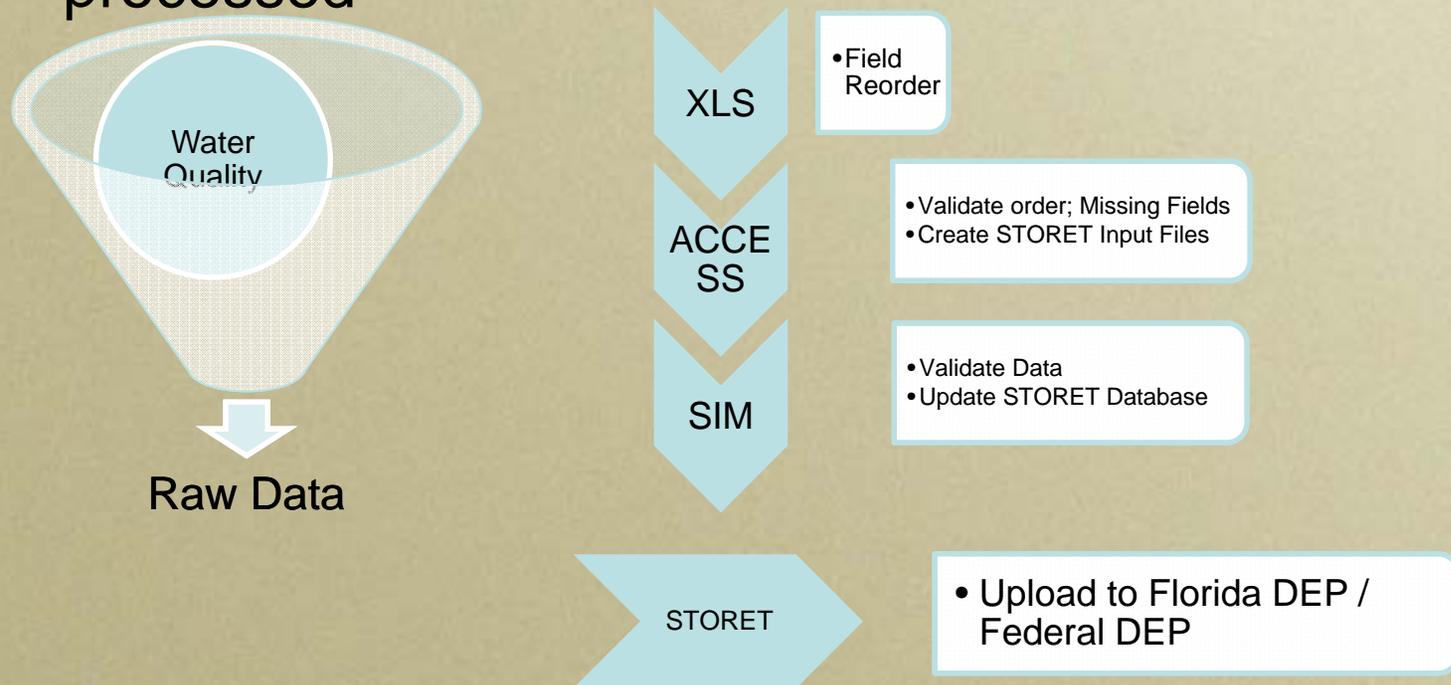
STORET

- Seagrass Monitoring:
 - Data for remainder of 2011 and a portion of 2012 received from field lab and processed



STORET

- Water Quality Monitoring:
 - Surveys 65 through 70 (August, 2010 through October, 2012) received from field lab and processed



NASA Data

Through an agreement between FWRI and the EPA, the FKNMS website is privileged to host new and upcoming NASA data related to the Florida Keys and the National Marine Sanctuary.

Our first data is from the ROSES project, dealing with water clarity, and can be located under “Special Projects” at this time.

Special Projects

2013 Special Reports:

Hu and Barnes from the University of South Florida modified the Lee et al. (2005) algorithm to derive 'true' K_d (without bottom effect), or the diffuse light attenuation coefficient, from MODIS data. In situ samples from April 2011 to August 2012 validated the algorithm with an R^2 of 0.68. All data from stations 5 m. or shallower were excluded from this analysis, thus 5 m represents the minimum depth range that this algorithm should be applied. Amplitude (1/2 wave height) of the seasonal cycle was derived from MODIS data for 2002 to 2011 and represents the seasonal variation for all MODIS data for this time period in m^{-1} .

Purpose:

This dataset was created under the objectives of a NASA ROSES grant to Luke McEachron (co-PI), FWC grant # 2839, titled "Satellite Earth Image Products Applied to Development of Regulatory Water Quality Standards."

[Metadata - Diffuse Light Attenuation Coefficient \(PDF, 71 KB\)](#)

[Kd Mean shapefile \(ZIP, 747 KB\)](#)

[Kd Amplitude shapefile \(ZIP, 2.23 MB\)](#)

Data Archives

- Storage of raw and synthesized data collected by the monitoring programs and special projects
 - Back-up if data are lost (e.g. hurricanes)
- Stored in waterproof fire safe at FWRI; copy kept offsite as well.
- Latest additions
 - Monitoring program data (CREMP, SGMP, WQMP) for last 4 quarters (since January, 2012)
 - Special studies reports – NASA ROSES grant

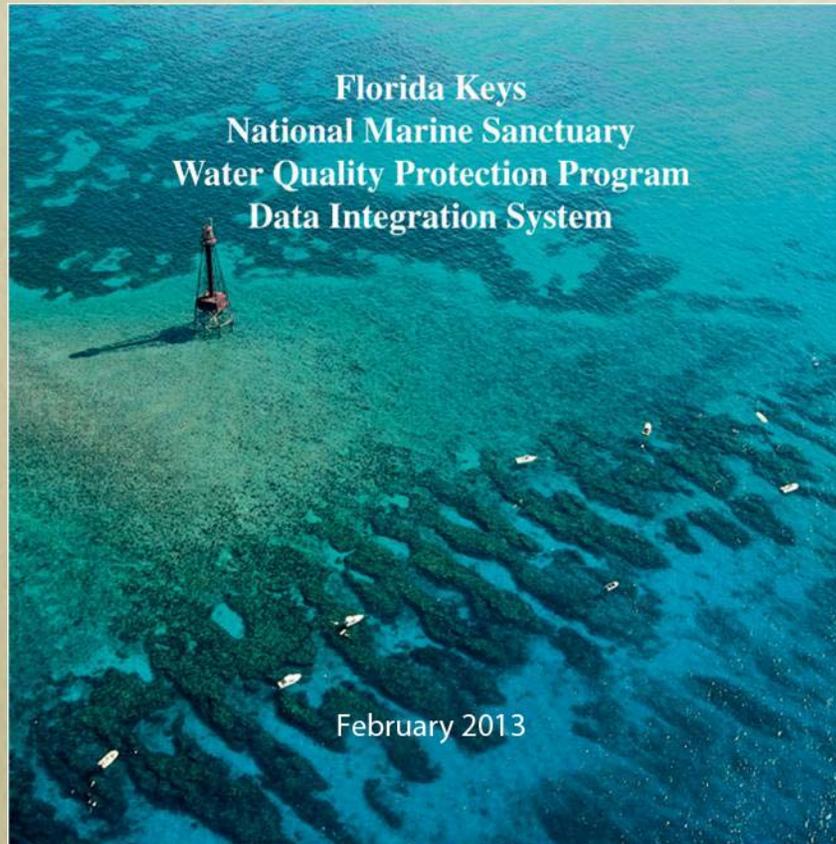
Web Site and CD-ROM

- Contains raw data, metadata, reports, movies, and links to the monitoring program's web sites
- Also contains links to Monitoring Program data (text files, shapefiles, metadata)
- Google Earth .KMZ files were created for current Monitoring Project data and are available on Web site and CD-ROM.

Web Site and CD-ROM

Users without access to the Web could still query data on the CD-ROM when available

New version is created each time the Web site is updated. Current version is February 2013



Web Site

http://ocean.floridamarine.org/FKNMS_wqpp



Welcome to the Florida Keys National Marine Sanctuary Water Quality Protection Program Data Integration System

This document is a work-in-process that provides the public, managers, and scientists with information collected through the Water Quality Protection Program.

Click on any of the subjects above to access data from any of three long-term monitoring projects, as well as to obtain information about the Florida Keys National Marine Sanctuary and the Water Quality Protection Program.

['Value added' materials \(ESRI Shapefiles and Google KMZ's\), as well as reformatted 'User Friendly' data will be in the GIS Data section - top right tab.](#)

DISCLAIMER: Data are considered 'raw' when presented as received from the PI (Principal Investigator). When presented as 'formatted,' that suggests fields were removed when considered unnecessary, columns have been modified sequentially to provide needed formatting for STORET, or columns may have been renamed to present 'human readable text' for public use.

The Web site was last updated on February 3, 2013

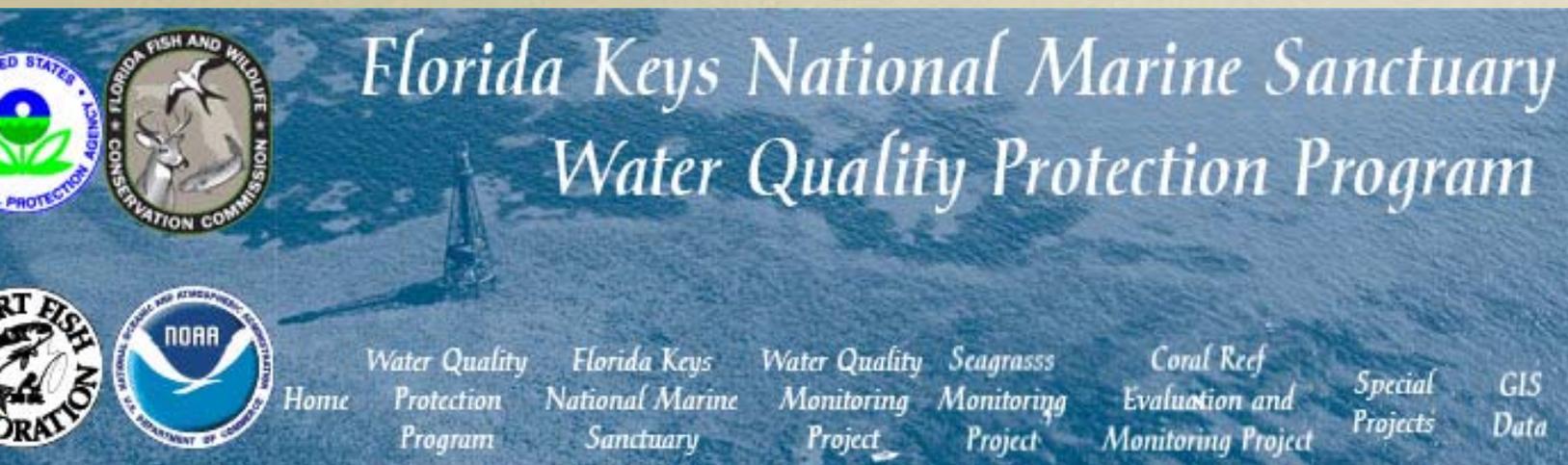
Web Page Contact:

Daniel Kiermaier
Project Manager
Phone: (727) 502-4792
Fax: (727) 893-1679
daniel.kiermaier@myfwc.com

Florida Fish and Wildlife
Conservation Commission
Fish and Wildlife Research
Institute
100 Eighth Avenue SE
St. Petersburg, Florida 33701

Archived Reports:
[Searchable PDF files](#)

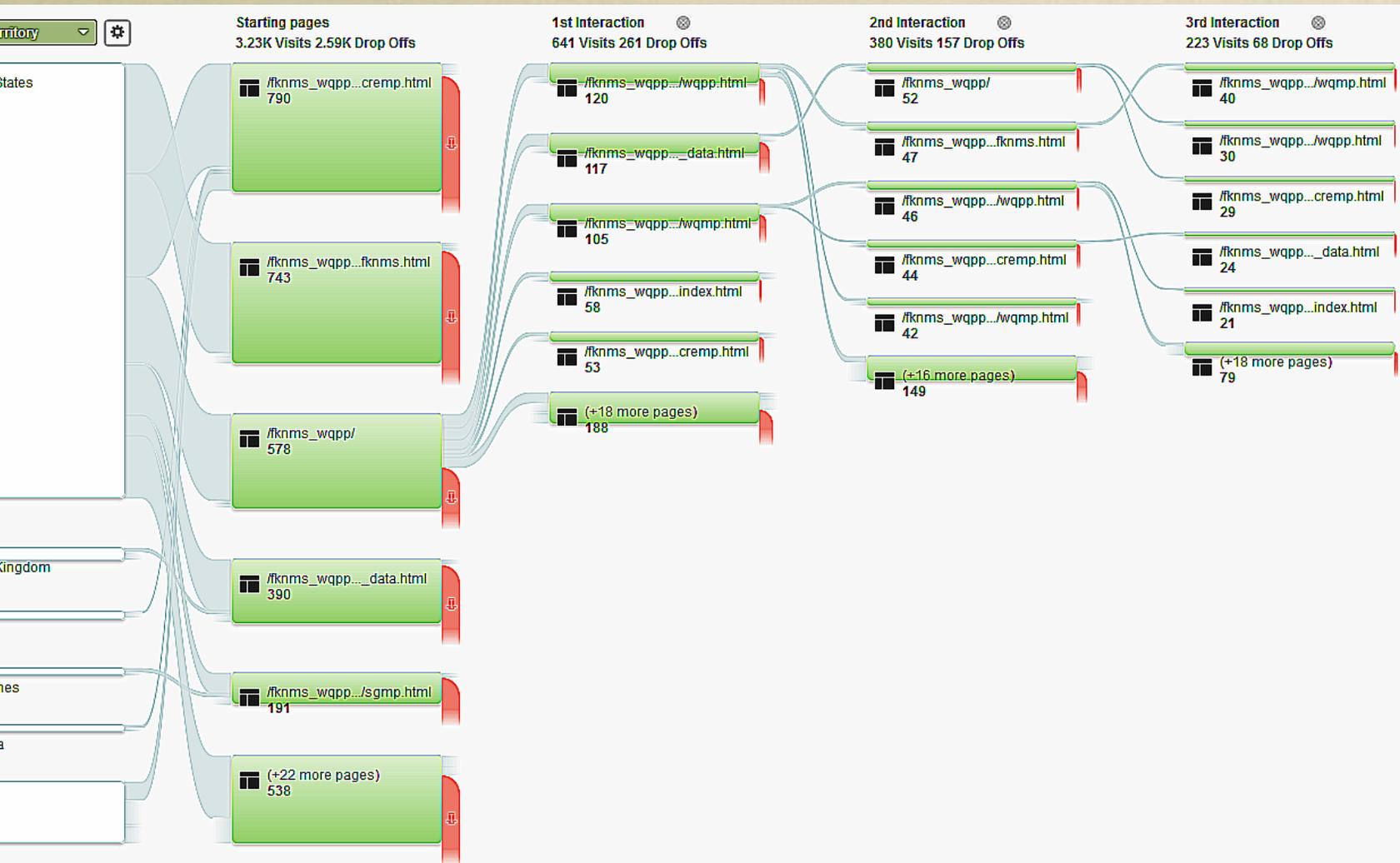
Percent Distribution of Selections



Period: *Jan. 1, 2012 to Dec. 31, 2012*

Home:	12.1%
Water Quality PGM:	08.9%
FKNMS:	18.1%
Water Quality Mon:	06.4%
Seagrass:	04.3%
Corals:	18.8%
Special Projects:	01.1%
GIS data:	20.3%

Visitor Flow



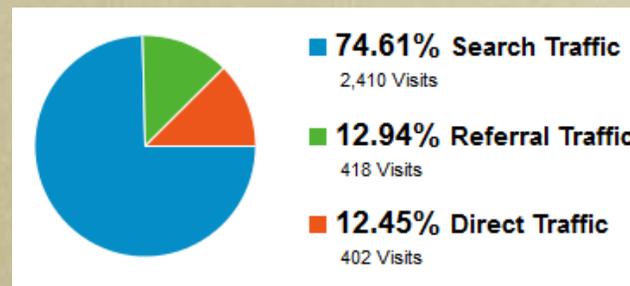
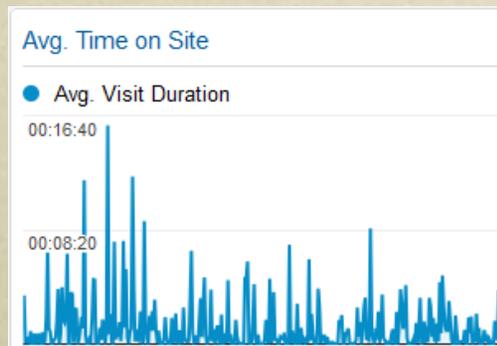
Google Analytics

Site usage has more than quadrupled since last January, 2012

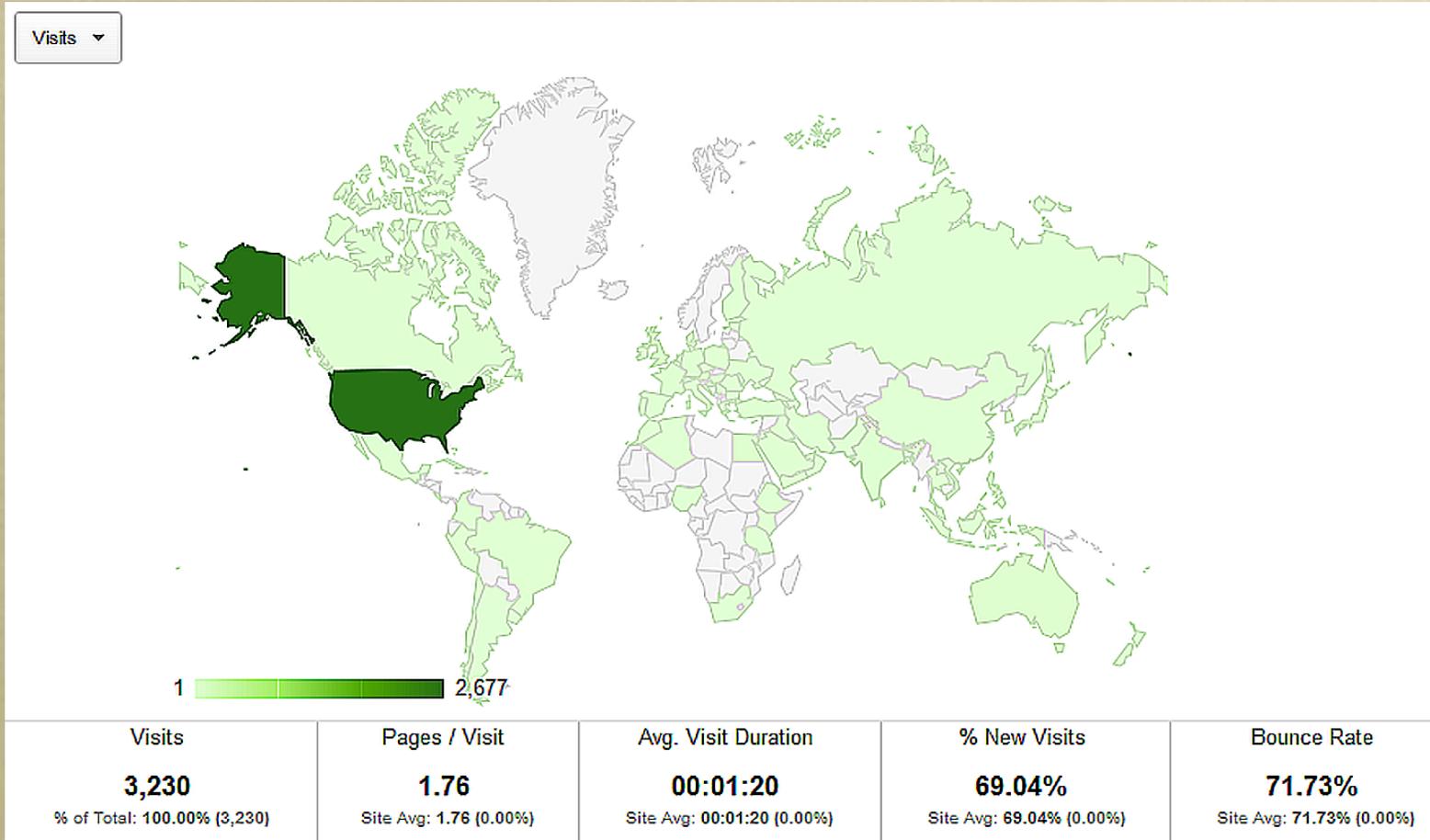
Page (Jan-Dec, 2012):
 Visits – 3,230
 Unique Visitors – 2,264
 Page views – 5,688
 Average time on site – 00:08:20
 Average Daily Visits - 25

Traffic Sources

Source	Visits	% Visits
Google	2,224	92.28%
bing	88	3.65%
yahoo	51	2.12%
ol	14	0.58%
vg	9	0.37%
comcast	5	0.21%
onduit	5	0.21%
sk	4	0.17%
babylon	4	0.17%
search-results	3	0.12%



International Distribution



Future Efforts

- Continue to develop online GIS tools for viewing, querying, and analyzing Monitoring Project data.
 - ESRI's ArcServer (Shapefiles for Professional use)
 - Google KMZ files (for Public without ArcGIS)
 - Data can be displayed in many formats
 - Raw data
 - Synthesized data
 - Charts and graphs
 - Pivot Tables
 - CD's are available to anyone who requests one.



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