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Atlas Newsletter

Water Atlas Advisory Meeting

University of South Florida

<http://www.wateratlas.org> <http://www.fccdr.usf.edu>

Where We Have Been and Where We Are Going

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Jim Griffin, Associate in Research, FCCDR

The Water Atlas program celebrates the ten year mark this year. It seems only appropriate that we take time to review “where we have been and where we are going”, the unofficial theme of this year’s Advisory Team meeting. I remember the first advisory team meeting which consisted of Jack Merriam, Shawn Landry, Kyle Campbell and me sitting around a table at the Hillsborough County Center discussing a dream that became the Water Atlas. At that time, I was just out of graduate school and starting my first job with Hillsborough County as their Lake Program Manager and Jack was still the County Environmental Team manager. Shawn and Kyle were graduate students beginning to work with the Florida Center for Community Design and Research.

Now, after working for the County and SWFWMD, I am a research faculty responsible for the Hillsborough Water Atlas as well as many others, and Jack is at Sarasota County Water Resources Department as the Water Resources Manager. Shawn is now the Director (he says interim) of FCCDR, and Kyle is beginning a new career as a pharmacist after graduating (first in his class) from the University of Florida’s School of Pharmacy. But we still are asking the question, “What should the Water Atlas be?” And, we are, as Kyle and Shawn did then, asking these questions of our advisors.

The Water Atlas is a program built on the good ideas of those who, like you, share a vision of a web site that truly serves the people of Florida. A website that delivers water resource education, all source data and tools to analyze and understand these data and is a vehicle for the preservation, possibly restoration but certainly understanding of the water resources that we so value. This year we tried a new format for our Advisory Group Meeting. The goal was to help you better understand the Water Atlas and for us to better understand your goals for the Atlas we have today and the Atlas you would like us to have tomorrow. We hope you enjoyed the meeting and felt it was a worthwhile use of your time. We also hope that we can properly interpret the issues and aspirations that you shared and that in the year to come we will be able to make significant progress in reaching the goals that we now share.

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Opening/Agenda

Shawn Landry, Interim Direction, and Jim Griffin, Associate in Research - FCCDR

Shawn Landry, Interim Director, opened the 2007 Water Atlas Advisory Meeting by discussing the goals for the meeting: Funding, Functionality and Data Management for the Water Atlas Program. In order to proceed in these areas, the group of water atlas advisors needs to come together and work as a whole to be successful. A new format was designed to accomplish this goal by dividing the whole group into four thrust discussion groups. The four thrust discussion points are:

- a. One Atlas: Single and Improved Water Atlas Interface and Single Spatial/Attribute Database
- b. Database Management and Quality Assurance
- c. Statewide Water Atlas/Partner recommendations of methods to expand Water Atlas
- d. Funding the Water Atlas: Staffing and Fixed Costs; Maintenance Funding; Special Projects Funding



Shawn Landry welcomes the Water Atlas Advisory Group members to the 2007 meeting.

Jim Griffin, Associate in Research, presented an overview of the Atlas Program, described a detailed agenda, new components on the different Water Atlas sites, a history of the Atlas Program and what the Florida Center sees as the future of the program. The following are some of the points described:



Jim Griffin discussing the agenda for the Advisory Meeting.

- Vision – Goal of Water Atlas Program is to go Statewide
 - ✓ Florida Atlas of Lakes – Lakewatch Program
- Needs of Faculty and Staff needed to achieve this goal
 - ✓ Student Training – hiring graduate students to assist with certain project tasks
- Enhances to the Atlases made in the past year such as the partnership between Tampa Bay Estuary Program and the Mayor's Beautification Program for the Site Restoration component now available on the Tampa Bay Estuary Atlas (<http://www.tampabay.wateratlas.usf.edu/restoration/>)
- One Atlas – developing one code-base to support all Water Atlas sites will allow for seamless navigation across political boundaries
- User-Friendly applications and web design
 - ✓ Mapping tool – customized map themes are linked from a component directly to the map layer (<http://www.manatee.wateratlas.usf.edu/river/waterquality.asp?wbodyid=21024&wbodyatlas=river#impaired>) – click on View a Map of Impaired Waters....
- Data and Content Management systems
- Moving into a new programming language framework: Microsoft .NET – Pinellas Watershed Excursion was the first component using DotNet framework
- Budget – keeping the budget in check and lower costs. What are the minimum staff requirements in order to achieve Water Atlas Program goals and keep budget manageable? If there are more faculty and staff, more Atlases can be managed.

Key Questions – Survey Results

Terry Johnson – Associate in Research, FCCDR

The Advisory Meeting was an excellent opportunity for the Atlas sponsors to voice their opinions and add their knowledge to the process of enhancing the Water Atlas Program via the Water Atlas Advisory Survey 2007 sent out in advance and summarized at the meeting. Sponsors were asked about the strengths/ weaknesses of the current Atlases, what should be changed and where the Atlas should be in five years. There was a good response, and the general consensus was that the Water Atlas should be more user-friendly, enhance its searching capabilities and data download, and effect seamless navigation across geographical boundaries with the mapping application and digital library.

Findings of the survey included identifying strengths (mapping applications and data download) and weaknesses (user friendly displays and applications) of the current Atlas. Respondents all agreed that the Atlas is a good return on their investment, and felt it reasonable to keep the site up-to-date technologically so long as moderation and cost-effectiveness guide such changes.

By far the most dichotomous result of the survey was who the primary audience should be for the Atlas: citizenry or individual county/agency programs. Recognizing this need not be an either/or decision, attendees offered the following comments:

- Mission of agency should guide who benefits
- Tampa Bay Estuary Program provides regional influence to benefit scientists
- Use Atlas to create avenue for volunteering and to document citizen results
- TMDL partnering benefits from local government technology transfer (small local governments AS citizens)
- Lake County: make database available to citizens and present citizen data
- Support both groups – counties serve the citizens
- Don't hide tech data from citizens – help train them for greater stewardship

Recognizing that a possible bridge between user groups is how "friendly" the Water Atlas is led to a discussion about: *What do we mean by User-Friendly?*

- Hillsborough County Google search to be explored by other partners
 - ✓ Search all documents and pages on Atlas
 - ✓ More open search on opening page
 - ✓ Make basics/transparency to take user deeper into Atlas from homepage
- Observe Three-Click rule (divide site...citizens, managers?)
- Consider "current issues" exposure on homepage
- Check drill down logic (e.g. awareness of duplicate data consistency)
- ID most frequent page views to customize access points
- Focus groups –by user type (citizen, managers) to ID key data emphasis
- User tracking is critical to continuing support – more web stats to partners
- Identify/summarize search terms entered for counties
- More effective use of page space available (design issue)
- Make finding documents easier (search function not effective)
- Use project/committee section – see Sarasota's Atlas

The Survey was a sound communication tool between sponsors and the Florida Center showing how we are together managing and protecting water resources.



Terry Johnson is discussing the survey results.

Key Questions:

Who is or should be the primary audience for the Water Atlas?

Citizen Users
Scientific Community

What do we mean by User-Friendly?

Observe 3-click rule
Check drill-down logic
Searching capabilities

Breakout Session – Four Thrust Groups

One Atlas – Single and Improved Water Atlas Interface and Single Spatial/Attribute Database



Jim Griffin and Kevin Kerrigan discuss the One Atlas concept with various Atlas sponsors.

The Water Atlas Program has grown from one in Hillsborough County to eight counties stretching across the central part of Florida with two more coming online later in 2007. This growth calls for some changes to be made in order to continue with high quality water resource representation and data management. Therefore, the One Atlas concept is born. The basic steps needed to achieve this common interface are:

- Redesign the www.wateratlas.org portal
- Smart interface that morphs into County Atlas based on location
- Include geospatial navigation for all pages
- Include mouse over help
- Add advanced tools for resource managers
- Add photo gallery
- Add News and Events/Announcements

Several of the Atlas sponsors gathered with Jim Griffin and Kevin Kerrigan, Web Programming Team Coordinator, to discuss four questions based on the One Atlas concept, a single and improved Water Atlas interface and single spatial/attribute database.

1. Does a One Atlas approach for the Water Atlas make sense to you? Having the One Atlas approach could mean a huge economic advantage for Atlas sponsors by spreading out the costs more evenly. This concept also facilitates navigation among all Atlas sites eliminating political boundaries.
2. What level of component standardization would you want? What custom features will be lost? Is there a benefit to having identical interfaces for each county? Maintain the ability to turn features on/off similar to a basket approach, eliminate county boundaries as controlling factor but keep County recognition in order for user to know which Atlas is being viewed.
3. What is wrong with the current atlas interface (displays, forms, navigation) and how would you improve them? Too verbose – the information is buried too deep within the Atlas. Navigation needs to be more intuitive allowing for different points of access for same information, improve search tool and standardize format including keywords for uploading documents.
4. What are the advantages/disadvantages of the One Atlas approach as you understand it? Cost sharing is an issue – paying for components not wanted by certain counties. Should there be a group budget? Have virtual meetings/group meetings more than once a year, possible wide-spread of bugs across all Atlases. An advantage point – inter-county communication would improve.

One Atlas Approach

Cost Sharing

Eliminate County Boundaries

More Intuitive Navigation

Standard Document Upload

Inprove Inter-County Communication

Breakout Session – Four Thrust Groups, Cont'd

Database Management and Quality Assurance – Jason Scolaro, Ron Chandler and Ken Romie

The Water Quality Data Management System (WQDMS) facilitates manual and automatic upload of water quality data. Jason Scolaro, Database Applications Manager, Ron Chandler, Assistant in Research and Ken Romie, Quality Assurance Officer, have been working to improve the data management procedures as well as the quality of parametric and spatial data presented throughout the Water Atlas sites. The more important or more frequently used features include: uploading files, field data management, quality assurance station data, and export data. As part of this data management, a new data download application is being developed in order to:

- Provide user-secured access to *all* Water Atlas data through default selections or highly flexible user-defined aggregations of data.
- All data uploaded to the Atlas is available for download by selecting specific parameters [watershed, waterbody, WBID (Waterbody ID), HUC (Hydrologic Unit Code) or station name/ID].
- Download formats compatible with data analyses, reporting and graphing applications such as Microsoft Excel or Access.
- Organization after the USGS-NWIS (National Water Quality System) application (<http://waterdata.usgs.gov/nwis>).

Jason, Ron and Ken gathered with a handful of project partners to analyze this process.

1. How important is the analysis of your data for representation, statistical outliers, trends, etc.?

In order to avoid duplication of data from more than two agencies, the Florida Center would need to design most of the quality assurance protocols.

2. What data analyses are most important to you?

Presenting segmented data from multiple stations within one waterbody, look for specific point over specific timeframe for outliers, identify extreme outliers, check for change in outliers, have units based on STORET, dealing with MDLs (minimum detection limits).

3. Do you currently have or anticipate having the funds to support the methods and processes for filtering data?

The response to this question is divided into two parts: data download tools and water quality data management system. It also focused more on what the project partners would like to see rather than the funding effort to support this effort.

Data Download Tool – currently, the Florida Center is transitioning to the ability to retrieve more than one waterbody at once. Add a spatial selection and graphing as direct links, having parameter groups would be helpful and a combination of water quality and flow (equal to or greater than) load.

Water Quality Data Management System – allows for automatic uploads from lab, designed for smaller (monthly) uploads, highlights quality assurance issues, help with providing more current data, and is good for uploading few points of major interest (e.g. Red Tide).



Jason Scolaro and project partners analyze the database management and quality assurance issues.

Database Management Quality Assurance

Avoid Duplication of Data

Outliers

Retrieve data from more than one waterbody at once

Automatic uploads

Present data from multiple stations within same waterbody

Breakout Session – Four Thrust Groups, Cont'd

Statewide Water Atlas/Partner Recommendations of Methods to Expand Water Atlas

The Statewide Atlas and the One Atlas concept go hand-in-hand.

Developing a statewide atlas, which has been the ultimate goal of the Florida Center since the beginning of the Water Atlas Program, will be easier to develop and maintain utilizing the One Atlas concept.

LAKEWATCH Volunteer Program at the University of Florida has contracted with the Florida Center to create the Florida Atlas of Lakes which will contain all of the designated lakes in the LAKEWATCH program. This is to be the testing ground to see whether a statewide atlas is feasible and necessary. The design allows for the Atlas to be watershed based rather than being based on political boundaries which is how all Water Atlases are currently built.

Rich Hammond, Geographic Information Systems (GIS) Team Leader and Karen Dufraine, Web Content Manager, met with interested Atlas sponsors to learn what major points need to be considered when developing a statewide effort.



Rich Hammond listens intensely to the project sponsors ideas for how a statewide atlas could work.

Statewide Atlas

Seamless Navigation – A necessity for state funding

Crucial for individual counties to get their fair share and to be wary of “free riders”

Develop One Acknowledgement Page

Boundary Distinctions Clearly Defined – Watershed versus Political

1. Is it important to have seamless navigation throughout a region? Seamless navigation is seen as a necessity in order to acquire state funding. This would be applicable to agencies like SWFWMD and DEP. Boundary distinctions need to be clearly defined – political versus watershed.
2. How do we reach a balance between a unique county atlas and a more generalized statewide structure? The generalized approach can act as advertisement to other counties to develop a unique atlas. The EPA’s website provides an example of the type of hierarchy from region to region to state (<http://www.epa.gov/waterscience/standards/regions.htm>). It is crucial for counties to get their share of the pie and to be wary of “free-riders”, one county trying to capitalize without any funding for features that another county has paid. Suggestion of adding County to the search criteria on the digital library will assist in keeping some county uniqueness.
3. What level of “branding” is required to ensure support by county and city commissions? Have an acknowledgements page recognizing all funding partners. Citizen use and education aspect needs to be emphasized in order to sell to elected officials. Emphasize NPDES goals and the dollar value for each county.
4. Do you support the growth of the Water Atlas to a Statewide reach? Yes – this type of Atlas could help make STORET more understandable and user-friendly – could be used as a model. Helpful in Tier I monitoring by throwing up red flags in determining impairments. Ability to make county comparisons which will help in making assumptions in regards to data.

Breakout Session – Four Thrust Groups, Cont'd

Funding the Water Atlas: Staffing and Fixed Costs; Maintenance Funding; Special Projects Funding

The complex nature of the Water Atlas requires a professional faculty and staff. Although the Florida Center does utilize the advantages of being associated with a large university by hiring graduate students to assist on special projects, staff salaries are paid by soft-money contracts and grants rather than state funding. Currently, project costs include annual management and optional special projects and services per Atlas sponsor needs. The minimum funding requirements to sustain the Water Atlas is \$475,000 annually spread across eleven Water Atlas projects (about \$43,000 per Atlas sponsor). In order to achieve a sustainable and reasonable budget for funding of the Water Atlas, Shawn Landry, Interim Director of the Florida Center, sat with several key project sponsors to understand their budget and Water Atlas funding concerns and to explain what the budget represents.

1. How do you justify the Water Atlas to the BOCC? What are the primary “selling” points? Showing the value of the Atlas as a way to distribute mandated NPDES and TMDL information to the public and scientific community, and the strong usage of the Atlas by the public and volunteers.

2. How can we help you justify and build support for the Water Atlas?

By addressing important issues via the Atlas, such as water conservation, emergency management and TMDLS. The biggest way to help justify and build support is to make it more user-friendly and simplify/define the terminology for the public, enough for politicians and government managers to use and understand the Atlas benefits.

3. What level of funding would be “easy” to justify based upon these primary selling points? Is there a minimum/maximum funding level we should work together to reach?

There is an administrative threshold around 20 to 30 thousand dollars (depending on the size of the county); funding above this level requires much greater scrutiny at the level of the commissioners or council members. Ideally, the initial maintenance cost should be reduced and show where cost savings are applied. For example, it should be shown that investments to develop the data staging area ultimately led to a decreased cost of data updates.

4. Would a regional approach to funding be acceptable or desirable? For example, local governments could increase funding to the Tampa Bay Estuary Program in order to indirectly fund the maintenance of the Water Atlas. Special projects and specific enhancements could still be directly funded through separate contractual mechanisms.

It should be determined whether we can cut costs by managing only one contract instead of several. Support for the Estuary program is outlined in the comprehensive plan of cooperating governments – it is unclear whether this mechanism would work for the Atlas. Are there other sources such as DEP and the water management districts that would fund the Atlas program? Under what conditions could BMAP funding be used to support the Atlas?

Should an inter-local agency be developed between Atlas sponsors to help alleviate costs? For example, rough and Manatee pool their money together to support their respective Atlases. Are there other sources such as DEP and the water management districts that would fund the Atlas program?



Shawn Landry and project partners address budget and funding issues and concerns.