Volunteer Monitoring Case Studies in Georgia

A Review of Methods and Approaches to Engage Citizen Scientists

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Georgia Environmental Protection Division
Georgia Adopt-A-Stream

The Early Years

- 1970s & 80s – Initial involvement in monitoring
  - Izaak Walton League of America, Sierra Club, Trout Unlimited, colleges and EPD employees
  - Some cities and counties initiated stream monitoring programs
- 1987 – EPA 319 grant funded citizen monitoring feasibility study
  - House program in DNR Environmental Protection Division
- 1992 – Georgia Adopt-A-Stream established
- 1995 – Created QAPP, QA/QC monitoring began
- 2009 – Launched online database driven website

Our current motive to observe and monitor streams is a continuation of our inclination to observe, understand, and live in consonance with our environment.

~ Ted Mikalsen

Overview

- Housed in State regulatory agency, EPD
- EPA 319 funded

- US EPA QAPP
- QA/QC certification workshops
- Website with online database
- Monitor physical, chemical and biological conditions
- Streams, lakes, wetlands, coastal waters

Keys to Success

- Focus on Local Coordinators and Trainers
- Emphasis on Education/Awareness
- Robust QA/QC program
- Online Database

Local Coordinators and Partners

- With limited staff, we needed help
- Attract regional and local government agencies, universities, watershed and not-for-profit organizations and citizens
- Local programs are ideally suited to address local water issues

70 Local Programs

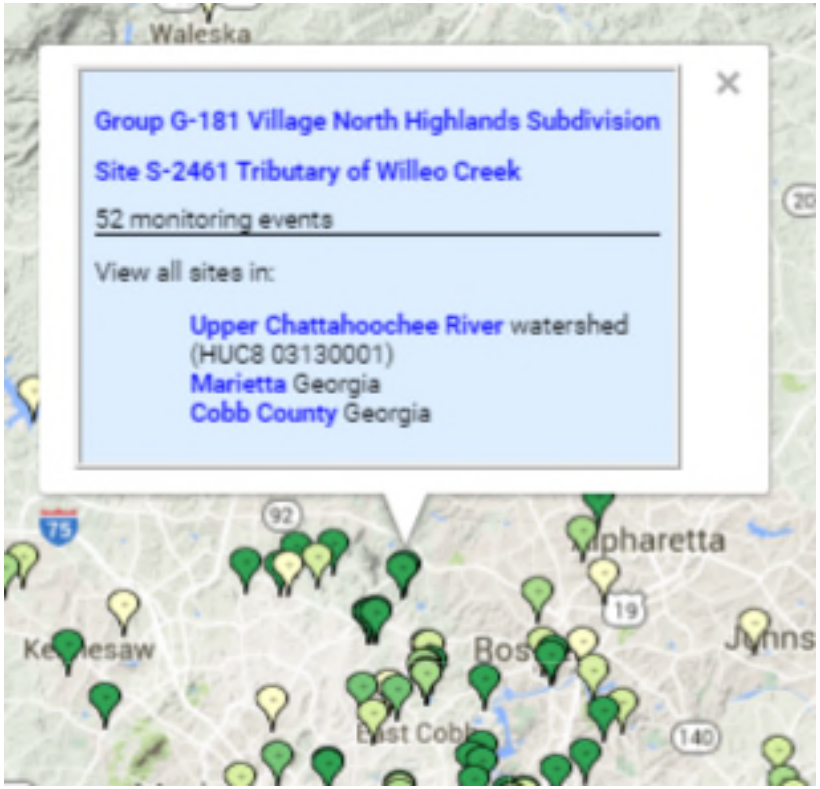
- 48%
  - County
  - City
- 45%
  - NGOs
  - Watershed
  - Riverkeeper
- 7%
  - Regional
  - State

Citizen Scientists

- Nobody cares about their data more than the volunteer
- Volunteers get it, they can interpret water quality data
- Participation requires certification and recertification
- Responsible for equipment and maintenance
- Must set up monitoring schedule
- Conduct monthly monitoring
- Must enter and review data
- Follow up on problems
- And more…

Online Database

- Open source software
- Simple, intuitive navigation and design
- Integrated into website
- Input, view and download data
- Integrated QA/QC checks

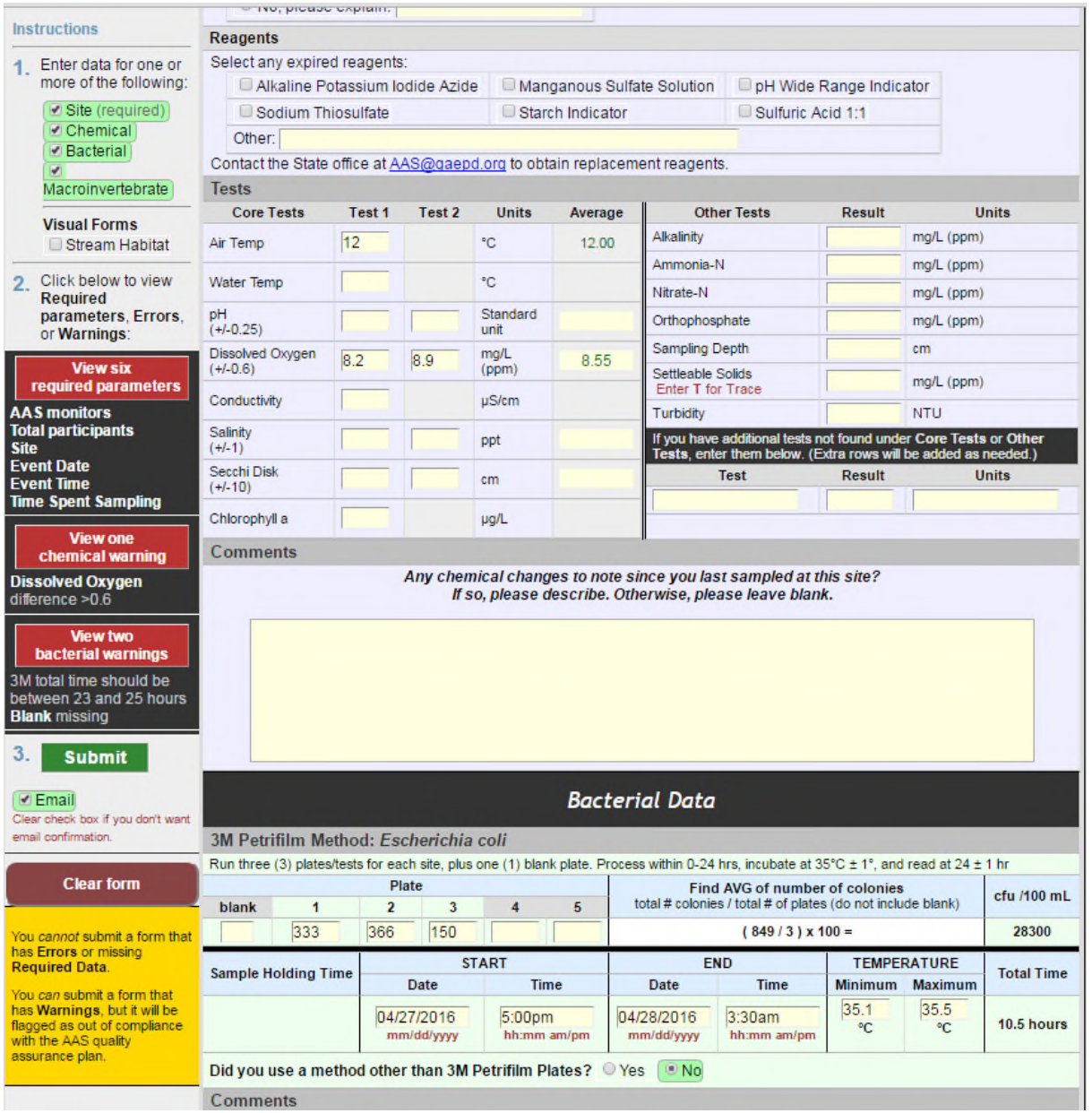


- All data is publicly accessible
- Only certified volunteers can enter data

It's all about the Data

Data Entry Form

- Walks monitor through data entry process
- Built in QA/QC checks
- Flag quality assurance level
- Document monitoring and calibration methods



It’s all about the Data

- As volunteers enter data, **local partners receive real time water quality reports** and can address issues locally as they occur
- Relieves EPD and District Offices of fielding questions/addressing problems
- Reduces staff data entry time
- Improves data capture accuracy and efficiency

Georgia Adopt-A-Stream

GEORGIA'S VOLUNTEER WATER QUALITY MONITORING PROGRAM

WATERSHED PROTECTION BRANCH

Group Information

If this is an existing Adopt-A-Stream Group, select it from the **AAS Group** list.

Otherwise, enter your group's name in the **New Group** field.

AAS Group

New Group

Waterbody type
(stream, wetland, lake, or coastal water)

Waterbody name

Locate your site on the map, or enter the Latitude/Longitude if known.

You can enter **decimal degrees** or **degrees minutes seconds**.
Use spaces to separate degrees, minutes, and seconds.
Omit the negative sign in the longitude.

Latitude +

Longitude –

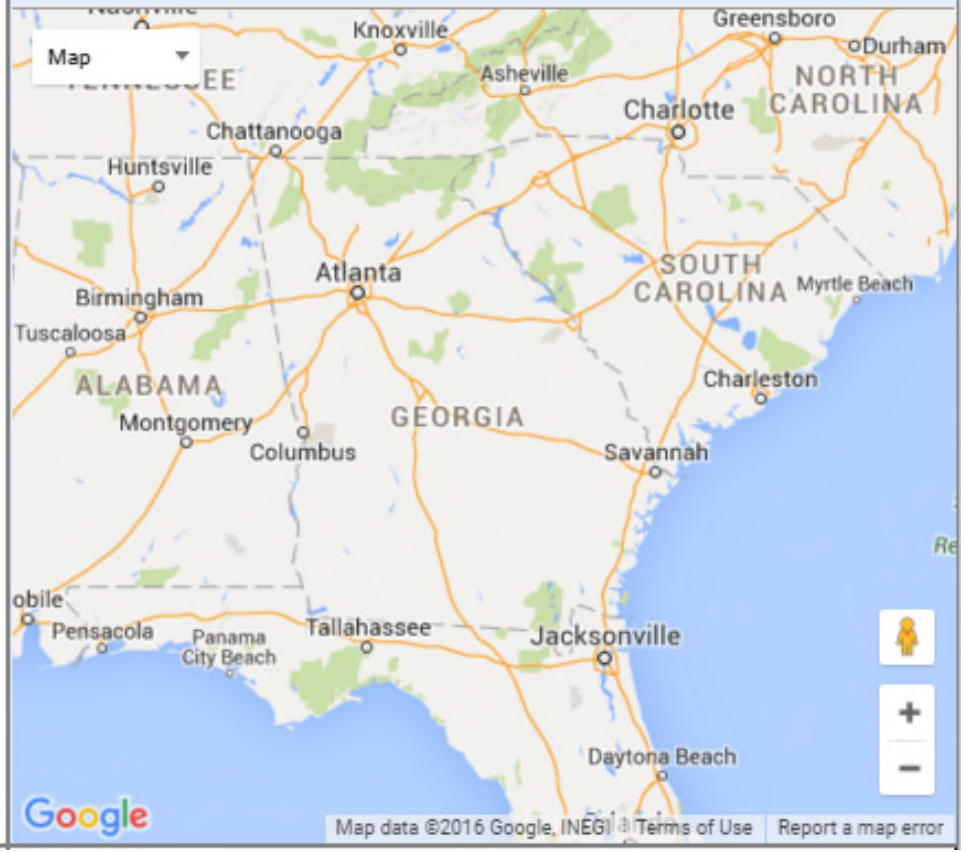
Save to Database

To quickly locate your site, enter a nearby road or address:

Locate

latitude: +031.7841
longitude: -087.3582

Right-click your site to select it:



Adopt-A-Stream | Confluence | Citizen Monitoring | Data Views | Data Entry | Materials & Resources | Contact us | AAS Staff | Hopkins : Sign out

Adopt-A-Stream Workshop Form

Save | Save and Print | Clear form | Instructions

Workshop Participants:

Look up:

New Contact

Trainers:

Trainer 1:
Trainer 2:
Trainer 3:
Trainer 4:
Trainer 5:

Type of workshop:

- (•) Chemical QA/QC
- ( ) Coastal Chemical QA/QC
- ( ) Macroinvertebrate QA/QC
- ( ) Bacterial QA/QC

- ( ) Chemical Trainer
- ( ) Macroinvertebrate Trainer
- ( ) Bacterial Trainer

- ( ) Amphibian Monitoring
- ( ) Freshwater Wetland Monitoring
- ( ) Visual Stream Survey
- ( ) Getting Started
- ( ) Intro to Monitoring

Location:
Date: (mm/dd/yyyy)
Duration: 180 (minutes)

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Announcements

Become an AAS Trainer

Did you know? You can view monitoring data in many different ways through the website. Read more

Apr 27, 2016	Groups	Sites	Events	Data	Volunteers	Newsletters
Currently active	261	705	6003	25362	3006	Jan-Mar 2016
Database totals	827	1985	35744	171302	23977	Archived

Thursday, April 28 | View monthly calendar | Print

Friday, April 29
9:00am Newton Co- Chemical Training

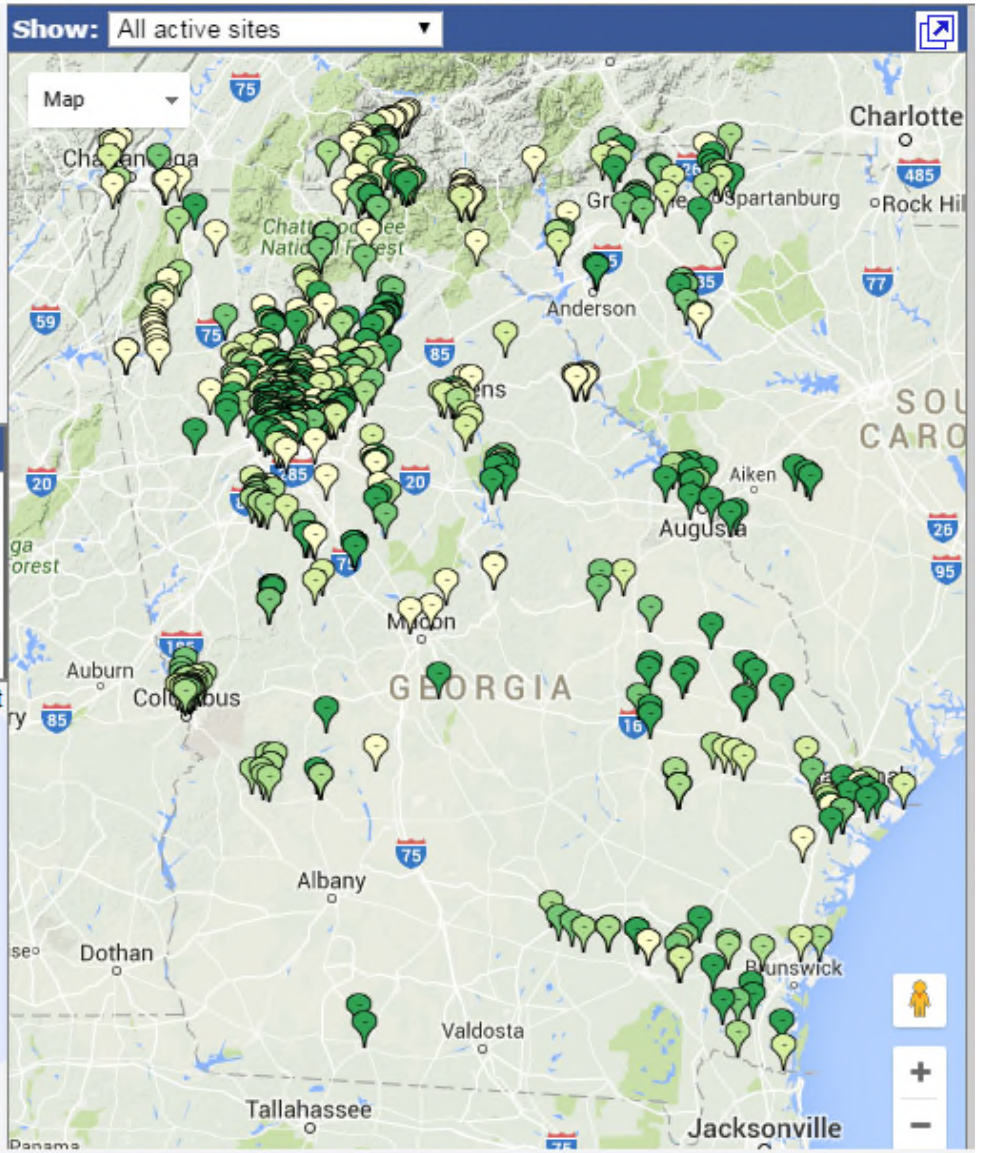
Saturday, May 14
9:00am Towns County Chemical and Bacterial Workshops

Monday, May 16
9:00am Upstate SC Biological Training

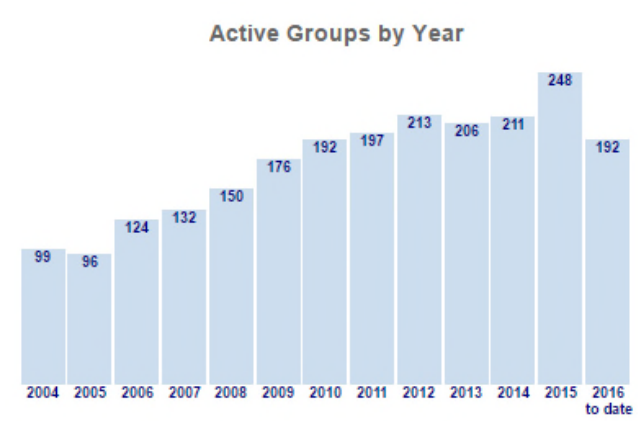
Friday, May 27

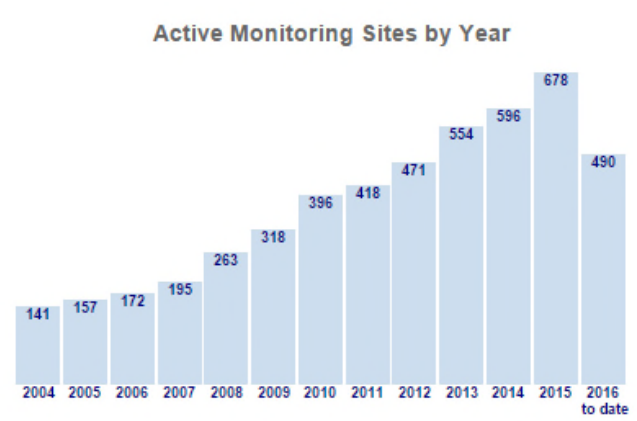
Google Calendar

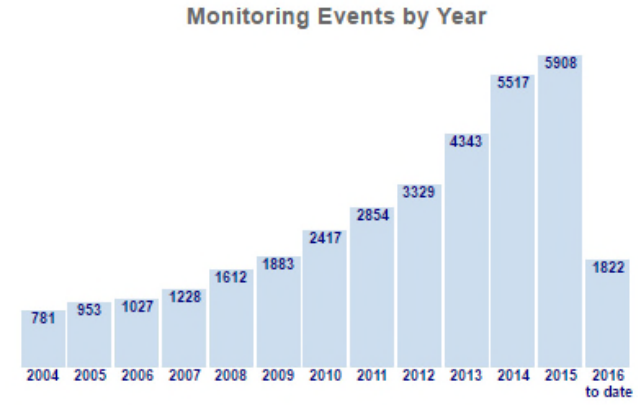
AAS Coordinators and Trainers can post on the calendar. Contact the State Office for more information: aas@gaepd.org.



Success


Active Groups by Year
99
96
124
132
150
176
192
197
213
206
211
248
192
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016 to date


Active Monitoring Sites by Year
141
157
172
195
263
318
396
418
471
554
596
678
490
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016 to date


Monitoring Events by Year
781
953
1027
1228
1612
1883
2417
2854
3329
4343
5517
5908
1822
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016 to date


Certifications Earned by Year
1178
1228
2004
1874
2148
2126
3358
4404
4909
3697
3080
4215
668
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016 to date


Workshops Conducted by Year
143
139
171
220
245
265
360
387
454
431
388
493
115
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016 to date


Active Trainers by Year
32
42
56
50
53
53
54
58
77
60
62
66
50
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016 to date

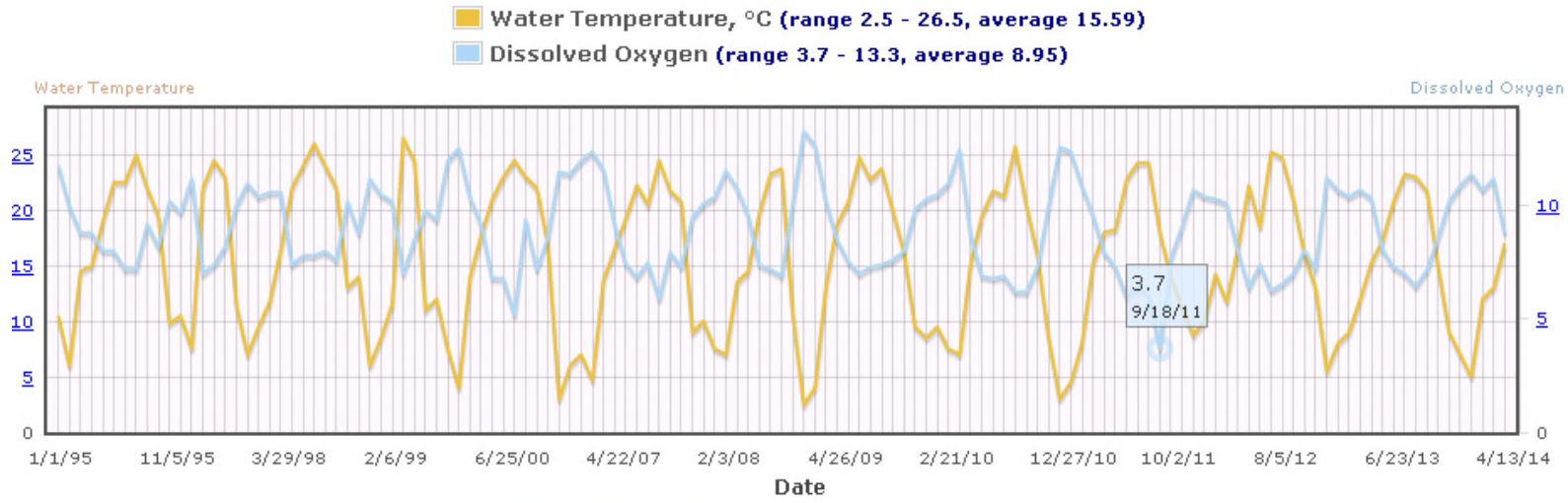
How Is Data Used?

- Trend analysis

- Identify sewage spills, leaking pipes, septic leaks
- Agriculture and forestry BMP and E&S issues
- Permit violations (non compliance, land applications)
- Develop watershed management plans
- Public education, student research, academia

- Data can help drive statewide monitoring plans
- Under a state approved monitoring plan, data can be used for 303(d) list

- Provide a snapshot of what's going on



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Database totals	794	1884	33236	160726	23417	Archived

Dienstag, 15. Dezember — View — Drucken

Termine werden angezeigt ab 15.12.. Frühere Termine suchen

Termine werden angezeigt bis 15.1.. Weitere Termine suchen

Google Kalender

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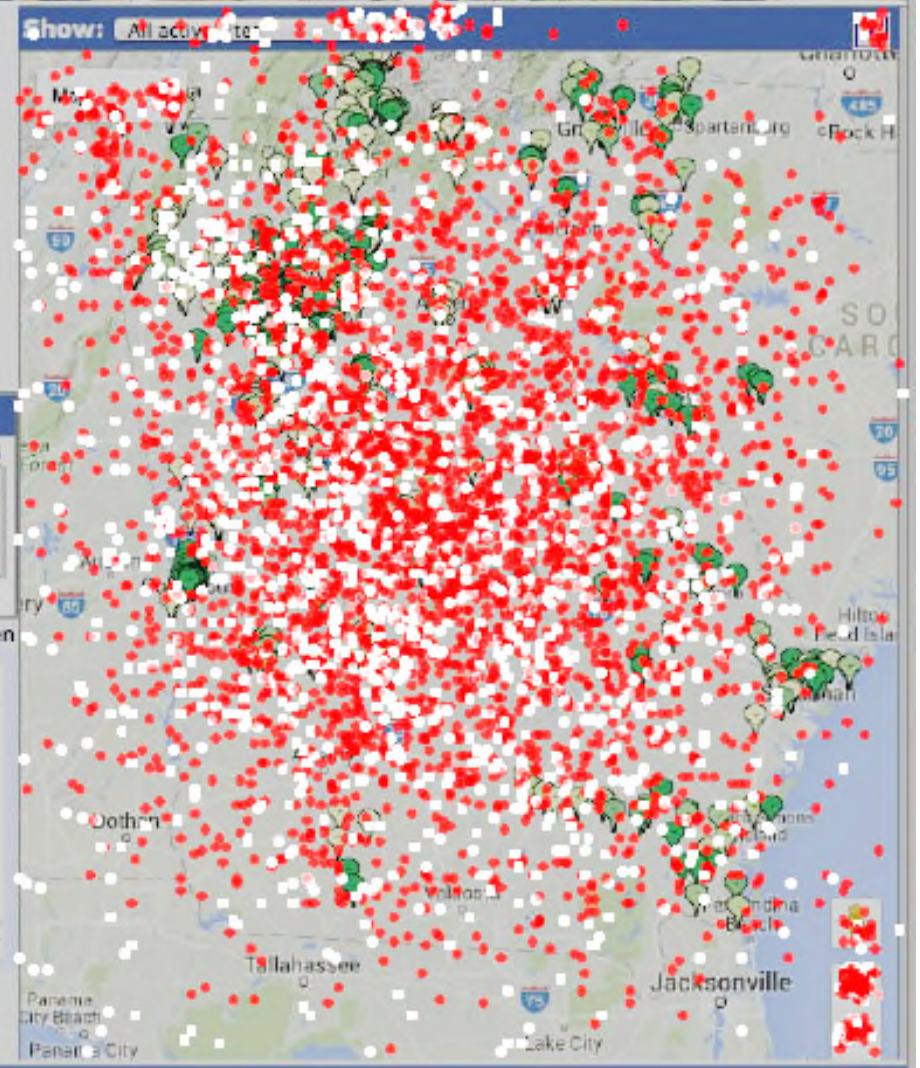

The preparation of this website was financed in part through a grant from the U.S. Environmental Protection Agency under provisions of Section 319(h) of the Federal Clean Water Act of 1987, as amended.

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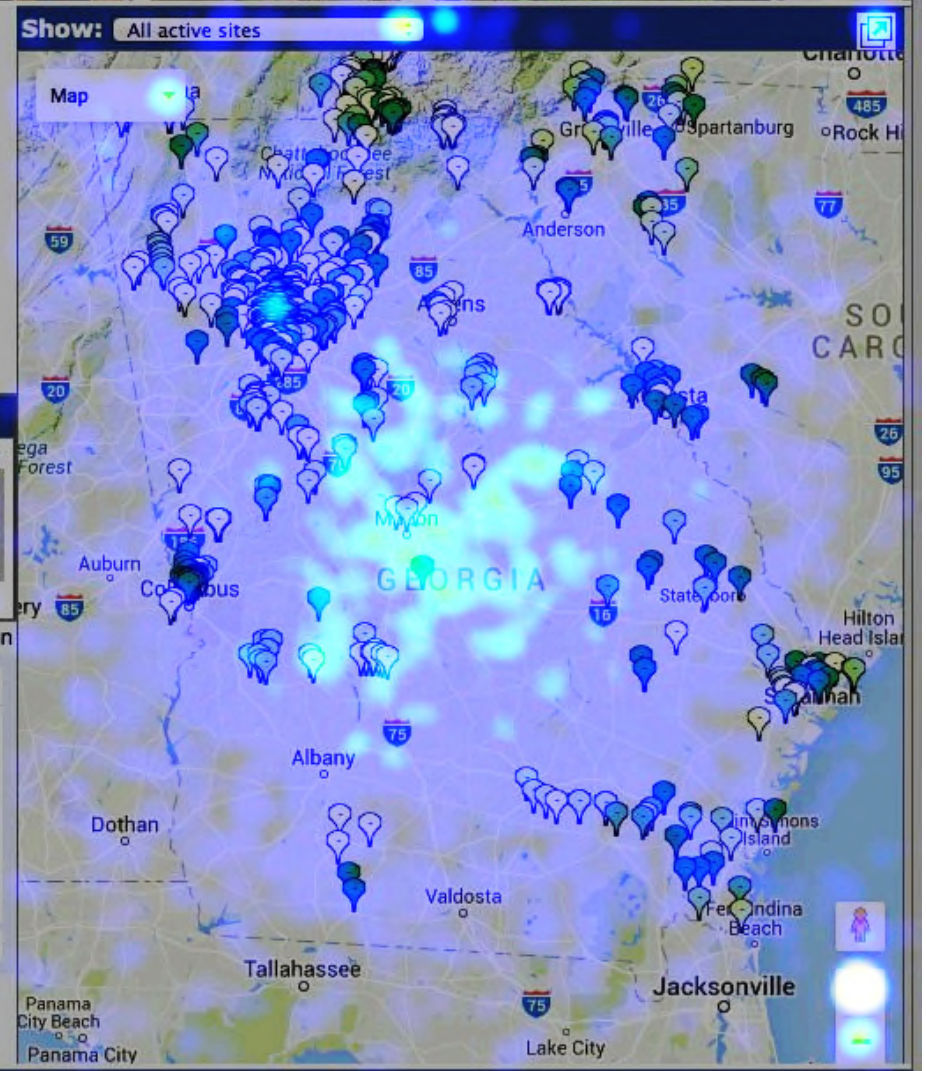

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Conclusion

- The technology is available to create a database to support national and international
- The cost is minimal – 25 to 50 thousand a year
- The impact is significant

But…

- Must be housed in an apolitical, education based NGO
- Must be lead by a consortium of partners
  - EPA, states, watershed groups, etc.

Questions?