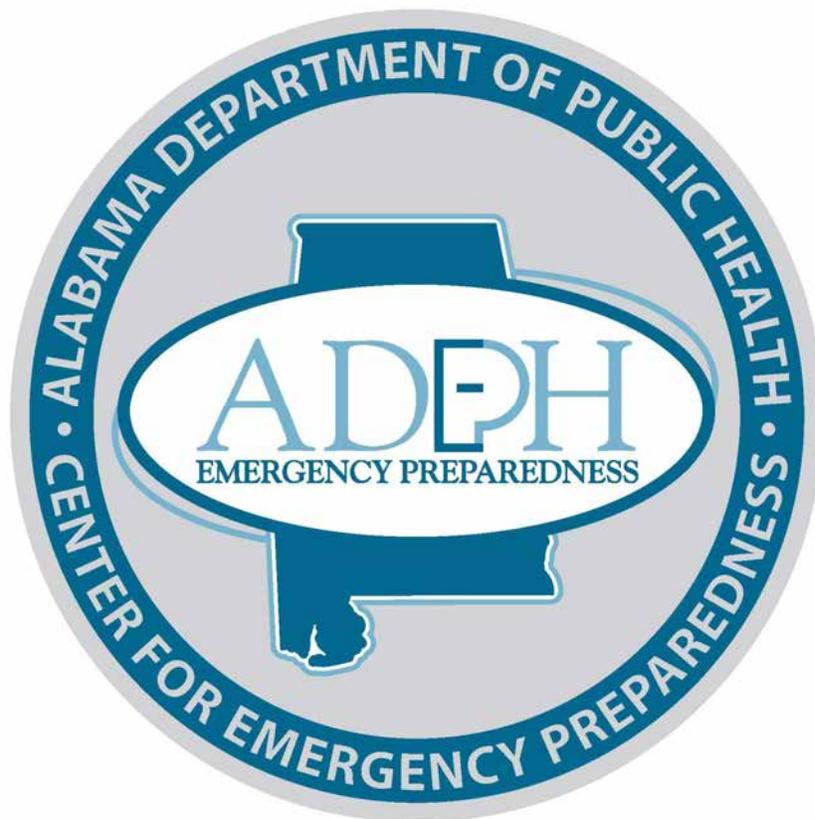


# ASTHO Environmental Public Health Tracking: State-to-State Fellowship Program 2017 – 2018

## FINAL REPORT



**July 13, 2018**

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## **BACKGROUND**

Situated in the southeastern United States, Alabama stretches 330 miles from the Gulf of Mexico to the foothills of the Appalachian Mountains. Alabama has an estimated population of 4.9 million people, many of whom reside in rural areas. Originally an agrarian state, Alabama has blossomed into a state that supports automobile manufacturing, multiple military installations, aerospace industries, mineral extraction, academic research, and healthcare innovations. This expansion has ushered in a global population that lives, works, and visits Alabama. Sharing borders with Florida, Georgia, Mississippi, and Tennessee, Alabama welcomes working professionals and visitors who enjoy leisure activities, as well as cultural and historic landmarks.

The Alabama Department of Public Health (ADPH) is a centralized public health department directed by the State Health Officer and is divided into eight public health districts, each under the direction of a District Health Officer/Administrator. The ADPH central office is divided into multiple bureaus. The Center for Emergency Preparedness (CEP), housed within the Bureau of Prevention, Promotion and Support, coordinates Alabama's health, medical, and social services in the event of public health threats and emergencies. Each of the eight public health districts has an emergency preparedness team devoted to disaster planning. As the lead agency in Emergency Support Function (ESF) 8, ADPH supports healthcare organizations that provide direct patient care in an emergency response.

CEP is funded by two federal cooperative agreements:

- The Hospital Preparedness Program (HPP), through the Assistant Secretary for Preparedness and Response, provides funding to enhance Alabama's health care system capacity and preparedness for naturally occurring disasters or terrorist actions resulting in mass casualties.
- The Public Health Emergency Preparedness (PHEP) cooperative agreement, through the Centers for Disease Control and Prevention (CDC), provides funding for the overall direction and management of the department's assessment, planning, and response to acts of terrorism; outbreaks of disease; and other public health threats and emergencies, such as meteorological, geological, chemical, and radiological disasters.

The current PHEP grant provides some funding for an environmental tracking program. *See grant language below.*

*"PHEP awardees may use PHEP funds to collaborate with the state and local environmental tracking programs to support activities related to environmental public health tracking. Potential areas for collaboration between the PHEP program and environmental health programs include:*

*Identifying and providing essential data (health and environmental), information, and tools and methodologies to help conduct environmental health surveillance, spatial temporal analysis, and data visualization to help key state and local emergency response*

*partners facilitate situational awareness and mitigate negative environmental health effects before, during, and after an emergency response.*

*Improving awareness of local environmental impacts on health among community members and responders before, during, and after an event.*

*Identifying population groups at highest risk for natural, chemical, and radiological events to target preparedness strategies and monitor response and recovery impacts.”*

Home to a robust range of manufacturing, chemical, agricultural, transportation, mining, and petroleum industries, Alabama has a heightened risk of environmental health hazards. Unfortunately, Alabama has experienced both accidental and deliberate releases of chemicals into the environment. In 2010, the Deepwater Horizon Oil Spill revealed that residents and visitors to our coastal region are concerned about environmental conditions and how contaminants could affect their short and long-term health. It became apparent that ADPH needed to expand its ability to address resident and visitor concerns with regards to air and water quality, as well as other environmental factors. To accomplish this goal, ADPH surveyed other states to determine the most effective mechanism to provide environmental public health tracking information to the public. Our determination was the use of an interactive website, though implementation of GIS, will allow us to use tiles and overlays to help users pinpoint areas of concern and become informed as to the risks and conditions present. Participating in the Association of State and Territorial Health Officials (ASTHO) Environmental Public Health Tracking (EPHT) State-to-State Peer Fellowship program was a catalyst in advancing our program.

Alabama experiences frequent severe weather conditions that damage infrastructure and leads to the introduction of construction materials and coatings into the environment that contain known human carcinogens and other compounds detrimental to human health. Furthermore, ADPH's environmental public health responsibilities include planning for and responding to emergency situations that affect food, water, waste, indoor air, vector control, and sheltering. There are other areas of environmental public health work, which are not currently funded or mandated under current state law. The ASTHO EPHT State-to-State Peer Fellowship helped CEP gain critical firsthand knowledge needed to expand our environmental public health mission and sharpen our focus beginning with year one of the five-year PHEP grant cycle (2019-2024).

## **INTRODUCTION**

In the fall of 2017, ADPH was made aware of ASTHO EPHT State-to-State Fellowship Program. ADPH applied for the Fellowship in October 2017, and was awarded entrance into the program on November 13, 2017. We were very excited to learn that our FEMA Region IV partner and close neighbor Florida would serve as our mentor. The similarities in culture, climate, risks and response arena were a huge benefit and helped to accelerate the introductions and working relationships. As a seasoned EPHT state, Florida was well versed in the successes and failures for a new program as they have been tracking since 2004.

There were several mentor/mentee calls to plan a site visit. The dates of March 27-28, 2018, were agreed upon and an agenda was set (see Appendix A). ADPH had its first EPHT Workgroup meeting on January 29, 2018, with nine people in attendance representing five separate offices within the department. Members from CEP, Epidemiology, Environmental Health, Disease Control and Information Technology were present. Background information on EPHT was presented, goals were discussed, and action items were assigned.

## **MENTORSHIP**

From March 27-28, 2018, the ADPH Fellow visited the state of Florida, which has implemented the EPHT program since 2004. ADPH currently has a good working relationship with the state of Florida through the FEMA Region IV Unified Planning Coalition. ADPH staff reviewed the Florida EPHT portal prior to their visit and was interested in how Florida had developed and implemented their portal. The overall impression of the Florida EPHT Program was very favorable. The site visit was well planned by Chris DuClos (Florida) and Samantha Williams (ASTHO). All aspects of the EPHT program were presented and discussed with the ADPH Fellow in person and a select few ADPH staff via teleconference during the two-day site visit.

On the first day, Chris DuClos and other Florida Department of Health Staff covered the following topics:

- Overview of EPHT in Florida
- Zika, Preparedness and EH
- Network Organization and EPHT Information Technology
- GIS
- Web Portal Demonstration
- Building Partnerships

The second day covered:

- Making Tracking Data Useful
- Communication & Outreach
- Web Portal Demonstration
- Wrap Up Q&A

The site visit was a superb learning experience. The materials presented and expertise of Florida's EPHT Program staff were outstanding. The Florida program is well developed and contains a large amount of information. At several points during the visit, challenges and solutions were discussed in context of portal development and data use/sharing. These discussions were of great value to the ADPH Fellow. It was also evident that different skill sets, in the form of database management, programming, and marketing are required to bring the portal online and maintain it.

The implementation of an EPHT portal by ADPH will be a challenge. Unlike Florida, ADPH is not integrated with its environmental monitoring and regulatory agency. Those functions are managed by the Alabama Department of Environmental Management (ADEM). While ADPH and ADEM have an excellent working relationship, it will take time to create data sharing agreements and establish databases that provide the required information while protecting

personal information. Informal discussions of the EPHT Program have taken place, and the potential partner agencies are interested in learning more. ADPH is a full partner and liaison agency with our Fusion Center, a part of the Alabama Law Enforcement Agency, and it is hoped that we can develop data sharing agreements here as well.

## **FELLOWSHIP PROJECT**

Although the Deepwater Horizon Oil Spill occurred nearly a decade ago, it remains a tragic event that affected four states and hundreds of thousands of people on the northern Gulf of Mexico. Residents and visitors to our coastal region were deeply concerned and very interested in the current environmental conditions and how contaminants could affect their short and long-term health. ADPH did maintain a section of its website for information pertaining to the oil spill, but it did not have air or water data to accompany it. On March 7, 2012, we developed and launched a Coastal Conditions webpage that drew from federal, state, and local sources of data. This webpage, <http://www.alabamapublichealth.gov/infectiousdiseases/coastal-conditions.html>, and the resulting partnerships formed with the coastal municipalities, such as Gulf Shores and Orange Beach, have set the stage for a relationship in data sharing and ultimately environmental health tracking in these communities.

### **Coastal Conditions**



This Website gives our residents and visitors easy access to Alabama's coastal conditions, health and environmental data, to enhance your coastal stay.

#### **1. Advisories**

Advisories provide current information to ensure a safe visit to Alabama's coast. From weather to beach to boating, you'll be informed of conditions as you plan your stay. Select the topic below to get information about current advisories.

- [AL Boating Safety](#) (ADCNR/MRD)
- [2018 AL Marine Information Calendar](#) (ADCNR)
- [Weather and Storms](#) (NOAA-NWS)
- [National Hurricane Center](#) (NOAA)
- [Rip Current](#) (NOAA)
- [UV Index](#) (EPA)

#### **2. Food**

Dining on seafood is a an essential experience while visiting our coast, whether catching and cooking it yourself or being served in a restaurant. To discover the benefits of eating seafood, as well health and environmental considerations, select the topic below.

- [AL Seafood Testing Results](#) (ADAI/ADCNR/ADPH)
- [AL Food Establishment Scores](#) (ADPH)
- [Saltwater Fishing in Alabama](#) (ADCNR)
- [Selecting and Serving Seafood Safety](#) (FDA)
- [Shellfish Poisoning](#) (NIH-Medline Plus)
- [Shellfish Consumer Information](#) (ISSC)

#### **3. Air**

Air quality can affect your coastal activities, especially if you have allergies or general pulmonary issues. Select the topic below to learn more.

- [AL Daily Air Quality](#) (ADEM)
- [Allergy and Pollen Count](#) (The Weather Channel)
- [Air Quality Index](#) (AIRNow)
- [Air Pollutants](#) (EPA)

#### **4. Water**

Without clean water, coastal activities may cause health issues. To learn more select topic below.

- [AL Beach Monitoring and Water Quality Summary](#) (ADEM/ADPH)

The data accessible from the webpage include air, water, and coastal data, in addition to air data derived from the US EPA and NOAA sources. These were data that are not currently captured by state agencies, such as pollen counts and weather. Additional water conditions, such as tidal conditions, were added from NOAA and local sources (the municipalities of Gulf Shores and Orange Beach). As of June 30, 2018, we have had 4,258 visits to the website. The website does not currently allow for interactive capability or database access, and we are exploring ways to address this. The goal of the project was to establish a webpage that could be used by residents and visitors to obtain up-to-date information on coastal conditions. The initial benefit of the webpage has been to link data sources from the different agencies into one page that make it easier for residents and visitors to access. We expect to utilize user feedback to better organize the materials and data for additional ease of use.

The webpage is an initial attempt to begin integrating existing federal and state environmental data with data captured by ADPH personnel. As this data is routinely collected and posted, maintaining these data on the website is not an issue. As is, the webpage can be maintained with little effort. However, after viewing the CDC EPHT portal and other state portals, ADPH is interested in developing the drop down menu capabilities as well as mapping/GIS functions. However, ADPH is currently limited to a minimalist approach to its website. ADPH's website information must be able to be accessed by the slowest internet connection. After consulting with the EPHT staff in Florida, there may be a way to expand our capability, but will require further discussion with ADPH IT managers and the State Health Officer. The portal can also be used to make data available to county health department personnel via a secure portal.

## **FUTURE ACTIVITIES**

Currently, our future goals are to maintain the Coastal Conditions webpage and continue to add content. We will consult with our IT managers and website developers to determine how to add drop down menus and searchable database capabilities. We expect to consult with our peer state and other regional states that have implemented the EPHT Program, such as South Carolina, and Louisiana. We have good working relationships with these states, and they have expressed a willingness to assist us. We will also apply for CDC EPHT grant opportunities when they are available. In addition, ADPH is planning the creation of a GIS Office that would assist with various projects and programs. ADPH intends to participate in regional and national EPHT workgroups, webinars, meetings and ultimately apply to become a CDC Tracking Program Grantee by 2020. With our CDC BP1-Supplemental grant award, ADPH is planning to purchase and utilize ESRI GIS mainly for our epidemiology staff and their Zika virus tracking efforts. However, our EPHT Workgroup has already been in contact to become a part of the GIS Users Group and work collaboratively to build this functionality throughout ADPH. It is also the intention of ADPH to become a partner (to the extent to which we are able and still adhere to HIPPA laws) in GIS, data sharing and EPHT.

## **CONCLUSION**

Often last to the table, Alabama is catching up to other states when it comes to the tracking of environmental health data. The participation of ADPH in the ASTHO EPHT State-to-State Peer Fellowship program has been of great benefit, and we are grateful of the opportunity to

participate. The EPHT Program is an excellent way to present data of interest to the public and speed up information requests from Alabama residents. In health management, we are often told that data drives policy and data drives budgets. This is very true but as W. Edward Deming once said, “In God we trust, all others must provide data.” In the current climate and peering into the future, those who use and understand environmental health data will save lives and protect our fragile environment.

## **REFERENCES**

Florida Environmental Health Tracking – <http://www.floridatracking.com>

Florida Department of Health – <http://www.floridahealth.gov>

CDC, National Environmental Public Health Tracking – <https://www.cdc.gov/ncchd/tracking>

South Carolina EPHT – <http://www.scdhec.gov/epht>

Louisiana Department of Health EPHT – <http://www.ldh.la.gov/epht>

Alabama Coastal Conditions - <http://www.alabamapublichealth.gov/infectiousdiseases/coastal-conditions>

Alabama Department of Environmental Management – eMaps Portal for Beaches  
<http://aldem.maps.arcgis.com/apps/webappviewer/index.html?id=e5b6ee63a2df45f187832d492bdb2298>

ASTHO EPHTN - <http://www.astho.org/Programs/Environmental-Health/Tracking-Environmental-Health-Hazards>

Jerrett, Michael and Zhou, Ying; Linking Exposure and Health in Environmental Public Health Tracking. *Environmental Health Research*. Volume 134, pages 1-496 (October 2014)

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Burt, Preston and DeWitt, Shannon; Environmental Information for Everyone. *The Journal of Environmental Health*. Volume 77, Number 7 (March 2015)

*A Guide to Environmental Public Health Tracking*. The Centers for Disease Control and Prevention. 2010

*Introduction to GIS using ESRI ArcGIS Desktop*. MIT Library Brief. January 2013

*ArcGIS Desktop 10 Training Workbook*. Rice University’s Fondren Library. ESRI 2012.

## ACKNOWLEDGEMENTS AND APPRECIATION

Alabama would like to thank ASTHO and Samantha Williams specifically for the opportunity to participate in this program and to obtain a firm understanding of what environmental public health tracking is all about. This fellowship has given us the spark needed to venture into this new arena of public health and it is greatly appreciated. The network of EPHT States and their collaboration with the CDC's National Center for Environmental Health have set the stage for advancements in how environmental health practitioners complete their mission on a daily basis.

Special thanks to our mentor state of Florida and especially the individuals below:

<u>Topic</u>	<u>Name of Speaker</u>	<u>Affiliation</u>
Beach Water Quality	David Polk	Bureau of Environmental Health
Preparedness and EH	Michael Mitchell	Bureau of Environmental Health
Arbovirus Surveillance (Zika)	Andrea Morrison	Bureau of Epidemiology
Arbovirus Surveillance (Zika)	Danielle Stanek	Bureau of Epidemiology
<b>EPHT and GIS</b>	<b>Chris DuClos</b>	<b>Public Health Research, EPHT Program</b>
PI for EPHT	Melissa Jordan	Director of Public Health Research
EPHT Database Manager	John Folsom	Public Health Research, EPHT Program
EPHT Web Application Developer	Huiyuan Zhang	Public Health Research, EPHT Program
Aquatic Toxins and BG Algae	Andy Reich	Bureau of Environmental Health
Environmental Health	Kendra Goff	Chief - Bureau of Environmental Health
Environmental Health - Tox Section	Elke Ursin	Bureau of Environmental Health
Environmental Health - Air Quality	Tim Wallace	Bureau of Environmental Health
Environmental Health - Chemical and CO Poisoning	Prakash Mulay	Bureau of Epidemiology
EPHT Senior Environmental Epidemiologist	Keshia Reid	Public Health Research, EPHT Program

This effort would not have been a success without the tireless efforts of EPHT and GIS Manager Chris DuClos. THANK YOU CHRIS!

Appreciation is expressed to Andy Mullins, CEP Director, for his letter of support and backing throughout the fellowship. In addition, CEP's Preparedness Field Assignee from the CDC, Aminata Dumbuya, deserves a huge thank you for her assistance from the application to the workgroup to the final report.

## APPENDIX-A

### Environmental Public Health Tracking ASTHO Peer-to-Peer Fellowship Program

#### Florida DOH Site Visit Agenda

**Dates: March 27-28, 2018**

**Location: Florida Department of Health HQ  
2585 Merchants Row Blvd  
Tallahassee, FL 32311**

**Day 1 – 3/27 (All Times Eastern) Conference call # 1-888-670-3525, passcode 853-485-3749**

<b>I.</b>	<b>Introductions: Florida’s Tracking Team</b>	<b>Time</b>	<b>Location</b>
	<ul style="list-style-type: none"> <li>• Welcome from Executive Staff</li> <li>• Introductions and review of agenda               <ul style="list-style-type: none"> <li>○ Overview of Tracking in Florida</li> <li>○ Staffing plan and network organization</li> <li>○ EPHT data priority areas</li> </ul> </li> <li>• Overview of Alabama’s project and goals               <ul style="list-style-type: none"> <li>○ Preparedness</li> <li>○ Coastal Issues</li> <li>○ GIS Mapping</li> </ul> </li> </ul>	<b>8:30am</b>	Conf Room 135Q, Prather Building
<b>II.</b>	<b>BREAK</b>	<b>10:00am</b>	
<b>III.</b>	<b>Building Partnerships</b> <ul style="list-style-type: none"> <li>• Technical Advisory Group in Florida</li> <li>• Data custodians and sharing agreements</li> <li>• EH connections (e.g. drinking water, beach water quality)</li> <li>• Challenges/Solutions: Lessons Learned</li> </ul>	<b>10:15am</b>	Conf Room 135Q, Prather
<b>IV.</b>	<b>Preparedness, Zika, and Environmental Health</b> <ul style="list-style-type: none"> <li>• EH Preparedness efforts (building knowledge and capacity)</li> <li>• Disaster response and EH (hurricanes, oil spill, CO Poisoning etc.)</li> <li>• Zika response – looking back at 2016</li> </ul>	<b>11:00am</b>	Conf Room 135Q, Prather Building
<b>V.</b>	<b>LUNCH – TBD</b>	<b>12:00pm</b>	
<b>VI.</b>	<b>Geographic Information Systems (GIS)</b> <ul style="list-style-type: none"> <li>• Development of GIS capacity, including funding</li> <li>• Examples of using GIS for EH and Preparedness</li> <li>• Future applications of GIS technology, esp. Online</li> </ul>	<b>1:30pm</b>	Conf Room 135Q
<b>VII.</b>	<b>BREAK</b>	<b>2:45pm</b>	
<b>VIII.</b>	<b>EPHT Information Technology</b> <ul style="list-style-type: none"> <li>• Decision process for IT aspects of Portal</li> <li>• Florida’s Tracking Network design and applications</li> <li>• Challenges/Solutions: Lessons Learned</li> </ul>	<b>3:00pm</b>	Conf Room 135Q
<b>IX.</b>	<b>Web Portal Demonstration</b> <ul style="list-style-type: none"> <li>• Key Features and latest enhancements to Florida Tracking Network dashboard</li> <li>• Mapping applications – making data available at geographic levels</li> <li>• Challenges/Solutions: Lessons Learned</li> </ul>	<b>3:30pm to 4:30pm</b>	Conf Room 135Q

	<u>Time</u>	<u>Location</u>
<b>I. Making Data Useful</b> <ul style="list-style-type: none"> <li>• Importance of having good data <ul style="list-style-type: none"> <li>○ Addressing gaps in data</li> <li>○ Avoiding duplication of records</li> <li>○ Suppressing sensitive data</li> <li>○ Indicators, metadata, FAQs</li> </ul> </li> <li>• Visualizing data (benefits, advantages, limitations)</li> <li>• Data rerelease and confidentiality measures</li> <li>• Data Sharing Agreements and MOUs</li> <li>• Challenges/Solutions: Lessons Learned</li> </ul>	<b>8:30am</b>	Conf Room 135Q
<b>II. BREAK</b>	<b>10:00am</b>	
<b>III. Communication and Outreach</b> <ul style="list-style-type: none"> <li>• Messaging and risk communication</li> <li>• Outreach and education strategies</li> <li>• Examples of materials and campaigns from FL</li> </ul>	<b>10:15am</b>	Conf Room 135Q
<b>IV. Q&amp;A – Wrap Up: Making the Connections</b> <ul style="list-style-type: none"> <li>• Laying the foundation for EPHT <ul style="list-style-type: none"> <li>○ Modeling EPHT architecture around Alabama’s needs and priorities</li> </ul> </li> <li>• Review of Alabama’s plans and next steps</li> </ul>	<b>11:00am</b>	Conf Room 135Q

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APPENDIX B

**Alabama Department of Public Health  
Environmental Public Health Tracking Network  
Initial Planning Meeting  
January 29, 2018**

- I. Welcome
- II. Introductions
- III. Presentation
  - Environmental Public Health Tracking
    - i. ADPH Public Health Tracking Program
    - ii. Workgroup development
    - iii. ASTHO fellowship
    - iv. Project overview
- IV. Discussion
  - Pilot project & feedback
- V. Next Steps
  - Site visit
  - Follow up meeting
- VI. Conclusion