

NIDIS Drought Early Warning Pilot in the Apalachicola, Chattahoochee, and Flint River Basin: Evaluation of Activities and Outcomes

In 2012, as a result of webinar participation and other NIDIS activities:

- 88% of survey respondents said they had shared information that they learned as a result of NIDIS activities with another person
- 77% had communicated or collaborated with other drought professionals across disciplines, sectors, or regions
- 38% had used the information to help formulate a drought-related strategy
- 27% had made, confirmed, or changed a decision based on participation in a NIDIS activity
- 19% had helped implement a drought-related strategy, plan, program, or initiative

Over 80% of respondents said participation in NIDIS activities had increased their:

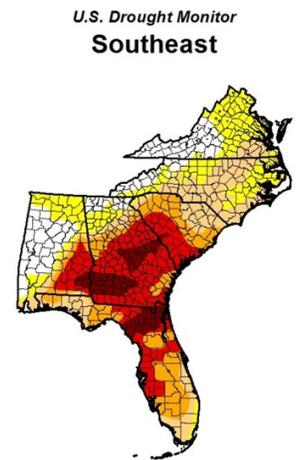
- understanding of where to find and how to use drought and water supply information,
- ability to incorporate drought and water supply information into decisions, and
- interest in using drought and water supply information to make decisions

The National Integrated Drought Information System (NIDIS) regional drought early warning system (RDEWS) pilots were developed to explore and demonstrate a variety of early warning and drought risk reduction strategies in partnership with users and federal, state, regional, tribal, and local agencies. One of the pilot RDEWS is located in the Apalachicola-Chattahoochee-Flint (ACF) River Basin.

The ACF River Basin's headwaters are found in Georgia, and the basin incorporates parts of southeastern Alabama and the panhandle of Florida. Competing needs in the ACF basin include water demands for the rapidly growing Atlanta

metropolitan area, demands for irrigation in southwestern Georgia, municipal water supplies for small towns throughout the basin, and recreational and transportation needs. The presence of ecologically sensitive fish and mussels in the Flint River and the oyster industry at the mouth of the basin further add to water allocation conflicts.

The region experienced drought from 2006 to 2008, and again between 2011 and 2013. The NIDIS ACF DEWS pilot was launched in December 2009, with a series of stakeholder meetings that illuminated a need for communication and education around drought. The RDEWS implemented regular



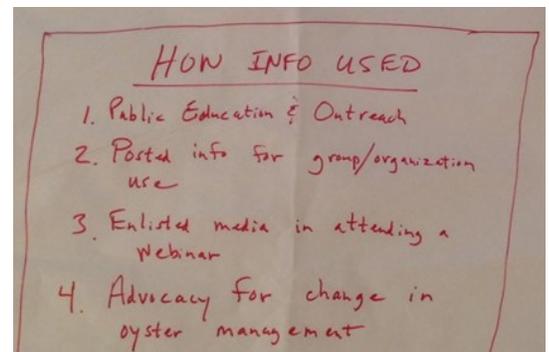
drought assessment webinars in early 2011, through which drought and water supply information is presented for a wide range of stakeholders who are able to question experts directly regarding drought monitoring and predictions. Webinar summaries are sent to over 200 stakeholders.

Evaluation Methods

NIDIS requires evaluation of its pilots in order to determine whether efforts should move from the prototype stage to fully-fledged regional drought early warning information systems. The results of evaluation directly inform that process and future improvements in NIDIS.

NIDIS partnered with the National Drought Mitigation Center (NDMC) to gather evaluation data through a survey of stakeholders in 2012 (35 respondents, 17% response rate), interviews with state agency and water management stakeholders (6 participants) and focus groups with 28 members of the ACF Stakeholders (acfstakeholders.org) in 2014. Evaluation participants represented state agencies (agriculture, environment, and fish and wildlife) in all three states; regional and county water authorities;

city governments including Gainesville and Atlanta, GA; federal agencies such as U.S. Geological Survey and Centers for Disease Control and Prevention; river and watershed non-governmental organizations; energy and engineering companies; agricultural and seafood producers; lake and recreation associations; and researchers.



Big paper notes from 2014 focus group.

In 2014, stakeholders reported using NIDIS webinar information for the following:

- Education and outreach
"[I have a] better understanding of drought impact throughout the ACF Basin and how it impacts other stakeholders"
- As a conduit for trans-basin, cross-sector and cross-scale communication
"The benefit of large, basin-wide forums is important to communication and collaboration among large, varied stakeholder groups with many different needs."
- Support of research, monitoring, and habitat conservation efforts by state agencies
"...does it look like we're starting to get a high probability of oyster predators or oyster diseases...So [we] can be prepared."
- State policy-making
"[Alabama] has used information from NIDIS in our push to develop a comprehensive water management plan for [the state]."

Evaluation participants saw a gap in the current use of NIDIS information, with regard to management-related decisions, particularly outside of agriculture.

"... if I'm a marina operator, am I going to change something? Am I going to invest something? Am I going to make a business decision based upon the drought coming up? I do that on the day of, not the 6 months before."

Participants said that NIDIS is considered a trusted and unbiased source of information, the information was appropriate and useful, covering the whole basin benefits people's awareness and communication, and the format of the information makes it easy to share and read later.

"When you started putting the webinar information into the powerpoints and the bulletins and the summaries, that made it very easy for me to just shoot it out and basically say here's just the topical overview summary and here's the link if you want to take a look at the actual webinar."

Recommendations

1. Broader public awareness of NIDIS resources

"...I'm not sure who outside of the group knows about [NIDIS information], down to the actual public getting this information and using it."

Opportunities for expanding NIDIS's audience may include work with state and local governments, regional commissions of counties, state agencies, fisheries management councils, water management districts, extension, master gardeners, NRCS, utilities, and agricultural producers.

2. Improvements to information/ additional research

Stakeholders would like to see improvement in the predictive quality of drought information, as well as research on local impacts of drought, because of the complexity of ecological systems in the ACF basin.

3. Tailoring webinar content to stakeholder needs

"The webinars and all the information to some extent is pretty science heavy. And that could be a deterrent..."

Additional focus is needed on communicating climate science, translating information to users' language, and tailoring the information to specific audiences (agriculture, shellfish/ fisheries, municipal water, etc.).

4. Education

Webinars could include education about the skill of forecasts and how to appropriately use them, how ecological (freshwater and marine) systems are impacted by drought, and how management of water upstream affects the rest of the basin.

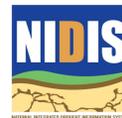
5. Planning/ drought management/ adaptive management

"... ultimately it takes the managers of the resource to say we know the impact, there is going to be an impact so we need to proactively change the management. So it's that last step there that needs to maybe be better developed or supported by science."

Lacking inter-basin regulatory authority, entities may need assistance in understanding how to plan for and manage drought. The process of developing a drought plan may help individuals, businesses, agencies, local governments, and others better understand their drought impacts and identify appropriate management actions and triggers of those actions. NIDIS might also work with the Corps to tie predictive drought information into their operations plan.

To receive webinar announcements, send a request to reuteem@auburn.edu. To view previous webinar summaries, visit <http://www.drought.gov/drought/regional-programs/acfrb/acfrb-home> and choose from the list on the right side of the page.

Partners in the webinar series include Southeast Climate Consortium members, National Weather Service Southeast River Forecast Center, US Geological Survey, Georgia Water Science Center, US Army Corps of Engineers Mobile District, and the Florida Department of Environmental Protection.



National Integrated Drought Information System

www.drought.gov



Southeast Climate Consortium



Apalachicola National Estuarine Research Reserve



US Army Corps of Engineers



Evaluation Contacts:

Tonya Haigh, NDMC, thaigh2@unl.edu
Lisa Darby, NOAA, lisa.darby@noaa.gov
Nicole Wall, NDMC, nwall2@unl.edu
Deborah Bathke, NDMC, dbathke2@unl.edu