National Integrated Drought Information System
NIDIS

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NIDIS

Outline

• What is NIDIS?
• Recent NIDIS publications
• Carolinas Coastal Ecosystems Drought Early Warning Information System
  • Drought Indicators and Indices
  • Seafood Safety Forecast
  • Drought Forecasting
  • Drought Impact Reporting
• Next Steps
National Integrated Drought Information System

What is NIDIS?

- Multi-agency program with the goal of establishing a national drought early warning information system
  - Program Office located at NOAA/ESRL in Boulder
- Supports drought research
- Establishes regional drought early warning systems
- Holds drought outlook workshops (regional and national)
- Supports a drought portal – www.drought.gov
- Established by Public Law 109-430 (The NIDIS Act of 2006)

“Enable the Nation to move from a reactive to a more proactive approach to managing drought risks and impacts”

“…better informed and more timely drought-related decisions leading to reduced impacts and costs…”
NIDIS Objectives

Create a drought early warning **information** system

- **Coordinate** national drought monitoring and forecasting systems

- Provide an **interactive drought information clearinghouse** and delivery system for products and services—including an internet portal and standardized products (databases, forecasts, Geographic Information Systems (GIS), maps, etc)

- Design mechanisms for **improving and incorporating information** to support coordinated preparedness and planning
Following talks…
Keith Ingram – ACF
Chad McNutt – Southern Plains
Drought Early Warning

“An early warning system is designed to identify climate and water supply trends and thus to detect the emergence or probability of the occurrence and likely severity of drought. This information can reduce impacts if delivered to decision makers in a timely and appropriate format and if mitigation measures and preparedness plans are in place (WMO). With careful coordination at local, regional and national levels, stakeholders can monitor various early warning indicators and implement more efficient and effective drought-relief interventions.”

http://www.agriskmanagementforum.org/farmd/

• Monitoring
  • Hydrological and Meteorological
    • Climatology or Historical Context
  • Forecasts/Outlooks
    • Drought onset, intensification, or recovery
    • Knowledge of teleconnections (e.g., ENSO)
• Drought management triggers
  • Assumes a drought plan is in place
• Anticipated drought impacts
• Effective communication with stakeholders
Recent NIDIS Publications
NIDIS Carolinas Coastal Ecosystems  
Drought Early Warning  
Information System  

Kirstin Dow  
Kirsten Lackstrom  
Amanda Brennan  

http://www.cisa.sc.edu/
CISA’s Work to Support NIDIS

Spring 2010
• Stakeholder workshops held to identify needs for a drought early warning system
  • Municipal water supplies
  • Coastal ecosystems

State of Knowledge Report
• *The Impact of Drought on Coastal Ecosystems in the Carolinas* (Gilbert et al., 2012 – can be downloaded from www.drought.gov)
Spring 2012
• Informal discussions at the NOAA in the Carolinas meeting at Fort Johnson, March 15, 2012
• Steering committee meeting at Fort Johnson, May 1, 2012
• Identified interested organizations, agencies, and individuals for the scoping workshop

July 31 – August 1, 2012 ~ Wilmington, NC
• Drought Early Warning System Scoping Workshop
• Goal: To develop pilot project ideas for a drought early warning system for coastal ecosystems in the Carolinas
Agencies represented at our Wilmington Workshop

- Audubon South Carolina
- Beaufort-Jasper Water & Sewer Authority
- DOI Southeast Climate Science Center*
- East Carolina University
- Gullah/Geechee Nation
- Lumbee Tribe of North Carolina
- National Climatic Data Center
- National Drought Mitigation Center*
- NC Coastal Reserve & National Estuarine Research Reserve
- NC DENR, Division of Coastal Management
- NC DENR, Division of Water Resources
- NC Department of Health & Human Services, Division of Public Health
- NC Department of Public Safety, Division of Emergency Management
- NC Sea Grant*
- NC State Climate Office*
- NC Water Resources Research Institute
- NOAA Center for Coastal Environmental Health & Biomolecular Research*
- NOAA Fisheries, Southeast Regional Office*
- NOAA National Centers for Coastal Ocean Science, Center for Human Health Risk*
- NOAA National Weather Service
- NOAA Regional Climate Services, Eastern Region*
- NOAA Southeast and Caribbean Regional Team*
- North Inlet - Winyah Bay National Estuarine Research Reserve
- Pocosin Lakes National Wildlife Refuge
- South Atlantic Landscape Conservation Cooperative
- SC Sea Grant Consortium*
- SC State Climate Office*
- Southeast Regional Climate Science Center*
- The Nature Conservancy, NC & SC*
- US Army Corps of Engineers
- US EPA, Region 4*
- UNC Wilmington, Center for Marine Science
- USC Public Health Research Center, Dept. of Environmental Health Sciences
- US Fish & Wildlife Service, SC Coastal Program*
- US Fish & Wildlife Services, SC Lowcountry Refuges Complex*
- US Marine Corps, Camp Lejeune
- USGS NC Water Science Center
- USGS SC Water Science Center*

* Steering Committee Member Organization
Scoping Workshop

- Speaker presentations to discuss implications of drought in coastal ecosystems
  - Public lands & drought
  - Ecological and human health during drought
  - Salinity intrusion associated with drought
  - North Carolina’s drought response
  - South Carolina’s drought response

- World Café style breakout sessions to brainstorm pilot project ideas

- Participants used the Turning Technologies Audience Response System to vote for pilot project ideas

- 4 projects were chosen to move forward
Evaluation of Drought Indicators & Indices

Project Goals

- Determine which current drought indicators and indices are appropriate for assessing drought in coastal ecosystems.

- Investigate the benefits and feasibility of creating a drought index based on real-time salinity data.

- Collaborate with work being done on the North American Drought Indices and Definitions Study.

Development of a salinity index based on real-time USGS data – Paul Conrads USGS
Seafood Safety Forecast

Project Goal

• Provide an early warning system for commercial, recreational and subsistence fishermen who harvest drought-sensitive seafood in both fresh and salt waters in the coastal regions of the Carolinas
  • Vibrios – contaminates shellfish
  • HABs
  • “Drought buster” events
  • Outreach
Drought Forecasting Communications

Project Goals

- Introduce stakeholders to current products used for drought forecasting, step them through the process of how a drought outlook is prepared, and educate them on the caveats and uncertainties in the outlook.
- Ascertain what additional drought forecasting products stakeholders need and what time scales are of most interest to them.
Drought Impacts Reporting

Project Goal

• How does drought affect coastal ecosystems and the people who live there and make their living there? We will assess ways in which drought impacts might be monitored through stakeholders and citizen science engagement and investigate ways to improve the communication of coastal ecosystem drought impacts.

Related activity:
Cross-RISA Drought Impact Reporting Workshop
March 2013 in Tucson, AZ
• Summary in the works
• Build a community of practice
• You will hear more tomorrow….
Next Steps

• The Wilmington Scoping workshop report is available online
• For each pilot project:
  • Steering committee conference calls have begun
  • Specific sectors and geographic focus areas are being refined
    • Beaufort County (SC)
  • Descriptions posted online
• Potential partnerships and existing resources are being identified
• Project action plans are being developed
Thank you
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