

NIDIS CAROLINAS DROUGHT FORECASTING FOR COASTAL ECOSYSTEMS

NOTE: *This project description is expected to evolve as we gather more expert and stakeholder input.*

Committee:

- Bob Boyd, Division of Emergency Management, NC Dept. of Public Safety
- Ryan Boyles, State Climate Office of North Carolina, North Carolina State University
- Michael Childress, Dept. of Biological Sciences, Clemson University
- Hope Mizzell, South Carolina State Climatology Office
- Michael Slattery, South Carolina Sea Grant Consortium, Burroughs and Chapin Center for Marine and Wetland studies, Coastal Carolina University

Goals: (1) 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 outlooks; and (2) Ascertain what additional drought forecasting products stakeholders need and what time scales are of most interest to them.

Background: Numerous drought, hydrometeorological and climate products are available to stakeholders. However, stakeholders may not be aware of all the products that are available, may not have the products they need to make decisions (the regional or temporal scale may not be adequate), or may not know the best way to tailor the products to their region or situation.

Questions to Consider and Participant Comments:

1. Participants recommended that a stakeholder needs assessment might be the first step in development of this pilot project. Questions to be answered through the assessment would include:
 - What drought forecast and outlook products are people currently using? What drought forecasting gaps need to be filled?
 - What are the time scales for information needs? Are there certain times of the year that people need the forecast information to plan ahead for drought? What validation period is most needed (e.g., daily, weekly, monthly, seasonally)?
 - What are the needs for the various sectors in coastal ecosystems (e.g., public land managers vs. fisherman)?
2. Participants also noted the potentially strong outreach component of this project.
 - Determination of the best lines of communication with various stakeholder groups might also be a part of the initial needs assessment.
 - Conveyance of the uncertainty in forecast and outlook products to end-users was also a consideration noted by workshop participants.
3. The possibility of tying model output to drought indices was also raised during the full group discussion of this pilot project.

- Participants suggested the possibility of using forecast model output (e.g. the National Digital Forecast Database) as well as any other weather forecast resources, in addition to atmospheric and hydrological data, as inputs to specific drought index calculations (such as SPI, PDSI, and KBDI) to create a ‘drought’ forecast for the coastal Carolinas ecosystem.

Potential partnerships:

North Carolina Drought Management Advisory Council
South Carolina Drought Response Committee
NOAA/NWS/Southeast River Forecast Center
NOAA/Climate Prediction Center

Synergies with other NIDIS-Carolinas projects:

Seafood Safety Forecast – products needed, timing of products, etc.
Drought Impacts – relating drought impacts to drought forecast products
Drought Indicators and Indices – relating drought indicators and indices to drought forecast products

Next steps:

Establish a steering committee
Steering committee planning calls and brainstorming
Refine the attached questions / Decide which questions to address