NC STATE UNIVERSITY

Drought Communications Webinar

Project Nighthawk Team:

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NORTH CAROLINA CLIMATE OFFICE

CISA A NOAA RISA TEAM

NOAA

NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM NIDIS

PROJECT NIGHTHAWK

Webinar Purpose and Agenda

Purpose:

Better understand current processes, needs, and challenges with communications about drought, and how our project can support these.

Agenda:

- Introduce Project
- Discussion

Introductions

Project Team

North Carolina Climate Office, NOAA's Carolinas Integrated Sciences and Assessments

NOAA's Sectoral Applications Research Program (SARP)
"Coping with Drought in Support of the National Integrated Drought Information System (NIDIS)"
Competition

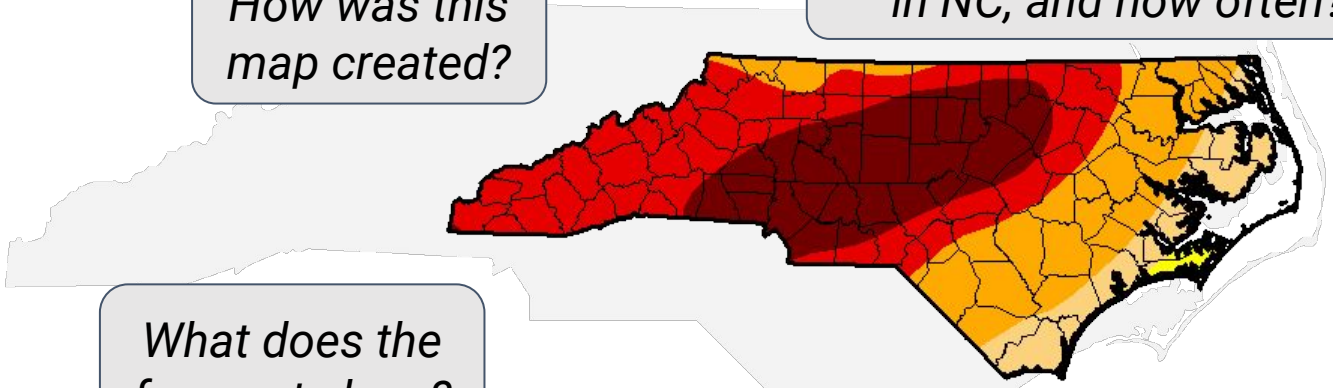
Invited Webinar Participants

PWC Fayetteville's Hometown Utility
Greenville Utilities
Greensboro North Carolina
CapeFear Public Utility Authority
OWASA
City of Burlington Water Resources
City of Durham
Charlotte Water
Town of Cary
Winston-Salem / Forsyth County Utilities — Water • Wastewater • Solid Waste
Raleigh
High Point — North Carolina's International City
Duke Energy

Project Background

How was this map created?

Who is discussing drought in NC, and how often?



*How is this affecting **my** sector?*

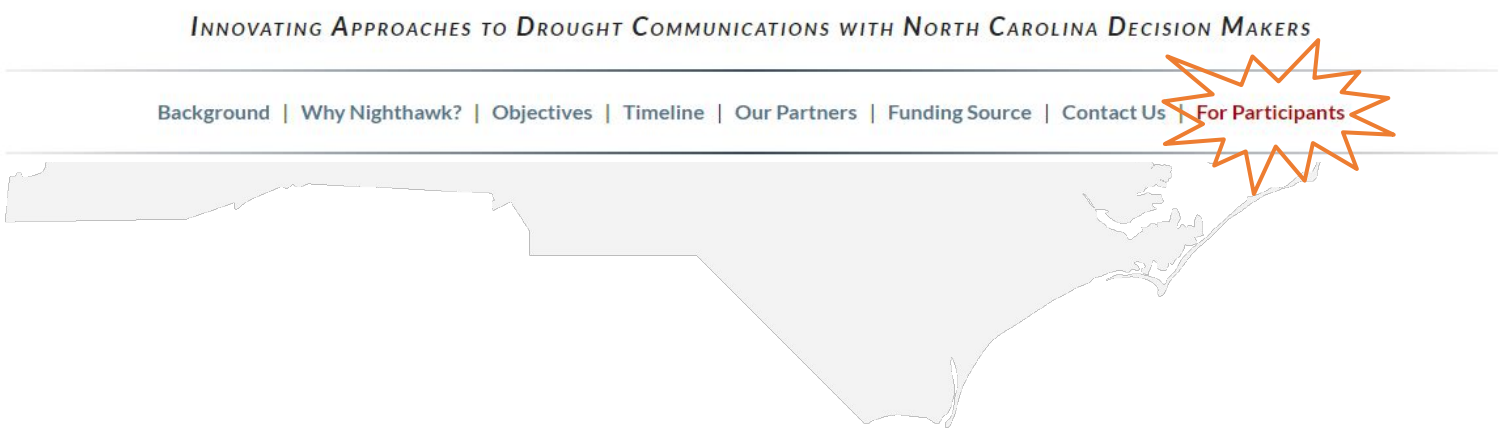
What does the forecast show?

*Why doesn't this map reflect conditions I'm seeing in **my** area?*

How can I find out about local conditions?

Informed Consent

More information at ***http://climate.ncsu.edu/nighthawk***



When do you communicate about drought to your customers and/or communities that you serve?

When do you communicate about drought?

When you anticipate that drought might affect your water system or community?

Only when your water system is affected?

Do you ever communicate about drought when you are not in drought?

How do you communicate about drought to your customers and/or communities that you serve?

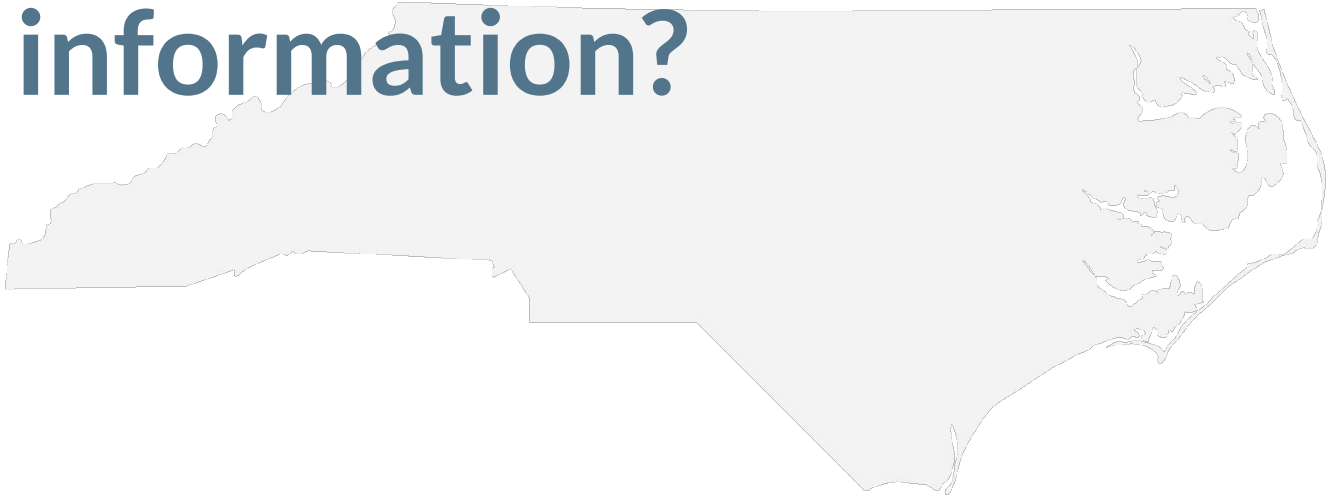
What works best for your community?

How do you communicate about drought?

Through social media, mailers, website, broadcast TV, local newspapers?

Do you provide information about drought as a weather/climate event, or do you primarily focus on water system conditions?

Where do you look for drought information?



Where do you look for drought information?

Do you know where to look, or would you like assistance with this?

NORTH CAROLINA
Drought Management Advisory Council

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US Drought Monitor of NORTH CAROLINA

November 20, 2018
Valid 8 a.m. EDT

Drought Classifications

- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought

County Boundaries Major River Basins (View Map)
S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
L = Long-Term, typically >6 months (e.g. hydrology, ecology)
Hi-Resolution Image | Print Version |

Released: November 22, 2018

No drought advisories are currently issued in North Carolina.

Counties Under Current Advisory

No drought advisories are currently issued in North Carolina.

North Carolina
Drought Management Advisory Council

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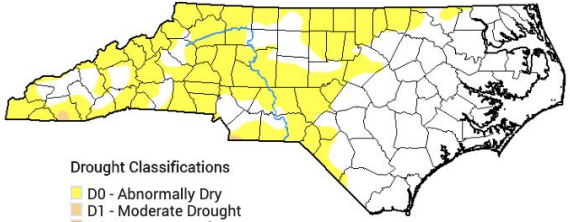
Current Conditions

as of September 17, 2019 at 8am ET

US Drought Monitor of
North Carolina



Drought Classifications

- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought

S - Short-Term impacts, typically less than 6 months (e.g. agriculture, grasslands)
L - Long-Term impacts, typically greater than 6 months (e.g. hydrology, ecology)

North Carolina Drought Advisory

The North Carolina Drought Advisory issued by the Drought Management Advisory Council has been updated to reflect drought conditions on September 17, 2019 indicated on the weekly U.S. Drought Monitor of North Carolina.

Until further notice, the NC DMAC strongly urges the implementation of the following drought response actions - in addition to previous advisories - for all water users located in or dependent on water resources from the areas of the state experiencing the following drought conditions:

D0 - Abnormally Dry - Abnormally Dry

- Review and be prepared to implement your Water Shortage Response Plans at

D0 - Abnormally Dry

Alamance
Alexander
Alleghany
Anson
Ashe
Avery
Buncombe
Burke
Cabarrus
Caldwell
Caswell
Catawba
Chatham
Cherokee
Clay
Cleveland
Davidson
Davie
Durham
Gaston
Graham
Granville
Haywood
Henderson
Hoke
Iredell
Jackson
Lee
Lincoln
Macon
Madison
McDowell
Mitchell
Montgomery
Moore
Northampton

Where do you look for drought information?

Do you look at information and/or impacts from other sectors, such as agriculture, forestry, wildfires?

Where do you look for drought information?

Do you look at information and/or impacts about other places, such as conditions in neighboring basins, or upstream/downstream from your area?

What drought-related questions do customers ask you?

What drought-related questions do customers ask you?

Are questions more about response (e.g., conservation practices)?

Do you receive questions about the event itself (e.g., when will it end)?

Do you have the information or resources you need to answer those types of questions?

What **challenges** do you face in communicating about drought?

New Resources

- Infographics to accompany the weekly drought map
- Short-range outlooks for the next month
- Background information about the drought monitoring process and the NC DMAC

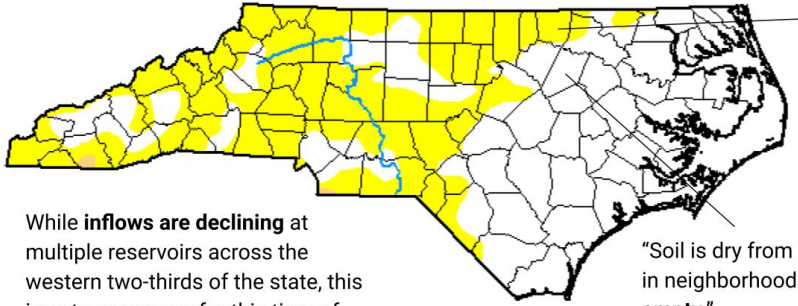
*How can these help with **your** drought communications?*

North Carolina Drought Update

For the week ending September 17, 2019

This Week's Drought Monitor of North Carolina Map

From the US Drought Monitor, authored by Eric Luebehusen (*U.S. Dept. of Agriculture*) with input from the North Carolina Drought Management Advisory Council (ncdrought.org)



The **7-day average streamflows** in the northern Piedmont and Coastal Plain are dropping to **below normal levels**.

While **inflows are declining** at multiple reservoirs across the western two-thirds of the state, this is not uncommon for this time of year. Operators are monitoring conditions closely.

"Soil is dry from lack of rainfall. The ponds in neighborhoods are **drying up or already empty**."

- *CoCoRaHS Condition Monitoring Report, Nash County*

Last Week's Drought Map

	DROUGHT				
	Abnormally Dry (D0)	Moderate (D1)	Severe (D2)	Extreme (D3)	Exceptional (D4)
Coverage This Week	43.14%	0.29%	0.00%	0.00%	0.00%
(Change Since Last Week)	(+26.22%)	(+0.29%)			

Notes about this week's drought map

- Increasing short term dryness has led to the **expansion of D0** (Abnormally Dry conditions) across most of central and western North Carolina this week.
- Over the past 7 days, much of the Piedmont received **little to no rainfall**, while portions of the Mountains received up to 3 inches. Rainfall was sparse across the Coastal Plain and was limited to around 0.3 inches in places that saw anything.
- Forecasts indicate we may be **continuing our dry spell**. While fall-like temperatures are expected by this weekend, the state is unlikely to see much precipitation in the next week.

A Product of **Project Nighthawk**

https://climate.ncsu.edu/nighthawk

Short-Range Outlooks for North Carolina

Week 1: July 25-31

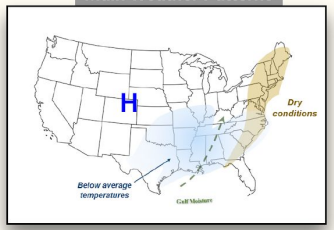
Forecast Confidence

A potential cold frontal passage next Wednesday is decreasing the overall forecast confidence for this week

Our relief from the heat will be short-lived. Near-normal highs in the upper 80s will last through the weekend, but temperatures will be back in the low to mid 90s next week.

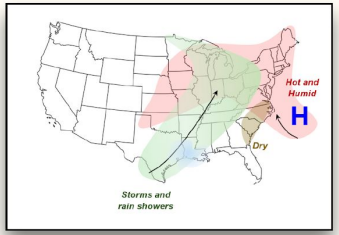
High pressure moving to our north will help **the US east coast stay dry.** Gulf moisture moving inland could fuel some showers in southeast North Carolina early next week.

Main Weather Patterns



Forecast guidance from the NWS Climate Prediction Center

Week 2: August 1-7



Forecast guidance from the NWS Climate Prediction Center

Forecast Confidence

It's likely to be a warm week, but will it be a wet one? That all depends on how much Gulf moisture moves into North Carolina.

As high pressure shifts offshore, southerly winds **will put us back in a warmer pattern** like we've seen for much of the summer.

Those same southerly winds could bring in moisture from the Gulf of Mexico, **so parts of the state could see showers and storms return.**

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http://climate.ncsu.edu/nighthawk

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About

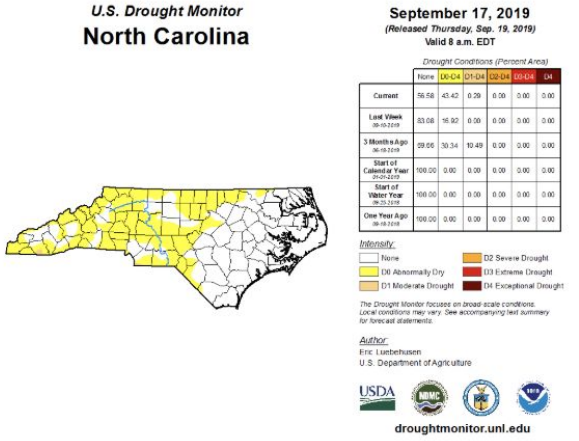
esri

DMAC Weekly Process

Take an in-depth look into the processes and methods of the North Carolina Drought Management Advisory Council (DMAC) and their role in the United States Drought Monitor (USDM).

Each Thursday morning a new map is published depicting

esri A Story Map



[text version]

http://www.ncdrought.org/about

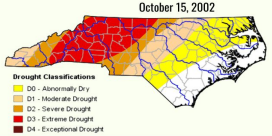
North Carolina Drought Management Advisory Council History

A main purpose of the DMAC is to provide consistent and accurate information on drought conditions in the state to the U.S. Drought Monitor, the Environmental Management Commission, the Secretary of the Department of Environment and Natural Resources, the Environmental Review Commission, and the public.

1998-2003 Drought

Statewide drought heavily impacted the forestry and agriculture industries. More than 200 municipalities were under some sort of water conservation efforts.

October 15, 2002



2007-2008 Drought

North Carolina experienced one of the worst droughts in its modern history. At its peak in December 2007, the US Drought Monitor classified 66% of the state in Exceptional Drought. Visible impacts could be seen across NC, such as low levels in Falls Lake (pictured below, image from Southeast Regional Climate Center).

1992 — **Formation of NC Drought Monitoring Council**
The Drought Monitoring Council, an inter-agency coordination, is created in 1992.

1999 — **Creation of the US Drought Monitor**
The US Drought Monitor was created in 1999; the Drought Monitoring Council began offering USDM authors local and state-level input.

2002 — **Drought Monitoring Council is Recognized**
The NC General Assembly gives the Drought Monitoring Council an official statutory base and changes its name to the North Carolina **Drought Management Advisory Council (DMAC)** to reflect its broader role, which extends beyond monitoring drought conditions. The Chair of the Council is a member of the Department of Environmental Quality designated by the Department.

2003 — **A New Role**
A new statute charged the DMAC with issuing official state drought advisories based on technical data to address varying conditions throughout NC.

2004 — **Annual Reports**
The General Assembly began requiring the Council to submit an annual activities report to the Secretary, the Governor, and the Environmental Review Commission. The report includes a review of the Council's activities and recommendations to improve coordination.

2008 — **New Participants**
The NC legislature passed a law geared toward improving drought preparedness and response, which included defining the DMAC's membership. Various groups were invited to send a representative to serve on the council due to their expertise in areas relevant for drought monitoring.

Who serves on the NC DMAC?

NC Environmental Quality · TVA · Duke Energy · NC Cooperative Extension · NC A&T State University · NC State University · North Carolina Climate Office · USGS science for a changing world · US Army Corps of Engineers · North Carolina Forest Service · National Weather Service

What's next?

We will...

- Send a follow-up email
- Continue creating infographics
  - Weekly-to-monthly basis
  - Share these with interested folks

Thank you!

https://climate.ncsu.edu/nighthawk