



Spring & Summer 2022 Outlook

StormReady Update & Program Changes



Nicholas Petro – NWS Raleigh NC
Phil Hysell - NWS Blacksburg VA
Trisha Palmer – NWS Greenville/Spartanburg SC
Erik Heden – NWS Morehead City NC
Anthony Cavallucci – NWS Morristown TN
Eric Seymour, NWS Wakefield VA
Steve Pfaff - NWS Wilmington NC



Yadkin County StormReady Recognition

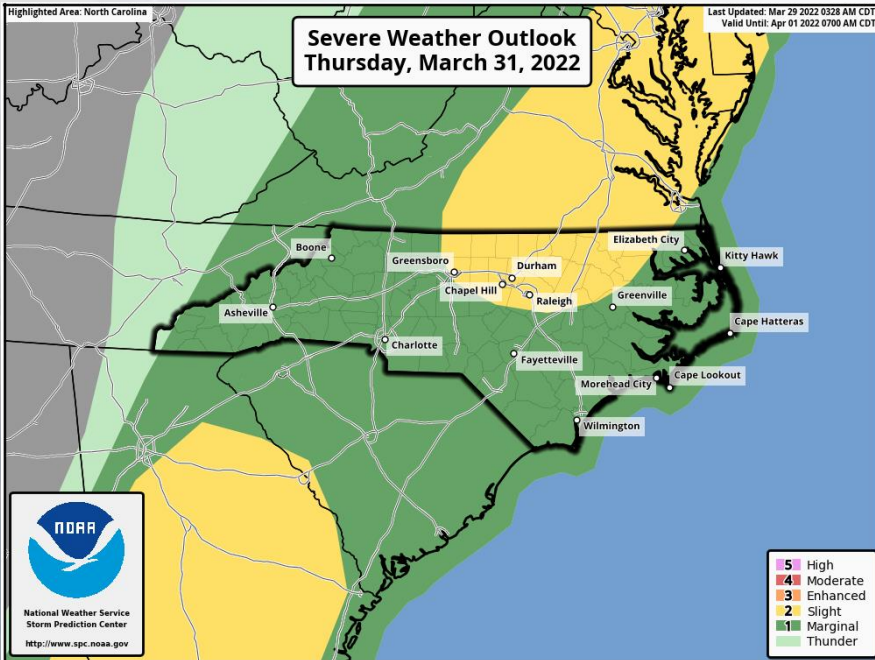


Building a Weather-Ready Nation

Weather.gov

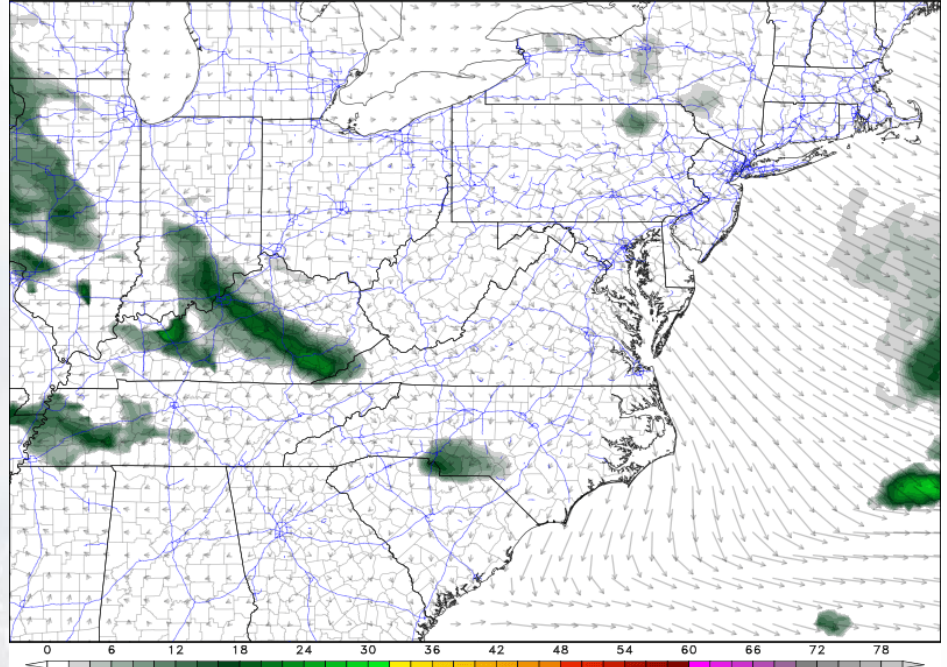


Late-Week Weather



Composite RADAR Reflectivity Factor (dBZ) | College of DuPage NEXLAB

06Z NAM | F000 Valid: 06Z TUE MAR 29 2022



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Outlook for this Spring and Summer

Spring Weather Hazards

- Rip Currents & Beach Hazards
- Tornadoes
- Thunderstorms
- Lightning
- Flooding
- Tsunamis
- Heat



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North Carolina Drought Update

For the assessment period ending March 22, 2022

This Week's Drought Monitor of North Carolina Map

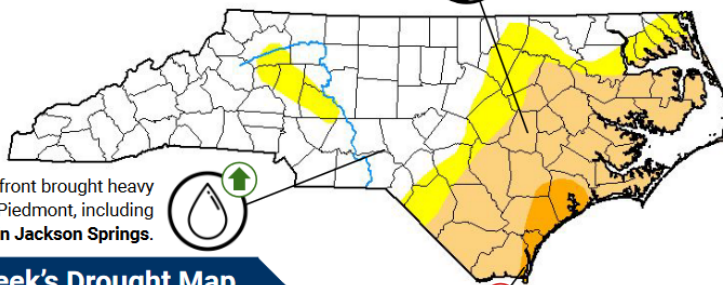
From the US Drought Monitor, authored by Adam Hartman (NOAA/NWS/NCEP/CPC) with input from the North Carolina Drought Management Advisory Council (ncdrought.org)



Field conditions are normal to wet in the Mountains and Piedmont, but **subsoil moisture is lacking along the coast**, which could delay corn planting.



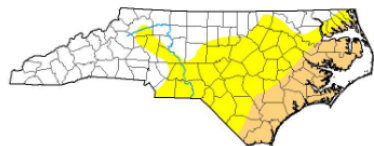
Streamflows are mostly below normal in the lower Cape Fear, Neuse, and Tar River basins where Moderate Drought (D1) is now present.



Last week's front brought heavy rain in the Piedmont, including 2.86 inches in Jackson Springs.



Last Week's Drought Map



Ponds and wetlands near Carolina Beach have dried up, and the **Southport groundwater well is below its historical 10th percentile** for March.

This infographic was created by



NORTH CAROLINA
CLIMATE OFFICE

Statewide Condition Summary

What's Changed? Last week's rain improved conditions across the Piedmont, but drought has expanded in the Coastal Plain and Severe Drought (D2) has re-emerged.

What's New? Last Tuesday and Wednesday, more than 2 inches of rain fell in the southern and eastern Piedmont, but areas along and east of I-95 had next to no rain. That has created a sharp west-to-east divide between normal to wet areas and those slipping deeper into drought.

What's Next? Showers and storms will cross eastern NC today before skies clear tomorrow and give way to cooler highs in the upper 50s and low 60s this weekend. Rain chances are minimal through the middle of next week.

Statewide Coverage By Category

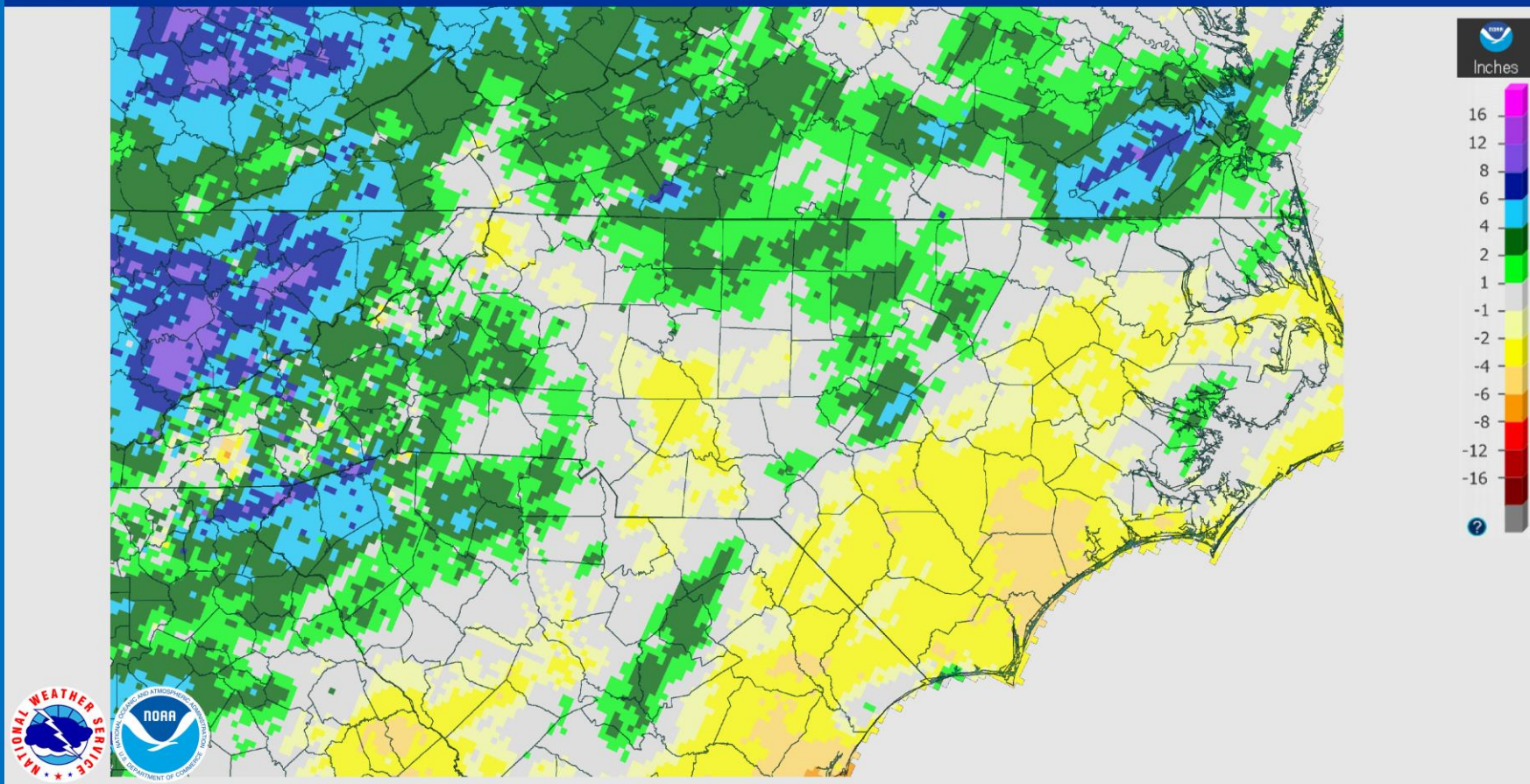
Category	Coverage This Week	Change Since Last Week
D0: Abnormally Dry	13.39%	-24.54%
D1: Moderate Drought	27.50%	+7.29%
D2: Severe Drought	2.85%	+2.85%
D3: Extreme Drought	0.00%	0.00%
D4: Exceptional Drought	0.00%	0.00%

March 26, 2022 90-Day Departure Precipitation

Created on: March 26, 2022 - 21:45 UTC

Valid on: March 26, 2022 12:00 UTC

These maps are updated daily at water.weather.gov



NATIONAL WEATHER SERVICE

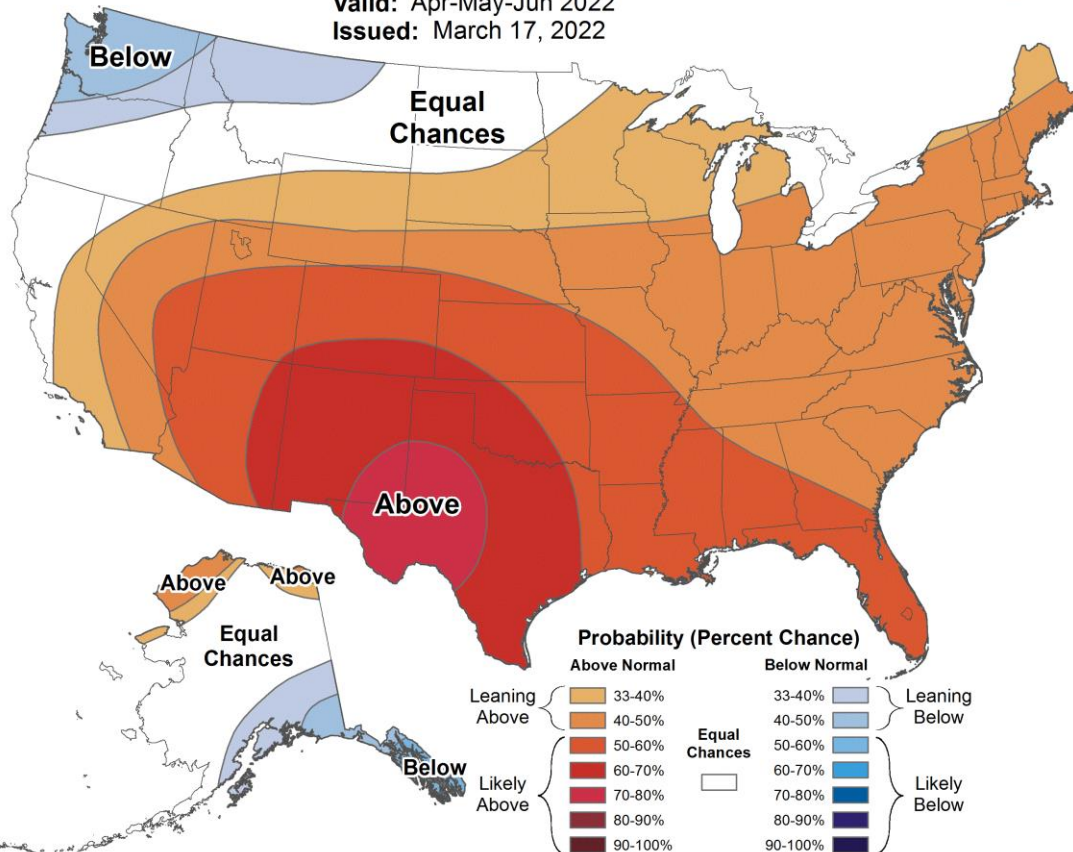


Seasonal Temperature Outlook



Valid: Apr-May-Jun 2022

Issued: March 17, 2022



NOAA issued its U.S. Spring Outlook on March 17, 2022.

Odds favor above normal temperatures this spring into early summer across North Carolina.



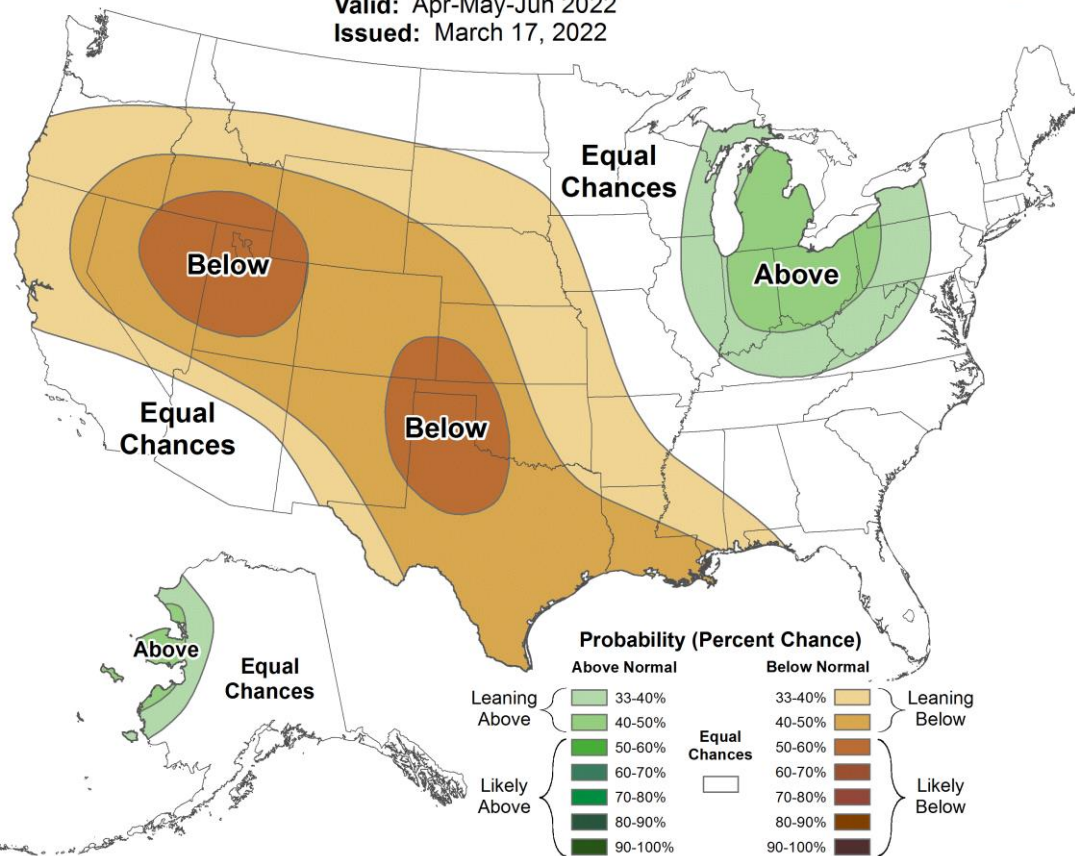


Seasonal Precipitation Outlook



Valid: Apr-May-Jun 2022

Issued: March 17, 2022



NOAA issued its U.S. Spring Outlook on March 17, 2022.

Odds favor neither above or below normal rain for North Carolina this spring into early Summer. No strong global pattern signals for either (for NC).

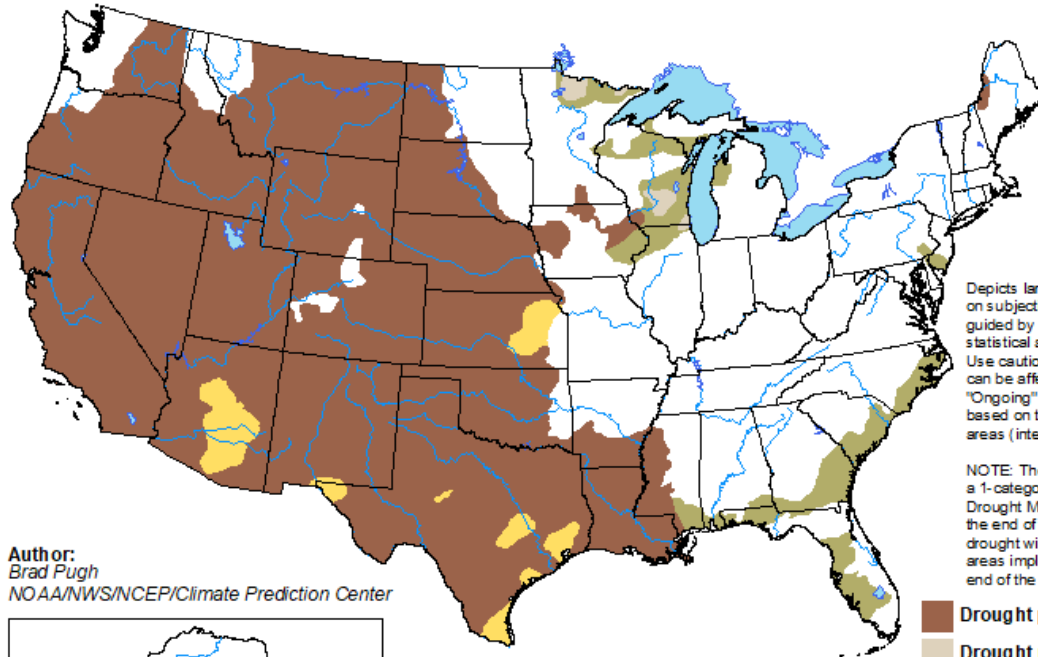




U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

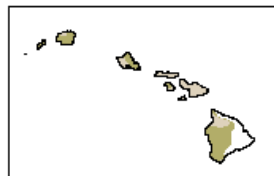
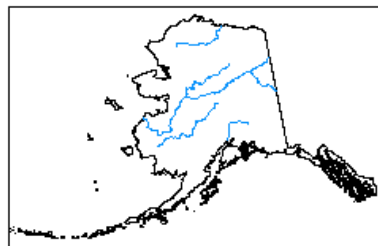
Valid for March 17 - June 30, 2022
Released March 17



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:
Brad Pugh
NOAA/NWS/NCEP/Climate Prediction Center



- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

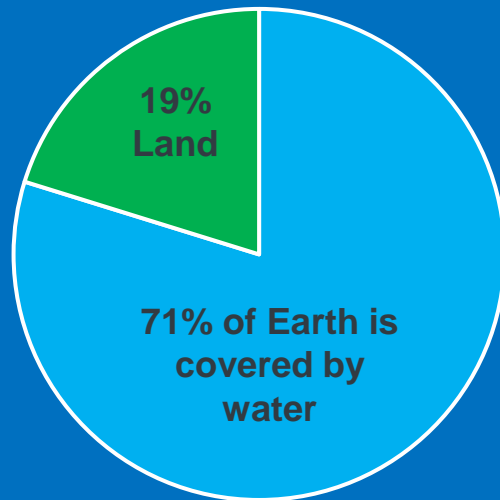


<http://go.usa.gov/3eZ73>



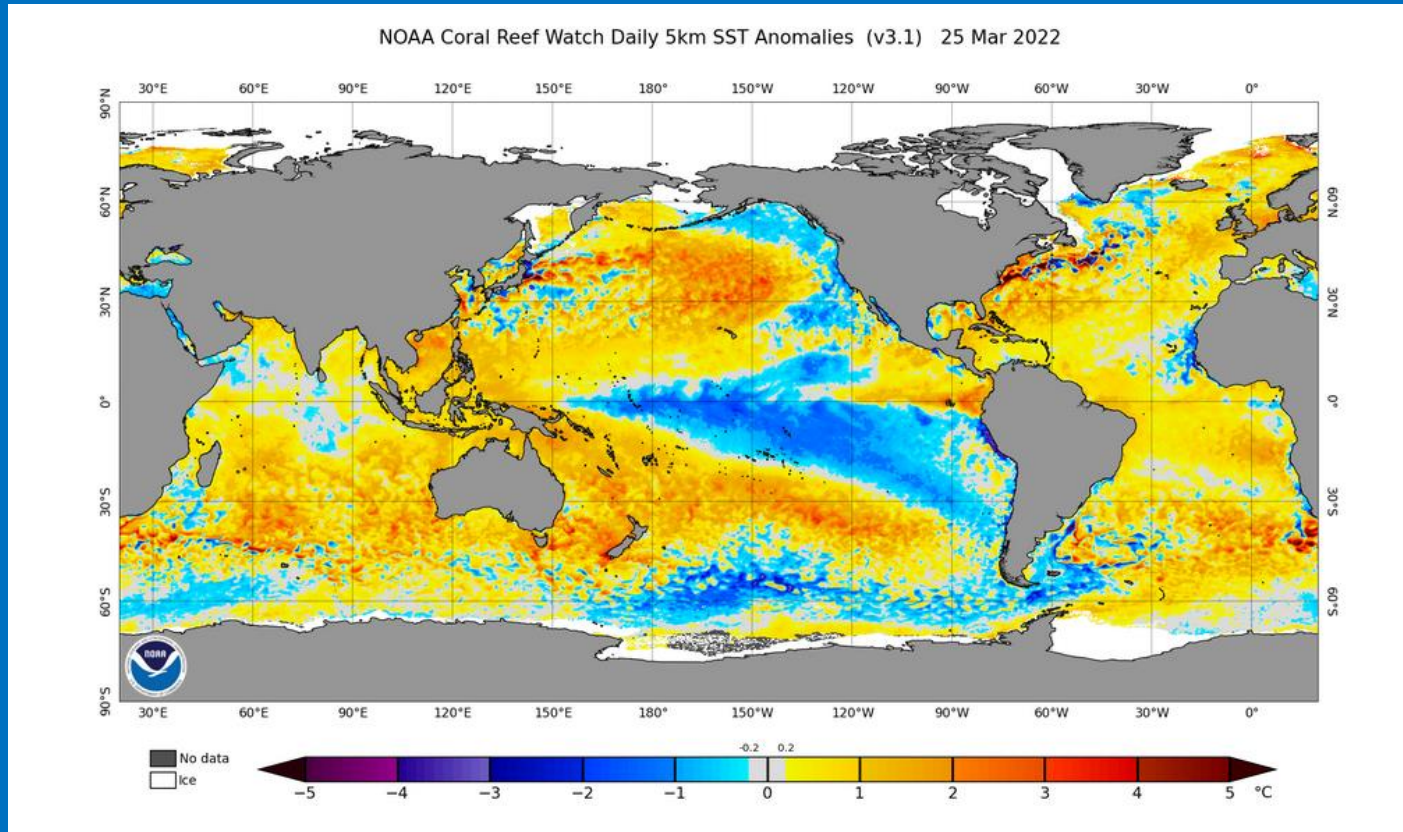


Water Temps Help Drive Weather & Climate Patterns





Water Temps Help Drive Weather & Climate Patterns



CPC ENSO Summary

ENSO Alert System Status: **La Niña Advisory**

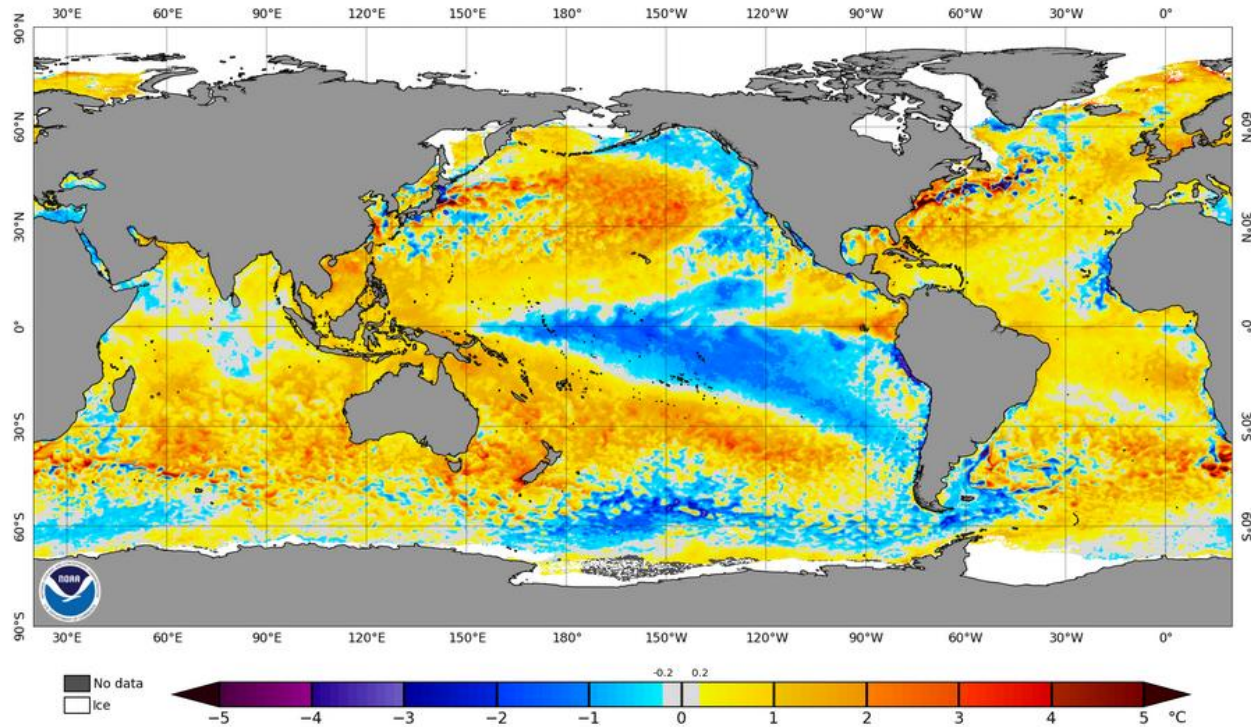
- La Niña is present. Equatorial sea surface temperatures (SSTs) are below average across the east-central and eastern Pacific Ocean.
- The tropical Pacific atmosphere is consistent with La Niña.
- La Niña is favored to continue into the Northern Hemisphere summer (53% chance during June-August 2022), with a 40-50% chance of La Niña or ENSO-neutral thereafter.



Water Temps Help Drive Weather & Climate Patterns



NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 25 Mar 2022





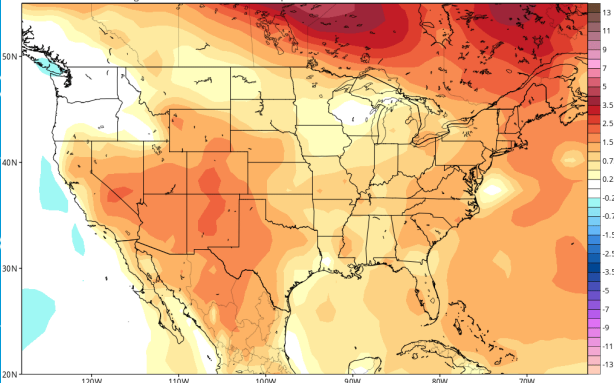
CFSv2 Temp Outlook – April through Sept. 2022

CFSv2 2-meter Temperature Anomaly (°C) (based on 1984-2009 Model Climatology)

Average of last 12 forecasts (12 runs x 1 members)

Init: 12z Mar 23 2022 through 06z Mar 26 2022 Valid for: Apr 2022

TROPICALDTBTS.COM

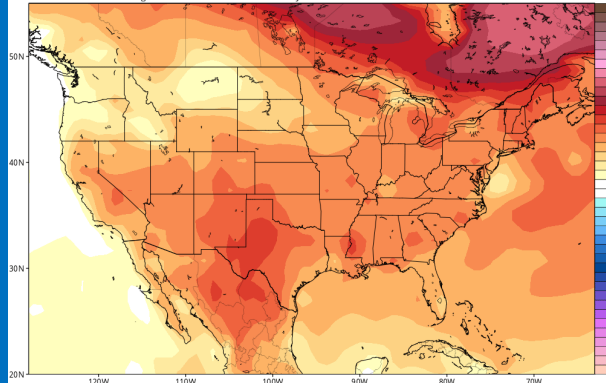


CFSv2 2-meter Temperature Anomaly (°C) (based on 1984-2009 Model Climatology)

Average of last 12 forecasts (12 runs x 1 members)

Init: 12z Mar 23 2022 through 06z Mar 26 2022 Valid for: May 2022

TROPICALDTBTS.COM

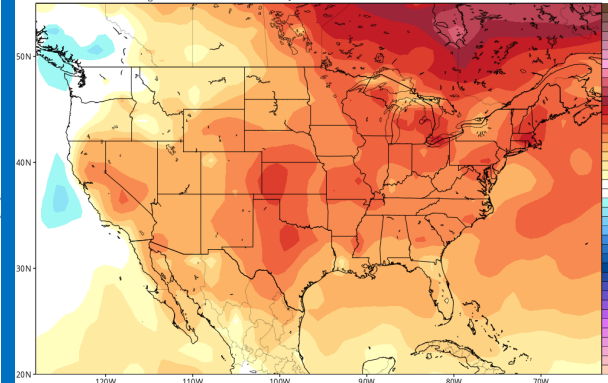


CFSv2 2-meter Temperature Anomaly (°C) (based on 1984-2009 Model Climatology)

Average of last 12 forecasts (12 runs x 1 members)

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TROPICALDTBTS.COM

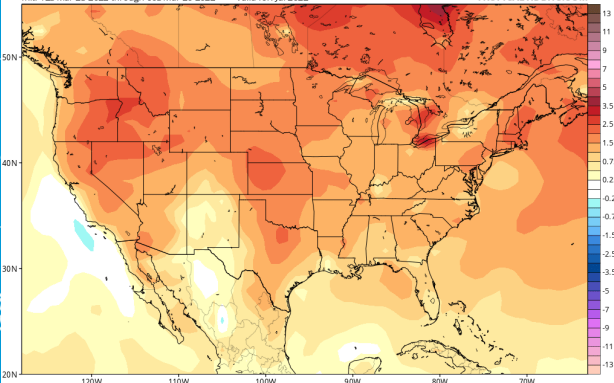


CFSv2 2-meter Temperature Anomaly (°C) (based on 1984-2009 Model Climatology)

Average of last 12 forecasts (12 runs x 1 members)

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TROPICALDTBTS.COM

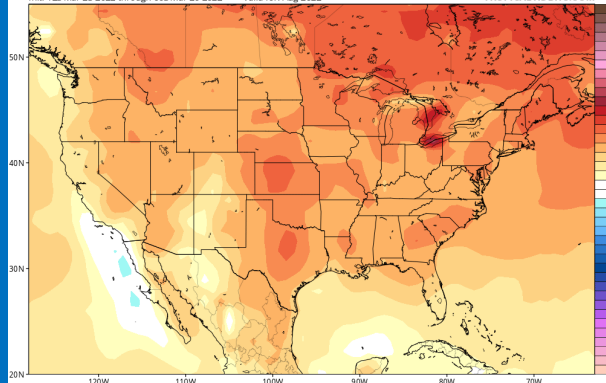


CFSv2 2-meter Temperature Anomaly (°C) (based on 1984-2009 Model Climatology)

Average of last 12 forecasts (12 runs x 1 members)

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TROPICALDTBTS.COM

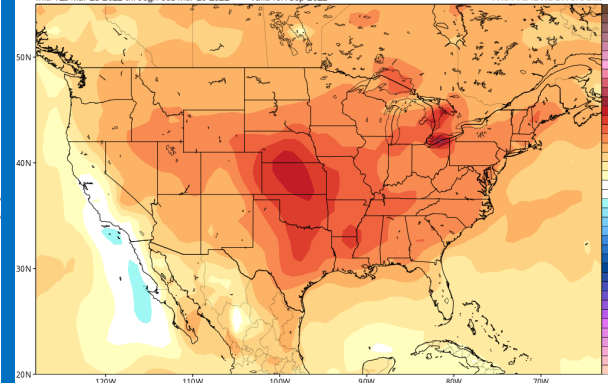


CFSv2 2-meter Temperature Anomaly (°C) (based on 1984-2009 Model Climatology)

Average of last 12 forecasts (12 runs x 1 members)

Init: 12z Mar 23 2022 through 06z Mar 26 2022 Valid for: Sep 2022

TROPICALDTBTS.COM

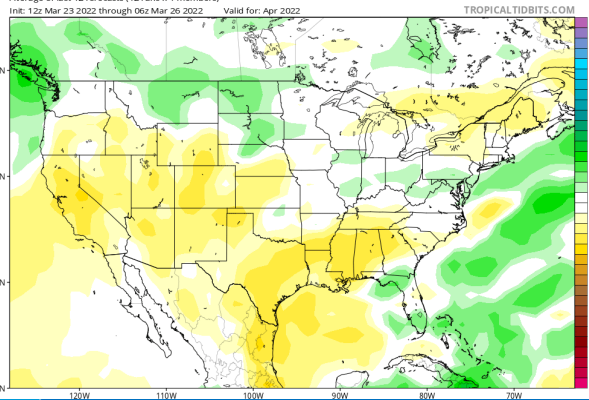




CFSv2 Rain Outlook – April through Sept. 2022

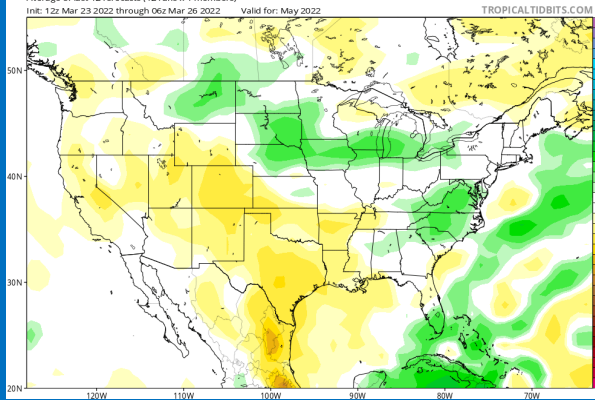
CFSv2 Total Accumulated Precipitation Anomaly (inches)

Average of last 12 forecasts (12 runs x 1 members)
Init: 12z Mar 23 2022 through 06z Mar 26 2022 Valid for: Apr 2022



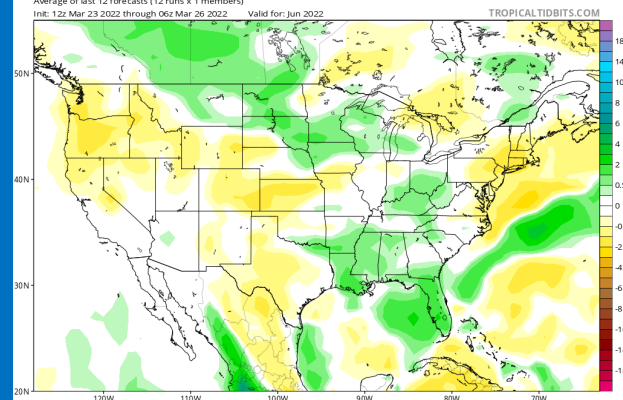
CFSv2 Total Accumulated Precipitation Anomaly (inches)

Average of last 12 forecasts (12 runs x 1 members)
Init: 12z Mar 23 2022 through 06z Mar 26 2022 Valid for: May 2022



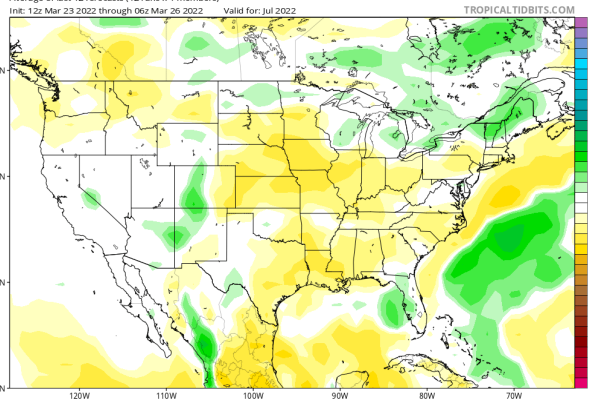
CFSv2 Total Accumulated Precipitation Anomaly (inches)

Average of last 12 forecasts (12 runs x 1 members)
Init: 12z Mar 23 2022 through 06z Mar 26 2022 Valid for: Jun 2022



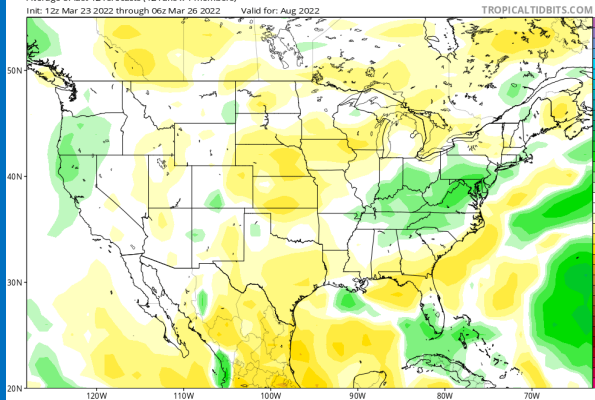
CFSv2 Total Accumulated Precipitation Anomaly (inches)

Average of last 12 forecasts (12 runs x 1 members)
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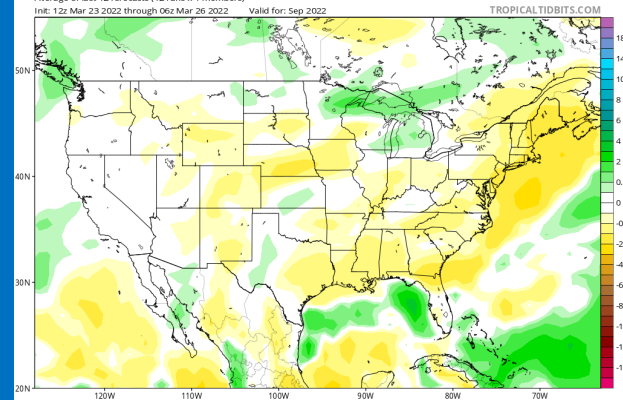
CFSv2 Total Accumulated Precipitation Anomaly (inches)

Average of last 12 forecasts (12 runs x 1 members)
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CFSv2 Total Accumulated Precipitation Anomaly (inches)

Average of last 12 forecasts (12 runs x 1 members)
Init: 12z Mar 23 2022 through 06z Mar 26 2022 Valid for: Sep 2022





ECMWF Temp Outlook April through July



2m temperature - SEAS5

ECMWF Seasonal Forecast

Prob(most likely category of 2m temperature)

Forecast start is 01/03/22, climate period is 1993-2016

Ensemble size = 51, climate size = 600

System 5

AMJ 2022

ECMWF Seasonal Forecast

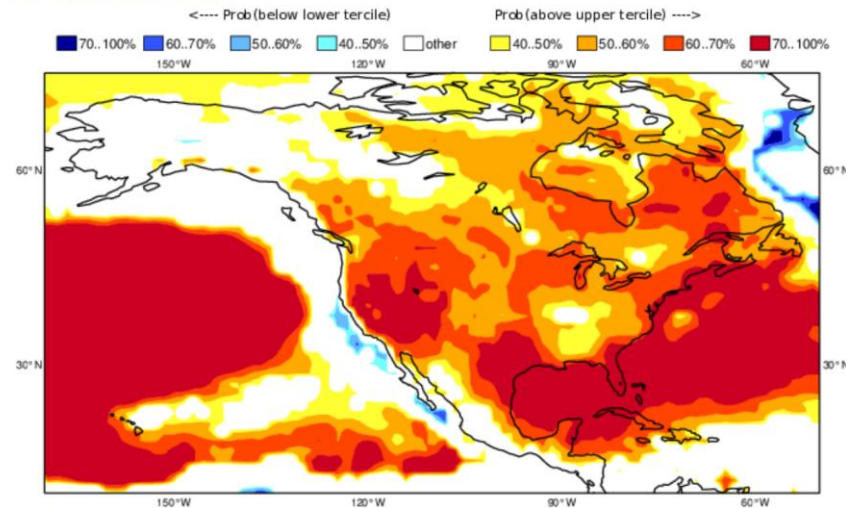
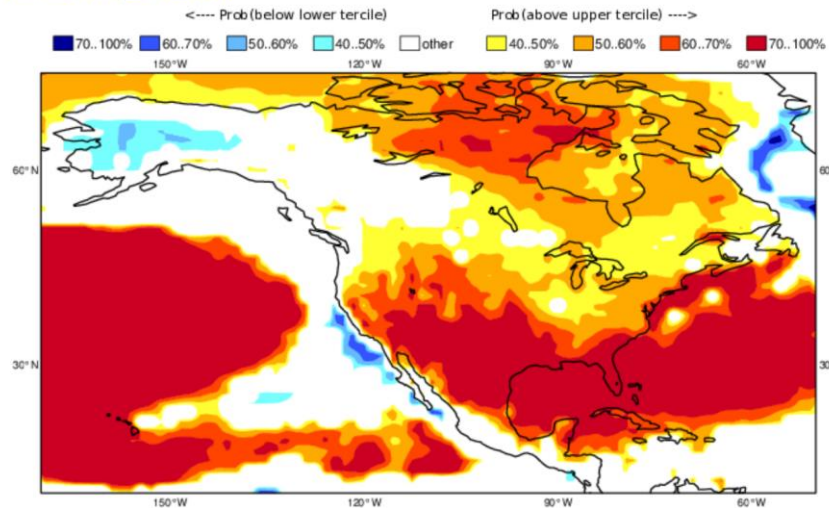
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System 5

MJJ 2022



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ECMWF Temp Outlook June Through September



2m temperature - SEAS5

ECMWF Seasonal Forecast

Prob(most likely category of 2m temperature)

Forecast start is 01/03/22, climate period is 1993-2016

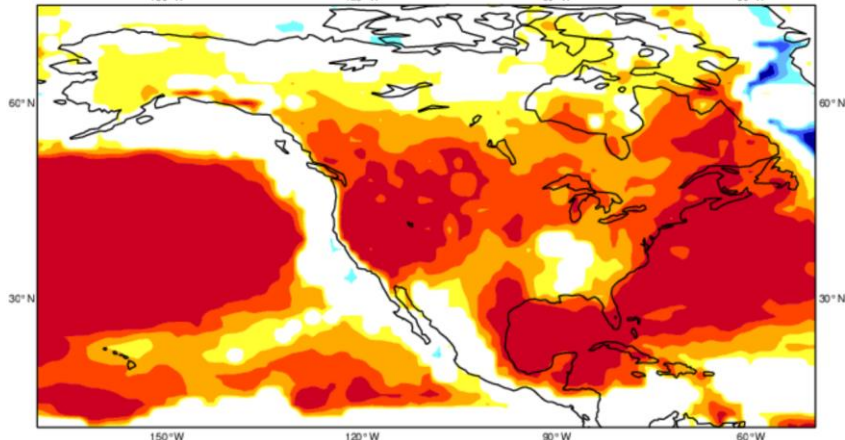
Ensemble size = 51, climate size = 600

System 5

JJA 2022

<---- Prob(below lower tercile)

Prob(above upper tercile) ---->



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2m temperature - SEAS5

ECMWF Seasonal Forecast

Prob(most likely category of 2m temperature)

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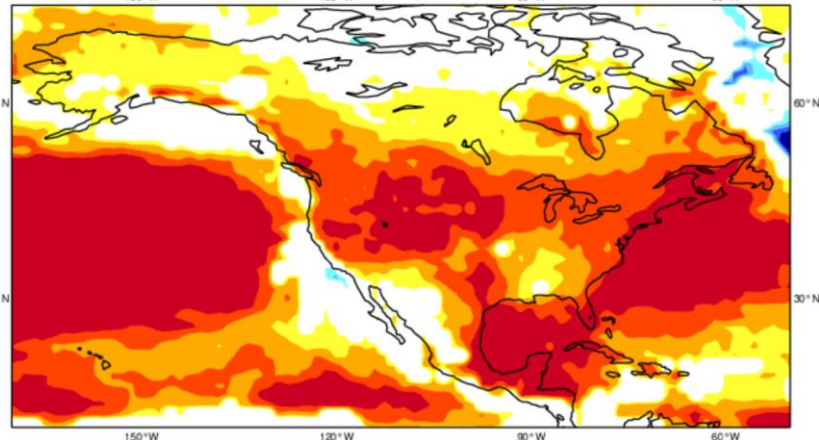
Ensemble size = 51, climate size = 600

System 5

JAS 2022

<---- Prob(below lower tercile)

Prob(above upper tercile) ---->



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ECMWF Rain Outlook April through July



Precipitation - SEAS5

ECMWF Seasonal Forecast

Prob(most likely category of precipitation)

Forecast start is 01/03/22, climate period is 1993-2016

Ensemble size = 51, climate size = 600

System 5
AMJ 2022

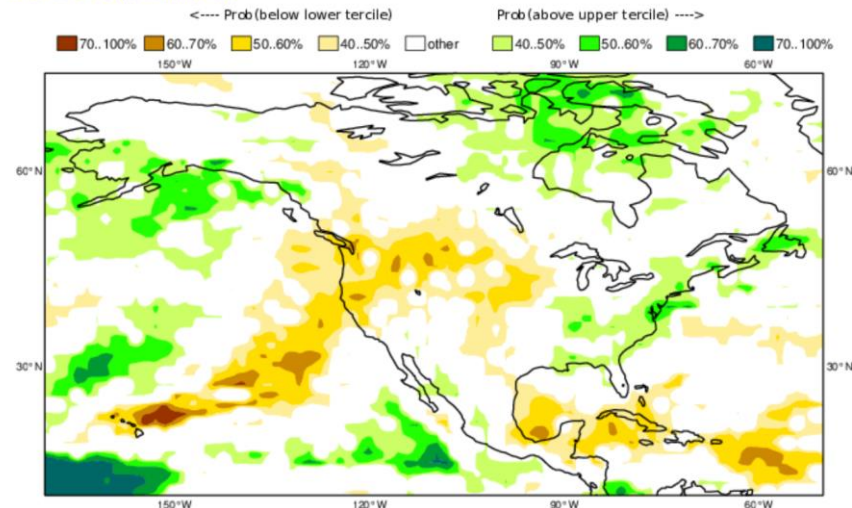
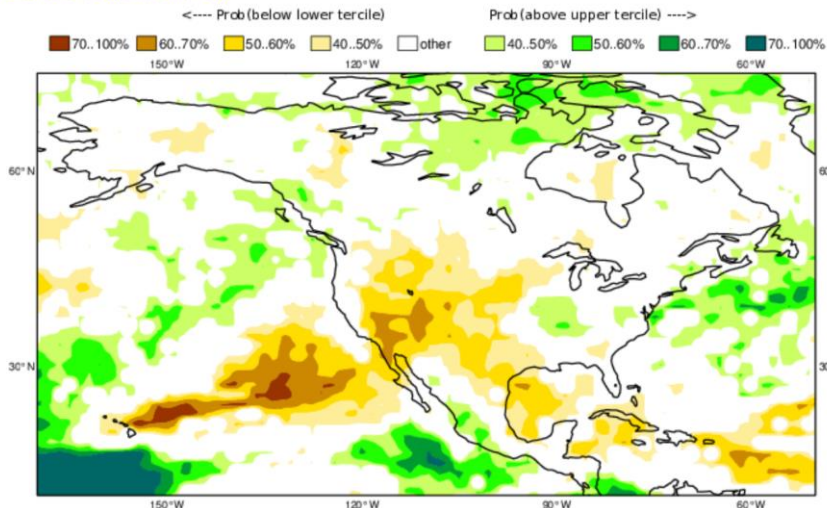
ECMWF Seasonal Forecast

Prob(most likely category of precipitation)

Forecast start is 01/03/22, climate period is 1993-2016

Ensemble size = 51, climate size = 600

System 5
MJJ 2022



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ECMWF Rain Outlook June Through September



Precipitation - SEAS5

ECMWF Seasonal Forecast

Prob(most likely category of precipitation)

Forecast start is 01/03/22, climate period is 1993-2016

Ensemble size = 51, climate size = 600

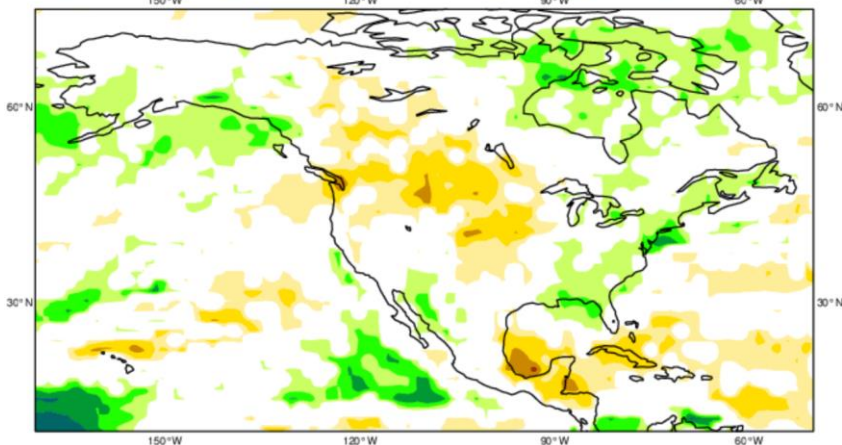
System 5

JJA 2022

<---- Prob(below lower tercile)

Prob(above upper tercile) ---->

70..100% 60..70% 50..60% 40..50% other 40..50% 50..60% 60..70% 70..100%



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Precipitation - SEAS5

ECMWF Seasonal Forecast

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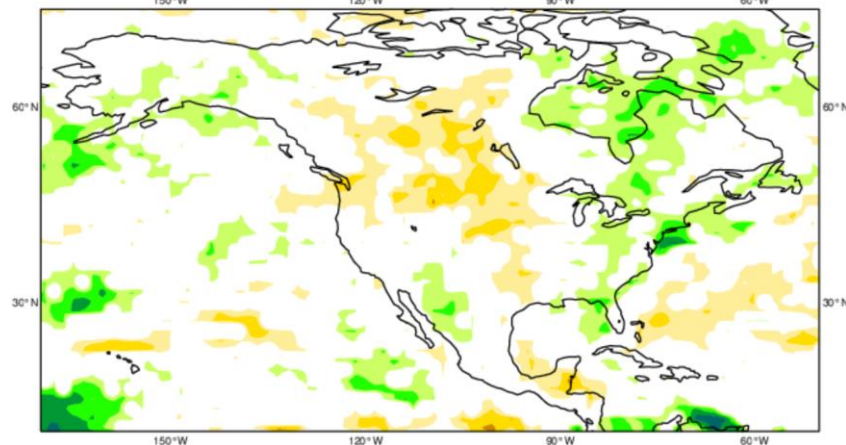
System 5

JAS 2022

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70..100% 60..70% 50..60% 40..50% other 40..50% 50..60% 60..70% 70..100%



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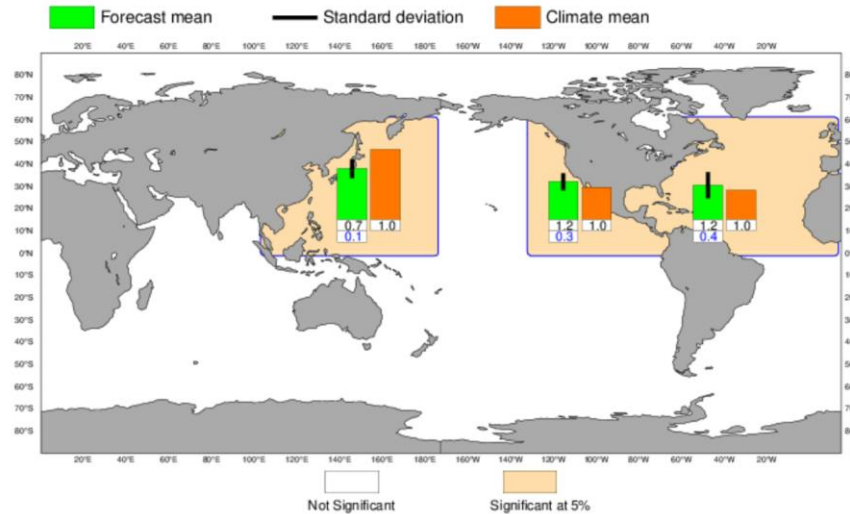
ECMWF 2022 Accumulated Cyclone Energy Forecast



Accumulated Cyclone Energy - Long range forecast - SEAS5

ECMWF Seasonal Forecast
Accumulated Cyclone Energy
Forecast start reference is 01/03/2022
Ensemble size = 51, climate size = 725

SEAS5
AMJJAS 2022
Climate (initial dates) = 1993-2021



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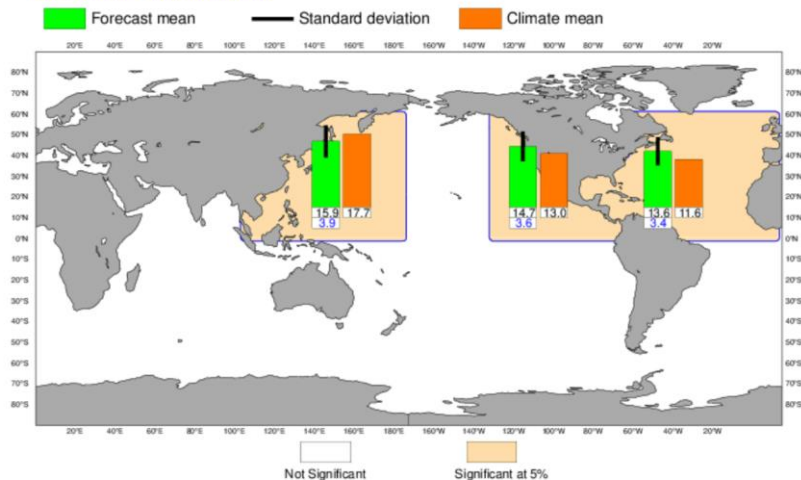


ECMWF 2022 Tropical Storm and Hurricane Frequency Forecast

Tropical storm frequency - Long range forecast - SEAS5

ECMWF Seasonal Forecast
Tropical Storm Frequency
Forecast start reference is 01/03/2022
Ensemble size = 51, climate size = 725

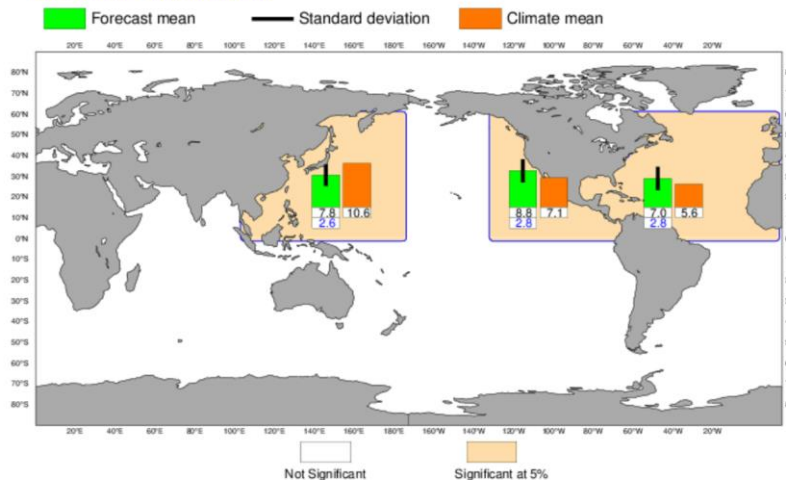
SEAS5
AMJJAS 2022
Climate (initial dates) = 1993-2021



Hurricanes Typhoon frequency - Long range forecast - SEAS5

ECMWF Seasonal Forecast
Hurricane or typhoon Frequency
Forecast start reference is 01/03/2022
Ensemble size = 51, climate size = 725

SEAS5
AMJJAS 2022
Climate (initial dates) = 1993-2021



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Seasonal Outlook Key Points

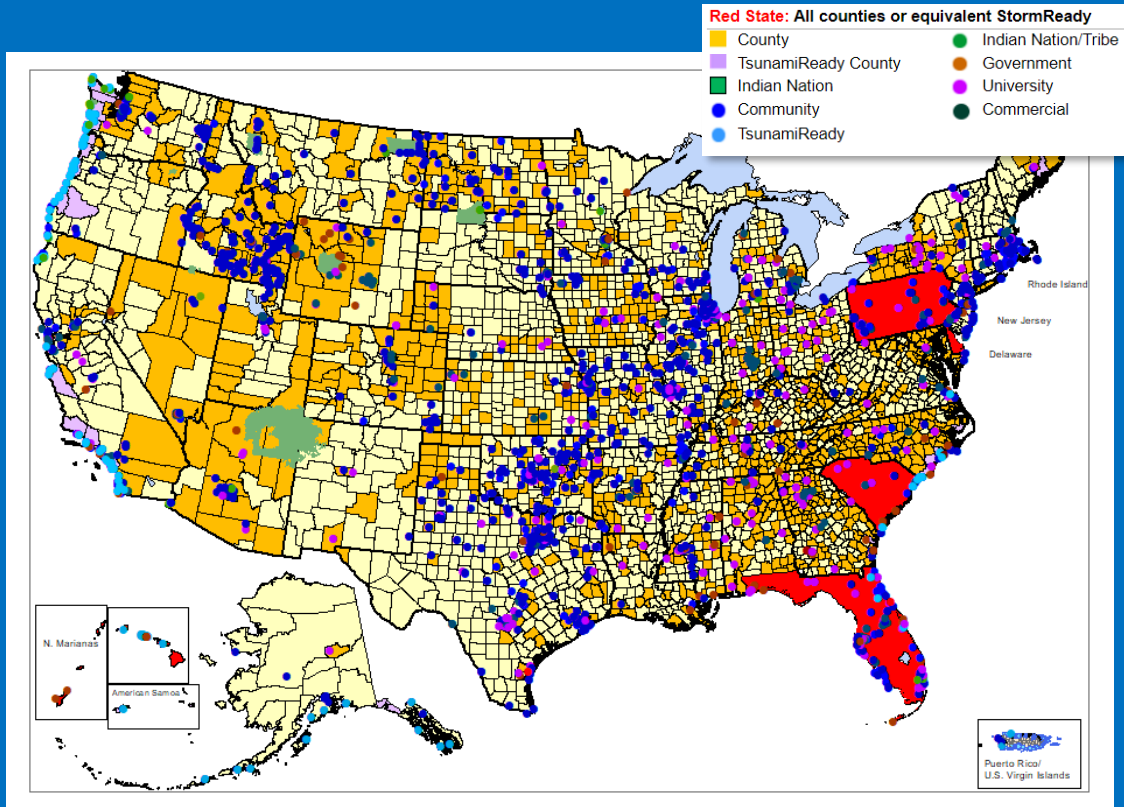
- Drought persists east of I-95.
- Odds favor above normal temperatures this spring into early summer across North Carolina.
- Odds favor neither above or below normal rain for North Carolina this spring into early Summer. No strong global pattern signals for either for NC.
- La Niña is favored to continue into the Northern Hemisphere summer, with a 40-50% chance of La Niña or ENSO-neutral thereafter.
- The presence of La Niña, followed by ENSO-neutral thereafter, suggests that this upcoming hurricane season could be *another* busy one for the Atlantic Basin! The long-range ECMWF model supports this idea.



StormReady National Status

Overview

- StormReady (SR) was established in 1999 and there are now 3,103 SR communities across the Nation.
- SR guidelines were designed to help EMs, Public Safety Officials, & the NWS strengthen weather safety programs, engage the public, & build partnerships.
- The Weather-Ready Nation (WRN) Ambassador program was designed to enhance community resiliency through any organization or business to help share safety info.







StormReady Application Update

Program Changes Will Include...

- Re-recognition expiration requirement changed from 3 years to 4 years (Fall 2021) ✓
- Implementation of the StormReady application (Jan 2022) ✓
- StormReady website update (Spring/Summer 2022)

The New StormReady Application Focuses On:

- General Information
- Emergency Operations Planning
- Coordination and Partnership Development
- Community Preparedness



Developed through multiple rounds of feedback through numerous WCMs, EMs, and NWSHQ Partners



Haywood County StormReady Recognition



Section 1) General Information



Yancey County StormReady Recognition

Enter the Name of Your Organization*		Enter name	
Primary Contact:	Enter name	Secondary Contact:	Enter name
Primary Contact Title:	Enter title	Secondary Contact Title:	Enter title
Office Phone:	Enter work phone	Office Phone:	Enter work phone
Cell Phone:	Enter cell phone	Cell Phone:	Enter cell phone
*Organization type: County, Parrish, Tribe, Village, City, University, etc.			
EOC** (or similar facility) Phone:	Enter phone #	911 Center/24 Hour Warning Point Phone:	Enter phone number
EOC (or similar facility) Address:	Street/PO Box/Suite, City, State, Zip	911 Center/24 Hour Warning Point Address:	Street/PO Box/Suite, City, State, Zip

- No major changes from original SR application

Follow along on your phone or laptop at
www.weather.gov/stormready/become



Section 2) Emergency Operations Planning



2.1 – List the sources the EOC, and/or other facility (such as dispatch center, warning point, security center, etc.), is able to receive official hazardous weather information.

Your answer or NA

- At least 2 ways and can include: iNWS, NOAA Weather Radio, mobile apps, etc.



2.2 – List the ways the EOC, and/or other facility (such as a dispatch center, warning point, security center, etc.), is able to relay official watch/warning information to the public, and/or the organization's staff?

Your answer or NA

- At least 2 ways and can include: reverse 911, social media, blast emails, mass notification, etc.



2.3 – Do you have an updated Emergency Operations Plan (or similar plan or weather annex) in accordance with state/FEMA or your organization's time requirements?

☐
Yes

☐
No

What was the date the plans were last updated?

Enter the date the EOP was last updated

What are the main hazards covered in your plan?

Your answer or NA

- Review conducted in accordance with state and/or FEMA requirements. If there are no requirements then updates are recommended every 2 years.





Section 2) Emergency Operations Planning



2.4 – Does your plan have instructions for EOC, or similar facility, to activate and request weather support for events such as HAZMATs, SARs, large public venues, etc.)?

☐ Yes ☐ No

Additionally, do these plans include guidance for the receipt & redistribution of critical weather information, as well as reporting observed weather conditions back to the NWS, or non-NWS meteorological service?

☐ Yes ☐ No

- Plan includes instructions for activating your EOC (or similar facility) and contain procedures for reporting severe weather or other emergencies which require weather support



2.5 – Do you have plans which account for hazardous weather (e.g. [Lightning Safety Toolkits](#)) and have a reliable source of weather information for any large public events by using weather support services?

☐ Yes, with NWS office ☐ Yes, with a non-NWS service ☐ No

- Planning and establishing a reliable source of weather information is needed for large public events



New Hanover County EOC





Section 3) Coordination and Partnership Development



3.1 – List any NWS partner meetings or workshops, or similar collaborative events with non-NWS service providers, your organization has attended over the last two years.

☐ Yes

☐ No

Your answer or NA

- Participation in at least 1 partner meeting/workshop every 2 years (IWT, weather related workshop, etc.)



3.2 – List at least one actual event, or participation in a drill or exercise, that included a weather emphasis or component with your operations.

Your answer or NA

- At least 1 actual event, drill, or exercise involving your operations every 2 years (Statewide tornado drill, HAZMAT exercise, actual EOC activation event, etc.)



3.3 – Is your team registered for, and familiar with, [NWSChat](#), or similar weather coordination application or program from a non-NWS service?

☐ Yes

☐ No

If Yes, then list the weather coordination application(s) used.

Your answer or NA

- Should have as many in your team registered and familiar with NWSChat





Section 3) Coordination and Partnership Development



3.4 – Do you receive weather information from your local NWS office or non-NWS service through blast/notification email distribution lists?

☐ Yes, from
a NWS office

☐ Yes, from a
non-NWS service

☐ No

- At least 2 representatives from the organization are on a blast email notification list.



3.5 – Do you utilize a distribution list consisting of community or organizational staff, leadership, & partners (i.e. school admin., law enforcement, fire depts., critical facilities, etc.) to forward NWS or non-NWS services briefings for hazardous weather events?

☐ Yes

☐ No

- Your organization uses a distribution list to share weather briefings and other relevant information for hazardous weather events.



3.6 – Have you participated in an office visit or familiarization meeting with your local NWS staff to learn more about products/services available from the NWS & what may be available from non-NWS service providers?

☐ Yes, with
NWS office

☐ Yes, with a
non-NWS service

☐ No

- Only required when there is a new EM, Public Safety Official, or Safety Coordinator for the organization.



Familiarization visit at NWS Wilmington





Section 4) Community Preparedness



4.1 Is your organization already a Weather-Ready Nation Ambassador?	<input type="checkbox"/> Yes <input type="checkbox"/> No
List any similar non-NWS preparedness/outreach program(s) you are involved with?	Your answer or NA



- The organization is signed up for the WRNA program



4.2 – List any community events or other outreach efforts used to distribute and promote weather safety information through your organization.

Your answer or NA

- At least 2 community and/or outreach efforts every 2 years (safety fair, virtual event, town hall, social media, etc.)



NWS Blacksburg Skywarn class

4.3 – List the dates of any storm spotter or weather safety training your organization helped to share information about, and/or helped to facilitate/organize an event in your community.

Your answer or NA

- Help facilitate, organize, and/or help share information about at least 1 Skywarn or weather safety training event every 2 years





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