



Briefing: Statewide Drought Committee Meeting Updates And Summer Outlook

Meeting of the Commission on Water Resource Management

June 15, 2021

COUNTY DROUGHT COMMITTEES

- Annual meeting of ad hoc group of drought stakeholders from government and private sector
- Drought impact sector representatives: Water Supply; Agriculture & Commerce; Environment
- NWS provides wet season summary / dry season outlook
- Participants discuss current impacts, preparedness / mitigation / response
- Opportunity for networking, communication and outreach among stakeholders

CURRENT CONDITIONS

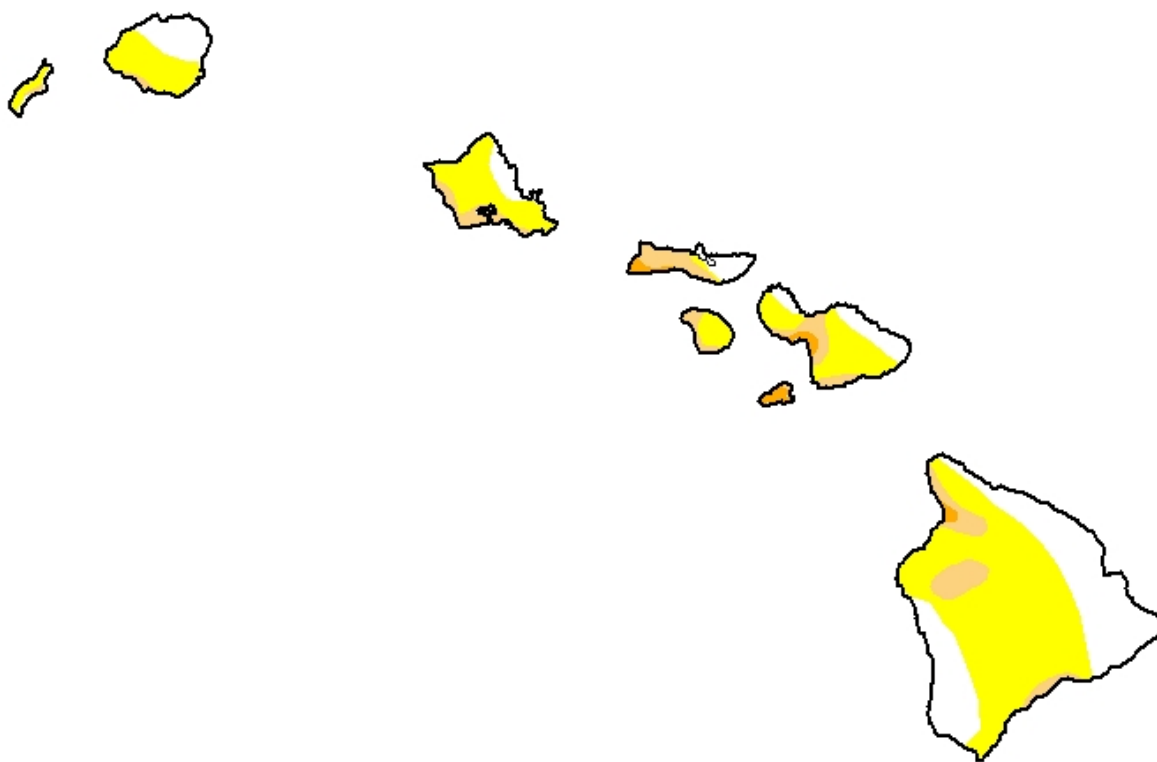
- NWS Honolulu Forecast Office 2020-2021 Wet Season Summary and 2021 Dry Season Outlook
<http://www.weather.gov/media/hfo/MediaAdvisory-2020-21HawaiiWetSeasonSummary.pdf>
- U.S. Drought Monitor <https://droughtmonitor.unl.edu/>
- NWS Drought Information Statement
<https://www.weather.gov/hfo/DGT>

U.S. Drought Monitor Hawaii

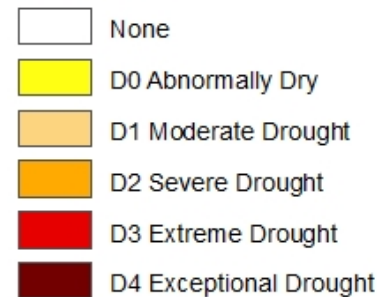
June 8, 2021

(Released Thursday, Jun. 10, 2021)

Valid 8 a.m. EDT



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

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National Drought Mitigation Center



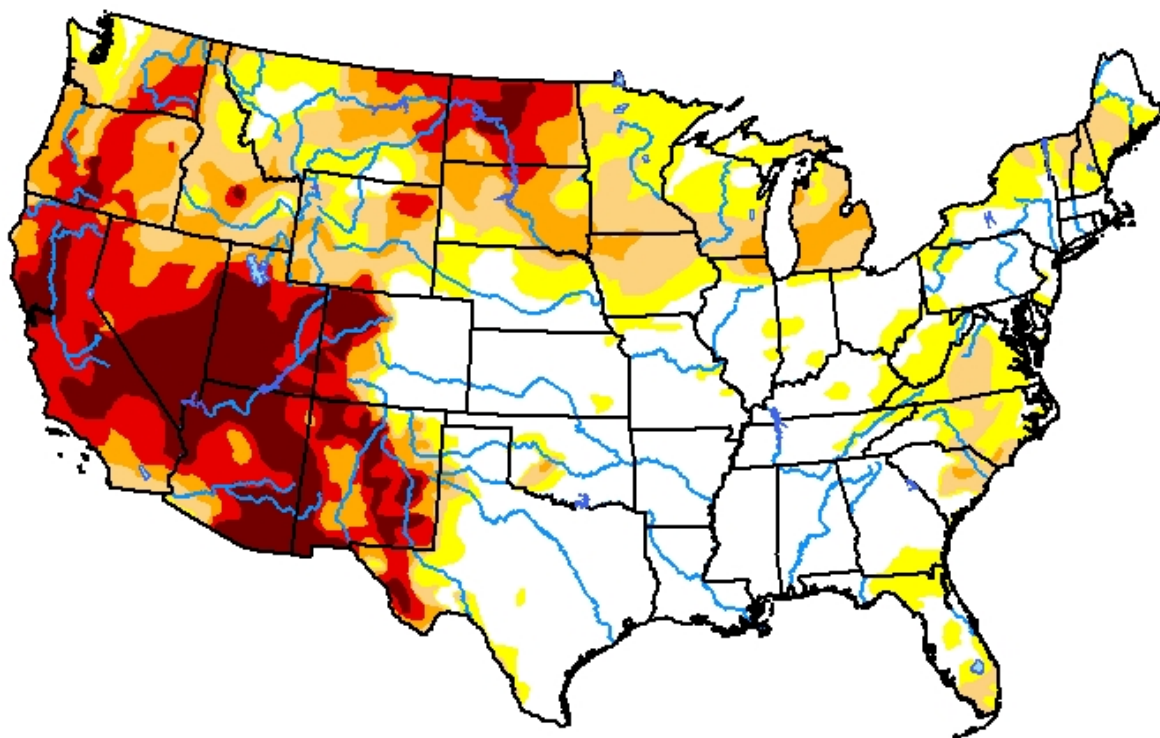
droughtmonitor.unl.edu

U.S. Drought Monitor Contiguous U.S. (CONUS)







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Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

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MEDIA ADVISORY

Contact: Kevin Kodama
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FOR IMMEDIATE RELEASE
May 19, 2021

2020-2021 Wet Season Rainfall Summary for Hawai'i

Summary of October 2020 through April 2021 wet season

- Started the wet season with severe or extreme drought in portions of every county in the state.
- Wet season started with a strengthening La Niña.
- Wet season forecast called for above average rainfall, especially along the east-facing slopes of the state. There was the potential for lower than average rainfall in the leeward areas of Maui and the Big Island, which was consistent with tendencies expected in a moderate to strong La Niña.
- Wet season produced above average rainfall at many locations, especially in Kaua'i County and on O'ahu.
 - February and March rainfall provided the most drought relief.
- Leeward Kohala on the Big Island had below average wet season rainfall.
 - Drought already returned to the South Kohala District by the end of April.
- Moderate drought (D1 category on U.S. Drought Monitor) returned to leeward Maui County in early May after a dry April.

Wet season statistics

- Overall: 8th wettest in the last 30 years (average rankings from 8 sites)
- Kaua'i
 - Most rain totals greater than 120% of average.
 - Mount Wai'ale'ale: Highest wet season total in 30 years (312.13 inches, 138% of average).
 - Līhu'e Airport: 30.48 inches, 9th wettest Oct – Apr in the last 30 years.
- O'ahu
 - Most O'ahu totals 80 to 120% of average.
 - Honolulu Airport: 13.09 inches, ranked 11th wettest.
- Maui County
 - Maui County totals mostly 70 to 110% of average.
 - Kahului Airport: 15.35 inches, 7th wettest wet season.
- Big Island
 - North and South Kohala Districts mostly 30 to 70% of average.
 - Rest of Big Island mostly greater than 100% of average.
 - Hilo Airport: 101.73 inches, 7th wettest wet season.

CURRENT CONDITIONS

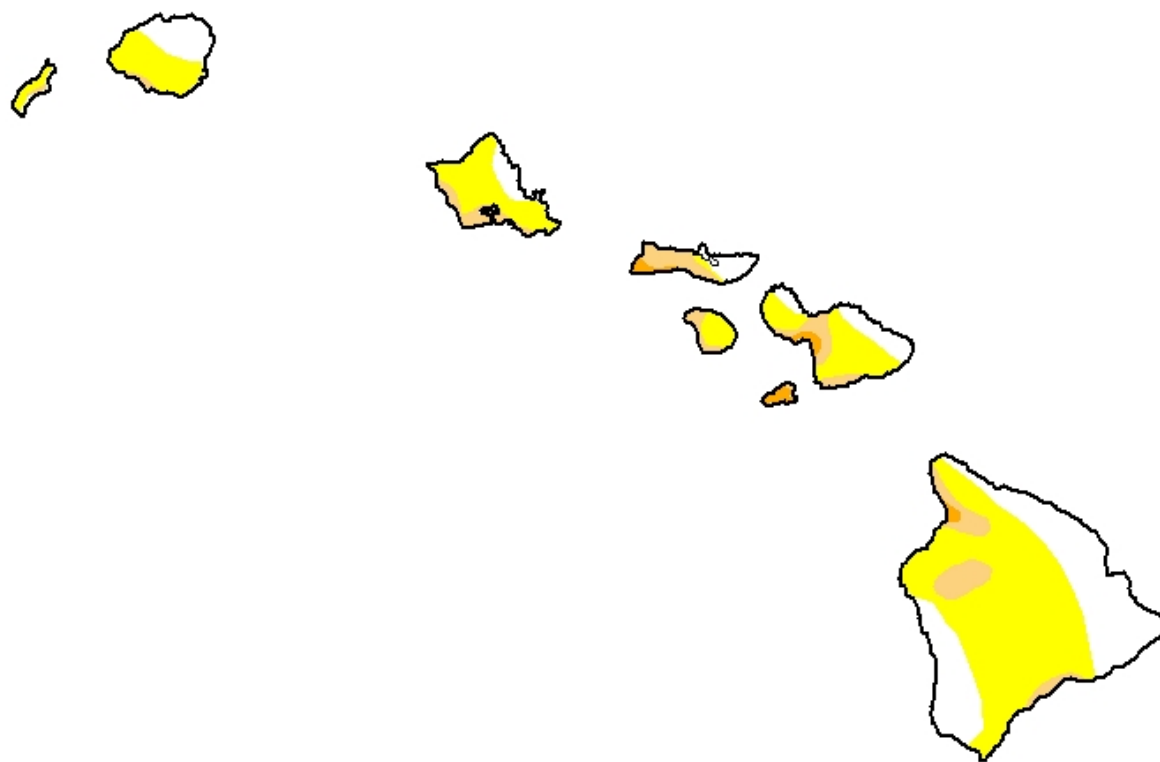
- January 27, 2021 Governor Ige issues drought emergency proclamation
- Wet March 2021 brought relief to some dry areas
- Currently ENSO-neutral
- Some leeward areas in the state are currently under severe drought (D2)
- Impacts:
 - unirrigated ag sector – pasture
 - increased deer incursion
 - wildland fire risk
 - streamflow in a few streams on Oahu & Maui

U.S. Drought Monitor Hawaii

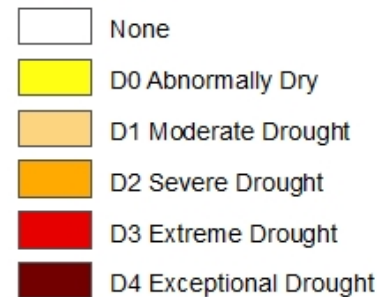
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COUNTY OF HAWAI'I DROUGHT COMMITTEE HIGHLIGHTS

- Meeting June 8, 2021
- Water supply HDWS reported sources in good condition, monitoring Waimea surface water reservoir
- Dry areas confirmed as depicted on USDM map
- South Kona wet spring – Kealakekua wettest May in period of record
- Pastures in Waimea off Mana Rd., Kohala below 2,000' elev., and South of Honoka'a below 1,500' elev. very dry.
- PTA/saddle dry conditions – Puu Anahulu and Keamuku very dry w/large fuel loads.

COUNTY OF HAWAI'I DROUGHT COMMITTEE HIGHLIGHTS

- HDOA reported flows at main weir on Hāmākua Ditch below normal slow filling Pa`auilo Reservoir
- HFD reported Pa`auilo Fire burned around 1,600 acres; expanded capacity to fight wildfires with new off-road tankers (2)
- HWMO/DLNR launched Wildfire & Drought LOOKOUT! campaign

COUNTY OF MAUI DROUGHT COMMITTEE HIGHLIGHTS

- Meeting June 10, 2021
- MDWS reports Upcountry water demands are near peak season demands in June; and have issued a voluntary water conservation notice; also watching West Maui demands
- Maui Farm Bureau reported that the wet spring helped Upcountry farms by reducing deer problems, but deer are back from the Kula Ag park to Ulupalakua; working with Federal, State and County Government to address the deer problem; County grant \$775K
- Maui Fire Department is planning for Molokai and Lana'i fires and working with helicopter companies to help identify high risk areas

COUNTY OF MAUI DROUGHT COMMITTEE HIGHLIGHTS

- EMI reported that reservoir levels are down in Central Maui will need more rainfall to fill reservoirs; March high rainfall events in E. Maui caused damage to system; in May Mahi Pono began vegetative management mowing the firebreaks; more fields are in production which reduces fire risk
- Pulama Lana`i report that water levels have dropped due to drought; 2020 demand was low and continues to expect low demand; a drought watch is expected to be issued
- DOFAW is maintaining 22 miles of firebreak in West Maui; maintaining equipment; pre-planning for high risk areas – Lahaina Leeward Haleakala, and Molokai

COUNTY OF MAUI DROUGHT COMMITTEE HIGHLIGHTS

- NRCS on Molokai reported that the community developed a deer management plan; drought causing ranchers to cull herds and purchase supplemental feed; piggeries are also impacted
- Farm Service Agency reports continuing to accept applications from eligible applicants for the livestock forage disaster program, around half of the applicants are from Molokai
- HDOA reports that MIS areas are dry, Kualapu`u Reservoir dropping ~1ft/week; March high rains caused issues in transmission tunnel; not planning restrictions; higher demands for farmers; not pumping wells to supplement surface flows

CITY & COUNTY OF HONOLULU DROUGHT COMMITTEE HIGHLIGHTS

- Meeting June 14, 2021
- Honolulu AP 11th wettest wet season (last 30 years)
- Dr. P.S. Chu published a paper comparing Central Pacific and Eastern Pacific El Nino events and noticed different rainfall impacts to Hawai'i
- HBWS reported that 12/14 index wells are fine, Punaluu and Waialua in caution low groundwater condition
- HBWS reported that 5-month moving average of watershed rainfall above normal; production is close to the 5-year monthly average, however starting to see an increase in demand

CITY & COUNTY OF HONOLULU DROUGHT COMMITTEE HIGHLIGHTS

- HDOA reported no drought-related issues on its irrigation systems; Waimānalo reservoir is full; no restrictions on customers; Kahuku well is fine
- USGS reports that Oʻahu leeward streamflow measurements are lower than normal and shared a link to USGS website to view streamflow data
- Hawaiʻi Cattlemen’s Council reported that Windward Oʻahu ranchers not experiencing drought but Leeward ranchers are
- DHHL receives its water from HBWS on Oʻahu, would like to partner with HBWS on targeted conservation messaging to beneficiaries

OTHER DROUGHT ACTIVITIES

- Kaua'i Annual Brushfire Meeting
- Wai'anae Wildfire Meeting
- Wildfire & Drought LOOKOUT! campaign
- Imagine a Day Without Water
- Future outreach to communities on drought and preparedness

WILDFIRE & DROUGHT LOOKOUT!



Wildfire & Drought LOOK OUT!

DROUGHT MEANS MORE WILDFIRE
--BE ALERT AND PREPARED--

- **Dry conditions** significantly increase wildfire risk in Hawaii.
- Wildfires are a **frequent, year-round hazard** across Hawaii.
- Nearly all wildfires **are started by people**.
- Drought during past El Niños led to some of Hawaii's largest wildfires on **both windward and leeward** sides.

The rainforest can burn when there is no rain.

HELP DO YOUR PART BY PREVENTING WILDFIRE

-  Clear vegetation 10 feet around campfires and BBQs, keep a shovel and water nearby, and put them out **COLD** before walking away.
-  Be sure machinery (chainsaws, weed trimmers) and recreational vehicles have operating spark arrestors and are maintained regularly.
-  Heat from vehicle exhaust systems can ignite dry grass - park cars on areas that are paved or where vegetation is trimmed and cleared.
-  Fireworks are a common cause of brushfires in dry, grassy areas - attend and enjoy public fireworks displays to maximize safety and fire protection.

Avoid these activities when it's windy or grass and brush are dry!

This message brought to you by:

- Hawaii Wildfire Management Organization
- Honolulu Fire Department
- University of Hawaii CTAHR Cooperative Extension
- Hawaii Fire Department
- Hawaii Department of Land and Natural Resources
- Maui Fire Department



- Annual campaign launched June 9
- DLNR, Hawai'i Wildfire Management Organization and over a dozen other partner agencies/organizations
- Wildfire prevention and awareness campaign
- Flyer available on HWMO website

OUTLOOK

- CPC climate models favor below normal rainfall though summer
- Drought in leeward areas likely to worsen and expand through summer
- Possible late start to 2021 – 2022 wet season
- Currently in ENSO Neutral conditions with possible return to La Nina in fall/winter 2021 – models uncertain
- Impacts to unirrigated agriculture, surface water supply/catchment, wildland fire risk



NOAA

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
UNITED STATES DEPARTMENT OF COMMERCE



MEDIA ADVISORY

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May 19, 2021

2020-2021 Wet Season Rainfall Summary for Hawai'i - cont'd

Dry season (May through September 2021) outlook

- La Niña has transitioned to ENSO-neutral.
- ENSO-neutral expected to persist through summer 2021.
- La Niña may return in fall 2021, but the forecast uncertainty is high this far in advance.
 - It is not uncommon to have two La Niñas in a row.
- NOAA Climate Prediction Center's forecast probabilities and climate model consensus favor below normal precipitation through the dry season.
- Existing areas of drought in Maui County and the Big Island expected to worsen and expand.
 - Extreme drought (D3 category) possible again by the end of September.

- New areas of drought expected to develop in the leeward areas of O‘ahu and Kaua‘i County by mid-summer.
 - Severe drought (D2 category) in leeward areas possible by the end of September, mainly affecting the agriculture sector.
- Some windward areas could see moderate to severe drought (D1 to D2 category).
 - For windward areas, summer drought often involves a normal number of days with rainfall, but a lower than normal amount of rain per day.
 - Supply systems dependent on surface water and rain catchment will be most vulnerable.

On the Web:

Wet Season Maps

Kaua‘i: https://www.weather.gov/images/hfo/hydrosum/kauai_2021_hooilo.gif

O‘ahu: https://www.weather.gov/images/hfo/hydrosum/oahu_2021_hooilo.gif

Moloka‘i/Lāna‘i: https://www.weather.gov/images/hfo/hydrosum/molani_2021_hooilo.gif

Maui: https://www.weather.gov/images/hfo/hydrosum/maui_2021_hooilo.gif

Big Island: https://www.weather.gov/images/hfo/hydrosum/bigis_2021_hooilo.gif

State percent of average:

<https://www.weather.gov/images/hfo/hydrosum/Hooilo21HIPctAvg.jpg>

NOAA National Weather Service Honolulu HI: <https://www.weather.gov/hfo/>

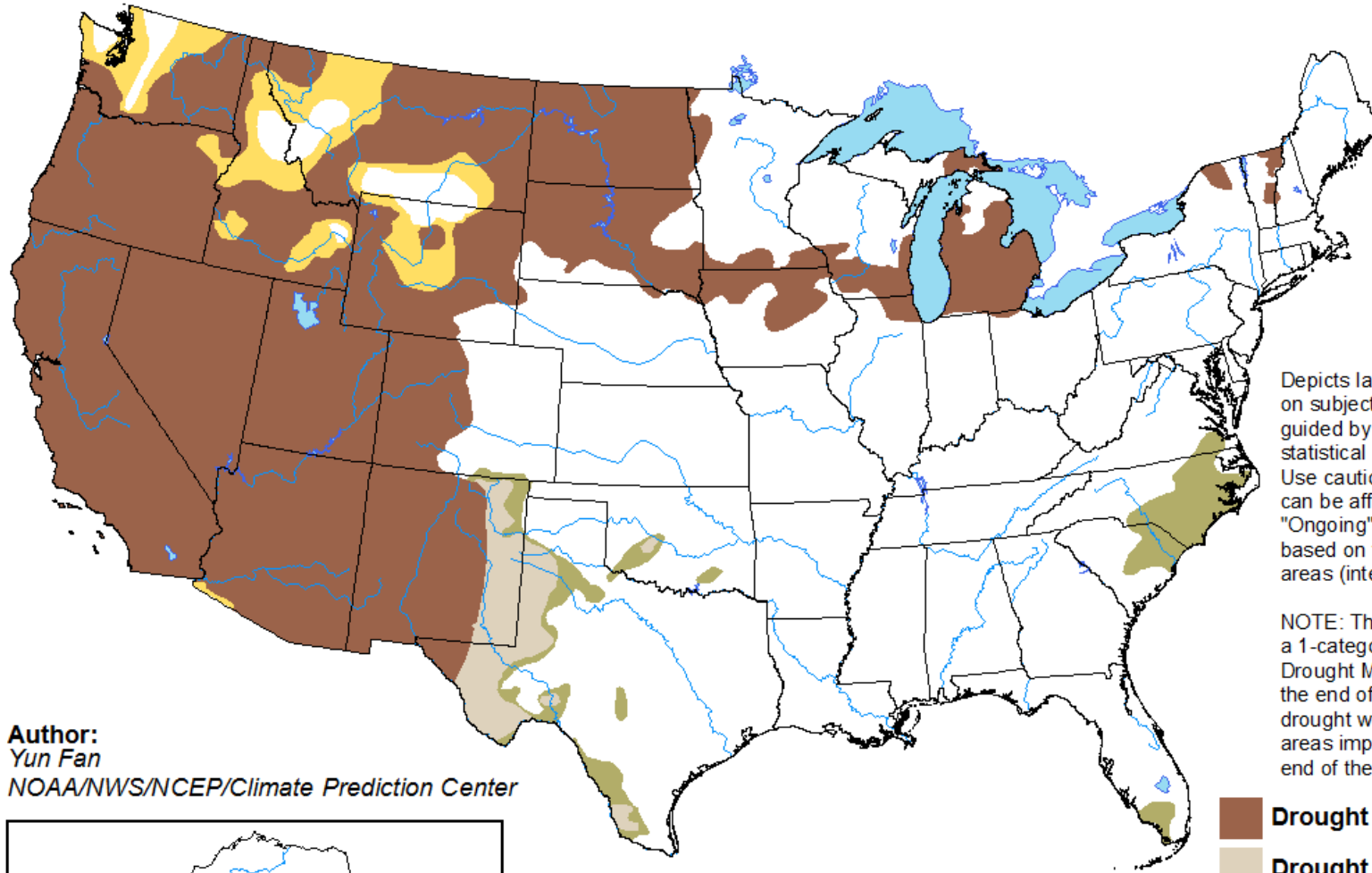
NOAA Climate Prediction Center: <https://www.cpc.ncep.noaa.gov/>

U.S. Drought Monitor: <https://droughtmonitor.unl.edu/>

U.S. Monthly Drought Outlook

Drought Tendency During the Valid Period

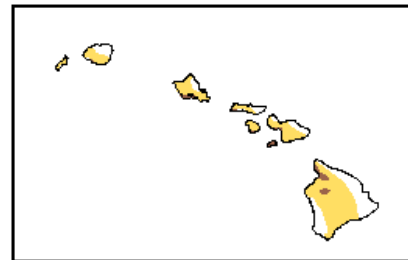
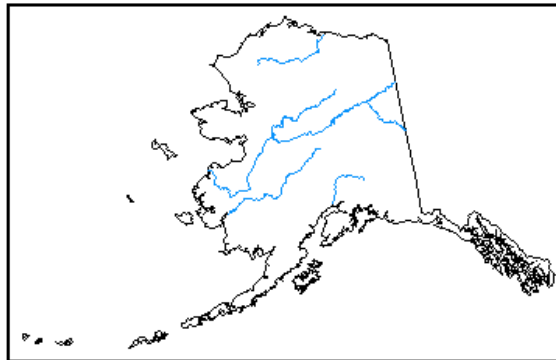
Valid for June 2021
Released May 31, 2021







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:
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NOAA/NWS/NCEP/Climate Prediction Center



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

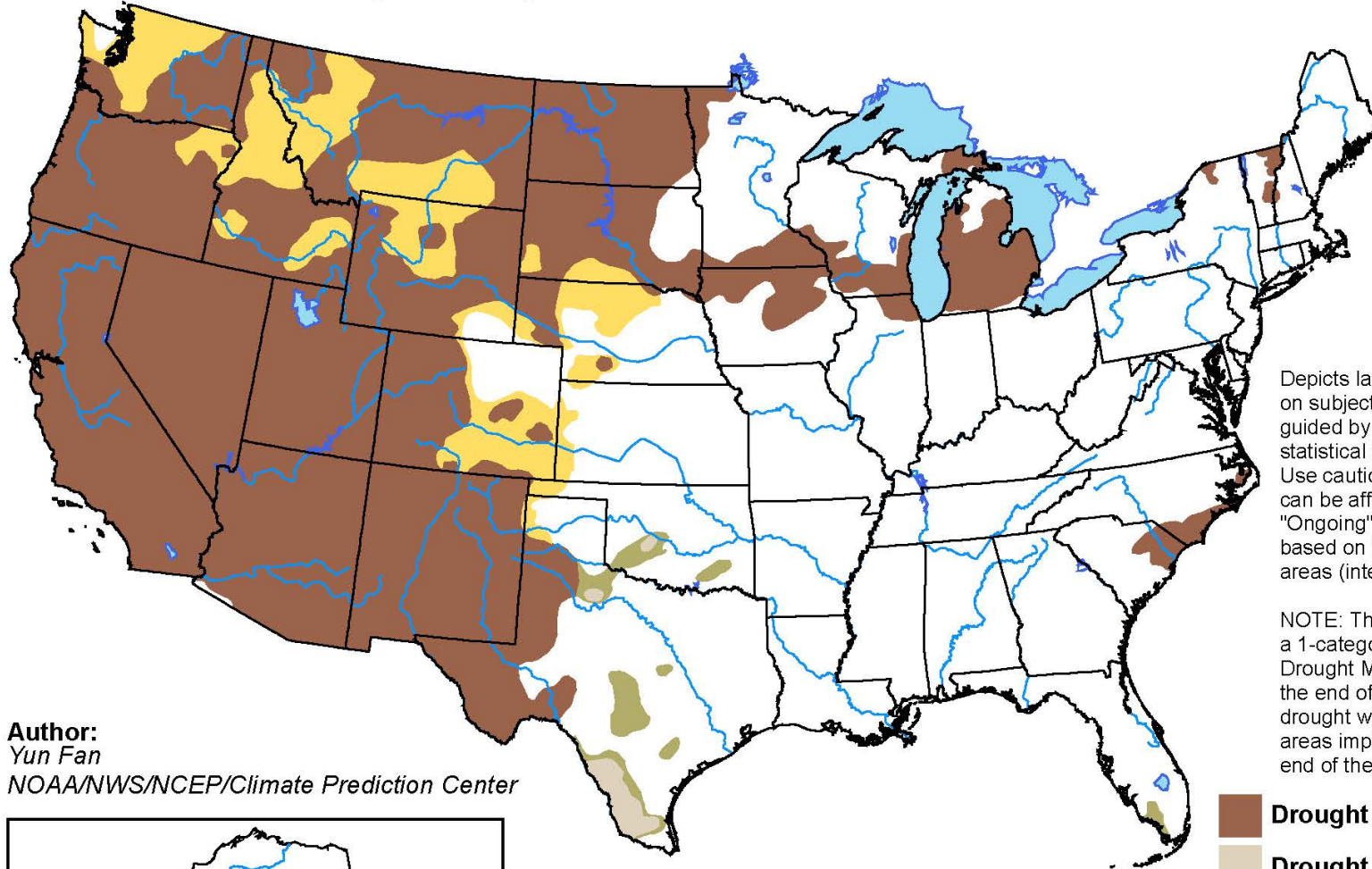


<http://go.usa.gov/3eZGd>

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

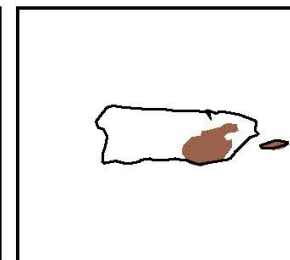
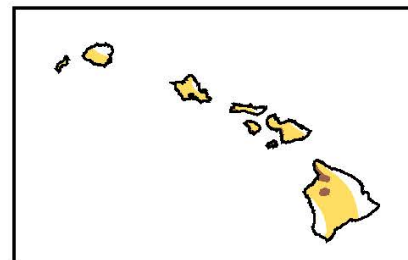
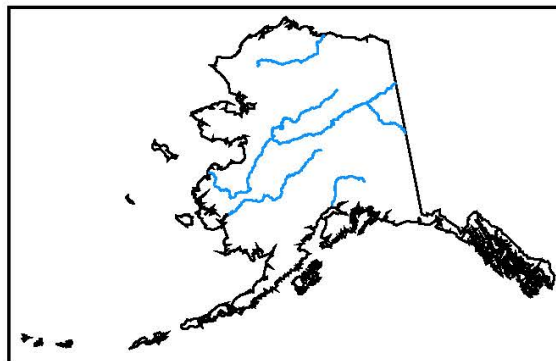
Valid for May 20 - August 31, 2021
Released May 20





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



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