



# Drought Contingency Plan Workshop



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# Agenda

- Brief overview of the ongoing drought conditions
- Review of the City's current Drought Contingency Plan
- Discuss the proposed transition to a 4-Stage DCP

# FORU - Drought Contingency Plan



DCP Amendments approved by City Council

- Added Trinity Glen Rose (TGRGCD) as a triggering entity
- Updated Surcharge thresholds
- Created a Drought Surcharge Appeal Process

Amended DCP in Effect

Stage 2 in Effect

July 2023

May 2023

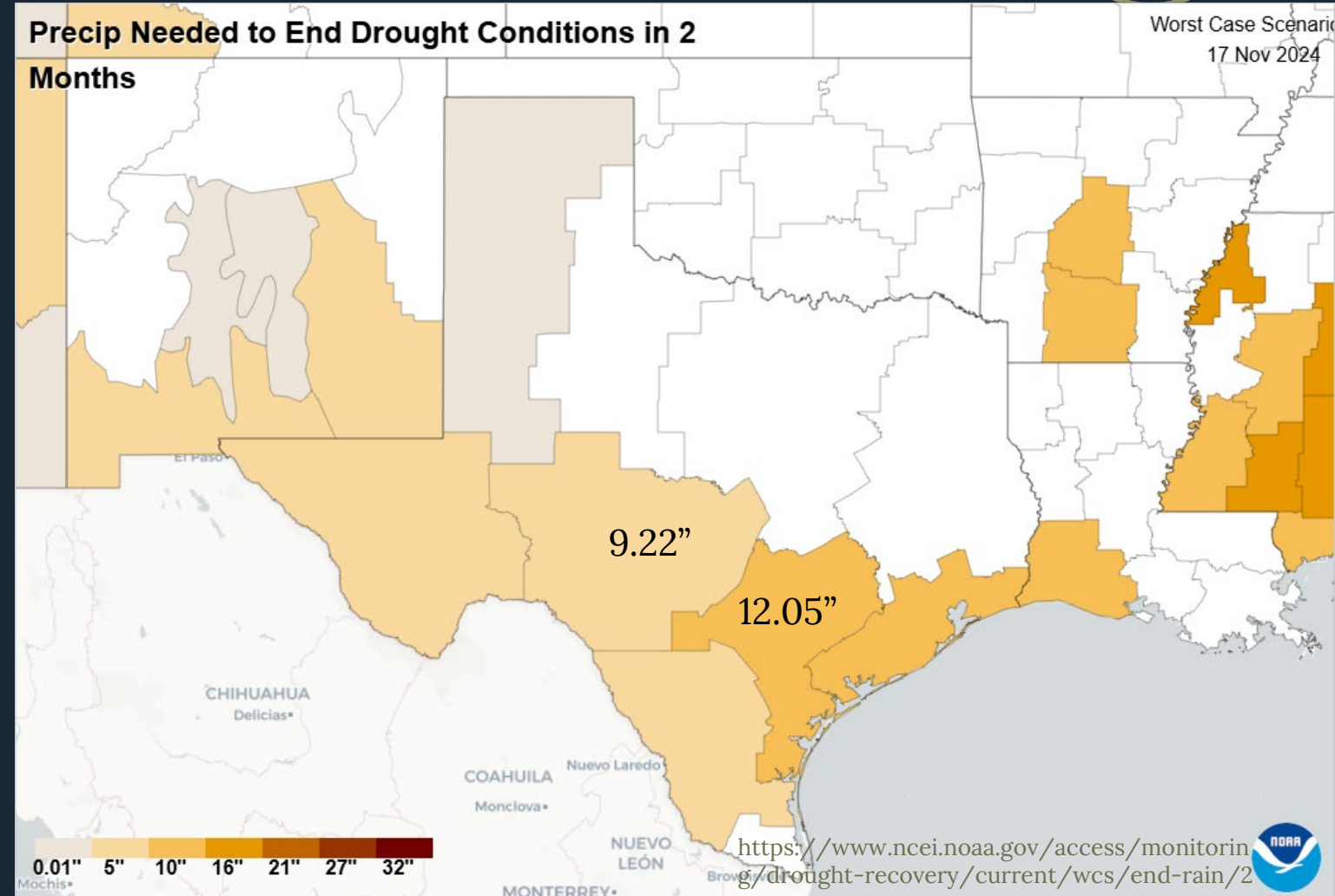
August 2023

Stage 1 in Effect

# Ongoing Drought Conditions



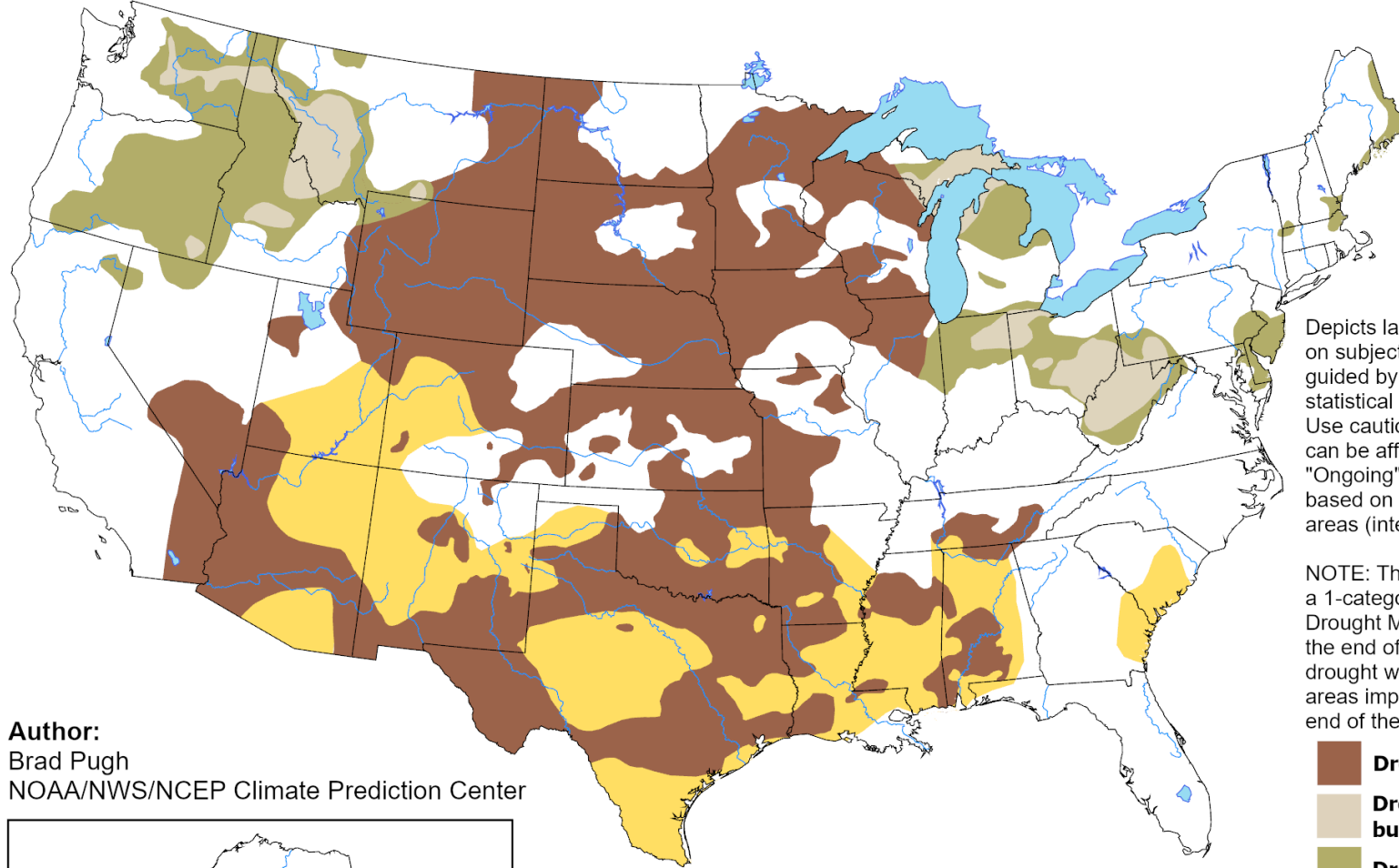
- Significant Drought is ongoing. Surrounding utilities are in or continue advancing to more severe drought stages.
- Additionally, several surrounding entities have adopted amendments to their DCP, including TGRGCD (2023), GBRA (2024), and SAWS (2024).



# U.S. Seasonal Drought Outlook

## Drought Tendency During the Valid Period

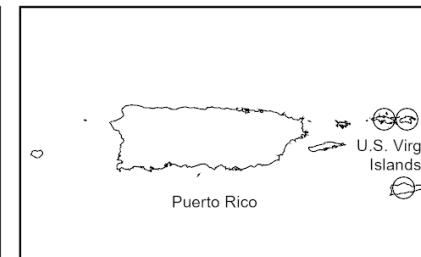
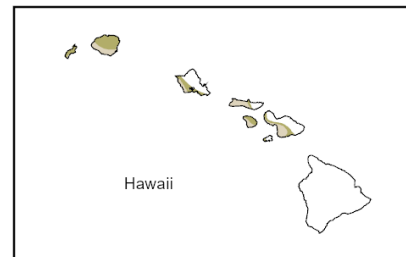
Valid for October 17, 2024 - January 31, 2025  
Released October 17, 2024



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**
- No drought**



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

# FORU – Average Observation Well Level



Year	January	February	March	April	May	June	July	August	September	October	November	December	Average
2010	1084.7	1160.1	1160.4	1151.4	1158.9	1151.2	1110.9	1067.6	1102.5	1104.6	1079.8	1074.2	1117.2
2011	1077.1	1075.4	1063.8	1049.2	1039.3	1035.3	1033.3	1031.5	1030.5	1035.6	1039.9	1051.4	1046.9
2012	1059.7	1063.8	1071.3	1066.4	1058.0	1048.8	1045.2	1038.6	1036.4	1044.7	1046.8	1048.2	1052.3
2013	1056.1	1058.7	1054.4	1052.3	1052.0	1056.2	1044.7	1034.7	1033.0	1036.5	1044.1	1051.4	1047.9
2014	1055.7	1056.2	1055.4	1051.3	1043.1	1049.3	1042.5	1036.3	1034.9	1036.2	1045.1	1053.6	1046.6
2015	1058.4	1062.9	1062.7	1064.0	1098.2	1163.7	1137.1	1072.9	1046.6	1040.5	1084.7	1126.5	1084.8
2016	1105.0	1085.9	1080.5	1099.3	1158.5	1170.2	1122.9	1096.1	1103.1	1092.7	1078.2	1109.7	1108.5
2017	1107.4	1114.9	1128.6	1099.3	1069.8	1059.4	1043.2	1035.9	1034.7	1041.4	1042.1	1046.7	1068.6
2018	1056.8	1059.0	1056.5	1053.5	1050.2	1037.9	1038.5	1039.1	1093.7	1170.1	1171.1	1157.0	1081.9
2019	1168.2	1151.5	1122.2	1103.4	1149.2	1141.4	1112.7	1062.8	1050.4	1046.9	1062.3	1066.9	1103.2
2020	1068.6	1071.6	1069.8	1066.1	1062.9	1065.3	1047.8	1036.7	1038.4	1036.6	1034.3	1037.0	1052.9
2021	1046.7	1049.1	1048.5	1038.8	1052.4	1090.0	1086.8	1081.3	1057.6	1065.5	1072.4	1063.4	1062.7
2022	1059.2	1049.0	1049.6	1037.2	1033.6	1030.1	1029.3	1028.1	1028.4	1024.6	1025.4	1033.2	1035.6
2023	1040.0	1047.8	1048.0	1047.6	1049.3	1046.9	1034.1	1027.7	1024.6	1025.2	1029.3	1032.5	1037.8
2024	1042.4	1051.4	1052.6	1050.5	1049.3	1043.3	1040.5	1039.4	1036.5	1032.7	1032.3		1042.8

Low ←————→ High

# Current Triggering Entities



- GBRA – 60%\*
  - Stage 1 – Mild
  - Stage 2 – Moderate
  - Stage 3 – Severe
  - Stage 4 – Critical
  - Stage 5 – Extreme
  - Stage 6 – Emergency
- TGRGCD – 40%\*
  - Stage 1 – Moderate
  - Stage 2 – Severe
  - Stage 3 – Critical



\* Average for FY2023-24

# GBRA – DCP updated May 2024



## Drought Stages for Wholesale Customers

1

**Mild**

Voluntary  
reduction of  
5%

2

**Moderate**

Voluntary  
reduction of  
10%

3

**Severe**

Voluntary  
reduction of  
15%

4

**Critical**

Mandatory  
reduction of  
15%

5

**Extreme**

Mandatory  
reduction of  
30%

6

**Emergency**

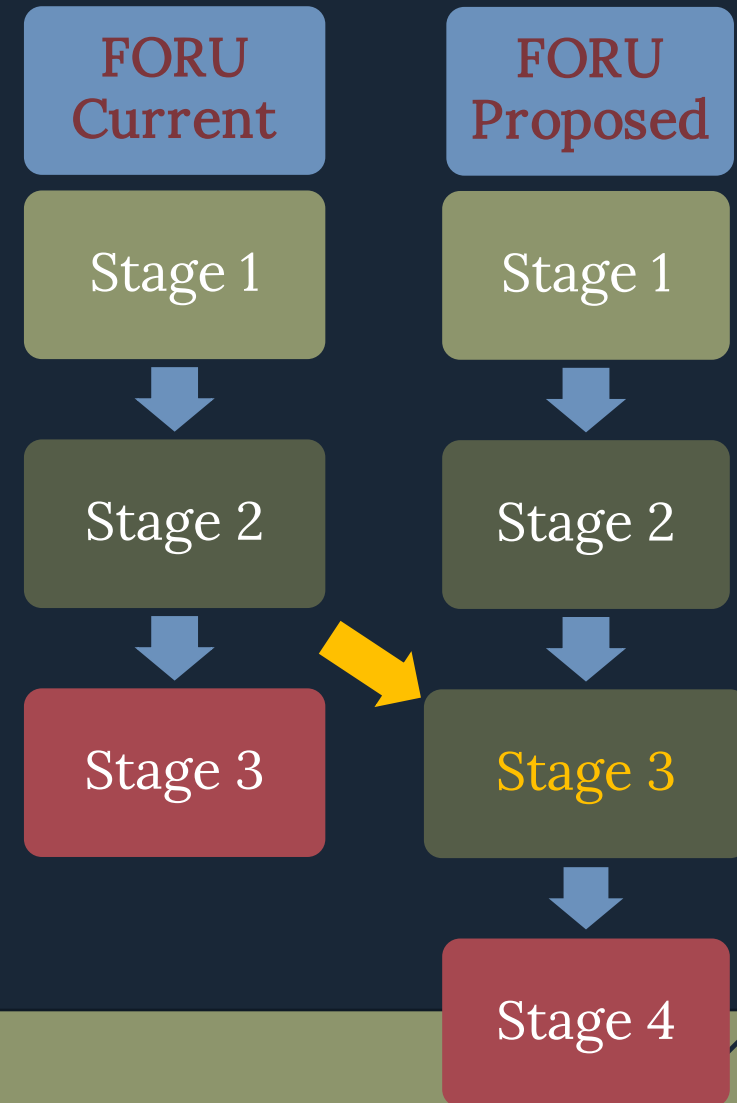
GBRA Board  
of Directors  
to determine.



# Proposed Transition to a 4-Stage DCP



- FORU's Current Stage 3 is the most extreme drought stage.
- Based on lessons learned, a need for a stage between Stages 2 and 3 may be necessary to better align with GBRA drought stage severities and possible curtailments.



# Current Drought Stages - Triggers



- Stage 1 (2/3)
  1. FORU observation well averages less than or equal to 1,045 feet for 15 consecutive days;
  2. Average daily consumption of Trinity Aquifer groundwater for the same consecutive 15 days exceeds 1.2 million gallons per day; or
  3. Either GBRA or TGRGCD implements Drought Stage 1.
- Stage 2 (2/3)
  1. FORU observation well averages  $\geq$  1,035 feet for 8 consecutive days;
  2. Average daily consumption of Trinity Aquifer groundwater for the same consecutive eight (8) days exceeds 700,000 gallons per day; or
  3. Either GBRA or TGRGCD implements Drought Stage 2.
- Stage 3 (1/3)
  1. FORU observation well is equal to or less than 1,020 feet above mean sea level;
  2. At any time that the water system's production wells are failing so that normal production of 1.2 million gallons per day of Trinity Aquifer groundwater cannot be maintained for seven (7) consecutive days; or
  3. GBRA or TGRGCD implements Stage 3.

# Proposed Drought Stages - Triggers



- Stage 1 – **Unchanged**
- Stage 2
  2. Average daily consumption of Trinity Aquifer groundwater for the same consecutive eight (8) days exceeds ~~700,000~~ **900,000** gallons per day
- Stage 3 (2/3)
  1. **FORU observation well averages less than or equal to 1,025 feet above mean sea level for eight (8) consecutive days;**
  2. **Average daily consumption of Trinity Aquifer groundwater for the same consecutive eight (8) days exceeds 700,000 gallons per day;**  
or
  3. **GBRA or TGRGCD implements Drought Stage 3**
- Stage 4 – **Implements current Stage 3 - Unchanged**

# Current Drought Stages - Measures



- Stage 1

1. Surcharges begin at 20,000 gallons for Residential Accounts and 50,000 Gallons for Commercial Accounts.
2. Commercial car washing (using nonrecycled technology) is banned.
3. Reduction in water main flushing.
4. No Watering Permits shall be issued, except newly built homes or with proof of new lawn purchase, within 7 days before Stage 1 implementation.

- Stage 2

1. Surcharges begin at 15,000 gallons for Residential Accounts and 40,000 Gallons for Commercial Accounts.
2. Fire hydrants are limited to firefighting, related activities, or other activities necessary to maintain public health, safety, and welfare.
3. Ornamental water fountain water usage is banned.
4. No sale of bulk water.
5. Landscape watering permits for new lawn purchases are rescinded and no new permits will be issued.
6. Golf course watering is limited to the use of effluent and non-potable irrigation well water.

# Current Drought Stages - Measures



- Stage 3
  1. Surcharges begin at 10,000 gallons for Residential Accounts and 30,000 Gallons for Commercial Accounts.
  2. All nonessential water uses are prohibited.
  3. Golf course watering is limited to the use of effluent water provided by the FORU wastewater treatment plant or a water source other than that provided by FORU.
  4. A moratorium is imposed on the issuance of irrigation (with the exception of newly built homes) and swimming pool permits.
  5. Hosston/Sligo aquifer water may be diverted to drinking water distribution, if authorized by TCEQ.
  6. No application for new, additional, expanded, or increased-in-size water service connections, meters, service lines, pipeline extensions, mains, or water service facilities of any kind shall be approved, and time limits for approval of such applications are hereby suspended for such time as this drought response stage is in effect.
  7. Water-flow restrictors may be installed on customer meters.

# Proposed Drought Stages - Measures



- Stage 1 – *Unchanged*
- Stage 2 – *Minor clarification to include “no sale of bulk water, unless work is being completed for the City.”*
- Stage 3 – *New Stage and measures*
  1. *Surcharges begin at 10,000 gallons for Residential Accounts and 30,000 Gallons for Commercial Accounts.*
  2. *Landscape watering through an irrigation system is limited to once every other week.*
  3. *Power washing sidewalks, driveways, pavement, the outside of buildings or other impervious surfaces is prohibited.*
  4. *Drip irrigation is allowed every Monday, Wednesday, and Friday.*
- Stage 4 – *Same measures as the current Stage 3. Includes an additional measure to limit drip irrigation to once a week.*

# Stage 3 – Every Other Week Watering Day Schedule



- Bridge the gap from the year-round watering day schedule to no watering at Stage 4
- Maintain watering day but alternate between even/odd weeks

MAY						
S	M	T	W	T	F	S
29	30	1	2	3	4	5
0		2	4	6	8	
6	7	8	9	10	11	12
	1	3	5	7	9	
13	14	15	16	17	18	19
0		2	4	6	8	
20	21	22	23	24	25	26
	1	3	5	7	9	
27	28	29	30	31	1	2
0		2	4	6	8	

Even Watering Weeks

Odd Watering Weeks



# Questions, Thoughts or Suggestions?