



Drought Incident Annex



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Figure 1-1: Coordinating and Support Agencies

Lead Coordinating Agencies	Department of Military Affairs/Wisconsin Emergency Management (DMA/WEM)
Wisconsin Governmental Support Agencies	Department of Administration (DOA) Department of Agriculture, Trade and Consumer Protection (DATCP) Department of Health Services (WI DHS) Department of Military Affairs (DMA) Department of Natural Resources (DNR) Department of Transportation (WisDOT) Public Service Commission (PSC) Wisconsin State Climatology Office
Federal ESF Coordinating Agencies	Drought Monitor Project National Drought Mitigation Center National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) U.S. Army Corps of Engineers (USACE) U.S. Coast Guard (USCG) U.S. Department of Agriculture (USDA) U.S. Department of Commerce (US DOC) U.S. Department of the Interior (DOI)

1. Introduction

1.1. Purpose

1.1.1. Wisconsin is subject to droughts, which can cause severe, even catastrophic, damage. A prolonged or extreme drought can impact:

- 1.1.1.1 Wisconsin’s economy by reducing industrial, commercial, and agricultural productivity.
- 1.1.1.2 Quality of life by the direct effects of reduction of available water resources and by the indirect effects of loss of jobs, livestock, and crops.

1.1.2. This annex:

- 1.1.2.1 Provides perspective and guidance to state agencies in drought recognition and response.
- 1.1.2.2 Proposes state agency actions that can minimize environmental damage, economic losses, domestic hardships, and other drought related impacts on the state.

1.2. Scope

A drought can be described as a prolonged period of abnormally dry weather where diminished precipitation causes serious hydrologic imbalance. Drought severity depends on the degree and duration of precipitation deficiency and the size of the affected area. A drought is a progressive



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and potentially unrecognized incident until it has reached a moderate to severe level. This annex:

- 1.2.1. Identifies indices of drought conditions and classifies drought levels.
- 1.2.2. Defines trigger points for activating this annex based upon the level of drought conditions.

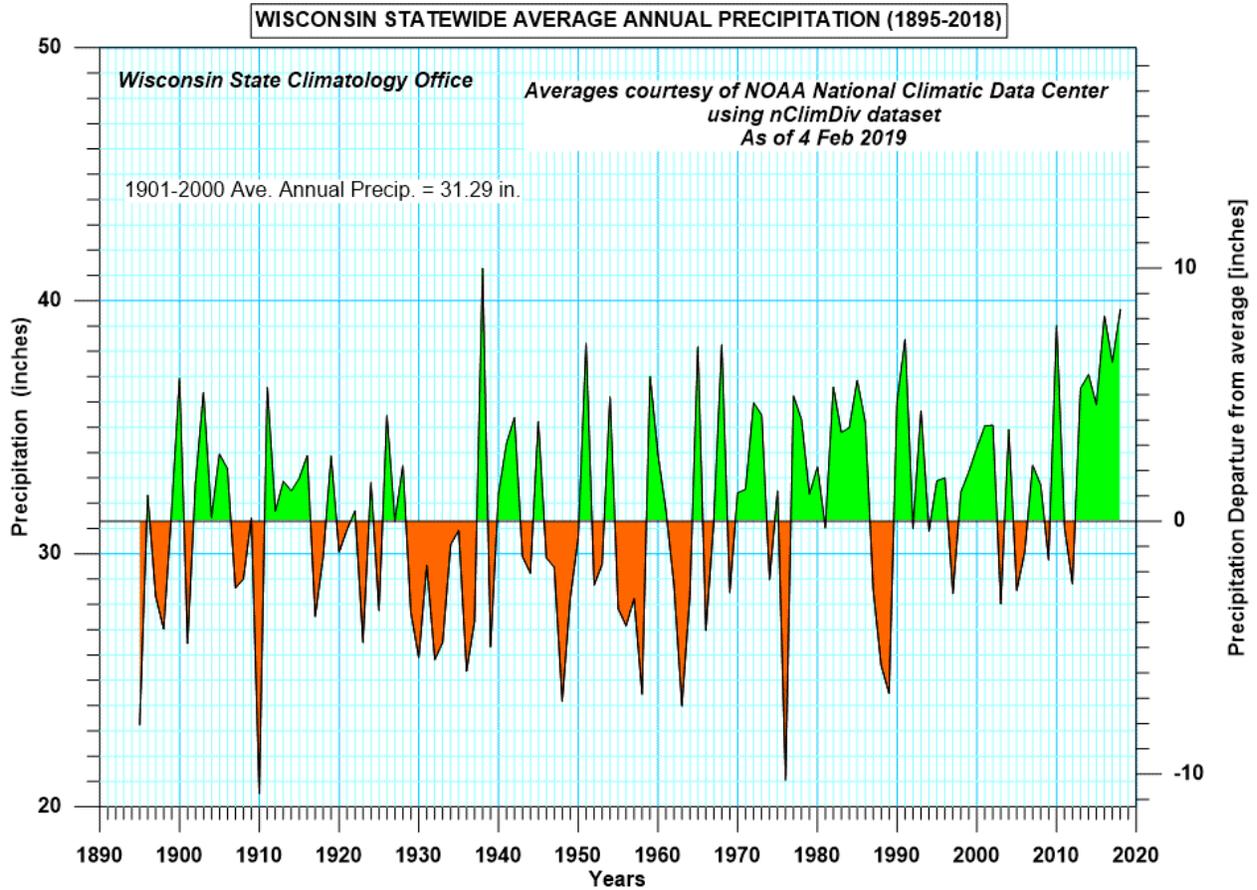
2. Planning Assumptions

- 2.1.1. A drought can occur at any location and may be difficult to recognize in its early stages.
- 2.1.2. Short-term drought conditions typically last for six months or less. Long-term droughts persist for more than six months, possibly lasting for years.
- 2.1.3. Effective drought response depends on timely drought recognition.
- 2.1.4. State level response to a drought incident will be consistent with the National Incident Management System (NIMS) and the Wisconsin Emergency Response Plan (WERP).
- 2.1.5. The following graph depicts statewide average annual precipitation from 1895 to 2018. Green areas on the graph identify those years with above average precipitation and red areas identify those years with below average precipitation.



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Figure 2-1: Wisconsin Statewide Average Annual Precipitation (1895-2018)

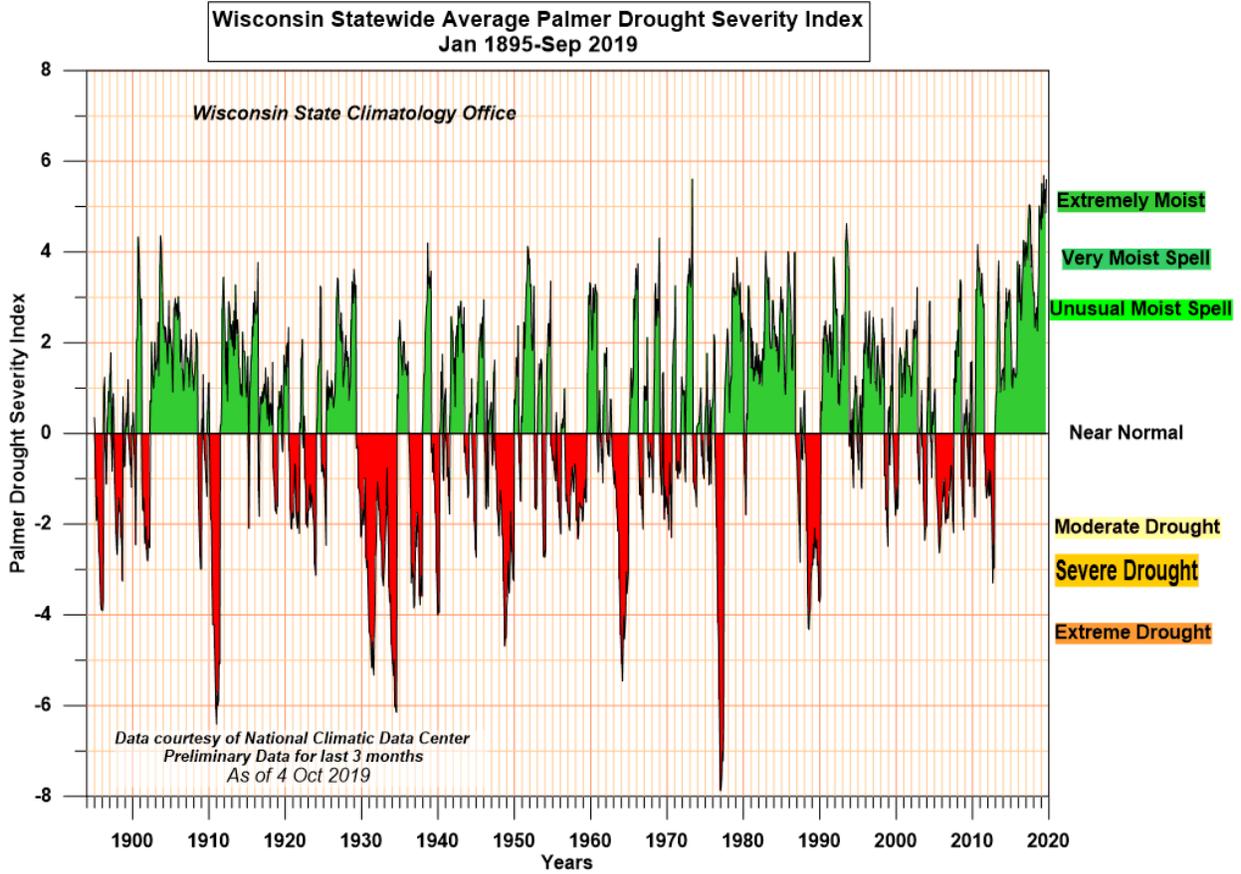


Source: [Wisconsin State Climatology Office](#)



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Figure 2-2: Wisconsin Statewide Average Palmer Drought Severity Index (1895-2019)

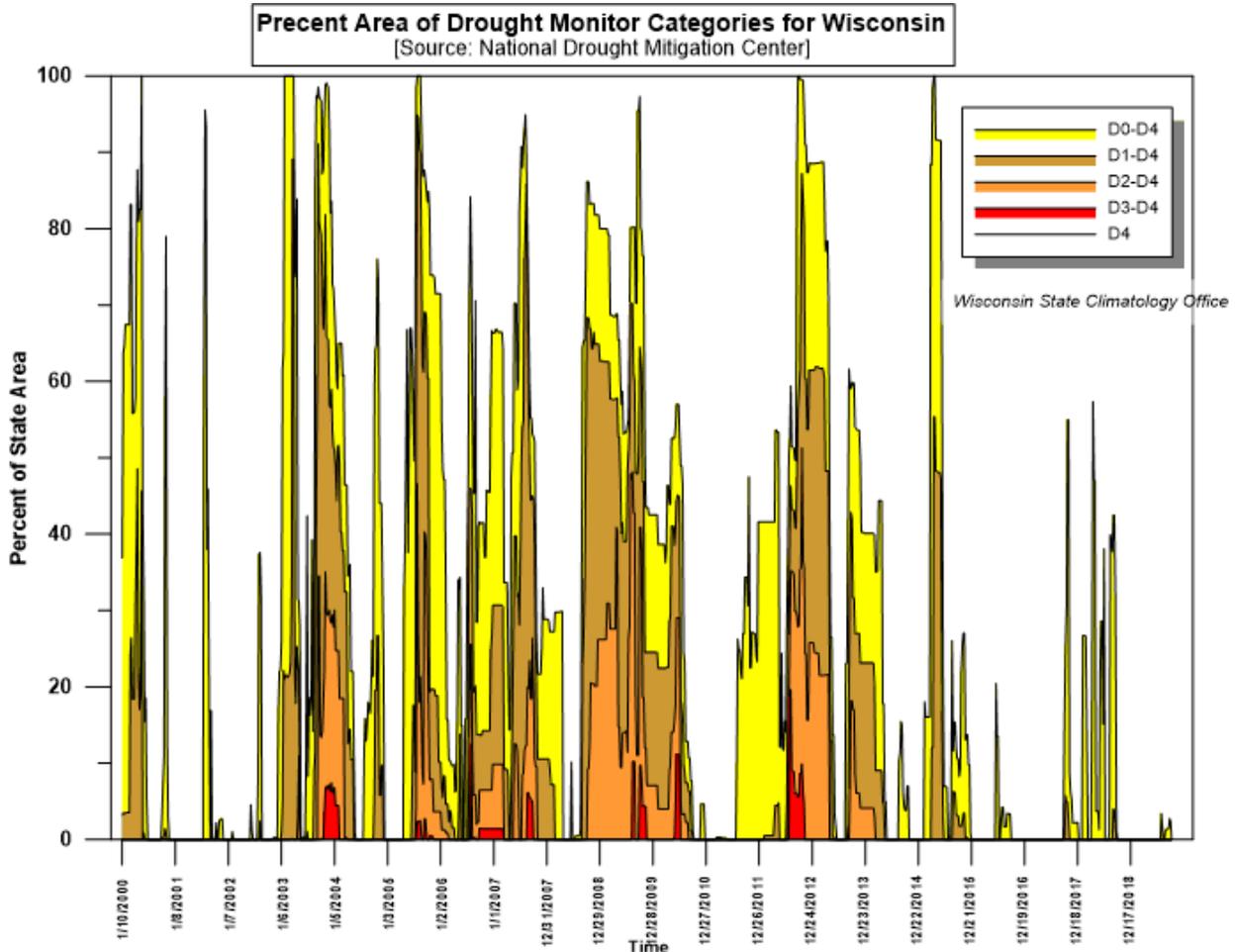


Source: [Wisconsin State Climatology Office](#)



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Figure 2-3: Percent Area of Drought Monitor Categories for Wisconsin



Source: [Wisconsin State Climatology Office](#)

2.1.6. Drought conditions cause many adverse effects on the state including, but not limited to:

- 2.1.6.1 Agriculture, agriculture-based business, recreation, and the tourist industry
- 2.1.6.2 Upward pressure on retail food prices due to shortages of vegetables, dairy products, meat, and other foodstuffs
- 2.1.6.3 Increased possibility of rapidly spreading wildland fires due to reduced soil and vegetation moisture levels
- 2.1.6.4 Water shortages that may result in voluntary or mandatory limitations on water use
- 2.1.6.5 Reduced availability of drinking water
- 2.1.6.6 Reductions in river, lake, and stream levels and flows causing harm to water-dependent natural resources



3. Concept of Operations

3.1. U.S. Drought Monitor Classification Scheme

The U.S. Drought Monitor is produced through a partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. The U.S. Drought Monitor uses the following Drought Severity Classification:

3.1.1. Category D0

3.1.1.1 Description: Abnormally Dry

3.1.1.2 Possible Impacts:

(1) Going into a drought

(A) Short-term dryness slowing planting, growth of crops or pastures

(2) Coming out of a drought

(A) Some lingering water deficits

(B) Pastures or crops not fully recovered

3.1.2. Category D1

3.1.2.1 Description: Moderate Drought

3.1.2.2 Possible Impacts:

(1) Some damage to crops, pastures

(2) Streams, reservoirs, or wells low, some water shortages developing or imminent

(3) Voluntary water use restrictions requested

3.1.3. Category D2

3.1.3.1 Description: Severe Drought

3.1.3.2 Possible Impacts:

(1) Crop or pasture losses likely

(2) Water shortages common

(3) Water restrictions imposed

3.1.4. Category D3

3.1.4.1 Description: Extreme Drought

3.1.4.2 Possible Impacts:



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- (1) Major crop or pasture losses
- (2) Widespread water shortages or restrictions

3.1.5. Category D4

3.1.5.1 Description: Exceptional Drought

3.1.5.2 Possible Impacts:

- (1) Exceptional and widespread crop or pasture losses
- (2) Shortages of water in reservoirs, streams, and wells creating water emergencies

3.1.5.3 Additional Drought Severity Classification information is included in Attachment 1.

3.2. Mobilization Triggers

This non-inclusive list demonstrates some of the triggers for activating this annex:

- 3.2.1. The governor, individually or in consultation with the adjutant general and WEM administrator, determines that conditions in the state warrant activation.
- 3.2.2. WEM, in consultation with the Drought Taskforce, determines that a significant portion of the state is Category D0 (Abnormally Dry) or Category D1 (Moderate Drought) condition.
- 3.2.3. WEM, in consultation with the Drought Taskforce, determines that any portion of the state is in a Category D2 (Severe Drought) or Category D3 (Extreme Drought) condition.

3.3. Drought Taskforce

3.3.1. Activation

Activation of the Drought Taskforce may occur in response to, or in anticipation of, drought conditions that may necessitate state support or assistance.

3.3.2. Composition

The taskforce is anticipated to include, but is not limited to, representatives from:

- 3.3.2.1 The Governor's Office
- 3.3.2.2 WI DHS
- 3.3.2.3 DNR
- 3.3.2.4 DATCP
- 3.3.2.5 WisDOT
- 3.3.2.6 DMA



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3.3.2.7 WEM

3.3.2.8 PSC

3.3.2.9 DOA

3.3.2.10 Wisconsin State Climatology Office

3.3.3. Activities

3.3.3.1 Meets on a regular basis

3.3.3.2 Submits weekly reports to the governor for his/her situational awareness and action

3.3.3.3 Serves as the technical advisory body for state and local decision makers

3.3.3.4 Develops, with the advice of focus area subgroups, short- and long-term drought response recommendations for protection of the public

3.3.3.5 May provide, with the advice of focus area subgroups, specific information on:

- (1) Drought trends
- (2) Establishing water use priorities
- (3) Recommendations to local water utilities for creating or updating water shortage plans
- (4) Water availability including observed and expected precipitation, stream flow, reservoirs, and groundwater levels
- (5) Dry or impacted wells and other groundwater supply sources
- (6) Recommendations relating to proposed state actions
- (7) Potential impacts on Wisconsin's agriculture, economy, and environment
- (8) Impacts to navigable waterways including Great Lakes ports and the Mississippi River
- (9) Improvements to the capability to provide accurate and timely assessments of water availability or agricultural deficiencies
- (10) Recommendations to the governor and other partners concerning state level responses

3.3.4. Focus area subgroups

In addition to the Drought Taskforce, additional subgroups, when created, provide input on various focus areas including, but not limited to:

3.3.4.1 Agriculture

3.3.4.2 Wildfire



- 3.3.4.3 Fish and wildlife
- 3.3.4.4 Recreation and tourism
- 3.3.4.5 Public water supplies
- 3.3.4.6 Economic impacts

3.4. Annex Activities

The WERP Basic Plan defines standardized tasks that constitute the prevention, protection, mitigation, response, and responsibilities of any agency that serves a role in emergency management. This section defines activities unique to this annex, intended for use in conjunction with the common tasks outlined in the Basic Plan.

- 3.4.1. As drought conditions deepen, decisions on reducing water consumption may become necessary.
 - 3.4.1.1 Numerous factors influence these decisions including location and other factors specific to the incident at hand.
 - 3.4.1.2 The following prioritized, non-inclusive list of water uses is for guidance purposes only:
 - (1) Human health
 - (2) Firefighting
 - (3) Livestock watering
 - (4) Crop irrigation
 - (5) Industrial and commercial process uses
 - (6) Hydroelectric production
 - (7) Recreational uses (i.e., water parks, golf course irrigation)
 - (8) Quality of life use (landscape watering, car washing)
- 3.4.2. Other measures to mitigate drought conditions may include adjustments to commercial, industrial, and municipal effluent discharged into lakes, rivers, and streams.

Table 3-1: Annex Activities for Drought Category D0

Phase	Action Item	Agency
Category D0 (Abnormally Dry)	<ul style="list-style-type: none"> ▪ Conduct heat awareness and severe weather awareness campaigns to make the public aware of potentially hazardous conditions. ▪ Ensure online preparedness information is available and accessible to all audiences. 	WI DHS DMA/WEM
	<ul style="list-style-type: none"> ▪ Monitor precipitation, temperature, and soil dryness trends and report abnormalities to WEM. 	NWS WI State Climatology Office



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Phase	Action Item	Agency
	<ul style="list-style-type: none"> ▪ Promote water conservation with public water utilities and all consumers. ▪ If necessary, evaluate quantity and quality of new public water sources. 	DNR PSC
	<ul style="list-style-type: none"> ▪ Monitor public water supplies currently identified as vulnerable. ▪ Notify WEM of significant identified vulnerabilities. 	DNR Local Water Utilities

Table 3-2: Annex Activities for Drought Category D1

Phase	Action Item	Agency	
Category D1 (Moderate)	<ul style="list-style-type: none"> ▪ Monitor for increases in diseases, including West Nile Virus, related to drought. ▪ Monitor for increases in nuisance animals invading populated areas seeking water from decorative water features, swimming pools, etc. 	WI DHS	
	<ul style="list-style-type: none"> ▪ Monitor and report on current and forecast precipitation, temperature, and soil dryness conditions and trends. 	NWS WI Climatology Office	
	<ul style="list-style-type: none"> ▪ Recommend that public water utilities request their customers conserve water by curtailing non-critical uses such as landscape watering, vehicle washing, and similar uses. ▪ Monitor for changes in private and public well water quality due to reductions in the water table. ▪ Encourage homeowners with private wells to check well water quality. Wisconsin State Laboratory of Hygiene provides well water test kits. ▪ Monitor for changes in private and public well water quality due to reductions in the water table. ▪ Identify and evaluate the quantity and quality of new sources for public water if problems exist. ▪ Initiate the emergency process for temporary withdrawals from waterways per Wisconsin Statutes §30.18. ▪ Initiate the emergency high capacity well review process with priority set in the following order: <ul style="list-style-type: none"> ○ Human health ○ Animal health ○ Crop irrigation 	DNR PSC	
	<ul style="list-style-type: none"> ▪ Monitor public water supplies currently identified as vulnerable. ▪ Notify WEM of significant vulnerabilities identified. ▪ Implement emergency response plans, as necessary. 	DNR Local Water Utilities	
	<ul style="list-style-type: none"> ▪ If activated, provide current information on drought related topics to the governor’s office. 	Drought Taskforce	
	<ul style="list-style-type: none"> ▪ Consider activating the Drought Taskforce to monitor drought conditions more closely. ▪ Establish an incident site on WebEOC to provide enhanced situational awareness for all involved agencies, counties, tribes, municipalities, NGOs, and private sector partners. 	DMA/WEM	
	Public Information Officer (PIO)		



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Phase	Action Item	Agency
	<ul style="list-style-type: none"> ▪ Conduct public information campaigns to heighten awareness of the actual and potential effects of current and potential future drought conditions. ▪ Consider issuing drought alerts to heighten public situational awareness of the current situation. 	

Table 3-3: Annex Activities for Drought Categories D2 and D3

Phase	Action Items	Agency
Severe or Extreme Drought, Category D2 & D3	<ul style="list-style-type: none"> ▪ Monitor the safety of: <ul style="list-style-type: none"> ○ The food supply for humans ○ Animal feed supplies ▪ Provide information on public health issues relating to the mental and behavioral health impacts on farmers. 	DATCP
	<ul style="list-style-type: none"> ▪ In coordination with the WEM PIO: <ul style="list-style-type: none"> ○ Conduct heat awareness and severe weather awareness campaigns to make the public aware of potentially hazardous conditions. ○ Ensure online preparedness information is available and accessible to all audiences. ▪ Monitor and report on increases in diseases, including vector-borne diseases related to drought and severe weather, such as West Nile virus. ▪ Track and report on surface water harmful algae blooms and other surface water degradations that can directly affect human health. ▪ Monitor for changes in private and public well water quality due to reductions in the water table. ▪ Encourage homeowners with private wells to check well water quality. Wisconsin State Laboratory of Hygiene provides well water test kits. ▪ Provide information on public health issues relating to the mental and behavioral health impacts on farmers. ▪ Provide information on public health issues relating to: <ul style="list-style-type: none"> ○ Coordination of drought response activities with key public health stakeholders and partners. ○ Monitoring and assessments of drought-related public health impacts, including: <ul style="list-style-type: none"> ▪ <i>Mental and behavioral health impacts.</i> ▪ <i>Changes in human disease and mortality incidence associated with drought conditions (infectious, chronic, and vector-borne/zoonotic diseases, and heat-related fatalities).</i> ○ Public health implications of compromised quality in surface water and potable drinking water. <ul style="list-style-type: none"> ▪ <i>Public health implications of compromised quality in groundwater quality and private drinking water wells.</i> 	WI DHS
	<ul style="list-style-type: none"> ▪ Monitor and report current and forecast precipitation, temperature, and soil dryness conditions and trends to WEM. 	NWS WI State Climatology Office



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Phase	Action Items	Agency
Severe or Extreme Drought, Category D2 & D3	<ul style="list-style-type: none"> ▪ Communicate with local public water utilities to: <ul style="list-style-type: none"> ○ Gather information on the status of their system supply and demand. ○ Encourage utilities to review and revalidate drought emergency contingency plans. ▪ Recommend that public water utilities request that customers conserve water by curtailing non-critical uses. ▪ Help identify and evaluate the quantity and quality of new sources of public water, if problems exist. ▪ Be available to assist public water utilities with implementation of emergency response plans. ▪ Initiate or continue the emergency process for temporary withdrawals from waterways allowed in Wisconsin Statutes §30.18. ▪ Initiate or continue the emergency high capacity well review process with priority set in the following order: <ul style="list-style-type: none"> ○ Human health ○ Animal health ○ Crop irrigation ▪ Provide current information to local public water utilities regarding the status of groundwater and public drinking water aquifers. 	DNR PSC
	<ul style="list-style-type: none"> ▪ Monitor public water supplies currently identified as vulnerable. ▪ Notify WEM of significant vulnerabilities identified. ▪ Implement water utility emergency response plans, as necessary. 	DNR Local Water Utilities
	<ul style="list-style-type: none"> ▪ Provide current information on drought related topics to WEM. 	Drought Taskforce
	<ul style="list-style-type: none"> ▪ If activated, provide comprehensive information relating to their target subject area. 	Focus Area Subgroups



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Phase	Action Items	Agency
Severe or Extreme Drought, Category D2 & D3	<ul style="list-style-type: none"> ▪ Activate the Drought Taskforce, if not already activated. ▪ Consider activating subgroups to study target areas of the drought. ▪ Establish an incident site on WebEOC to enhance situational awareness for all involved agencies, counties, tribes, municipalities, non-government organizations, and private sector partners. ▪ Monitor water shortage conditions throughout the affected area. Be prepared to provide emergency water supplies, when and where necessary. ▪ Locate supplies of pumps, pipes, and other hardware to move large volumes of water for critical uses, if necessary. <p>Legal Counsel</p> <ul style="list-style-type: none"> ▪ Research statutes relating to public water supplies and shortages. Develop legal and legislative strategies for possible implementation, if needed. ▪ Prepare sample ordinances relating to water conservation to share with local jurisdictions. <p>PIO</p> <ul style="list-style-type: none"> ▪ Continue public information campaigns to heighten awareness of the actual and potential effects of current and potential future drought conditions. ▪ Consider issuing ‘drought alerts’ to heighten public situational awareness of the current situation. ▪ Adjutant General should consider recommending that the governor declare a state of emergency in areas of the state affected by the drought including recommended drought mediation measures. 	DMA/WEM
	<ul style="list-style-type: none"> ▪ Facilitate utility construction or emergency interconnections to alleviate water shortages per PSC 184. 	PSC

Table 3-4: Annex Activities for Drought Categories D4

Phase	Action Items	Agency
Exceptional Drought Category D4	<ul style="list-style-type: none"> ▪ Monitor and report current and forecast precipitation, temperature, and soil dryness conditions and trends to WEM. 	NWS Wisconsin State Climatology Office



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Phase	Action Items	Agency
	<ul style="list-style-type: none"> ▪ Communicate with local public water utilities to update information on the status of their system supply and demand. ▪ Recommend that public water utilities request their customers conserve water by curtailing non-critical uses. ▪ Identify and evaluate the quantity and quality of new sources for public water, if problems exist. ▪ Assist public water utilities with implementation of emergency response plans, as requested. ▪ Continue the emergency process for temporary withdrawals from waterways per Wisconsin Statutes §30.18. ▪ Continue the emergency high capacity well review process with priority set in the following order: <ul style="list-style-type: none"> ○ Human Health ○ Animal Health ○ Crop irrigation ▪ Take such measures that allow farmers to harvest hay from or allow their livestock to feed on state owned land. 	<p>DNR PSC</p>
	<ul style="list-style-type: none"> ▪ Monitor public water supplies currently identified as vulnerable and notify WEM of significant vulnerabilities identified. ▪ Implement water utility emergency response plans, as necessary. 	<p>DNR Local Water Utilities</p>
<p>Exceptional Drought Category D4</p>	<ul style="list-style-type: none"> ▪ In coordination with the WEM PIO: <ul style="list-style-type: none"> ○ Conduct Heat Awareness and Severe Weather Awareness campaigns to make the public aware of potentially hazardous conditions. ○ Ensure online preparedness information is available and accessible to all audiences. ▪ Monitor and report on increases in diseases, including vector-borne diseases related to drought and severe weather, such as West Nile Virus. ▪ Track and report on surface water harmful algae blooms and other surface water degradations that can directly affect human health. ▪ Monitor for changes in private and public well water quality due to reductions in the water table. ▪ Encourage homeowners with private wells to check well water quality. Wisconsin State Laboratory of Hygiene provides well water test kits. ▪ Provide information on public health issues relating to the mental and behavioral health impacts on farmers. ▪ Coordination of drought response activities with key public health stakeholders and partners. ▪ Monitoring and assessments of drought-related public health impacts, including: <ul style="list-style-type: none"> ○ Mental and behavioral health impacts. ○ Changes in human disease and mortality incidence associated with drought conditions (infectious, chronic, and vector-borne/zoonotic diseases, and heat-related fatalities). ○ Public health implications of compromised quality in surface water and potable drinking water. ○ Public health implications of compromised quality in groundwater quality and private drinking water wells. 	<p>WI DHS Wisconsin State Laboratory of Hygiene</p>



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	<ul style="list-style-type: none"> Provide current information on drought related topics to the Governor’s office. 	Drought Taskforce
	<ul style="list-style-type: none"> If activated, provide comprehensive information relating to their target subject area. 	Targeted Drought Subgroups
	<ul style="list-style-type: none"> Where the potential for a state declaration of emergency exists, consider imposing water restrictions. 	Governor’s office
Exceptional Drought Category D4	<ul style="list-style-type: none"> Adjutant General Recommend implementation of legal and legislative measures to reduce the impact of drought on impacted populations. Recommend that the Governor declare a state of emergency in areas of the state affected by the drought. Consider recommending that the governor request a presidential disaster declaration. Monitor water shortage conditions throughout the area affected by the drought. Be prepared to provide emergency water supplies, when and where necessary. Consider activating WING resources to: <ul style="list-style-type: none"> Transport water to areas where water shortages are critically low. Transport pumps, pipes, and other hardware to assist local water utilities, farmers, and critical commercial and industrial entities with processes dependent on water for operation. 	DMA
	<p>Administrator</p> <ul style="list-style-type: none"> Activate the Drought Taskforce if not already activated. Consider activating targeted subgroups to study target areas of the drought. <p>PIO</p> <ul style="list-style-type: none"> Continue public information campaigns to heighten awareness of the actual and potential effects of current and potential future drought conditions. Issue “drought alerts” to heighten public situational awareness of the current situation. 	DMA/WEM
	<ul style="list-style-type: none"> Facilitate utility construction or emergency interconnections to alleviate water shortages per PSC 184. 	PSC



4. Agency Responsibilities

4.1. Lead Coordinating Agency – Department of Military Affairs

Table 4-1: Lead Coordinating Agency Functions

Agency	Functions
Department of Military Affairs/Wisconsin Emergency Management	<p>Administrator</p> <ul style="list-style-type: none"> ▪ Monitor water shortage conditions throughout the drought affected area. Be prepared to provide emergency water supplies, when and where necessary. ▪ Establish an incident site on WebEOC to provide enhanced situational awareness for all involved agencies, counties, municipalities, NGOs, and private sector partners, as necessary. • Activate and direct the Drought Taskforce to monitor drought conditions more closely, as needed. • Along with the TAG, make recommendations to the governor’s office regarding: <ul style="list-style-type: none"> o Declaring a state of emergency. o Issuing orders to restrict water usage to all or portions of the state. o Requesting a presidential disaster declaration. • Along with the TAG, activate WING assets to transport potable water to stricken areas of the state, as necessary.
	<p>Public Information Officer</p> <ul style="list-style-type: none"> ▪ Conduct heat awareness and severe weather awareness campaigns to make the public aware of potentially hazardous conditions. ▪ Ensure online preparedness information is available and accessible to all audiences. ▪ Conduct public information campaigns to heighten awareness of the actual and potential effects of current and potential future drought conditions. ▪ Issue “drought alerts” to heighten public situational awareness of the current situation.



4.2. Wisconsin Governmental Support Agencies

Table 4-2: State Government Support Agencies Functions

Agency	Functions
<p>Department of Natural Resources</p>	<p>Agency as a whole</p> <ul style="list-style-type: none"> ▪ Monitor public water supplies currently identified as vulnerable and review available information in order to identify additional public water supplies that may be vulnerable. ▪ Communicate with local public water utilities to gather and report information on the status of their systems, supplies, and demand. ▪ Recommend to local public water utilities and individuals that they limit water use, as appropriate. ▪ Identify public water supply needs and communicate deficiencies through sanitary survey inspections conducted every three years: <ul style="list-style-type: none"> ○ Gather information on the status of their system supply and demand. ○ Encourage utilities to review and revalidate drought emergency contingency plans. ▪ Identify and evaluate the quantity and quality of new sources for public water, if problems exist. ▪ Assist public water utilities with implementation of emergency response plans. ▪ Implement the emergency process for temporary withdrawals from waterways per Wisconsin Statutes §30.18. ▪ Implement the emergency high capacity well review process with priority set in the follow order: <ul style="list-style-type: none"> ○ Human health ○ Animal health ○ Crop irrigation ▪ Recommend to local public water utilities that they request customers limit water use, as appropriate.



4.3. Drought Taskforce

Table 4-3: Drought Task force Function

Agency	Functions
Drought Taskforce	Taskforce as a whole <ul style="list-style-type: none"> ▪ Provide short and long-term drought response recommendations to WEM and the governor’s office.
	Department of Administration <ul style="list-style-type: none"> ▪ Provide information relating to the status of state government and the ability to provide government services.
	Department of Agriculture, Trade and Consumer Protection <ul style="list-style-type: none"> • Monitor the safety of: <ul style="list-style-type: none"> ○ The food supply for humans ○ Animal feed supplies • Provide information on public health issues relating to the mental and behavioral health impacts on farmers • Provide information relating to impacts on: <ul style="list-style-type: none"> ○ Agricultural production ○ Livestock ○ Availability and increased cost of food
	Department of Health Services <ul style="list-style-type: none"> ▪ Provide information on public health issues relating to: <ul style="list-style-type: none"> ○ Coordination of drought response activities with key public health stakeholders and partners. ○ Monitoring and assessments of drought-related public health impacts, including: <ul style="list-style-type: none"> ▪ Mental and behavioral health impacts. ▪ Changes in human disease and mortality incidence associated with drought conditions (infectious, chronic, and vector-borne/zoonotic diseases, and heat-related fatalities). ○ Public health implications of compromised quality in surface water and potable drinking water. ○ Public health implications of compromised quality in groundwater quality and private drinking water wells.
	Local Water Utilities <ul style="list-style-type: none"> ▪ Monitor vulnerable public water supplies. ▪ Incorporate drought planning into existing public water supply emergency response plans. ▪ Implement water utility emergency response plans. ▪ Water utilities may establish a curtailment plan and file it as a tariff with the PSC under Wisconsin Administrative Code PSC Chapter 185.21.
	Department of Military Affairs/Wisconsin National Guard <ul style="list-style-type: none"> ▪ Provide information relating to availability of WING assets to assist in response to drought-related emergencies. ▪ Assign WING personnel and equipment to assist with delivery of potable water to areas of the state as directed by the governor and the adjutant general.



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Agency	Functions
	<p>Department of Natural Resources</p> <ul style="list-style-type: none"> ▪ Provide information relating to: <ul style="list-style-type: none"> ○ Water availability, stream flow, reservoirs, and groundwater levels. ○ Inspections of public water supplies conducted on a three-year schedule, including capacity to deliver adequate supplies of water. ○ Impacts on wildlife. ○ Wildfire prevention, vulnerability, and firefighting operations. ▪ Provide current information to local public water utilities regarding the status of groundwater and drinking water aquifers.
	<p>Public Service Commission</p> <ul style="list-style-type: none"> • Provide information relating to availability of electrical energy and impairments to the electric grid. • Approval of emergency interconnections between utilities under Wisconsin Administrative Code PSC Chapter 184. • Report drought effects on electrical generation, reliability, etc. • Review and approve curtailment plans or other tariffs for emergency water supply emergency under Wisconsin Administrative Code PSC Chapter 185.90. • Provide to local public water utilities information regarding options for implementing conservation measures.
	<p>Wisconsin Department of Transportation</p> <ul style="list-style-type: none"> • Provide information relating to impacts on state and federal highways and impairments to traffic flow.
	<p>Wisconsin State Climatology Office</p> <ul style="list-style-type: none"> ▪ Provide information on past droughts. ▪ Coordinate with the governor’s press office when the governor designates a chief spokesperson. ▪ Assist local officials with disseminating information (e.g., protective action recommendations).

4.4. Federal Agencies

Table 4-4: Federal Government Functions

Agency	Functions
U.S. Army Corps of Engineers	<ul style="list-style-type: none"> ▪ Monitor and report, through the Drought Taskforce, impacts on navigability of the Mississippi River.
U.S. Coast Guard	<ul style="list-style-type: none"> ▪ Monitor and report, through the Drought Taskforce, impacts on navigability of Great Lakes ports.

5. Supporting Documents

5.1. Attachments

5.1.1. U.S. Drought Monitor Drought Severity Classification



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5.2. Other Resources

- 5.2.1. Farmer to Farmer (<http://farmertofarmer.uwex.edu>). An animal feed clearinghouse created by the University of Wisconsin Extension. Farmer to Farmer assists livestock owners who may need access to additional sources of feed for their herds in times of drought.
- 5.2.2. US Drought Monitor (<http://droughtmonitor.unl.edu>)
- 5.2.3. Public Service Commission website,
<https://psc.wi.gov/Pages/ForUtilities/Water/ConservationandEfficiencyInitiative.aspx>.
- 5.2.4. Wisconsin Department of Natural Resources website, <http://dnr.wi.gov/topic/WaterUse/>.
- 5.2.5. Wisconsin Climatology Office website, <http://www.aos.wisc.edu/~sco/clim-watch>.



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Table 5-1: Record of Change

#	Date	Agency/Individual	Change
1.			
2.			
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Attachment 1

US Drought Monitor Drought Severity Classification

***U.S. Drought Monitor
Drought Severity Classification***



Wisconsin Emergency Response Plan
US Drought Severity Classification

**Drought Annex
Attachment 1**

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Table 1: Drought Severity Classification

Category	Description	Possible Impacts	Ranges				
			Palmer Drought Severity Index (PDSI)	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Standardized Precipitation Index (SPI)	Objective Drought Indicator Blends (Percentiles)
D0	Abnormally Dry	<p>Going into drought:</p> <ul style="list-style-type: none"> Short-term dryness slowing planting, growth of crops or pastures <p>Coming out of drought:</p> <ul style="list-style-type: none"> Some lingering water deficits Pastures or crops not fully recovered 	-1.0 to -1.9	21 to 30	21 to 30	-0.5 to -0.7	21 to 30
D1	Moderate Drought	<ul style="list-style-type: none"> Some damage to crops, pastures Streams, reservoirs, or wells low, some water shortages developing or imminent Voluntary water-use restrictions requested 	-2.0 to -2.9	11 to 20	11 to 20	-0.8 to -1.2	11 to 20
D2	Severe Drought	<ul style="list-style-type: none"> Crop or pasture losses likely Water shortages common Water restrictions imposed 	-3.0 to -3.9	6 to 10	6 to 10	-1.3 to -1.5	6 to 10
D3	Extreme Drought	<ul style="list-style-type: none"> Major crop/pasture losses Widespread water shortages or restrictions 	-4.0 to -4.9	3 to 5	3 to 5	-1.6 to -1.9	3 to 5



Ranges							
Category	Description	Possible Impacts	Palmer Drought Severity Index (PDSI)	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Standardized Precipitation Index (SPI)	Objective Drought Indicator Blends (Percentiles)
D4	Exceptional Drought	<ul style="list-style-type: none"> • Exceptional and widespread crop/pasture losses • Shortages of water in reservoirs, streams, and wells creating water emergencies 	-5.0 or less	0 to 2	0 to 2	-2.0 or less	0 to 2

Source: The National Drought Mitigation C



Wisconsin Emergency Response Plan
US Drought Severity Classification

**Drought Annex
Attachment 1**