



Introduction

**Indian Health Service, California Area
Office of Environmental Health & Engineering**

Drought Update

2016 Annual Tribal Consultation

Alpine, CA. Wednesday, March 9, 2016.

Christopher Brady, Deputy Director
Division of Sanitation Facilities Construction
Indian Health Service, California Area



Introduction

Drought Update Topics:

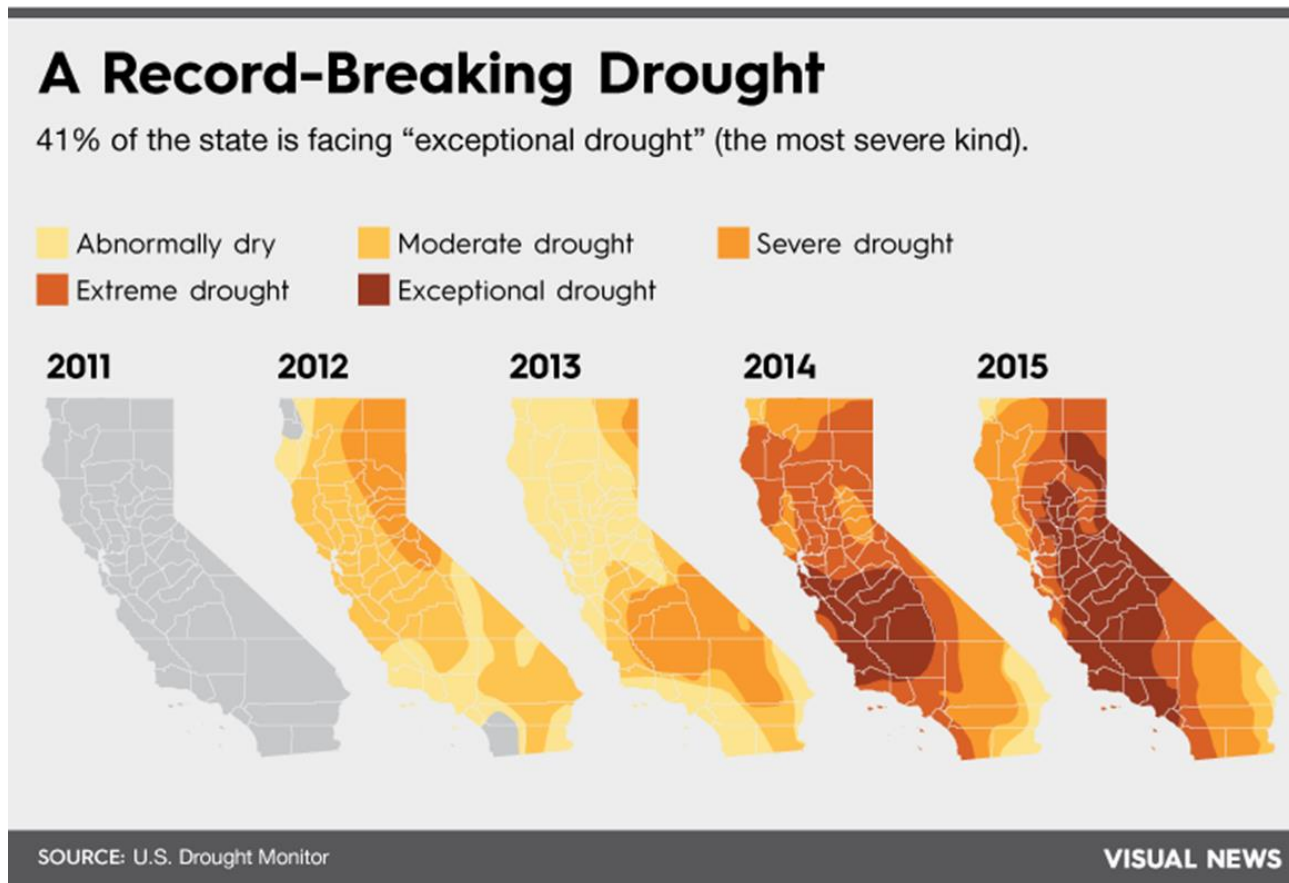
- Look back to 2014-2015
- Outlook for 2016





Background

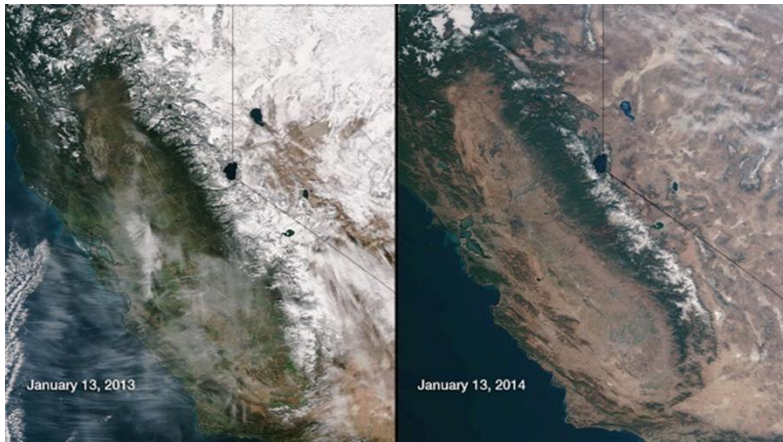
- Record driest four-year period of statewide precipitation (2012 to 2015).





Background

- January 2014, the Governor proclaimed a State of Emergency.
- Water year 2015 has produced by far the lowest snowpack since records have been kept.





Background

- April 2015, the Governor directed the State Water Board to implement mandatory water reductions in urban areas to reduce potable urban water usage by 25 percent statewide.





Tribal and IHS Activities

Tribal and IHS Drought-related activities:

- Coordination with State and other Federal agencies.
 - Periodic vulnerability/risk assessments of water systems.
 - Monitor systems at high risk including water source (e.g. drawdown/recovery) and per capita demand.
 - Develop specific drought-related projects and obtain resources/funding from State and Federal agencies.
 - Develop guides including a *Drought Contingency Plan* and *Drought Planning Handbook for Emergency Drinking Water Supply*.
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Vulnerability/Risk Assessments

Periodic vulnerability/risk assessments of water systems:

- Based on 12 factors including local hydrologic conditions, water production, and system management.
- Provides a quantitative measure of the drought vulnerability/risk (“high” and “moderate”), and used to update system risk maps.
- Aided in setting priorities and communicate needs to other primary stakeholders.



Tribal water systems at high risk due to drought conditions



Updated November 9, 2015– Updates will be made as conditions change and information becomes available.

Map #	Tribe	System Name	# of Indian Homes
11	Sherwood Valley	Original Sherwood Valley Rancheria	16
5	Yurok	Owl Creek/Tulley Creek	8
5	Yurok	Kepel	17
5	Yurok	Wautec (aka Johnson's Village)	14
12	Redwood Valley Rancheria	Redwood Valley County Water District	31
14	Coyote Valley	RDWVLY County Water District	33
24	Tule River	Main	282
24	Tule River	Cow Mountain	9
10	Grindstone Rancheria	Grindstone CWS	51
24	Tule River	Apple Valley	9
21	Big Sandy	Big Sandy CWS	46
17	Kashia Band of Pomo Indians	Stewarts Point CWS	17

Total Systems to Date = 12



Drought Projects

Develop drought-related projects and obtain resources/funding from State and Federal agencies:

- Total 22 projects for \$6.5 million including:
 - Source improvements
 - Treatment
 - Water main repair/leak reduction
 - Water tank rehabilitation/leak reduction
 - Water stations
 - Water hauling services/truck
 - System inter-tie
-



Drought Projects

Develop drought-related projects and obtain resources/funding from State and Federal agencies:

- Resources/funding from multiple agencies including:
 - Tribes: internal resources and funding
 - State: Cal OES, Water Board, and Department of Water Resources
 - EPA: Drinking Water Tribal Set-Aside
 - USDA/RD: Emergency Community Water Assistance Grant
 - HUD: Indian Community Development Block Grant – Imminent Threat Funds
 - IHS: Regular and Emergency Funds
-



Drought Projects



Trinity River Water Source – Hoopa Indian Reservation



Stony Creek - Grindstone Rancheria Water Source



Eradicated marijuana plants – Tule River and Yurok Indian Reservations



Water hauling - Yurok Indian Reservation



Water vending machine – Yurok Indian Reservation



Drought Handbooks

Develop drought-related templates and handbooks:

- Drought Contingency Plan, Public Water System
- Planning Handbook, Emergency Drinking Water Supply

Drought Contingency Plan Public Water System

Name of Tribe/Band
Address of Tribe/Band
P.O. Box XXXX
City, California 95555

Name of Tribal Utility Department/Water Department
Address of Tribal Utility Department/Water Department
P.O. Box XXXX
City, California 95555

Name of Tribal Public Water System
Public Water System ID Number: 1234567

Date [00/00/2014]

March 2014 Drought Contingency Plan for Public Water System

Drought Planning Handbook Emergency Drinking Water Supply For California Indian Tribes

Prepared by State of California and Federal Agencies

October 2015



October 2015 Drought Emergency Planning Handbook for Drinking Water Supply



Drought Contingency Plan Template

Drought Contingency Plan:

- Tribes customize template according to community situation
- Develop system-specific drought triggers and response actions
- Progress in developing plans:
 - 10% in early 2014
 - 65% in late 2015

1. Declaration of policy, purpose, and intent

1.1. General

In order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the [] [name of Tribe/Band] hereby adopts the following regulations and restrictions on the delivery and consumption of water through an ordinance or resolution.

The Drought Contingency Plan (Plan) is a framework of forward-leaning planning for scenarios and objectives, managerial and technical actions, and potential response systems in order to prevent, or better respond to, a drought-related emergency or critical situation. The overall goal of the Plan, and the contingency planning process, is to facilitate rapid emergency response. The intention of the Plan is to be functional, flexible, and easy to implement, and also serve as a tool for maintaining control over the events or limiting the risk of loss of control. The Plan should be periodically updated.

The primary focus is placed on best management practices to manage water use demand, while evaluating options for alternative water supply sources. Water uses regulated or prohibited under the Plan are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in this Plan.

1.2. Water use priorities

The risks to public health from water shortages could be high and include issues of water quality, water quantity, sanitation, and hygiene for personal use and food preparation. As a result of this, the Plan establishes the following priorities for use in developing demand reduction programs and allocations during a water shortage emergency. Priorities for use of available water, from highest to lowest priority, are:

1. Health and safety: residential home interior uses, sanitation, and fire fighting
2. Commercial, industrial, and governmental: maintain jobs and economic base
3. Existing landscaping: especially trees and shrubs
4. New demand: projects without permits when shortage is declared

1.3. Application

The provisions of this Plan shall apply to all customers and property utilizing water provided by the public water system.

2. Drought task force

A drought task force was created by the Tribe/Band in order to develop this Plan and to assist in further developing and implementing effective drought monitoring, mitigation, and response actions. The drought task force consists of representatives from the following:

- [] [name of tribal office or official]



Handbook for Emergency Drinking Water Supply

- 13 state and federal agencies collaborated to develop the Handbook.
- Handbook includes:
 - Framework for coordination and effective response among agencies involved in providing resources to Tribes for emergency drinking water supply.
 - Resource summary sheets of state and federal agencies.

**Drought Planning Handbook
Emergency Drinking Water Supply
For
California Indian Tribes**

Prepared by State of California and Federal Agencies

October 2015



October 2015

Drought Emergency Planning Handbook for Drinking Water Supply



Handbook for Emergency Drinking Water Supply

Coordination: Critical aspect for emergency water supply is that each agency has an understanding of each other's role in the response.

Table 1 and 2: State, County, and Federal agency drinking water functions for drought emergencies

State/County Agency	Role	Drinking Water Functions
County OES	Primary	Provision of emergency drinking water
Cal OES	Primary	Coordination of emergency services
Cal DFA	Primary	Provision of emergency drinking water
Cal OTA	Support	Coordination and advocacy
Cal DWR	Support	Coordination ⁽¹⁾

Federal Agency	Role	Drinking Water Functions
IHS	Primary	Coordination and provision of emergency drinking water ⁽¹⁾
USDA	Primary	Provision of emergency drinking water ⁽¹⁾
EPA	Primary	Coordination and technical assistance ⁽¹⁾
HUD	Support	Projects for imminent health threats ⁽¹⁾
USACE	Support	Technical assistance
USGS	Support	Technical assistance
BOR	Support	Technical assistance
BIA	Support	Technical assistance
ASPR	Support (Primary*)	Resources for a public health emergency and medical disaster ⁽²⁾



Handbook for Emergency Drinking Water Supply

Coordinating state and federal agencies include:

- California Office of Governor/Office of Tribal Advisor (Cal OTA)
- California Governor's Office of Emergency Service (Cal OES)
- California State Water Resources Control Board (Cal DFA)
- California Department of Water Resources/Tribal Policy Advisor (Cal DWR)
- U.S. Army Corps of Engineers/Sacramento District (USACE)
- U.S. Department of Agriculture/Rural Development (USDA)
- Office of the Assistant Secretary for Preparedness and Response (ASPR)
- Indian Health Service/California Area (IHS)
- U.S. Department of Housing and Urban Development (HUD)
- U.S. Department of the Interior/Bureau of Indian Affairs/Pacific Region (BIA)
- Bureau of Reclamation/Mid-Pacific Region (BOR)
- U.S. Environmental Protection Agency/Region IX (EPA)
- U.S. Geological Survey/Pacific Regional Directors Office (USGS)



IHS California Area Drought Website

IHS California Area
Drought Website at:
www.ihs.gov/california

Indian Health Service

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Drought 2016

Office of Environmental Health and Engineering (OEHE)

With the release of the emergency drought declaration by the state of California, the Indian Health Service/California

Area Office (IHS/CAO) is concerned that tribal community water systems could be impacted by one of the driest winters on record in California. Precipitation in January 2015 across the Northern Sierra -- a region crucial to statewide water supplies -- was just 20 percent of average.

Division of Sanitation Facilities Construction

The IHS/CAO, OEHE&E, has taken a proactive approach to plan for drought conditions and possible impacts to Indian

NEW Posted January 13, 2016

[Drought Planning Handbook - Emergency Drinking Water for California Indian Tribes](#) (PDF) - Prepared by State of California and Federal Agencies - October 2015

General drought facts/information:

[Map of Drought Locations in California](#) University of Nebraska

[Saving our Water](#) Save our Water

[California Water Fact Sheet \(EPA\)](#) (PDF) Environmental Protection Agency

Drought contingency planning tools/resources:

[California Drought Vulnerability - Risk Assessment Form](#) (XLS)

[Drought Assessment Form for Tribal Drinking Water Systems](#) (PDF)

[Drought Contingency Plan TEMPLATE](#) (DOCX)

[List of local Office of Emergency Services by County](#) State of California, Offices of Emergency Services

[Free California Drinking Water Workshops](#) (PDF) Rural Community Assistance Corporation

[Emergency Community Water Assistance Grants \(ECWAG\)](#) (PDF) U.S. Department of Agriculture



Outlook for the Future

Fact or Fiction?

- “All the precipitation from the rainfall and snowpack over the past several months means the California drought is over”.
- Is this true???



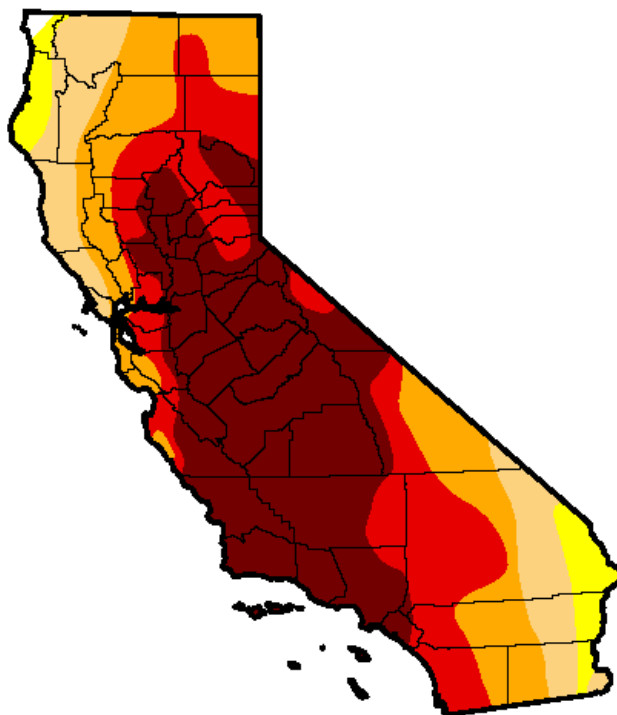


Outlook for the Future

In reality.....

- As of February 2016, over 60% of California is still at extreme or exceptional drought conditions.

U.S. Drought Monitor California



February 16, 2016

(Released Thursday, Feb. 18, 2016)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.29	99.71	94.69	81.82	61.40	38.48
Last Week 3/9/2016	0.22	99.78	94.77	81.82	61.40	38.48
3 Months Ago 11/17/2015	0.14	99.86	97.33	92.26	70.55	44.84
Start of Calendar Year 12/29/2015	0.00	100.00	97.33	87.55	69.07	44.84
Start of Water Year 9/29/2015	0.14	99.86	97.33	92.36	71.08	46.00
One Year Ago 2/17/2015	0.16	99.84	98.10	93.44	67.46	41.20

Intensity:

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

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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U.S. Department of Agriculture



<http://droughtmonitor.unl.edu/>



Outlook for the Future

According to the State Department of Water Resources:

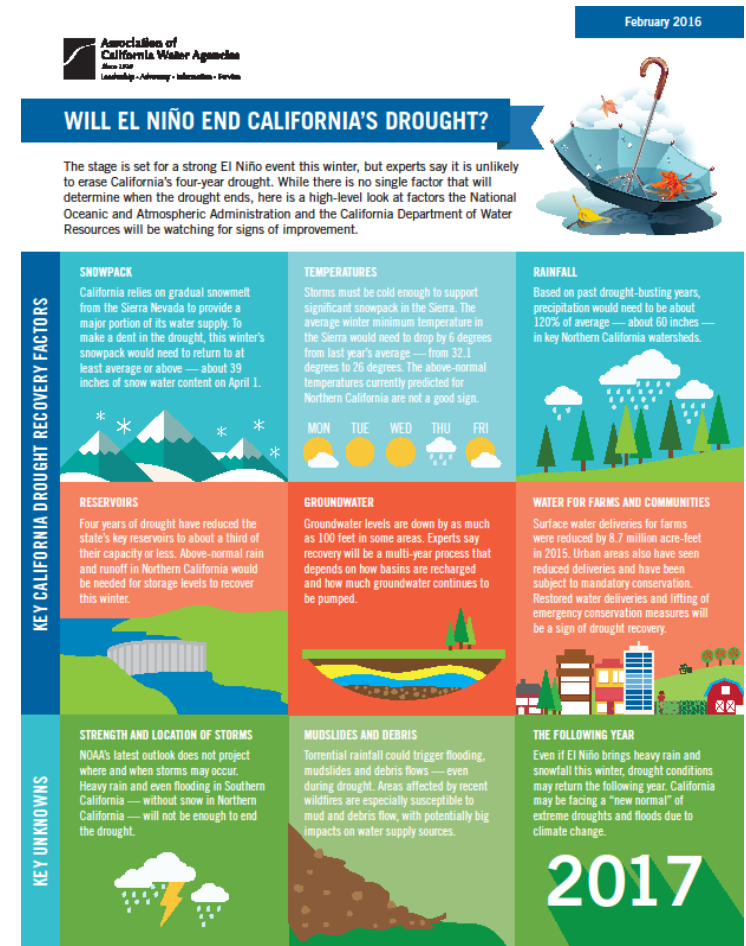
- Historically, multi-year droughts have been ended by an above-average water year where statewide precipitation was in the range of **150 percent of average**.
- For water year 2016, precipitation from October through January was about 115 percent of average statewide so far (compared to 80 percent last year).
- Even when precipitation returns to normal following a multi-year dry period, storage may not recover as quickly – especially storage in groundwater basins where longer time periods are required for recharge to occur.



Outlook for the Future

According to the Association of California Water Agencies:

- Even if El Niño brings heavy rain and snowfall this winter, drought conditions may return the following year.
- California may be facing a “**new normal**” of extreme droughts.





Planning for the Future

Planning considerations – because droughts may be a “new normal”:

- Our success or failure in responding to future drought emergencies will be determined by what we do **now** (when it's raining and the reservoirs are full), and not by what we do when the extreme drought has occurred (when the rivers and tanks are empty).





Planning for the Future

Planning activities could include:

1. Awareness of current drought conditions at the state and local levels
2. Continue to coordinate/communicate with neighboring partners - county/state/federal
3. Develop/review/update drought contingency plans
4. Identify and implement projects to increase resiliency in water management including:
 - A. Supply management (e.g. identify/repair leaks)
 - B. Demand management (e.g. water conservation)





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