



California ISO



RC West

# RC West Summer 2026 Readiness Meeting

RC West Operations  
May 20<sup>th</sup> 2026

# Agenda

- **08:15 - Welcome and agenda review – *Raja Thappetaobula, Director, RC West Operations***
- **08:20 Outlooks**
  - **08:35 Summer Meteorological Outlook – *RC West /Amber Motley-Director Short Term Forecasting***
  - **09:00 Western US fire risk outlook – *CAL FIRE/ Deputy Chief Jeff Funetes***
  - **09:30 WECC Resource Outlook- *Brittany Andrus, Senior Resource Adequacy Analyst WECC***
- **Break 15 minutes**
- **10:00 RC 2026 Summer Readiness**
  - **Summer 2025 Recap**
  - **2026 RC Transmission Assessment overview – *Raja Thappetaobula***
- **10:15 RC West Emergency Procedure Review – *Samson Adigun***
  - **EEA Review**
  - ***Wildfire Response***
  - **Transmission Emergency**
  - ***Restoration Plan***
- **10:30 RC West Tool Review–*Cody Smith and John Marusenko***
- **11:00 Closed BA Roundtable**



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# 2026 Summer Meteorological Outlook

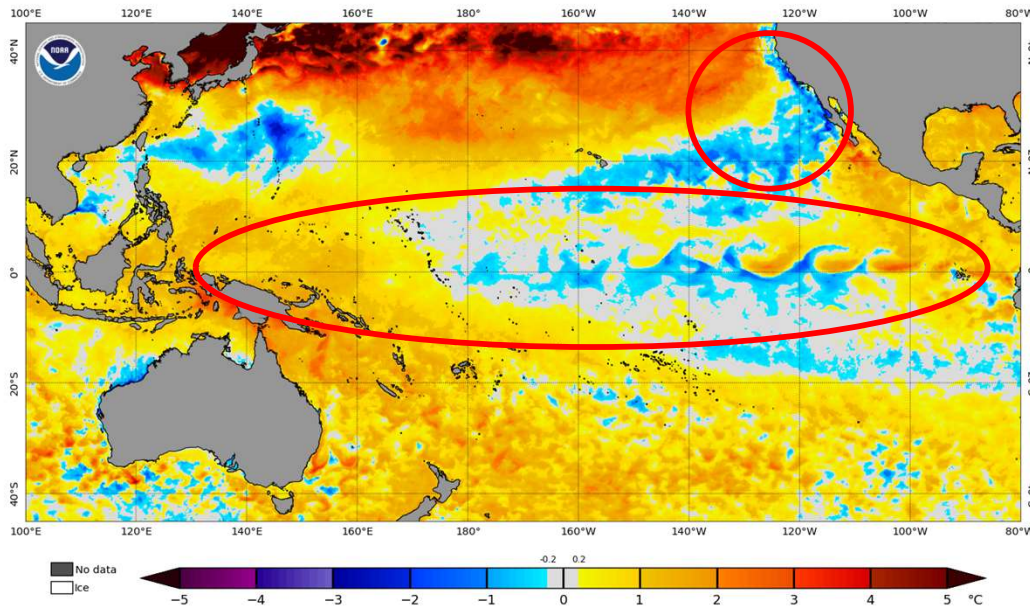
Amber Motley

Director Short Term Forecasting

# 2025 Summer: Observations

- Above normal temperatures across the western U.S, strongest in the Pacific NW and Desert SW
  - California experienced a cooler July
- Near or below normal precipitation across the West

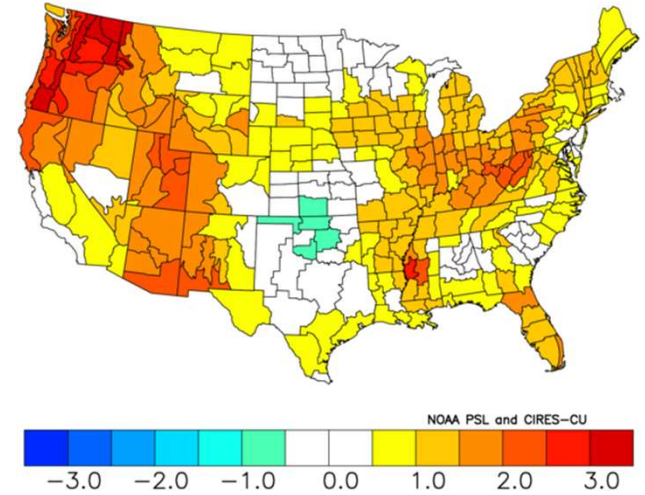
NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 1 Aug 2025



Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2020	0.6	0.6	0.5	0.3	0.0	-0.2	-0.4	-0.5	-0.8	-1.1	-1.2	-1.1
2021	-0.9	-0.8	-0.7	-0.5	-0.4	-0.3	-0.3	-0.4	-0.6	-0.8	-0.9	-0.9
2022	-0.8	-0.8	-0.9	-1.0	-0.9	-0.8	-0.8	-0.9	-1.0	-0.9	-0.8	-0.7
2023	-0.5	-0.3	0.0	0.3	0.6	0.8	1.1	1.4	1.6	1.8	2.0	2.1
2024	1.9	1.6	1.3	0.8	0.5	0.2	0.1	-0.1	-0.2	-0.2	-0.3	-0.4
2025	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.1	-0.3	-0.4	-0.5	-0.6	-0.5
2026	-0.4	-0.2										

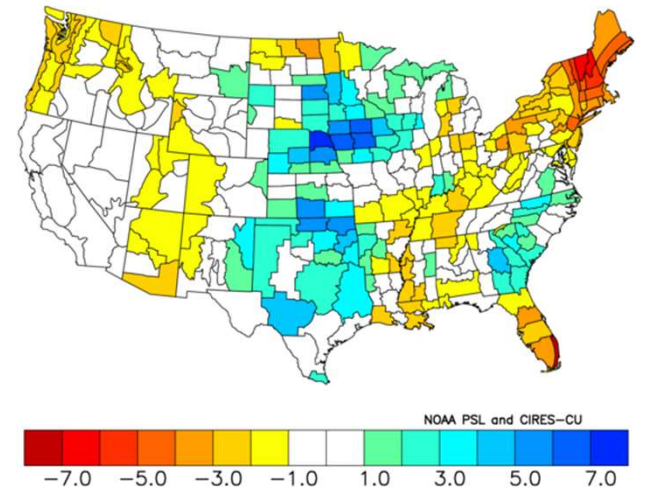
## Temperature

NOAA/NCEI Climate Division Temperature Anomalies (F)  
Jun to Aug 2025  
Versus 1991–2020 Longterm Average



## Precipitation

NOAA/NCEI Climate Division Precipitation Anomalies (in)  
Jun to Aug 2025  
Versus 1991–2020 Longterm Average

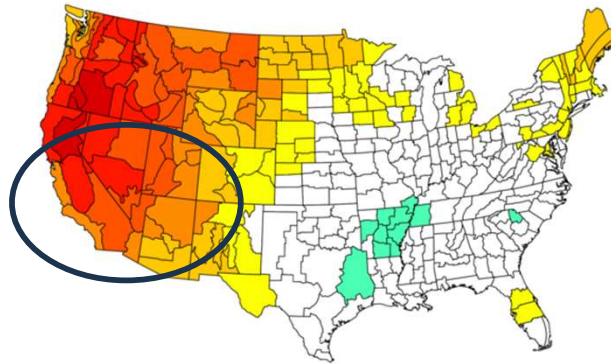


# Summer 2025 forecast verified well versus forecast

Forecast

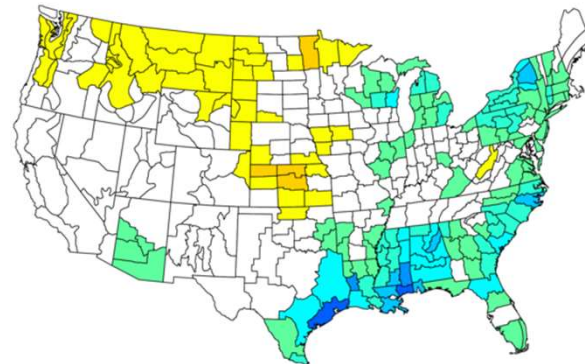
## Temperature

NOAA/NCEI Climate Division Composite Temperature Anomalies (F)  
Jun to Aug 2024,2024,2021,2021,2017,2014,2003  
Versus 1991–2020 Longterm Average



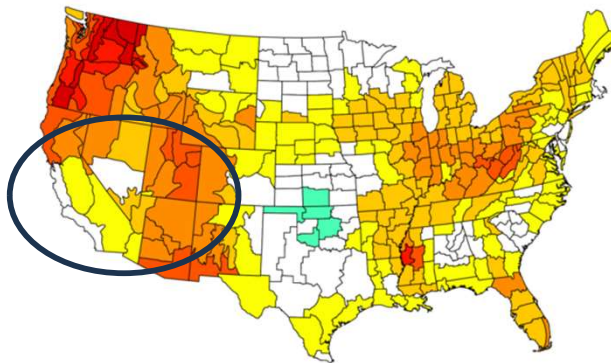
## Precipitation

NOAA/NCEI Climate Division Composite Precipitation Anomalies (in)  
Jun to Aug 2024,2024,2021,2021,2017,2014,2003  
Versus 1991–2020 Longterm Average

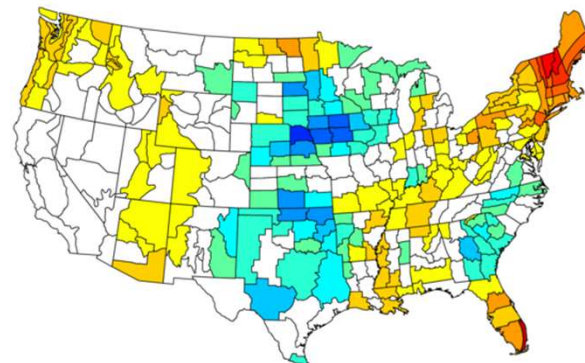


Observation

NOAA/NCEI Climate Division Temperature Anomalies (F)  
Jun to Aug 2025  
Versus 1991–2020 Longterm Average



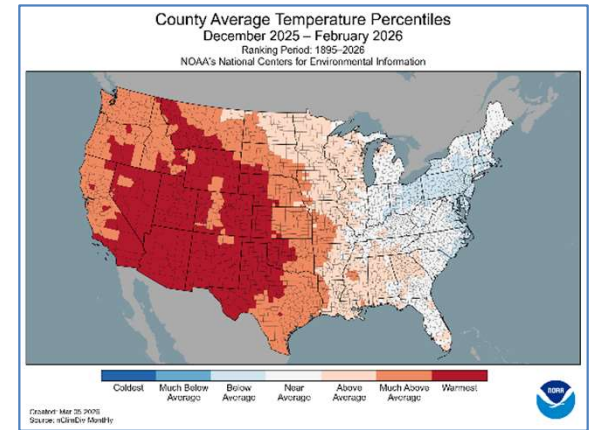
NOAA/NCEI Climate Division Precipitation Anomalies (in)  
Jun to Aug 2025  
Versus 1991–2020 Longterm Average



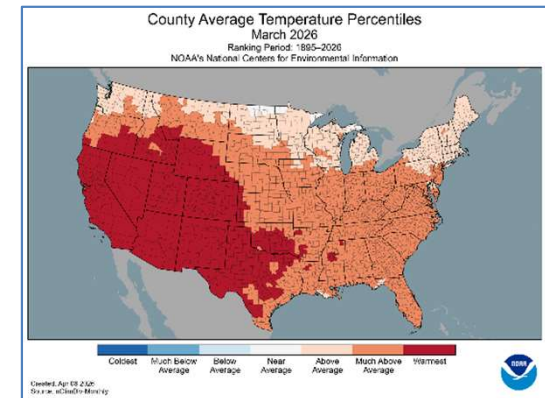
# Winter/Spring 2026 Overview

- In the top 4 warmest winters (Dec-Feb) for across the West
  - March – Record warmth and very dry most states
  - April – Precip: wet NorCal/Normal SoCal
- Temps: near seasonable, slightly warm (parts of coast)

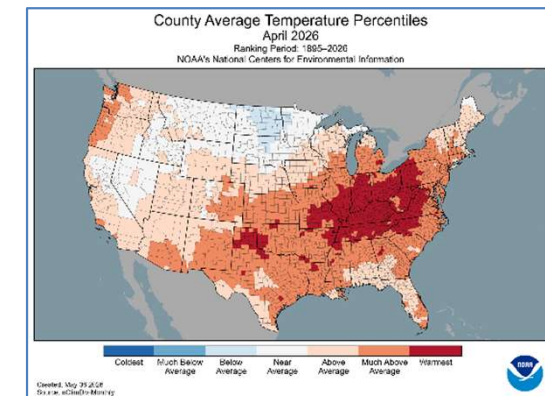
## Dec-Jan-Feb Temperature



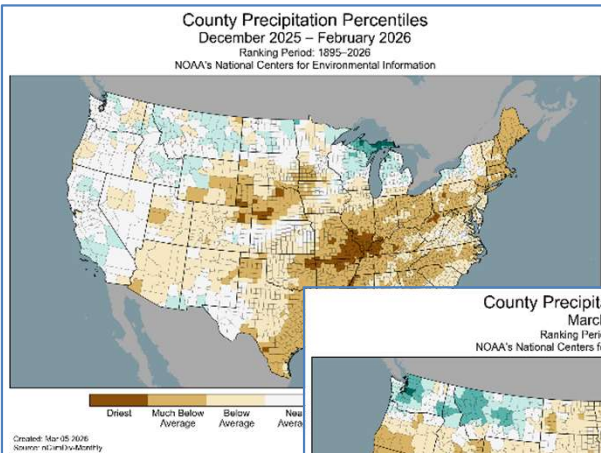
## March - Temperature



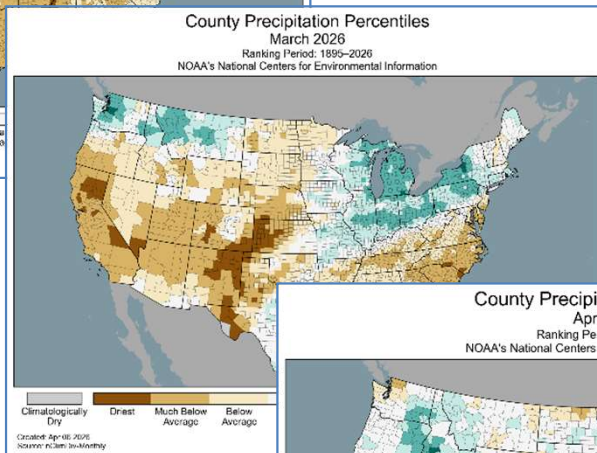
## April - Temperature



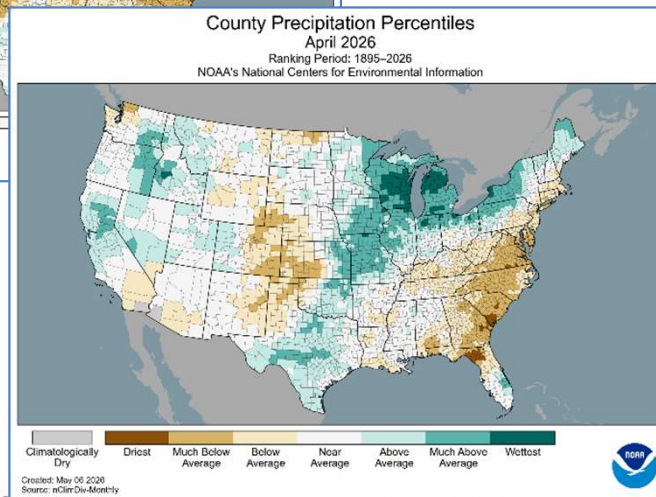
## Dec.-Jan.-Feb. Precipitation



## March Precipitation

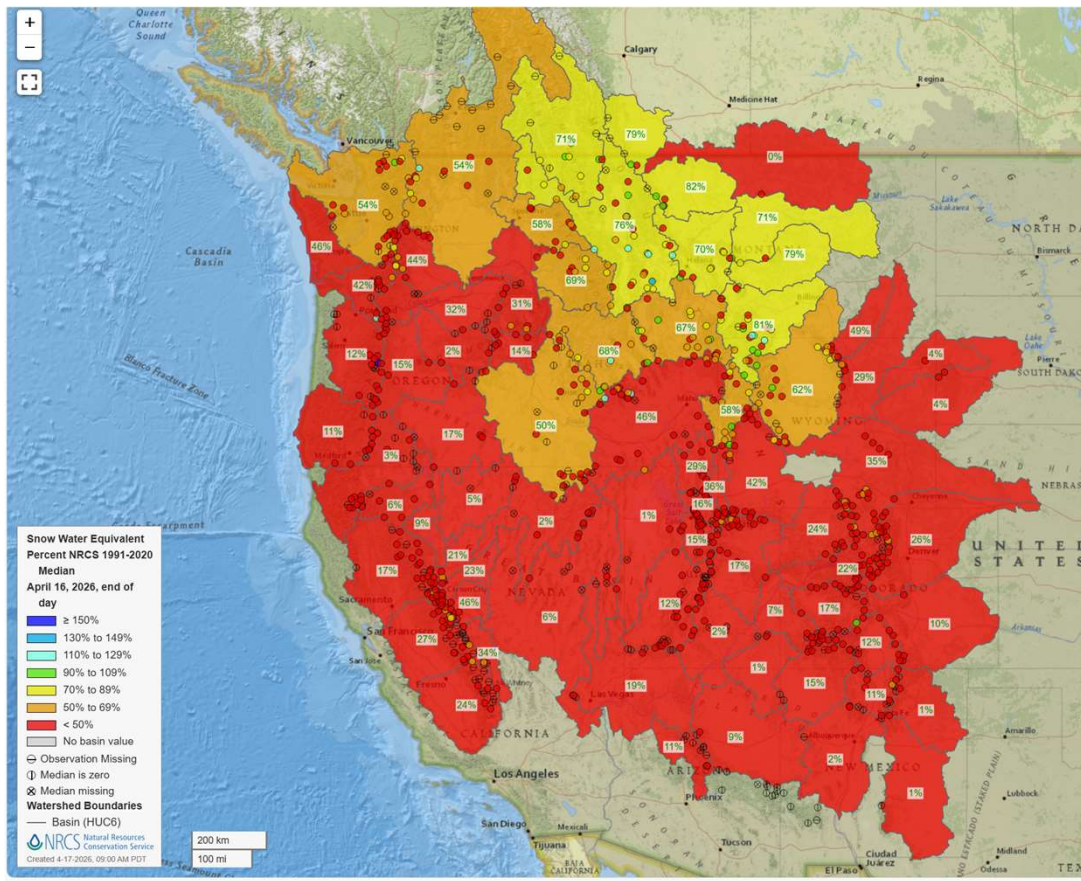


## April Precipitation



# Below normal snow water in the mountains west-wide and most reservoirs below capacity

## Snow Water Equivalent



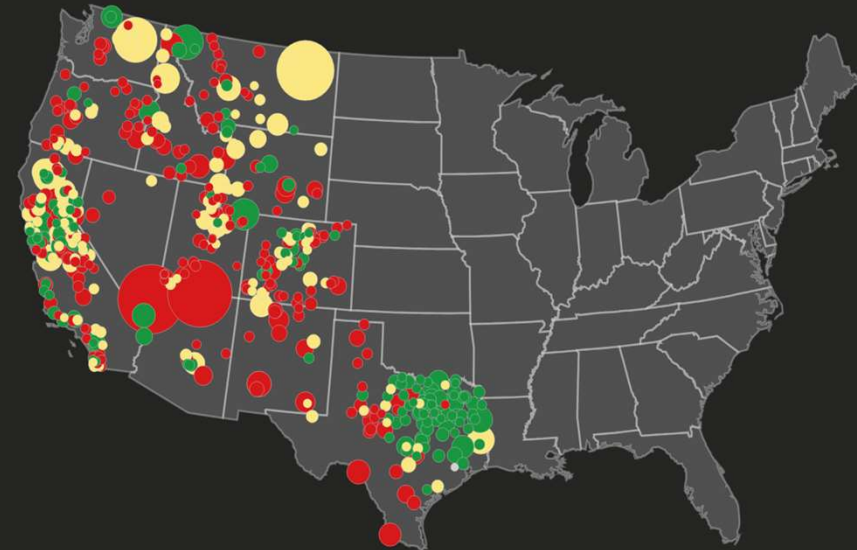
## Reservoirs

Percent Full for Month Ending (March 2026), or Most Recently Available Month

75%+ 50%+ Less than 50%

Reservoir Capacity (acre feet)

0 6,469,250 12,938,500 19,407,750 25,877,000



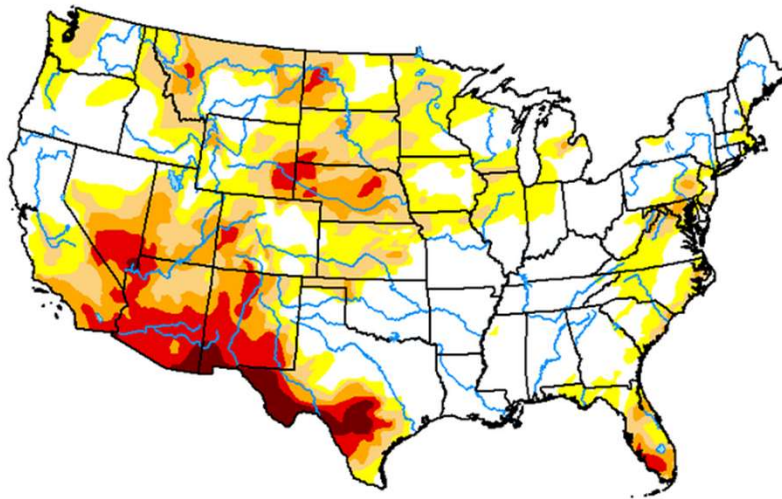
Drought areas have expanded across West from 2025 to 2026 with most severe drought shifted from Desert SW to the central Rockies but still present in Desert SW

**Drought Classification**

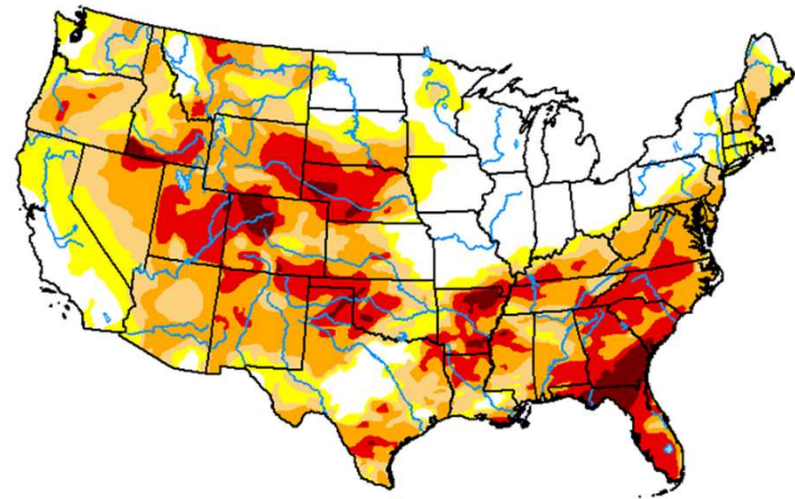
- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)

- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

2025



2026

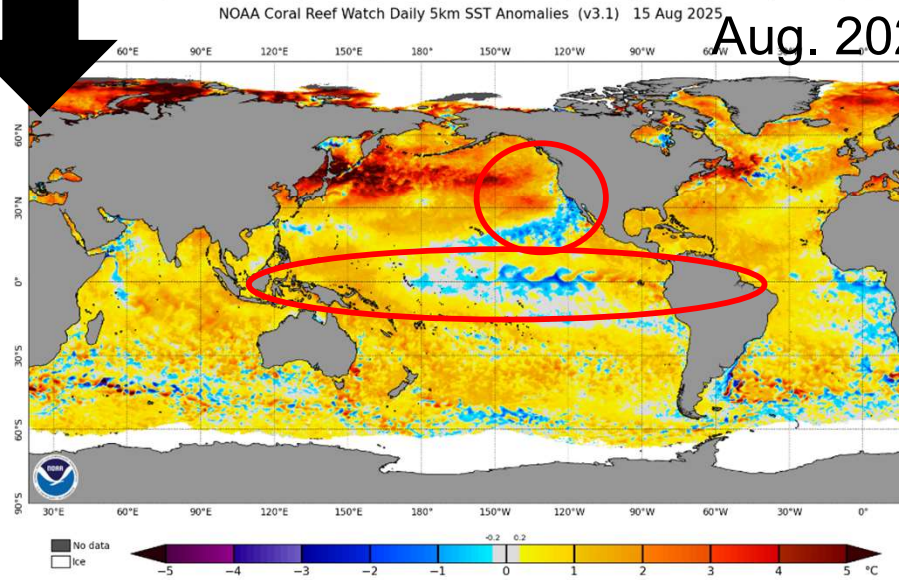
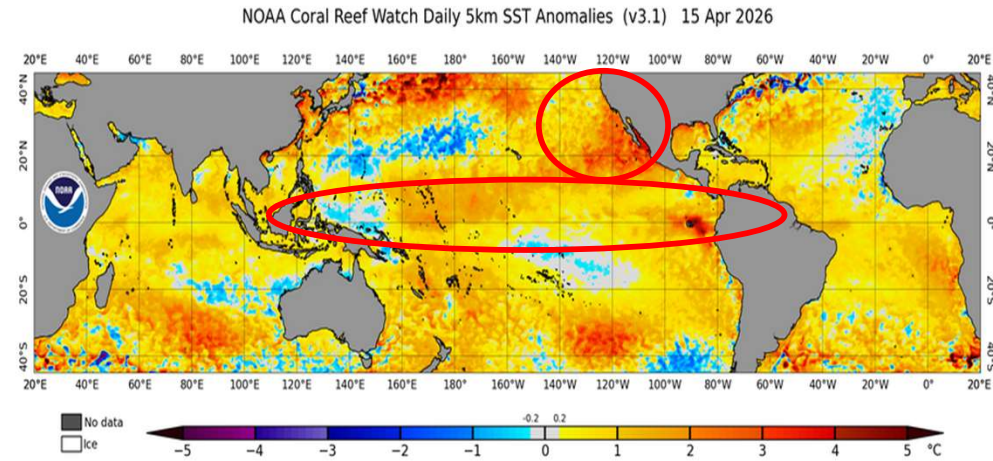
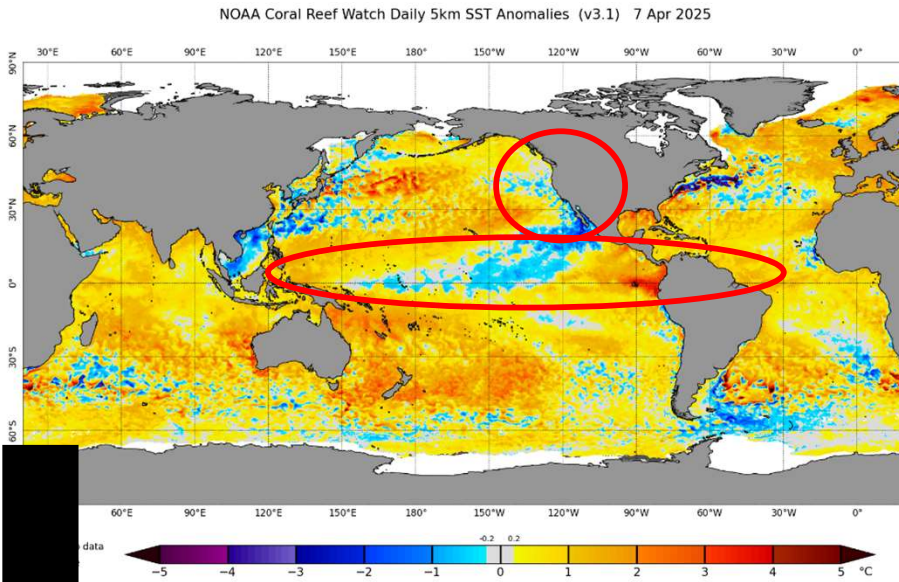


Maps as of May 13, 2026

# Comparing spring sea surface temperature anomalies

April 2025

April 2026



Aug. 2025

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2020	0.6	0.6	0.5	0.3	0.0	-0.2	-0.4	-0.5	-0.8	-1.1	-1.2	-1.1
2021	-0.9	-0.8	-0.7	-0.5	-0.4	-0.3	-0.3	-0.4	-0.6	-0.8	-0.9	-0.9
2022	-0.8	-0.8	-0.9	-1.0	-0.9	-0.8	-0.8	-0.9	-1.0	-0.9	-0.8	-0.7
2023	-0.5	-0.3	0.0	0.3	0.6	0.8	1.1	1.4	1.6	1.8	2.0	2.1
2024	1.9	1.6	1.3	0.8	0.5	0.2	0.1	-0.1	-0.2	-0.2	-0.3	-0.4
2025	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.1	-0.3	-0.4	-0.5	-0.6	-0.5
2026	-0.4	-0.2										

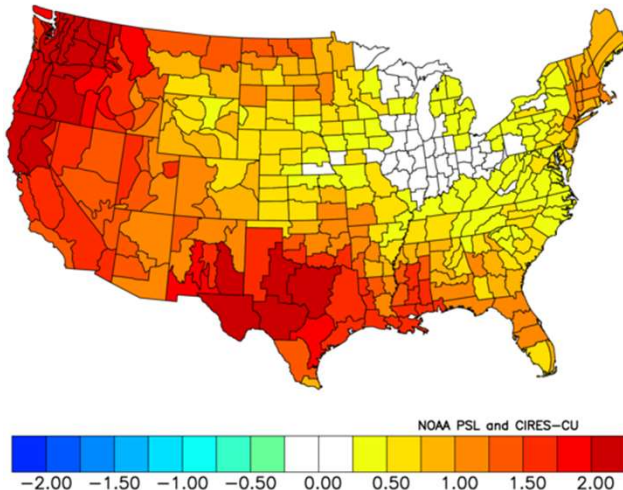
# Similar years: 2015, 2018, 2022, 2023, 2024

Climate analogs point to elevated summer heat risk

- Focusing on prior summers with similar SSTs, ENSO phase, drought condition, and recent warming trends.
- Warmer coastal SSTs may limit marine influence and raise coastal temperature risk.
- Pattern also aligns with increased Pacific tropical activity.

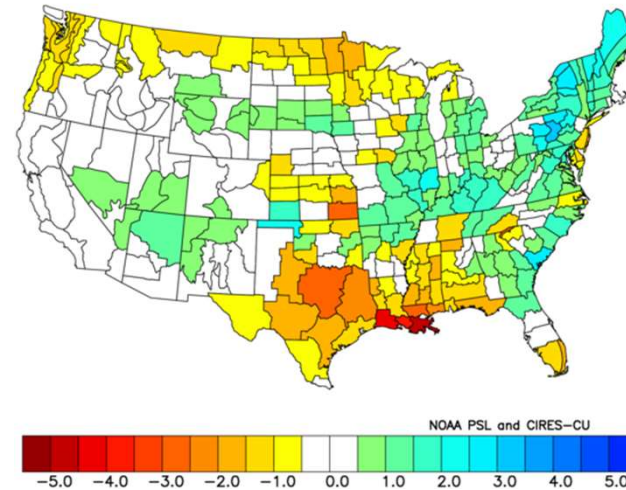
## Temperature

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Jun to Aug 2015,2018,2022,2023,2024  
Versus 1991–2020 Longterm Average



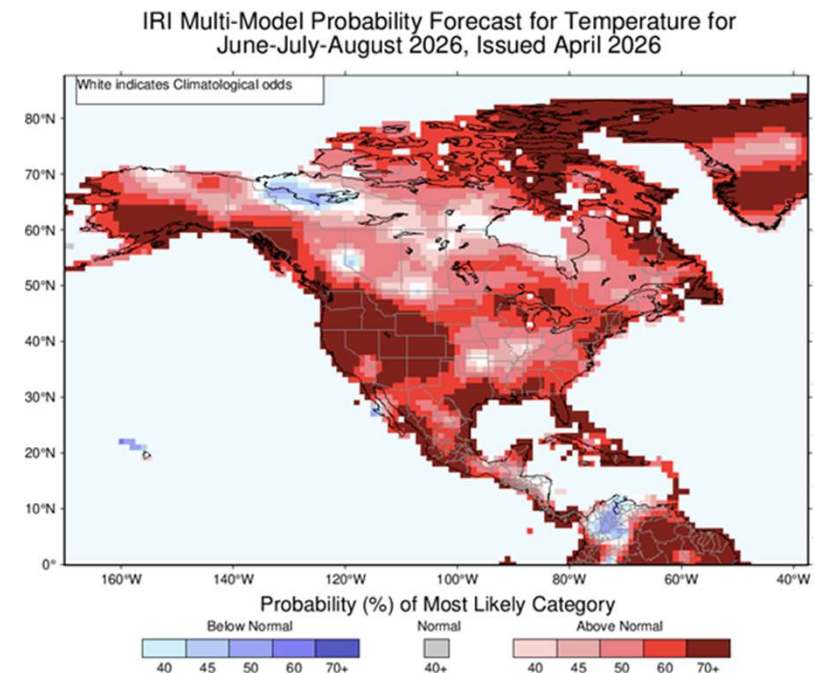
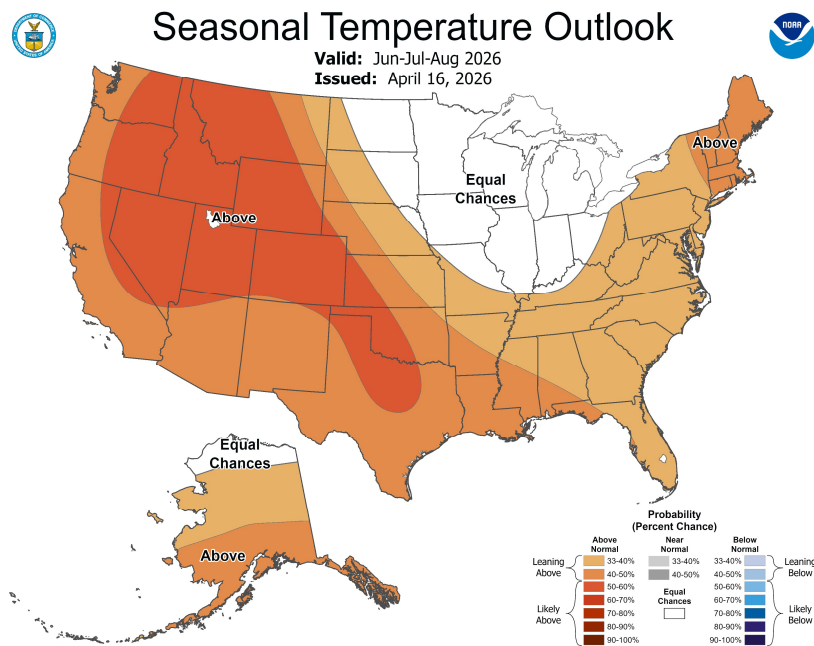
## Precipitation

NOAA/NCEI Climate Division Composite Precipitation Anomalies (in)  
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Versus 1991–2020 Longterm Average



# Temperature Outlook June – August 2026

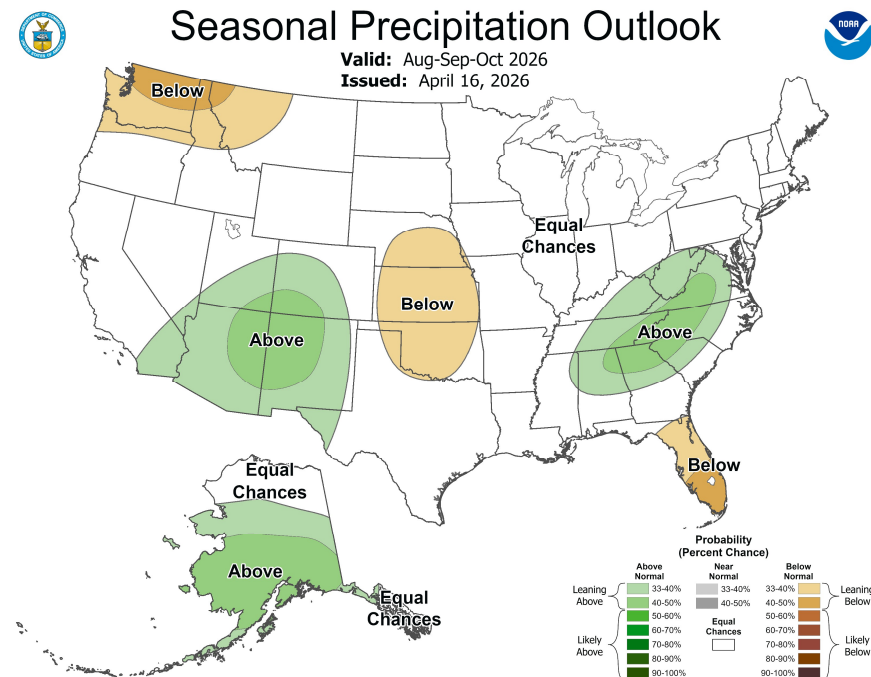
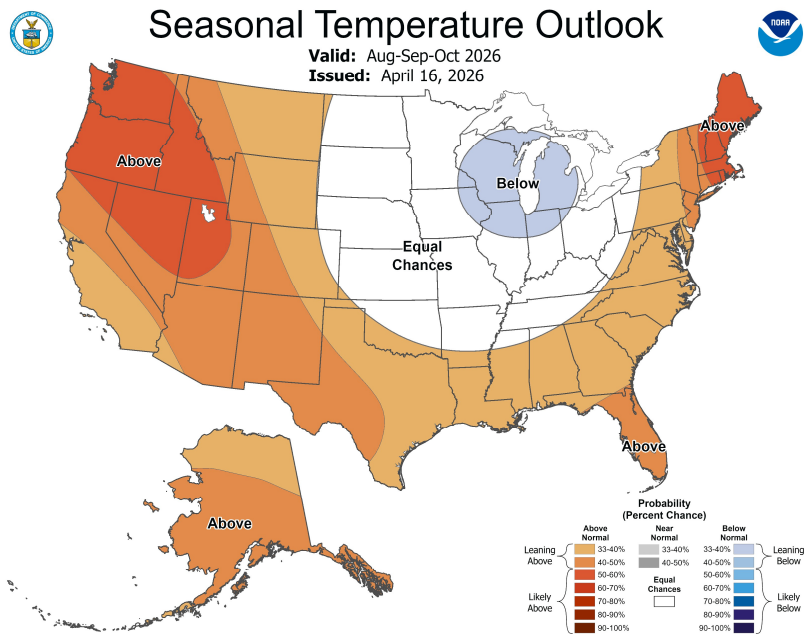
- Increased chances of above normal temperatures compared to recent summers along coastal California and Pacific Northwest
- Long-range suggests a hot start to summer
- Strong warm anomalies favored across the northern and central western U.S., including the Great Basin, Rockies, Pacific Northwest



# Weather Outlook

## August – October 2026

- Increased odds of above-normal temperatures in August-September, centered on the Pacific Northwest
- Drier-than-normal risk persists for the Pacific Northwest, while above-normal rainfall remains favored across the Desert Southwest





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## RC West Summer Readiness Workshop



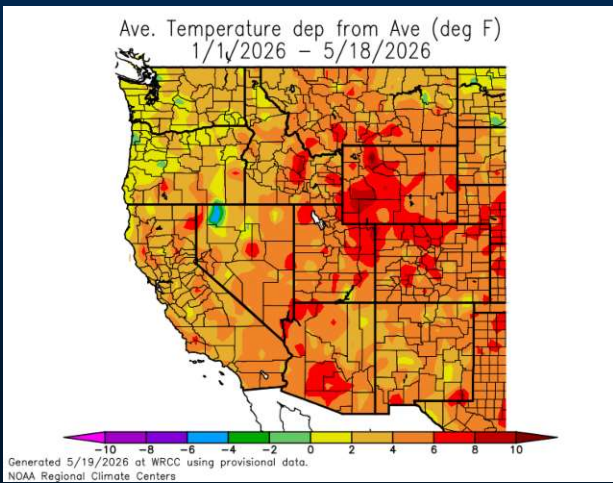
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# CAISO Summer Readiness

May – August 2026

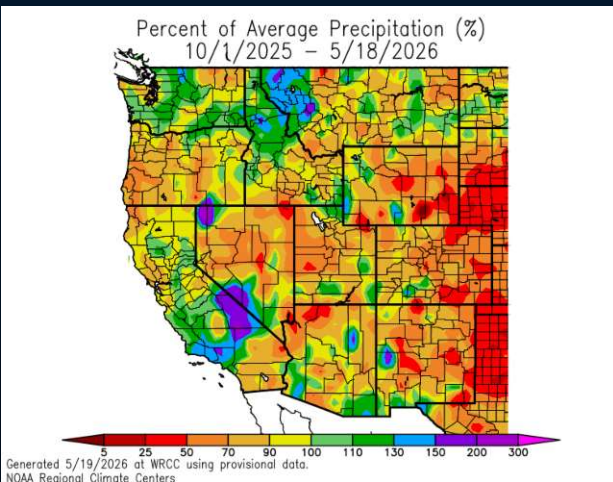


# Water Year: % of Average Temp & Precipitation



From January 1, 2026 to current.

- Warm winter across the entire Western US.
- 2-5 degrees above normal for the entire period.
- Month of March very warm, main contributor to warmer than average conditions.



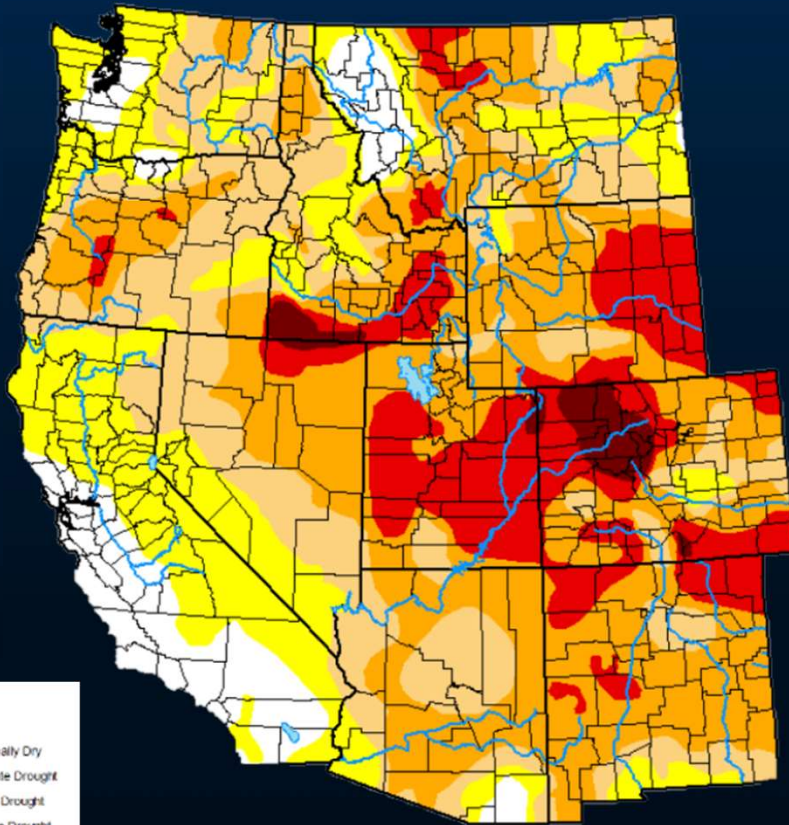
For the current **Water Year** October 1, 2025 to current.

- Above-normal areas: LA, Ventura, Santa Barbara Counties, Northern Deserts.
- Below-normal areas: Portions of Northern California, far Southern California, Western Oregon, Nevada, and much of the Southwest.

[Recent Climate Anomaly Maps and Tables](#)

# US Drought Monitor: Western Region

Drought Status May 12, 2026



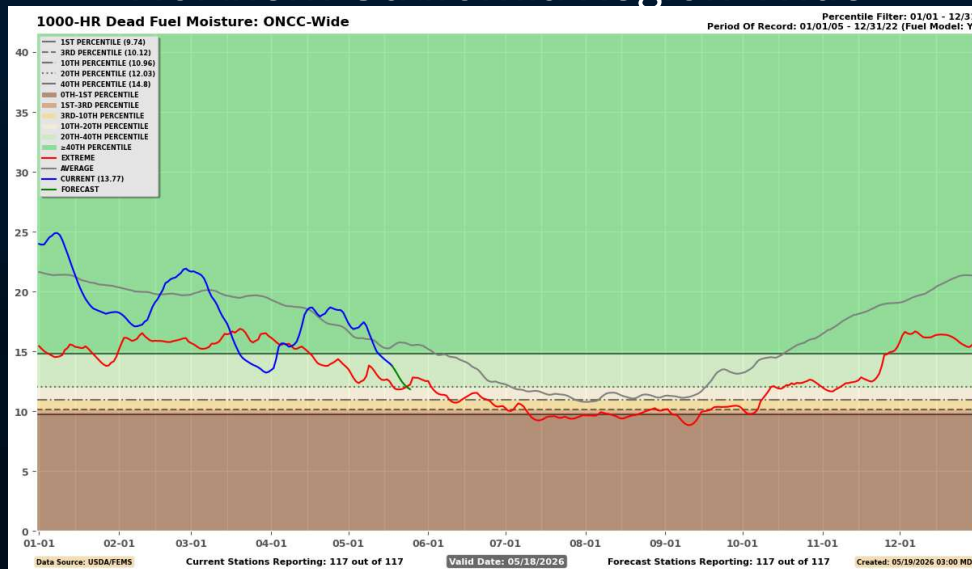
- Drought has intensified across southern Oregon, Northern California, southwestern Montana, northwestern Wyoming, and New Mexico.
- Despite recent precipitation, snowpack remains extremely poor and limited to only the highest elevations.
- Despite early moisture, expanding drought is still likely in northern California later in the spring

[Comparison Slider | U.S. Drought Monitor](#)

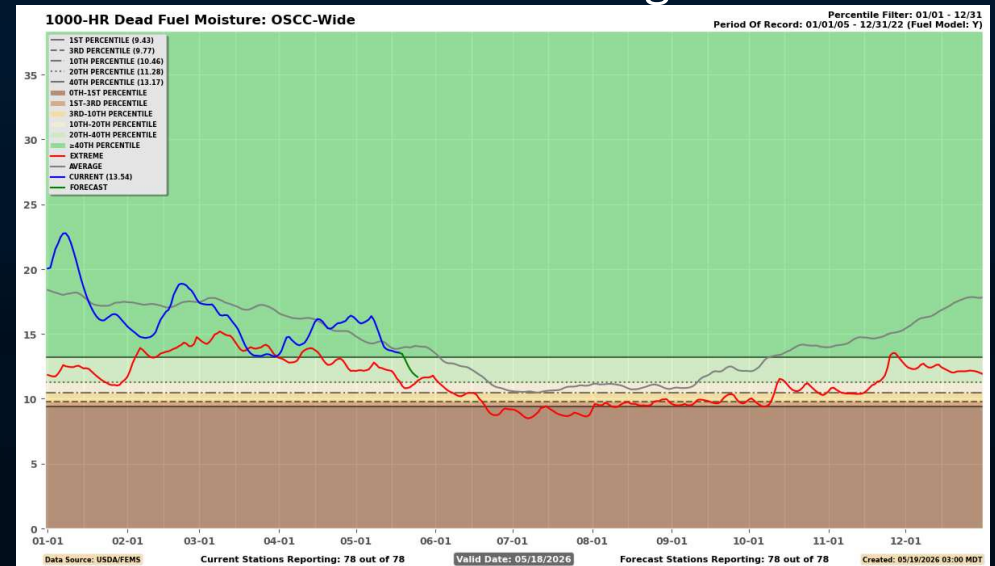
# Fuels Discussion: 1000-hr Dead Fuels | California

- Dead fuel flammability increased during March and became historically low during the latter half of March.
- The late-April moisture improved 1000-hour fuel moistures and returned conditions to near-normal.
- Hot and Windy conditions in May have increased flammability of the 1000-hr fuels.

## Northern California Region-Wide



## Southern California Region-Wide



# Fuels Discussion: Herbaceous Live Fuels

March 3, 2026



April 13, 2026



## Southern California

- The exceptional warmth observed in March led to a much earlier than normal start to “shoulder season” fire environment conditions over Central and Southern California. A considerable amount of grass fire activity, normally more typical of May, was observed in April.

## Northern California

- The lack of snow cover, robust growing season and a return to drought were the significant storylines for April.
- Heat waves caused significant snowpack loss, exposing more receptive fuels earlier than normal.
- Shrub and herbaceous fuels at mid and upper elevations began transitioning earlier than typical, enhancing drying and flammability potential.

# California: Four Month Significant Fire Potential

## Northern California

- May remains near normal, but June through August shift to above normal across most PSA's, as fuel beds become more flammable.

## Southern California

- Remain near normal, well above normal likelihood for remnant tropical cyclone impacts on Southern California starting in July.

## Northwest

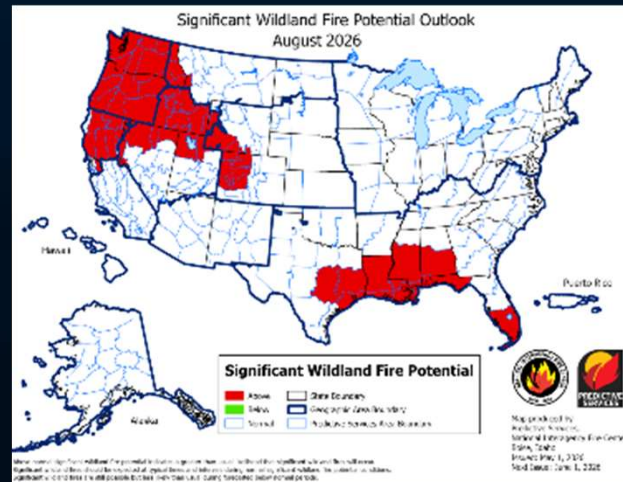
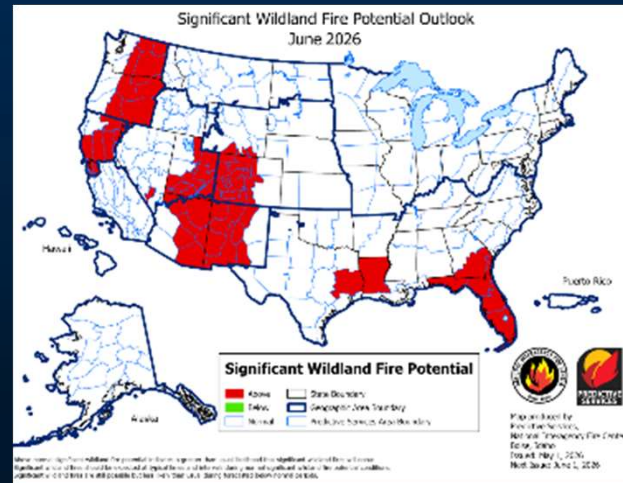
- Begin near-normal shifting to above-normal June-August, as early snowmelt, warmth, and drying fuels increase likelihood of fire activity.

## Great Basin

- Begin near-normal , expanding to above normal across high and lower elevations, due to increased fine fuel loading.

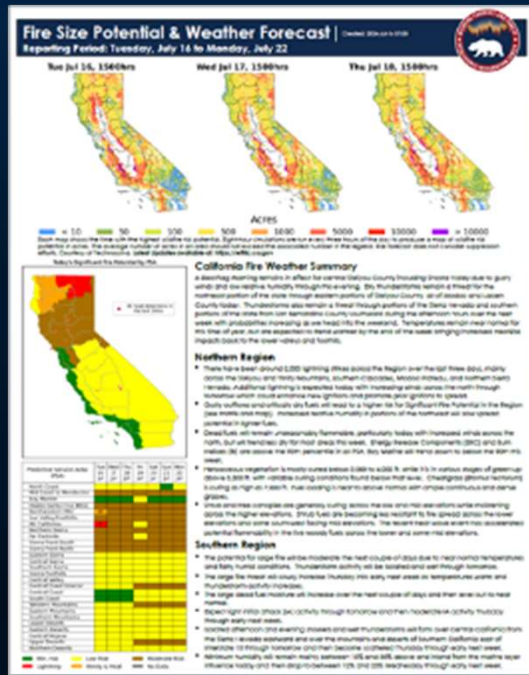
## Southwest

- Above normal in May-June, driven by lingering drought, warm temps, and dry fuels. Normalizing in July and August .



Outlooks | National Intergovernmental Coordination Center

# WFTIIC Products

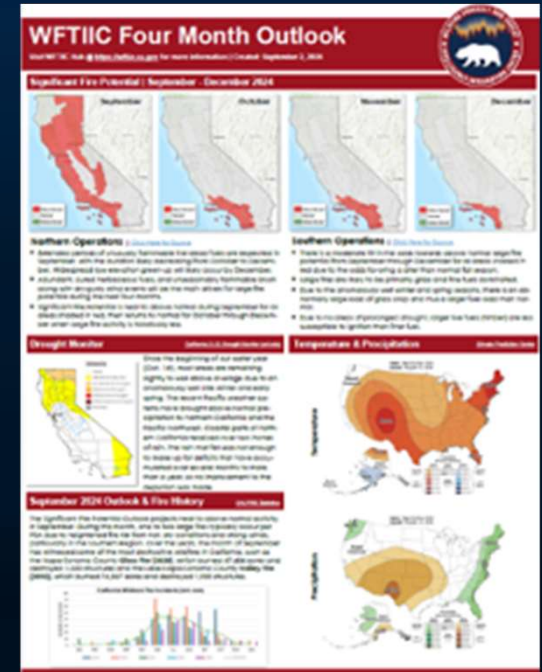


## WFTIIC Daily

- 3-day Fire Size Potential Forecast for the entire state of California.
- NWS Statewide Weather Discussion.
- Statewide 7-day Significant Fire Potential Map with FireGuard detections and daily fire potential rating by predictive service areas.

## WFTIIC Monthly Overview

- 4-month outlook from Predictive Services.
- Current Drought Monitor Status
- Climate Prediction Center - Temp & Precip Outlook
- Lower right portion reflects the immediate highlight of the outlook.





# Wildfire Forecast & Threat Intelligence Integration Center (WFTIIC)



Jeff Fuentes  
CAL FIRE  
Deputy Chief WFTIIC  
[Jeff.Fuentes@fire.ca.gov](mailto:Jeff.Fuentes@fire.ca.gov)



# **WECC Resource Outlook – WECC**

## **Brittany Andrus, Senior Resource Adequacy Analyst WECC**

# 15 Min Break



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# RC West Summer Transmission Assessment Overview

May 20 2026

Raja Thappetaobula - Director, RCWEST Operations

# Recap of 2025 Summer Operations:

- RC West system wide 2025 summer peak load ~124870 MW which occurred on 8/21/2025 17:39
  - Historical peak load 130986 MW
- Overall summer 2025 has not resulted in major operational concerns or capacity shortages for RC West BA and TOPs
- Only one BA was in EEA -3 due to forced outages & derates and armed load for contingency reserves
- Some lessons learned which resulted in our tool improvements, but overall good coordination between RC West and TOP operators
- PSPS events or wildfire encroachment related BES outages did not result in major BES impacts for the summer

# Recap of 2025 Summer Operations:

- Multiple fires across northern California in summer months resulted in potential open loop conditions for the next contingency. Good coordination between RC West/CAISO/BPA operators to help mitigate reliability concerns.
- Fires in western Colorado in August resulted in Path30 reliability concerns. Great coordination between RC West/SPP RC/PAC to address reliability concerns by re dispatching generation and phase shifter movements
- Fires in Utah in August forced out multiple BES lines in PAC area. Great coordination between RCWEST/PAC/SPP RC. Transmission reconfiguration and some load shed helped resolve the reliability issues.

# 2026 RC West Summer Assessment

- RC West evaluated summer assessment study results that TOP performed and submitted on RC portal
- No major thermal issues that will have adverse impact on summer reliability have been identified
- System has adequate reactive margins to manage voltages
- Adequate load serving capability for expected peak conditions
- No new IROL's have been identified

# 2026 RC West Summer Assessment

- **Transmission System Assessment**

- Summer 2026 Limits.
  - **Path 66 California Oregon Intertie (COI) TTC: N-S: 5100 MW S-N: 3675 MW**
- Path 15 and Path 26 (Northern – Southern California) transfer capability is expected to be normal in summer
- Pacific DC Intertie (PDCI) transfer capability is expected to be normal
- WAPA added a new series reactor at crossover 230 kV (Southeast Montana) which should help Path80 operations

- **Training refresher**

- System Restoration Drill was completed in Spring 2026

# RC West 2026 Summer Readiness

- RC West situational awareness tools for upcoming summer season.
  - Monitors 8-day regional weather outlook for the RC West footprint and initiate special conference call with the BA's and TOP to discuss operational readiness and coordination efforts
  - RC West is also testing a new AI tool that monitors next day BA Capacity across our footprint.
- Weekly internal outage coordination call to discuss upcoming week outages and potential transfer issues and path limitation concerns
- RC West has continued to improve our oscillation monitoring tools through stakeholder oscillation taskforce.
  - Helps identify local area oscillating generators quickly and mitigate
- Improved coordination with neighbor RCs (SPP West RC, AESO and BCRC)

# RC West 2026 Summer Readiness

- Wildfire impacts to frequency and severity continue to be a concern for utilities across the West
- Increased Public Safety Power Shut Off Programs within Western Interconnection
- Temporarily turn off power to specific areas to reduce risk of fires caused by electric infrastructure
- TOPs make the decision (RC does not have a role in decision making and will never deny the de-energization)
- TOPs coordinate with RC on the extent of their plans. RC perform detailed look ahead reliability studies to develop mitigation activities and coordination with neighbor TOPs and RCs
- Early coordination between TOPs and RCs is critical to study and understand the extent of wide area impact of these programs

# Questions ?

# RC West Summer Readiness Emergency Procedures

# RC West Next Day Preparations

- 1. 09:00:** Daily Weather Forecast Review
  - D+8 WECC-Wide Peak Outlook Report from Short-term Forecasting Team
  - ROWG Operations Management call set up if extreme temperatures forecasted for multiple BAs (Ad-hoc)
- 2. 19:00:** OPA review with RC Ops Engineer
- 3. 00:00:** RC West Daily Report sent out at with condition status indicator
- 4. 03:00/04:00:** Initiate regional conference call(s) with BA/TOPs (condition status ORANGE or RED)
- 5. 06:15:** RC-RC coordination calls

# RC West Daily Report Condition Status Indicator & Peak Weather Outlook

## Daily Condition Status Indicator

### RC West Condition Status Legend

- RED - Existing condition poses risk to BPS reliability or Firm Load
- ORANGE - Existing or Emerging conditions may present risk to BPS reliability OR Firm LOAD
- YELLOW - Conditions warrant elevated monitoring of potential threats to BPS reliability or Firm load
- GREEN - Conditions do not indicate an elevated risk or abnormal threat to BPS reliability



## D+8 WECC-Wide Peak Outlook Report (Internal to RC West)

high temperature forecast												
	Region	Thu 9-5	Fri 9-6	Sat 9-7	Sun 9-8	Mon 9-9	Tue 9-10	Wed 9-11	Thu 9-12	Fri 9-13	Sat 9-14	Region
Pacific NW	SCL	87	86	81	78	74	69	61	68	67	66	SCL
	PSE	89	89	84	78	76	71	63	69	68	67	PSE/IPWR
	Portland	100	97	88	84	82	79	70	75	74	73	Portland
	BPA	93	92	84	81	78	74	65	72	71	70	BPA
	AVA	97	99	99	97	95	85	69	75	80	77	Avista
	PACW	97	98	95	95	92	85	69	76	79	76	PACW
Central	IPCO	88	90	90	89	90	87	75	72	79	81	IPCO
	NWMT	81	85	87	87	88	86	79	68	72	75	NWMT
	PACE	84	87	90	90	90	89	82	75	81	86	PACE
Desert SW	NVE	99	98	98	96	96	96	85	88	92	92	NVE
	APS	108	104	104	103	103	103	103	102	102	100	APS
	SRP	112	108	108	107	107	107	107	106	106	104	SRP
	WALC	104	101	100	98	99	100	99	98	98	97	WALC
	TEP	101	97	95	95	96	96	95	95	94	93	TEP
	PNM	86	81	82	83	85	86	86	84	85	84	PNM
	EPE	89	85	85	85	86	87	90	89	89	87	EPE
CA	BANC	102	101	94	92	94	89	81	89	90	87	BANC
	LADWP	99	101	98	99	98	92	84	82	81	81	LADWP
	CAISO	102	102	98	97	97	93	85	87	88	87	CAISO

# Capacity and Energy Emergencies

RC Operator responsible for declaring EEA per criteria or at BA request.

EEA Level	Criteria
<b>EEA Watch</b>	<b>Non-NERC criteria</b> <ul style="list-style-type: none"><li>• May be issued day-ahead or during the operating day</li><li>• May be used to meet initial emergency notification requirements, to allow requests for Emergency Energy.</li></ul>
<b>EEA 1</b>	<b>All Available Generation in Use</b> <ul style="list-style-type: none"><li>• All available generation committed to meet firm energy requirements</li><li>• Non-firm wholesale energy sales are curtailed</li><li>• Concern for maintaining Contingency Reserves</li></ul>
<b>EEA 2</b>	<b>Load Management Procedures in Effect</b> <ul style="list-style-type: none"><li>• BA is considered an “energy-deficient entity”</li><li>• Currently able to maintain minimum reserve requirements</li><li>• <b>Must provide updates to the RC at least every hour</b></li></ul>
<b>EEA 3</b>	<b>Firm Load Shedding Imminent or in Progress</b> <ul style="list-style-type: none"><li>• BA is no longer able to meet minimum reserve requirements</li><li>• <b>Load that can be shed within 10 minutes may be designated as reserves.</b></li><li>• <b>Must provide updates to the RC at least every hour</b></li></ul>

# BES Transmission System Emergencies

RC will declare “BES Emergency” for transmission events with potential adverse impact to the wide area. E.g.

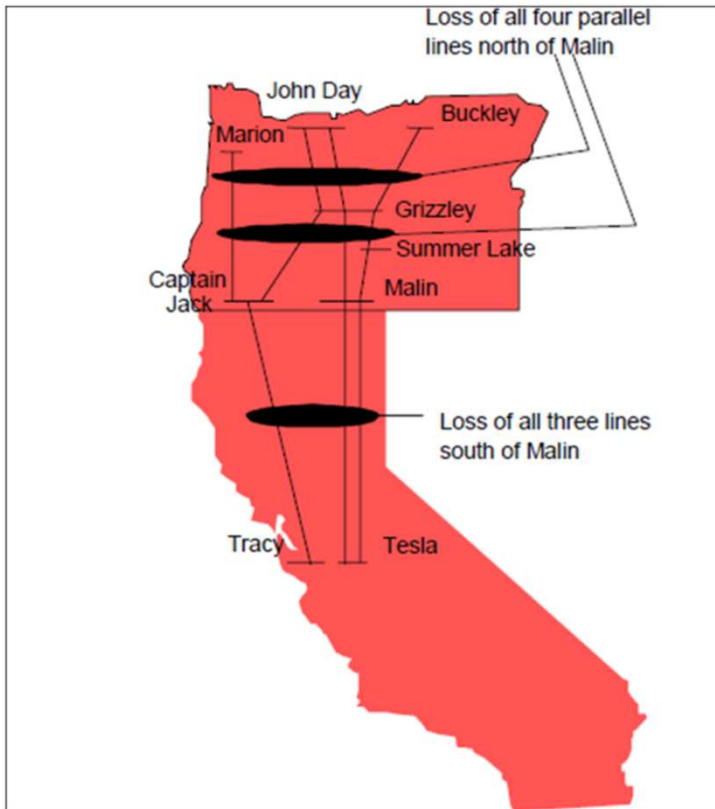
- IROL exceedance or Insecure Operating State
- Loss or potential loss of transmission elements due to fires, earthquakes, storms, etc.. with potential Adverse Reliability Impact,
- Potential unplanned >300MW load loss for next credible contingency
- System separation, islanding or Open Loop
- Activation of system restoration plan
- RC will also send WECC-wide notifications for TOP declared transmission emergencies within 30-minutes of RC awareness.

# RC West Actions for WECC Potential Open Loop

- Conditions and concerns when West-side 500kV path is open
  - High N>S transfers
  - Weaker east side path
  - Overloads
  - Instability, cascading, uncontrolled islanding

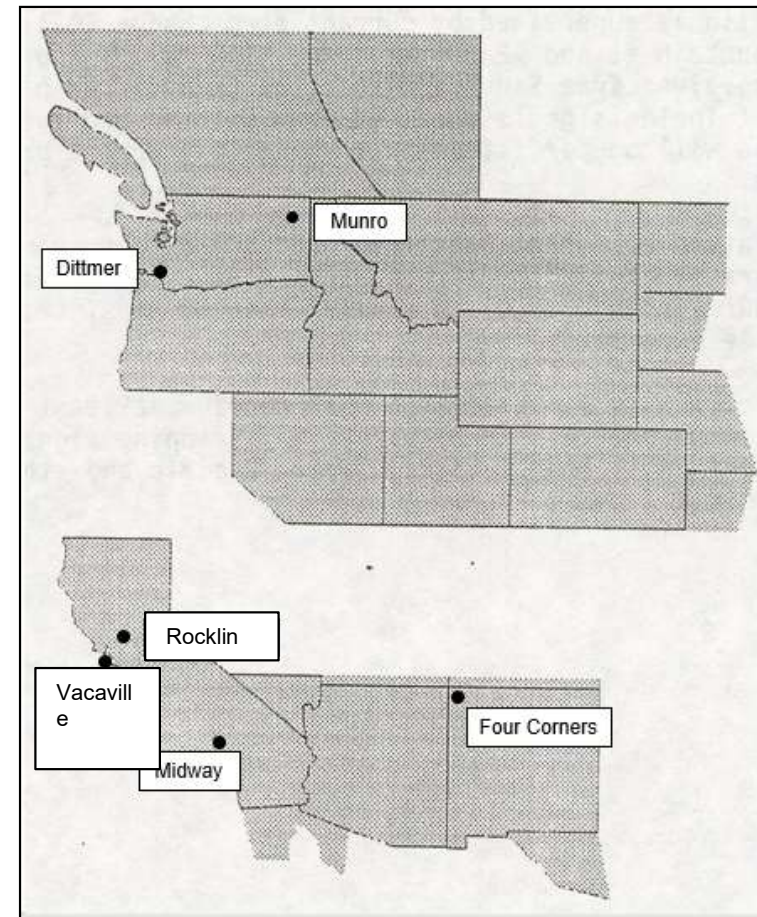


# Open-Loop Condition and Initiation of NE/SE Separation



Either of these scenarios is considered a COI Intertie Separation

Which will result in a signal being sent to Four Corners to initiate the NE/SE Separation Scheme



# RC West Operational Philosophy

- The NE/SE (Four Corners) Separation Scheme) designed to mitigate unanticipated ***non-credible multiple contingency*** situations.
- If the system is one credible contingency from triggering the Separation Scheme, the scheme must be disabled in a timely manner.

# RC West Actions to Prevent Triggering NE/SE Separation Scheme

- Coordinate with TOPs to reduce flows on COI/NWACI to 600 MW
  - Monitor for RT VSA for stability issues
- Coordinate with APS, BPA, CAISO, PG&E to disable NE/SE Separation Scheme portion of WECC-1 RAS.
- Coordinate with NVE to disable Inputs to NVE Reno RAS

# Restoration Strategies for Major System Disturbances

Scope of RC West Restoration Plan includes widespread de-energized system across multiple TOP Areas potentially due to instability, uncontrolled separation or cascading event.

- Coordinated assessment with all impacted TOP(s) and/or RC(s) to determine scope of the disturbance.
- Declare BES Emergency for the impacted TOP areas without undue delay.
- Stabilize the system as quickly as possible, restoring ACE/frequency balance, and returning equipment to within SOL, IROL and/or stability limits.
- TOPs initiate restoration of BES elements, only after coordinated assessment and stabilization is completed, and RC approval provided.

# RC West Tool Review

# Fire Monitoring and Mitigation

## RCWest -ACTIVE FIRE MONITOR-

### TREETOP

SKAMANIA COUNTY, WA

0.1 miles from KNIGHT-OSTRANDER

Last Update: 5/13/26, 6:17 AM

Discovery Date: 5/12/26, 10:43 PM

### DOUG FIR

WASCO COUNTY, OR

1.8 miles from MARION-ASHE

1.79 miles from MARION-BUCKLEY

1.77 miles from JOHN DAY 2-MARION

Last Update: 5/11/26, 4:22 PM

Discovery Date: 5/11/26, 3:33 PM

### MARCOLA 95607 STAT

LANE COUNTY, OR

0.69 miles from MARION-ALVEY

0.72 miles from MARION-LANE

Last Update: 5/11/26, 7:59 AM

Discovery Date: 5/9/26, 1:36 PM

### MAMMOTH

MODOC COUNTY, CA

1.04 miles from MAJIN BOUND MOUNTAIN

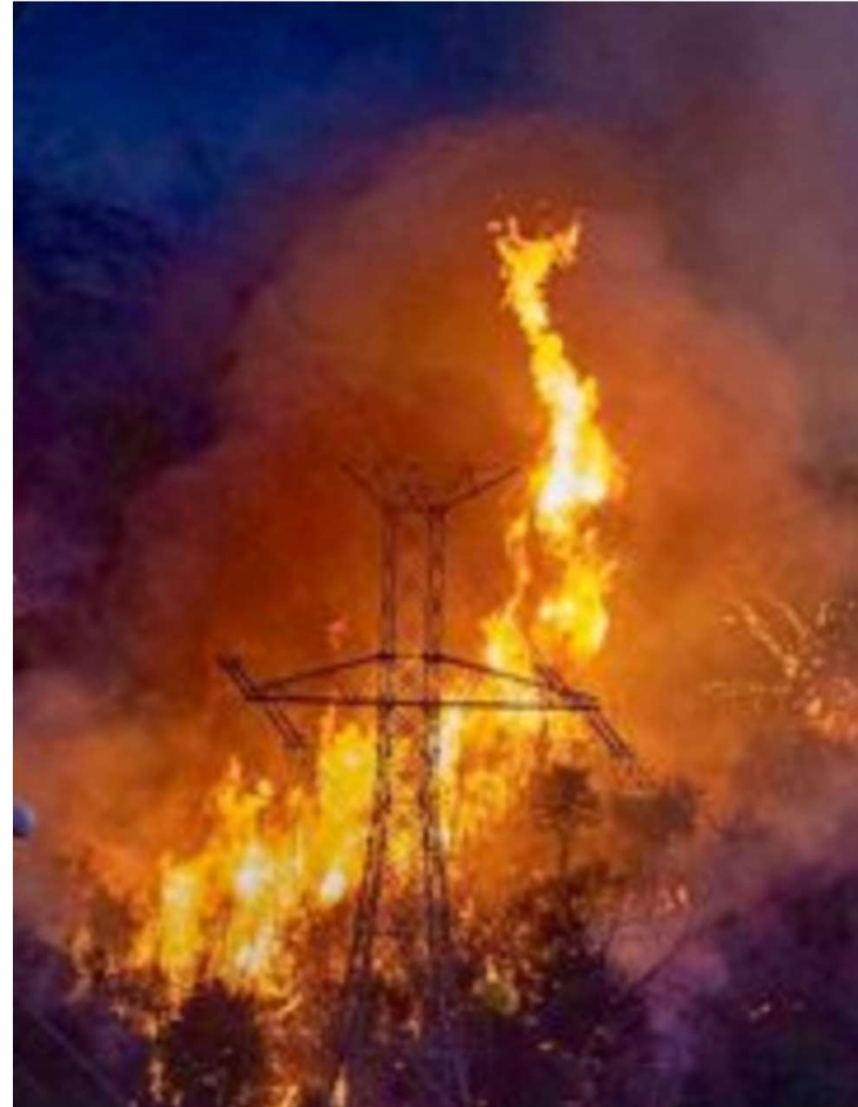
Last update: 39 seconds ago



Earthstar Geographics | Esri | TomTom | Garmin | FAO | NOAA | USGS | ©2014 Esri

# Fire Monitoring and Mitigation

- RC West monitors for fire impacts throughout the West
  - Active reported incidents
  - Fire weather
  - Satellite thermal hotspots
- Procedure **RC0410:**  
Transmission Emergencies due to Wildfire

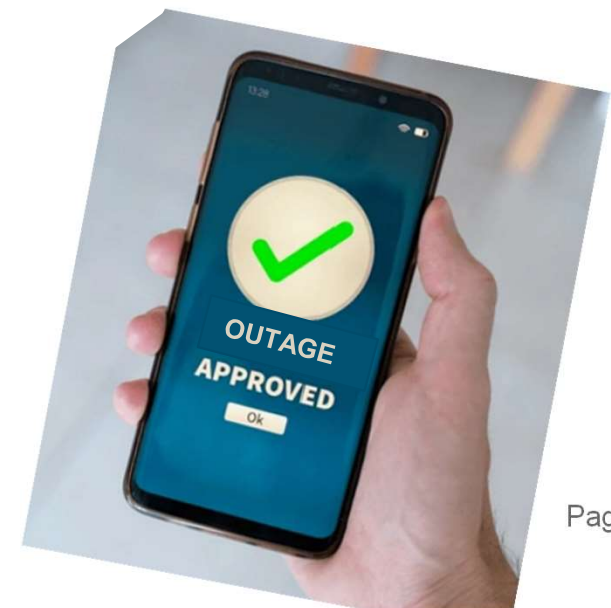


## RC0410B Transmission Emergencies due to Wildfire

- TOP shall contact RC when fires threaten facilities
- RC will contact TOP if a fire is detected within 2 miles of BES facilities
- A new contingency for multiple facilities will be created as needed for monitoring
- New Credible Multiple Contingency is viewable in HANA
  - RC will send a GMS with the contingency name
  - TOPs can view impact such as RAS Gen and Load drop

# RC Pre-Clearance Approval Process

- New process for RC assessment and approval prior to beginning critical planned outages
- These are outages which impact an IROL, Stability SOL or SOL that requires coordination with multiple TOPs or neighboring RC
  - Identified in RC0320 Appendix A
- TOP to request verbal approval from the RC Operator within 30 minutes of starting outage



# Insecure Operating State Updates in RC0310

- IOS is essentially a real-time IROL
  - 30 minute mitigation requirement once declared by RC
- Contact TOP and initiate preliminary mitigation actions within 15 minutes of the indication of the condition in RT tools, if RC West is unable to invalidate the Real-time Assessment results within 15 minutes.
- o Preliminary mitigation actions include:
  - Pausing scheduled outages in the TOP area,
  - Coordinating with neighboring TOPs and/or RC to pause scheduled outages.

# Guidelines for Declaring an Insecure Operating State RC0310C

Validation criteria split into two sections:

- Potential Thermal Cascading
- Unsolved Contingency

# Thermal Cascading

## IOS if cascading meets any of these criteria:

1. Cascading is not contained within one TOP area predetermined by studies. If cascading extends beyond a TOP area, the cascading puts load at risk in neighbor TOP area.
2. Total load loss of 1000 MW
3. Total unplanned generation loss of 2000 MW
4. Cascading leads to nonconvergence or unacceptable voltage, as verified in Section 2.3 (Unsolved contingency)



# Automated Cascading Feature

## Cascade Summary [ Auto save ]

Sequence	Case Title	Cascade Activated RAS	Island	Cascade Converge
32,340	BP1 HUNGRY_H-COL_FALS 230 3	N	N	CONVERGED
37,700	BP1 BIG_EDDY-QUENETT 230 2	N	N	CONVERGED
95,450	BP1 FLATHEAD-FLATH_TP 230 3	N	N	CONVERGED

## Cascade Sequence Overview

Zone	Station	Voltage	Monitored Element	Trigger	Pre-Contingency	Post-Contingency	N-2	Cascade Step MVA
BPA-43	HUNGRY_H	230	HHSY_COFL_1230A	HER	126	257	0	
BPA-43	FLATHEAD	230	FLAT_HHCO_3230A	CONT	47	0	0	
BPA-43	FLATH_TP	230	HHSY_COFT_3230B	CONT	12	0	0	
BPA-43	HUNGRY_H	230	HHSY_COFT_3230A	CONT	132	0	0	
BPA-43	TRUMB_CR	230	FLAT_HHCO_3230B	CONT	122	0	0	

## Tripped Load and Gen

Type	CO.	Station	Voltage	Equipment	Tripped MW	Cascade Step	RAS
G	BPAT	HUNGRY_H	13.8	G01	67	N-2	N
G	BPAT	HUNGRY_H	13.8	G03	66	N-2	N
G	BPAT	HUNGRY_H	13.8	G02	65	N-2	N
G	BPAT	HUNGRY_H	13.8	G04	63	N-2	N
L	BPAT	HUNGRY_H	13.8	XF3	3	N-2	N
L	BPAT	HUNGRY_H	13.8	XF2	3	N-2	N

## Cascade Summary

Tripped Gen	Tripped Load	Tripped Gen (Cascade RAS Only)	Tripped Load (Cascade RAS Only)
261	5	0	0

CO.	Monitored Element
BPAT	HHSY_COF

**Converge Record**

CONTINGENCY: 32340 BP1 HUNGRY\_H-COL\_FALS 230 3

POWER FLOW CONVERGENCE OUTPUT

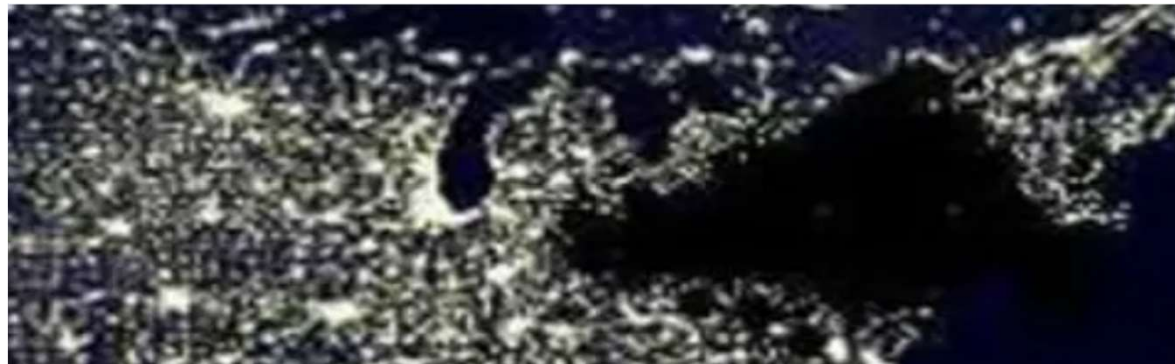
CURRENT EXECUTION IS AN AC POWER FLOW

PF ITERATION	MX MISMATCH	BUS MAT ARE DIS PSH Q	FB REM TRF
ITER P Q MW MVAR	NO FAC INT SLK MW LIM REG V TAP		
1 1	130.23 9692 * 0 0 0		
	1 13.98 9555 * 0 0 0		
2 2	-9.35 11752 02031 0		
	2 -17.72 9798 1 0 3 0		
3 3	8.31 11752 02031 0		
	3 2.3014819 0 0 2 0		
4 4	3.06 11778 02031 0		
	3 1.2011752 0 0 0 0		
FIXING SHUNTS			
5 4	-1.07 9558 0 0 0		
SOLUTION CONVERGED			
5 4	-1.07 9558 0 0 0		
	3 1.2011752 0 0 0 0		
WORST MW MISMATCH AT: _2797f77c-6855-3d4c-b572-bd51467be679			
WORST MVAR MISMATCH AT: BOBN 230kv 1			

# Unsolved Contingency

## IOS if Unsolved Contingency is validated with BES impacts

1. The contingency definition include BES elements 300kV or greater and fails to solve in offline study tools
2. The contingency solves offline, but will result in 4 or more adjacent >200 kV station Voltages 5% below steady-state SOL, and the area affected is not a radial network
3. Assessment time is exceeding 30 minutes without being able to invalidate the indicated condition for BES elements



# Tool Updates

# PI Vision Display Examples

Available on RC Portal>Prod>PI Vison

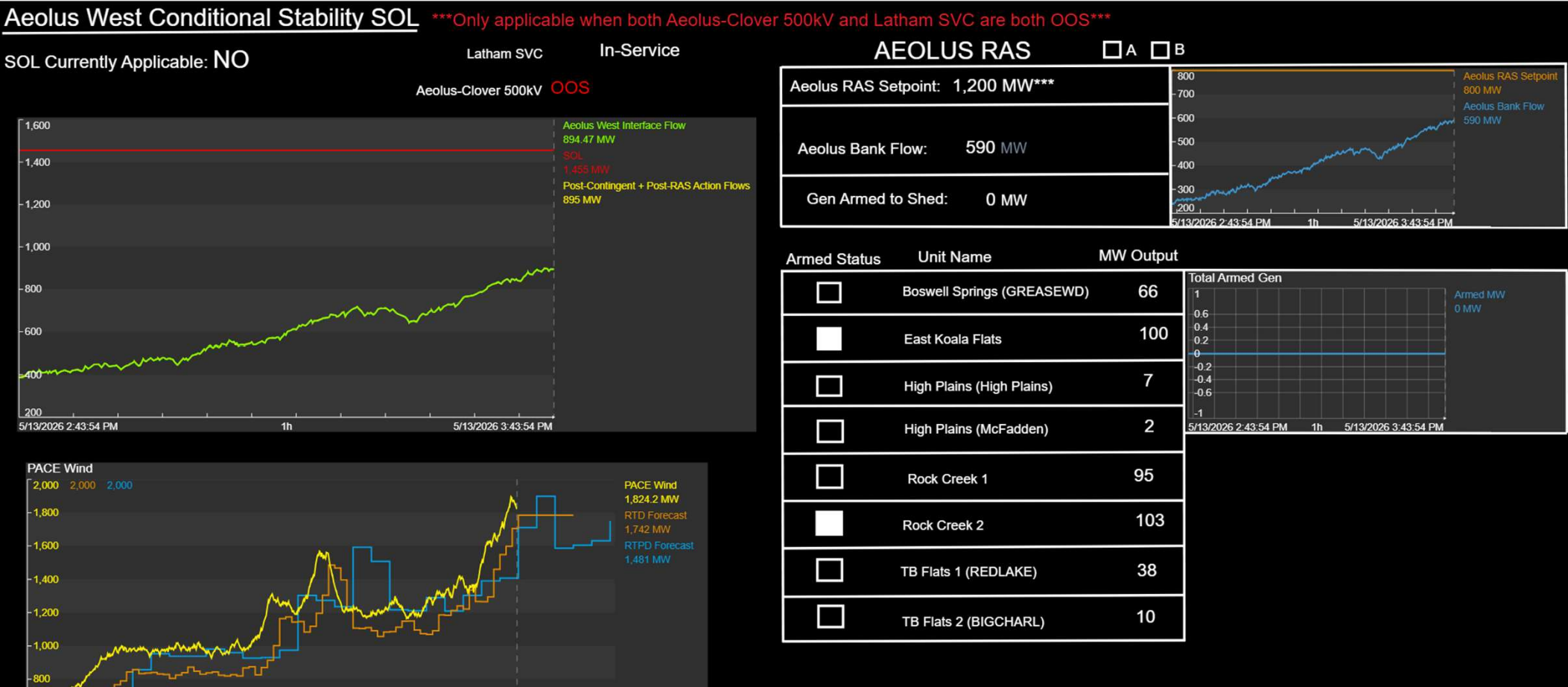
## RC Situational Awareness: High level view of WECC Reliability

ACE	Current	Peak	LOAD	Reserve Deficient BAs	IROLs	Qualified Paths USF	PST Taps
WECC Wide <b>487</b>	111146	167,988	66 %		OREX 4700 Yes 837 VSA = 4921 VSA = 884 margin = 3863	80 MT SE 364 -530 -384 -20 66 COI -575 -3600 -184 -758	Sigurd 15 Gladstone 17 Pinto 17 Crossover 0 Harry Allen 0 Billings 30 Shiprock 18 Rimrock 5 Waterflow 18 Mill Creek 28 Anticline 0
RC West <b>473</b>	82304	130,986	63 %		NWWA 8400 Yes 4879 VSA = 8924 VSA = 4956 margin = 3521	30 TOT 1A 0 0 608 608 31 TOT 2A 0 0 -316 -316 36 TOT 3 0 0 -4 -4	
BCRC <b>84</b>	7187	12,404	58 %				
SPP <b>-81</b>	11096	26,105	43 %				
AESO <b>25</b>	10543	12,441	85 %				

TTC Paths USF					Non-IROL Stability Paths					Contingencies Ran					
Path	Schedule	TTC	USF	Actual	In effect?	SOL	Margin	Actual	In effect?	SOL	Margin	Actual	9429	Cascaded Contingencies	
3	192	2000	189	349					Yes	-310	243	-67			2
1	-50	-560	-23	-73	Path 3 NW-BC	COND	2000	1619	381	8836	3649	5187	59 %	0	
83	-50	-310	-51	-101	Path 8 MT-NW	COND	1300	919	381	6973	2912	4061	58 %		SE SA
75	0	0	0	0	NWACI S-N STUDY	NO	-5100	9999	773	No	-9999	9610	-353		
					NWACI BPA SOL		-4145	6716	781	Yes	58	47 ICCP 11	1		
					NWACI S-N VSA LIMIT		-4114	9999	635	GC-Malin Phase Angle Diff.	Yes	58	47 ICCP 11	1	
					CASI	NO	2341	9999	2383	102 %	PMU 11				
										Path 19 Bridger West	No	1600	788	812	51 %
										EPIC	No	900	9999	673	75 %

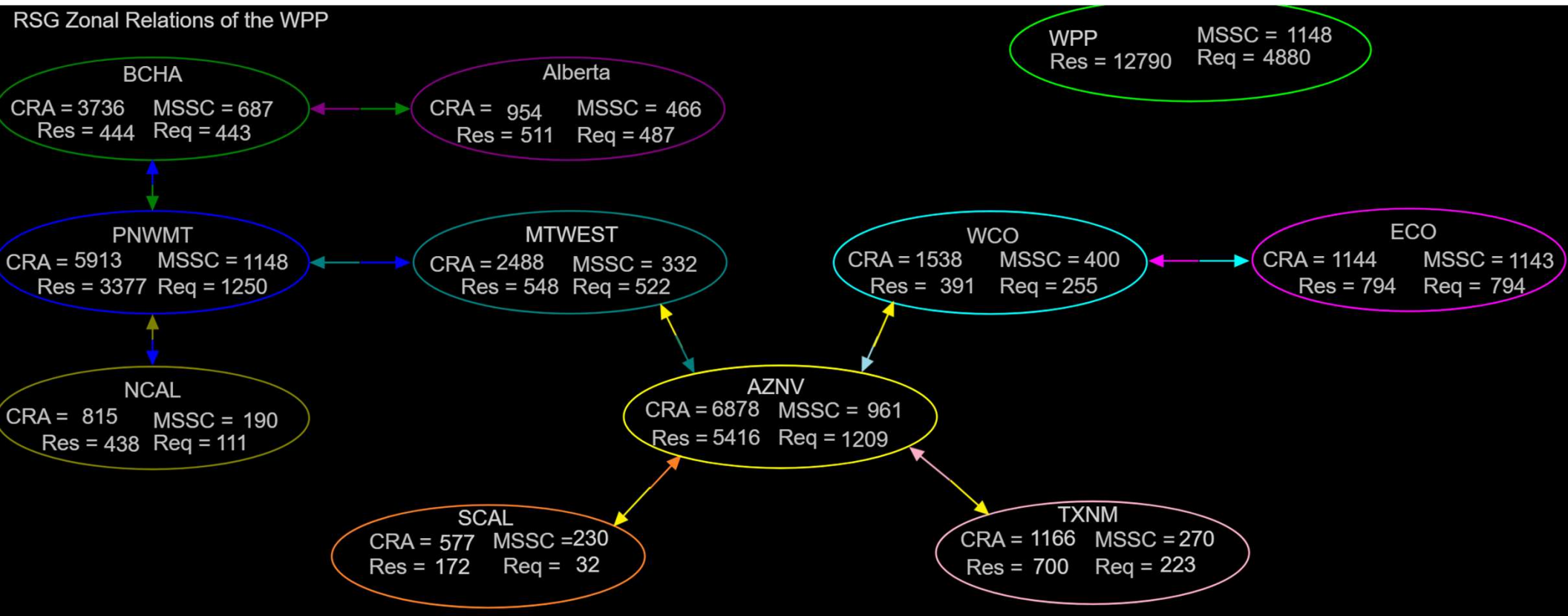
# Aeolus West Conditional Stability SOL

Custom display to monitor a specific condition



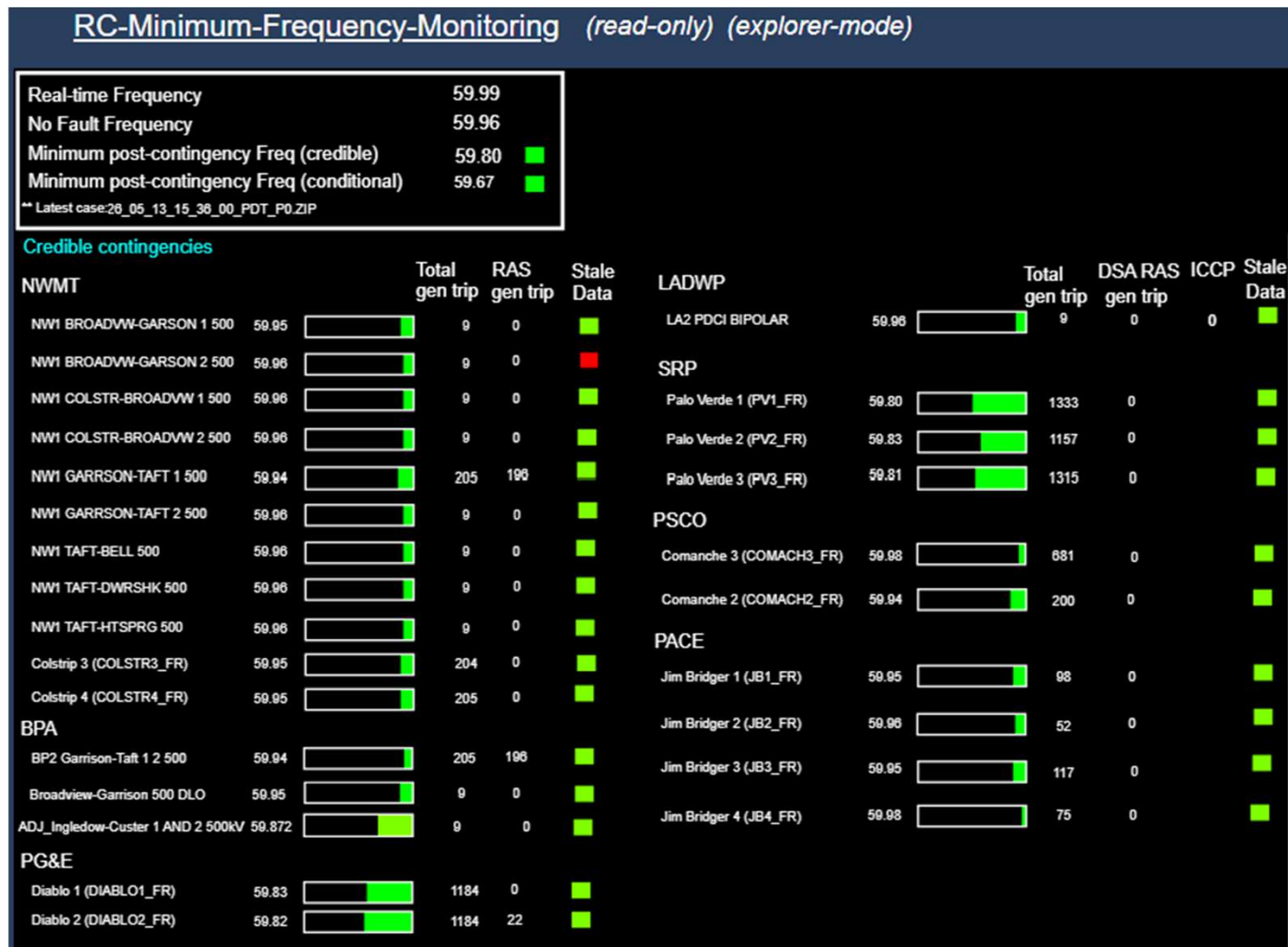
# Western Power Pool Zone Diagram

RSG Zonal Relations of the WPP



# RC Minimum Frequency Monitoring

## Currently working to add additional contingencies



## BA Round Table Closed Session:

- BA Operations Management Team or Representatives can update on the below topics related to their preparation for the Summer 2026
  - BA major transmission/gen changes for summer
  - Procedures changes
  - Training & communications for Summer Preparation
  - BA readiness from Transmission & Generation Assessments

# Adjourn Café open for lunch

End

More Information:

RC Portal: <https://rc.caiso.com/>