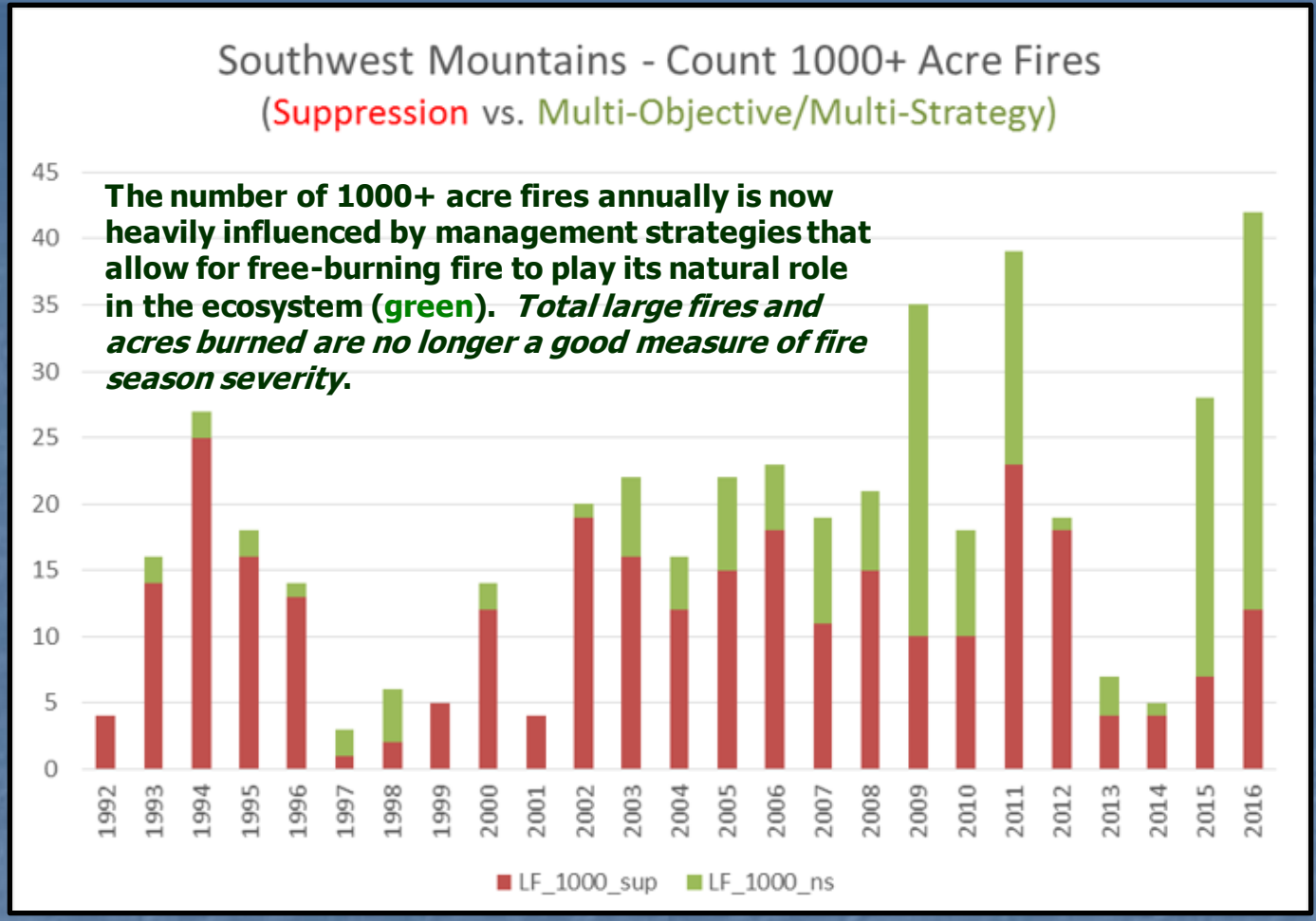
2023 Fire Season Considerations and Outlook

SWCC Predictive Services

Updated: 1/31/23

Historical Southwest Area Fire Activity

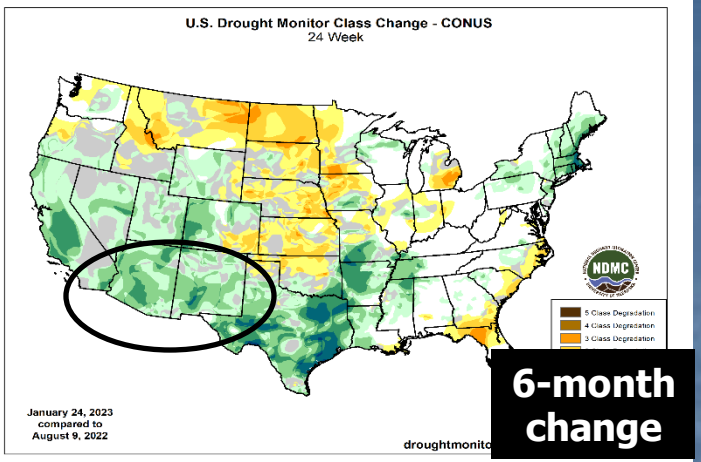


- Fires about a 50/50 split between human & lightning caused
- Human caused fires more prevalent in the spring, coincident with windy & dry conditions
- Lightning caused fires more prevalent from June onward, coincident with the approaching monsoon

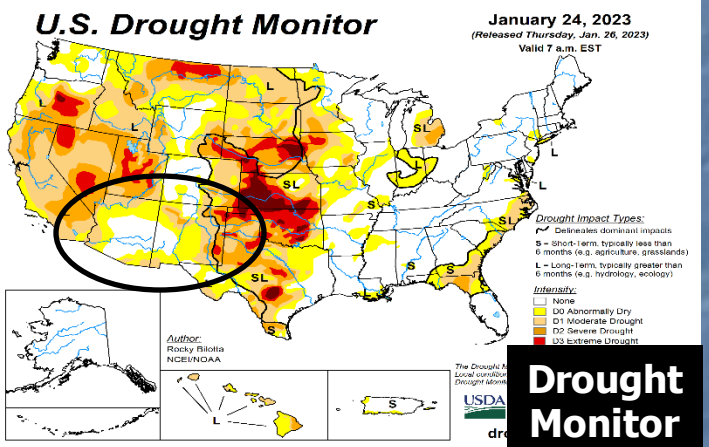
Seasonal Fire Potential Main Factors

1. Drought — Big Picture Fuels Complex Conditions
2. Fine Fuels Condition — Fine Fuels Component
3. Seasonal Temperature & Precipitation — Season Setup
4. Spring & early Summer Weather Patterns — Fire Ignition & Spread
5. Monsoon — Season End

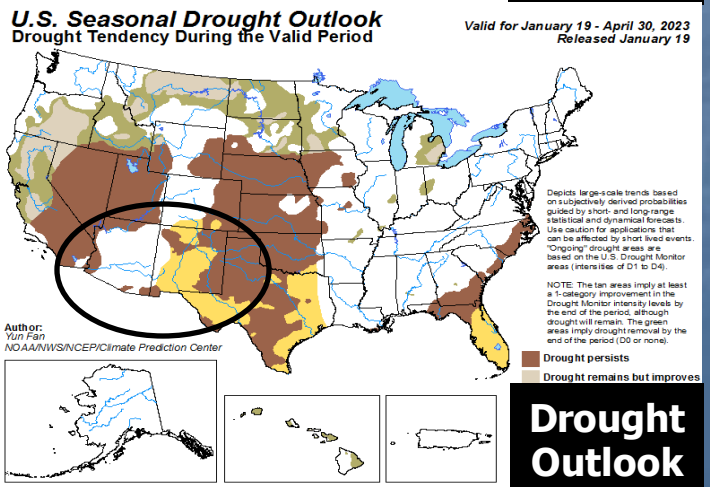
Fire Season 2023: Drought



6-month change



Drought Monitor



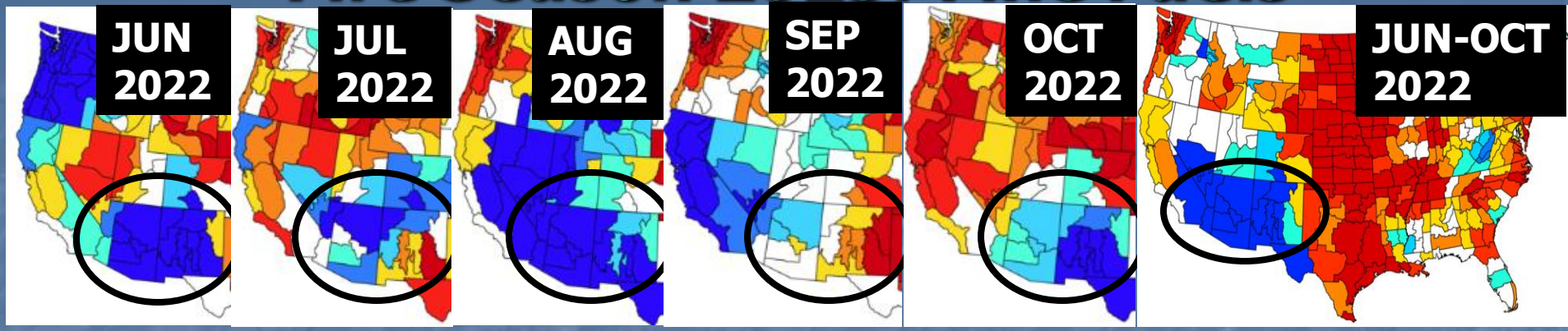
Drought Outlook

Much improved drought conditions overall over the past 6 months

- A few areas of "Extreme Drought" east. "Severe drought" more widespread east of the NM central mountains. "Moderate Drought" bordering these areas as well as across parts of SW/NW Arizona and parts of NM New Mexico

- Official Drought outlook – Drought development likely east of the divide region. Minimal significant drought across most of Arizona.

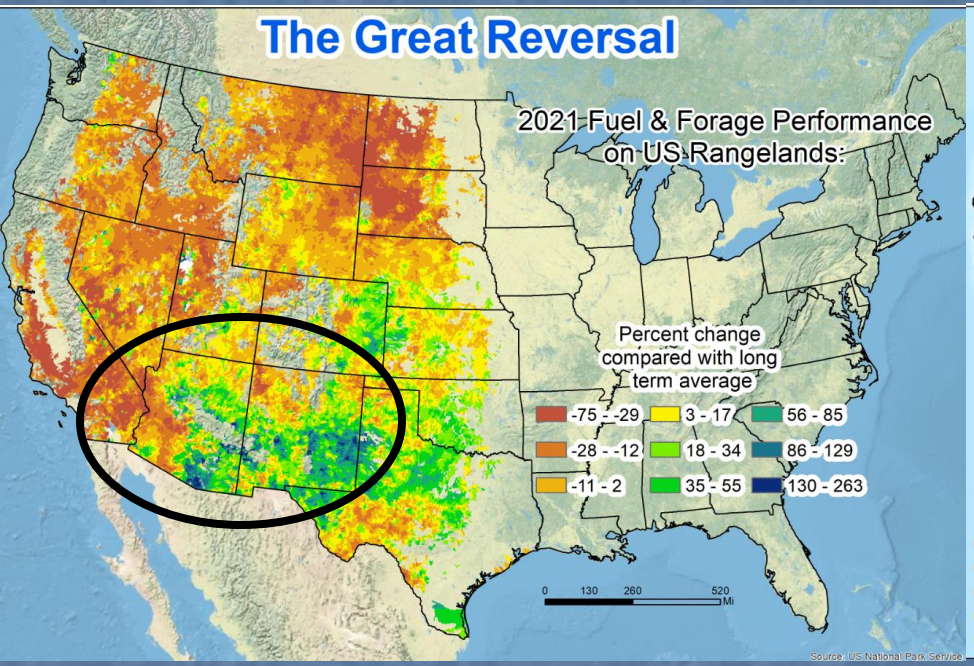
Fire Season 2023: Fine Fuels



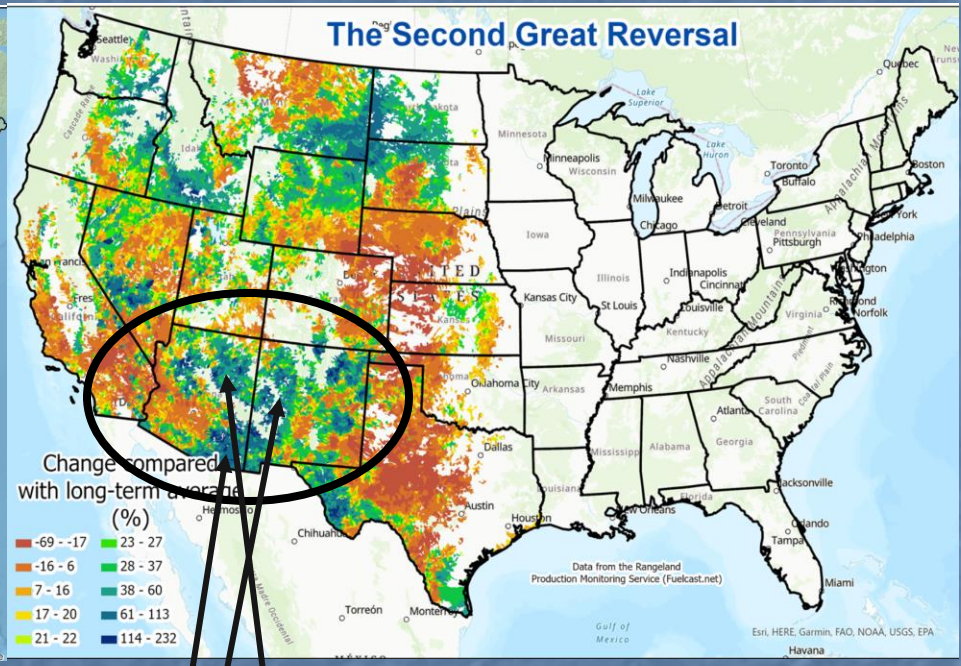
- Robust 2022 warm season precipitation totals nearly area-wide. Many areas saw record to near record amounts of precipitation last summer/fall.
- **Fine fuel loading and continuity ranges from Below Normal to Above Normal, with Above Normal areas -** ***across much of both nrn & sern AZ, much of the Gila NF, and north-central NM***
- ***Per coordination with units/agencies as spring arrives…will provide specific unit updates when provided info…***

Standing Deal Fuels Compared to Normal

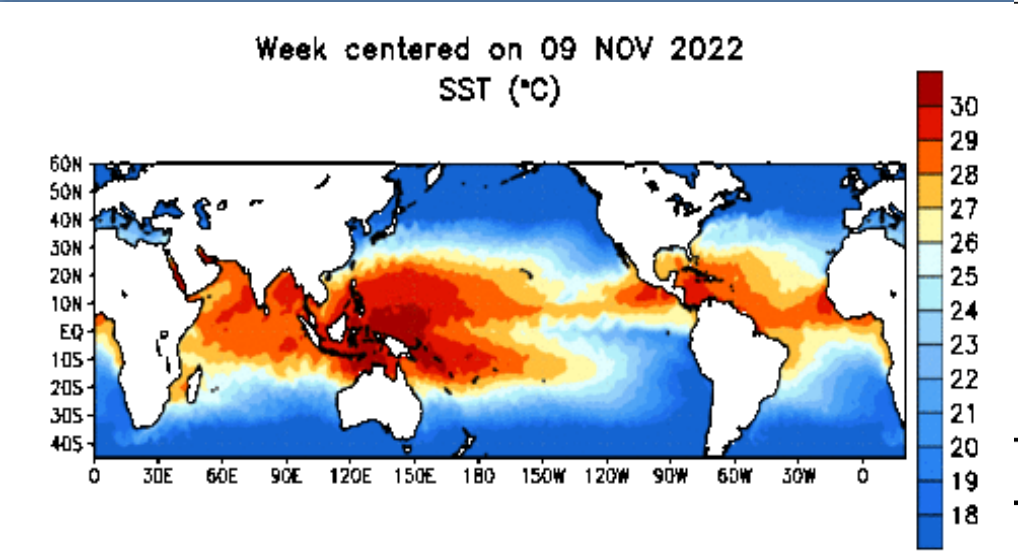
FEB 2022

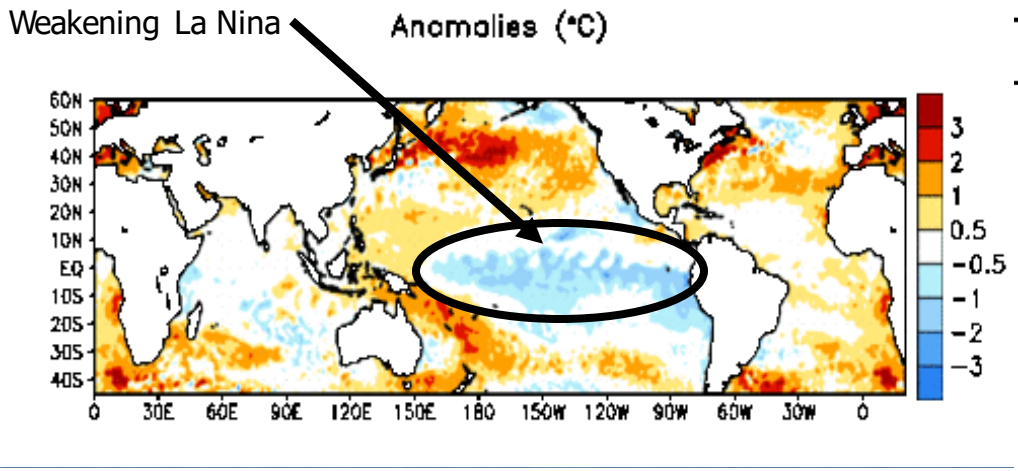


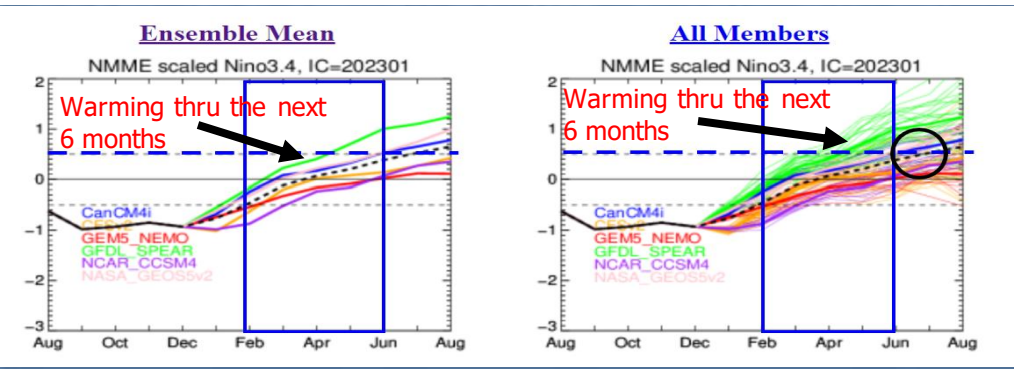
FEB 2023



Notable Yields


Week centered on 09 NOV 2022
SST (°C)
30
29
28
27
26
25
24
23
22
21
20
19
18


Weakening La Nina
Anomalies (°C)
3
2
1
0.5
-0.5
-1
-2
-3


Ensemble Mean
NMME scaled Nino3.4, IC=202301
Warming thru the next 6 months
CanCM4i
GEM5_NEMO
GFDL_SPEAR
NCAR_CCSM4
NASA_GEOS5v2
Aug Oct Dec Feb Apr Jun Aug
All Members
NMME scaled Nino3.4, IC=202301
Warming thru the next 6 months
CanCM4i
GEM5_NEMO
GFDL_SPEAR
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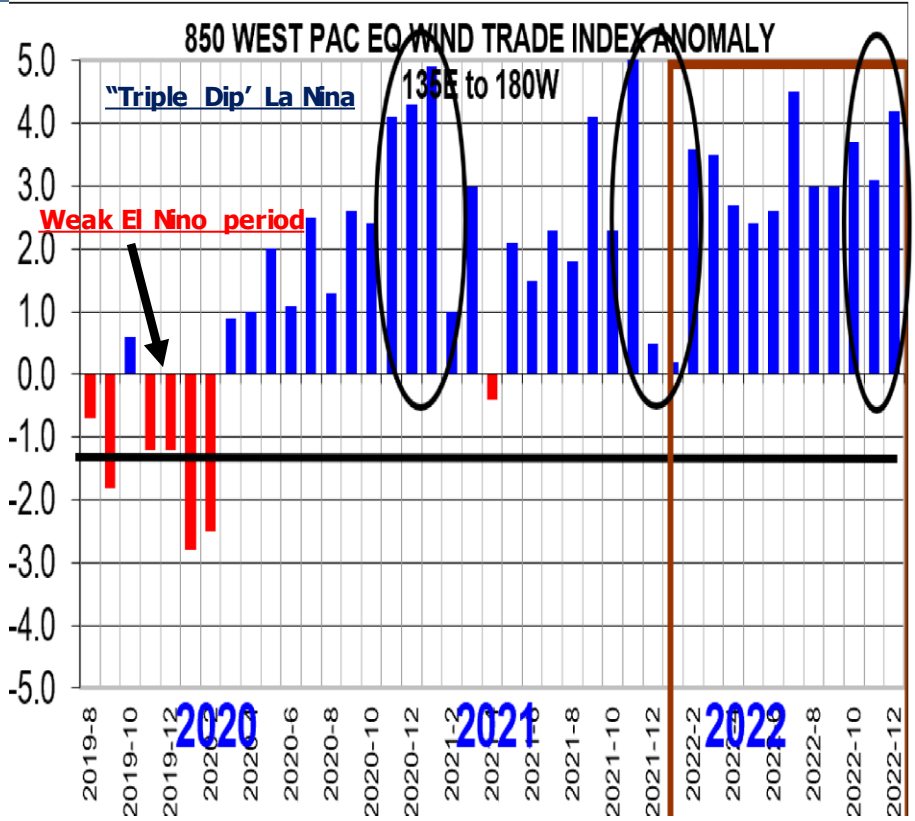
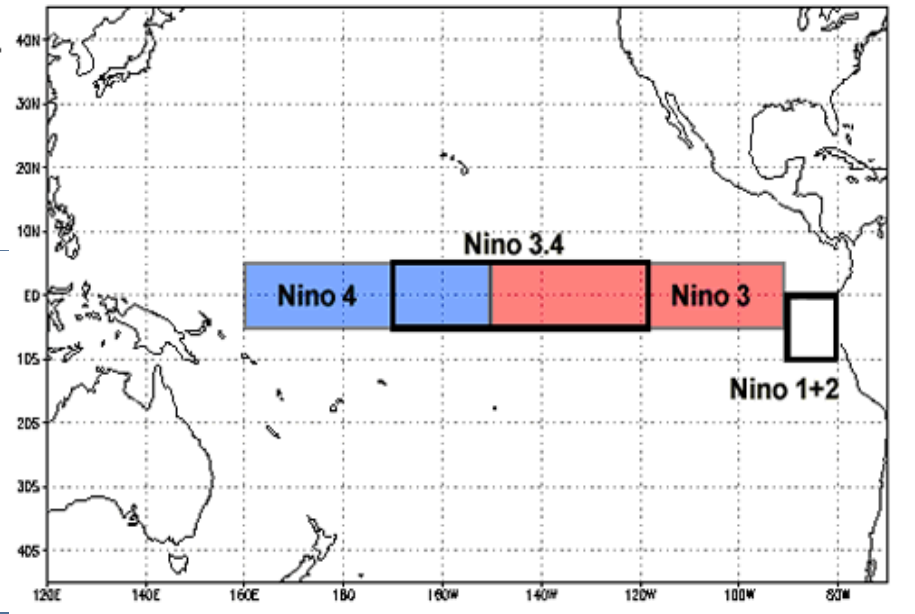
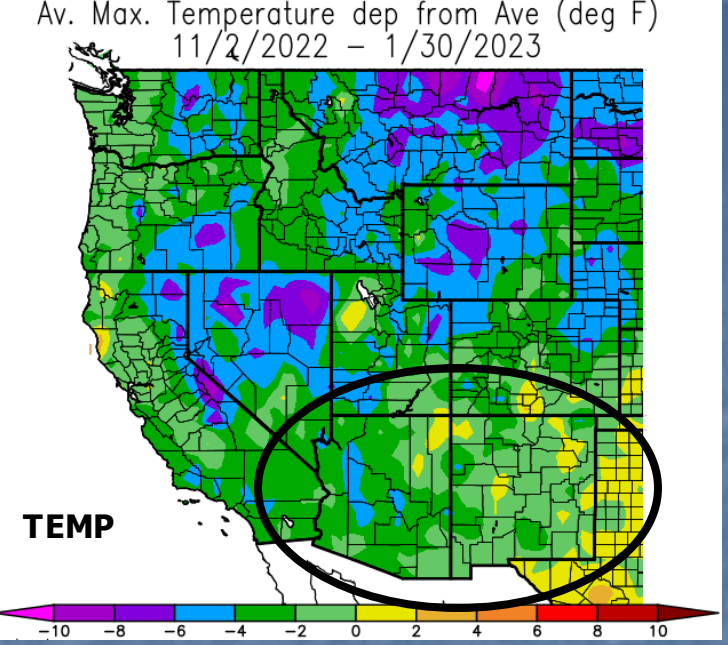
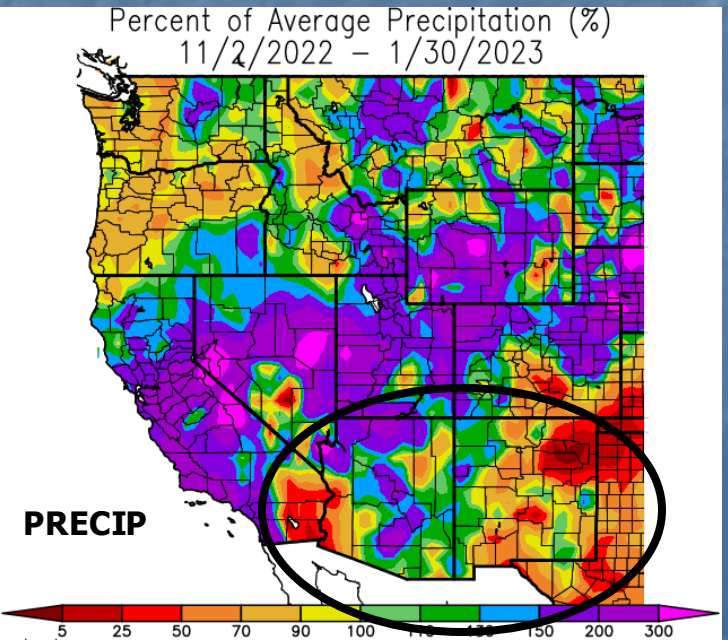
NASA_GEOS5v2
Aug Oct Dec Feb Apr Jun Aug


850 WEST PAC EQ WIND TRADE INDEX ANOMALY
"Triple Dip' La Nina
135E to 180W
Weak El Nino period
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2020
2021
2022


Nino 3.4
Nino 4
Nino 3
Nino 1+2

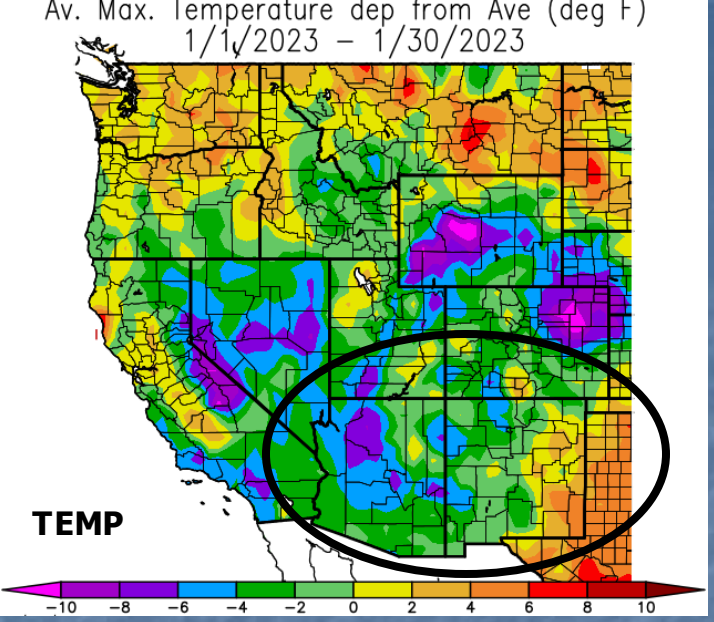


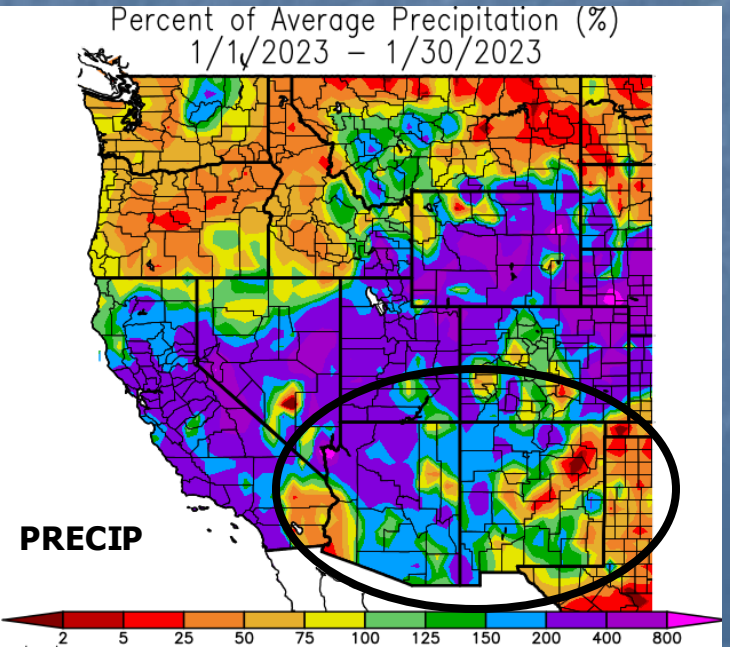


Fire Season 2023:
Last 90 Days (NOV '22 thru JAN '23)
Temperature & Precipitation

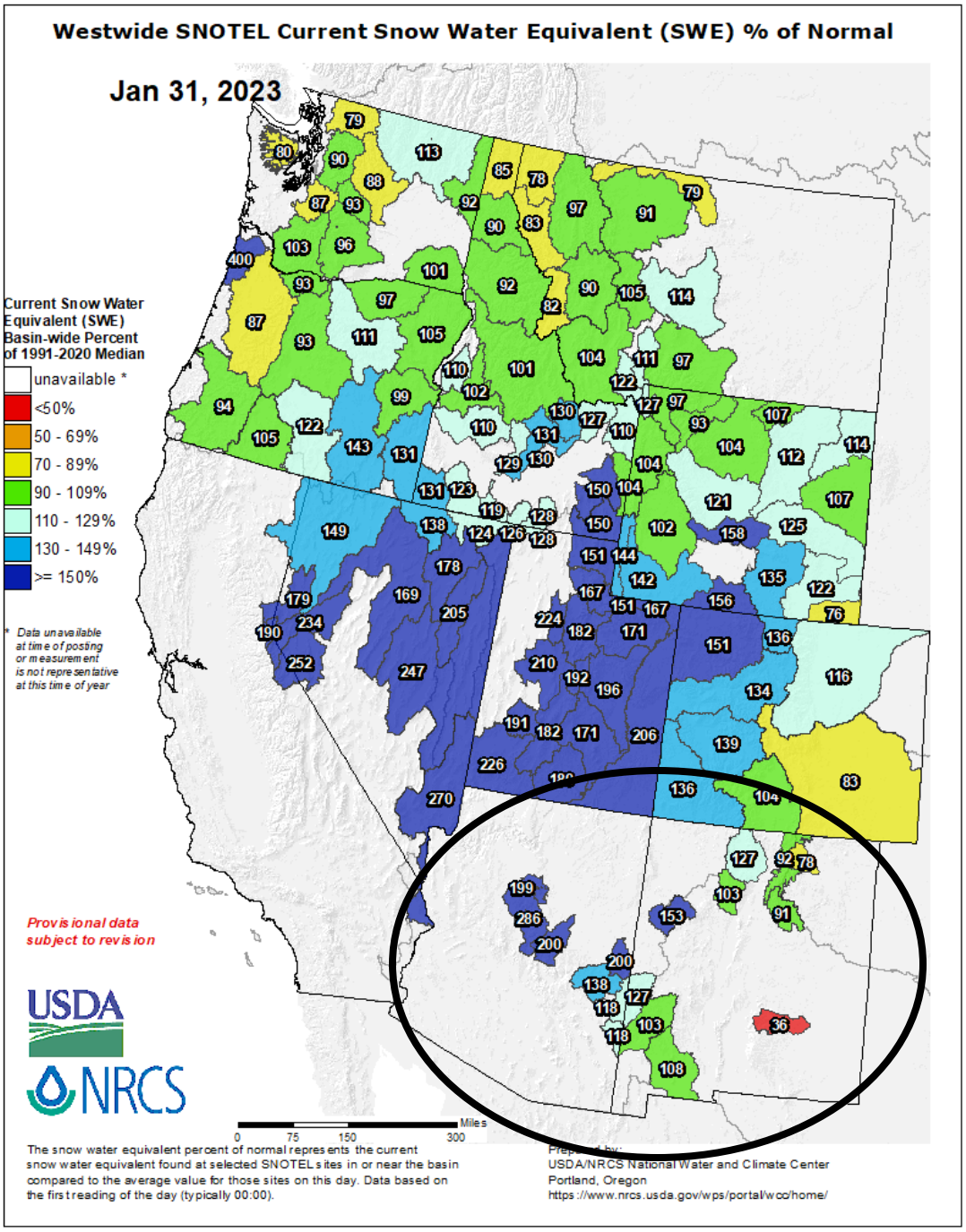
- Overall, regular storm systems and an active pattern has generally kept the Southwest Area cooler/colder than normal nearly area-wide and wetter than normal focused west
- High temperatures have averaged from 1-2 degrees warmer than far east and from 2-6 degrees cooler western ½ or so
- Wetter than normal from along/west of the divide and drier than normal eastern ½ or so of NM the past 3 months

Fire Season 2023:
Past 30 Days (JAN)
Temperature & Precipitation

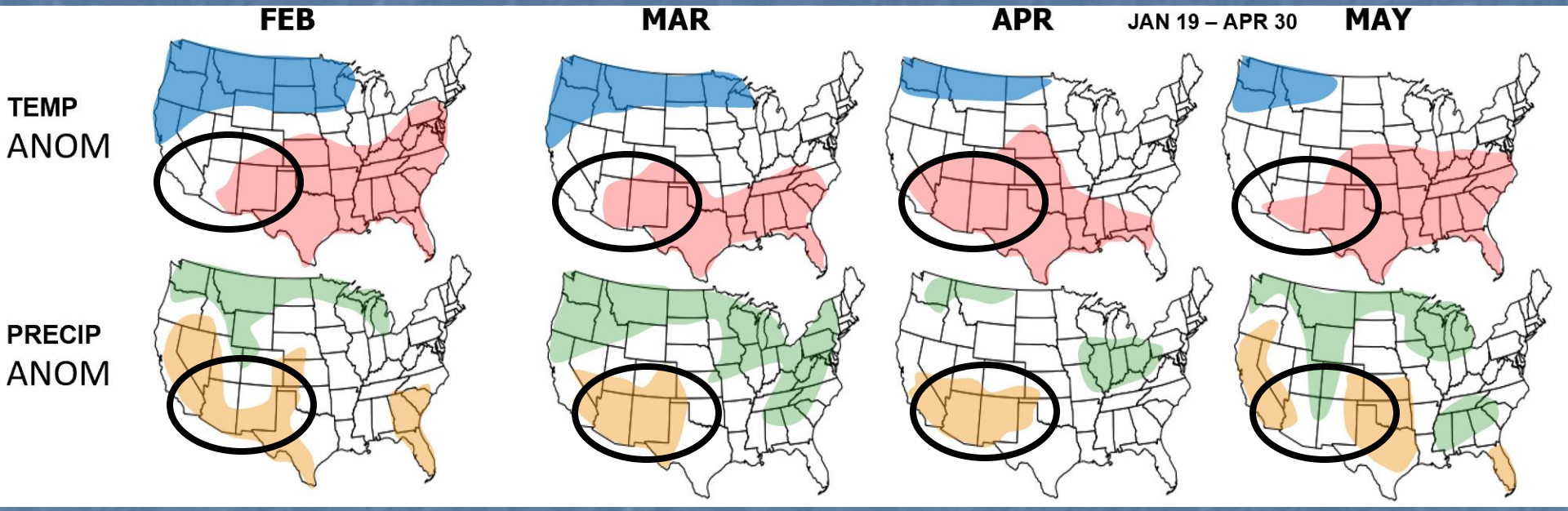




- Milder eastern plains, cooler/colder western ¾ of the region with high temperatures from 2-8 degrees below Normal
- Drier than normal east, Wetter than normal west/northwest


Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal
Jan 31, 2023
Current Snow Water Equivalent (SWE) Basin-wide Percent of 1991-2020 Median
unavailable *
<50%
50 - 69%
70 - 89%
90 - 109%
110 - 129%
130 - 149%
>= 150%
* Data unavailable at time of posting or measurement is not representative at this time of year
Provisional data subject to revision
USDA
NRCS
0 75 150 300 Miles
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).
USDA/NRCS National Water and Climate Center
Portland, Oregon
https://www.nrcs.usda.gov/wps/portal/wcc/home/

Fire Season 2023: FEB-MAY
Temp & Precipitation Forecast



A continued active and up/down late winter/early spring pattern with some lengthy periods of mild temps (focused south/east) being interrupted by frequent/regular periods of cooler/colder temperatures (focused north/west)

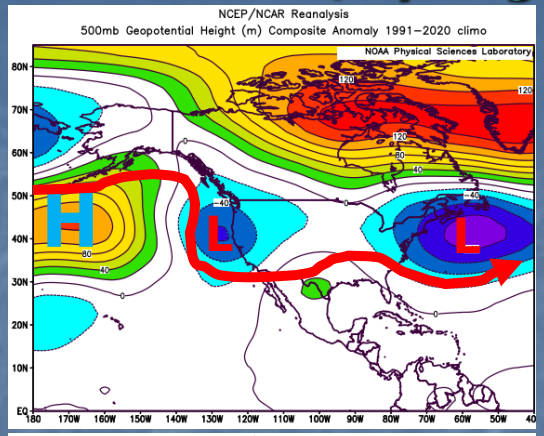
The northern half or so of AZ into the divide region will see some periods of above normal precipitation, otherwise expect near to below normal precipitation regionally through through mid-March

Changeable pattern by mid-late spring/early summer due to switch to ENSO-neutral or weak El Nino conditions

Fire Season 2023

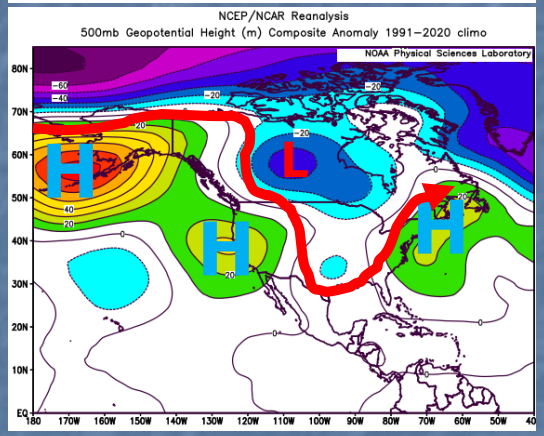
Late Winter/Spring Weather Pattern Impacts

FEB-MAR



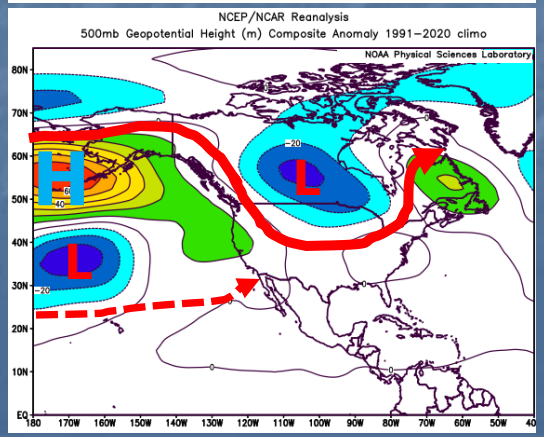
- Regular west coast trough with an active jet stream pattern and semi-frequent storm intrusions
- Wetter north/west and, at times far east; drier generally across far south
- Some periods of breezy/windy conditions focused south/east

MAR-MAY



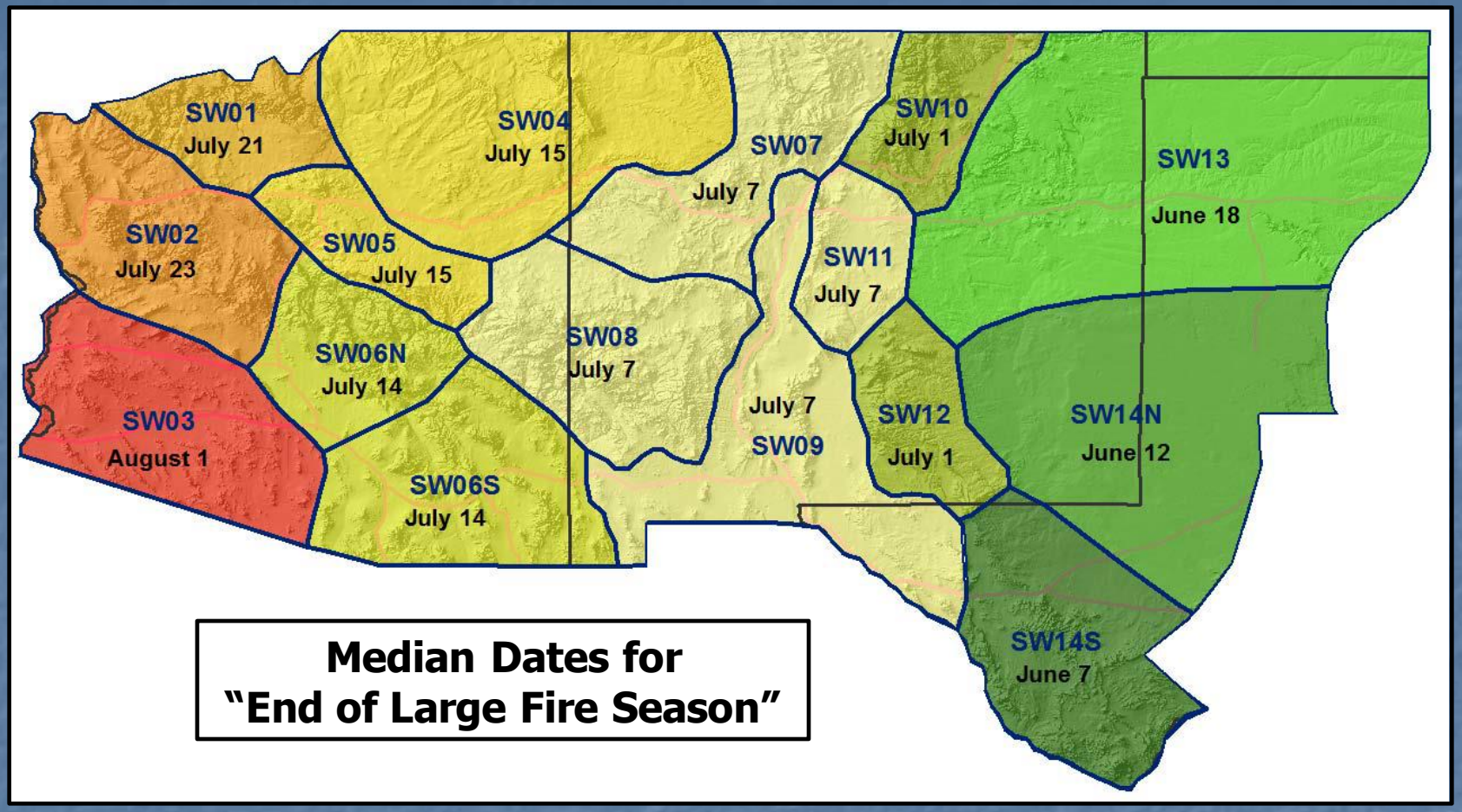
- Near west coast ridge with more active backdoor front or clipper type storm system pattern
- Warmer western ½ of AZ, Near Normal elsewhere; Near Normal precipitation most places
- Not likely to be abnormally windy pattern

MAY-JUN



- West coast ridge pattern weakens with a likely subtropical tap to initiate
- Warmer far west, then turner likely cooler than normal northwestern ½ of region, wetter than normal southern AZ & near the divide region
- Monsoon – likely near normal, although better east

Fire Season 2023: Monsoon



- For Reference: Median dates for end of 'large fire' season.

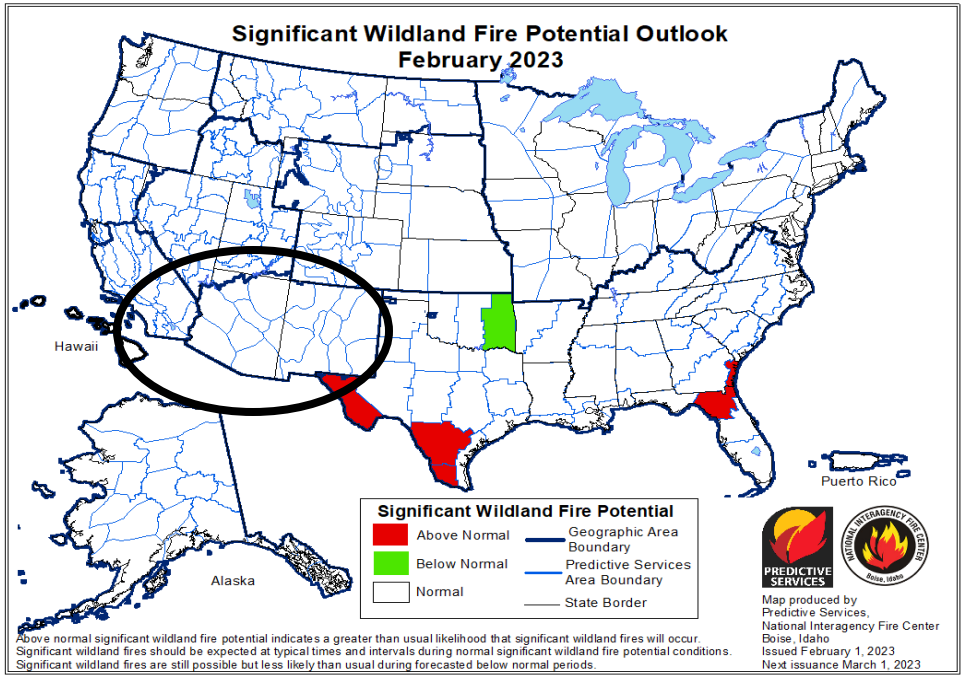
Strong potential for present La Niña conditions to dissolve by early-mid spring with ENSO neutral and perhaps even El Nino conditions by May-July

2023 Fire Season Factors Summary

1. **Drought** – Significant drought only across far northwest, far east
2. **Fine Fuels Condition** – Above normal yields along/near Mogollon rim, southeastern AZ, western NM & parts of the ern plains
3. **Seasonal Temperature & Precipitation** – Generally been cooler/colder than normal western 2/3 of the region, milder east. Wetter northwestern ½ of region, driest east/southeast
4. **Late spring & early Summer Weather Pattern** – Active pattern into MAR with numerous chances of precipitation focused north/northeast (drier south), milder east (cooler west), then likely turning cooler east and drier, milder west of the divide by MAR-APR with frequent backdoor fronts. Possible subtropical tap by MAY into JUN with wetter than normal eastern ½ or so of AZ/western NM.
5. **Monsoon** – Likely at least a tad late and weaker than normal (better east)

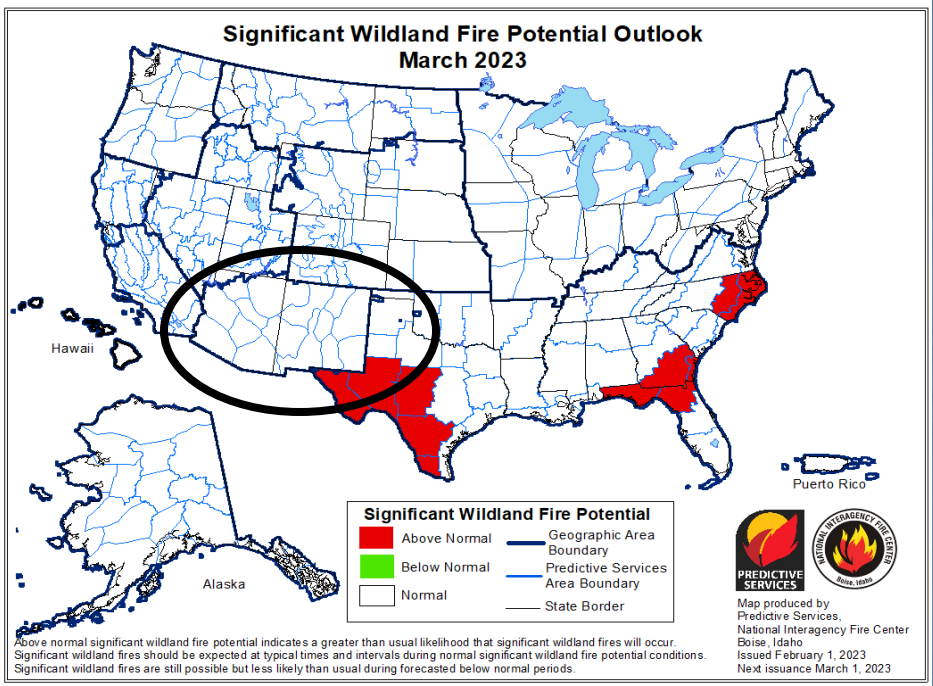
Bottom Line: A likely changeable late winter/spring pattern with sharply less significant wind to lead to a normal or delayed start to the large fire season

National Significant Wildland Fire Potential Outlook



Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur.
Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions.
Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.

Map produced by
Predictive Services,
National Interagency Fire Center
Boise, Idaho
Issued February 1, 2023
Next issuance March 1, 2023



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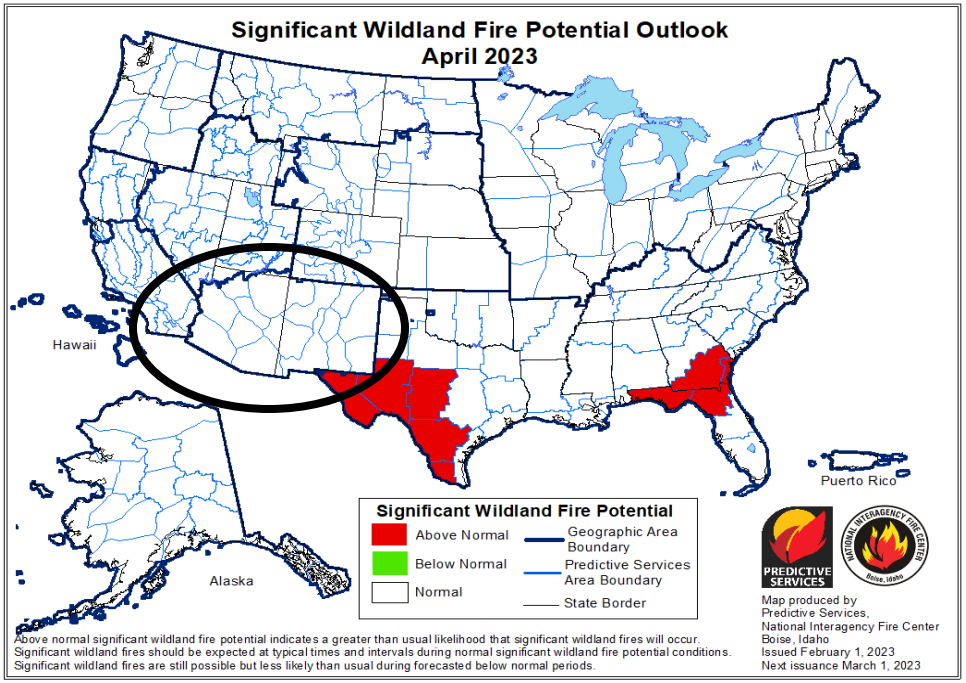

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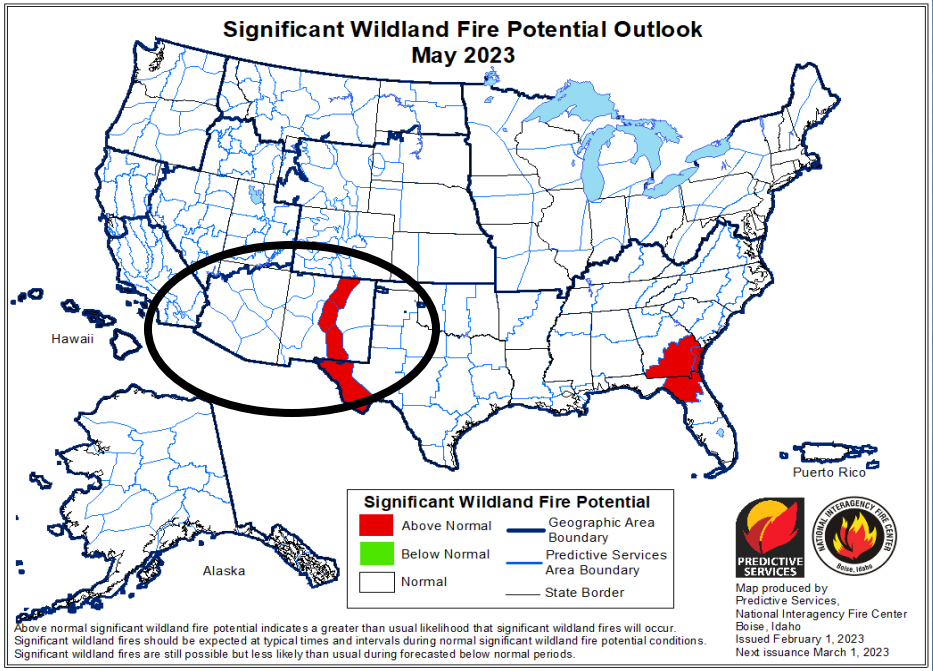

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END

SWCC Predictive Services

Next Update: ~ late FEB/early MAR 2023

Contact: SWCC Predictive Services
505-842-3473

Consult the Outlooks Page (Below) for Updated Information Through Fire Season:
http://gacc.nifc.gov/swcc/predictive/outlooks/outlooks.htm