

# Extreme Wind Event After Action and Follow-up

April 6, 2023

Jim Oberhofer KN6PE



# CARES mission

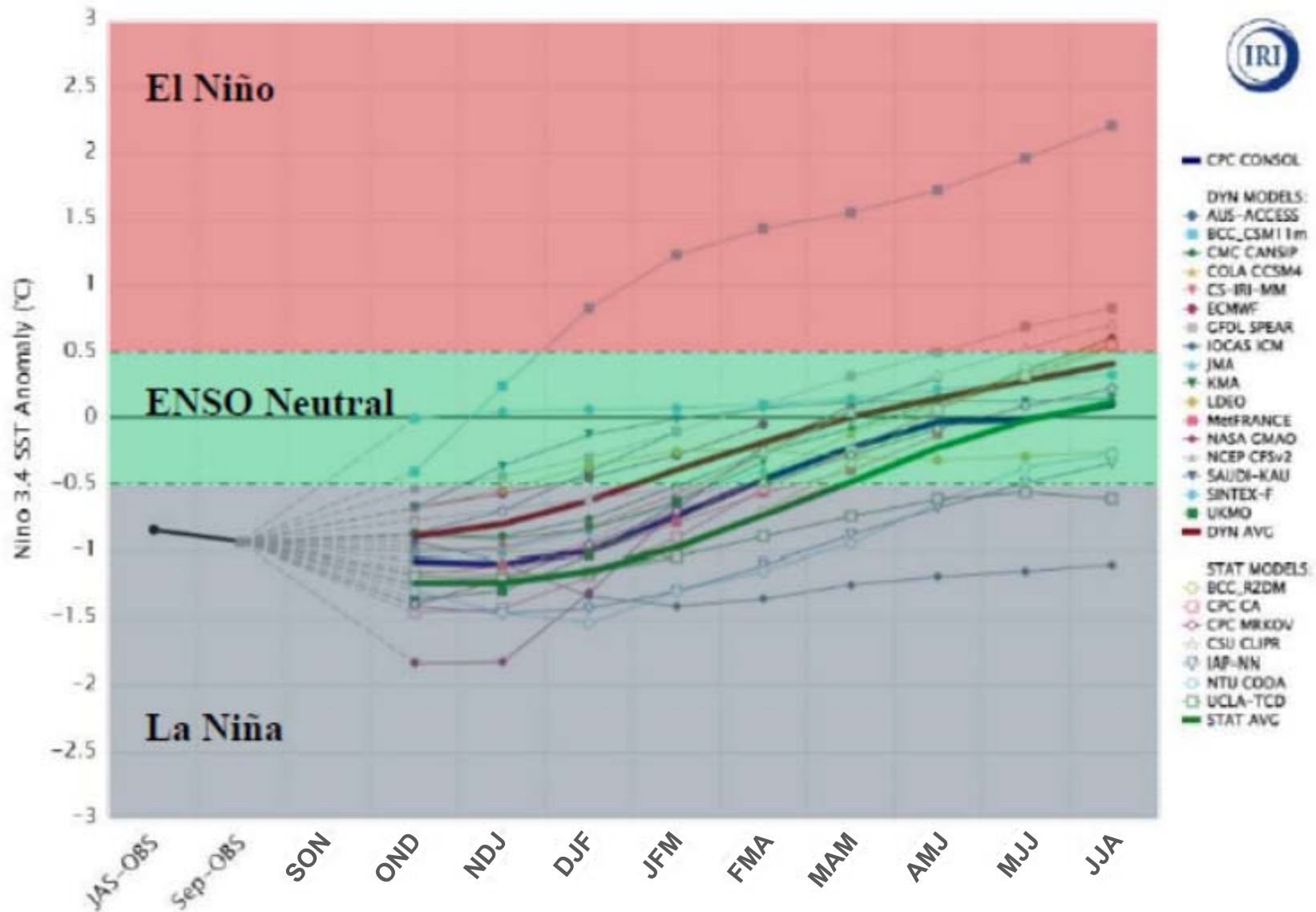
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The mission of Cupertino Amateur Radio Emergency Service (CARES) is to maintain and train Amateur Radio volunteers capable of providing professional emergency communications, increasing the City's emergency response effectiveness, and speeding the recovery effort.

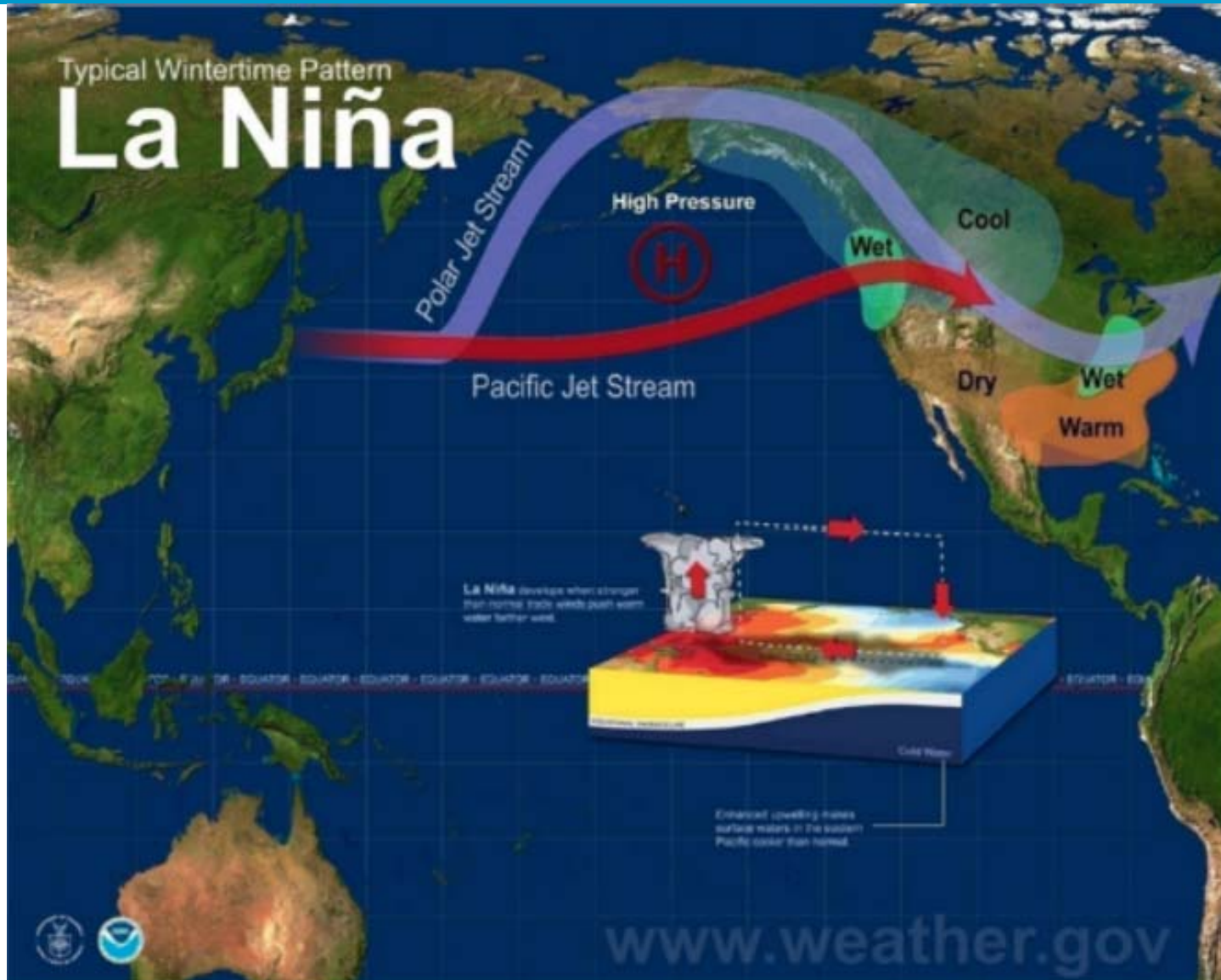


# NOAA El Niño Southern Oscillation Model

## Model Prediction of ENSO from October 2022



# Typical La Niña Pattern



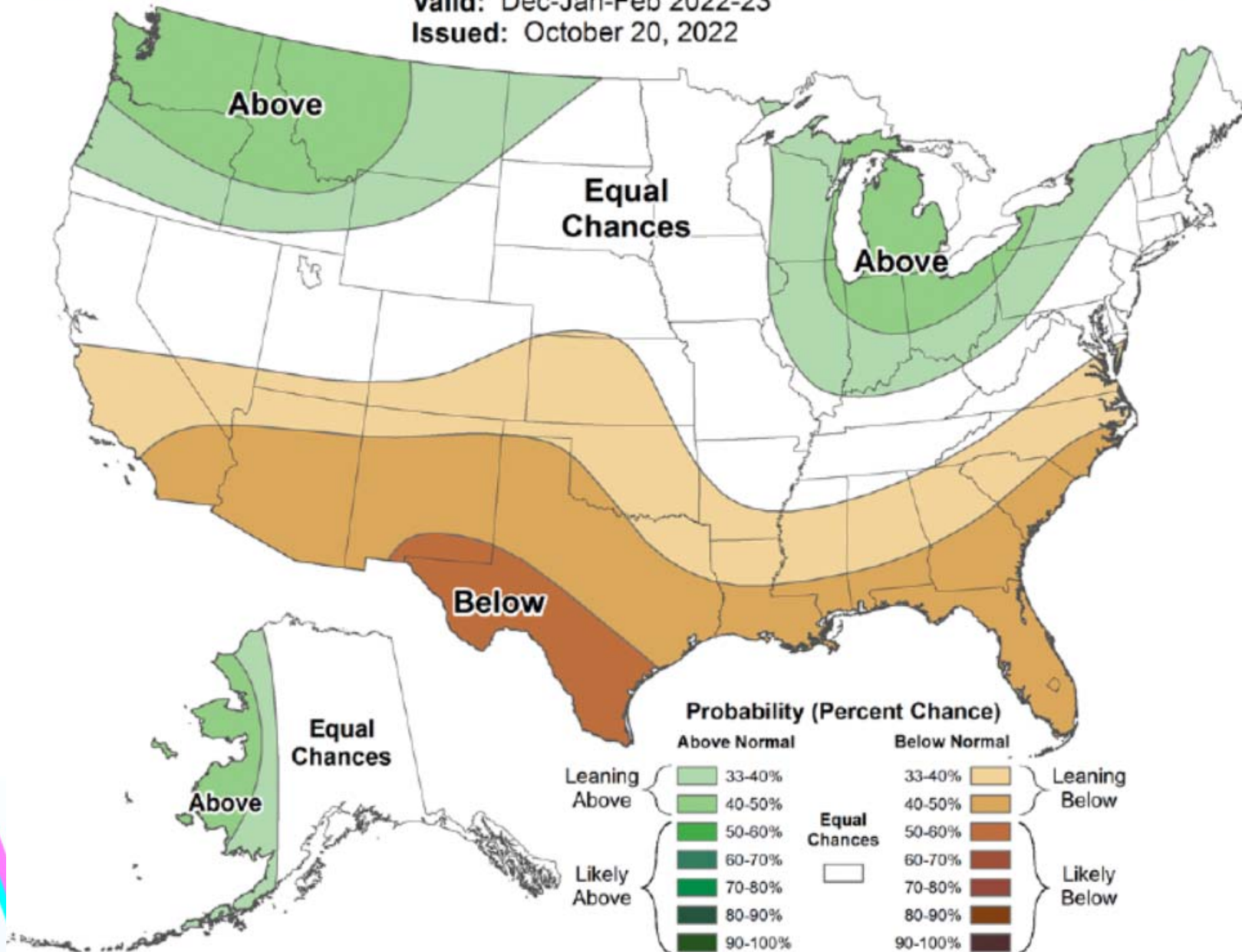
# “Bay Area will see extremely rare La Niña event this winter” ... SFGate, Oct. 26, 2022



## Seasonal Precipitation Outlook



Valid: Dec-Jan-Feb 2022-23  
Issued: October 20, 2022



# Winter 2022-2023

One atmospheric river after another ... January 25 thru 30

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**Long version:**

[https://nesdis-prod.s3.amazonaws.com/2023-01%2F2023\\_01\\_25\\_Atmospheric\\_Rivers\\_Hit\\_West\\_Coast.mp4](https://nesdis-prod.s3.amazonaws.com/2023-01%2F2023_01_25_Atmospheric_Rivers_Hit_West_Coast.mp4)

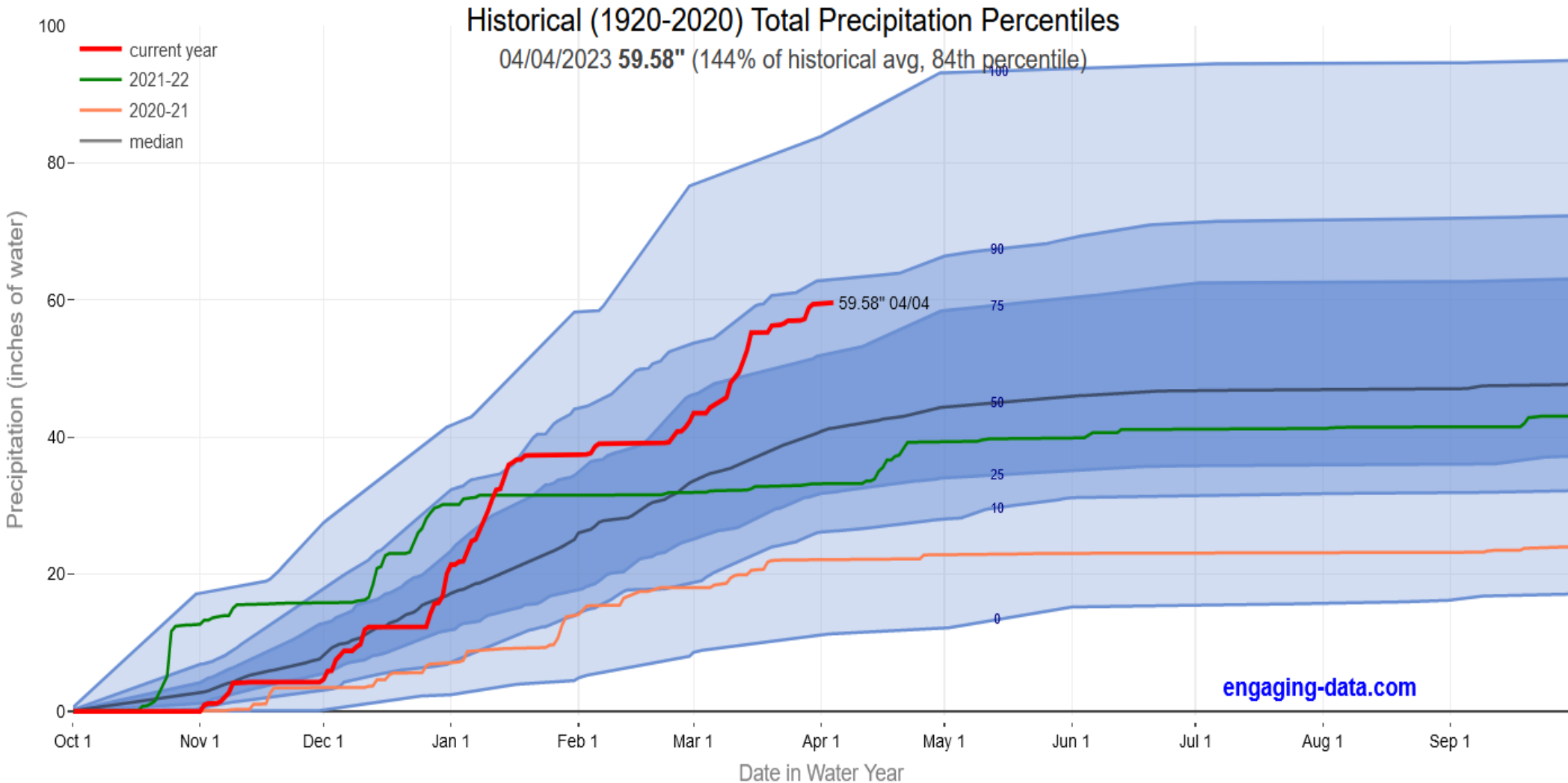
Ref: [https://nesdis-prod.s3.amazonaws.com/2023-01%2F2023\\_01\\_25\\_Atmospheric\\_Rivers\\_Hit\\_West\\_Coast.mp4](https://nesdis-prod.s3.amazonaws.com/2023-01%2F2023_01_25_Atmospheric_Rivers_Hit_West_Coast.mp4)

Cupertino ARES/RACES



# Northern Sierra Precipitation

## 2022-2023 Rain Season



Source: California Data Exchange Center - Precipitation





## Another Atmospheric River Impact the Region Late Monday through Wednesday

### WEATHER RISK OUTLOOK

Risk levels incorporate potential impacts from weather hazards and likelihood of occurrence for a reasonable worst case scenario.

	Sat 3/11	Sun 3/12	Mon 3/13	Tue 3/14	Wed 3/15	Thu 3/16	Fri 3/17
<b>North Bay</b> Santa Rosa, Napa, San Rafael	Showers Residual Flooding	Showers Residual Flooding	Rain Flooding	Rain Flooding Wind	Rain Flooding Wind	Residual Flooding	Showers Residual Flooding
<b>SF Peninsula</b> SF, SFO, Half Moon Bay, San Mateo	Showers	Showers	Rain Flooding	Rain Flooding Wind	Rain Flooding Wind	Residual Flooding	Showers Residual Flooding
<b>East Bay</b> Oakland, Concord, Livermore	Showers	Showers	Rain Flooding	Rain Flooding Wind	Rain Flooding Wind	Residual Flooding	Showers Residual Flooding
<b>South Bay</b> San Jose, Gilroy	Showers Residual Flooding	Showers Residual Flooding	Rain Flooding	Rain Flooding Wind	Rain Flooding Wind	Residual Flooding	Showers Residual Flooding
<b>Santa Cruz County</b> Santa Cruz, Boulder Creek, Corralitos	Showers Residual Flooding	Showers Residual Flooding	Rain Flooding	Rain Flooding Wind	Rain Flooding Wind	Residual Flooding	Showers Residual Flooding
<b>Monterey &amp; San Benito County</b>	Showers Flooding River Flooding	Showers Flooding River Flooding	Rain Flooding River Flooding	Rain Flooding Wind River Flooding	Showers Flooding River Flooding	Flooding River Flooding	Rain Flooding River Flooding

Risk Levels

Little to None

Minor

Moderate

Major

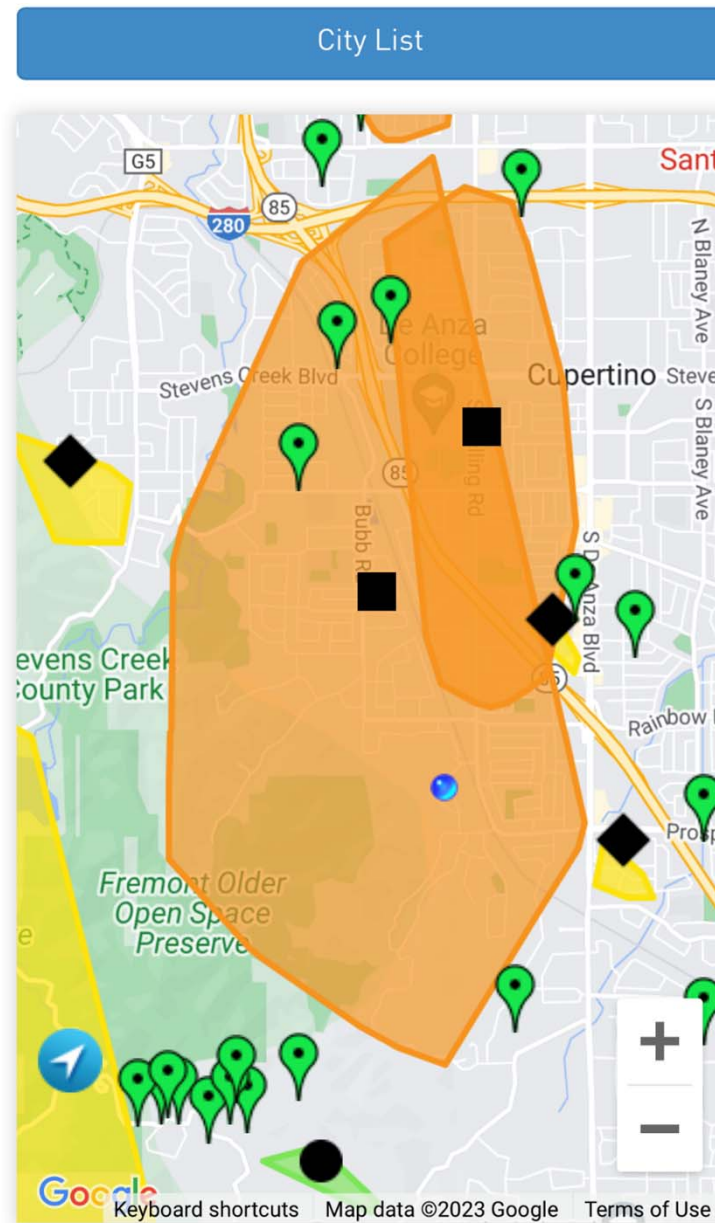
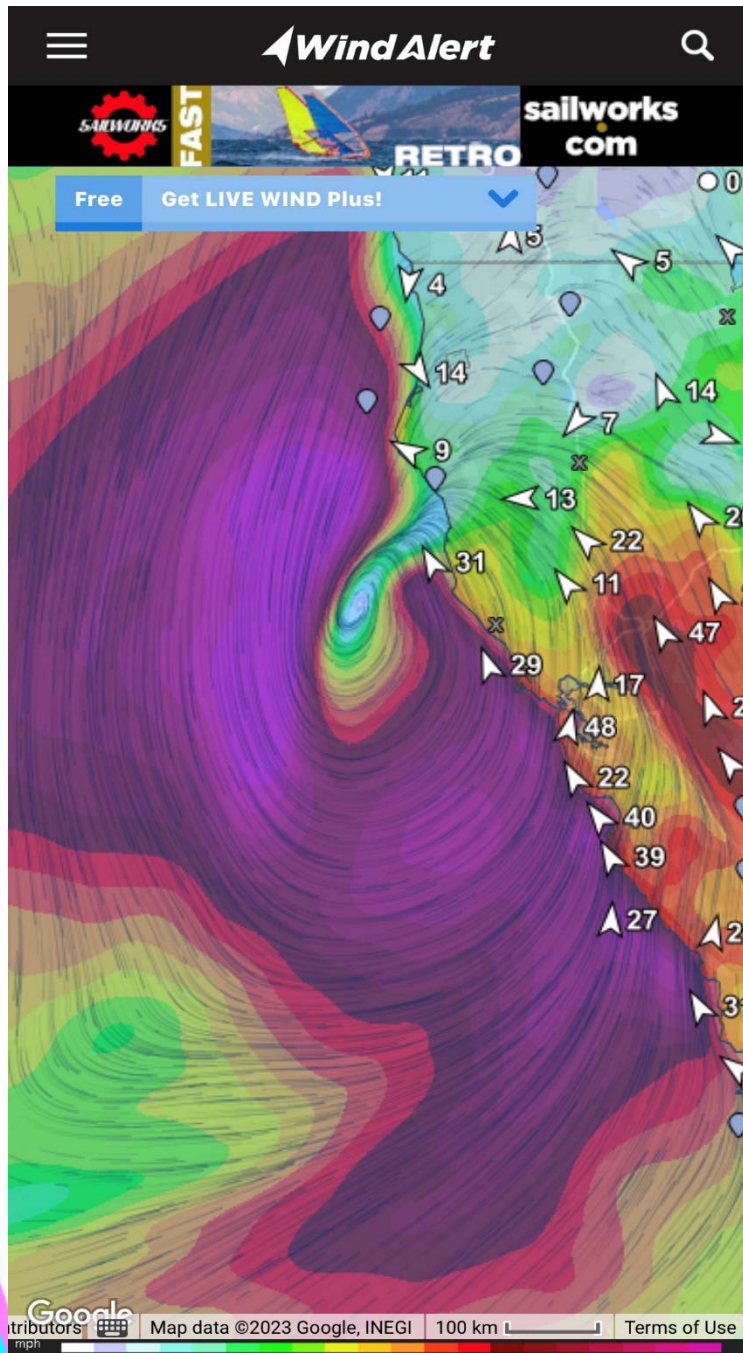
Extreme

Cupertino ARES/RACES





# “Bay Area wind gusts up to 97 mph disrupt traffic and power” ... SFGate, March 14, 2023 at 3:29 p.m.



# Summary – Extreme Wind Event

Tue, Mar 14 at 12:51

- On Tuesday 14 March 2023, Cupertino Office of Emergency Management (OEM) requested CARES to report on city damage caused by the extreme wind that followed an atmospheric river.
- CARES shifted to INCREASED READINESS Operations, then was activated under Activation #CUP-23-100.
- Due to the risk from blowing debris, detecting damage was limited to observations made from our respective homes. Any wider area assessment was at the discretion of the CARES member.

This is the Santa Clara County Sheriffs Office. Due to the high winds please STAY... <https://evb.gg/n#oj444chmpi/0aH1S2fu> or Reply with YES to confirm receipt.



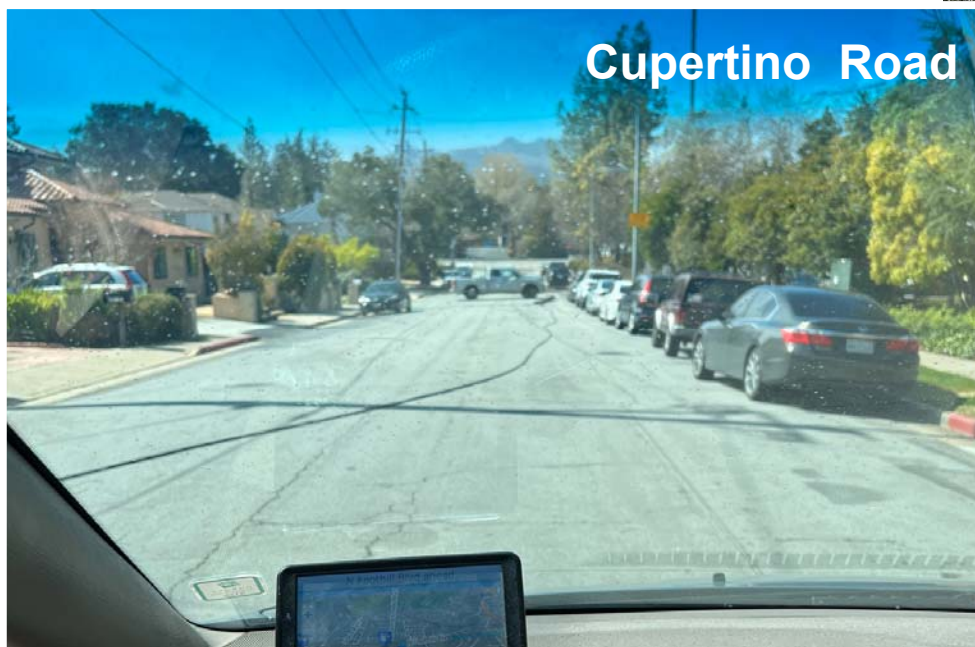
# Summary (continued)

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- CARES was asked to identify and report on wind-related damage and situations involving downed trees, down power poles, access problems, and damage to property in a members' immediate neighborhood.
- Over the course of 3 hours, 13 CARES members responded and provided local damage information.

# \*\*\* This is not drill traffic \*\*\*

Some incoming photos with reports



# City Hazards ⇒ Planning Scenarios

Where did this activation fit in?

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The City adopted the following as hazards of concern:

1. Major Earthquake
2. Wildland/Urban Interface Fires
3. Floods (includes dam failure\*)
4. Landslides
5. Drought/Land Subsidence
6. Climate Change (includes severe weather\*)
7. Thunderstorms and Lightning
8. Heat
9. Public Health Emergency
10. Technological and Resource Emergency
11. Hazardous Material Incident
12. Terrorism, Complex and Coordinated Attack, & Civil Unrest

*Ref: Cupertino Emergency Operations Plan, 2019*



# What is the CARES Capability?

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## ***Communications... “we can do that!”***

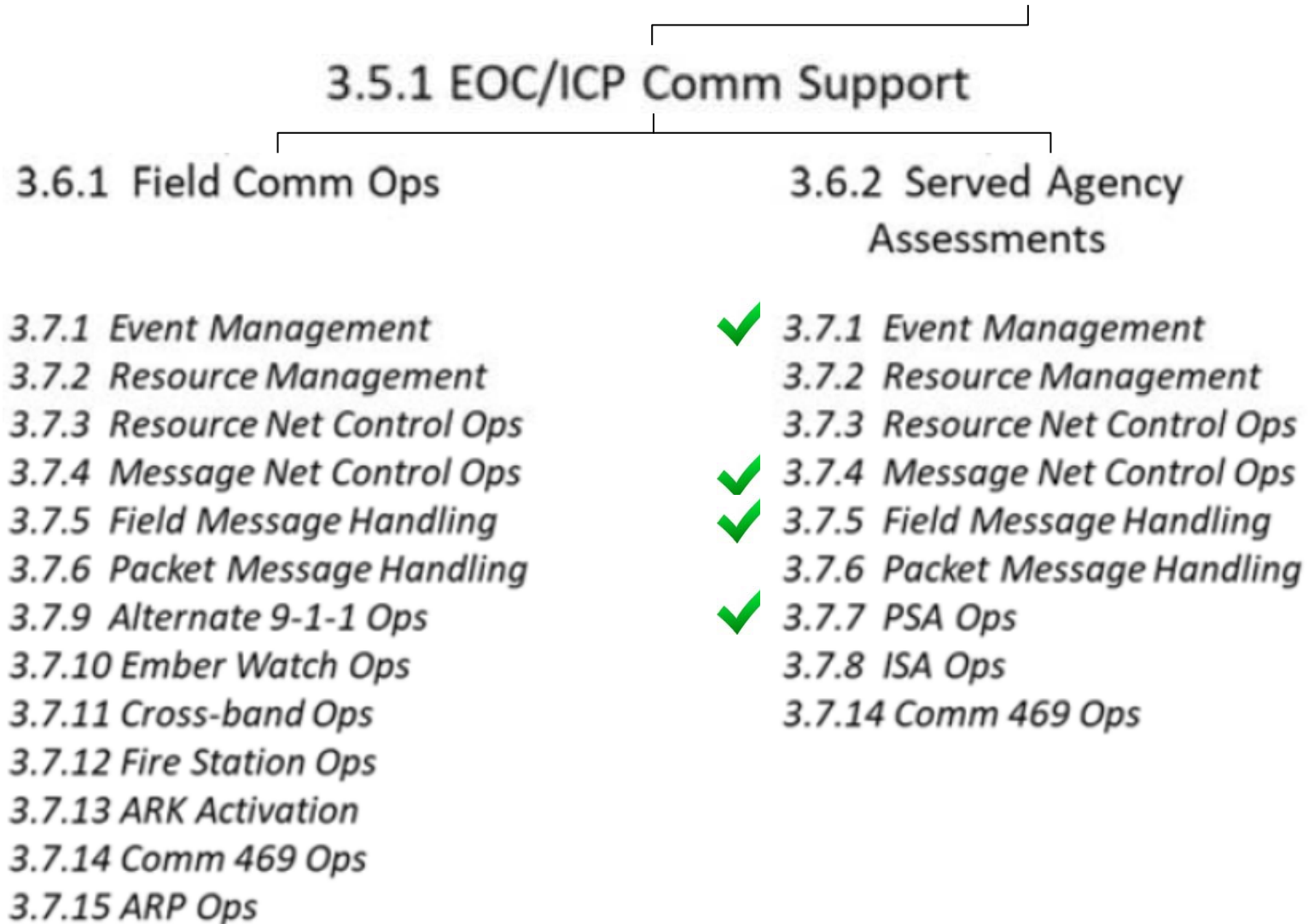
- Deploy trained communicators to the field
- Come prepared, self-sufficient, and ready to operate
- Practice and follow standard processes
- Operate by voice and packet
- Provide field observations based on the needs of our served agencies
- Pass different types of messages – ALT911, observations, reports, etc.
- Support Cupertino OEM, CERT, Block Leaders, and the community
- Support County OEM, Fire, Sheriff, San Jose Water, CuSD
- Manage our resources
- And more...

***These tasks make up our Communications Capabilities***



# CARES Task List (CTL)

How the CUP-23-100 activation aligns



REF: [www.cupertinoares.org](http://www.cupertinoares.org) > [Docs & References](#) > [SOP](#) > [CARES Task List](#)



# Observations

## CTL 3.7.1 Event Management > Notifications

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1. Time to engage. CARES received the request at about 13:45. There was no expectation by OEM for how the data collection process would occur.
  - An email was sent to CARES stating the Emergency Net would be activated and was opened at 14:08.
  - The first field responder checked in 5 minutes later.
  - Thirteen members checked in over the next 3 hours.





# Observations

## CTL 3.7.5 Field Message Handling

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2. Extent of the problems. The problems discovered were as expected: downed trees, downed utility poles, blocked access, and power outage.

The High Severity reports (Major impact to a structure or access of a major roadway within the city) were:

- Stevens Creek/Portal; tree partially blocking Stevens Creek Blvd. DPW on scene
- Utility pole down at Presidio and Bubb, took out power, phone, fiber; PGE has secured [the area] for safety
- Cupertino Rd between Hillcrest and Foothill; telephone pole down; wires all over the street



# Observations

## CTL 3.6.2 Conduct Served Agency Assessments

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3. Effectiveness of the response. Two Net Control Operators covered the 3-hour period. Message passing was informal. The ‘spur-of-the-moment’ nature of this event was a good test of CARES’ emergency response capabilities.
  - Thirteen members checked in over the next 3 hours.
  - Turnout size likely due to:
    - i. the request being made mid-day during regular working hours, and
    - ii. power was out for many homes causing internet (and email) to be unavailable.



# Observations

## CTL 3.7.7 Preliminary Safety Assessment

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4. Completeness of the incoming reports. All damage report submitters were clear on what information was needed and were ready with the appropriate details.
    - Does this look like elements of our Preliminary Safety Assessment (PSA) or CERT's Neighborhood Safety Assessment (NSA)?
  5. Adapting to the information needs. The initial assignment was to report on damage and access problems.
    - After securing the net, an additional request came in to check of cellphone coverage.
    - And later, an additional request for information on the cellphone carrier and whether home landlines were operational.
- This was performed later after the CARES regular weekly net.



# Observations

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6. Repeater power and net coverage. The W6TDM repeater was on AC power the whole time either because of no power loss or on the Verona Homes emergency generator. This was indirectly confirmed by queries of the repeater voltage being steady during the entire operational period.



# Plenty to work on...

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## AAR Recommendations

- ✓ 1. Encourage monitoring TAC3, TAC1, Radio Cupertino 1670, during evident emergency situations.
- ✓ 2. CARES to request access to AlertSCC for notifying members.
- 3. Arrange for QuickCapture training and build into an exercise.
- 4. Work with OEM to develop a base list of information needs that can be used in similar situations.
- ✓ 5. Check PSA and adjust for any new reporting requirements.
- 6. Refine methods for handing off reports to OEM. Define methods for handing off reports to OEM Look at integrating this requirement into the activation process.
- ✓ 7. Develop the Citizen Corps communications capability (FRS/GMRS) including training and practice through drills & exercises.
- ✓ 8. Extend our thanks and appreciation to the Verona Owners Association for their on-going support of the W6TDM repeater.



# 3.7.1 Event Management

## > Notifications

### 3.7.1 L3: Event Management

#### 3.7.1.1 *Description*

The process and tools to manage people, resources, and events in the delivery of communications services that support the Operational Period Objectives.

#### 3.7.1.2 *Planning*

1. Develop Event Management policies and procedures
2. Develop CARES-DOC-EOC relationship plan
3. Review task capability requirements; **recommend enhancements**

#### 3.7.1.3 *Personnel*

4. Shift Supervisor Qualification

#### 3.7.1.4 *Operations*

5. Shift CARES to Increased Readiness Operations if required
6. Respond to requests from the City for CARES activation
7. Work with the City to understand the changes in the emergency situation
8. **Inform CARES members of the potential for an activation**
9. Make position assignments as required
10. Ensure the health and welfare of all responders
11. Demobilize responders when no longer needed.

#### 3.7.1.5 *Processes, Systems, and Tools*

12. Shift Supervisor Playback

REF: [www.cupertinoares.org](http://www.cupertinoares.org) > [Docs & References](#) > [SOP](#) > [CARES Task List](#)



# 3.7.1 Event Management

## > Notifications

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**Inform CARES members of the potential for an activation**

### AAR Recommendations

- ✓ 1. Encourage monitoring TAC3, TAC1, & Radio Cupertino 1670 during evident emergency situations.
  - \* Stress during CARES training
  - \* Update Field Responder handbook
  
- ✓ 2. CARES request access to AlertSCC for notifying members.
  - \* Put request into Cupertino OEM for access
  - \* Verify the AlertSCC records are accurate and complete for CARES members

# 3.7.7 Preliminary Damage Assessment

## 3.7.7 L3: Preliminary Safety Assessment

### 3.7.7.1 Description

The process that describes how CARES members will collect and report information about the state of the city immediately after a city-wide emergency or disaster occurred. The Preliminary Safety Assessment (PSA) process occurs early during an emergency for an infrastructure damaging event. While the information will undoubtedly be fragmented and incomplete, it is required to help the City determine the type of response that the City must undertake to save lives and protect property.

### 3.7.7.2 Planning

1. **Develop PSA tools, data, and procedures**
2. Develop PSA information handoff procedure to the DOC
3. Review task capability requirements; **recommend enhancements**

### 3.7.7.3 Personnel

4. CARES member

### 3.7.7.4 Operations

5. Direct at-home responders to perform the PSA (PSA reporters)
6. PSA reporters send their PSA data to the PSA Recorder
7. PSA Recorder records PSA data reports, consolidates, and sends the report to the EOC
8. EOC (Comm 469) passes all PSA Reports to the DOC

### 3.7.7.5 Processes, Systems, and Tools

9. Field Communications Operation Handbook, PSA section
10. COES 105 Preliminary Safety Assessment, Field Form
11. COES 106 Preliminary Safety Assessment, Roll-up Form

### 3.7.7.6 Training



## 3.7.7 PSA

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### Develop PSA tools, data, and procedures

#### Recommendation

- ✓ 5. Check the PSA process and adjust for any new reporting requirements.
  - \* Work with OEM to confirm the completeness of the data being collected
  - \* Evaluate and determine if changes are necessary; make recommendation to CCC.

**NOTE:** CARES' PSA is CERT's NSA (Neighborhood Safety Assessment), essentially the same form, data, and reporting process.



# Observations

## CTL 3.7.7 Preliminary Safety Assessment

PSA – do we need to add some new fields? Logical regrouping?

Grp	Category
1.1	Injuries, Minor
1.2	Injuries, Delayed
1.3	Injuries, Immediate
1.4	Injuries, Presumed Dead
2.1	Structure, Light Damage
2.2	Structure, Moderate Damage
2.3	Structure, Heavy Damage
3.1	Fire, Any situation

Grp	Category
4.1	Hazards - Gas Leaks
4.2	Hazards - Sewer Leaks
4.3	Hazards - Water Main Breaks
4.4	Electrical Power
5.1	Access – Roads Blocked
??	Access – Cell Phone
??	Access – Land Line Phone
?/?	Access – Internet



# CERT Communications?

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## ✓ Recommendations

7. Further develop the Citizen Corps communications capability (FRS/GMRS) including training and practice through drills & exercises.
  - CERT training has not been a CARES responsibility.
  - We recognize that CERT can be a force multiplier for CARES and the city.
  - Building the greater CCC communications capability enhances overall end-to-end and information interoperability across teams.



# What is the CARES Capability?

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## ***Communications... “we can do that!”***

- Deploy trained communicators to the field
- Come prepared, self-sufficient, and ready to operate
- Practice and follow standard processes
- Operate by voice and packet
- Provide field observations based on the needs of our served agencies
- Pass different types of messages – ALT911, observations, reports, etc.
- Support Cupertino OEM, CERT, Block Leaders, and the community
- Support County OEM, Fire, Sheriff, San Jose Water, CuSD
- Manage our resources
- And more...

*Today, we do not have a specific task for support CERT of field members; do we need one?*



# Information Interoperability

## A look at teams and tools



1. When it comes to making data interoperable, we think about making better connections between communication systems.
2. But with this view only, we sometimes undervalue the connections we need to make between people.
3. Good communications systems begin with good relationships.
4. This topic is too big to address right now. But, does this make sense?



# What's next?

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1. Extend our thanks and appreciation to the Verona Owners Association for their on-going support of the W6TDM repeater ... ***DONE!***
2. CARES request access to AlertSCC for notifying members.  
This needs to be next.
3. Check PSA and adjust any reporting requirements.  
Work with Ken & CCC on how to address.  
Determine if we need to bring the PSA (or NSA) back into our scope of operations.
4. Develop the Citizen Corps communications capability (FRS/GMRS)...  
26-March – Disaster Communications, Zoom... ***DONE!***  
13-April – Communications Overview & Radio Basics, Zoom  
15-April – Hands-on radio, City Hall



# Thank you

*Any Questions?*

