2023 MOUNTAIN STORM RESPONSE SUMMARY & AFTER-ACTION REVIEW
Methodology

The After-Action Review (AAR) Committee developed this report through a review of multiple situational reports and an after-action review where involved department members were interviewed.

From this information, details and recommendations were developed with an emphasis on identifying strengths and areas for improvement related to the response phase of the disaster. The observations were organized under broad focus areas and aligned to the Federal Emergency Management Agency’s (FEMA) core capabilities found on their website.

This report is intended to aid the Department in identifying strengths and areas for improvement, to provide training, identify opportunities aligned with Department policy, service to the community, and the national framework for disaster response.
This After-Action Review is a detailed report of the events and actions taken by the San Bernardino County Sheriff's Department during the winter snowstorm event of 2023.

From February 23, 2023, through March 15, 2023, the San Bernardino Mountain Range was hit with a powerful winter storm characterized by the National Weather Service as a "blizzard". The initial snowfall was from February 23 through February 28, with nearly seven feet of snow accumulation. A second round of snowfall began March 2 through March 4, bringing another four feet of heavy wet snow to the mountains. These extraordinary events prevented an ordinary response and delivery of services. However, our teams worked in conjunction with our local, state, and federal partners to overcome the operational challenges for our communities and our Department.

On February 28, San Bernardino County opened the Emergency Operations Center (EOC). The County's Incident Management Team Center (IMT) was also activated at the Sheriff Department's Aviation building. Additionally, on February 28, a localized mountain area command post was opened at Fire Station 91 in Lake Arrowhead. The Command Post was staffed by the Twin Peaks Lieutenant, personnel from the Twin Peaks Station, and the San Bernardino County Fire Department.

Throughout the incident, the operational response capacity increased to include additional personnel, equipment, and vehicles across California. These increases necessitated a larger IMT location. On March 4, 2023, the IMT was moved to the Orange Show Fair Grounds. and on March 4, the San Bernardino County Sheriff's Department activated its Department Operations Center (DOC).

The San Bernardino County Sheriff's Department was represented at the EOC, IMT, DOC, and mountain command post from when they were opened until the event concluded on March 15. During the 16 operational periods, the Department coordinated emergency response and asset deployment. Our primary mission was to support the incident command team, preserve life and property, conduct evacuations, and establish emergency vehicle access routes. Additional duties included the support of public utilities, transportation departments, and community assistance services. Department members responded to calls for service, including welfare checks, rescues, transportation, food delivery, and security, and assisted other agencies in their recovery and re-population efforts.
Incident Command Details

Incident Commander
San Bernardino County Fire Department
Chief Dan Munsey

Time Activated: 02/28/2023 1200 hours
Time Deactivated: 03/15/2023 1700 hours

Incident Management Team (IMT) - County Law Enforcement Incident Commander
San Bernardino County Sheriff's Department
Captain Don Lupear

Mountain Command Post- Fire Station 91
San Bernardino County Sheriff's Department
Lieutenant Craig Harris

Incident Management Team (IMT)

As responders worked through the first several days of the incident, it became apparent the complexities of this regionwide event required a more localized operational approach. Decentralization of the County Emergency Operation Services (OES) negatively affected communications. Traditional first responders (Sheriff and Fire) pivoted to an Incident Management Team model led by County Fire. The IMT managed the day-to-day operation and logistical activities, while the County EOC remained a centralized hub for the overall coordination of response activities. Sheriff's Department representatives are assigned to the IMT and EOC to serve as conduits for information.

On February 28, 2023, at about 1200 hours, the IMT opened at the San Bernardino County Sheriff's Aviation Division. The San Bernardino County Fire Department was the overall incident command. Members from CALFIRE, numerous other fire agencies, CAL-OES, County EOC, and representatives from California Highway Patrol (CHP), Caltrans, Southern California Edison, and Southern California Gas were also present. The San Bernardino County Sheriff's Department was represented by members of the Emergency Operations Division (EOD), the Twin Peaks Sheriff's Station, and the Mobile Field Force (MFF).

On March 4, 2023, the IMT was moved to the Orange Show Fair Grounds. This move was made to accommodate the increasing number of personnel, equipment, and resources. IMT operations were coordinated with multiple daily briefings, which County Fire facilitated. Morning briefing topics covered conditions, assignments, and operational progress/needs/objectives. Additional briefings were conducted throughout the day, including briefings at 1000 hours and 1600 hours daily. Commanders' briefings were held via TEAMS and were hosted by the EOC.

The IMT law enforcement commander coordinated with other agencies for each operational period. The commander maintained constant contact with the mountain area command post and MFF commander. At the end of each operational period, the IMT commander documented the day's law enforcement events for the Department's Operations Center (DOC) and Sheriff's Executive Staff.

The Department was the only law enforcement entity at the IMT for the duration of the incident. The Department's primary responsibilities for the incident were calls for service, rescues, and transportation of residents off the mountain. The Department also assisted various fire department teams, Red Cross shelters, food deliveries, CHP, and utility companies. All these efforts were coordinated through the IMT, Sheriff's Dispatch, and the County EOC.
Mountain Command Post (MCP)

On February 28, 2023, the Mountain Command Post (MCP) began operations as a unified command between the San Bernardino County Fire Department and the San Bernardino County Sheriff's Department (SBSD). The MCP was located at County Fire Station 91 in Lake Arrowhead and was staffed by several battalion chiefs, who managed separate groups, and two firefighters (one as a dispatcher, one as a scribe who managed the Joint Information Center spreadsheet). Twin Peaks command staff served as SBSD's MCP liaison. At the same time, the administrative sergeant worked with fire personnel, prioritizing calls for service, i.e., medical emergencies, welfare checks, rescues, hazards, public service requests, etc.
Department Operations Center (DOC)

On March 4, 2023, the Department Operations Center (DOC) was activated to Level 1, 24-hour staffing. The Sheriff’s Department staff manned the DOC. The DOC remained operational until March 15, 2023.

During the operational periods, the DOC assumed the following responsibilities:

- Organized the Operations, Logistics, Intelligence, and Incident Tracking/Analysis
- Coordinated the flow of information between the DOC, EOC, IMT, and Mountain Command Post (MCP)
- Documented the use of Patrol, MFF, and Search and Rescue personnel
- Documented the requests and deployment of personnel, equipment, and supplies
- Daily notifications to the Sheriff’s Department and County leadership
- Multiple daily briefings in person and virtual with leadership, EOC, and IMT
- Documented the Sheriff’s Department’s storm related calls for service, road closures, welfare checks, food distributions, rescues, search and rescues, and deaths in Twin Peaks, Big Bear, and Wrightwood areas of responsibility (AORs)
- Researched all welfare check calls where no contact was made or those without a disposition and coordinated follow-up contacts
- Created and maintained an ArcGIS map daily and throughout the duration of all storm-related Sheriff’s Department calls for service with TENS notification areas
- Accessed and monitored the incident’s dashboards built by County Fire and ITD related to damage assessments and road closures
From the beginning of the incident, the IMT, MFF and the MCP made multiple daily notifications/reports to the DOC. Reports included actions taken in the field, number of personnel deployed, and operational needs/progress.
On February 28, 2023, the Sheriff's Department activated our emergency operations procedures in conjunction with the IMT. The Sheriff Department's Emergency Operations Division (EOD) commander requested additional resources, including snowcats (tracked vehicles) from the San Bernardino County – Fleet and Radio Division. These were needed to assist deputies in the field as they navigated snow-covered roads and terrain.

The Cal-OES Law Enforcement Branch was notified and arrived at the IMT on the evening of February 28, 2023. IMT command requested a mutual aid call be sent for additional snowcats. Other agencies also assisted the Department with the incident.

**Law Enforcement Stations and Units Assigned:**

**San Bernardino County Sheriff’s Department**
- Twin Peaks Station
- Big Bear Station
- Victor Valley Station
- Emergency Operations Division
  - Aviation coordinated food, supplies, and fuel deliveries and aerial surveys for local, state, and federal partners. The division also served to deconflict airspace in the natural disaster area to help ensure a safe operating area for aircrews and emergency teams.
  - Volunteer Forces coordinated Department volunteers and IMT staff to deliver supplies/equipment.
- Criminal Intelligence Division
- Mobile Field Force
- Search and Rescue
  - RIMSAR
  - Search and Rescue Cave Team
  - West Valley Search and Rescue
- Transportation
- HOPE Team

**Allied Agencies:**

California Highway Patrol (CHP)
CAL-OES Law Enforcement Branch
Ventura County Sheriff (snowcat)
Cal-OES Law Branch (snowcats)
California Department of Fish & Wildlife

**Non-Law Enforcement Agencies Assigned:**

Big Bear Mountain Resorts (snowcat)
Rim of the World School District
Redlands East Valley High School
Red Cross (mountain and valley locations)
Sandals Church
On Thursday, February 23, 2023, the National Weather Service predicted a large storm and issued blizzard warnings. Multiple news outlets reported this information. Local mountain commands (Big Bear and Twin Peaks) prepared their personnel, equipment, and stations for the potential of extended operations with emergency staffing plans.

Overall, 16 operational periods were handled by the Sheriff's Department personnel and volunteers. All stations provided station-level staffing, supported by additional personnel, equipment, and resources coordinated through the IMT and DOC.

Both stations worked with local fire departments, County/City resources, Caltrans, and allied agencies to answer calls for service, medical aids, evacuations, roadway clearing, and resource deliveries.

MOBILE FIELD FORCE DEPLOYMENT

On March 1, 2023, the Mobile Field Force (MFF) was activated. The EOD provided them with equipment and four-wheel drive vehicles with chains. MFF leadership responded to the IMT and coordinated daily field operations and deployment plans with the IMT team.

From March 1, 2023, through the duration of the event, eight MFF members and two transportation deputies were assigned to the communities of Crestline, Valley of Enchantment, and Cedarpines Park to assist with welfare checks and rescues. Additionally, two MFF members were assigned to the Running Springs, Arrowbear, and Green Valley Lake communities.

MFF activities were reported to the IMT and documented in DOC updates/reports.

ROAD CLOSURES

Beginning February 25, 2023, all state highways leading into the mountain communities were closed to the public due to heavy snow accumulations. Over the following days, heavy snow continued to fall causing all roads to be nearly impassable. Escorts of delivery trucks carrying gasoline and groceries were planned and executed by CHP, Caltrans, County Roads, and SBSD. This continued throughout the event.

On March 2, 2023, a decision was made by members outside of the IMT to open state highways to residents for several hours. The community roadways were not clear of snow and presented a danger to the drivers. Almost immediately, traffic congestion issues developed with vehicles becoming stuck and blocking roadways in and around various mountain communities. Sheriff Dicus and San Bernardino County Fire Chief Munsey spoke with State officials and all highways up the mountain were again closed to general traffic. Emergency vehicles continued to work to clear the now stuck vehicles and continued to remove snow.

On March 6, 2023, a meeting was held with Caltrans, CHP, Chief Munsey, and Sheriff Dicus. It was decided to open the roadways at 1600 hours to residents only. A modified MFF team was activated to assist CHP checking resident status at checkpoints on Highways 18 and 330. The MFF team also enforced parking regulations and assisted Public Works, Southern California Edison, and Southern California Gas with neighborhood access.

On March 10, 2023, Caltrans, CHP, County Fire, and the Sheriff’s Department reviewed operational progress and opened Highway 38 to Big Bear to the public at 1000 hours.

On March 11, 2023, at about 1400 hours, Caltrans, CHP, County Fire Chief Munsey, and Sheriff Dicus met, and agreed that Highways 18, 330 and 138 would open completely to the public at 2200 hours.
On March 12, 2023, all highways were open to the public and there were no reported issues. Portions of Highway 18, referred to as the Narrows and the Artic Circle, remained closed due to rockslide and avalanche concerns. Caltrans later completed the roadway clearing outside of the IMT operational period.

**Equipment**

The Department utilized a wide range of equipment in its response:
- Patrol vehicles
- Volunteer vehicles (standard and 4x4 trucks)
- Transportation vans
- Specialized snow vehicles (snowcats and snowmobiles)
- Helicopters (patrol and search and rescue)
- Operational support vehicles (culinary and delivery trucks/flatbeds)

**RESCUES**

Residents who needed or wanted to be removed from the mountain communities were accessed by a snowcat and were transported to a patrol unit with chains. They were taken to Sheriff's Department transportation vans staged at the 4000 ft. elevation point on Highway 18. Residents were then transported off the mountain to a staging point for family/friend reunification or taken to the Red Cross shelter at Redlands East Valley High School. This method of removing people continued during all operational periods. Overall, approximately 269 residents were rescued during this event.

* These were documented calls/rescues. Additional rescues and transports were conducted in conjunction with other calls and activities which were not documented with a separate incident/call for service.
DEATH INVESTIGATIONS

During the operational period, there were a total of 13 deaths reported in the San Bernardino Mountain Communities of Wrightwood, Big Bear, and the Twin Peaks areas combined.

During the storm, much mainstream media reporting focused on these losses and based that reporting on unvetted, sensationalized, purported firsthand accounts from social media sources. These unverifiable and factually lacking posts and reports unnecessarily increased the public's anxieties and led to widespread misinformation.

With respect to individual deaths, the Sheriff's Department previously released a summary of these incidents with preliminary summaries and findings. After completing our Coroner's Division's investigations (including toxicology), our initial assessment remains unchanged – only one death was directly storm-related. Four of the 13 deaths were persons who were either on hospice care or under doctor's care at a medical facility. Please refer to the following summary of the nine deaths the Coroner's Division investigated.

02/26/2023 - Bear Valley Community Hospital (Big Bear Station)

702301479: 39 y/o female died in the emergency room after being struck by a vehicle in Fawnskin. Manner of Death - traffic.

02/28/2023 - 1300 block of Irene St., Wrightwood (Phelan station)


03/02/2023 - 24200 block of Zell Ct., Crestline (Twin Peaks station)

702301661: 77 y/o female home death. Last seen alive one week prior to discovery. Limited medical history and unknown primary care physician. No trauma or suspicious circumstances. Manner of death – natural. Cause of Death - Cardiopulmonary Arrest due to Coronary Artery Disease, Tobacco Use Dependence, with associated conditions of Alcohol Dependency, Atrial Fibrillation, and Hypertension.

03/03/2023 - 23100 block of Sycamore Ln., Valley of Enchantment (Twin Peaks station)

702301669: 77 y/o male home death. Discovered after a welfare check. Last known to be alive on 02/28/2023. Unknown medical history. No trauma or suspicious circumstances. Manner of Death - natural. Cause of Death - Acute ketoacidosis of undetermined etiology. This cause is usually related to uncontrolled diabetes mellitus.

03/03/2023 - 32700 block of Willow Ln., Arrowbear (Twin Peaks station)

702301673: 33 y/o male home death. Limited medical history. No trauma or suspicious circumstances. Manner of Death - natural. Cause of Death - Sequelae (a consequence of previous disease diagnosis) of chronic alcoholism over a period of years, with a contributing cause of hypertensive cardiovascular disease.

03/03/2023 - 100 block of Barker Blvd., Big Bear City (Big Bear station)

702301678: 62 y/o male home death. Discovered after a welfare check. Last known to be alive on 02/19/2023. Unknown medical history or next of kin. No trauma or suspicious circumstances. Manner of Death – natural. Cause of Death - Sequelae of chronic alcoholism over a period of years.
DEATH INVESTIGATIONS CONTINUED

03/06/2023 – 560 block of Summit Blvd. #2 Big Bear Lake (Big Bear station)

702301721: 46 y/o female home death. Discovered after welfare check. Extensive mental health history. No known medical history. No trauma or suspicious circumstances. Manner of Death - undetermined. Cause of Death - is pending. Toxicology indicates the presence of Acetone. Unknown if that will be related to the COD.

03/06/2023 - 23900 block of Inspiration Rd., Crestline (Twin Peaks station)


03/08/2023 - 22000 block of Crest Forest Dr., Crestline (Twin Peaks station)

702301785: 68y/o male home death. Well documented medical history. No trauma or injuries found, and no suspicious circumstances found in the home. Manner of Death – Natural. Cause of Death - Chronic methamphetamine abuse over a period of years. Contributing to the death was chronic obstructive pulmonary disease (more commonly known as emphysema).
Patrol Stations in mountain areas engaged in pre-event planning focused on staffing, equipment, and resources. As the storm intensified and it became clear that an extended operational period would be needed, planning adaptations were made to facilitate effective service delivery to the various mountain communities.

Preplanning and coordination created a foundation on which real-time adjustments could be made. Examples include dividing areas of responsibilities and forming multi-agency response teams (combining Fire/EMS, deputy sheriffs, utilities, and other agencies) to enter areas and render aid.

Daily EOC, IMT, and DOC briefings provided updated condition information so team leaders could allocate staff and equipment. Decisions were made concerning operational objectives and unified command inputs.
LOGISTICS

From the beginning of the incident, the IMT, MFF, and Mountain Command Post used the Sheriff's Department's Incident Personnel Check-In/Out and Employees Hours Worked Forms to track which employees and volunteers were assigned to the incident.

MFF leadership coordinated members and volunteers at the IMT who responded from outlying Sheriff's operations. Mountain area stations coordinated their staff and volunteers. Each command tracked their assigned personnel and completed the necessary force accountability documents. Forms were updated daily, collected, and given to DOC personnel for review before being sent to the Bureau of Administration.

Daily activities/objectives were reviewed, and future operational period needs were forecasted. Staffing and supply requests were updated to the IMT and DOC to ensure the next operational period received proper logistical support. The Department's EOD division and DOC coordinated needed resources and updated the IMT lead with available assets.
The Sheriff’s Bureau of Administration division provided cost estimates for the Sheriff Department’s response to this event at $1,678,921. This includes personnel, equipment, meals, mileage, supplies, and travel costs.
OVERALL SUCCESSES

COMMAND AND OPERATIONS STRENGTHS

Command-level preplanning and communication with personnel at the station level were successful. Station commands monitored the weather event and notified staff of the potential for emergency staffing plans and reduced days off. These area commands have plans in place for natural disasters, forest fires, and large community events. The stations had baseline preparation for this major weather event by having previously forecasted needs. While the scope and scale of the event required these patrol stations to adapt and scale up operations, the pre-event preparation was beneficial in their response.

Both Big Bear and Twin Peaks stations had equipment in place to respond to calls for service. Equipment was inspected and maintained in operational readiness for when the storm arrived. During the event response, stations had preexisting service contracts to service damaged equipment.

The Sheriff Department's preexisting command structure and intra-agency communication systems allowed for a multi-level response: Station, Division/Bureau, Department, and County. Personnel on the ground could focus on immediate needs/tasks while relaying requests for additional resources through the command structure.

San Bernardino County Fire Department created a spreadsheet to document all calls for the Fire Department and the Sheriff's Department. This proved to be an invaluable asset. The extreme weather conditions and volume of snow made responding to some calls difficult. The spreadsheet allowed deputies and fire department personnel to track, respond, and follow up as conditions improved.

GPS tracking of employees and volunteers, as they responded to calls for service and area checks, proved to be beneficial in determining which community areas received services and aided in the planning and response to those areas not yet covered.

The division of tasks (patrol, rescue, general storm response) was essential. Activating the Mobile Field Force and other Department units for rescue/transport operations was key in freeing up patrol staff. Patrol coverage and response times significantly improved.

PLANNING STRENGTHS

The mountain communities experienced many significant events before this storm. The local public/private partnerships and preplanning were effective in standing up recovery efforts. This included utilizing Rim of the World School District sites for warming centers, Red Cross services, and local faith-based groups (Sandals Church in Lake Arrowhead) for food and supply distribution.

The Sheriff's Department's Emergency Operations Division had plans in place for addressing large-scale events. Yearly training/tabletop exercises prepared staff for the challenges associated with this storm event. This included plans for staff deployment, resource and equipment allocation and sourcing, and intra/inter-communication systems.

DOC/IMT STRENGTHS

After the Sheriff's Department and Fire determined it necessary to combine efforts (IMT), the Sheriff's Department used a multi-layered incident command system, which was critical to our success. Having Sheriff's personnel embedded in the unified field command, joint Incident Management Team, and Sheriff's Department Operations Center (DOC), as well as having our own personnel embedded in the County Emergency Operations Center.
(EOC), provided Sheriff's incident managers with real-time information to make coordinated decisions to include decisions within the unified command structure. This system facilitated effective communication between the various responding agencies and community stakeholders. It also allowed our Department to successfully plan for changes during the response and aid in overall operational effectiveness.

LESSONS LEARNED

COMMAND AND OPERATIONS IMPROVEMENTS

Collecting and organizing data earlier would have helped plan future missions as the events unfolded. It took until day four of the storm to include GPS tracking data in our data collections. This resulted in delayed identification of areas responded to.

In mid-2023, all deputies were issued department cell phones equipped with GPS tracking data software and were provided training on how to use the software during disaster response.

Now, common practice is to utilize the GPS tracking software by all responding personnel at the onset of the disaster response.

PLANNING IMPROVEMENTS

Food and supplies designated for distribution in the affected areas were difficult for personnel to access and deliver. This was due to poor coordination by the County Office of Emergency Services.

The Sheriff’s Department will work with the County Emergency Operations Center to designate pre-staged locations throughout the mountain communities and a plan that incorporating deputies into distribution.

Regular patrol vehicles had limited effectiveness for the volume of snow accumulated. Snowcats were the most effective vehicle for the conditions encountered. However, the Twin Peaks Station did not have any in their fleet.

A Snowcat equipped with rubber tracks and rubber tracks for the four-seat Polaris Razor are now being purchased for the Twin Peaks Station.

DOC/IMT IMPROVEMENTS

A lack of accurate information on social media platforms contributed to the spread of misinformation.

The Public Affairs Division will respond to the Department Operations Center and the scene Command Post to regularly update the public with necessary information across all social media platforms.

At the time of the storm, there was no common platform capable of integrating Sheriff’s and County Fire response data. This made it difficult to get a clear understanding of what each agency had already done and what needed to be accomplished.

We are currently collaborating with San Bernardino County Innovation and Technology Division to develop an ArcGIS platform capable of viewing real time response data from both agencies.
Several days after the storm’s onset, the county was inundated with community volunteers and organized volunteer groups wishing to help in the storm response. The organization and distribution of civilian volunteer assets are generally coordinated by the County Emergency Operations Center (EOC). However, due to the EOC not managing the influx of volunteers, the Sheriff’s Department and Fire Department had to step in and coordinate volunteer efforts. It took almost 24 hours to coordinate and establish effective communications between the various volunteer groups. This caused frustration within the volunteer groups and initial ineffective management of the groups. Public safety was also jeopardized when airborne volunteer groups self-deployed and began landing aircraft within the affected communities without coordinating with the Sheriff’s Department or other responding county agencies. This caused time delays in coordinating safe landing areas where snow needed to be cleared to provide safe landing zones.

At the onset of a disaster, personnel should be assigned to coordinate volunteer efforts. They should obtain a consistent point of contact with each group volunteering to help. This should be handled at the County Office of Emergency Services level. This will provide better communications and management of citizen volunteers and information related to the community’s needs during the disaster response.

During the storm, there was a consistent communications gap between the County Office of Emergency Services (OES) / Emergency Operations Center (EOC) and the Sheriff’s Department Operation Center (DOC) / Fire Incident Management Team (IMT). This caused delays in getting resources and accurate information.

To fix communication gaps and time delays, the Sheriff recommends placing the County Office of Emergency Services (OES) back under the care and control of the San Bernardino County Fire Protection District and Fire Chief. During the Covid-19 Pandemic, OES was placed under the County Administrative Office to deal with the unique challenges. Still, it has been proven problematic due to lack of experience and subject matter expertise on traditional emergencies such as the 2023 mountain storms. This organizational change has created an unnecessary separation, contributing to the lack of communication.

**Future Incident Preparedness**

Communication through local stations and the Public Affairs Division about storm preparedness, warming center locations, and contact information for questions will be set up and communicated well before a storm's arrival.

A pre-winter season meeting with all stakeholders who could be affected by an emergency event will be held to plan and exchange contact information. Each stakeholder’s role, expected responses, and preliminary timelines will be defined during the meeting.

Our mountain communities have a significant short-term rental population. During the storm, many owners continued to rent properties out even after government and news agencies warned of the approaching blizzard. We found that short-term rental occupants did not have the appropriate equipment to excavate themselves from their rented locations. To mitigate this, we recommend county stakeholders share an essential list of extrication tools (snow shovels) and equipment with short-term rental owners. This would allow renters to evacuate their vehicles once roads were cleared.

**ATTACHMENTS**

The attached map shows calls for service from March 1, 2023, through March 12, 2023.

**Sheriff's Storm Response-March 2023**