

2018-2019

California Wildfires: Role of the Emergency Management Assistance Compact



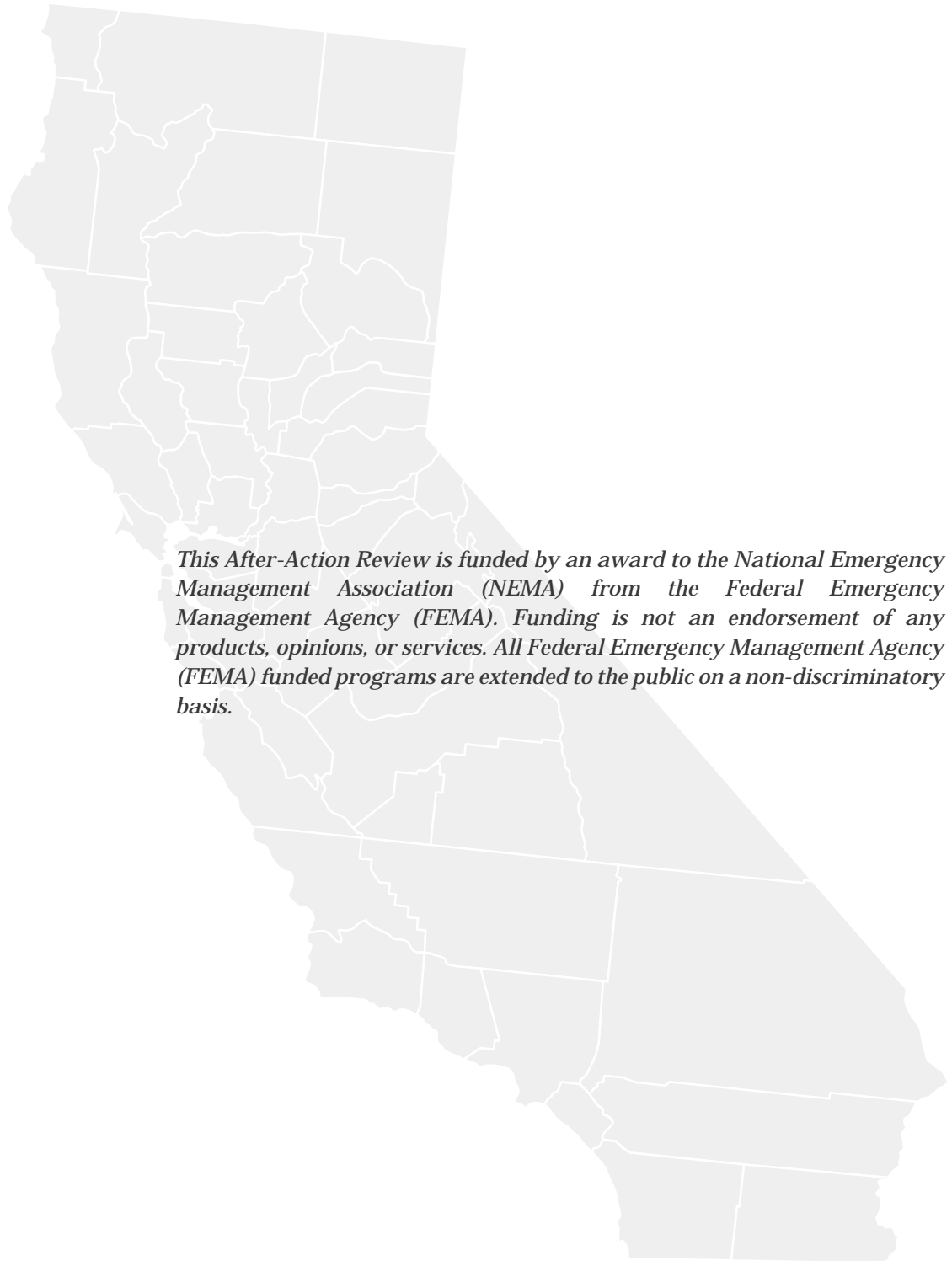


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Executive Summary

Background

Established in 1993, the Emergency Management Assistance Compact (EMAC) is an all-discipline, all-hazards mutual aid compact, with a systematic process to provide a consistent and coordinated response across the nation. EMAC reflects the ongoing commitment between all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands (USVI), Guam, and the Northern Mariana Islands, to provide aid to each other when help is needed the most. It is clear that the support provided by EMAC saved lives and minimized damage to property. These sentiments are also echoed by those who received resources through EMAC. When asked to share their thoughts about the effectiveness of EMAC, receiving entities and Requesting States frequently expressed gratitude at the willingness of other states to provide support when they needed help the most.

Figure 1: Quotes from Receiving Entities and Requesting States on EMAC

We had a lot of people come in to support us.

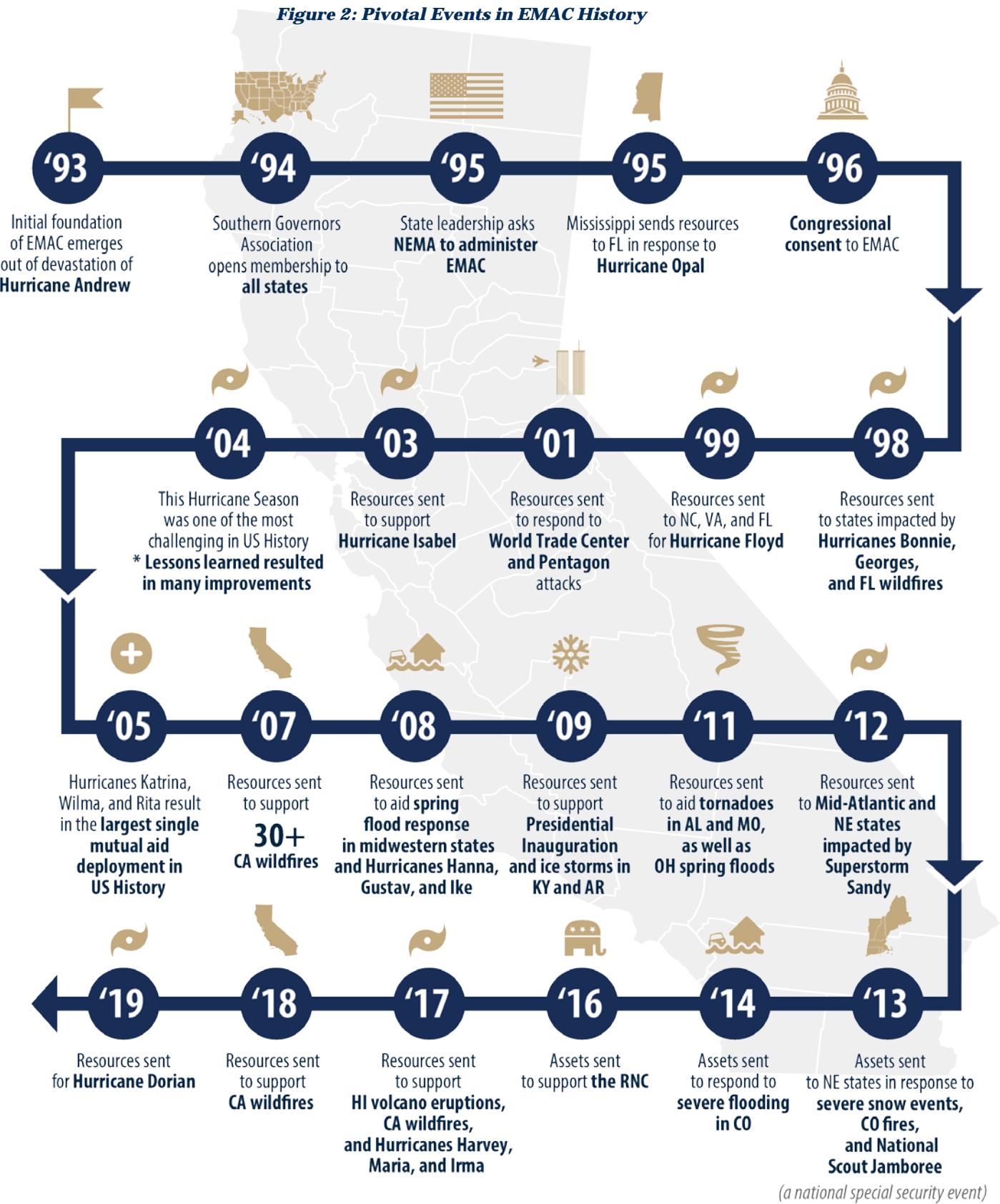
EMAC resources were able to help us support local jurisdictions in a time when we did not have the resources.

EMAC is the true way of how states help states.

**[EMAC] ALLOWED FOR MORE
RAPID FIRE MITIGATION
AND CONTAINMENT.**

The National Emergency Management Association (NEMA) conducts an after-action review for EMAC events that are unique or when valuable lessons learned may be integrated to improve the EMAC system. AARs are conducted to ensure that an objective analysis is conducted for continuous improvement of the EMAC program. Analysis of pivotal events has been critical to the continual improvement of the EMAC system as shown in Figure 2 below.

Figure 2: Pivotal Events in EMAC History



A key finding of the 2017 hurricane season AAR was that states that had well-documented EMAC policy and procedures were better able to respond to EMAC requests while states that did not possess documented policies and procedures faced many obstacles and challenges.

Purpose

Following the historic 2017 hurricane season, NEMA conducted a comprehensive assessment of EMAC's response to Hurricanes Harvey, Irma and Maria. The [resulting report](#) contained valuable lessons learned and recommendations, many of which were quickly implemented. For example, in an effort to streamline the request and offer process, NEMA has retired the 3-part EMAC Request for Assistance Form (REQ-A) and replaced it with a two-part Resource Support Agreement (RSA). This change had a widespread impact on all aspects of EMAC, including the EMAC Operations System (EOS). EOS version 3 was completed in 2019 making EMAC response even *faster*.

Given the depth of the analysis conducted in 2017, NEMA leadership opted to focus the 2018-2019 California Wildfire After-Action Report on obtaining feedback and lessons learned from receiving entities (counties, cities, and agencies) and the Requesting States.

In addition to this being the first time that NEMA has formally documented the receiving entities' viewpoint, this report also examines differences in the execution of the EMAC process between 2018 and 2019.¹ This multi-year report provides a unique longitudinal analysis of the impact of experience and the benefits of well-established EMAC policies. *The feedback from California is clear: the experience they gained and lessons they learned during 2018 greatly facilitated a smoother, faster EMAC response in 2019.*

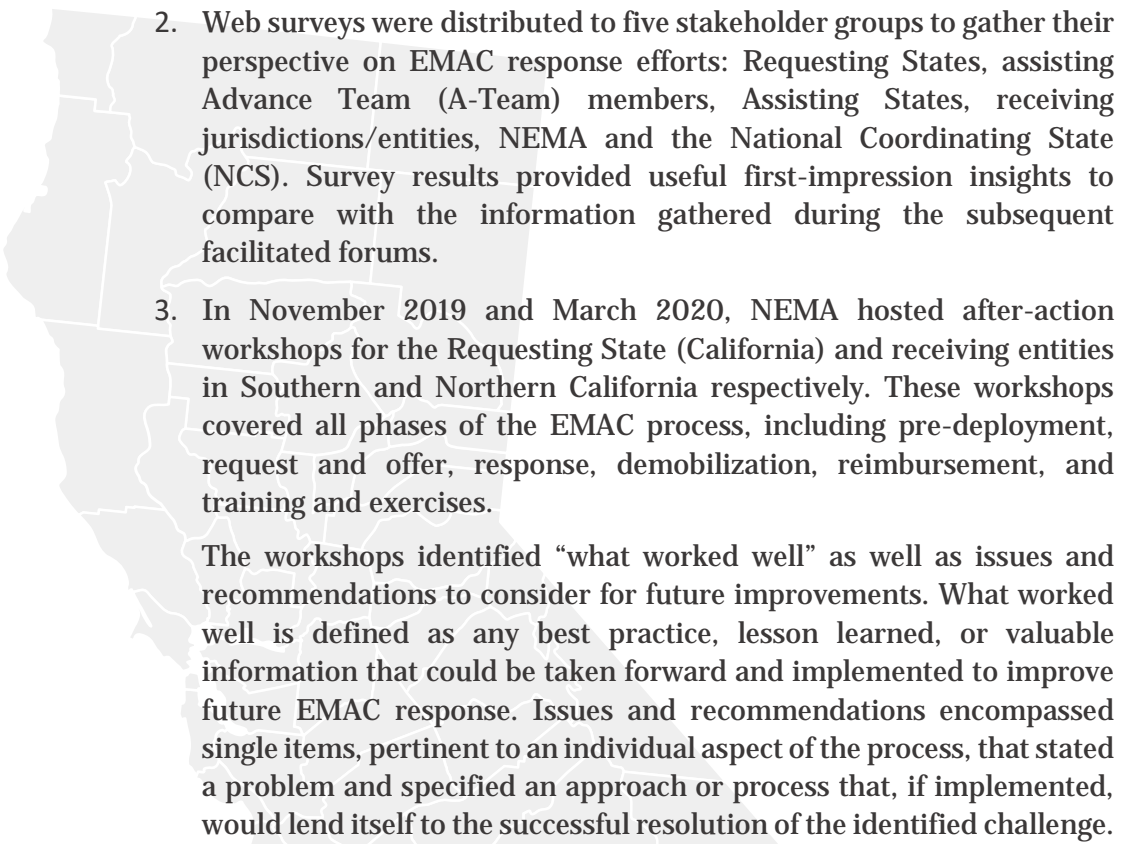
Methodology

The information contained in this report was obtained from three primary sources: (1) the EOS; (2) an online survey sent to EMAC participants; and (3) after-action conferences held with receiving entities and the Requesting State in California.



1. The EOS is the online system that state emergency management agencies use to request, offer, and track resources for deployments through the nationally adopted Compact. EOS serves as the repository for EMAC resource management, including EMAC situation reports and REQ-A and RSA transactions. EOS data provides us with an in-depth quantitative examination of the types of resources requested, the length of time deployed, and the number of personnel deployed.

¹ While 2017 was not specifically reviewed, stakeholders naturally incorporated the lessons learned from the record-setting 2017 wildfire season.

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2. Web surveys were distributed to five stakeholder groups to gather their perspective on EMAC response efforts: Requesting States, assisting Advance Team (A-Team) members, Assisting States, receiving jurisdictions/entities, NEMA and the National Coordinating State (NCS). Survey results provided useful first-impression insights to compare with the information gathered during the subsequent facilitated forums.
 3. In November 2019 and March 2020, NEMA hosted after-action workshops for the Requesting State (California) and receiving entities in Southern and Northern California respectively. These workshops covered all phases of the EMAC process, including pre-deployment, request and offer, response, demobilization, reimbursement, and training and exercises.

The workshops identified “what worked well” as well as issues and recommendations to consider for future improvements. What worked well is defined as any best practice, lesson learned, or valuable information that could be taken forward and implemented to improve future EMAC response. Issues and recommendations encompassed single items, pertinent to an individual aspect of the process, that stated a problem and specified an approach or process that, if implemented, would lend itself to the successful resolution of the identified challenge.

After-Action Report Organization

This AAR contains an Executive Summary and the full report, with four major sections.

Section 1 – Record-Breaking Wildfire Seasons: This section contains detailed information on the 2018 and 2019 California Wildfire seasons. This section describes the devastating consequences of the California wildfires and the EMAC resources that were deployed.

Section 2 – Emergency Management Assistance Compact: This section provides an overview of the EMAC process.

Section 3 – Best Practices and Lessons Learned: This section addresses the lessons learned and feedback from participants on what worked well and issues and recommended areas for improvement. Similar comments have been consolidated to avoid duplication, as many of the discussions and issues identified were common between both the Northern and Southern California workshops. This report intends to express the consensus view, while still including dissenting opinions.

Section 4 – Conclusion: This section describes suggestions and strategies for implementing the lessons learned and replicating best practices identified by stakeholders.

Validation

Issues and recommendations were validated throughout the data collection process. Workshop facilitators validated the comments and feedback provided during the hot wash discussion. For example, facilitators confirmed with other stakeholders if they also observed the issue or if the issue was replicated in other locations, and whether the issue was widespread or limited to a single organization.

This AAR has been reviewed by the EMAC leadership, NEMA staff, as well as the Requesting State EMAC coordinators who validated the areas recognized for working well, the identified opportunities for improvement, and the recommendations provided in the after-action review.

Further validation of the suggested Corrective Action Plan will be conducted by the full EMAC Committee, in coordination with the EMAC Executive Task Force, and will result in the development of a final Implementation Plan.

EMAC Improvements in 2018 - 2019

Following the release of the 2017 Hurricane Season After-Action Report, NEMA and the EMAC Member States have been actively working on the lessons learned and recommendations to improve the EMAC system. The following is a quick summary of the activities completed.

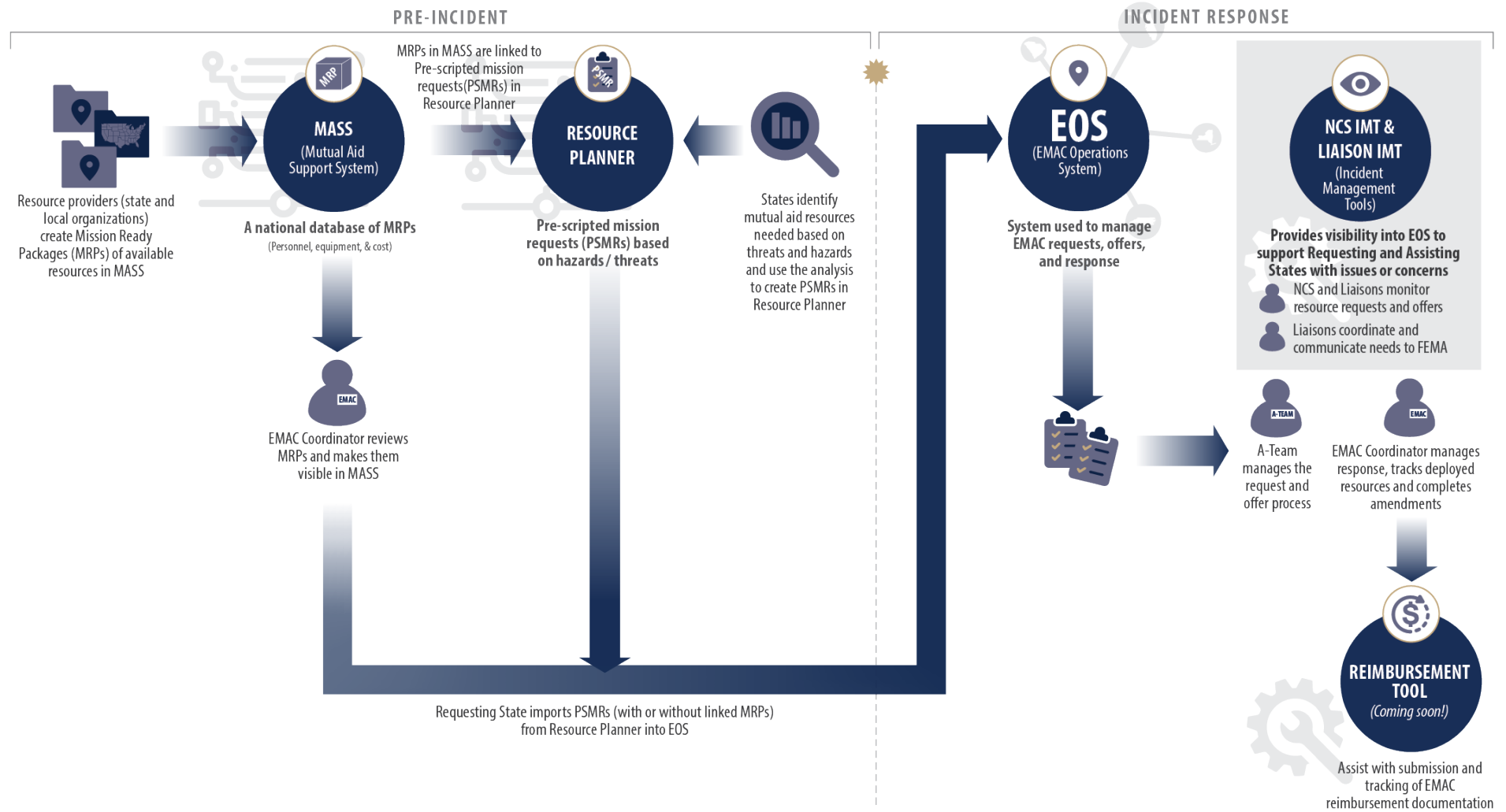
EOS v3.0 was set to go live on the day California opened the 2019 wildfire event. NEMA waited until REQ-As were completed in the system and the wildfire event response was finished prior to taking EOS v3.0 live. This version of EOS replaced the REQ-A with the RSA, added an action items dashboard, enhanced reporting and notifications capabilities, and improved real-time communication between Requesting and Assisting States.

Mutual Aid Support System, or MASS, is a free online GIS-based inventory of Mission Ready Packages (MRPs). Resource Providers from any jurisdiction can enter and maintain their MRP within MASS. Improvements to MASS included a state MASS dashboard, which shows at a glance the number of MRPs in the system, the number of MRPs published to EMAC (where other states can view and request them), increased capability for EMAC Coordinators to receive notifications of new MRPs being published in the system and to update or edit MRPs in their state inventory, as well as enhanced administrative, reporting, and editing functions for NEMA.

Resource Planner is a new application for states to pre-script resource requests for incidents and match them to MRPs within MASS. Resource Planner will accelerate a state's response and increase planning for mutual aid by the Request and Offer process as well as allow states to work with requesting entities to pre-script resource requests for accuracy.

To learn more about these applications see Figure 3 below.

Figure 3: EMAC Applications



Training: Critical to the success of EMAC is having emergency personnel at all levels of government and emergency response who possess a working knowledge of the compact. EMAC leadership has created a series of online training courses that were updated in 2019:

Table 1: EMAC Online Training

Course Title	Target Audience	Course Length
Practice & Implementation of EMAC	State emergency management & response and recovery	3.5 hours
EMAC Pre-Event Preparation for Resource Providers	Resource Providers	1.5 hours
EMAC: Just in Time Training for Deploying Personnel	Deploying Personnel	1 hour
EMAC Reimbursement for State Emergency Management	State emergency management personnel with reimbursement responsibilities	2 hours
EMAC Bootcamp for Authorized Representatives	EMAC Authorized Representatives	2 hours
National Guard & EMAC	National Guard commanders and personnel with domestic support responsibilities	1.5 hours

EMAC Implementation Guide: NEMA developed a draft *EMAC Program Implementation Guide* to help Member State emergency management personnel evaluate their EMAC program strengths and weaknesses and identify ways to bolster their ability to provide interstate mutual aid. This program guide is intended to be used as part of a pilot program that combines an internal self-assessment with a training course designed to help Member States and resource providers gain a greater understanding of EMAC process as well assist in the creation of mission ready packages. The implementation guide will be released late 2020/early 2021.

Summary of Accomplishments

- California leveraged the hard-won lessons learned from 2017 and early 2018 to improve California's execution of the EMAC process.
 - The state assessed its fire resource capabilities.
 - Requesting organizations developed better, more detailed resource requests.
 - The state developed relationships with neighboring states and obtained an in-depth understanding of their capabilities, which allowed for faster response time and better integration of response teams.
- California has a fire representative that is A-Team trained. Having a representative that knows the EMAC process, and has fire expertise, allows for the development of more accurate resource requests. The EMAC fire representative can also coordinate with mobilizing assets to provide greater situational awareness and ensure they are better prepared.
- EMAC teams that came equipped with strike team leaders allowed for greater personnel accountability, control, and oversight.
- California established a centralized staging area and implemented a process to effectively brief, assign, and demobilize incoming assets.
- California sends the reimbursement requirements to the Assisting States as part of the Mission Order Authorization Form (Mission Order) so that deploying personnel can be briefed on the documentation requirements prior to deployment.

Opportunities for Continuous Improvement

Using the lessons learned from California during the wildfires, EMAC member states can leverage their own state's experience to improve the system.

- Resource requests should clearly define the types of resources and equipment, including models and types, to ensure they meet the Requesting State's expectations and are compatible with systems and infrastructure.
- States should continue to build relationships with neighboring states to identify needs, capabilities, and response timeframes. This knowledge will assist with quick identification and mobilization of resources.
- Requesting States should leverage Resource Planner (a NEMA developed and maintained application) to develop pre-scripted mission requests (PSMRs) that reflect the potential conditions at various timeframes. These PSMRs will allow Requesting States to request for the planned need versus the immediate need.

- States should explore how EMAC reports can be utilized (or developed) to serve as a standardized electronic manifest that can be easily incorporated into fire assets assignment, and tracking systems will aid response operations.
- States not utilizing the Mutual Aid Support System (MASS) should consider utilizing MASS to identify the location and availability of needed resources as packaged MRPs.
- Assisting states should invite Requesting States to participate in the pre-deployment briefings.
- EMAC coordinators and A-Team members should invite receiving entities/jurisdictions to assist with the development of the resource requests, review of offers and discussions with Resource Providers.
- NEMA should research the development of resource tracking within the EOS for personnel accountability.
- Requesting and Assisting States should incorporate a formal debriefing as part of the demobilization process to support continuous improvement.
- The EMAC Executive Task Force should consider the development of a uniform process to document and validate equipment damage claims.

1. Record-Breaking Wildfire Seasons

Wildfires have always been a part of California's ecosystem, but recent history has shown that wildfire season is starting earlier and ending later each year. Warmer temperatures and more extreme dry seasons make the California terrain more susceptible to severe wildfires, and according to the California Department of Forestry and Fire Protection (CAL FIRE), the length of fire season has increased by 75 days. The longer timeframe, combined with more intense fires, increases the demand for wildfire emergency resources and a resulting greater reliance on EMAC.

Figure 4: July 2018



2018 California Wildfire Season

The 2018 wildfire season proved to be the deadliest and most destructive wildfire season in California's history. The fires killed 100 people, burned 1.9 million acres and damaged or destroyed approximately 24,000 structures. The 2018 wildfire season came at the heels of the previous record-setting 2017 season.

In 2018, California had 70 fires, where there were more than 1,000 acres burned, with structural damage and loss of life. The Carr Fire started on July 23 and burned for 38 days and spanned 229,651 acres before destroying 1,604 structures. The Carr Fire is the seventh most devastating wildfire in California's history and took the lives of eight people, three of whom were firefighters.

Four days after the start of the Carr Fire and a mere 150 miles away, two wildfires - the Ranch and River Fires – started in Mendocino, CA, and became known as the Mendocino Complex Fire. It burned for 53 days before it was 100% contained. The Mendocino Complex Fire burned 459,123 acres, collectively destroyed 281 structures, and injuring three people and taking one person's life. At the time of this writing, the Mendocino Complex Fire remains California's largest fire.

Figure 5: November 2018



On November 8, 2018, a faulty electric transmission line ignited one of the most devastating fires in our nation's history. For 17 days the Camp Fire burned and ultimately destroyed the towns of Paradise and Cinco. The Camp Fire burned 153,336 acres, 18,804 structures, and fatally killed 85 civilians. Pacific Gas and Electric Company has pleaded guilty to 84 counts of involuntary manslaughter and one count of unlawfully starting the Camp Fire.

On the same day, the Camp Fire ignited, the Woolsey Fire in Los Angeles and Ventura County started in an industrial complex above Simi Valley. The fire in this densely populated area resulted in the evacuation of 295,000 people. It burned 96,949 acres and destroyed 1,643 structures. Three people died in the Woolsey Fire.

Figure 6: 2018 California Wildfire Season Consequences



Figure 7: October 2019



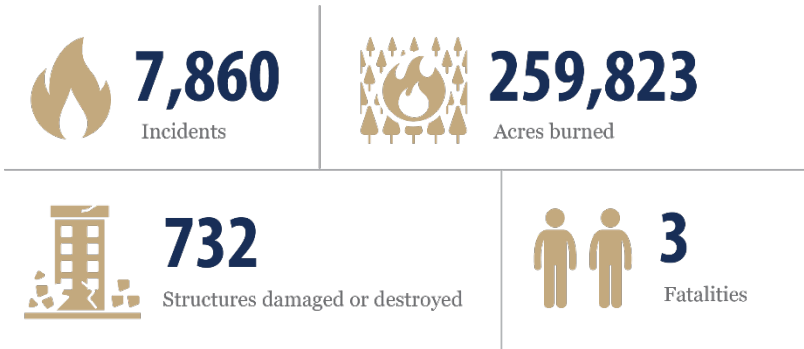
2019 California Wildfire Season

The 2019 wildfire season was relatively quiet compared to the historic 2017 and 2018 fire seasons. There were 40 fires in 2019 that burned over 1,000 acres, producing significant structural damage, or loss of life. Based on lessons learned from 2018, there were extensive power shutdowns to mitigate the risk of fire due to the failure of electrical transmission lines, which impacted over 3 million people in late October and early November.

Even with these power outages, electrical transmission failure is thought to have started the Kincade Fire in Sonoma County on October 23, 2019. The Kincade Fire burned 77,758 acres and destroyed 374 structures over 14 days before it was contained.

Flames returned on October 27, 2019, to Mendocino County, a handful of miles away and a few days before the anniversary of the Mendocino Complex Fire. The Burris Fire burned 703 acres over six days.

Figure 8: 2019 California Wildfire Season Consequences



EMAC Wildfire Response

In 2018, the nation was still recovering from the record-breaking wildfires in the West and the fifth most active hurricane season in the East. The previous year (2017) tested the ability of states to scale EMAC to meet concurrent emergency response demands of three hurricanes (Harvey, Maria, and Irma) along with wildfire operations in California, and volcanic eruptions in Hawaii.

More than 2,963 personnel, representing seven (7) disciplines, deploying from 17 states, answered California calls for support in 2018 and 2019.

Figure 9: 2018-2019 EMAC Statistics

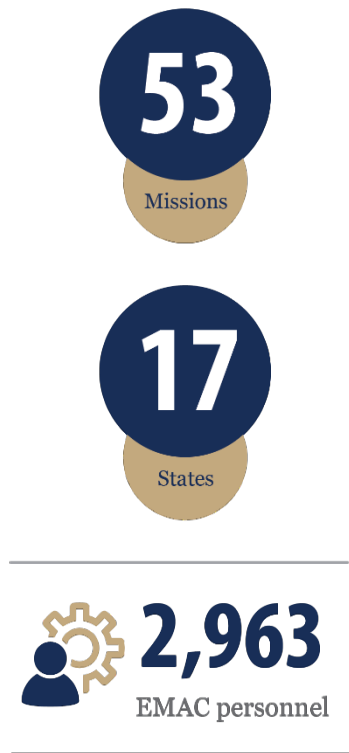
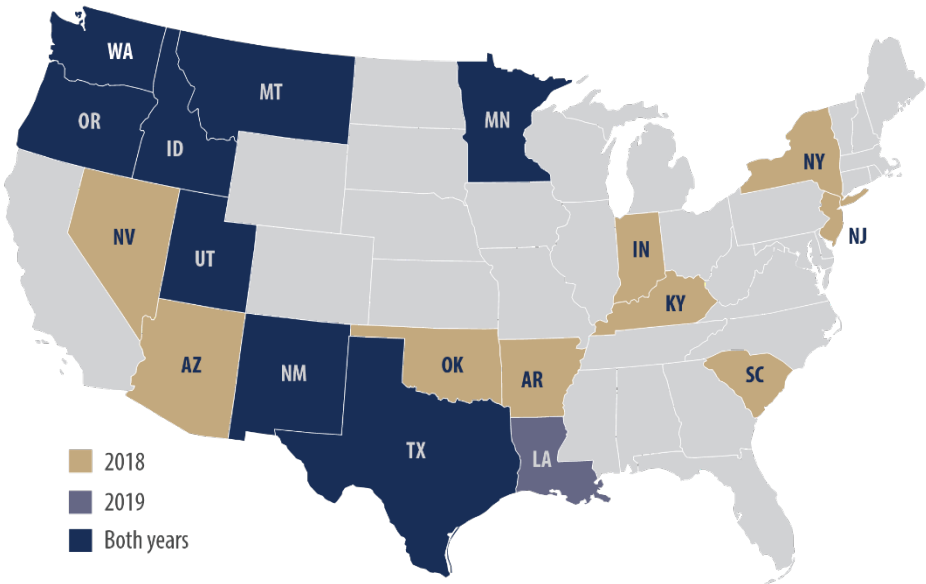


Figure 10: Missions by Discipline

Discipline	Number of Missions	Number of Personnel Deployed
Animal Health Emergency	2	69
Fire – Hazmat	28	2,703
Human Services	10	18
Incident & Emergency Management	2	86
Mass Care	1	1
Search and Rescue	5	63
National Guard	5	23

Figure 11: Assisting States for 2018 and 2019 California Wildfires



Average Deployment Length:





Power of Partnership:

Using its emergency mobilization plan, and following a request made through the Emergency Management Assistance Compact (EMAC), Oregon State Fire Marshal (OSFM) repeatedly responded to California's request for wildfire assistance. In 2017 OSFM mobilized 30 strike teams; in 2018, OSFM sent three strike teams to the Mendocino Complex Fire in late July and then another 15 strike teams to the Camp Fire in November 2018.

In 2019, OSFM sent 15 strike teams to support the Burris and Kincaid Fire. ***These assets arrived less than 24 hours after the initial request was made.*** Following a late afternoon briefing with California, the Oregon's strike teams were deployed to two separate incidents. One group, comprising six strike teams, headed by Chief Deputy State Fire Marshal Mariana Ruiz-Temple, was sent to the Burris Fire, a 250-acre fire in Mendocino County. The second group, comprised of nine teams, headed by Assistant Chief Les Hallman of Tualatin Valley Fire & Rescue, was assigned to respond to the Kincaid Fire in Sonoma County.

Oregon's ability to be such an effective partner started long before 2017. Beginning in 2005, Oregon's fire leadership made a concerted effort to build interstate mutual aid capabilities and its inter- and intra-state relationships.

Key to Oregon's ability to mobilize so quickly is that OSFM uses the same system to identify available strike teams for interstate mutual aid response as it does for intrastate mutual aid. In 2017, Oregon identified 15 strike teams in 90 minutes; they had improved this response time to a jaw-dropping 20 minutes in 2019. Oregon has built such a robust state system that it has the capability to quickly mobilize 15 to 18 strike teams regardless of the time of year.



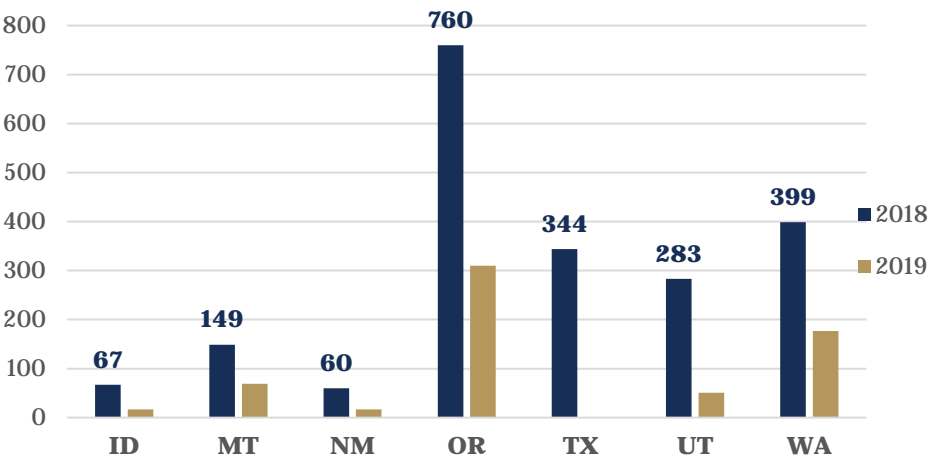
Fire Rescue

Unsurprisingly, the most missions and the greatest number of personnel deployed were supporting fire response operations. Through the EMAC system, California requested Type 1, 3, and 6 engine strike teams with a strike team leader. California provided detailed descriptions of personnel and equipment required:

- Each engine strike team or task force will consist of a maximum of four (4) personnel, no less than three (3) on a Type 1 & 3 and no less than two (2) on a Type 6.
- A manifest that included name, rank, fire agency, phone number, engine type, and fire engine agency was also a required element.
- Common communications (mobile radios and portable field-programmable handheld radios), command vehicle, and wildland PPE were required.
- Resources were requested to commit to a 14-day deployment, excluding travel, with all food and lodging provided and arranged by California.

Due to the urgent need, California specified that they were willing to commit to verbal offers from Assisting States.

Figure 12: Fire Personnel by State



Human Services

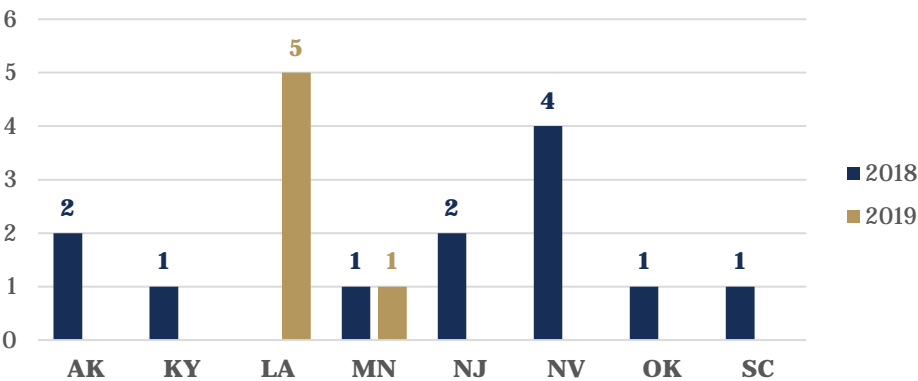
Following the devastation of the Camp Fire and Woolsey Fire, the President of the United States issued a major disaster declaration for the State of California, triggering the release of federal funds to help residents in Butte, Ventura, and Los Angeles counties with the devastating effects of fires that began November 8, 2018. Through the EMAC system, California reached out to states to request personnel to support the implementation of FEMA individual assistance (IA) and public assistance (PA) disaster recovery efforts, and to support the development of long-term recovery groups.

The IA teams supported the implementation of the Individual and Households Program (IHP), mass care and shelter efforts, unemployment and crisis counseling, legal services, disaster case management, other needs assistance, establishing and running disaster recovery centers, voluntary agency coordination, and long-term recovery efforts.

The PA teams served in the role of Program Delivery Manager (PDMG), conducting meetings with applicants to determine significant needs and answer questions and assist in project development. Their support included providing technical assistance; completing project worksheets; reviewing laws, regulations, and policies for compliance; and ensuring the applicant’s case management file is maintained.

Nevada also sent four forensic anthropologists to assist Butte County.

Figure 13: Human Services Personnel by Assisting State



2. The EMAC Process

The five phases of the EMAC Process provide a systematic approach that has proven to be an effective, scalable, and efficient process to get essential resources to jurisdictions and agencies that need them.



Phase 1: Pre-event preparation

To ensure successful EMAC implementation within states, State EMA's and Resource Providers from all jurisdictions (state, county, local, or private sector) have a responsibility to engage in pre-event preparation before an emergency or disaster occurs. This includes the development of internal procedures for implementing EMAC; incorporating planning and lessons learned; resource allocation with neighboring states; conducting EMAC training and exercises in cooperation with State EMA/Resource Providers; and developing Mission Ready Packages.



Phase 2: Activation

When local resources need assistance and resource requests reach the State Emergency Management Agency, the impacted state(s) sources the resource need through intrastate mutual aid, federal, private sector, volunteer, **or EMAC**. That state's Governor will declare an emergency or disaster, authorizing funds to be expended for response and recovery and activating EMAC. The affected state's EMAC Authorized Representative or EMAC Designated Contact opens an event in the online EMAC Operations System, alerting both the National Coordinating State and NEMA that a request for resources is likely.



Phase 3: Request and Offer

The impacted state(s) will route resource requests to the EMAC A-Team who, in turn, will contact EMAC Member States to source the request starting with the closest states (time/distance). The potential Assisting States assess their own risk level, and if able, use their in-state EMAC activation protocols to contact Resource Providers to determine availability and to collect offers of assistance. The Requesting and Assisting State emergency management agencies complete the EMAC RSA for accepted offers of assistance. The completed RSA constitutes a legally binding agreement between the two states. Note: In 2018 and 2019, states completed the 3-part REQ-A, which has been replaced by the 2-part RSA.



Phase 4: Response, Mobilization, Deployment, and Demobilization

Once the RSA is complete, resources prepare to mobilize (prepare for their mission), deploy (conduct the mission in the Requesting State), and demobilize (return home).

It is critically important that deploying personnel receive a pre-deployment briefing as well as an EMAC Mission Order Authorization Form (Mission Order) prior to their deployment; are educated on EMAC; understand their responsibilities in tracking mission expenses and maintaining documentation; and maintain contact with the Assisting State EMA while on their deployment.

Due to the nature of the situation, deployed personnel will likely encounter difficult living and working circumstances, limited communications, traumatized residents and coworkers, long working hours, primitive field conditions, and other challenging situations. The pre-deployment briefing can set the expectations for the deploying personal.



Phase 5: Reimbursement

Although reimbursement is chronologically the last phase of the EMAC process, the steps required for timely reimbursement begin during pre-event preparation, with establishing EMAC reimbursement procedures that are shared by the Requesting State during the request and offer phase. Both the Requesting State's and Assisting State's reimbursement requirements should be communicated to deploying personnel during the pre-deployment briefing.

Reimbursement under the Compact is **not** dependent upon receipt of Disaster Relief Funds that are available through FEMA after the president declares a major disaster or emergency. The Requesting State may seek funds from FEMA or any other sources, but its obligations under EMAC law to pay for services rendered are not contingent upon receipt of said funds.

3. Best Practices and Lessons Learned

The following section outlines areas for action identified during the after-action workshop discussions or through the surveys. Details from these discussions are organized into two sections: “What Worked Well” and “Issues and Recommendations for Improvement.”



Request and Offer

The after-action analysis pertaining to the *Request and Offer* phase addresses the resource request process: filling requests; sending broadcast notifications; obtaining approvals and signatures from EMAC ARs; handling logistical issues in the development of requests or offers; exchanging information; completing the REQ-A; and sending the Mission Order.

While request and offer discussions did not explicitly focus on the *Pre-Event Preparation* or *Activation* phases of the EMAC process, there was a natural transition and overlap between these phases and the request and offer phase. Lessons learned associated with these two phases have also been included in this section.

What Worked Well

1. Requesting organizations were able to develop better, more specific resource requests in 2019 based on lessons learned from 2018.

Stakeholders overwhelmingly found consensus that lessons learned in 2017 and 2018 made for a smoother process in 2019, including their ability to better define the resource and equipment needed. For example, in 2018, resource request specified programmable radios, but not the specific type. This resulted in EMAC strike teams deploying with radios that were incompatible with California’s system. By the fall of 2019, resource requests had been modified to specify the types that were compatible with California’s communication system and easy to program.

2. The state has a good assessment of wildfire response capacity.

Recent years have provided ample opportunities for the state to assess its wildfire response capabilities. California's fire leadership knows that 600 to 750 engines is close to capacity within the state utilizing both local, state, and state-based federal assets. As the state gets close to this level, California's fire leadership knows to request interstate mutual aid. This allows the state to know when to submit requests for EMAC support, which results in more timely deployment of mutual aid resources.

3. The state has a good understanding of neighboring states' capabilities.

As described in Section 1, many assisting states heeded California's request for assistance multiple times. California was able to develop and deepen relationships with these states and gain an in-depth understanding of their capabilities and response times. Because of the relationships that were developed, requests, and offers were often made verbally, allowing the deploying teams to quickly mobilize, reducing the response time. For example, Oregon mobilized 15 strike teams in less than 90 minutes and was on-site in California in less than 24 hours. Oregon replicated this amazing response time for multiple incidents, seamlessly integrating with the California team.

4. Having an EMAC fire representative allowed for the development of more accurate and informative requests and offers of assistance.

Stakeholders in both Northern and Southern California commented on the benefits of having a state fire representative that is A-team trained to support the development of EMAC requests, review the offers, and coordinate and confirm resources needed with deploying assets. Stakeholders stated that it would be beneficial to have representatives from their discipline trained in EMAC as well.

Issues and Recommendations

5. California's definition of a type 1, 3, and 6 engine strike team differed from other states' definition.

In 2017 and 2018, the resource requests utilized resource typing (type 1, 3, and 6 engine strike teams); however, when the resources arrived, they did not meet California's expectations in terms of equipment and capabilities. California overcame these nuanced differences in classifications types and added additional details in future resource requests.

- **Recommendation:** States should continue to develop resource requests that clearly define what kind of resources are needed.

- **Recommendation:** States should include a detailed description of the equipment, including models and types that are compatible with their state's systems in the resource request.

6. The time that it took for the resources to be requested and assisting states to commit was three to four days.

Stakeholders commented that the resource request process and timeframe has improved since 2018. In 2017, there was a perception that it would take approximately 24 hours for the written resource request to be developed, approved, and submitted and then another two-to-three days for Assisting States to commit. By this time, the situation has changed, and the resources sent were no longer needed. The response time decreased; in November 2018 fires, and in 2019, California sent requests to specific Assisting States that were closer in proximity and had the resources that California needed. Most of these requests were based on a verbal agreement, allowing Assisting States to quickly deploy.

- **Recommendation:** States should continue to build relationships with neighboring states to identify needs, capabilities, and response timeframes. This knowledge will assist with quick identification and mobilization of resources.
- **Recommendation:** States should develop pre-scripted mission requests in the new EMAC Resource Planner application that reflect the potential conditions at various timeframes. These requests will allow California to request for the planned need versus the immediate need.

7. A standardized electronic manifest would greatly assist with the assignment of assets.

California used the Resource Ordering and Status System (ROSS)² to request and assign wildfire assets to a specific fire. Stakeholders commented that it was difficult to track resources in ROSS appropriately. Additionally, it was difficult to import the manifest data included in the REQ-A into ROSS for easy assignment. The REQ-A manifest information had to be manually entered. Additionally, each state has a different manifest format and utilized different naming conventions. This issue was further complicated as many teams mobilized and arrived at staging areas based on a verbal agreement, prior to the REQ-A paperwork being completed.

- **Recommendation:** States should develop MRPs and inventory those MRPs within MASS so verbal offers can quickly be codified in the EOS.

² ROSS was replaced by the Interagency Resource Ordering Capability (IROC) in 2020.

- **Recommendation:** NEMA and the EMAC Executive Task Force should work to develop a standardized manifest report that can be exported out of the EOS to augment state manifests with the deployed EMAC resources. Matching the standardized reporting formats (if possible) would benefit all EMAC member states.
- **Recommendation:** For deployments under a verbal agreement, the EMAC Coordinator/A-Team should request an electronic manifest be sent by the Assisting State prior to team's arrival at the staging area. Making an offer of assistance in the EOS with the manifest and deploying prior to the completion of the RSA would satisfy this need should a manifest report be developed in EOS.

8. A national database that identifies the location and availability of resources would assist the resources request process.

Stakeholders commented that it would be beneficial to have a national database that identified the location of emergency resources and their availability. California does not utilize the EMAC Mutual Aid Support System (MASS). MASS is a free web-based platform database that categorizes resources, people, and equipment into mission ready packages (MRPs) by GIS location. MASS allows resource requestors to search for the types of resources needed and provides a point of contact and cost estimate (minus travel). MASS streamlines the resource request and offer process and reduces the response timeframe as it is fully integrated with Resource Planner and the EOS.

- **Recommendation:** States should consider utilizing MASS to identify resources to expedite mutual aid.
- **Recommendation:** Assisting States should develop and upload MRPs into MASS. As a best practice, the Assisting States could use a past EMAC mission (REQ-A or RSA) as the baseline for the MRP development.



Response

After-action analysis of the *Response* phase includes mobilization, deployment, and demobilization activities.

What Worked Well

9. Deploying assets incorporated leadership as part of their package.

Assisting States included strike team leaders as part of their offer. While adding this additional position increases the overall reimbursement cost, it offered significant benefits. In 2017 and 2018 missions, although the request required a strike team leader, California had to reconfigure some of the resources that arrived without the leader to include one. For later missions (Fall of 2018 and 2019), the EMAC teams arrived with strike team leaders. This change freed up California's leadership to attend to other high-priority response tasks instead of being committed to operational leadership roles. Additionally, having strike team leaders arrive with the strike teams allowed for easier coordination between California fire leadership and response teams. California's leadership utilized these strike team leaders as designated points of contact to communicate response directions and guidance. Having strike team leaders as part of the deployment provided greater personnel accountability, control, and oversight. Having strike team leaders also allowed teams to be split up when needed to meet response needs.

10. California established centralized staging areas to effectively brief, assign, and demobilize assets.

All EMAC fire assets were directed to check-in at a staging area to get a full-field briefing, to ensure all personnel were accounted for, and to do a safety check on all equipment. In 2019, the state created a QR code that allowed mutual aid assets to scan and immediately download helpful information such as a travel guide, incident action reports, as well as maps and contact information.

Prior to demobilization, all fire assets were required to check-in to the demobilization area. This allowed the state to conduct a hot wash as well as do a safety check of their equipment to identify any damages and ensure its roadworthiness for the trip back home.

Issues and Recommendations

11. The Requesting State's offer to participate in pre-deployment briefings was not always accepted by the Assisting States.

Pre-deployment briefings provide key information critical to preparing deploying personnel for the response operation. It should include a comprehensive situational overview (weather, status of infrastructure and commercial facilities, hazards, or any special considerations, working and living conditions, logistical items, communication protocols, mission requirements, and any other special considerations.) The Requesting State is best able to provide this type of information and answer questions.

- **Recommendation:** The EMAC Executive Task Force should consider updating EMAC guidance that would reinforce that both Requesting State and Assisting States participate in pre-deployment briefings if the offer to do so is made by the Requesting State.

12. Receiving jurisdictions commented on the disparities in quality of support they received.

Jurisdictional representatives commented that some of the non-fire resources they received through EMAC fell way below expectations while others were a perfect match. Key to success was the deploying team's approach to the operation. The most successful teams were flexible, asked what they can do to be of assistance, and understood that they were there to do what the receiving entity needed.

There were other instances where non-fire resources did not arrive with the correct personal protective equipment (PPE) or other equipment.

- **Recommendation:** The Requesting State EMAC Coordinator/A-Team should consider providing an opportunity for the receiving entity/jurisdiction to review the resource request to validate that it meets their needs and is fully comprehensive, as well as the opportunity to review the offers to help select the best match to meet the receiving entity's needs.
- **Recommendation:** Requesting entities should work in advance of emergencies/disasters to pre-script resource requests based on threats/hazards and work with the State EMAC Coordinator to put them into Resource Planner.
- **Recommendation:** The Requesting State EMAC Coordinator/A-Team should provide an opportunity for the receiving entity to participate in the pre-deployment briefing as their availability and time allows.
- **Recommendation:** Receiving entities should communicate any issues or concerns to the Requesting State EMAC Coordinator so they can be addressed immediately, and feedback can be provided to the Assisting State.

13. Enhanced resource tracking will improve personnel accountability and assignment.

Stakeholders commented that there needed to be better personnel accountability throughout the deployment process. Resources should be tracked from the time they deploy (leaves their home location), throughout their deployment, and until they return to their home location. This level of tracking will also allow for better allocation of resources between incidents (as leadership can better plan on where assets should be assigned next based on their current location).

For both 2018 and 2019 events, California had to enter fire asset information into ROSS. Once it was entered in ROSS, they then tracked resources using a Google spreadsheet to see where each asset was currently assigned and to plan where they were going next. The team also used this sheet to track contact information. While this system worked, stakeholders stated that it was cumbersome and difficult to maintain.

- **Recommendation:** The EMAC Executive Task Force should work with NEMA on the development of an EOS report that would help states with resource tracking and accountability. Currently, reports in the EOS can be used to track contact information, the mission start date, date the resource arrives in the Requesting State, date the resource leaves the Requesting State, and the mission end date. NEMA could add additional fields to the mission accountability section within EOS, where additional information could be provided for better resource accountability.
- **Recommendation:** Both Assisting States and Requesting States should consider tracking their assets while they are deployed.

14. The State should conduct a debriefing with all EMAC assets as well as collect data from receiving entities.

While fire assets participated in a hot wash and debriefing prior to their demobilization, this debriefing process was not uniformly applied to all EMAC assets, nor is there a formal process to document feedback from receiving entities on the EMAC team's response.

- **Recommendation:** Requesting States should consider establishing a process to debrief with demobilizing EMAC assets and create a survey tool to collect feedback from receiving entities. This feedback should be shared with the Assisting State.

Reimbursement

The Reimbursement section focuses on the overall reimbursement process, policies, systems, and documentation requirements. Because deployed personnel, resource providers, and Assisting and Requesting States all share the responsibility for the timely processing of reimbursements, workshop participants were prompted to express their knowledge and understanding of the process, as well as their recent experience working within it.

What worked well

15. The state sends the reimbursement documentation requirements to the Assisting State as part of the RSA package.

California routinely sends the reimbursement package detailing the documentation requirements to the Assisting State as part of the initial mission order authorization. This allows the Assisting State to brief deploying personnel on the documentation requirements and the timeframe for submission of their expenses upon their return.

Issues and Recommendations

16. California did not have a process to validate damage claims.

As part of the fire demobilization process, all damage to fire resources are identified and documented. However, this damage information is not shared with California Office of Emergency Services (Cal OES) which processes the reimbursement claims. (Note: The Requesting State is required to compensate the Assisting State for all damages from the time of mobilization until the team arrives at the home station. Thus, damages encountered during the return trip home are also reimbursable.)

California fire agencies also incorporate a robust equipment safety review process as part of its demobilization process. For example, if there are safety issues on a vehicle or fire engine that impact its roadworthiness, the Assisting State resource is asked to repair it prior to demobilization.

- **Recommendation:** Fire logistical managers should provide a signed copy of the standard compensation and claims paperwork as part of the demobilization process to the team leader of the resource that deployed. A copy of this paperwork can be submitted with the Assisting State's reimbursement paperwork.
- **Recommendation:** Fire agencies should amend the compensation and claims process to include sending a copy of the paperwork to the Requesting State emergency management agency.

- **Recommendation:** Requesting States should standardize their reimbursement procedures to include a detailed description on the documentation requirements for damages and to clearly articulate what is eligible and ineligible for reimbursement. The reimbursement process must comply with EMAC guidelines.
- **Recommendation:** The Assisting State should review reimbursement documentation requirements, including documentation for damages and what is eligible and ineligible, as part of its pre-deployment briefing.
- **Recommendation:** Deploying personnel should take the “EMAC Just in Time Training for Deploying Personnel” online course in the EMAC eLearning Center to familiarize themselves with what is eligible/ineligible for an EMAC mission and their responsibilities.
- **Recommendation:** If the Requesting State requires repairs to be made prior to demobilization, the EMAC coordinators should amend the RSA to reflect this cost. Alternatively, if the Assisting State deployed resource would prefer not to make the repair, a waiver could be developed and signed by the Assisting State to acknowledge the repair recommendation by the Requesting State and that any additional damage or liability is no longer the responsibility of the Requesting State.

4. Conclusion: Building Upon Lessons Learned

This longitudinal analysis demonstrated the importance of practice and the power of partnerships. As mentioned repeatedly by stakeholders, the end of 2018 and 2019 was much smoother than 2017 and the beginning of 2018, due to the state implementing lessons learned for each series of wildfires and building upon the power of trusted EMAC agents.

To ensure these hard-earned lessons are not forgotten, California is in the process of documenting and revising its procedures, developing and conducting training, and in the future, will be conducting exercises.

This analysis demonstrated the importance of developing, cultivating, and maintaining regional partnerships. Not only is it important for the state to understand its capabilities, capacity, and potential needs but it is also important to understand the capabilities and capacity of neighboring states. Through regional partnerships, California reduced the response timeframe and obtained the resources that integrate seamlessly into California's response operations. California is committed to continuing to engage with these partners in regional planning, training, and exercise efforts.



Appendix A: EMAC Member State Responsibilities

At its core, the EMAC is a commitment between states to provide aid to each other when help is needed the most. To stand prepared to meet this commitment, Member States must establish EMAC plans and procedures to serve as both a requesting or assisting state as well as train personnel on these plans and procedures. The following outlines the responsibilities of EMAC Member States.

Member States' Responsibilities

Member State internal procedures should, at a minimum:

- Establish an EMAC training program that provides awareness of EMAC to state and local officials.
- Develop a standard operations guide for the implementation and utilization of EMAC as both a Requesting and Assisting State.
- Conduct a hazard analysis and capability assessment to determine where resource gaps exist, and specifically what types of mutual aid resources may be needed. Conduct pre-planning for the sharing of resources through EMAC with neighboring states.
- Conduct National Incident Management System Resource Typing and develop Mission Ready Packages for internal use and for EMAC deployments; maintain an inventory of available MRPs.
- Designate a sufficient number of Authorized Representatives and Designated Contacts to implement EMAC. Authorized Representatives have the governor's authority to request or to deploy mutual aid assets thus committing the spending of state funds. A minimum of three Authorized Representatives is always recommended to ensure availability of a designated Authorized Representative with signature authority.
- Designate one individual to be the "lead" on EMAC as an EMAC Coordinator.
- Designate and train a minimum of two Type IV A-Teams.
- Follow the "typing" guidance provided for EMAC A-Team assets when requesting or deploying EMAC A-Teams.
- Be prepared to provide adequate workspace and logistics support to an A-Team whenever one is deployed to their state EOC or other duty station.
- Develop legislation, intrastate mutual aid agreements, or memorandums of understanding with locals, volunteer agencies, and the private sector (if allowed under state law) to deploy seamlessly through EMAC.
- Maintain contact information for EMAC Authorized Representatives and Designated Contacts on the EMAC website.

- Develop an EMAC training and exercise program that involves stakeholders at the state and local levels of government and others that may be eligible to deploy through EMAC, such as volunteer agencies and the private sector.

Additional guidance to help states meet these requirements can be found in the EMAC Operations Manual available for State Emergency Management Agencies.

Appendix B: Acronyms

Acronyms	Definitions
A-Team	Advance Team
AAR	After-Action Report
API	Application Programming Interface
Cal Fire	California Department of Forestry and Fire Protection
Cal OES	California Office of Emergency Services
DHS	Department of Homeland Security
DOT	Department of Transportation
EMA	Emergency Management Agency
EMAC	Emergency Management Assistance Compact
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOS	EMAC Operations System
ESF	Emergency Support Function
ETF	EMAC Executive Task Force
FEMA	Federal Emergency Management Agency
IA	Individual Assistance
ICS	Incident Command System
IROC	Interagency Resource Ordering Capability
MASS	Mutual Aid Support System
MRP	Mission Ready Package
NCS	National Coordinating State
NELT	National EMAC Liaison Team
NEMA	National Emergency Management Agency
NIMS	National Incident Management System
NRCC	National Response Coordination Center
OR	Oregon
OSFM	Oregon State Fire Marshal
PA	Public Assistance
PDMG	Program Delivery Manager
PPE	Personal Protective Equipment
PSMR	Pre-scripted Mission Requests

Acronyms	Definitions
RELT	Regional EMAC Liaison Team
RSA	Resource Support Agreement
REQ-A	Request for Assistance
ROSS	Resource Ordering and Status System
RRCC	Regional Response Coordination Center
SOG	Standard Operating Guide