Zone 2 staff return to the Turley 2 Fire on March 15, 2025, to recover the dozer transport.

Everything All at Once

Mark Twain Facilitated Learning Analysis

Long travel times. Issues with the radio repeaters. Prescribed burns. Resource usage restrictions. High winds. Performance rally. Multiple new starts. Stretched staffing. Thunderstorms. Evacuations. Power outages. Burn injury. Entrapment. Tornadoes.

Each factor on its own may be manageable for a forest, but when several arise simultaneously, they create a significant challenge for fire management resources. March 14, 2025, was exactly that, a perfect storm where everything that could happen, did. And though they were tested, their experience, effective communication, and strong relationships helped maintain safe operations and everyone came home.

"You didn't know if you were running from something or toward something."

- Fuels AFMO

"By 1600 it was controlled chaos."

- Assistant Center Manager

"If I could write this, this would be an S-520 exercise."

- Regional Duty Officer

"I know I should have turned them around."

- Bunker Hill IC

"What is this Twister?"

- Off forest firefighter

"It was just gray, then darker and darker black. It was time to get out of the tower."

- Roby Lookout

"The day started off normal and then by the afternoon we were in Costa Ricardo."

- Forest Duty Officer

It had been a long night. The dry hot winds on March 13th fueled new fire starts and resources on Zone 3 were working well into the evening. Some resources were finally returning home when another fire was reported around 2330, sending them back out despite long travel times. The Seligman Hollow Fire was already spreading substantially as the forest resources, and resources from multiple volunteer departments worked to get around it. With severe weather forecasted the next few days, resources fought hard and with help from nighttime conditions and lighter winds, were able to get a handle on it.

By 0300 the fire had dozer line around it, spot weather forecasts had been requested and the volunteer department resources released. When the relief shift in dispatch began arriving around 6:30 a.m., there were no new reports, and operations seemed on track despite predicted winds.

Throughout the incident, communication was strained because the main repeater serving the southwest corner of the forest was down, forcing crews to rely on cell phones. Radio communication wasn't aligned across responders, and without a volunteer responder who also worked for the National Park Service, coordinating communication across all resources would have been nearly impossible. Despite these added challenges, the response continued steadily, and the situation was in a good place for the 14th. As the day shift began, the situation still felt routine. Resources remained committed to the Seligman Hollow Fire, expecting to stay on it through the day with worsening weather in the forecast.

Fire behavior during the early morning hours on the Seligman Hollow Fire. Picture from Eagle Rock Golden Mano Fire Protection District Facebook page.

Mark Twain Ranger Districts within the state of Missouri.

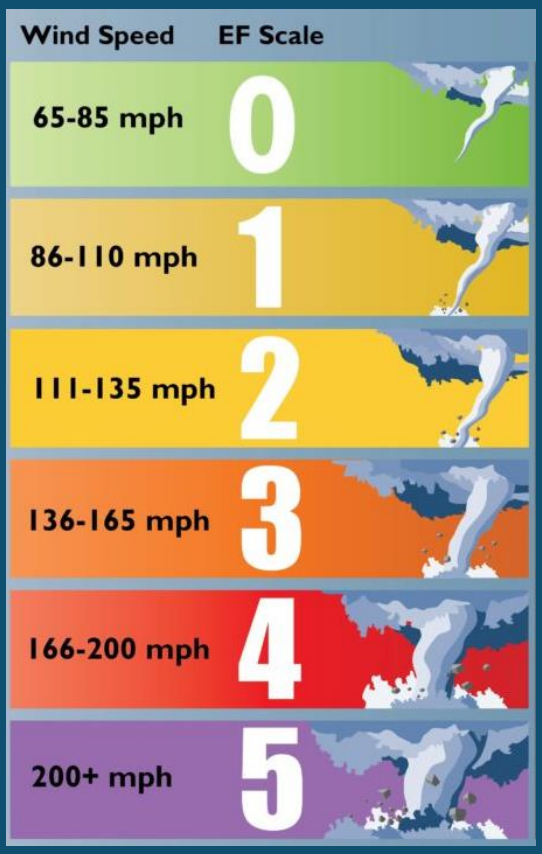
The Mark Twain National Forest is 1.5 million acres spread across 29 counties in southern and central Missouri. The forest is not a single contiguous block of land. Instead, its heavily checkered with other tracks of non-forest service land. The forest experiences between 150-300 fires annually, rarely any of them caused by lightning. Most of their fires are human caused, with arson and escaped debris burning being the primary culprits.

Supervisor's Office and Dispatch

The start of 2025 was mostly what the Mark Twain National Forest considered typical. Though the snow and freezing rain in January led to a wet winter, conditions dried out fast through February with little to no wetting rain across much of the forest. Leadership had already warned that this year would not resemble previous ones—resources were thinner, aviation availability was uncertain until the last minute, and there was strong pressure to avoid using certain support codes. As things dried out, prescribed burning became squeezed into a much smaller window, and at the same time private-land burns also began escaping more frequently onto forest land. By early March, the forest had quickly caught up to its usual annual fire load, moving from a couple of responses a day to 5–7 across the forest. Mornings were spent burning and checking prescribed fires, while afternoons became increasingly dominated by human-caused starts, including downed power lines driven by numerous days of sustained 25+ mph winds. With the ongoing deficit in spring precipitation and rising temperatures, fire activity ramped up far faster than normal, forcing dispatch to manage steady IA, thousands of acres of prescribed fire, and persistent communication challenges across the forest.

By mid-March, Missouri was experiencing a period of significant dryness, with very dry vegetation and relative humidity levels often falling below 20%. On March 14th, 2025, a significant number of wildland fires broke out across the state of Missouri. Reports indicate that fire resources were strained responding to well over 100 fires. The fires were fueled by a strong low-pressure system and passing cold front.

That same day, Missouri was struck by a significant outbreak of tornadoes as part of a larger severe weather event impacting the Midwest. The general area affected spanned across multiple counties including large swaths of the Mark Twain National Forest. This widespread activity saw multiple tornadoes touching down, some with long tracks and considerable strength, creating a devasting path across the state. The tornadoes varied in intensity with some of the ones impacting the forest and the surrounding areas reaching EF-3



Enhanced Fujita Scale for Tornadoes and the estimated wind speeds. Graphic adapted from https://www.iccsafe.org/building-safety-journal/bsj-dives/how-damage-determines-a-tornados-rating-from-fujita-to-enhanced-fujita/

The Enhanced Fujita (EF) Scale is the standard system used in the United States to rate the intensity of tornados. It is based on the damage a tornado leaves behind and the estimated wind speeds estimated to cause that damage. The tornado's rating is based on the highest estimated wind speed that occurred within its damage path.

Damage from an EF-3 tornado (the most intense tornado experienced in southern Missouri on March 14th), with winds ranging 136-165 mph, can include the complete destruction of well-constructed homes, unanchored homes can be swept off their foundations, cars can be thrown considerable distances, and large healthy trees can be snapped or uprooted.

on the Enhanced Fujita Scale used to rate the intensity of tornadoes. Thousands of trees were uprooted, snapped, and debarked. Large objects and parts of houses were lofted hundreds of yards. And sadly, there were several fatalities across the state underscoring the destructive power of this historic March Tornado event.

The Storm Prediction Center (SPC) began to identify the potential for severe weather days in advance. By March 9, the SPC was already highlighting parts of Missouri with a 15% probability of severe thunderstorms for March 14th. On March 14th the SPC had much higher confidence in the forecasted severity and issued a Moderate risk* for severe thunderstorms with a 15% risk for significant tornadoes centered around southeastern Missouri. As the severe weather approached the conditions became more favorable for strong tornadoes and tornado watches were issued. Tornado watches on the Mark Twain National Forest were not unusual and were a typical spring occurrence. The watches could easily stretch across several counties and even states. By the late afternoon/early evening the SPC upgraded the watch to a Particularly Dangerous Situation (PDS) Tornado Watch** for southeastern Missouri.

As the day progressed the pace of incidents accelerated rapidly across all zones. By mid-afternoon, dispatch was managing 18 to 20 responses to fire reports. Reports were coming from county entities, state conservation partners, the National Park Service, district personnel, and private landowners. The use of local landmarks often required interpretation in determining the location and whether it was an

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** Moderate Risk days are relatively uncommon and indicate a higher potential for widespread severe weather, including significant hazards.*

*** PDS tornado watches are issued when there is a significantly higher than normal risk of multiple EF2 or stronger tornadoes*

already reported incident. At times, it felt like a simulation where every possible scenario unfolded at once. Radio issues, already a long-standing challenge, plagued communications. The tempo of the day forced improvisation—multiple size-ups per zone conducted by phone, handwritten notes piling up, and information flowing faster than it could be formally captured.

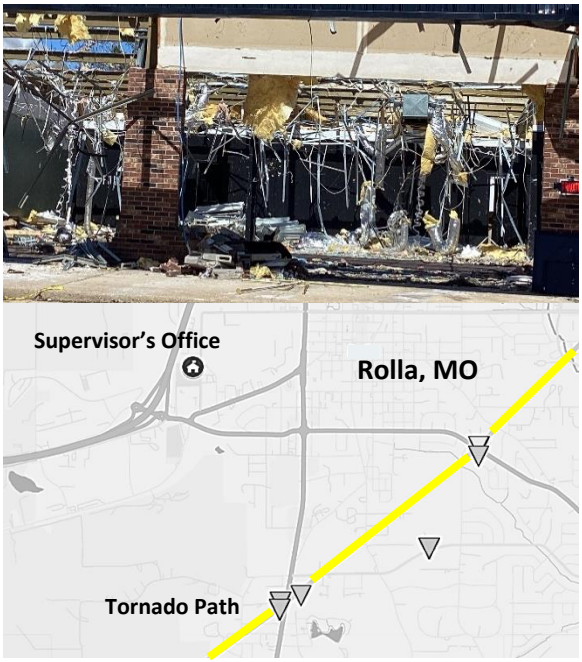
All the while, severe weather was closing in. Dispatch was monitoring multiple radar feeds, issuing weather updates every 15–30 minutes so resources had sufficient time to disengage and seek shelter. Dispatch coordinated with FMOs and ICs to establish trigger points and ensure firefighters had actionable timelines. The weather was first forecasted to hit Zone 3 in the southwest corner of the forest and track east with the dispatch center in its path.

In addition to the dispatchers working the floor, fire and forest leadership were helping maintain situational awareness, interpreting radar, assisting in decision making, and supporting efforts anyway they could, reducing cognitive load for dispatchers already stretched thin.

Inside the dispatch center, conditions were intensifying. Tornado warnings began affecting all three zones, and fires that had been escalating through the afternoon suddenly required pullbacks as winds strengthened. Crews sheltered in vehicles, district offices, and even a nearby residence when no other option existed.

With the weather worsening locally in Rolla, MO dispatchers were having to balance personal worry with professional responsibility and deciding to staff their consoles or help their families. Power was flickering in and out, but battery backups kept most things operational in dispatch until the generator came online. Dispatchers inside could hear debris striking the building as tornado sirens sounded. When the discussion turned their safety and retreating to the designated tornado shelter (the women's restroom) dispatchers refused to leave their consoles while crews were still in the field. Feeling safe in the cinder block building with minimal windows, the center manager stated plainly that "the only thing that would make them leave was a tornado hitting the building."

As the storm moved through Rolla, an EF-2 tornado touched down roughly 5 miles to the southeast of the Supervisor's Office that housed dispatch. It tracked roughly ten miles passing just a couple miles south of the building causing major structural damage to businesses, snapping and uprooting trees and pulling the roofs off homes. Duty officers played a critical role in confirming the status of scattered resources as firefighters attempted to outrun the storm, shelter in route, or wait out the weather before returning to station. As conditions slowly stabilized, dispatchers remained at their posts until late into the night tracking resources until they were off duty and



EF-2 tornado path near Rolla, MO, with example of structural damage. Adapted from the NWS post-event report. Triangles show NWS damage survey points.

OPERATIONAL REFLECTION

Think back to a time when the pace of incidents accelerated faster than normal. What early signals told you that the system was becoming overwhelmed, and how did you or your team adapt in the moment?

Leadership in the dispatch center stepped in to reduce cognitive load. In your experience, what actions from leadership have most effectively reduced stress or supported sound decisions during complex incidents?

The dispatchers had to balance duty with real personal worry. Have you ever been in a similar situation where personal stress followed you onto an incident? What helped you stay focused, and what would it take for you to disengage and handle personal needs?

When resources became scattered and some crews sheltered in place, duty officers helped account for everyone. Have you ever worked an incident where accountability became challenging? What worked well, and what could have been improved?

arranged for last minute hotel rooms for responders stranded away from home. By 2300 most crews had checked in safe, though some returned much later once roads reopened and debris was cleared.

Zone 3 - Ava-Cassville-Willow Springs and Houston Ranger Districts

There were still two recent prescribed fires on the landscape, Knot Well and Green, on March 14th. Local resources were monitoring those burns while off-forest resources patrolled and responded to new fires. The morning zone call emphasized securing existing fires because sustained winds of 25–35 mph with higher gusts were forecast for the afternoon. When Roby Lookout reported a new smoke, later identified as the Elliott Fire, two off-forest resources staffing an extra Type 6 engine climbed the Fairview Lookout Tower to get a cross azimuth. With a rough idea of the fire's location, they headed out for initial attack.

Upon arrival, the fire appeared manageable, with moderate flame lengths of one to four feet burning in leaf litter. One off-forest resource assumed command, while the other joined several rural volunteers to establish blower line along the flanks. Initially, they expected to keep the fire to just a few acres. However, within 30–60 minutes winds began "pulsing." Short, aggressive runs pushed fire across 4 to 5-foot blower lines, and torching cedar trees lofted embers ahead of the fire and along the flanks. The Elliott IC requested a dozer and additional resources.

The Houston dozer and dozer swamper working on the Green prescribed fire were reassigned to the Elliott Fire. En route, they fought winds pushing the dozer transport all over the road. After tying in with the IC, the dozer began working one of the flanks as downbursts created multiple heads and pushed fire across Forest Road 342. Spotting, shifting visibility, and smoke made line construction around the slop over difficult. The Houston operator shared his concerns with the IC, who recognized the need to step back and reassess tactics. Direct blower and dozer line efforts were no longer effective,

and resources met at a staging area established at an intersection for a face-to-face. While checking on one of his resources on the way to staging, the IC asked if his face was red; earlier in the fire, during a sudden wind shift, he had "took some heat" while scouting the edge. With no obvious debilitating injury, he said he didn't need medical attention and kept working.

At staging, more rural departments and Forest Service resources arrived, including a second dozer. With the fire pushing the highway, the IC had it closed. Realizing there were structures to the north in the direction the fire wanted to go, the IC had the rural volunteers begin structure triage and recommend evacuation to landowners. With smoke everywhere, it was difficult to tell where the head of the fire was, and it wasn't safe to scout ahead. With enough resources now on scene to support dozer operations, the IC placed a dozer on each flank where they felt comfortable engaging and had crews follow behind catching spots and holding line.

As the fire advanced into a more sheltered area, resources made significant progress. Just before 1800, dispatch notified the IC that severe weather had developed about 60 miles to the southeast around Springfield. They had roughly an hour before the solid line of red on the radar would reach the fire. Resources pushed to get line around the fire, and just as the two dozers touched blades, the IC began pulling resources off the fireline. About thirty minutes later, a tornado warning went out, and a tornado was reported 15 miles to the south, tracking north toward the fire.

At staging, the IC weighed the risks between waiting out the storm in place or sending resources driving through severe weather. After reviewing the weather, he felt comfortable staying put. The plan was to move away from trees and the fire and hunker down in vehicles and equipment until the storm passed. The sky was an eerie shade of green as the Houston dozer loaded onto the transport. Crews sat in their vehicles for nearly two hours while heavy rain pummeled the fire. Once conditions moderated, the IC began releasing resources, advising them that radio communications with dispatch might be down and to expect slow travel and potentially impassable roads due to tornado activity.

The drive back was difficult, with resources dodging downed trees while the sky lit up with cloud-to-cloud lightning "like bombs going off." As the IC left the incident, he told the Zone Duty Officer that he had taken heat earlier and was heading back to his hotel to get cleaned up and see how bad it was. The IC shared very little about his injury or its severity, and information from him was limited throughout the evening. He initially believed the burn resembled a sunburn, but later that night he decided to seek medical attention. He drove himself to the hospital in St. Robert and later arranged to get into a burn center. After the IC reported his injury, the forest safety officer and regional safety specialist coordinated by phone to track

OPERATIONAL REFLECTION

In this incident, crews worked with numerous volunteer fire departments, off forest resources, and cooperators. When you've worked alongside multiple departments or unfamiliar cooperators, what made coordination smoother? What made it harder?

The IC continued working after a heat related injury while managing resources and complex fire behavior. Have you or someone you worked with pushed through injury or fatigue because they felt accountable for the fire and the people on it? How did you or your team navigate that, and what would you change in hindsight?

his location, help connect him with medical care, and provide a hospital liaison.

Zone 2 - Eleven Point and Poplar Bluff

On March 14th, Zone 2 resources were out checking recent prescribed burns, old fires, and orienting a newly arrived off-forest engine when the Turkey Fire emerged, drawing initial resources. Locals had described the fuels and terrain to the new crew as generally forgiving, with most fires manageable enough that crews usually went home each night. Weather was pleasant early in the day and while checking the Turkey Fire a smoke was spotted in an area known for recent state and private burning. With help from a local landowner, crews were able to pinpoint the Turley 2 Fire.

The Turley 2 Fire was wind driven and difficult to size up due to terrain. To make matters worse, communication problems quickly became a major factor. The normally reliable Sinking Creek repeater was down, leaving resources dependent on the more distant High Hill repeater. This forced the Turley 2 IC to stay in a specific area where he could maintain radio contact with resources and cell service, the only dependable communication method with dispatch. Despite the comms issues, the IC initially planned for a standard wind-driven response, watching radar from his high point while some crew members cut multiple trees out of the road just to reach their assignments.

The main tactic became flanking the fire with a dozer and burning off the dozer line. Early progress was smooth with favorable winds for about a quarter to a half mile. But once the burn dropped down the lee side of a ridge, the dozer had to pick its way downslope, and progress slowed. Holding resources were already thin. E-622 arrived with a UTV to help secure the back door. A spot fire was picked up in the briars and once it moved into leaf litter and the fire behavior moderated, they were able to keep it in check without calling the dozer back. Eventually, the dozer line reached the drainage bottom and climbed up to another ridge, where winds intensified up to a sustained 40 mph making it clear the strategy may no longer work.

Crews spent a significant amount of time trying to maintain control of the fire, burning slowly and deliberately. E-622 stayed on the ridge as it was too steep to bring the UTV down and the visiting engine crew was thinly stretched along the rest of the line. Holding the line remained a constant ember shower even as relative humidity increased after sunset and many spots in the grass close to the line were easily contained. They picked up a 5-by-5-foot spot that grew to 30-by-30 within seconds, prompting the dozer to begin circling it while more help responded.

As the evening progressed, many on the line expected the approaching storm would play out like a regular spring storm bringing rain that would knock down fire behavior. But the fragmented weather information became increasingly alarming. Monitoring the radar on his phone, the IC watched the storm intensify. Then the reports from dispatch escalated even more. First tornado activity near Rolla, the power out in dispatch, and finally the call that a tornado had touched down in West Plains and was tracking toward the fire. The window for making decisions was shrinking quickly. With lightning and wind increasing, the visiting engine boss grew concerned about their safety on the ridge. As he was about to reach out to the IC with is concerns, the IC evaluated the fire against the weather updates and made the call to disengage.

Once the order went out, everything shifted into high gear. With no experience of tornados on a working fire, normal protocols fell away.

Dozers had to be abandoned in the safest spots operators could find because tracking them out would have taken too long. Transports were moved into an open field to reduce the risk of being hit by falling trees. Local resources raced to pull the visiting engine crew off a spot fire they were still working, loading them into the back of a truck. Others jumped into the nearest available vehicle rather than hike back over the ridge. Vehicles that were too far away to retrieve were left behind. It was an epic ride out with the huge thunderstorm approaching and lightning stripping across the sky. Falling trees along the retreat route heightened stress. As they retreated it became apparent to the off-forest engine crew that this wasn't just a regular thunderstorm.

Moments after the IC confirmed that crews were evacuating, the first tornado warning hit his phone. Everyone rallied at a nearby gas station for accountability. As they pulled in, tornado sirens began to sound, adding another layer of urgency in the dark where no one could see what was coming. Crews grabbed a quick bite while the IC ensured everyone had made it out safely. With tornado activity still unfolding to the west, he still faced decisions about whether it was safer to shelter in place or head east toward Poplar Bluff. Once accountability was confirmed, the decision was made to head toward Poplar Bluff and back to their homes and hotels.

It wasn't until the next day when resources returned to the Turley 2 Fire that the full picture finally came into focus. The fireline they had pulled off wasn't just hit by weather. A tornado had tracked directly across it, and they had narrowly made it out in time.

OPERATIONAL REFLECTION

Crews on the ridge experienced extreme winds while others in sheltered terrain felt almost normal conditions. Has there been a moment when your perception of risk differed from others on the line? What influenced your judgment, and how did you reconcile differing perspectives?

Dozers, UTVs, and engines had to be abandoned during the rapid tornado driven evacuation. When have you had to abandon equipment or disengage faster than expected? What factors made the decision clear or unclear at that moment?

Zone 1 - Salem and Potosi/Fredericktown Ranger Districts

On March 13th, crews successfully conducted the Fortune Hollow prescribed burn under favorable south winds and a buffer of green grass pasture to the north. Despite a known red flag forecast for the following day, the tone on the morning of the 14th was relatively calm, and conditions initially appeared manageable. Forest resources focused on typical next-day burn operations of monitoring interior fuels and reinforcing exclusion areas while off-forest resources checked prior fires and patrolled. March 14th also marked the beginning of the 100 Acre Wood Rally, which brought hundreds of spectators, support crews, and high-speed traffic onto the forest's road system.

By early afternoon winds intensified, and multiple new starts were reported. At the same time, the Fortune Hollow prescribed burn began experiencing holding issues. Initial responses were split: some resources remained

committed to Fortune Hollow, others responded to the Vineyard Fire in a sheltered hollow, and the rest headed to the Bunker Hill Fire, which was burning on a ridge exposed to the oncoming weather.

On the prescribed burn, crews had identified several locations near the highway where winds were known to eddy and had made those pockets exclusion areas during ignitions. Those features held during the burn but failed in the increasing winds on the 14th. Interior pockets of fuel threw embers into the unburned exclusion areas, causing slop-overs, including one into a larger exclusion area bordered by primary residences. Meanwhile, Missouri Highway 32 was congested from the rally, complicating movement and suppression actions on the burn. The Zone AFMO hesitated to request forest resources for the prescribed fire but was reassured by the Forest FMO that conditions were only going to get worse and that asking for more resources was appropriate. A dozer operator initially headed toward a new start was pulled back because the available operator was an AD and there were restrictions on using AD hires on prescribed fire, limiting heavy equipment at a critical moment.

At the Vineyard Fire, Engine 611 arrived to find the local volunteer department on scene with a blower line already around the fire. The AFEO assumed command, directed mop-up, and had a dozer improve the line. The fire stayed small at 12 acres, but strong winds complicated operations. While working to remove a burning snag too large for the dozer to push, a gust blew the tree 90 degrees off the intended fall direction, crushing the chainsaw. Radio traffic made it clear that other fires were experiencing greater challenges. The E-611 captain kept one firefighter and a visiting single resource on scene while sending the rest of the crew to assist elsewhere; eventually, those remaining resources also departed. Later, while patrolling, the single resource received tornado warnings and sought shelter at a nearby residence.

Upon arriving at the Bunker Hill Fire, the IC found rapidly escalating fire behavior, with 10 to 20-foot flame lengths visible from Missouri Highway 8. As he began his size-up, he encountered three rural volunteer responders preparing to hike into a property on the far side of the fire with minimal PPE, a chainsaw, and a leaf blower. Continuing his assessment, he turned around multiple power company trucks attempting to access lines to re-energize them. He then noticed smoke and fire activity from another start farther up the powerline and suspected it would merge with the Bunker Hill Fire.

Realizing there was no control and no established command, he gave radio direction to “pull the plug” and have everyone disengage and set up an ICP at a nearby church, later shifting the ICP to a sawmill when the church couldn’t be located. During this withdrawal, the IC received word that three volunteer firefighters were entrapped. The IC and E-612 captain quickly conferred with the rural captain to pinpoint their location and decided that E612 captain would lead an immediate extraction while the IC continued pulling resources back to the ICP.

As the two captains raced up the powerline cut, they heard frantic radio calls, “Flames overhead… can’t see,” and grew increasingly concerned the three might not make it. The radio calls reminded the captain of E-611 of Yarnell. When the air finally cleared at the top of the powerline, they saw the volunteers standing and watching the fire, cut off from their original route and unaware of another escape option. The E6-12 captain waited for the fire to pulse down, then moved them out along the viable route and returned them safely to their captain before rejoining operations.

OPERATIONAL REFLECTION

At the Bunker Hill Fire lack of early unified command contributed to confusion during initial size up and response. What signs tell you that unified command is functioning well (or not) during a fast-moving incident?

Volunteer departments arrived at Bunker Hill Fire with varied experience and PPE readiness. How do you safely integrate cooperating agencies with widely differing training levels or equipment?

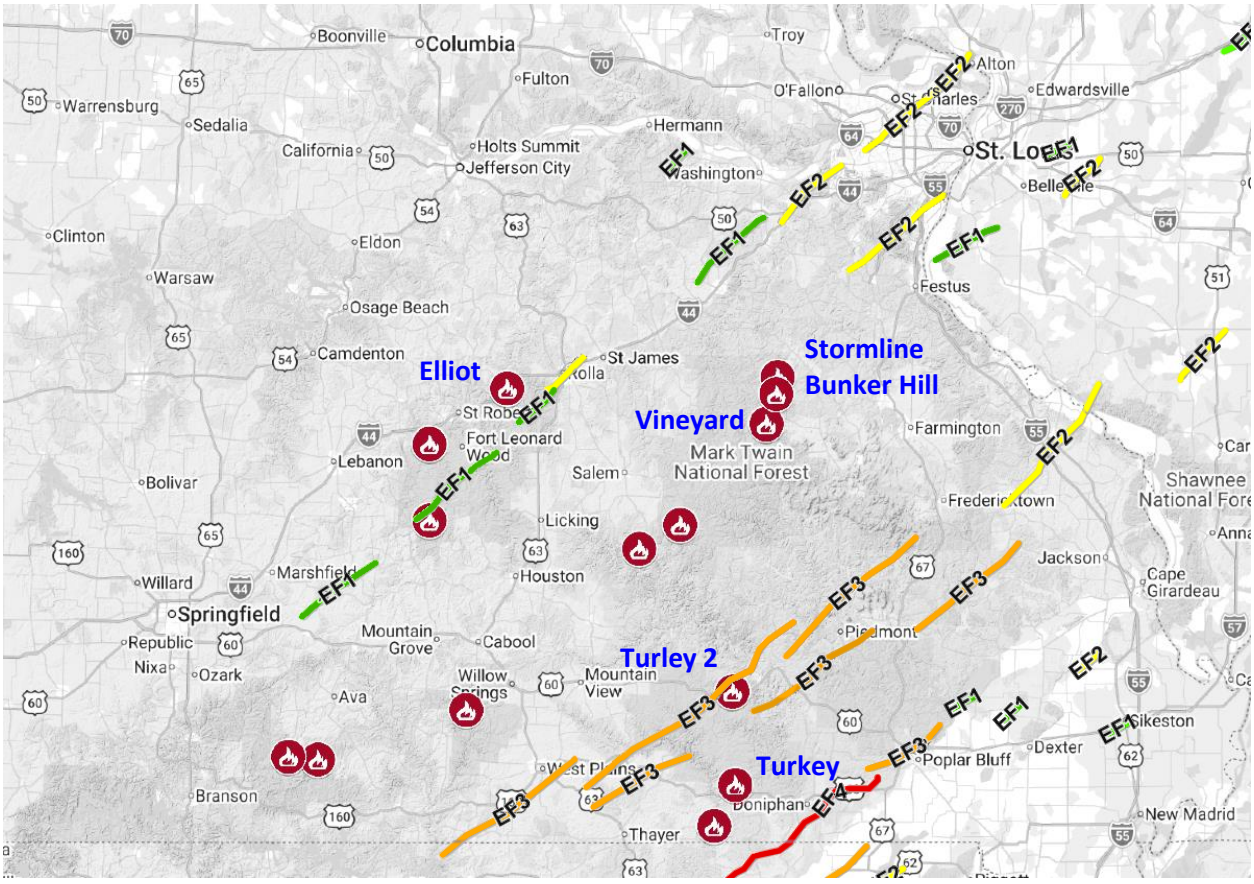
After the near miss, the IC hesitated to establish unified command and instead focused on organizing the incoming volunteers to hold Highway 8 and prevent the fire from crossing. With rally stages running on roads just a couple miles north and south of the Bunker Hill Fire, engines and overhead had to navigate constant vehicle movement, complicating coordination. Heavy rally traffic mixed with emergency response created a bottleneck on Highway 8 until sheriff's deputies shut it down once fire activity and spotting increased. The IC worked with the race director, and they agreed to cancel the remaining stages for the day. While volunteer departments held the highway, the IC assigned forest resources to conduct a burnout along a road west of the fire and sent a dozer around the right flank.

As the afternoon wore on, the winds that had hammered the ridge all day intensified, causing spots across the highway and slop overs along the burnout. People became aware of the incoming severe weather gradually. Phones were going off with alerts, informal comments circulated about a system moving in, and overhead checked radar whenever operational demands allowed so they could understand how the storm might affect ongoing incidents. As containment improved and the storm drew closer, leadership made the decision to pull all personnel off the line. Volunteers were released. Some wanted to wait out the weather and re-engage on the Stormline Fire, but an assessment showed it at 30 acres and not threatening structures. With tornado sirens sounding from the nearby YMCA camp, the IC made the call for everyone to return to the station. Once at the station, resources chose whether to head home or return to their hotels based on their direction of travel and where the storms were moving.

March 14th, 2025, became a defining test for the Mark Twain National Forest. Wildfires, tornado outbreaks, communications failures, and stretched staffing intersecting to create an operational tempo far beyond the norm. What began as routine next-day fire operations quickly turned into a cascade of new starts and severe weather sweeping across all three zones. Dispatchers and field resources navigated radio outages, overlapping incidents, long travel times, and rapidly shifting conditions while working to keep responders safe. Despite the intensity of the day and more than 100 fire reports statewide, the forest held all incidents to under 600 acres. Through constant coordination, timely tactical adjustments, and strong relationships across agencies, crews contained fires, disengaged ahead of tornadoes when needed, and sheltered safely through the storms

In retrospect, the day's events revealed both the resilience of the forest and the vulnerabilities within its systems. Employees described the strain of balancing personal safety with their responsibility to manage

responses. Leaders reflected on decisions made under extreme pressure, including the regret of not making some sooner. Yet it was the collective awareness, interagency cooperation, and real-time problem solving that prevented greater losses. The fires were contained, responders sheltered safely, and even near misses ended without tragedy. March 14th underscored that safe, effective operations rely not only on skill and tactics but on systems, communication, and leadership that can withstand extraordinary circumstances. It reaffirmed a core truth that responder safety depends on both the people on the line and the structures that support them, especially when everything happens all at once.



Map of the fires experienced by the Mark Twain National Forest and the tornado paths from March 14, 2025. Map generated with data from InFORM and the National Weather Service. Fires mentioned in the narrative from that day are labeled.

Summary of Lessons Learned, Take Aways and Observations

The events of March 14 highlighted both strong practices and clear areas for improvement across operations, dispatch, leadership, and interagency coordination. A central lesson was the value of immediate, consistent communication between dispatch and field resources, between hosting and home units during an injury, and between leadership groups monitoring evolving risks. Timely dialogue allowed the region, forest, and zones to align support, share situational awareness, and help guide decisions in a rapidly changing environment. The day underscored how essential fully staffed dispatch, dedicated weather monitoring, and redundant communication systems are when multiple incidents and severe weather converge.

Participants emphasized the importance of clear trigger points, decisive disengagement ahead of tornado warnings, and the need for protocols that acknowledge the overlap between peak fire season and tornado season. Many noted the strain caused by failed repeaters, reliance on cell service, varying accountability systems across districts, and uncertainty about when to "pull the plug" for safety. March 14th revealed opportunities to strengthen preparedness by improving contingency plans, reviewing regional readiness indicators, clarifying expectations for non-fire personnel in the field, and ensuring that incoming or off-forest resources receive complete briefings, contact lists, and local context.

Operationally, the day reinforced the value of unified command, organized incoming resources, experienced leadership, and the ability to divide complex fires into manageable pieces. Strong relationships with volunteer departments proved critical, though responders observed ongoing challenges in communication, capacity, and consistency across jurisdictions. The experience highlighted how quickly conditions can shift and how important it is to trust instincts, act early on weather concerns, and support ICs with accurate, real-time information.

Culturally, the day showed the strength of the forest's teamwork, safety mindset, and willingness to step into needed roles. At the same time, it revealed the personal pressures responders face of balancing duty with concerns for home and family, managing fatigue over prolonged high-tempo operations, and navigating uncertainty with limited information. Overall, the lessons point to the need for stronger redundancy, clearer weather-related procedures, and systems that support both operational effectiveness and the people carrying out the work during extreme, multi-hazard events.