

Wildland Fire Tools

2018 KEMA Conference



"Building sustainable capabilities across all phases of Emergency Management in Kansas through selfless service"

Overview

During 2016 and 2017, record-breaking wildland fires burned hundreds of thousands of acres in Kansas, placing resource demands on local and state fire suppression resources.

Coordination amongst emergency management and other disciplines in your county is key to an effective response and recovery.



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Establishing incident notification guidelines within your county



- County emergency managers establish procedures to receive incident notifications from all levels of government and non-governmental organizations within their jurisdictional boundaries.
- What does that look like in your county?
 - What incidents do you want jurisdictions/disciplines to notify emergency management for?
 - Under what circumstances?
 - How is contact to be made (direct to the emergency manager, duty officer, or public safety dispatch center)?



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Why is it important for jurisdictions/disciplines to notify the county emergency manager of incidents?

- Emergency management facilitates multiagency coordination to support incident management; may activate county emergency operations center; and interface with county commissioners for a local disaster declaration.
- Allows the incident commander to focus on incident management, while the county emergency operations center coordinates external support.



County incident notification and reporting criteria to the state



County emergency managers make a verbal notification to the *Kansas Spill and All Hazards 24-hour notification line*, by calling **(785) 291-3333** under the following conditions:

1. A significant incident has occurred or an incident is imminent.
2. When the county commission has declared a state of local disaster emergency.
3. Emergency technical assistance or resources are required for local response actions greater than county capability.



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Wildland Fires

Pre-planning and
monitoring resources



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Grassland Fire Danger Index Map

K-State Mesonet and Kansas Forest Service

- Grassland Fire Danger Index (GFDI) was originally used in Australia and then adapted for the US. The National Weather Service (NWS) in Wichita began utilizing the GFDI in their county warning area in 2010. However, the data is only available for those particular counties in the central portion of the state.
- The Kansas Forest Service GFDI map is developed by the K-State Mesonet and utilizes the same equation used by the NWS and applies it to the entire state.
 - Factors: air temperature, relative humidity, wind speed, and curing data based upon average greenness over the county.
- The GFDI map is meant to provide overall guidance on fire danger. It is **NOT** intended to be a decision-making tool – please contact your local NWS office for specific forecasts.

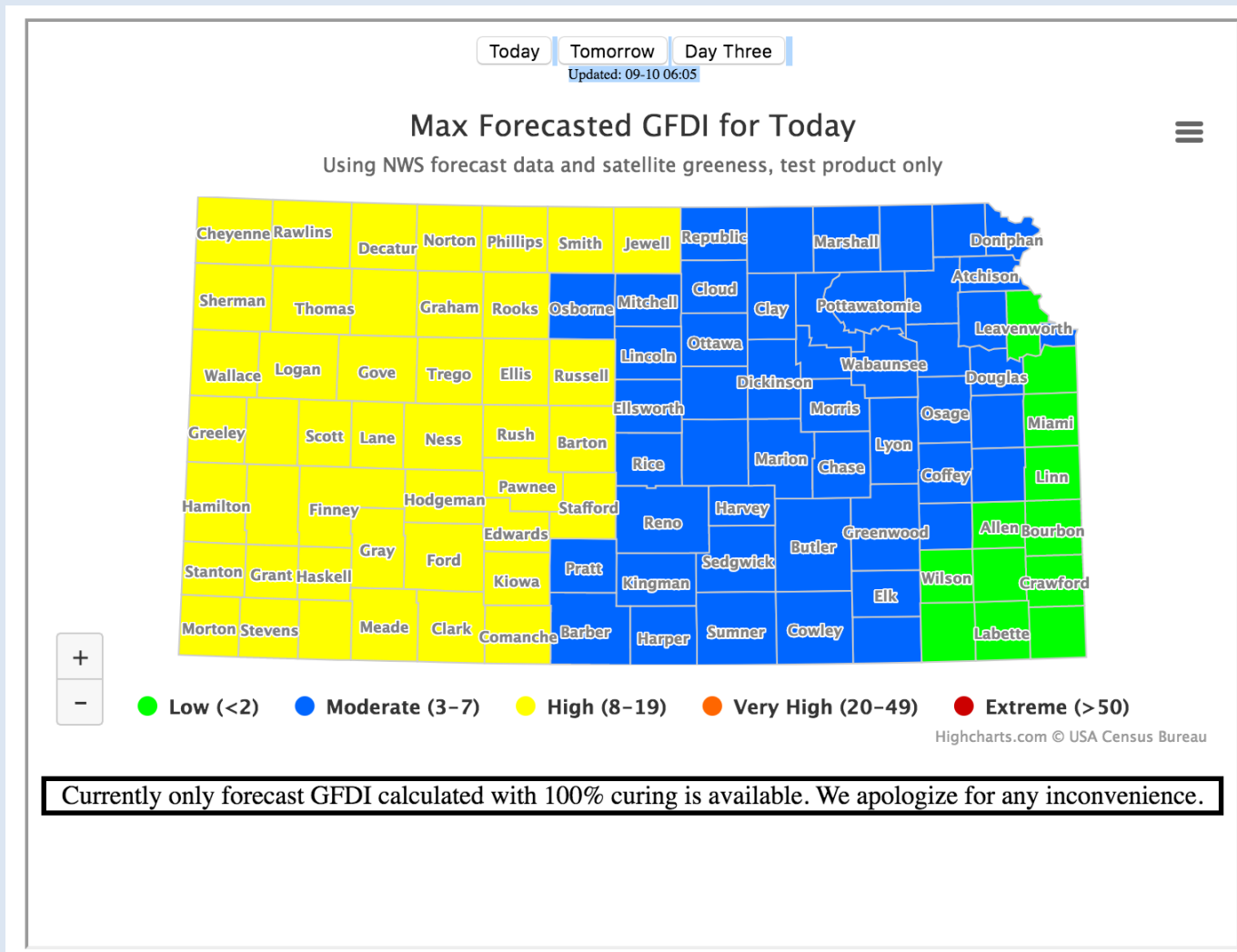
Website: http://www.kansasforests.org/fire_management/grasslandfireindex.html



Source: Kansas Forest Service

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Grassland Fire Danger Index Map



Source: Kansas Forest Service, http://www.kansasforests.org/fire_management/grasslandfireindex.html, for September 10, 2018

GOES 16 NEXLAB Experimental Satellite

Short Wave Infrared Imagery for Kansas

- Experimental short wave infrared imagery that displays heat signatures, which could be indicative of a possible wildland fire.
 - Satellite detection may be hampered by cloud cover.
- Website is monitored by the KDEM Response & Recovery Branch during steady state operations, or by major management functions in the state emergency operations center when activated for very high, extreme, or catastrophic fire danger for situational awareness.
- GOES 16 is now publicly accessible and may also be accessed at anytime by county emergency managers or other local emergency manager stakeholders on desktop or laptop computers via the internet.

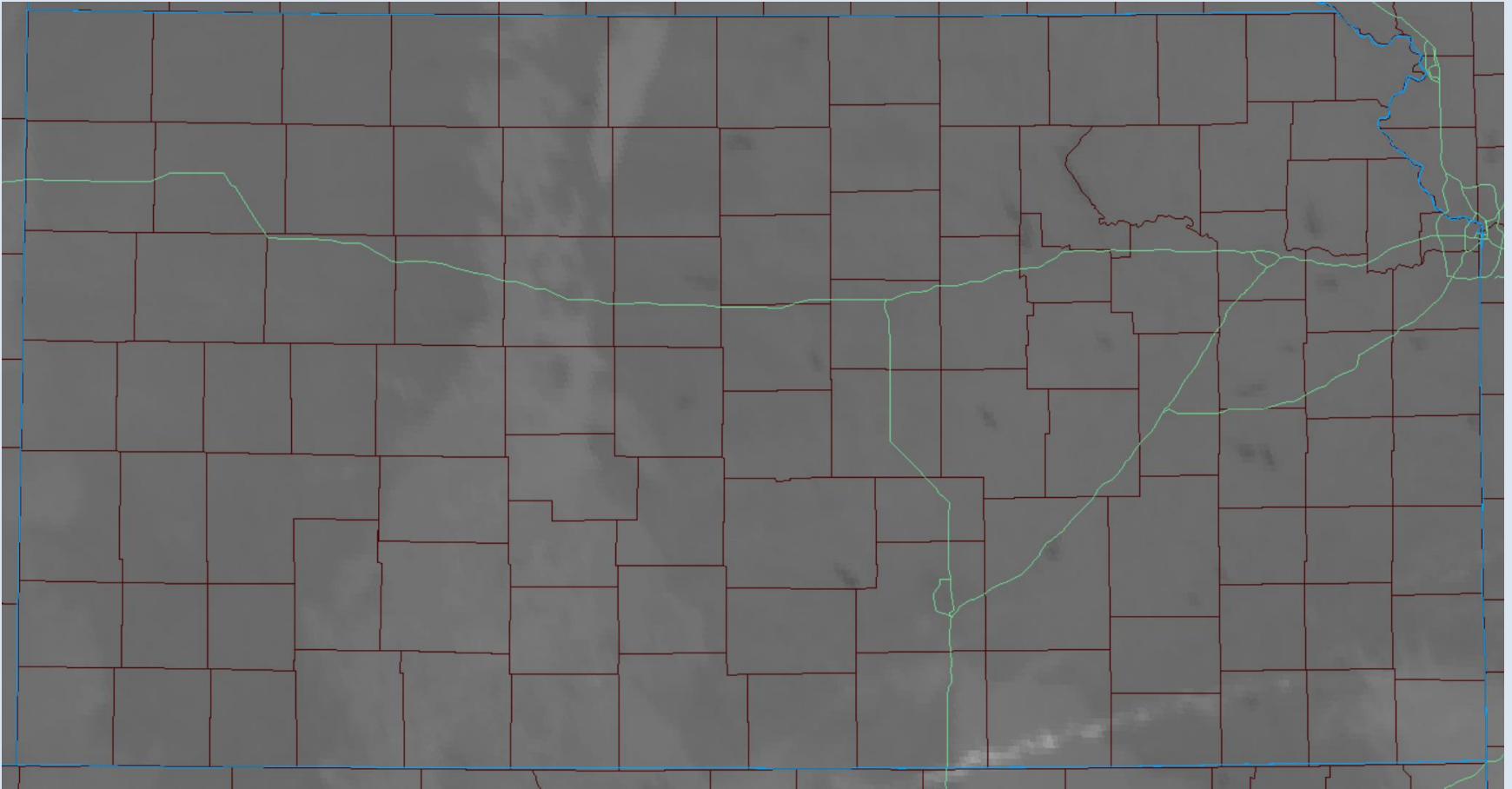
Note: The GOES 16 NEXLAB Experimental Satellite should not replace established monitoring or reporting mechanisms established in your county.

Website: <http://weather.cod.edu/satrad/exper/?parms=local-Kansas-07-6-1-100-1&checked=counties-usint-map&colorbars>



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GOES 16 NEXLAB Experimental Satellite



Source: <http://weather.cod.edu/satrad/exper/?parms=local-Kansas-07-6-1-100-1&checked=counties-usint-map&colorbars>

Wildland Fires

Incident reporting and
requesting state assistance



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When should a wildland fire be reported to KDEM?

- When a wildland fire is threatening or could potentially threaten a jurisdiction or populated area if not contained.
 - Evacuation of residents
 - Threatening residential structures
 - Threatening businesses
 - Threatening critical infrastructure
- When additional resource support is anticipated or needed.



What information needs to be reported to the state for a wildland fire?

- Location of fire?
- Fire start date/time?
- Estimated size of fire; number of acres burnt?
- Estimated level of containment?
- Any communities or housing areas threatened?
- Any evacuations or planned evacuations?
- Any critical infrastructure threatened?
- Current resources committed to firefighting/suppression efforts
- Additional resource needs over the next 12-24 hours



What information needs to be provided if resource support is needed?

- Capability needed
 - What capability do you need filled, **not** the specific resource that you want.
- Size
 - Physical size and description for needed capability if a specialty resource.
- Amount
 - Quantity needed
- Location
 - Where does the resource need to be delivered?
- Type
 - NIMS type if applicable
- Time
 - When is the resource needed and expected duration?
- Point of contact for request with contact number
- What actions have been taken to exhaust local, mutual aid, and contractual resources if applicable.



How is state assistance requested?

- Requested by the county emergency manager to Kansas Division of Emergency Management.
- Incidents are reported via telephone through the state's 24-hour all-hazards emergency notification line, **(785) 291-3333**.
 - Calls go to the Kansas Division of Emergency Management *staff duty officer or state emergency operations center if activated.*



State assistance is available when...

When the county emergency manager has determined that:

- The resource capability does not exist within the affected county or region;
- County has exhausted all local resources within its jurisdictional boundaries;
- County has exhausted all mutual aid pursuant to state law;
- County has exhausted all contractor support; and
- County has made a verbal or written local disaster declaration.



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How is state assistance prioritized?



- State assistance is prioritized based upon the following factors:
 - Threat to life safety
 - Life sustainment needs
 - Incident stabilization when a jurisdiction or populated area is threatened
 - Protection of critical infrastructure



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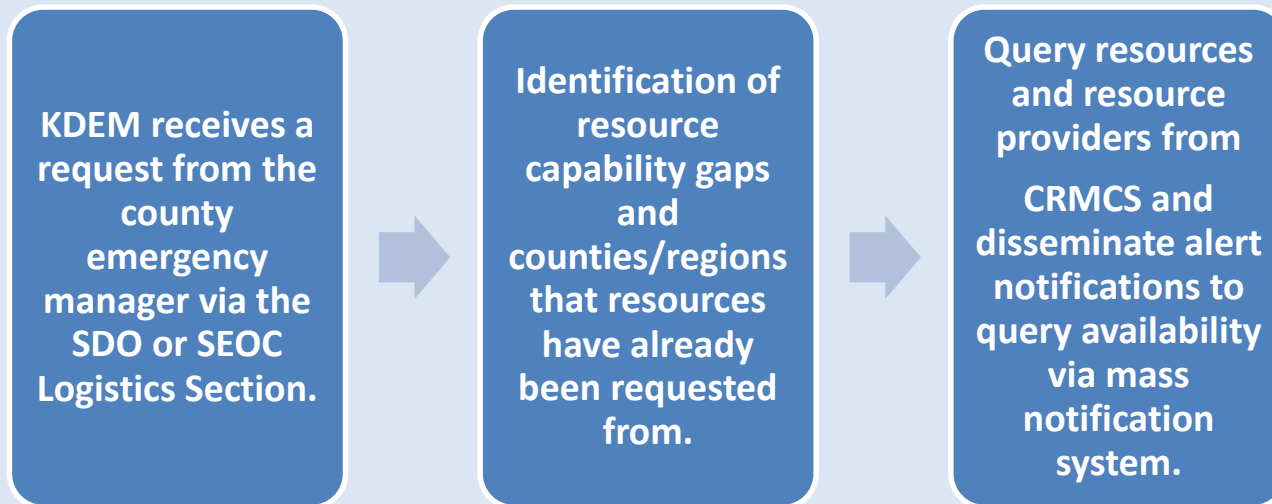
How do you obtain mutual aid resources if no pre-existing agreements are in place?

- Mutual aid can be sought through the Kansas Mutual Aid System Compact.
 - Allows for sharing of personnel and equipment amongst jurisdictions after a local state of disaster emergency is declared by the impacted county.
 - Addresses workers compensation, license reciprocity, tort liability, and reimbursement.
 - Resources may be requested through your county emergency manager.
 - Additional information available on KDEM website at <http://kansastag.gov/KDEM.asp?PageID=617>



State assistance for mutual aid facilitation

- KDEM or the State EOC can assist counties facilitate mutual aid resource requests for a jurisdiction via CRMCS and mass notification.



If activated, the SEOC can establish a phone bank if requested to receive resource provider calls and report back to the requesting county.

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Typical state resource requests

- Facilitate mutual aid assistance for resource support
- Aerial fire reconnaissance or surveillance
- Aerial fire suppression support
 - Agricultural aviation applicators
 - National Guard rotary wing aircraft
- Incident management teams
- Emergency operations center support teams
- GIS mapping support
- Shelter support and technical assistance for residents and pets
- Generators for critical infrastructure
- Volunteer reception center assistance



What are the resource needs if the state mission assigns a National Guard Blackhawk (UH-60) for fire suppression support?

Requirement	Responsible party
Weather conditions for aircraft operations <ul style="list-style-type: none"> <i>Pilots cannot start and shutdown aircraft when wind speeds are greater than 45 knots (51.79 mph)</i> 	National Guard
Bodies of water to serve as dip sites for bambi buckets <p>Water dipping preferred requirements:</p> <ul style="list-style-type: none"> <i>3-mile distance from where water drops will occur;</i> <i>15-foot minimum depth for dipping water; and</i> <i>500-foot radius of unobstructed access for approach</i> 	County emergency manager: County, municipal, or private bodies of water; may also be assisted by the state emergency operations center State emergency operations center: State fishing lakes or federal reservoirs
A local airport for the crew to land and refuel the aircraft. If the airport doesn't have refueling capabilities, a ground taker will deploy with the aircraft.	State emergency operations center
A ground liaison that is able to meet the aircraft and aircrew to identify the location(s) water drops will occur; may fly with the aircrew for an aerial reconnaissance if possible.	County emergency manager
Ground to air radio communications	National Guard aircrew
Billeting for aircrew	State emergency operations center

Aerial fire suppression support will not occur in areas where ground firefighting activities are occurring due to safety reasons. Any standoff distances for ground fire crews will be determined during the initial meeting/aerial reconnaissance before water drops occur.

What are the resource needs if the state mission assigns an agriculture aviation applicator for aerial fire suppression support?

Requirement	Responsible party
Weather conditions for aircraft operations <ul style="list-style-type: none"> • <i>Based on current wind speeds and gusts to determine safe aircraft operations</i> 	Agriculture aviation applicator
Is there a location in the vicinity of the fire for the applicator to land/take off and have the aircraft filled with water? <i>Minimum preferred requirements:</i> <ul style="list-style-type: none"> • <i>Airport/landing strip for plane to land and take off</i> • <i>Local fire department pumper, tanker, or tender and firefighter(s) to operate apparatus and fill aircraft</i> 	County emergency manager, local fire department
A ground liaison that is able to meet the aircraft and let the applicator know where they want the water drops to occur.	County emergency manager coordinates with local fire department
Ground to air radio communications	County emergency manager or local fire department could provide a portable radio to pilot, however communications may be difficult to understand because it cannot be embedded into pilot's headset
Refueling of aircraft	Agriculture aviation applicator
Billeting for aircrew	Not applicable

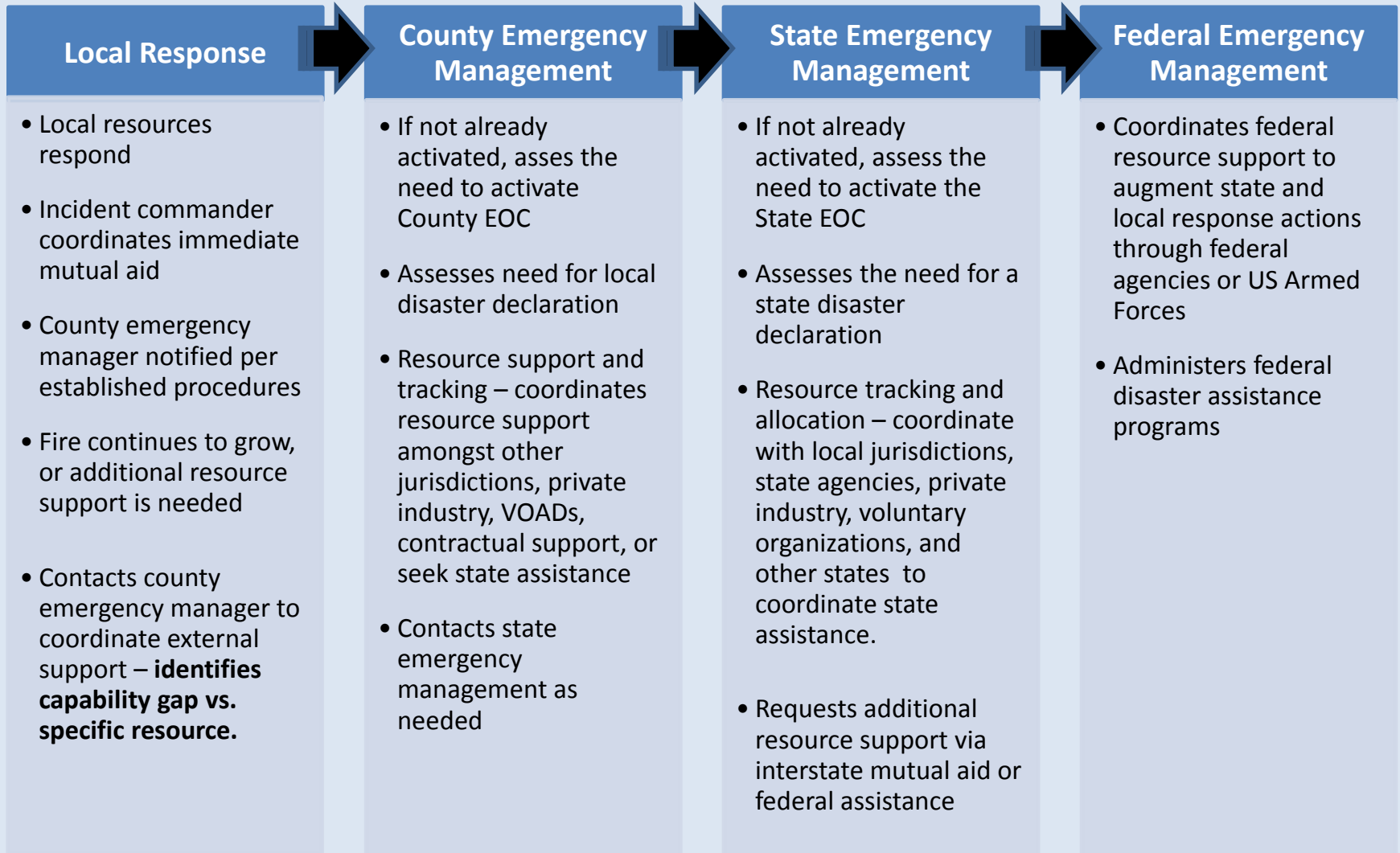
Aerial fire suppression support will not occur in areas where ground firefighting activities are occurring due to safety reasons. Any standoff distances for ground fire crews will be determined during the initial meeting/aerial reconnaissance before water drops occur.

What is the cost to local jurisdictions or counties for state assistance?

- There will be no costs assessed to local jurisdictions or counties for resources mission assigned by the state when other options are not available and there is imminent threat to health and human safety.
 - Life safety
 - Life sustainment
 - Incident stabilization when a jurisdiction or populated area is threatened
 - Protection of critical infrastructure



Requesting state assistance



When might KDEM/State EOC reach out to county emergency managers?



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Outreach to counties

- When notified by emergency management partners of a significant wildland fire in an area under critical fire weather conditions, such as a red flag warning).
 - Contact will be made to the county emergency manager to determine if local jurisdiction(s) need assistance with fire suppression efforts.
 - Contact will not be made to county emergency managers that make prior notification to KDEM or the State EOC that a fire is a controlled burn or under control unless characteristics of the fire change.



How are fires tracked or classified?



Terminology to classify wildland fires that have been reported or identified:

- **Active** – A fire that is burning that lacks complete containment.
- **Contained fire** – A break around the fire has been completed; this includes natural barriers or manually constructed lines. The fire line has been strengthened so that flare-ups from within the perimeter will not likely break through this line.
- **Mop up** – Actions that make a fire safe or reduce residual smoke after the fire has been controlled by extinguishing or removing burning material along or near the control line, for example, tree branches, logs, etc.
- **Extinguished** – The fire is completely out, including hot spots, and no longer poses a threat.



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Fire Management Assistance Grant



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What is an FMAG?

- Fire Management Assistance is available to states, local and tribal governments, for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands, which threaten such destruction as would constitute a major disaster.



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How is the FMAG declaration process initiated?



- The FMAG process is initiated when a state submits a request for assistance to FEMA based upon reports received from a local jurisdiction.
 - Requests must be submitted at the time a "**threat of major disaster**" exists.
 - Once requested, if denied by FEMA, the state cannot ask for another FMAG declaration unless there is a significant change in the weather pattern or fire characteristics.



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How are FMAG declarations determined?

Declaration eligibility determinations are based upon four criterion:

1. Threat to lives and improved property, including threats to critical infrastructure and critical watershed areas;
2. Availability of state and local firefighting resources;
3. High fire danger conditions; and
4. Potential for major economic impact.



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If an FMAG declaration is received...

Although the state may receive an FMAG declaration, the state must demonstrate that total eligible costs for the declared fire meet or exceed prescribed thresholds.

FMAG Declaration Thresholds		
Individual fire cost	\$	208,277.61
Cumulative fire cost	\$	624,832.84

An FMAG declaration provides a 75% federal cost share and 25% non-federal cost share for eligible costs.



Eligible costs under an FMAG declaration



All eligible work and related costs must be associated with the incident period of a declared fire.

- Emergency protective measures, such as evacuation and sheltering
- Equipment and supplies
- Labor costs
- Travel and per diem
- Temporary repairs of damage caused by firefighting activities
- Mobilization and demobilization costs



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Ineligible costs under an FMAG declaration

- Costs incurred for undeclared fires.
- Costs not directly associated with the fire's incident period.
- Costs for regular-time salaries and benefits of force account labor for employees or reassigned personnel.
- Costs related to planning, pre-suppression, recovery, and mitigation of possible future damage related to the burn area of the declared fire, such as:
 - Cutting fire-breaks without the presence of an imminent threat;
 - Pre-planned non-field training;
 - Road widening;
 - Land rehabilitation such as seeding, planting operations, or erosion control;
 - Timber salvage; and
 - Restoration of facilities damaged by fire



An FMAG declaration does not change response



An FMAG declaration does not augment response resources and should not change local fire suppression and response actions or state augmentation to support local fire suppression and response actions.



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Additional wildland fire resources



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National Weather Service fire weather resources



National Weather Service Fire Weather website

- Hazard/Overview Map
- NWS Fire Weather Forecast Map
- Storm Prediction Center Fire Weather Outlook
- Significant Wildland Fire Potential Outlook
- Current Large Incidents Map

Website: <https://www.weather.gov/fire/>



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State agency resources

Kansas Forest Service

www.kansasforests.org

Office of the State Fire Marshal

<https://firemarshal.ks.gov>

Kansas Ready

www.ksready.gov



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Questions?



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