



New Wildfire Futures

How to deliver on a
50-year vision moving
from crisis to resilience

National Association of State Fire Marshals (NASFM)
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FROM CRISIS TO RESILIENCE:

Who Am I...

- Started as a firefighter in 1977 and spent my career across the fire service—from the line and Air Attack to HazMat, training, camp leadership, and serving as California's Assistant and State Fire Marshal.
- Retired in 2009 and co-founded Intterra to improve situational awareness for firefighters.
- After 12 years in technology, joined the White House Office of Science and Technology Policy to help shape national wildfire resilience policy.
- For the past five years, helped build the Gordon and Betty Moore Foundation's Wildfire Resilience Initiative.
- I'm here to share nearly 50 years of experience—and advocate for a holistic, long-term national strategy that goes beyond suppression.



FROM CRISIS TO RESILIENCE:

Who Are We...

LOCAL & STATE

Vision & Strategy

Policy & Legislation

Prevention, Mitigation
& Outreach

Code Enforcement

Fire marshals have influence
across all these activities.





We Need Change.



We Are the Change.

An aerial photograph of a dense forest with a dirt road winding through it. A fire truck is visible on the road, and the entire image is overlaid with a semi-transparent green filter.

Our communities will become the
bedrock of collective success.

Our future depends on what
you do in the next ten years.

Is Wildfire a Threat, Need, or Opportunity?



The fastest fires, less than 3% of all wildfires, account for 89% of structure losses.

Nearly 60% of wildfire acres in western US forests between 2010 and 2020 were ecologically beneficial “good fire”.



More Fire is Coming

But we can take action to ensure a wildfire future in which fire progressively becomes more helpful and less harmful.

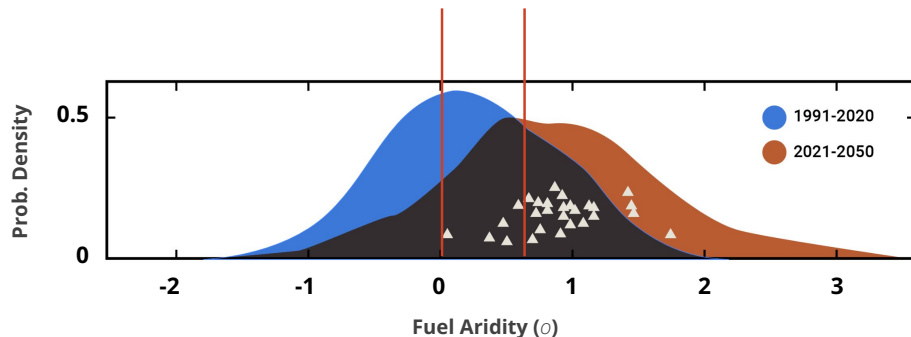
WHAT'S COMING

Fires will get worse before they get better.

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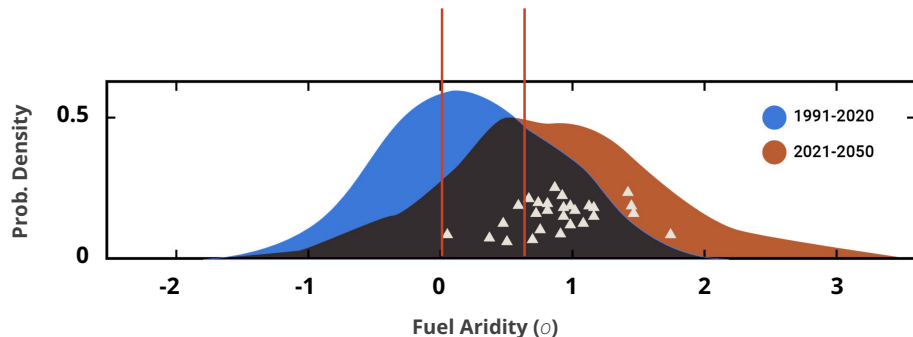
Fuels will get drier.



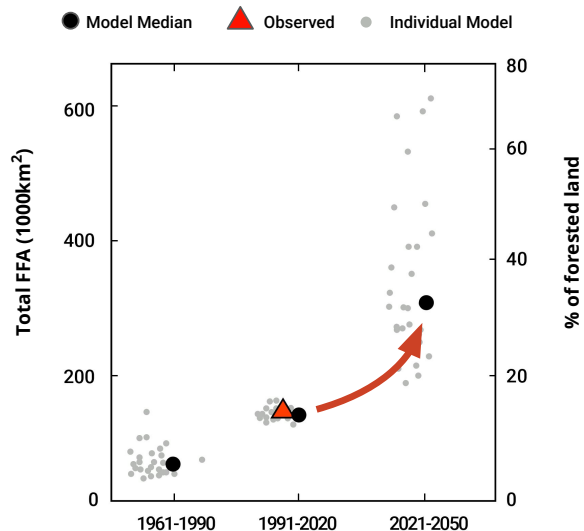
WHAT'S COMING

Fires will get worse before they get better.

Fuels will get drier.



Western acreage will double.



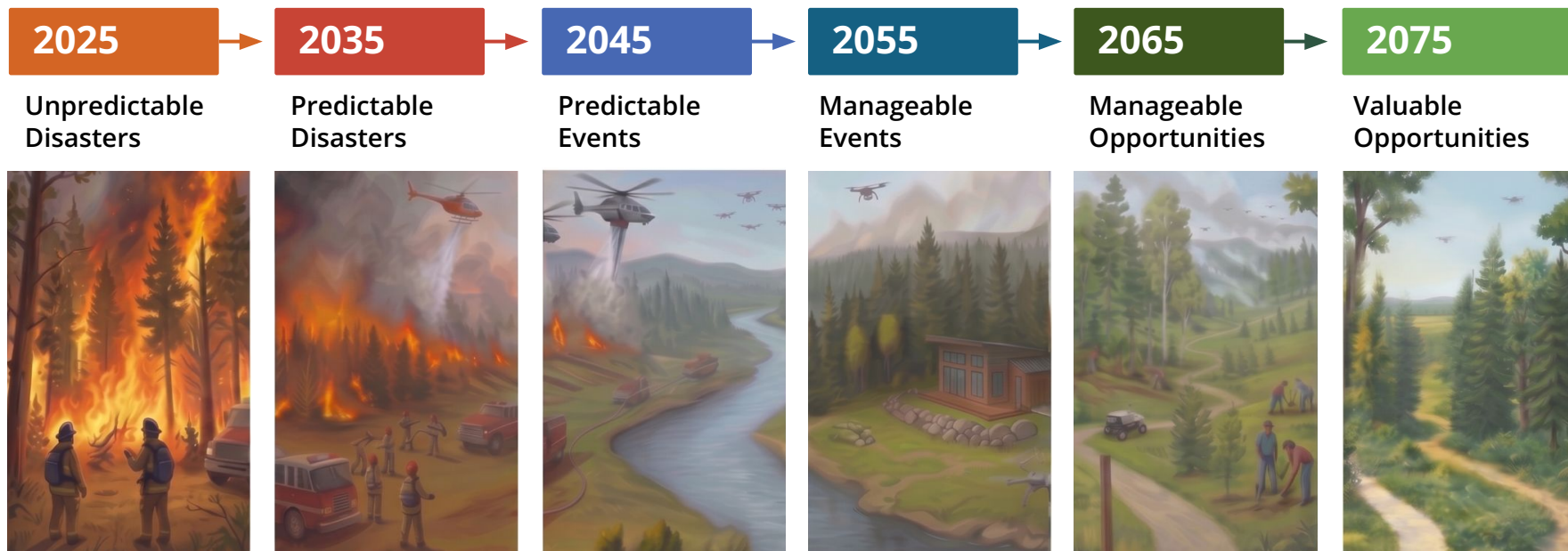
Our water, our timber, our air, and our security
rely on beneficial fire.

We must discover ways to
reshape fire, not just fight it.

WHERE WE NEED TO GO

A 50-Year National Mission

A path from disaster to
sustained resilience





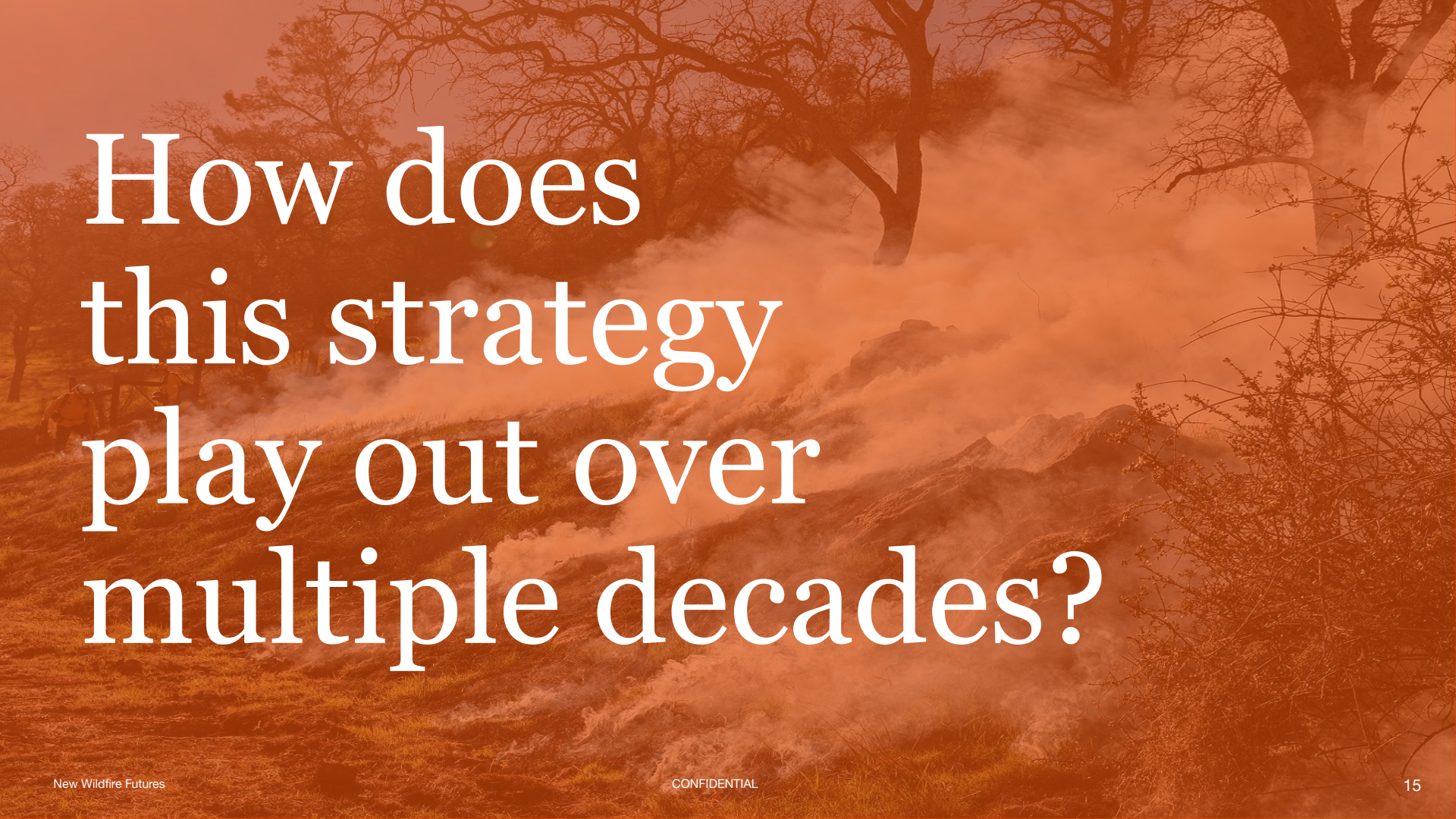
WHAT DOES SUCCESS LOOK LIKE

Three Strategies, Two Outcomes

- Prepare and protect communities
- Smarter wildfire suppression
- Focused resource restoration



- Zero community loss
- Ecosystems thrive w/ beneficial fire



How does
this strategy
play out over
multiple decades?

Decade One

2025-2035

Unpredictable Disasters to Predictable Disasters



- Fire behavior and community risk modeling
- Community mitigation programs and targets
- Fire technology innovations
- Smarter suppression “Fire Intensity Management” concept (leverage the 60% western beneficial fire we have today)

Decade Two

2035-2045

Predictable Disaster to Predictable Events

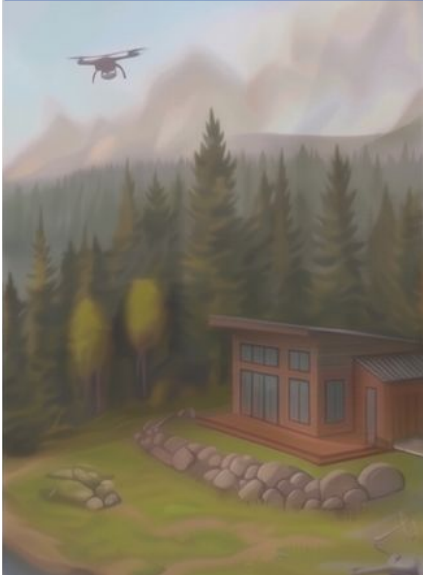


- Scale priority community mitigations to reduce loss
- Change the wildfire narrative - less threat, more opportunity
- Focus on landscape fuels in critical watersheds
- Smarter suppression keeps at least 60% of wildfire beneficial

Decade Three

2045-2055

Predictable Events to Manageable Events

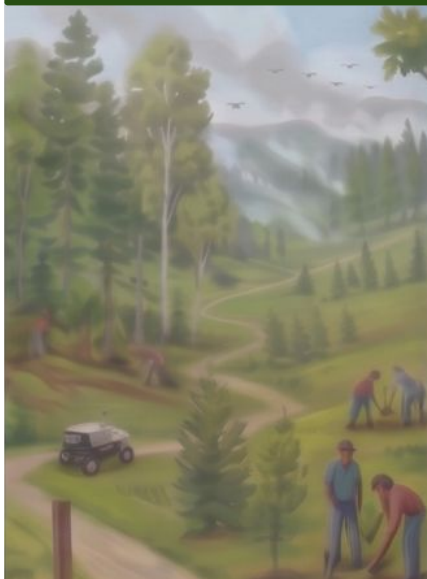


- More communities begin to reach “herd immunity”
- More wildfire acres burn safely with less community loss
- Media and public openly supporting wildfire need and value
- Beneficial fire increases to at least 70% of total acres burned

Decade Four

2055-2065

Manageable Events to Manageable Opportunities



- Mitigated communities are widespread and losses are minimal
- Critical watersheds recover healthy functions
- Widespread public demand for more beneficial wildfire
- Beneficial fire moves up to at least 80% of total acres burned

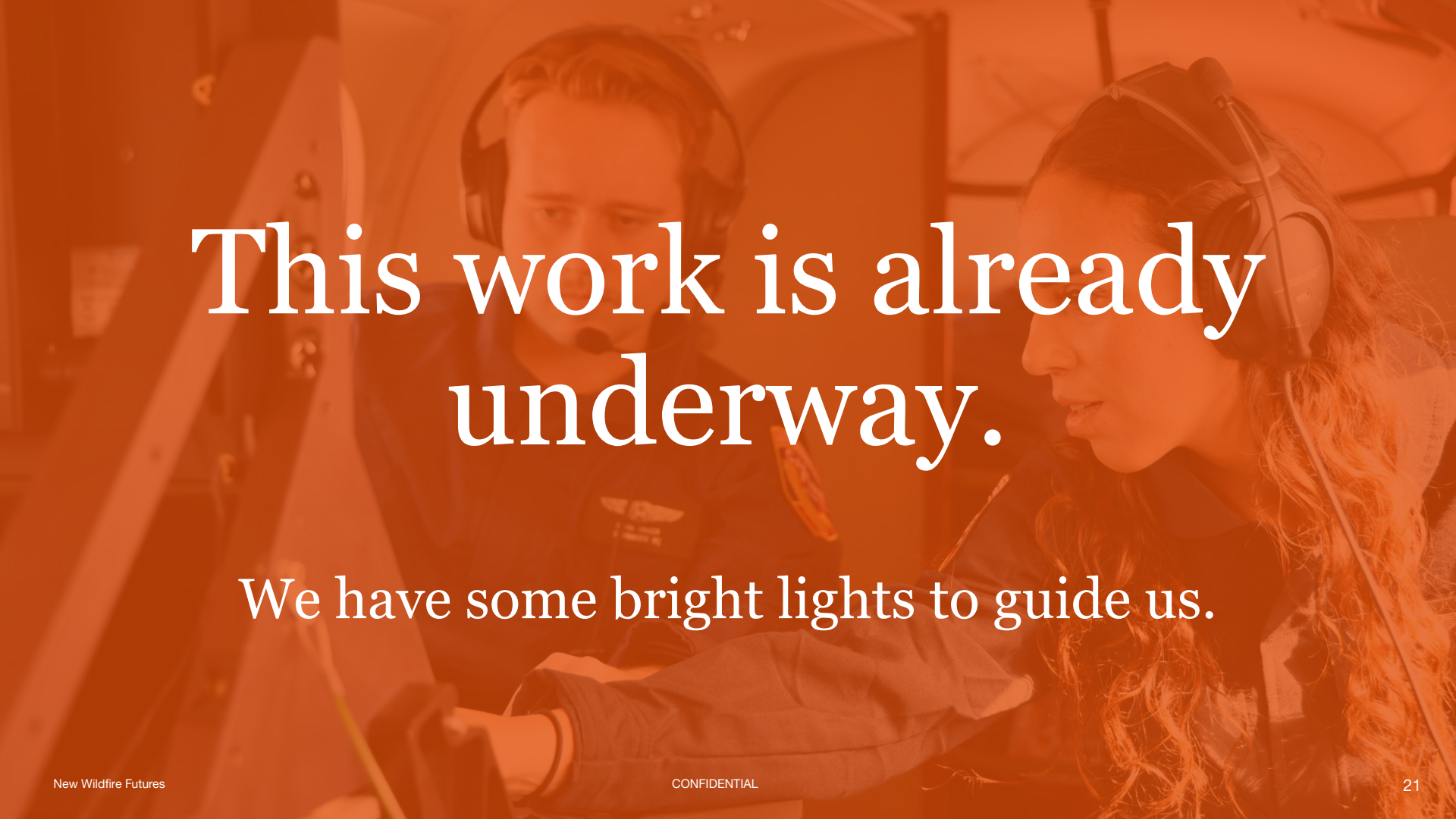
Decade Five

2065-2075

Manageable Opportunities to Valuable Opportunities



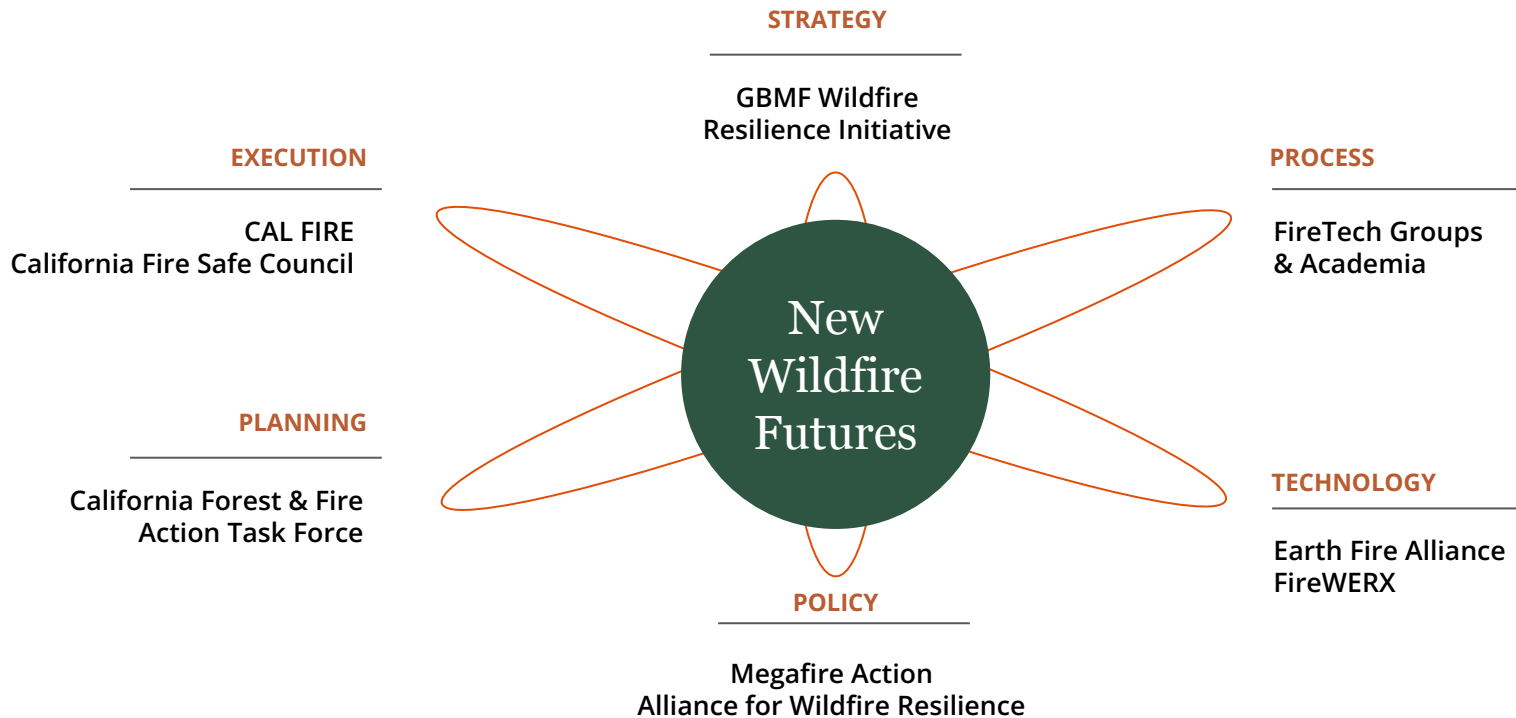
- Community wildfire resiliency is at scale
- Critical watersheds are secured, forests are stabilizing, ecosystems are healing
- Wildfire has reached at least 90% beneficial balance with impacts at acceptable, sustainable levels

The background image shows two individuals, likely firefighters, in a control room or dispatch center. They are wearing large, professional headsets with microphones. The person on the left is a man with short hair, looking down. The person on the right is a woman with long, wavy hair, looking towards the left. The entire image is covered with a semi-transparent orange filter. Overlaid on this is the text 'This work is already underway.' in a large, white, serif font. Below it, in a smaller white serif font, is the text 'We have some bright lights to guide us.'

This work is already underway.

We have some bright lights to guide us.

A Diverse Team is Leading the Change



A photograph of a line of firefighters in yellow gear and helmets walking along a dirt path in a brushy, hilly area. The image is overlaid with a semi-transparent blue filter. The text "We can learn from past progress." is centered in white serif font, with a horizontal line underneath it.

We can learn from
past progress.

We've walked this path before.

California as a 50-year Case Study

	1970s - 1990s Foundations	2000 - 2010s Basic Tools	2020s - current Alignment
Planning, Land Use, & Codes	<u>Wildfire enters land use planning</u> State hazard zones mapped, Early defensible space rules refined, New wood roofs banned	<u>WUI Building Codes</u> State hazard zones account for embers, regulated land use, WUI Building codes adopted	<u>Statewide planning</u> State hazard zones add local areas, Defensible space rules add zone zero
Response & Firefighting Technology	<u>The fight gets organized</u> Strike teams, GIS, fixed-wing aircraft	<u>The fight gets connected</u> Interoperable radios, camera networks, real-time fire intel, fire models	<u>The fight gets smarter</u> Drones, satellites, AI decision support
Prevention, Mitigation & Community Programs	<u>Prevention organizes</u> Statewide messaging, first county-wide Fire Safe Council forms, landscape fuelbreaks	<u>Mitigation becomes a focus</u> Firewise communities, CWPPs, hundreds of FSC's, state grants from carbon credits	<u>Scaling to statewide</u> State Hazard Plan, State Forest and Fire Action Plan, County Wildfire Coordinator Program

Planning, Land Use & Codes

From reactive to proactive,
from fragmented to coordinated

1970s - 1990s

- First hazard zone mapping
- Stricter city/county vegetation management rules
- Wildfire integrated into general plans and hazard mitigation plans

2000s - 2010s

- Fuel treatments, evacuation planning, and land-use decisions align around high-risk communities
- Counties integrate climate driven wildfire risk into mitigation plans
- Some jurisdictions limit high-risk development

2020s - current

- Local climate adaptation plans treat wildfire as a central risk
- Some jurisdictions begin revising WUI land use policies and development standards

Response & Firefighting Technology

Responders organize and adopt
sophisticated tech

1970s - 1990s

- Strike teams, task forces, and typed resources become standard, enabling more efficient multi-agency deployments
- GIS becomes central to incident planning, perimeter tracking, and post-fire analysis
- Fixed wing aircraft enter the fight

2000s - 2010s

- Radio interoperability and air attack coordination improve large-incident management
- Camera networks provide real-time visual intelligence

2020s - current

- Drones employed for scouting
- New satellite networks deployed
- AI analysis for better decision support

Prevention, Mitigation & Community Programs

Random acts of mitigation mature into
coordinated programs

1970s - 1990s

- Counties begin requiring defensible clearance around homes
- Enforcement and public awareness are limited but conceptually important
- Early GIS tools support hazard mapping

2000s - 2010s

- CFSC expands grants and coordination
- Firewise USA communities begin formalizing neighborhood-scale mitigation
- Hundreds of CWPPs guide fuel treatments and evacuation planning

2020s - current

- Home hardening becomes a grassroots effort
- “Zone zero” challenges
- County-level consolidation for scaling of programs

Current initiatives focus on better technology and community mitigation

In Progress

- Community Mitigation
 - Evacuation Plans
 - Wildfire Preplans
 - Home Hardening/DSPACE funding
 - Zone Zero Adoption
- Halo fuelbreaks
- Perimeter fuel management
- Ignition reduction
- Smoke preparedness
- Fire and risk modeling
- Fire technology innovations
- Smarter suppression “Fire Intensity Management” concept

An aerial photograph of a landscape with a wildfire. A large, dark, irregular shape representing the fire is visible in the center-left. To the right, a firefighting aircraft is partially visible, with its propeller and wing. The background shows a mix of green and brown terrain, with some water bodies. The text is overlaid on this image.

How can you be part of building the new future of wildfire?

The next ten years are critical.

The Next Steps Begin with You

We are all linchpins in this plan

1 of 2

- Alert / Warning / Evac Tools
- Community analysis to reduce risk of direct fire transmission and ember ignitions
- Resiliency Program planning to create, fund, implement, enforce, and maintain needed features over a 20-year period)
- Fire Service Mitigation Training
- Public Education
- Building Codes
- Land Use Planning

The Next Steps Begin with You

We are all linchpins in this plan

2 of 2

- Evacuation Plans/Exercises
- Wildfire Preplans
- Home Hardening and D Space
- Halo fuelbreaks
- Perimeter fuel management
- Ignition reduction
- Smoke preparedness
- Prescribed Fire Preplans
- Post-fire Recovery Plans (Rebuild requirements, economic planning, shelter and support)
- Periodic public 5-year Wildfire Resiliency Outcome Report
- Periodic public 5-year Insurance Report

A photograph of firefighters in yellow protective gear, including helmets and jackets, working at a wildfire site. The scene is hazy and smoky, with a red fire truck visible in the background. The image is overlaid with a semi-transparent green filter.

Fire will define the next 50 years

We will define the fire.

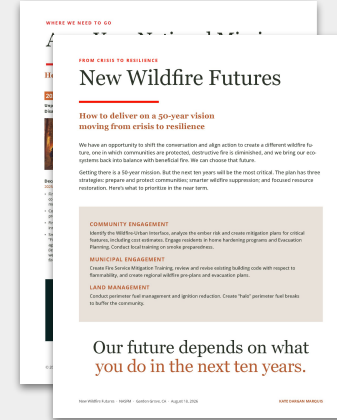


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presentation

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handout

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Photography courtesy of CAL FIRE



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GORDON AND BETTY
MOORE
FOUNDATION

Thank you.

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