

CLIMATE FORWARD ►

Avoided Wildfire Emissions  
Forecast Methodology  
*Kick-Off Webinar*

October 2021

# Housekeeping

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- All attendees are in listen-only mode
- Please submit your questions in the GoToWebinar question box and we'll try to answer them at the end, time permitting
- We will follow up via email to answer any questions not addressed during the meeting
- The slides and a recording of the presentation will be posted online

# Agenda

- Introduction to Climate Action Reserve and Climate Forward
- Why a methodology to address wildfire emissions?
- Methodology development process and timeline
  - REMINDER: Statements of Interest for joining workgroup due Friday, November 5, 2021
- Key considerations and general approach of the methodology
- Next steps

## GHG Accounting Experts

- Originally created by California legislature in 2001
- Pioneered standardized GHG accounting, for compliance and voluntary carbon markets
- 78% of North American offset credits used in 2017 in the voluntary market\* were issued by the Reserve
- 5+ of the 6 offset protocols used by ARB were developed by the Reserve, including the Forestry Protocol

## Beyond Carbon Offsets

- **Climate Forward**
- Climate Impact Score
- GHG policy consulting
  - Mexico
  - Ontario
  - Quebec
  - World Bank, USDA, USAID
  - California agencies, and more



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ACTION  
RESERVE

# Climate Forward:

## a carbon project registry

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### **Issues Forecasted Mitigation Units (FMUs) to projects that follow Reserve-approved methodologies**

- Follows ISO 14064-2 and GHG Protocol for Project Accounting Standards
- Credits issued about one year after project commencement, for the forecasted climate benefit over the project's lifetime



### **Expands the scope and scale of carbon project types**

- Enormous potential for diverse, creative climate solutions



### **Tracks FMUs ownership and project activities in a publicly accessible database**

- A registry of forward-looking GHG reductions to balance against forward-looking GHG impacts

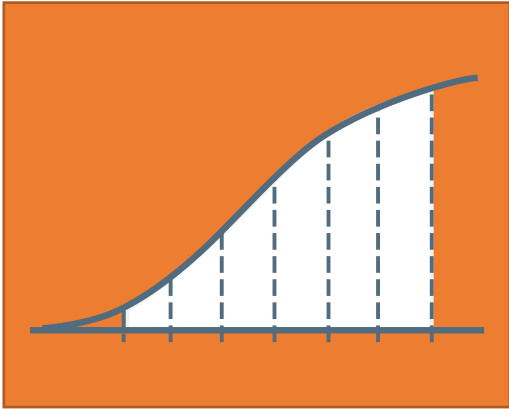
# Accelerating Climate Mitigation: CLIMATE FORWARD

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## Offsets

Climate  
Reserve  
Tonnes

1 CRT = 1 tCO<sub>2</sub>e of  
achieved reductions



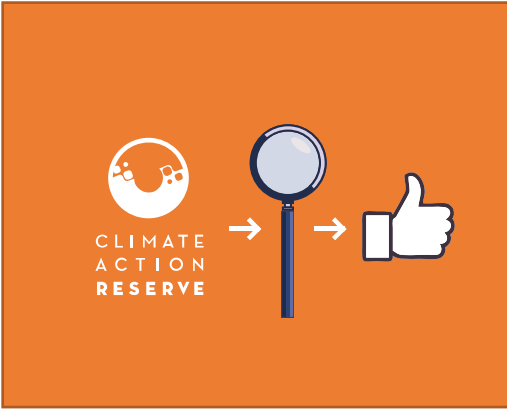
Issued for achieved  
GHG removals



Used to mitigate any  
emissions



Protocols available for  
projects in North America

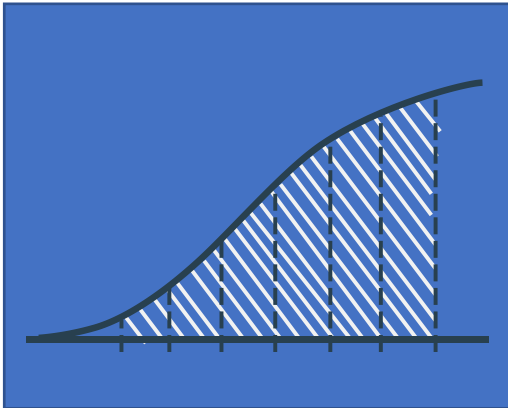


Reserve develops  
protocols for the offsets  
it issues

## FMUs

Forecasted  
Mitigation  
Units

1 FMU = 1 tCO<sub>2</sub>e of  
anticipated reductions



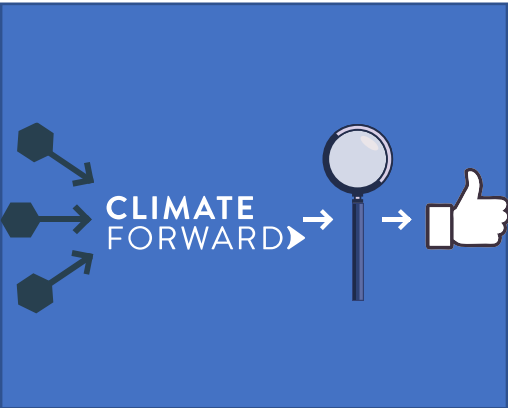
Issued for **forecasted**  
GHG removals



Used to mitigate  
anticipated emissions



Projects may be located  
anywhere in the world



External parties may submit  
forecast methodologies

tCO<sub>2</sub>e = tonne of carbon  
dioxide equivalent

Companies and organizations mitigating future emissions	Examples of future mitigation needs
<p>Any new operational or project investment creating GHGs</p> <ul style="list-style-type: none"><li>e.g., anticipated emissions identified via CEQA analysis process or future emissions from business operations</li></ul>	<p>New manufacturing facility</p> <p>New data center</p> <p>New retail complex</p>
<p><i>Not appropriate</i> for addressing current emissions in a compliance program</p> <ul style="list-style-type: none"><li>e.g., cap-and-trade</li></ul>	<p>New residential/commercial developments</p> <p>New transportation projects</p>
<p><i>Not appropriate</i> for mitigating historical Scope 1 and 2 emissions to claim carbon neutrality</p>	<p>Facility expansions</p> <p>Operational expansions</p>



# Climate Forward:

## A mission driven program

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- Accelerate greenhouse gas mitigation project development
- Enable project types that have not been feasible under offset financing





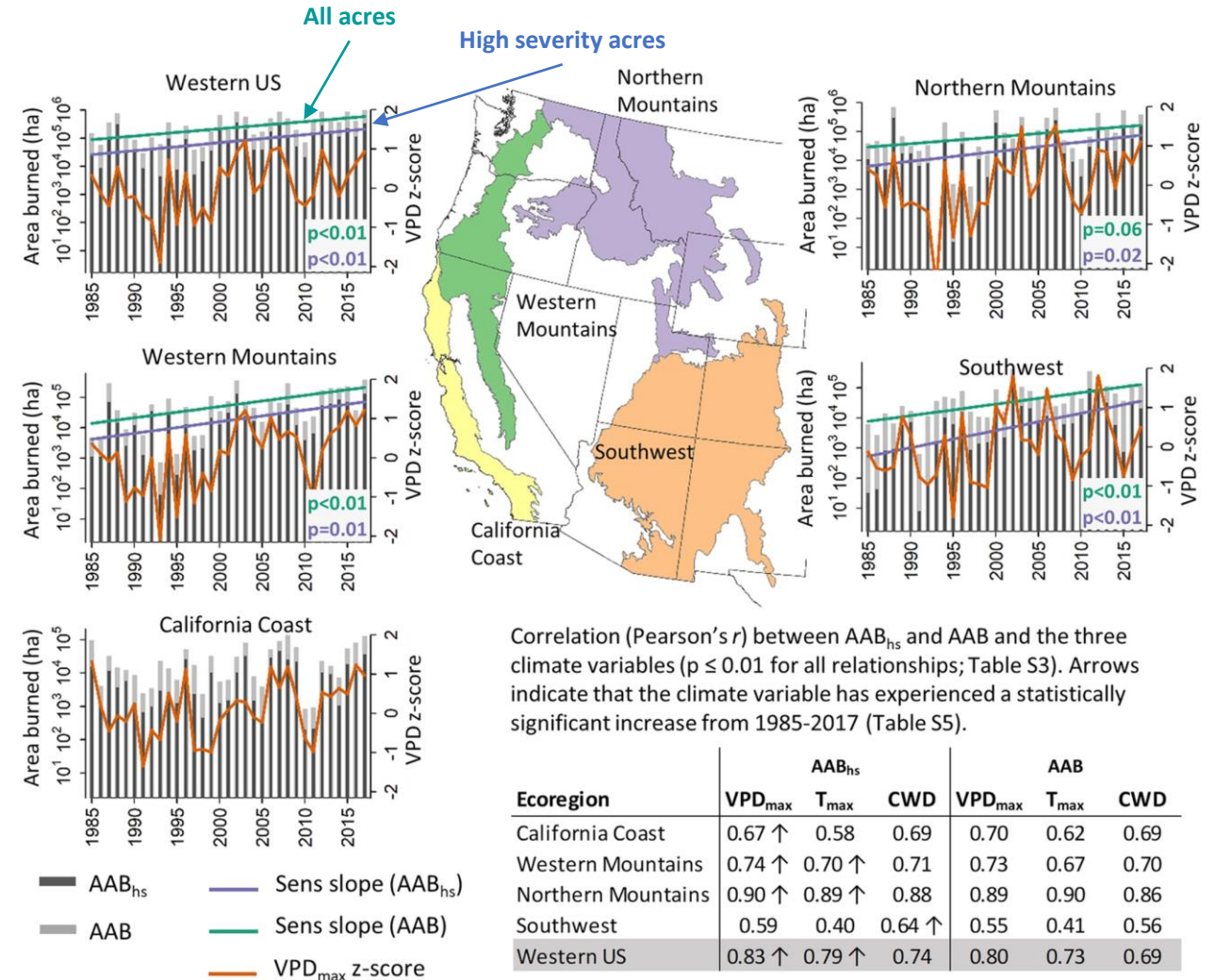
# Why Address Wildfire Emissions?

# Why address wildfire emissions? CLIMATE FORWARD



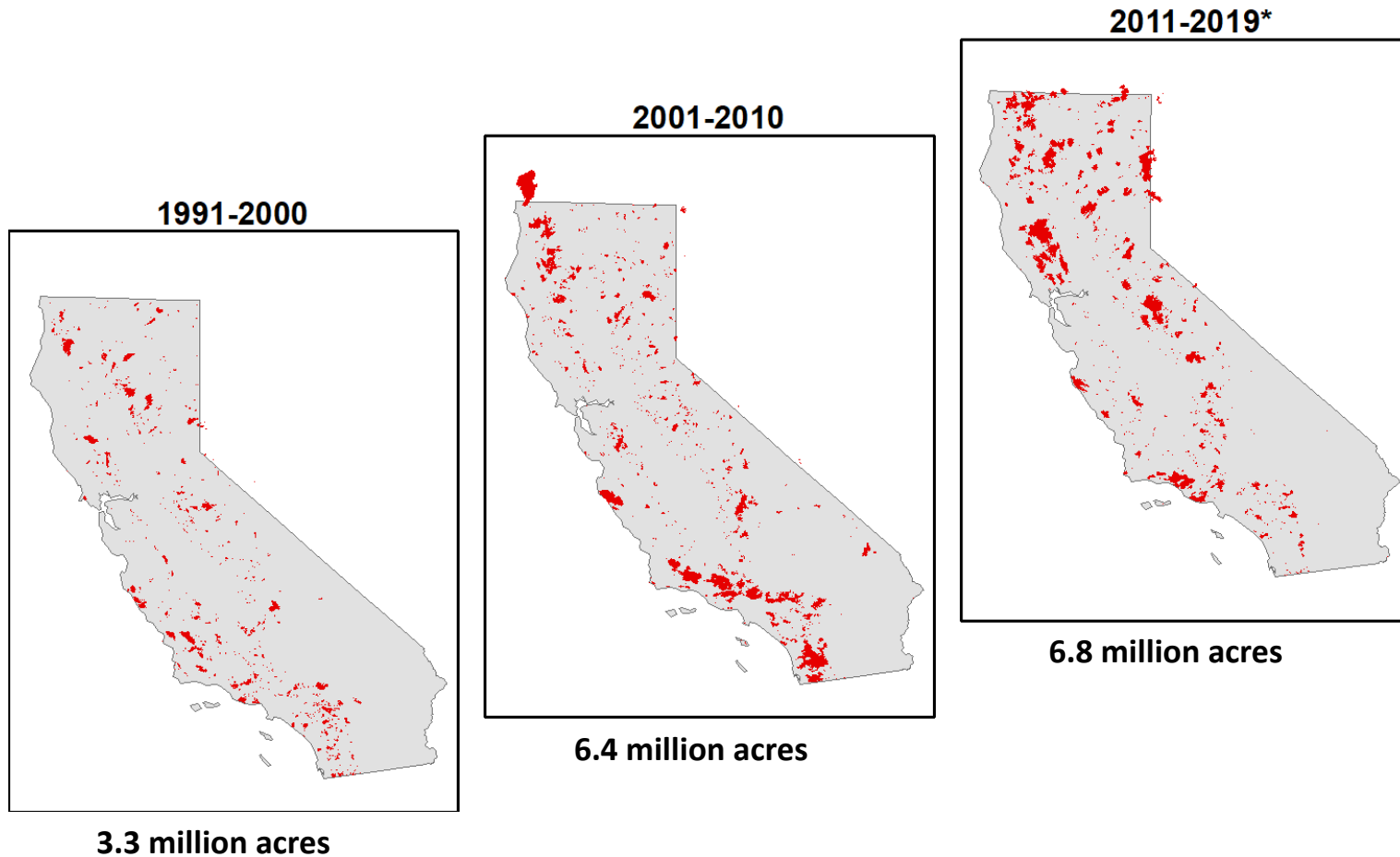
Loyalton Fire, Calpine, CA, August 2020

By Duncan Kennedy: [CC-BY-SA-4.0](https://creativecommons.org/licenses/by-sa/4.0/)

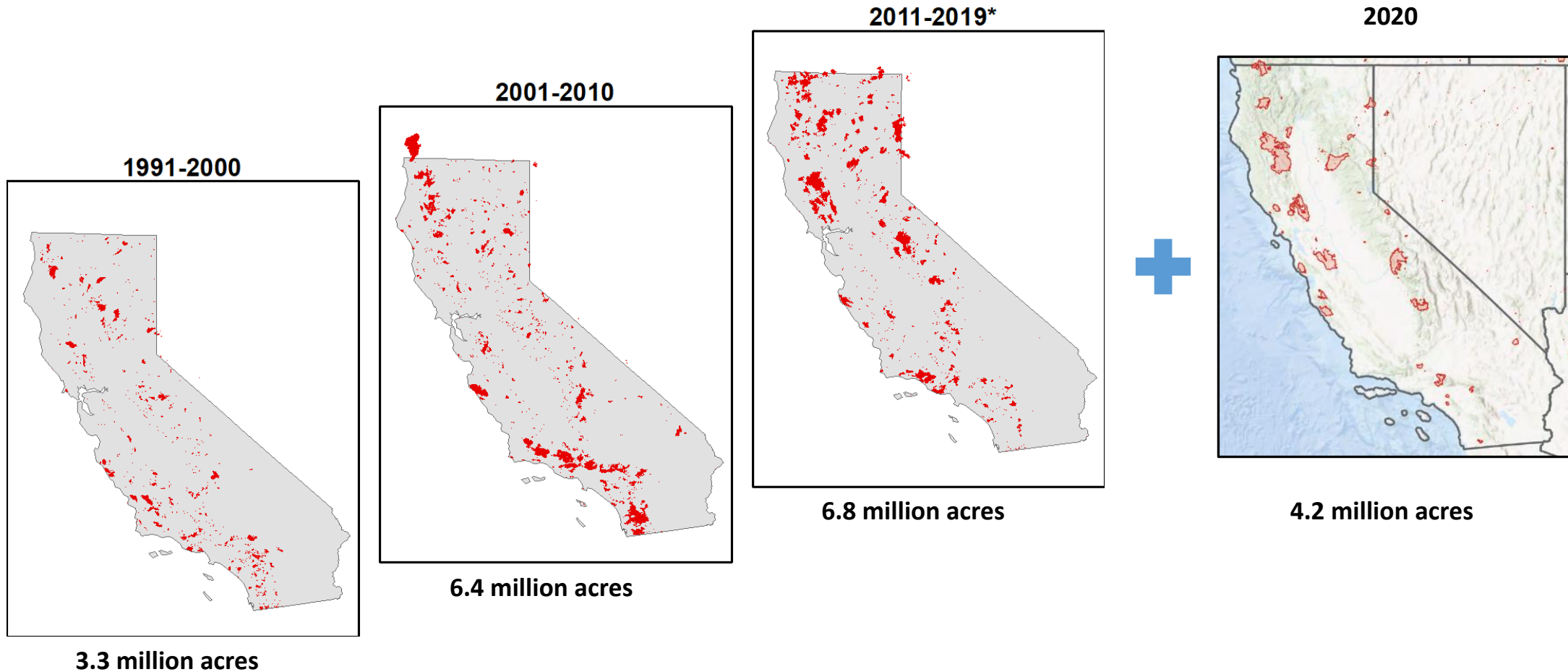


Parks, S. A., & Abatzoglou, J. T. (2020). Warmer and drier fire seasons contribute to increases in area burned at high severity in western US forests from 1985 to 2017. *Geophysical Research Letters*, 47(22).

# Why address wildfire emissions? CLIMATE FORWARD ►

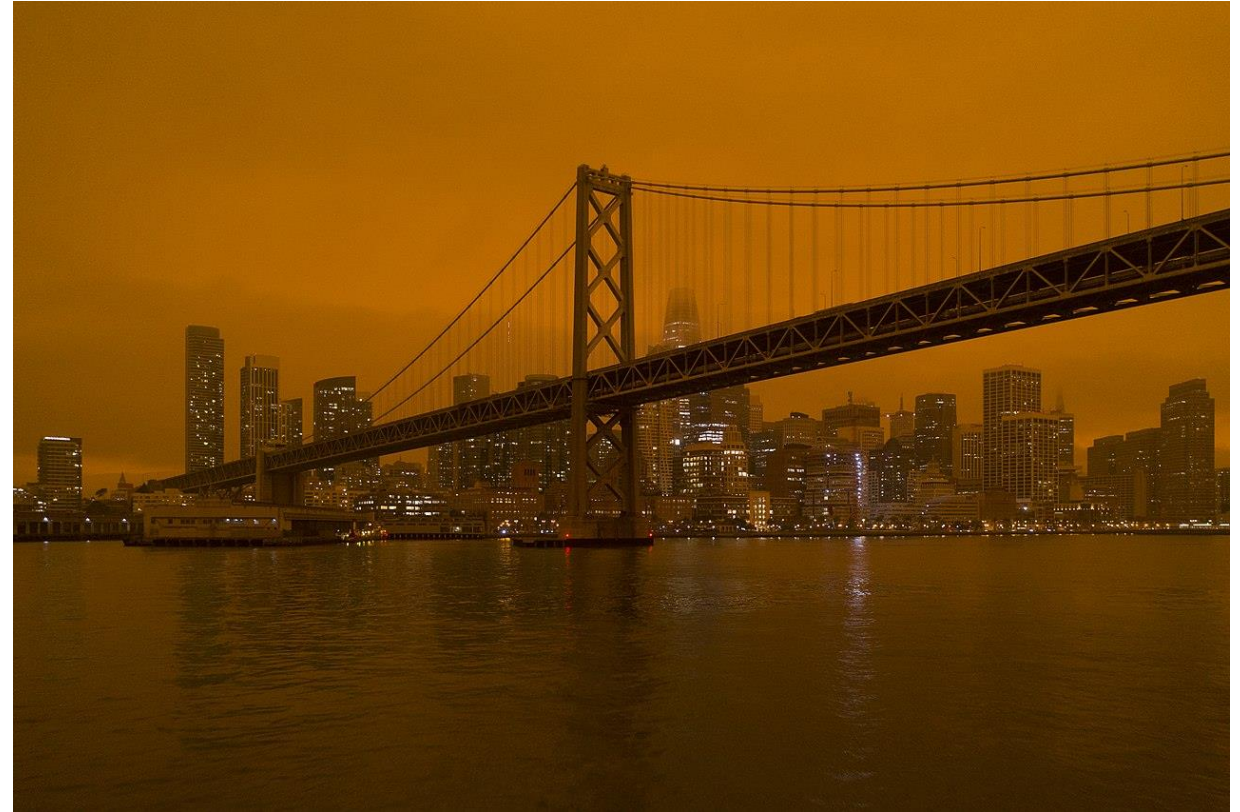
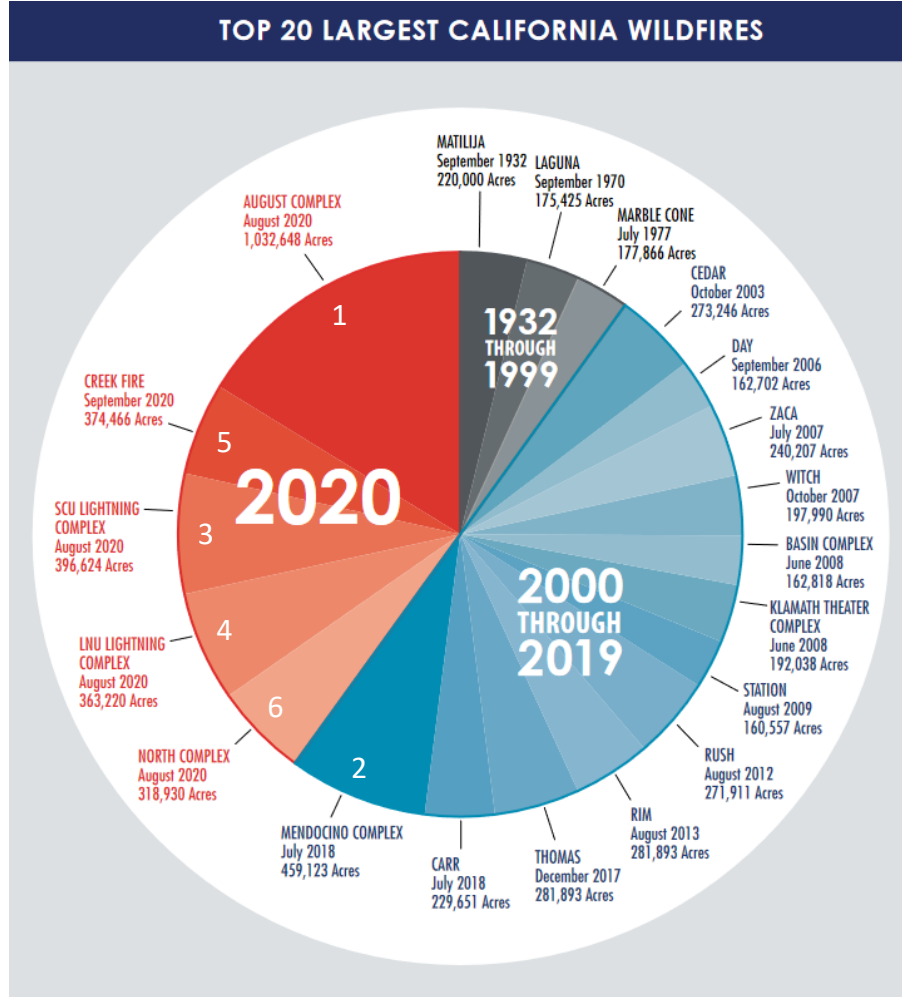


# Why address wildfire emissions? CLIMATE FORWARD ►





# Why address wildfire emissions? CLIMATE FORWARD ►



Smoke from North Complex Fire over San Francisco, September 2020

By Christopher Michel: [CC BY 2.0](#)

# Methodology Development Team

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# Funding support

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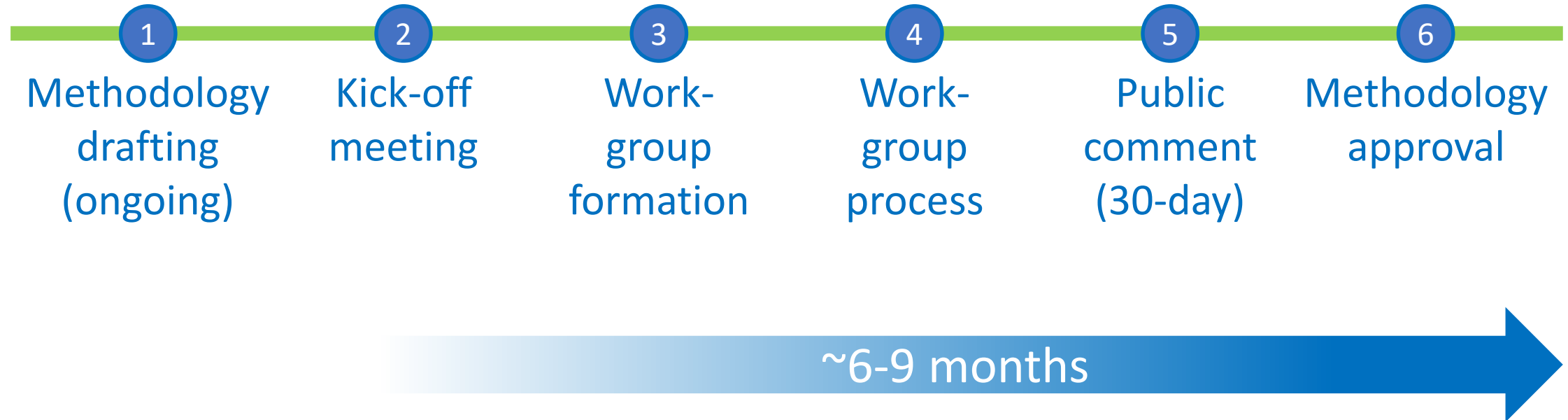
element  
MARKETS



# Methodology Development Process & Timeline

# Methodology Development Timeline

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# Workgroup Formation

Stakeholder participation & feedback is critical to development of this methodology

The Reserve assembles a multi-stakeholder workgroup to advise methodology development and to produce a rigorous, well-vetted, and credible methodology

- Strive for balanced representation from industry, project developers, farmers, environmental NGOs, verification bodies, independent consultants, academia, and government bodies
- Interested stakeholders invited to submit Statement of Interest (SOI) forms
  - **Deadline for submitting SOI is Nov 5<sup>th</sup>**
  - **SOIs can be downloaded from the methodology webpage:**  
<https://climateforward.org/program/methodologies/avoided-wildfire-emissions/>

Requires commitment to 1-2 workgroup meetings; methodology reviews; familiarity with forest management/fuel treatments, wildfires, and their impacts on forest carbon; and a solid understanding of project-based GHG accounting.

# Workgroup Process and Expectations for Workgroup Members

## Process

- Methodology developers produce draft methodology for review
- Methodology developers identify and solicit feedback draft methodology, including specific methodology components
- Reserve staff schedule and hold workgroup meetings (1-2)
- Methodology developers revise methodology based on feedback

## Expectations

- Review, comment on and provide recommendations on draft methodology and specific methodology components, as requested by methodology developers
- Participate in workgroup meetings via webinar
- Provide any additional written comments on public comment draft of methodology

# Key Considerations and Approach of Methodology



# Project Definition

Forest treatments to reduce the risk of catastrophic wildfires and their associated GHG emissions, for example:


Mechanical Treatment

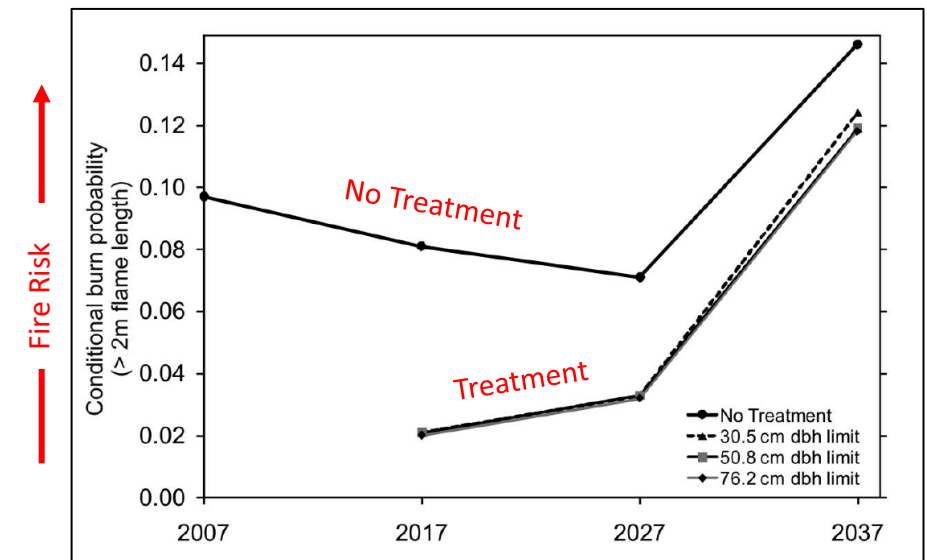


Prescribed Fire



# Why Climate Forward?

- Project activities typically result in a net decrease in C stocks initially
- GHG benefits are realized over time as forest grows and future wildfires either prevented from igniting/spreading and/or are less severe
- Fuel treatments have a limited effectiveness period following implementation (i.e., we can estimate the efficacy of the treatments for some period of time into the future) 
- Climate benefits credited are based on a projection of probabilistic future emissions from wildfires and likelihood of post-fire delayed reforestation

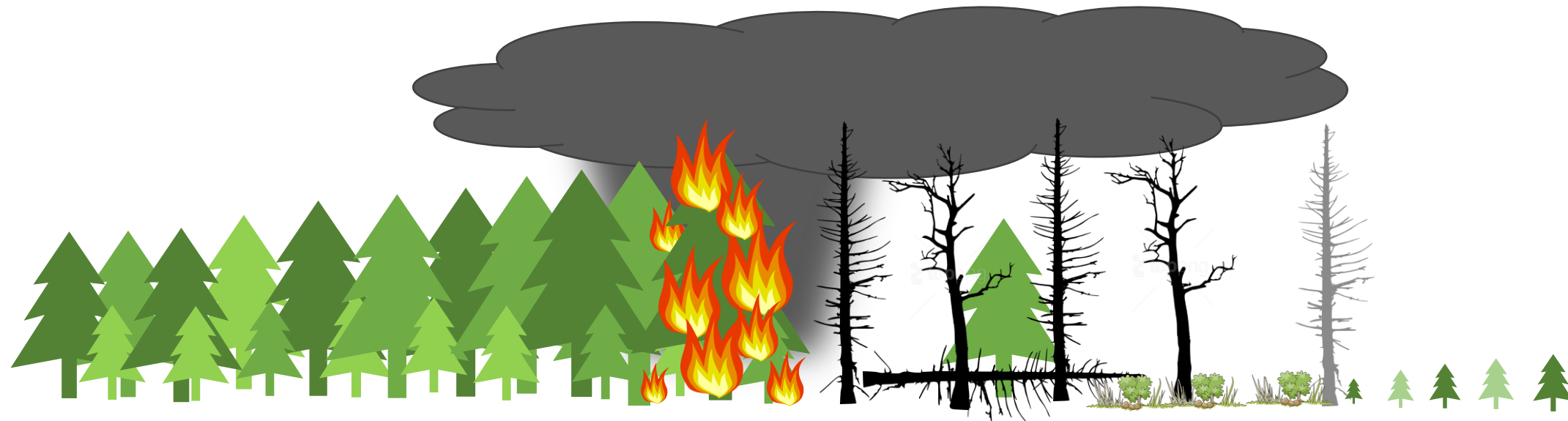


Source methodology was developed over past decade with a variety of expert stakeholders.

# System Overview

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Baseline



T I M E

Project





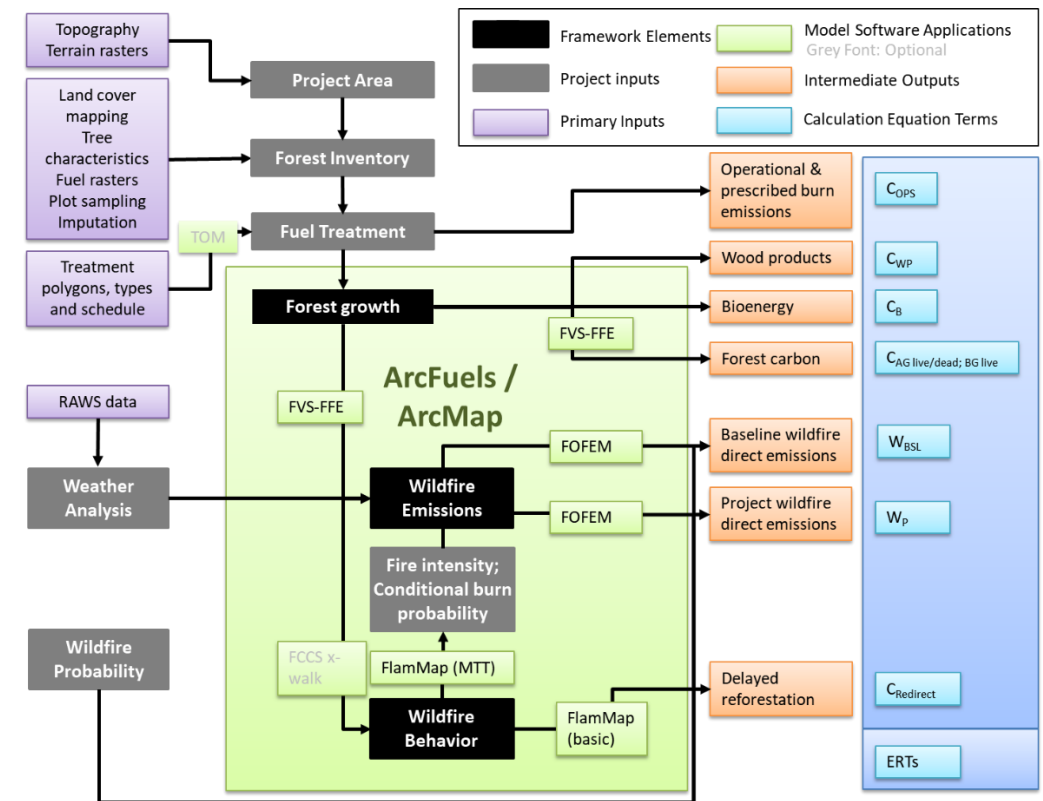
# Accounting Steps

- 1) Project area delineation, selection, and characterization
- 2) Weather data
- 3) **Management scenario development and fuel reduction treatment design**
- 4) Forest carbon (forest growth and sequestration) calculation
- 5) Forest removals life cycle assessment (biofuels, bioenergy, wood products) calculation
- 6) Wildfire emissions calculation
- 7) **Delayed regeneration calculation**
- 8) **Fire ignition probability (fire return interval) assessment**
- 9) Aggregated emissions accounting



# Critical issues

- Adapting a methodology based on highly project-specific modeling and standardize/simplify it so it's more accessible?
  - Standardized approach to delineating the project area
  - Limiting and/or standardizing data sources
- Developing a conservative quantification approach that is transparent and defensible
- Recognizing impacts of non-project activities over time and space (e.g., harvests, other fuel treatments, natural disturbances)
- Reflecting how treatments are actually implemented (as opposed to what was planned)
- Allowing various project configurations (multiple landowners, project size, spatial layout)
- Creating incentive for return treatments



# Next Steps



# Process and timeline

Task	2021						2022				
	Apr	...	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Announcement of methodology development											
Methodology drafting		...									
Workgroup review of draft methodology and workgroup meeting(s)											
Public comment period											
Preparation of final draft for consideration of approval by Reserve											

# Next steps

- ***For interested stakeholders:***
  - **Submit a Statement of Interest to become a workgroup member (by Friday, Nov 5<sup>th</sup>)**
  - Email interest to sign up for updates as an observer
  - Email us feedback anytime
- ***For Reserve and methodology partners:***
  - Form workgroup
  - Continue drafting!!
  - Workgroup meeting November/December (via webinar)

# Key contacts

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- ***Climate Action Reserve:***

- Email: [Policy@climateactionreserve.org](mailto:Policy@climateactionreserve.org)

- Methodology development lead:

- Jon Remucal, Associate Director of Nature-Based Solutions

- Email: [jremucal@climateactionreserve.org](mailto:jremucal@climateactionreserve.org)

# Questions?