

Acknowledgement

This area was, and still is, the Tribal land of the Nisenan people. Sacramento was a gathering place for many local Tribes who have lived throughout the central valley and the foothills for generations and were the original stewards of this land. We acknowledge the Southern Maidu people to the north, the Valley and Plains Miwok/ Me-Wuk Peoples to the south, and the Patwin Wintun peoples to the west. We also honor the Wilton Rancheria, the only federally recognized tribe in Sacramento County. In short, we acknowledge that we are on the tribal lands of Sacramento's indigenous people.

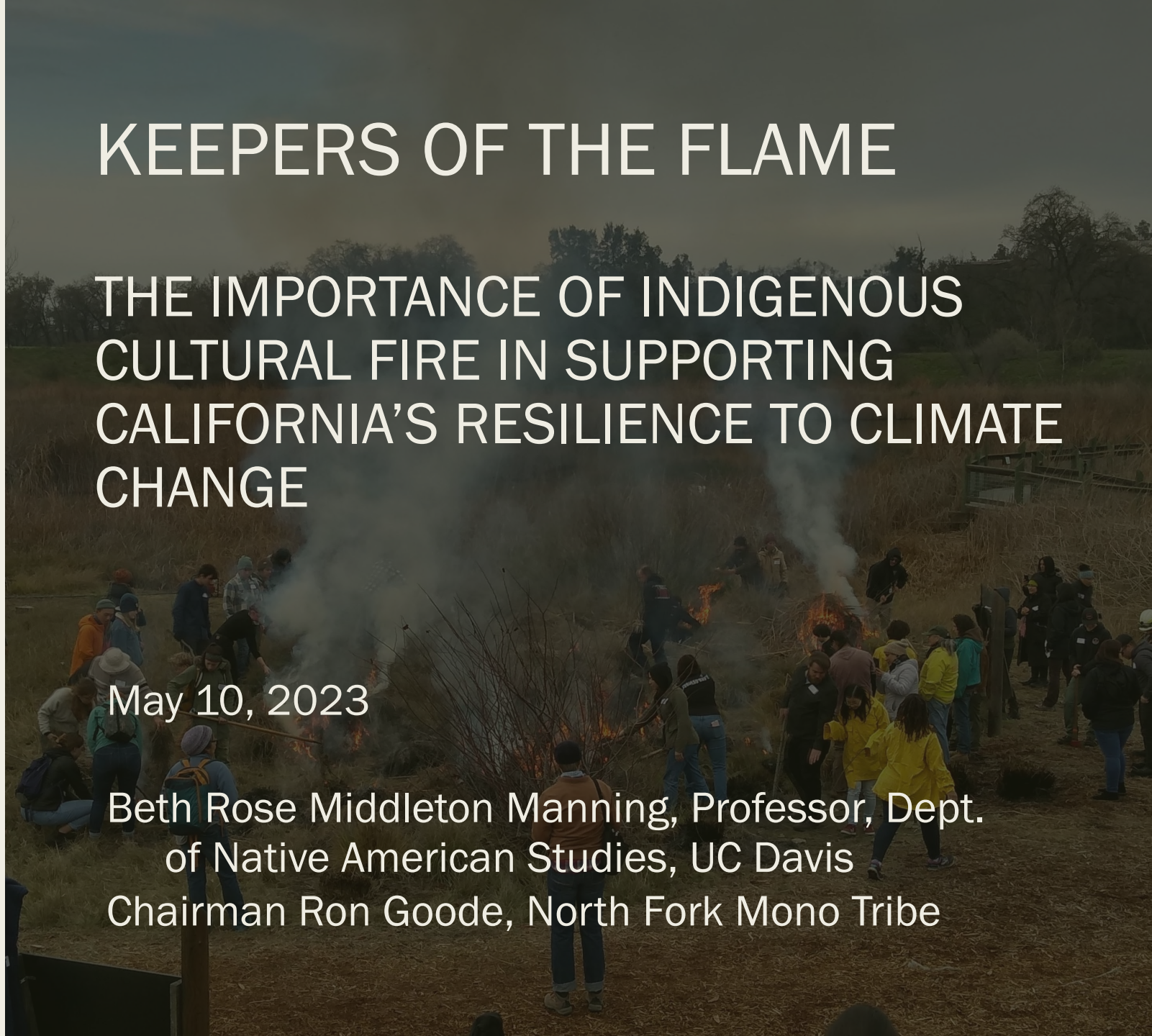


KEEPERS OF THE FLAME

THE IMPORTANCE OF INDIGENOUS
CULTURAL FIRE IN SUPPORTING
CALIFORNIA'S RESILIENCE TO CLIMATE
CHANGE

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Cultural Burning: Context and Interventions

Context

- Increasing temperature, increasing aridity, intertwined legacy of fire suppression and Indigenous removal = increased catastrophic fire risk and cultural community impacts
- Traditional knowledge of landscape stewardship, applied in Native-led restoration, has co-benefits for ecosystem health, climate adaptation, employment, empowerment, addressing history of oppression and exclusion (see Newsom's EO N-15-19)

"Keepers of the Flame" Interventions

- Train current and future resource stewards on the importance of cultural burning, building respectful collaborations, developing sense of responsibility and reciprocity to both people and place; support Indigenous-led initiatives, and Indigenous land access and jurisdiction



Settler Colonialism in the Realm of Fire

- 1850 Act for the Government and Protection of Indians: Section 10: “Any person [*initially, any Indian*] was subject to fine or punishment if they set the prairie on fire, or refused “to use proper exertions to extinguish the fire.”
- Outlawing cultural burning is an expression of and a vehicle for ongoing settler colonialism, with detrimental effects on ecology and community

The interruption of relationships between Karuk people and fire is the means by which the state continues to ‘facilitate the dispossession of Indigenous peoples of their lands and self-determining authority.’ (Go in Norgaard 78)

- Settler colonial land management within settler colonial policy damages Indigenous health (spraying, access, activity, relationship, etc.)
- Indigenous knowledge is iterative, interactive, hands-on, intergenerational, interdependent--- all of this is impacted if people cannot access land and implement stewardship

Collaborations, co-management, and land transfers offer opportunities to return cultural fire to public and private land, and to educate collaborators on the importance and praxis of cultural fire.



North Fork Mono Tribal Elder Ron Goode leading a group of UCD students in a burn to reinvigorate the health of basketry plants.

Revitalizing traditional burning



Cultural burning

- Site-specific (but not necessarily small-scale), low-intensity, repetitive
- Emphasizes ethics of relationality, responsibility, respect, and reciprocity
- Practical and necessary work to support ecosystem health-- “human services that benefit ecosystems” - Bill Tripp (Karuk), 2018
- Cultural burning is diverse and varied depending on landscape, community, conditions, needs

Above left: Danny Manning, Mountain Maidu, demonstrating traditional fire lighting; Left: Jesse Valdez, North Fork Mono, bringing good fire to redbud.

Cultural Burning: Selected Current Collaborative Projects

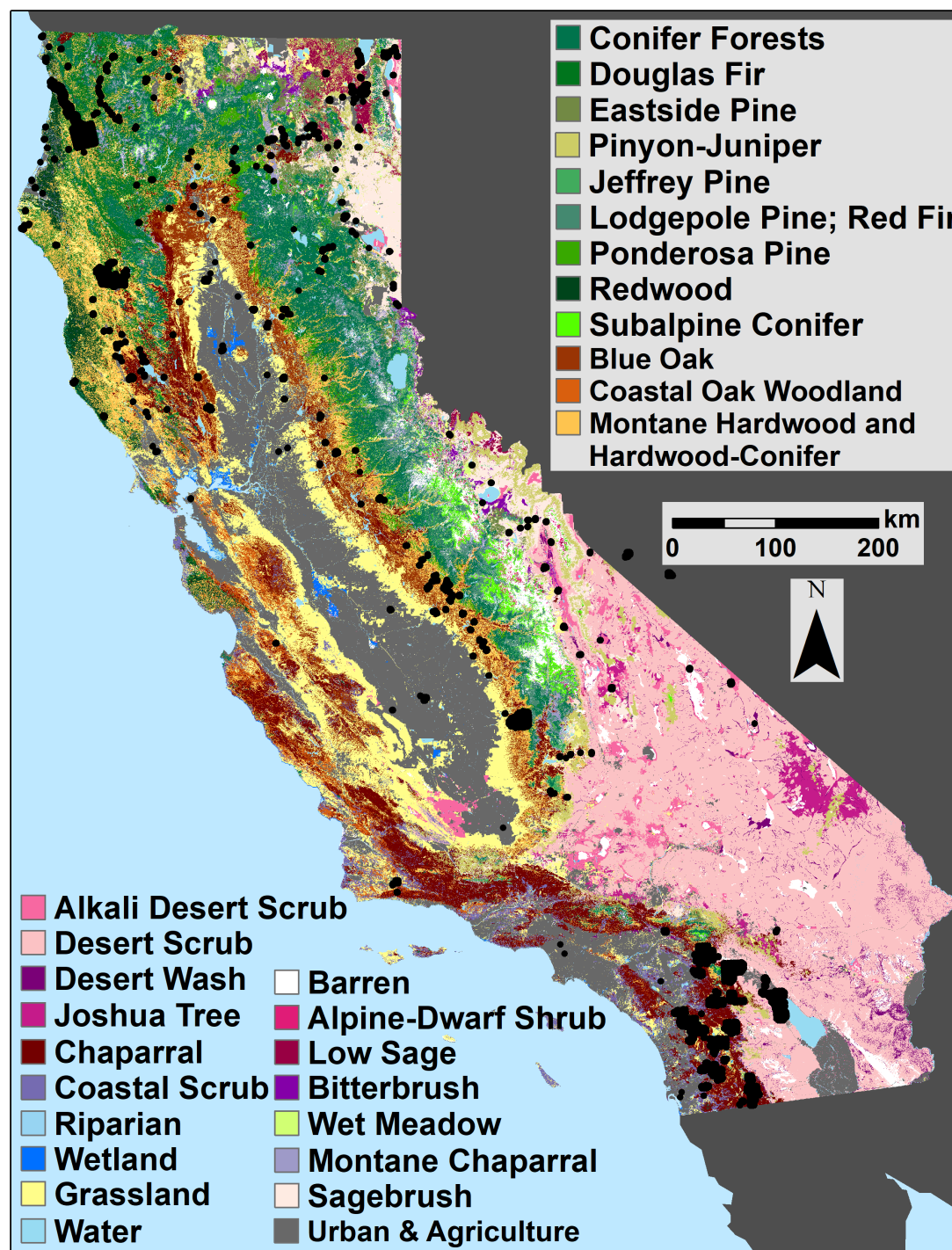
- Assess scope of cultural fire application and identify barriers (Oraftik, Goode)
- Species-specific and soils studies of the outcomes of stewardship actions, including application of fire (Noland, Adams)
- Landscape baseline condition surveys, cultural fire implementation, and monitoring (Tule River--Oraftik, Goode)
- Organization-specific cultural burn trainings (Goode and California Indian Basketweavers Association)
- Cultural fire exchanges--Siletz and Mono (Adlam, Goode)
- Exchange on Indigenous-led emergency planning, decision support, and climate adaptation (Fontana, FNESS, regional tribes)
- Site-specific cultural burning calendars and monitoring tools (Fontana & Almendariz)





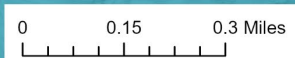
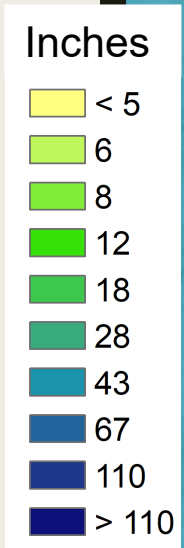
California Vegetation Types

 Allotments

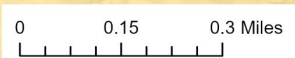
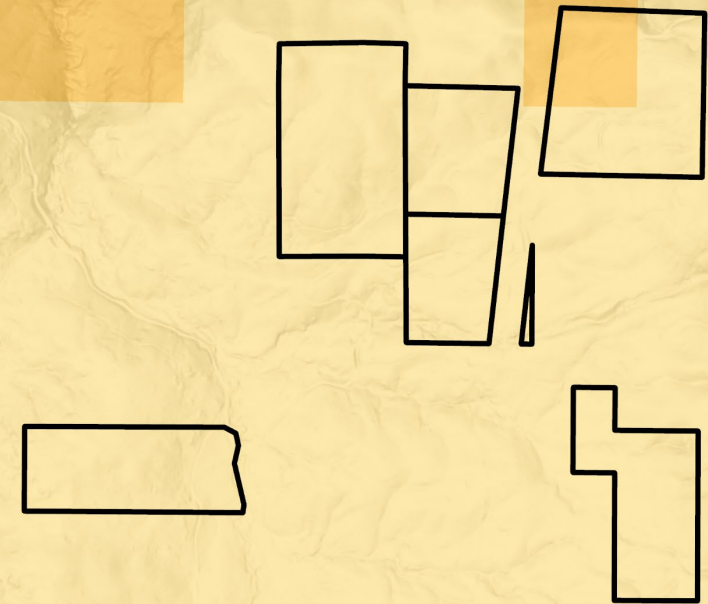
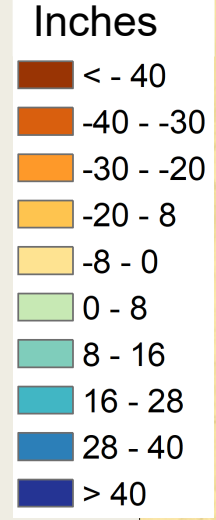


From collaboration with
Thorne Lab (UCD), funded
by SW-CASC

Precipitation 30 Year Average (1981-2010)



Change in Precipitation by Mid-century (2040-2069)





Gathering sourberry with CAPDAA Board member Julie Dick Tex (Dunlap Mono) and friends at Chairman Goode's cultural fire workshop, February 2023



- New growth of culturally important plants
- Reduction in brush, downed woody debris
- Food and basketry materials available for weavers, community members
- Improved water quality and quantity
- Information on soil changes and soil health
- Reported increases in biodiversity
- Sharing ethic of respect and acknowledgement of need for maintenance, stewardship over time

Selected Outcomes: Indigenous-led cultural fire projects

CA Policy Considerations: EO N-82-20, Biodiversity

- Recognizes the biodiversity of CA, the importance of biodiversity to our economy and ecology, and the vulnerability of biodiversity to development and climate change
- Foregrounds the importance of partnerships between government, tribes, and multiple entities to address the biodiversity crisis
- Calls for the formation of a CA Biodiversity Collaborative including ‘Native American Tribes...and other stakeholders’ to study and make recommendations on biodiversity protection
- Recognizes that “since time immemorial, California Native Americans have stewarded, managed and lived interdependently with the lands that now make up the State of California”

Recognizes Indigenous landscape stewardship, including cultural fire.

CA Policy Considerations: 30x30 Core Commitments– Strengthen Tribal Partnerships

- Acknowledges ongoing Indigenous stewardship, even in the face of ‘state-sanctioned historical wrongs’
- Recognizes centrality of tribal stewardship to sovereignty (cultural, political), and to ecosystem health
- Principles include— support return of lands for tribal-led conservation, and develop opportunities for co-management

Native American Ancestral Lands Policy, 9/25/2020

PURPOSE

The purpose of this Policy is to partner with California tribes to facilitate tribal access, use, and co-management of State-owned or controlled natural lands and to work cooperatively with California tribes that are interested in acquiring natural lands in excess of State needs.....

ACTIONS ALIGNED WITH THIS POLICY:

- Entering into memoranda of understanding to allow for access to or co- management of natural lands under the ownership or control of the State with California tribes with ancestral lands located in such areas;
- Grantmaking to assist California tribes with procurement, protection or management of natural lands located within their ancestral territories, subject to available resources;
- When natural lands under the ownership or control of the State are in excess of State needs, working cooperatively within existing statutory and regulatory frameworks with the California tribes that have ancestral territory within those lands and are interested in acquiring them, including by prioritizing tribal purchase or transfer of land; and

CA Policy Considerations: SB- 332 (2021)

- Reduces liability on prescribed burners unless they are ‘grossly negligent’

...no person shall be liable for any fire suppression or other costs otherwise recoverable for a prescribed burn if ... the burn be for the purpose of wildland fire hazard reduction, ecological maintenance and restoration, cultural burning, silviculture, or agriculture, and that, when required, a certified burn boss review and approve a written prescription for the burn.

- Recognizes that prescribed fire is necessary to reduce fuel loads
- Defines cultural burn: *the intentional application of fire to land by Native American tribes, tribal organizations, or cultural fire practitioners to achieve cultural goals or objectives, including subsistence, ceremonial activities, biodiversity, or other benefits.*
- Defines cultural fire practitioner: *a person associated with a Native American tribe or tribal organization with experience in burning to meet cultural goals or objectives, including subsistence, ceremonial activities, biodiversity, or other benefits.*

CA Policy Considerations: AB-642 (2021)

- Acknowledges: *fire has always been present in California landscapes, ignited either by lightning strikes or by Native Americans to enhance certain useful plants, enhance hunting success, perform religious rites, prevent larger fires, and other reasons*
- Recognizes the benefits of burning: *Low-intensity fire...reduces surface fuel, which decreases future wildfire intensity.*
- Acknowledges the need to *increase the pace and scale of prescribed and cultural burning*
- Requires the Director of Forestry and Fire Protection to appoint a cultural burning liaison to *advise the Department of Forestry and Fire Protection on developing increased cultural burning activity.*
- Requires the Department of Forestry and Fire Protection to actively engage ...California Native American tribes, tribal organizations, and cultural fire practitioners to enhance its public education efforts regarding restoring fire processes and function, and cultural burning...

Contemporary Challenges

Indigenous Land Tenure:

Because land was stolen and treaties were not honored in California many tribes have traditional territories that are on 'public land' and therefore outside of their 'jurisdiction,' hampering access and stewardship

Policy: Navigating policies surrounding jurisdiction, liability, worker qualification, and air quality make it harder for tribes to implement cultural fire.

Public perception: Though this has improved, the public objects to cultural fire management/prescribed burns because of smoke impacts and concerns about preservation. Consider, "what kind of smoke do you want?" – Margo Robbins, Yurok, (Cultural Fire Management Council @ SW Adaptation Forum 2021)

Decision making: In collaborations with others, decision-making can be fraught with power imbalances, lack of representation, lack of responsiveness to lived issues, slow pace relative to community needs, and lack of recognition of Indigenous authority.
(collaboration with Deniss Martinez)

Grounds for Hope

State policies: increasingly, state policies recognize tribal expertise and support funding tribal fire stewardship, and the need to reduce barriers to enable more tribal cultural and prescribed fire.

Recognition of Tribal/ Indigenous leadership in fire: Cultural Fire Management Council, Indigenous Peoples Burning Network, TRES, Indigenous Stewardship Network, Don Hankins' on the Forest Management Task Force, and national and international initiatives

On-the-ground collaborations: TRES, workshops, cross-jurisdictional partnerships and trainings

Increasing learning opportunities: Future of Fire postdoctoral fellows; TRESs; intertribal collaborations; TERA workshops; Keepers of the Flame workshops; intertribal partnerships, and tribal-agency, tribal-university partnerships

Recent Publications

- Martinez, Deniss, Beth Rose Middleton, John Battles. “Environmental justice in forest management decision-making: challenges and opportunities in California,” *Society and Natural Resources*, accepted 3/28/23.
- Goode, Ron W., Stephanie Farish Beard, and Christina Oraftik. 2022. “Putting Fire on the Land: The Indigenous People Spoke the Language of Ecology, and Understood the Connectedness and Relationship Between Land, Water, and Fire,” *Journal of California and Great Basin Anthropology* 42(1): 85–95.
- Murveit, Anna M., Sonia Delphin, Carlie Domingues, Shawn Bourque, Sam Faulstich, Gregg Garfin, Nancy Huntly, Alison Meadow, Vikki Preston. 2023. “Stories as data: Indigenous research sovereignty and the “Intentional Fire” podcast,” *Environment and Planning E*.
- Maldonado, J., and B. Middleton. 2022. “Climate resilience through equity and justice: holistic leadership by tribal nations and indigenous communities in the southwest United States,” in *Cooling Down: Local Responses to Global Climate Change*. Edited by Susanna Hoffman, Thomas Eriksen, and Paulo Mendes. Berghahn: New York.
- Middleton, Beth Rose. “Relationships, Respect, and Reciprocity: Approaches to Learning and Teaching about Indigenous Cultural Burning and Landscape Stewardship,” invited submission to *Teaching Environmental Politics and Justice*. Accepted 2022; forthcoming.
- Adlam, Chris, Diana Almendariz, Ron W. Goode, Deniss J. Martinez, Beth Rose Middleton, “Keepers of the Flame: Supporting the Revitalization of Indigenous Cultural Burning,” *Society & Natural Resources*, published online 11/24/2021
- Tom, Erica, Melinda Adams, and Ron Goode. “Solastalgia to Soliphilia: Cultural Fire, Climate Change, and Indigenous Healing.” *Journal of Ecopsychology*. Accepted 2022, with revisions.
- Williams, John, Lenya Quinn-Davidson, Hugh Safford, Ashley Grupenhoff, Elisabeth Middleton, Joe Restaino, Edward Smith, Chris Adlam, Hiram Rivera-Huerta, “Overcoming barriers: prescribed fire in the North American Mediterranean Climate Zone,” *Frontiers in Ecology and the Environment*, accepted 1/2023, forthcoming.
- McDonald, Glen, Tamara Wall, Carolyn Enquist, et al. “The Drivers of California’s Changing Wildfires,” submitted to *International Journal of Wildland Fire* 7/6/22, revised and re-submitted.
- Middleton Manning, Melissa Nelson, Melinda Adams, Danny Manning, “Landscapes of Trust in Native North America,” submitted to The Routledge Handbook of Indigenous Perspectives on Archaeology, ed. by K. Pollard, C. Wilson, C. Smith, and G. Nicholas, submitted 2022.
- Goode, Ron. “Drought Impacts on Tribal Communities.” *Impact Magazine*, submitted.
- Oraftik, Christina, Hannah de la Calle, Ron Goode. “Long Term Impacts on Native Plants.” Submitted to *Artemisia* 2022.

Next Steps

Ongoing collaborations on the reintroduction of cultural fire, and supporting Indigenous-led projects around the state and beyond

Monitoring state and federal policies for outcomes for tribal land stewardship and tribal leadership in prescribed and cultural fire



Above: Summer 2020: planting after burning, Tasman Koyom/ Humbug Valley. Below: Diana Almendariz (Wintun, Nisenan, Hupa) educating practitioners on traditional burning at Cache Creek Nature Preserve

Wild Fire and Cultural Burning

- Pre-1850 CA was full of Water, water in the Valley, water in the Mts.
- The trails were all kept open, ridges were open
- The Native American kept their villages burned and open
 - The Wildfires happened; escape routes were needed
 - When the Euro-American arrived thus began the change of the Landscape Ecology
 - There were always Droughts, Fires, & Floods, all part of the Natural Environmental Design
 - Pre-1850 6% of CA Burned; 2% by Native Americans
 - 2008 – 2015 – 2020 – 2021 (2 – 4%) of CA burned each of those yrs.



Restoring the Grasses



Smoke is Important for all Resources

Mother Earth Affected by Climatic Changes

- From 450 AD to 1650 AD there was two mega Droughts, three Global Warmings and ten to twenty year Droughts from 1550 to 1850
- The first mega Drought was 250 years; 50 years of Floods; then another 180 years of Mega Drought
- Global Warmings recorded in the Ocean, Tulare Lake and in Lake Tahoe
- Our “current” Drought got started in 1987 to 1992; then an “El Niño”
- Drought in 1994-95-96; then Flooding 1998 – 1999 more droughts in 2002/2007/2012
- The Drought of 2012 – 2015 brought Bark Beetles killing 150 million trees
- We are currently in our “sixth” drought (2020-22) of this 35 year Drought
- Fresno County’s average of 100 Temp Days is suppose to be 38
- 2021 had (70 +) 100 degree days; 2022 had (60 +) 100 degree days



5th Drought Brought the Bark Beetle
150 Million Trees Were Attacked

A wide-angle photograph of a meadow in a forest. The foreground is filled with green grass and numerous yellow wildflowers. The middle ground shows a dense forest of tall, thin evergreen trees. The sky is a clear, bright blue. The overall scene is peaceful and natural.

**Meadow in Sierra National Forest 2019
Pre – Creek Fire**

Over Looking Logan's Meadow at Mile High Creek Fire Burned 378,000 Acres



Creek Fire – Eagles Beak, Madera County – SNF 2020



Forest Management, Wild Fires and Cultural Burns

- 10,000 recorded meadows in the Sierra Nevada Mountains
- 70% need maintenance or repair; 25% are “non-existent;” and only 5% are considered healthy
- In the last 20 years, the North Fork Mono Tribe has restored 6 meadows and this past year assessed another 9 meadows
- When the Indians lived on the land pre-1850 the canopy was 40% or less, now 170 years later, the forest is 80-90% in thickness
- The Forest Wildfires Ravaged the Landscape destroying everything in its path; the forest trees, the animals and all the resources
- Cultural Burning brings back a sense of “defensible space”
- “Good Fire” as it is called, restores the resources and habitat as well as the Water Table



Cultural Fire – Mariposa 2022



Hannah a Team Leader
Lighting the Fire with Sage

Prepping and Burning





Height of the Burn



Finished Burn, Nutrient Stage

Cultural Burn Renewed



Burn is Done, Remove Stems, Change the Ash Color—White to Purple to Brown, - Nutrient





**Hannah's Happy
Cultural Burn Complete**



Hannah's 2nd Burn Site Renewed 2022



Black Oak Restoration – Crane Valley
Meadow



Restoring Meadow for Return of Beaver



Finalizing Eagle Meadow in Tule River



Restoring Mud Meadow Around Tule Sequoia's

Smoking the Oak back to Health



Basket Makers Prepping the Redbud for a Burn





Cultural Burning is Fun and Exciting



Christina & Prof. Lightfoot's Site Renewed