

Top 3 Climate Change Priorities for BLM in 2016:

- *Developing the Northern CA Climate Vulnerability Assessment and Scenario Planning Workshop to support USFS and BLM resource/forest planning revisions.*
- *Developing partnerships and science to support climate adaptation strategies for BLM lands in Central California*
 - *Potential BLM mitigation lands in the San Joaquin Valley (follow up to California renewable energy strategy)*
 - *Central Cal BLM lands and post fire treatments*
- *Developing partnerships and science to support climate adaptation strategies for the BLM California Coastal National Monument and shoreline properties (22,000 offshore rocks and islands along the Cal coastline)*
 - *Priorities for historic and cultural resources*



Notes provided by Miriam Morrill, Climate Adaptation Planner, BLM California State Office

What BLM needs to succeed for each priority:

- **NorCal-** *Support/Involvement of local climate science and landscape partners to assist in development of climate vulnerability assessment (identifying potential new partners for climate adaptation science, projects and communications).*
- **CenCal-** *New partnership and funding opportunities to link/develop climate science to support BLM*
 - *post fire treatments and long-term forest and landscape management.*
 - *potential BLM mitigation lands associated with future San Joaquin renewable energy development.*
- **California Coast and Offshore Rocks and Islands–** *climate science, vulnerability assessments, and partnerships to support development of a climate adaptation strategies/projects for the BLM CA Coastal National Monument and coastline properties.*



The CA LCC can assist through its members and partnerships by:

- *Recommending local climate science experts and studies for the BLM NorCal, CenCal and Coastal climate assessment and strategy needs.*
 - *Including cultural and tribal partners (Provide/support a TEK workshop in Redding, CA in 2016)*
- *Identifying grants and funding support options to assist with climate assessment needs (aerial mapping, modeling, etc.).*
- *Supporting dialogs and or workshops on integrating climate science synthesis and communications between other similar organizations (CA Fire Science Consortium, SW CSC, Climate Hubs, Data Basin, CNDDDB, EcoAdapt/CAKE, etc.) to better support land management agencies.*
 - *Support potential conference/workshop sessions for info management and communications strategy/BMPs.*



Top 3 priorities for CDFW related to climate change &/or landscapes

- *Proposition 1 Watershed Restoration & Delta Water Quality and Ecosystem Restoration; Wetlands Restoration and GHG Reduction (Cap & Trade)*
- *SWAP Implementation*
- *Utilizing CA vegetation vulnerability assessment in various applications*



What is needed to succeed for each priority

Watershed Restoration & Delta Water Quality and Ecosystem Restoration Grant Program

- Water quality, river, and watershed protection and restoration
- Fisheries or ecosystem benefits or improvements

SWAP Implementation

- Downscale planning level strategies to project level implementation plans
- Partner engagement, best management practices

Utilizing CA vegetation vulnerability assessment in various applications

- Guidance or training on how best to incorporate and use vulnerability information
- Staff engagement

How can CA LCC, through its members and partnerships, help?

Watershed Restoration & Delta Water Quality and Ecosystem Restoration Grant Program

- Metrics for indicators
- Proof of concept

SWAP Implementation

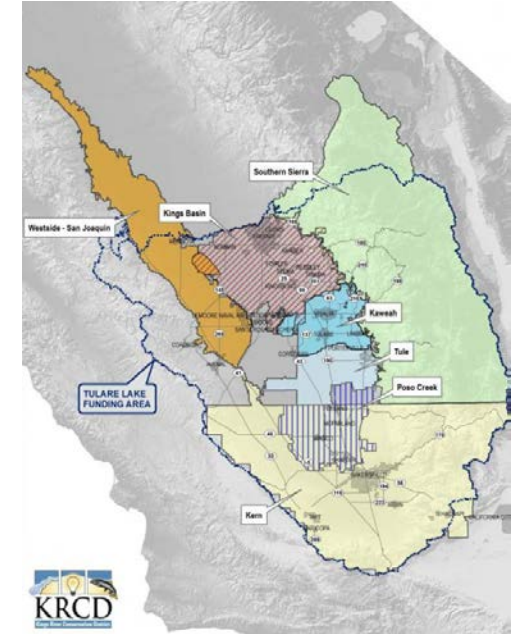
- Provide science for downscaled projects
- Monitoring and adaptive management

Utilizing CA vegetation vulnerability assessment in various applications

- Provide VA guidance (or direct us to existing resources)
- Additional modeling

Describe no more than 3 top priorities you are working on related to climate change &/or landscapes

- *Integrated Resources Management*
 - *Integrated Regional Water Management*
 - *Watershed-level Collaboration and Planning*
 - *Tulare Basin Watershed Connections Workgroup*
- *DWR natural lands (owned/managed)– how can they contribute to a resilient landscape?*
 - *California Aqueduct right-of-way*
 - *Watersheds surrounding reservoirs*
 - *Ecosystem services*



Describe what you need to succeed for each priority

- *[IRM] – New ways of thinking about resource management that break down silos and integrates planning across sectors (e.g. water, biodiversity conservation, urban planning)*
- *[DWR natural lands] - Information from projects like the Central Valley Landscape Conservation Project to help us see the bigger picture of the landscape and where the key corridors and protected areas are*



How can CA LCC, through its members and partnerships, help?

- *LCCs have the potential to be ‘bridging entities’*
 - *NAS report supports this as a value of LCCs*
 - *Support the concept and think of ways CA LCC can serve this role*
 - *Promote IRM within your agency*
- *Share information with staff about CA LCC and CVLC project*



Central Valley Joint Venture top priorities related to climate change &/or landscapes*



- **Priority 1:**

Adequate habitat for target populations of birds within the Central Valley

- **Priority 2:**

Adequate water available for bird habitat

What is needed to succeed for each priority



- **Priority 1: Adequate habitat for target populations of birds within the Central Valley**
 - Completion of 2016 CVJV Implementation Plan
 - Partners to protect, restore and enhance habitat for birds
- **Priority 2: Sufficient quantity and quality of water for bird habitat now and in the future**
 - Political, public and financial support for water for bird habitat

How the CA LCC can help



- ***Helping*** us with anticipated future scenarios so we can prioritize and adapt CVJV conservation actions
- ***Providing*** assistance addressing the human dimensions of wildlife management
- ***Addressing*** priority research needs identified in CVJV M&E plan

Climate Science Alliance-South Coast

Top 3 Priorities

- **Priority 1:** Facilitate and enhance science-focused partnerships that connect, translate, and disseminate best available ecosystem and climate science in the south coast.
- **Priority 2:** Provide tools, guidance, and resources to advance the integration of climate smart conservation objectives into regional and local policies, plans, and projects.
- **Priority 3:** Support and develop programs, projects, and partnerships that promote awareness among the general public and youth about climate change and the role of nature in safeguarding our communities and natural resources.



Success

- **Success for Priority 1:** Provide a forum to connect regionally specific science through consistent engagement among scientists, planners, and policy and decision-makers through 1-2 science advisory teams.
- **Success for Priority 2:** Provide a minimum of 2-3 targeted skill-building opportunities and/or trainings which connect decision-makers and land managers with locally relevant scientific research, resources, and/ or programs.(E.g. Living shorelines, tribal adaptation, Baja partners)
- **Success for Priority 3:** Support youth engagement on climate change and natural resource stewardship through the Climate Kids (CK) project by launching CK for Tribes and creating a binational experience between CK-Mexico and CK-San Diego.

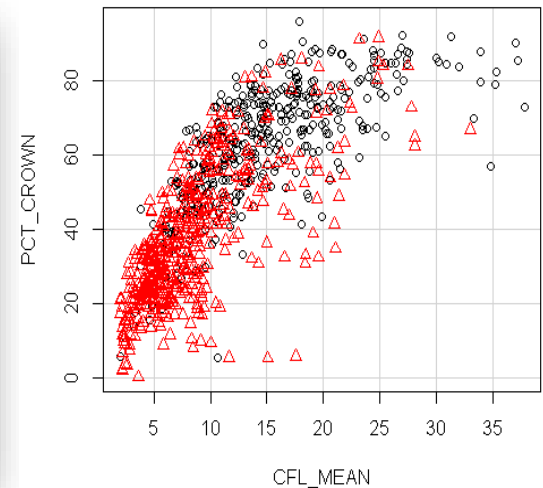
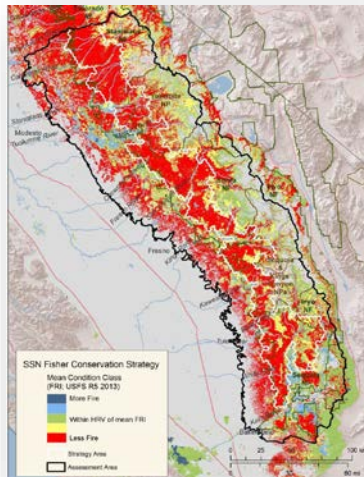
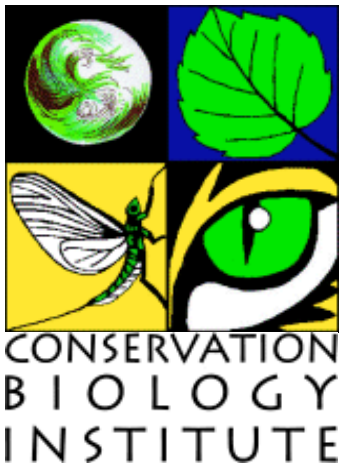
How can the CA LCC help?

Climate Science Alliance partners would like to request a seat on the CA LCC Steering committee. Alliance partners are committed to providing an engaged and active voice for the south coast with an eye towards enhanced communication, collaboration, and information sharing.



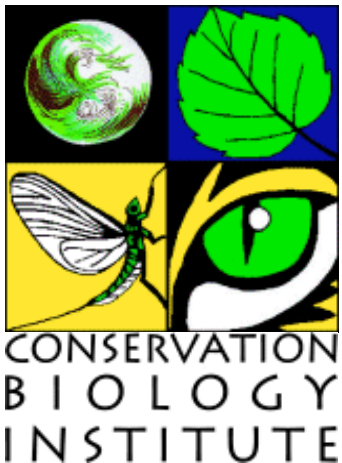
My 3 top priorities for 2016

- *Priority 1: Develop habitat resiliency metrics and targets for Sierra Nevada forest habitats and critters that require dense forest conditions*
- *Priority 2: Develop decision-support systems for evaluating and tracking progress on habitat resiliency targets*
- *Priority 3: Transfer lessons learned from Priorities 1 and 2 to other regions, ecosystems, and species*



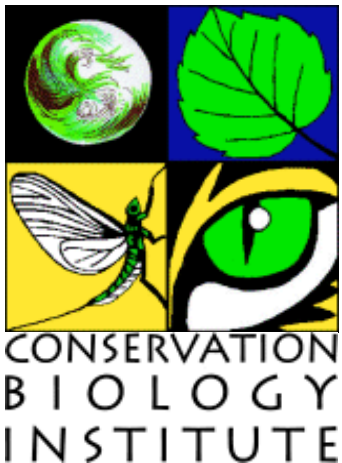
Needs

- *Success for Priority 1: Expert input, better data, and \$*
- *Success for Priority 2: Expert input, better data, and \$*
- *Success for Priority 3: Expert input, better data, and \$*



How can CA LCC, through its members and partnerships, help?

- *Help convene expert workshops?*
- *Review and comment on draft tools?*
- *\$?*





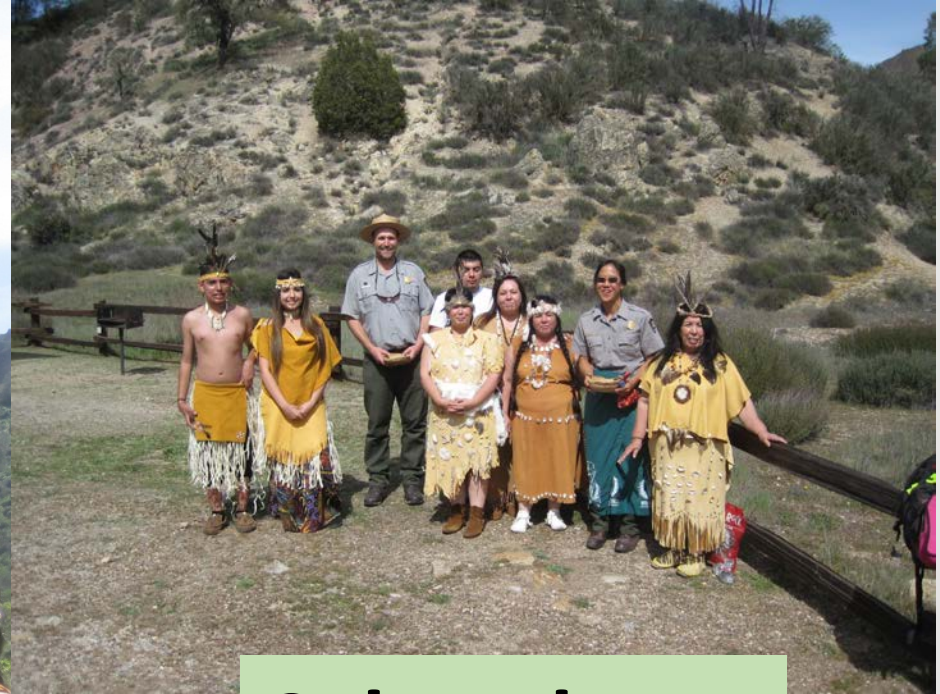
Pacific West Region National Park Service

Scaling UP: Restoration

Hydrological Processes



Scaling UP: Restoration



**Cultural
Practices**

**Valuing
Indigenous
Perspectives**

SCIENCE



American Indians Mike Bonillas (left) and Marvin Martinez attend the burn at Pinnacles National Monument. The burn was set as part of a project to learn more about the Indian uses of fire before European contact.

Burning questions from Indian culture

Controlled grass fire used to study traditional tribal practices

By Peter Fiumrite
CHRONICLE STAFF WRITER

A smoke signal-like plume rose up as flames rolled through 2 acres of deergrass at the Pinnacles National Monument to the delight of Indian tribal leaders who lit the blaze and naturalists who monitored it.

The fire was small, but it joined very long for the American Indian community in California.

The prescribed burn last week was part of a project by the National Park Service, the California Department of Forestry and Fire Protection and the Amah Mutsun tribal band



Firefighter Brian Kruger participates in the igniting of the 2-acre fire, set to copy the traditional practices of long-ago Indians of Central California.

to learn more about the traditional Indian uses of fire in Central California before European contact.

Deergrass, known scientifically as *Muhlenbergia rigens*, was historically used by California Indian tribes to weave baskets. The preparation of the grasses for use in weaving apparently required regular burning, a process that caused the plant to flower and grow straighter stalks, which make better baskets.

"For us as a tribe, this is a hugely significant event," said Chuck Striplen, a member of the Amah Mutsun tribe and an associate environmental scientist.

Burn continues on A9

Big battle over U.S. junk food guidelines

Industry spends millions to fight marketing limits

By Carolyn Lochhead
CHRONICLE WASHINGTON BUREAU

WASHINGTON — An effort by four federal agencies to limit marketing of junk food to children has provoked a fight between the packaged food industry and public health groups as intense as the cigarette wars of the 1990s.

The agency guidelines, ordered by Congress in 2006, are due this month after a year-and-a-half delay. They will be scaled back after a ferocious lobbying campaign by food manufacturers who fear that Twinkies are fast becoming the next tobacco.

The stakes are high for the \$1 trillion food industry, and public health groups alarmed by Americans' growing girth. Whether a child develops a taste for fruit or Frost Loops can establish lifelong eating patterns that translate to billions of dollars in sales of packaged foods.

Food continues on A9

POLITICS

Brown keeping low profile after early media blitz

By Wyatt Buchanan
CHRONICLE SACRAMENTO BUREAU

SACRAMENTO — When Gov. Jerry Brown took office in January, he almost immediately began a full-scale blitz of public appearances and interviews with the press.

He publicly wooed Republicans and myriad interest groups in Sacramento, seeking to bridge wide gaps among longtime opponents that had grown further apart since he left the governor's office nearly three decades prior. It was done in an effort to win support for his budget proposal, including allowing voters to decide whether to raise taxes or continue cuts in public services to

Brown continues on A8

OCCUPY OAKLAND

Mortgagers, evicted owner, buyers caught in clashes over seized homes

By Carolyn Said

Occupied Berkeley: Late-

Gouldry, 24, said as he lit a bar-



Cultural Practices and Fire

Scaling UP: Restoration



A photograph of a condor, likely a California Condor, perched on a rocky ledge. The bird has dark feathers with white wingtips and a band with the number '3' on its wing. It is looking out over a deep, rugged canyon with steep, rocky walls and sparse vegetation. The scene is captured from a low angle, emphasizing the bird's position on the cliff.

Scaling UP: Restoration

Species



Scaling UP:

Connectivity

Resilience

Describe what you need to succeed for each priority

- *Partnering*
- *Being Strategic*
- *Pooling Resources*
- *Finding Common Ground*

How can CA LCC, through its members and partnerships, help?

- *NPS at the table*
- *Factor in our strengths in community outreach, captive audiences and educational opportunities, citizen stewardship, Inventory and Monitoring program*

Describe no more than 3 top priorities you are working on related to climate change &/or landscapes

- ***Russian River Habitat Blue Print***
 - *Forecast Informed Reservoir Operations (FIRO) – Lake Mendocino*
 - *Estuary Sea Level Rise*
- ***Streamlined Permitting for Water Conservation and Habitat Restoration Projects***
 - *Programmatic Biological Opinions Oregon-to-Mexico*
 - *Programmatic Consistency Determination – California Coastal Commission*
- ***ESA Salmonid Recovery Plan Implementation***
 - *DFW Fisheries Restoration Grant program and Prop 1 Water Bond*



Describe what you need to succeed for each priority

- *Ongoing Technical & \$\$ support from NOAA, DOI (USGS & BOR), ACOE, Sonoma County Water Agency, Mendocino County*
- *Public Outreach on availability of streamlined permit process*
- *Public Outreach on availability of funding for water conservation and salmonid habitat restoration projects*



How can CA LCC, through its members and partnerships, help?

- *CA LCC members and partners need to unify around California Water and the universal ecosystem benefits it provides for all species*
- *The LCC can “help” by working with constituents to develop “projects” for water storage and conservation in order to take advantage of “once in a decade” funding and permit streamlining opportunities*

- **Westminster Woods Off-stream Storage**
- *Green Valley Creek – 175,000 gals*
- *ESA Endangered Coho Salmon*
- *Project provides pool connectivity at 0.3cfs*



Top priorities related to climate change &/or landscapes

- *Soil Health*
- *Tree Mortality*
- *Wildlife on Working Lands*



United States Department of Agriculture



NRCS

Natural
Resources
Conservation
Service

What we need in order to succeed

- *Soil Health – broad adoption of practices*
- *Tree Mortality – partnerships and infrastructure*
- *Wildlife on Working Lands*

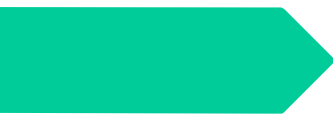


United States Department of Agriculture



NRCS

Natural
Resources
Conservation
Service



How can CA LCC, through its members and partnerships, help?

- *Research to answer questions regarding soil health practices*
- *Partnerships for technical assistance and infrastructure related to tree mortality*
- *Programmatic approaches to permitting and regulatory compliance*

United States Department of Agriculture



Testing Climate-Smart Restoration across the LCC

- *What*: By 2019, at least five state or federal agencies and/or NGOs with significant restoration operations will have implemented the climate-smart ecological restoration framework
- *Success to date*: Worked with Sonoma Land Trust to employ innovative climate-smart restoration strategies; was case study nationally in NOAA's U.S. Climate Resilience Toolkit
- *Needed for further success*: willing partners and appropriate restoration sites
- *LCC help*: promote climate-smart ecological restoration and help connect willing partners



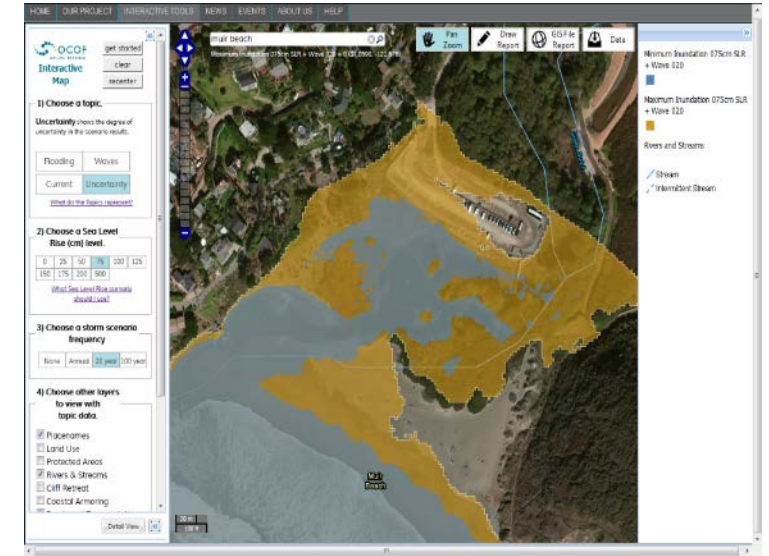
Climate-Smart Management of Working Lands --->Land Trusts



- *What*: By 2019, we will have enhanced soil carbon, water, and habitat on 1 million rangeland acres in the Central Valley and coast
- *Success to date*: hired and trained 14 Partner Biologists, embedded in local NRCS offices, working with ranchers & other land managers on 475 properties (~over 350,000 acres); partnering with several county land trusts
- *Needed for further success*: best language for climate-smart conservation easements; change in mindset; funding for monitoring
- *LCC help*: find and connect us with those already doing climate-smart conservation easements; climate-smart training of land trusts managers; provide funding to land trusts for climate-smart land stewardship

Valuation of Ecosystem Services

- *What*: By 2019 we will have guided coastal adaptation from San Diego to Eureka; coastal stakeholders will prioritize natural infrastructure
- *Success to date*: co-developed OCOF for Bay Area; conducted scenario planning with 12 coastal stakeholder groups to incorporate sea-level rise impacts in their decision making
- *Needed for further success*: connect with willing partners; more engagement with coastal engineers, economists, and planners, private funding for planning and implementation
- *LCC help*: organize workshops along the CA Coast focused on using natural infrastructure for climate change adaptation



Top priorities to Implement the Baylands Goals Update for Climate Change



1. Revise the SFBJV Implementation Plan for habitat planning, delivery, monitoring & evaluation, outreach, and policy guided by priority science needs
2. Understand the sediment budget and secure sediment placement to augment tidal action in SF Baylands
3. Secure migration space and deliver an additional 60,000 acres of wetlands and adjacent uplands



Beth Huning
December 17, 2015
California LCC

What Does the SFBJV Need to Succeed?

1. Revise the SFBJV Implementation Plan
 - Methods, tools, and analysis for tracking net landscape change
 - Science priorities (ex. mudflat mapping) to guide implementation
 - Confirm or establish updated habitat and species targets
2. Understand sediment budgets and secure dredge and fill material
 - Further analysis of sediment budgets and sediment needs
 - Resolving regulatory hurdles & costs precluding beneficial re-use
 - Get as much clean upland disposal and sediment as soon as possible into restoration sites
 - Monitor restoration sites for function and species
3. Restore 55,000 acres of wetland and adjacent habitat by 2030
 - Prioritize where to restore to allow wetlands to keep pace or migrate
 - Restore full ecosystems
 - Secure migration space



How the CA LCC Can Help

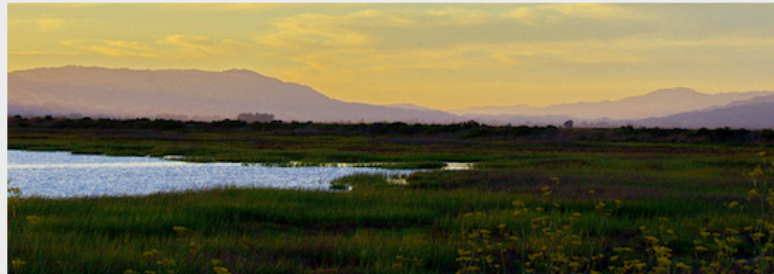
- Integrate SFBJV priorities into the LCC strategic plan
- Provide science support for the SFBJV by funding SFBJV priorities that meet LCC goals
- Provide support to mapping and analytic tools for sediment
- Assist SFBJV with funding to monitor & track net landscape change in habitat types, quantity, and habitat quality
- Support analytic tools for tracking sediment needs



Recent Successes



Supporting Climate Adaptation Decisions for Estuarine Ecosystems of the San Francisco Bay



Project Overview

This project brought together natural resource managers, conservation coordinators and planners, and scientists working within the San Francisco Bay to identify optimal management alternatives that can be coordinated among partners to achieve fundamental objectives for conservation in San Francisco Bay in the face of climate change.

Final Products:

Project final report:

[Full Report \(PDF, 6 mb\)](#)

Report Sections:

- [Title page, Suggested Citation, Concise Table of Contents](#)
- [Credits, Detailed Table of Contents, Preface, How to Use This Report](#)
- [Detailed Summary](#)
- [Chapters, Literature Cited, and Glossary](#)
- **Appendices:**
 - [A: Upland Transition Zone Projections](#)
 - [B: Timeline for CADS Phase 1](#)
 - [C: Information Packet for Stakeholder Workshop](#)



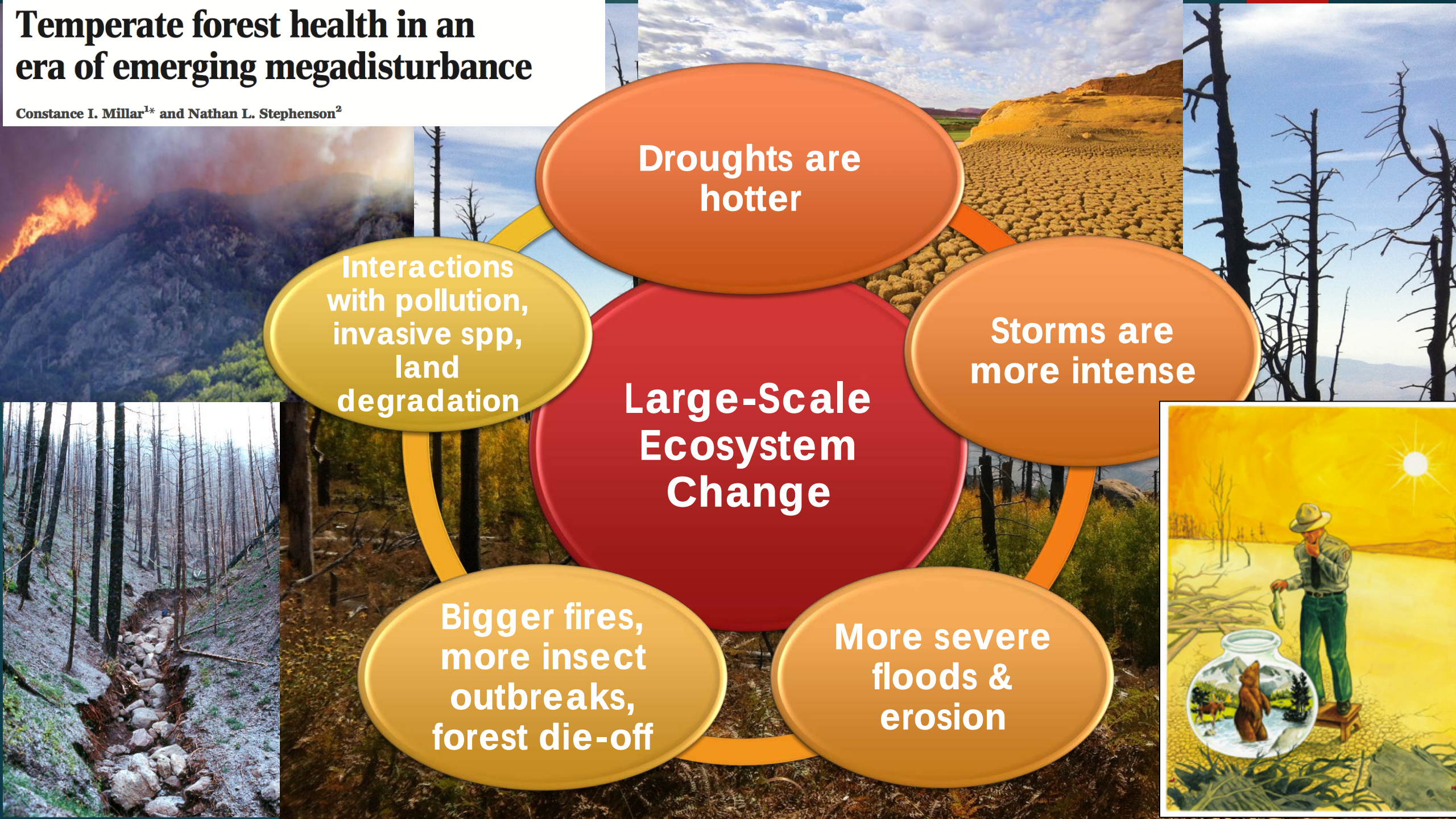
1. Toward Actionable Science:

**SYNTHESIS OF EXISTING & IDENTIFYING NEW
EMERGENT SCIENCE**

Translating the implications for conservation & management

Temperate forest health in an era of emerging megadisturbance

Constance I. Millar^{1*} and Nathan L. Stephenson²





2. Facilitating the implementation of processes that support adaptation planning & action

STRUCTURED PROCESSES FOR ENGAGEMENT & CO-PRODUCTION

- Scenario planning approaches
- Climate – Smart conservation
- Structured decision making
- Climate-informed monitoring



3. New Tribal Engagement Efforts



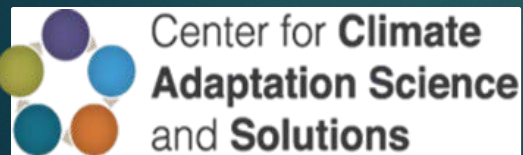
► Traditional Knowledge & Adaptation

Support activities led by the LCCs

► Native Nations Climate Adaptation Program

Goal of enhancing the ability of Native Americans & their nations to meet the climate challenge by:

- Assisting with identifying & building capacity for adaptation
- Identifying climate-related sources of risk & opportunity
- Convening gatherings to foster information sharing & learning



Success!

SOUTHWEST CLIMATE SUMMIT

**Working with CA LCC & other partners
to implement**



Describe no more than 3 top priorities you are working on related to climate change &/or landscapes

- *Increase Tribal capacity*
- *Increase Tribal access to tools, resources, and baseline data*
- *Increase engagement of Tribal communities and youth*

Tribal Team



Describe what you need to succeed for each priority

- *Localized and tribally specific training and workshops*
- *Tribally focused online portals*
- *Outreach and support to community leaders and educators*

Tribal Team



How can CA LCC, through its members and partnerships, help?

- *Sponsor and/or facilitate regional workshops and trainings specific to tribes*
- *Further develop the tribal page on the CA LCC website*
- *Sponsor and/or facilitate outreach*

Tribal Team



Describe no more than 3 top priorities you are working on related to climate change and/or landscapes.



Priority 1:

Klamath and Central Valley Landscape Conservation Designs

Priority 2:

Drought: water quality, quantity => effects on species & habitats

Priority 3:

Effects of the drought coupled with climate change

Describe what you need to succeed for each priority



- *Success for Priority 1*

Continued support for Conservation Design efforts

- *Success for Priority 2*

Better understanding of the effects of drought so those effects can be better anticipated

- *Success for Priority 3*

#2 above but with climate change added (e.g., climate smart drought adaptation strategies)

How can CA LCC, through its members and partnerships, help?



The Service needs a continued focus on partnerships, and on coordinated efforts on the political, scientific, and communications fronts from the CA LCC

Describe no more than 3 top priorities you are working on related to climate change &/or landscapes

- *Priority 1 – – understand the impact of pond restoration and enhancement projects on mudflat extent and quality on avian and aquatic species*
- *Priority 2 – cost effective way to map the extent of mudflat in the South Bay and how it changes over time with restoration/SLR*
- *Priority 3 - mudflat charging pilot study in the South Bay as a CC/SLR adaptation strategy.*

Describe what you need to succeed for each priority

- *Success for Priority 1 –funding; researchers are lined up and extensive baseline work has been done.*
- *Success for Priority 2 – funding, researchers are lined up and pilot study was done in 2015*
- *Success for Priority 3 – funding to conduct the study, researchers to conduct the study (physical, chemical, biological studies), permitting*

How can CA LCC, through its members and partnerships, help?

- *Funding opportunities, letters of support as needed*
- *Potentially partners for mudflat charging study*



Describe no more than 3 top priorities you are working on related to climate change &/or landscapes



- *Climate Vulnerability Assessment and Adaptation Strategies for Southern California Forests (50% complete) and Northern California Forests (1% complete)*
- *Climate change adaptation and Natural Areas Conference (October 2016 in Davis, CA)*
- *Science Information Needs:* Assessing carbon stocks in shrub dominated landscapes and meadows, development of 'resilience' metrics and targets to determine conditions that will be more resilient to stressors like climate change, development of a framework to address post-fire restoration in the face of changing climates and disturbance regimes.

Describe what you need to succeed for each priority

- *Continued logistical support as we complete the climate vulnerability assessment project in Southern California and expand efforts in to Northern California.*
- *Financial and logistical support to make the Natural Areas Conference a success.*
- *Science information to guide restoration efforts including:*
 - *Method for assessing carbon storage in shrub and meadow landscapes*
 - *Development of resilience metrics and targets*
 - *Development of a framework to assess post-fire restoration*



How can CA LCC, through its members and partnerships, help?

- *Outreach to partners in Southern California and Northern California. May also need travel support for Northern California work.*
- *Outreach to partners about the Natural Areas Conference, as well as logistical and financial support.*
- *Science information to guide restoration and planning efforts including: analytical, scientific, financial, and facilitation support.*
 - *Partners to take the lead on carbon storage and resilience metric issues.*
 - *Partner involvement (and potentially workshop support?) as we develop a framework to assess post-fire restoration needs.*

