

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**MEETING OF MAY 16-17, 2018
BISHOP**

ITEM 5

CLIMATE CHANGE MITIGATION & ADAPTATION UPDATE

CHRONOLOGY

November 2014	Water Board staff hosted the first Climate Change Mitigation & Adaptation Public Workshop in Barstow, California. Climate change experts presented the latest research regarding anticipated climate change effects in the Lahontan Region to over 100 attendees. Attendees provided ideas regarding potential Water Board adaptations/responses (regulatory, policy, coordination with stakeholders, outreach, etc.) to climate change.
January 2015	Water Board staff hosted second Climate Change Adaptation Public Workshop in South Lake Tahoe, California, which was similar in attendance, content, and format to Nov. 2014 workshop.
May 2015	Water Board staff presented summary of public ideas generated from the Nov. 2014 and Jan. 2015 public workshops to the Water Board. Water Board directed Water Board staff to develop a Climate Change Mitigation and Adaptation Strategy (Strategy).
July 2015	Water Board staff presented Climate Change Conceptual Model and Strategy ideas. Water Board provided direction.
December 2015	Three internal Water Board Climate Change Working Groups formed and began meeting: Infrastructure; Storm Water and Low Impact Development; and Wetlands and Floodplains.
August 2016	Water Board staff widely distributed Climate Change Survey to Email Subscription Lists and other interested persons. Survey is posted on the Climate Change page of the Water Board's web site.
Aug. – Oct. 2016	Water Board staff attended outreach meetings with a variety of stakeholder groups to encourage stakeholder participation with the Survey and to solicit input.
November 2016	Water Board staff present and discussed the online Climate Change Survey, prioritizing potential climate change-related actions, and next steps in developing a climate change mitigation and adaptation strategy with the Water Board. Water Board provided direction.
January 2017	Water Board staff provided preliminary observations regarding the online Climate Change Survey results, and the proposed revised schedule for developing a climate change mitigation and adaptation strategy to the Water Board. Water Board established a Climate Change Subcommittee and provided direction.

May 2017	Water Board staff presented a Climate Change Staff Report, which presented information on the input received from outreach workshops in 2014 and 2014 and from an online survey in August 2016 to the Water Board. Water Board members supported the plan to hold outreach meetings throughout the region to solicit public input on various options the Water Board should pursue to mitigate and adapt to climate change.
September 28 – October 10, 2017	Water Board staff conducted three public outreach meetings (Truckee, Apple Valley, Bishop) to gather input on various options the Water Board could prioritize for mitigating and adapting to climate change.
November 2017	Water Board staff presented the key messages learned from the three public workshops held throughout the Lahontan Region to the Water Board.
April 2018	Water Board Executive Officer presented regional progress toward developing a Strategy to State Board members at the April 3, 2018 State Board Hearing.

BACKGROUND

Strategy Development Summary. In 2014, after directly observing and experiencing climate induced impacts occurring throughout the Lahontan Region (i.e., extended drought, less snow-pack, wildfires), the Water Board initiated a process to adapt to a changing climate. The development process started with two Science and Brainstorming Public Workshops. Objectives of those workshops were achieved: (1) Participants realized the new reality that faces us with our changing climate, and (2) Public provided initial input to help shape and prioritize the Water Board's role in adapting to climate change.

Following the initial workshops, staff presented an overview of the ideas gathered from the Science/Brainstorming public workshop to the Lahontan Board members. At that meeting, the Lahontan Board members and Water Board staff mutually acknowledged significant progress toward adapting to climate change through previous development of a rich body of regulatory tools and policies. The Water Board directed staff to prepare a Strategy to guide our adaptation efforts throughout the Lahontan Region and at the local level.

Water Board staff identified existing regulatory tools and programs in place to formulate a [Conceptual Model](#) that created a centralized strategy to begin to adapt to climate change. The development of the Conceptual Model also helped to identify regulatory tools and programmatic gaps that would need further attention. Through a web-based survey and a series of three public outreach meetings, staff received additional public and stakeholder feedback to further refine our goals and shape an effective strategy that the Water Board could implement to respond to climate change.

Through the public participation process, Water Board staff distilled over 400 initial ideas to three overarching goals to focus our efforts: (1) protection of infrastructure and critical recharge areas; (2) protection and restoration of wetlands, floodplains, and headwaters; and (3) increasing stormwater capture and infiltration and low-impact development. Developing productive partnerships and collaboration is interwoven throughout, and key to the success of making progress toward these primary goals.

Our Strategy will present a suite of actions to achieve these goals. Developing and implementing the actions may require re-examining and replacing existing priorities, shifting resources, and obtaining future funding to build the capacity needed to effectively respond. Acknowledging additional resources may be limited, the Strategy will also identify a subset of tasks that staff can begin actively working on in the near future (one to three-year horizon).

The Strategy will be updated at least every five years as knowledge of climate change impacts on water quality, and actions to address these impacts evolve. Water Board staff will either take a lead role to shepherd actions that fit under our regulatory programs (e.g., develop prohibitions and permit conditions) or provide support to propel climate change mitigation and adaptation activities being led by others (Sierra Meadows Partnership, Lake Tahoe West Restoration Project). Additionally, staff will identify opportunities to maximize our efficiency in mitigating and adapting to climate change by leveraging relevant tools and products being developed by others to build their adaptation plans (e.g., groundwater sustainability plans; San Bernardino County – LID Guidance and Training).

The Strategy will involve a combination of (1) Water Board efforts that are already existing, planned, or underway, (2) select actions proposed for development and implementation, and (3) opportunities to partner with existing, key regional efforts being directed by others.

KEY CONSIDERATIONS

In the development and implementation of our Strategy, the following key considerations, which may affect the pace and success of our adaptation and resiliency actions, should be realized:

1. Acknowledge our ability to adapt to climate change is an evolving process and a significant undertaking. Limited and fully dedicated resources continue to delay development of our Strategy, despite significant progress to date.
2. Realize climate change mitigation and adaptation may require some departure from traditional ways of thinking & conventional solutions.
3. Recognize the Strategy will be updated at least every five years as the knowledge of climate change impacts on water quality, and actions to address these impacts evolve.
4. Shift annual priorities/workplans as we develop adaptation and mitigation concepts.
5. Engage with stakeholders and the regulated community so our actions align with, and acknowledge, different interests.
6. Partner with efforts underway or planned by other organizations or agencies.
7. Encourage public input and provide transparency.
8. Work with State Board to identify policies, regulations, legislation and funding to facilitate mitigation and adaptation.

DISCUSSION

Productive partnership and collaboration will continue to be the cornerstone of our development process toward a final Climate Change Mitigation and Adaptation Strategy for the Lahontan Region.

Near-term (Spring/Summer 2018). Through the collaborative process, staff has distilled several potential strategies down to a select few actions to focus our initial adaption efforts. To flesh out the details of these key actions, staff will meet with stakeholders and the regulated community who are directly affected by these proposed select actions. Key stakeholders will have the opportunity to provide input and review products associated during the development phase of these actions. Collaboration will involve developing technical working relationships through convening Technical Working Group Meetings and/or written correspondence/surveys/information sharing with affected partners.

Near-term (Summer/Fall 2018). Staff may present the Board with a draft Climate Change Mitigation & Adaptation Response Resolution to formalize the Water Board's three primary goals to adapt to climate change and build resiliency throughout the Lahontan Region.

Mid-term (Fall/Winter 2018). Following focused discussions with affected stakeholders (Summer/Spring 2018), staff will direct attention towards drafting the Strategy with the intent of presenting it to the Board for its consideration by the end of the year. Elements of the Strategy will include:

1. Effects- Current and anticipated impacts to water quality and water resources.
2. Goals- Water Board's overarching goals.
3. Actions- Existing, underway, and proposed actions within the Water Board's sphere of regulatory authority and permitting tools, and efforts underway or planned by partners.
4. Prioritization Process- Criteria to prioritize actions that we will move forward on first give limited staff resources.
5. Schedule for Implementation Short (1-2 years), Long-Term (2-5 years), and ongoing will be identified

PUBLIC OUTREACH/INPUT

Water Board staff maintains and updates its climate change web page, and distributes agenda items and other documents/activities and funding opportunity to the Board's Climate Change Mailing List. Staff continues to participate in quarterly conference calls attended by State and Regional Board staff who share updates on each region's progress toward developing and implementing climate change actions. The Executive Officer presented the Lahontan Region's efforts toward Climate Change Mitigation & Adaptation at the State Water Board's April 3, 2018 Hearing in Sacramento.

RECOMMENDATION

This is an informational item and no formal action is requested, but the Water Board will be asked to provide input to staff regarding key actions that should be the highest priority.

ENCLOSURE	ITEM	BATES NUMBER
1	Water Board Staff's Presentation	5-5

ENCLOSURE 1

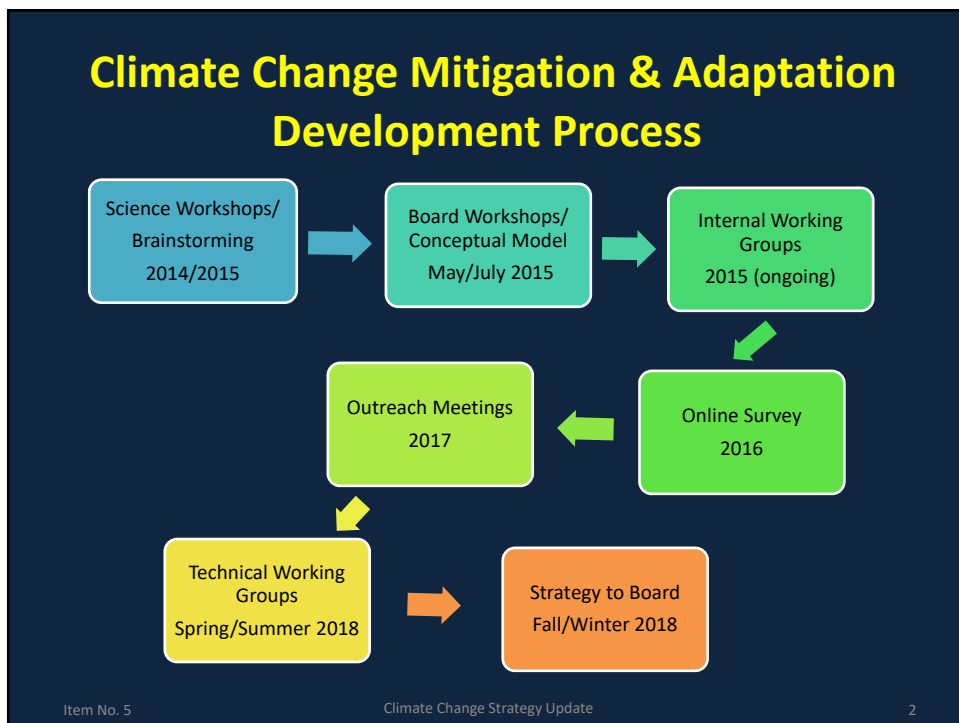

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UPDATE

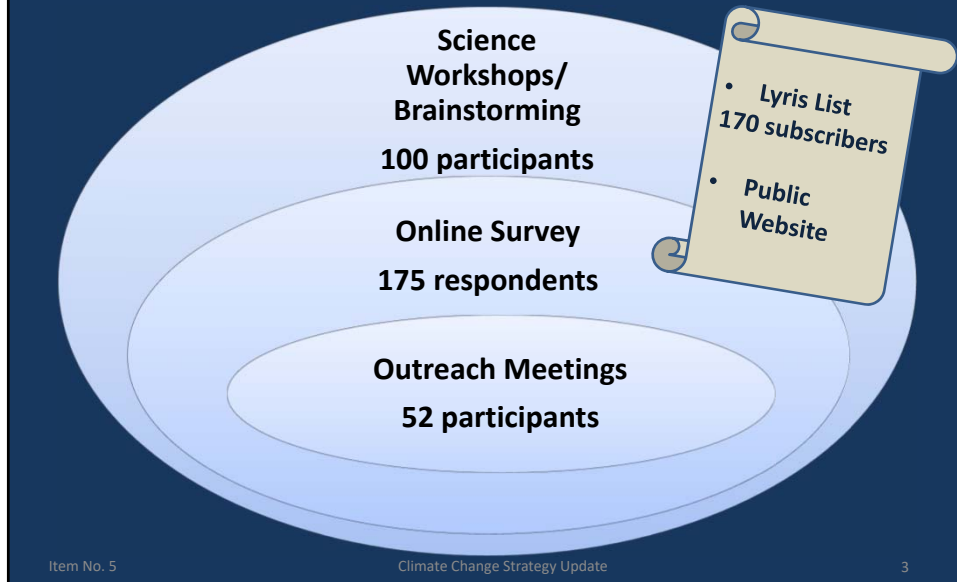
**Climate Change
Mitigation & Adaptation Strategy**

Lahontan Water Board Meeting
Bishop, CA
May 16, 2018

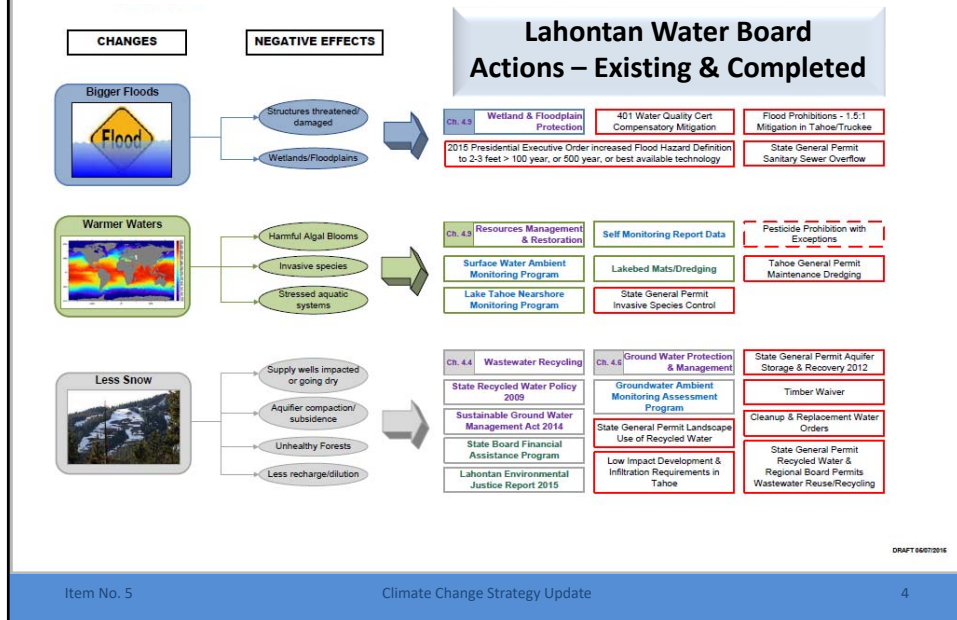
Mary Fiore-Wagner
Sr. Environmental Scientist - Specialist
Lahontan Regional Water Quality Control Board

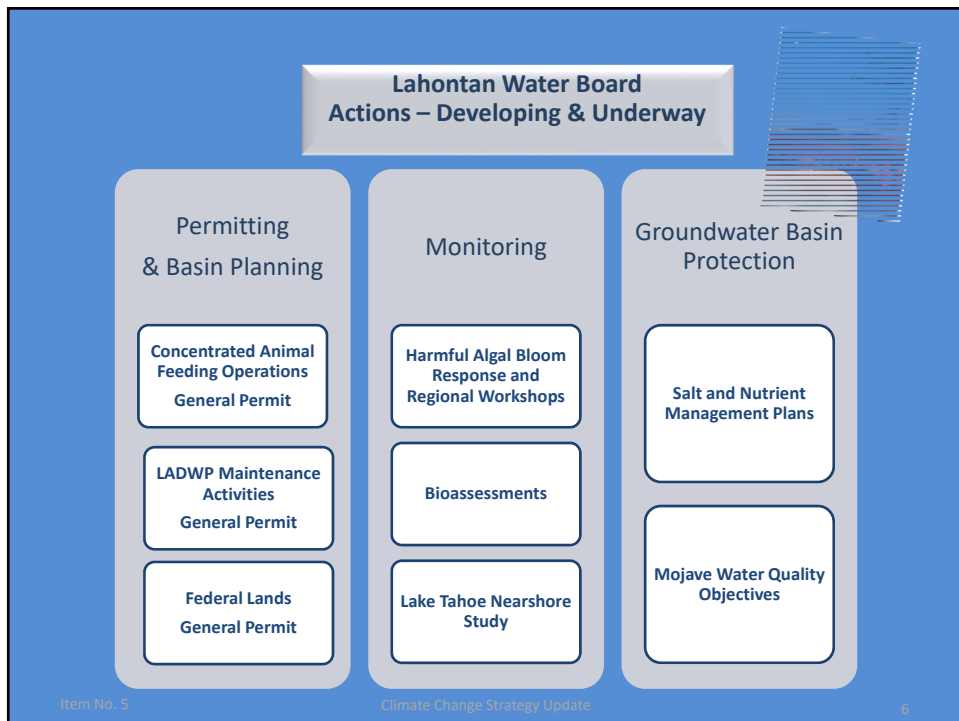


Stakeholder Involvement

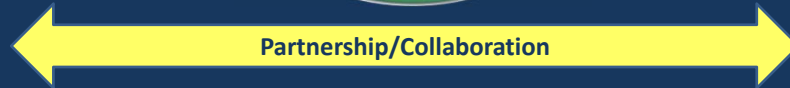
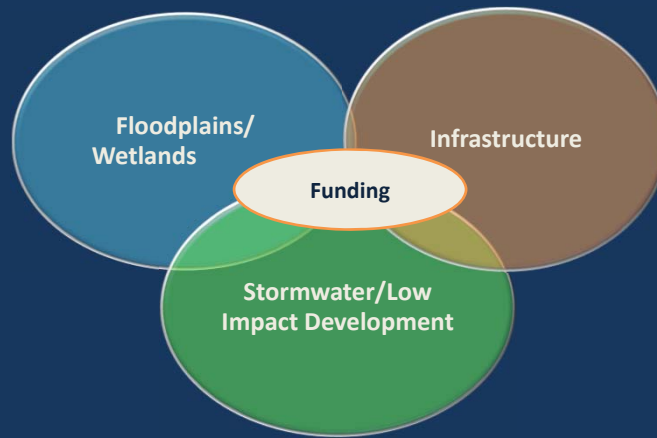


Conceptual Model





Internal Working Groups



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Technical Working Groups – Focus Areas



Infrastructure

Vulnerability/Risk Assessments and Adaptation Plans for Infrastructure at risk

Expand prohibitions to protect sensitive environments



Wetlands/Floodplains

Streamline permitting for meadow restoration

Develop criteria for grazing management on public and private lands



Stormwater/LID

Revise permits to maximize stormwater treatment & infiltration

LID Outreach & Collaborating with local implementers



WWTPs, GMAs, Local Governments, RCRC

Sierra Meadows Partnership, Sierra Water Workgroup

ARCCA, IRWM, RCD, RCRC

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Increase Protection of Infrastructure & Critical Recharge Areas



Infrastructure Protection

Short Term Actions - Steps to get there & Schedule



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Increase Protection and Restoration of Wetlands, Floodplains, & Headwaters



Meadow Restoration – Streamlined Process & Permitting

Short Term Actions - Steps to get there & Schedule



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Increase Stormwater Infiltration & Treatment and Low Impact Development



Low Impact Development - (LID)

Short-Term Actions - Steps to get there & Schedule

Conduct inventory of new development projects;
leverage information in City & County General Plans

Review LID outreach
approaches and propose
plan for outreach

2-6 months (ongoing)

6-12 months

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State Board Efforts – Resolution 2017-0012 Comprehensive Response to Climate Change



Mitigation
Reducing
emissions



Adaptation
Responding to
impacts



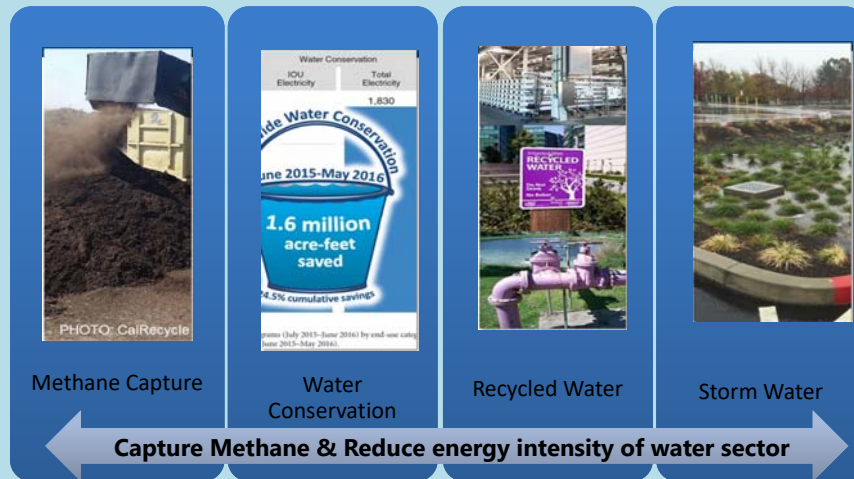
Support
Funding, outreach,
access to data

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Mitigation – Reduce Greenhouse Gas Emissions



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Adaptation & Support Improving Resiliency & Responding to Impacts

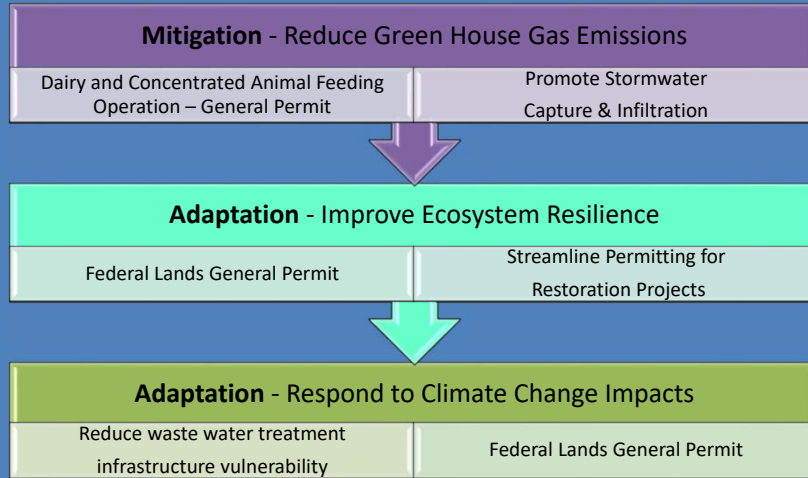


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Lahontan Water Board Aligning with SB Resolution 2017-0012



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Elements of the Strategy

Effects	<ul style="list-style-type: none"> Current and anticipated impacts to water quality and water resources
Goals	<ul style="list-style-type: none"> Protect Infrastructure & Critical Recharge Areas Protect & Restore Floodplains and Wetlands Increase Stormwater Treatment & Reuse/ LID Leverage Efforts by Others; Provide Support & Partner
Actions	<ul style="list-style-type: none"> Within Water Board sphere of regulatory authority and permitting tools Partner with efforts underway or planned to fill gaps
Prioritization Process	<ul style="list-style-type: none"> Threat to public health and water quality Cost, Political Controversy, Ease of Change, Short or Long-term Effect, Staff Resources, Magnitude of Gain
Schedule	<ul style="list-style-type: none"> Consider/redefine existing priorities Triennial Review List

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Key Considerations

Heavy lift, Moving schedule, Limited resources, Evolving process

Expand existing localized concepts region-wide

Engage with stakeholders & regulated community so actions align

Partner with efforts underway or planned by other organizations or agencies

Encourage Public Input & Provide Transparency

Shift annual priorities/workplans as we realize adaptation concepts

Realize climate change mitigation and adaptation may require some departure from traditional ways of thinking & conventional solutions

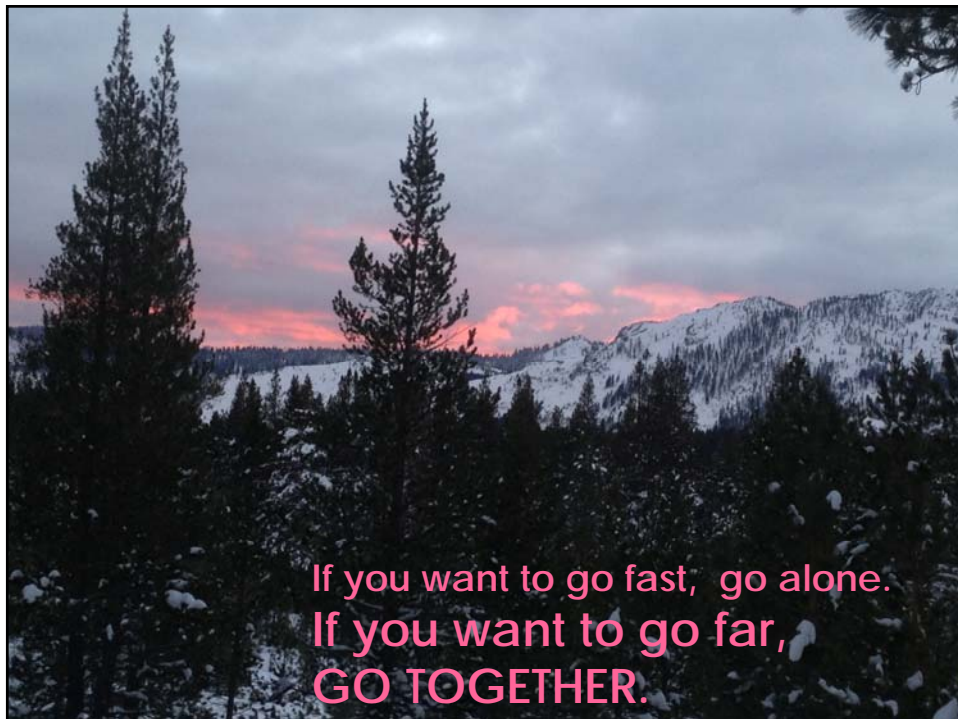
Work with State Board to identify policies, regulations, & funding to facilitate adaptation



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If you want to go fast, go alone.
If you want to go far,
GO TOGETHER.