

January 24, 2022

MEMO TO: Traci N. T. Fujita, Director  
Office of Council Services

F R O M: Paige Greco, Legislative Analyst *PG*  
Brittney Sunderland, Legislative Analyst *BS*

SUBJECT: **“LOCAL CLIMATE RESPONSE – BUILDING RESILIENCY AND ADAPTING TO IMPACTS” WEBINAR ON JANUARY 12, 2022**  
(PAF 21-012(28))

You have requested a brief report on the Municipal Research and Services Center’s “Local Climate Response – Building Resiliency and Adapting to Impacts” webinar on January 12, 2022. During this webinar, presenters shared approaches used by their respective organizations to address climate change. Macro-perspective tactics when formulating plans for addressing climate change in community plans were highlighted.

**Presenters:**

- Crystal Raymond, Ph.D., Climate Adaptation Specialist (University of Washington Climate Impacts Group)
- Lisa Dowling, Natural Resource Specialist (Chelan County, Washington)
- Lara Whitely Binder, Climate Preparedness Program Manager (King County, Washington)
- Sarah Doar, Legal Consultant (Municipal Research and Services Center)

**Building Local Climate Resilience**

Dr. Raymond shared that authority, knowledge, capacity, and motivation are the four necessary elements for mainstreaming building climate resilience into the core values of organizations. She also discussed the difference between having climate change as a stand-alone topic when creating plans on the local level vs. embedding climate adaptation and resilience measures throughout plans. The former brings focused attention to climate change while the latter helps to show how climate change affects many, if not all, parts of local government.

### **Local Climate Response: Building Resiliency and Adapting to Impacts**

Ms. Dowling highlighted Chelan County's climate resilience efforts, largely centered around their "Climate Resiliency Round Table Draft Charter." The goal of the Charter is to move the Chelan County Climate Resiliency Strategy plan from the planning phase to implementation phase. This Charter brought together governmental and non-governmental agencies and community stakeholders to maximize public input.

### **Preparing for Climate Change in King County: Reflections from the Local Level**

Ms. Whitely shared King County's climate change preparedness strategies, highlighting the importance of equity when developing and implementing policies. For counties with fewer resources, she suggests beginning to address climate change by seeking out knowledge that already exists within the community. Picking one or two issues with easy traction is a great way to get projects started.

### **Climate Impact Group's New Program and Project for Local Climate Resilience**

Dr. Raymond detailed the Northwest Climate Resilience Collaborative, a new program aimed at supporting frontline communities. An overview was given on the importance of developing strategies specifically aimed at addressing the needs of underserved communities. Historically, institutionalized social inequities have disproportionately affected indigenous and other populations, and it is important to include their local knowledge into climate resiliency strategies in order to identify problems and develop solutions.

### **Conclusion**

The main takeaways I gathered from this webinar are:

- Authority, knowledge, capacity, and motivation are the four necessary elements for mainstreaming building climate resilience into organizations.

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Page 3

- Having support from governmental, non-governmental and community organizations is essential when planning and implementing climate change and resiliency measures.
- Embedding equity into climate change and resilience plans must happen at every step.

Based on the points raised during the webinar, I believe Maui County already operates within a number of the recommendations shared. Examples include:

- Ordinance 5264, effective September 21, 2021, adding “Mitigate Climate Change and Work Toward Resilience” as a Goal of the Countywide Policy Plan.
- Climate change adaptation measures included in the 2030 General Plan.
- Continuous collaboration with non-governmental and community organizations such as the University of Hawai‘i at Manoa’s School of Ocean and Earth Science and Technology and various nonprofit organizations.

Presentation slides are attached.

A recording of the webinar can be found at <https://register.gotowebinar.com/recording/viewRecording/346084898432182032/3091216888708304646/paige.greco@mauicounty.us?registrantKey=336514750090552333&type=ATTENDEEEMAILRECORDINGLINK>.

I hope you find this information useful. Please let me know if I can provide anything further.

paf:pmg:21-012(28)a

Attachments

cc: David Raatz, Deputy Director of Council Services

# LOCAL CLIMATE RESPONSE

Building Resiliency and Adapting to Impacts

**January 12, 2022**

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# Webinar Technical Notes

## DURING THE WEBINAR

Presentation handouts available in the toolbar

Submit questions anytime through the question box

Having problems with audio?

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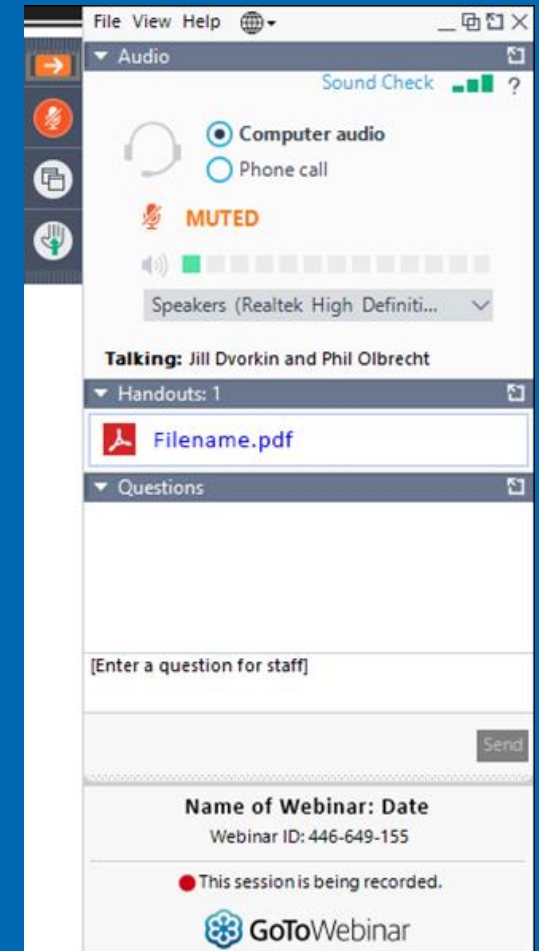
Select Phone call and the system will prompt you with the phone number

**Technical Difficulties: Call (206) 625-1300 x:19**

## AFTER THE WEBINAR

A link to the webinar recording will be emailed to registered attendees within 1 week

If you don't see the full toolbar, click on the **orange arrow**



# About MRSC



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# Presenters



**Crystal Raymond, Ph.D.**  
Climate Adaptation  
Specialist  
*University of Washington  
Climate Impacts Group*



**Lisa Dowling**  
Natural Resource  
Specialist  
*Chelan County*



**Lara Whitely Binder**  
Climate Preparedness  
Program Manager  
*King County*



**Sarah Doar**  
Legal Consultant  
*MRSC*



# Climate Adaptation for Local Governments in Washington



**Crystal Raymond, PhD**

Climate Adaptation Specialist,  
Climate Impacts Group

**W** EARTHLAB  
UNIVERSITY of WASHINGTON

Image ©CIG; with aerial support from LightHawk



Part 1

# **Building Local Climate Resilience**

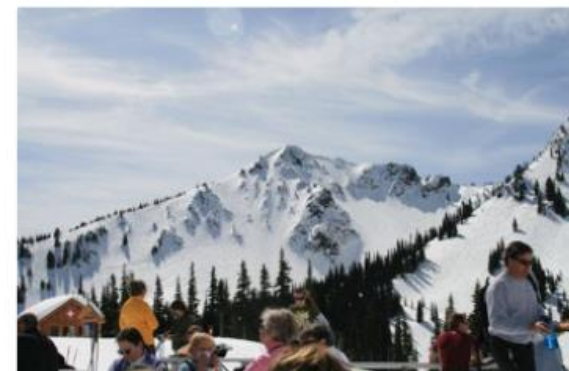


CIG.uw.edu

The University of Washington  
Climate Impacts Group builds  
climate resilience by advancing  
awareness of climate risks &  
enabling science-based action to  
manage those risks.



Climate Matters: Washington's economy, infrastructure and natural systems were built to succeed in the context of the climate of the past.





# The Climate of Washington is Changing...



Warming



Less snow, earlier melt



Streamflows:  
Higher highs, lower lows



Heavier rains



Rising seas



More wildfires & smoke





Every single day, people are making decisions & investments that will either exacerbate or ameliorate the impacts of climate change, for decades to come.



**What does it take  
to build climate  
resilience?**





# The elements needed for building climate resilience can take many forms.

## Authority – Executive Orders, Regulation, Budget, Expectations

*Is there high-level sponsorship for the product and process?*

*Do staff have the authority to act?*

## Knowledge – Climate Impacts, Economic and Policy Resources

*What data and resources available to support the product and process?*

## Capacity – Trained staff, funding

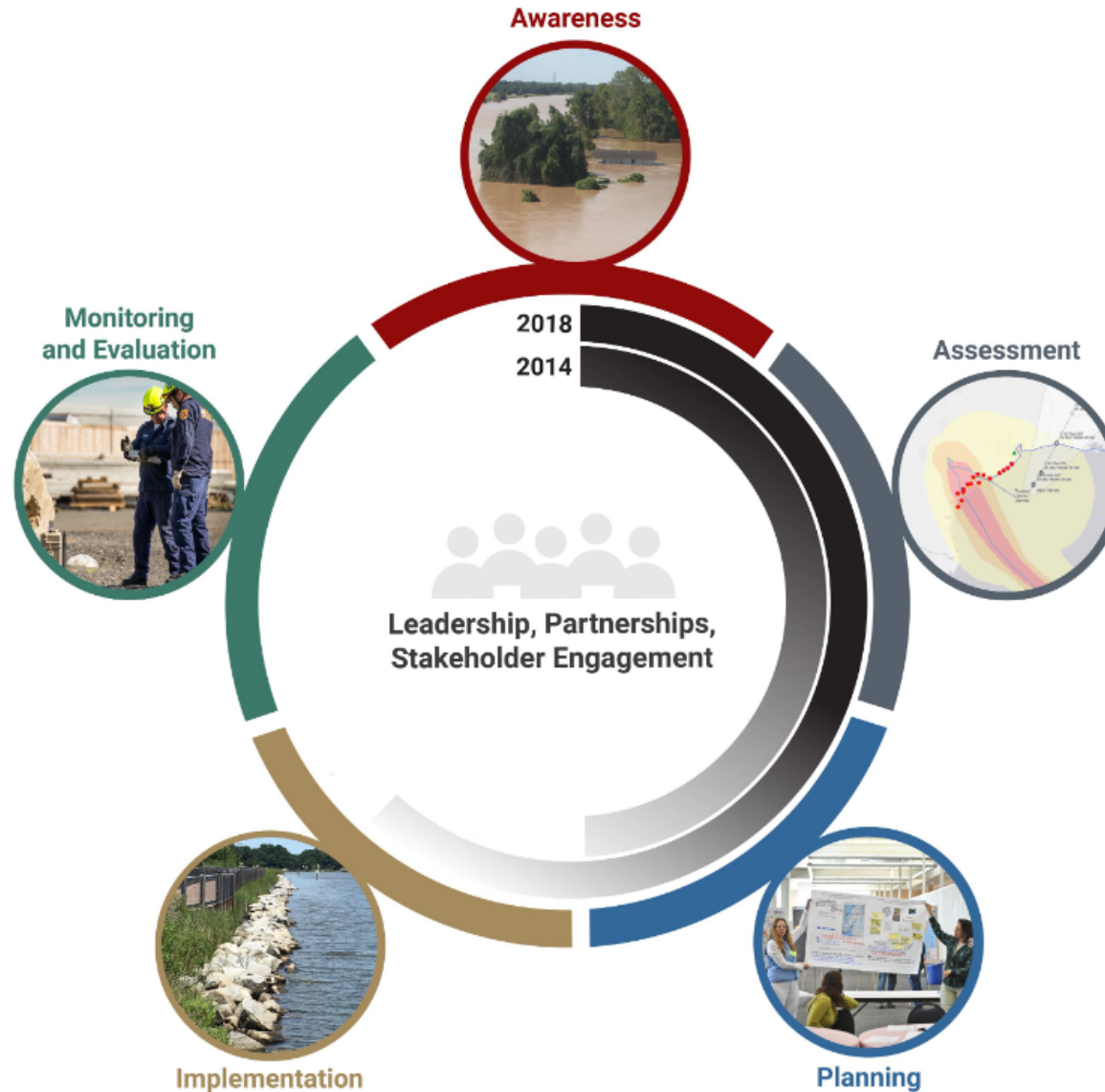
*Is there staff time or funding to support the product and process?*

## Motivation – Awareness, Accountability, Empowerment

*Do the right people know why this is important and how to get resources?*



# The climate resilience planning *process*.



# Building a base for understanding climate impacts is critical to the resilience *process*.

- Conduct some form of climate education and training
- Resilience planning is about the process as much as the product.

Awareness



Informal



Formal

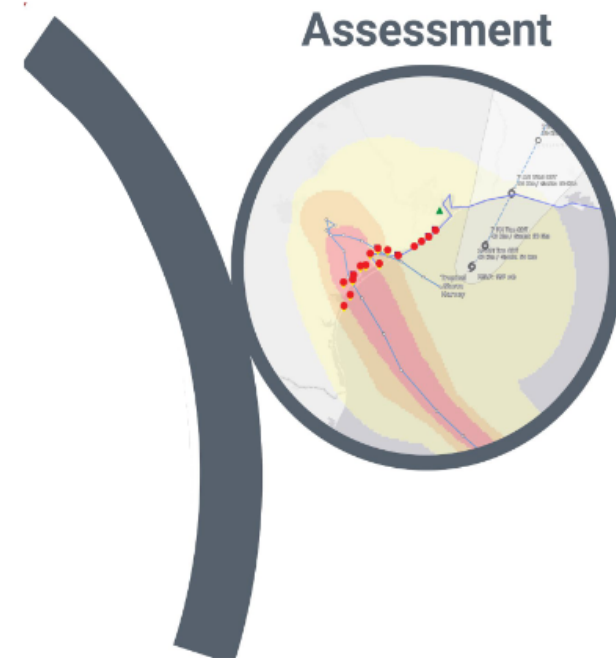
# Assess the changes in climate-related natural hazards and how systems could be sensitive to those changes.

- Identify the how key climate hazards relevant for your area are likely to change in the future  
*(Climate Impacts Group can help with this)*
- Assess and document your system sensitivities and vulnerabilities *(No one knows this better than your organization)*

Informal



Formal



# Resilience planning can take many forms.

- Resilience or adaptation planning can be a separate document *OR* integrated in existing plans *OR* both.
  - Comprehensive plans
  - Hazard mitigation plans
  - Water System Plans (Drinking water)
  - Integrated Resource Plans (Energy)
- Build from existing plans and actions – *few actions are implemented solely because of climate change.*
- Engagement with communities is critical – *and can be a way to accomplish more.*



Planning

# Implementation is the most important, hardest, and most rewarding phase.

- Develop a near-term action plan, including low-hanging fruit and “early wins” to makes the process tangible.
- Develop metrics to measure progress and success.
- The process is iterative – when will the plan be updated? What can be added next time?





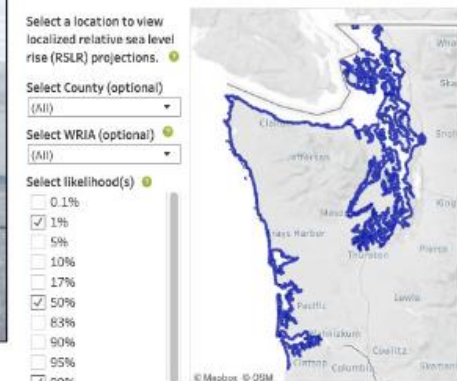
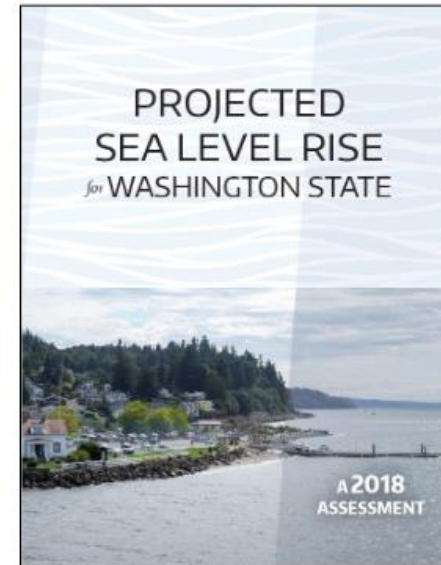
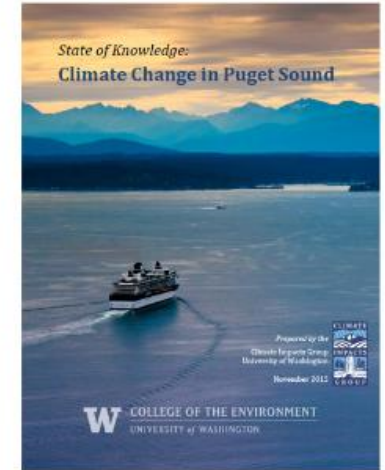


# Science for climate adaptation and resilience

The Climate Impacts Group is Washington's resource for climate impacts science, tools and decision-support *State of Knowledge* reports on WA climate impacts, adaptation progress and data

- Online data & tools
- Cutting-edge science on climate risks and adaptation responses
- Technical guidance and support for climate risk assessment and management

[www.cig.uw.edu](http://www.cig.uw.edu)



# Local Climate Response Building Resiliency and Adapting to Impacts

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*Webinar hosted by MRSC on Wednesday, January 12<sup>th</sup> 2022*

*Lisa Dowling, Natural Resource Specialist*

*Chelan County Natural Resource Department*

# Chelan County Climate Resiliency Strategy - Purpose

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**How climate change will impact Chelan County? Goal is to answering the following questions:**

1. Where are we heading based on current trends and expected changes?
2. What does that mean for commerce, communities, residents of Chelan County as well as visitors?
3. What are steps Chelan County and the greater community can take to build climate resilience?

# Chelan County Climate Resiliency Strategy - Purpose

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*Building climate resilience is...*

***“Being prepared for, and adapting to, current and future climate-related changes.”***

*—WA DNR Plan for Climate Resilience*

**Document meant to help achieve two key benefits of county-wide climate resilience planning:**

1. Improve communication and coordination for climate resilience efforts
2. Identify opportunities to advance projects that provide multiple benefits for organizations, people, and agencies in Chelan County

# Chelan County Climate Resiliency Strategy - Outline

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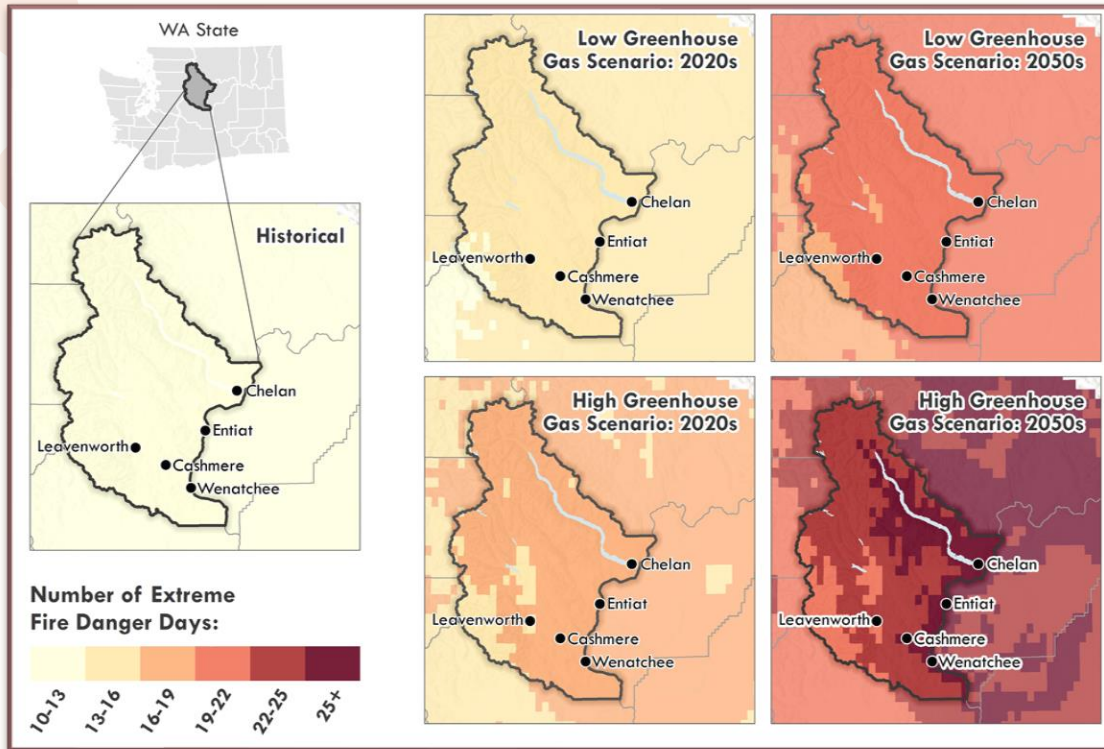
**The strategy outlines the expected impacts of climate change in the following impact areas:**

- *Wildfire*
- *Snowpack & Streamflow*
- *Flooding*
- *Water Supply*





# Chelan County Climate Resiliency Strategy - Outline



Example Map in Document: Extreme Fire Danger Days, Chelan County

In each of the four main impact areas, it discusses:

- Observed / Current Trends
- Expected Changes
- Impacts
- Current Initiatives
- Resilience Strategies

# Chelan County Climate Resiliency Strategy - Outline

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## Additional sections include:

- **Cross-Sector Strategies:** resilience strategies that cut across subject areas, and address multiple hazards or expected climate conditions
- **Implementation Next Steps:** a suggested framework for moving forward and advancing from strategies to action items

# Chelan County Climate Resiliency Strategy - Examples

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- **Wildfire:** Create fire adapted communities; protect critical facilities; coordinate and improve emergency preparedness systems
- **Snowpack and Streamflow:** Collect local data to support climate resilience including weather stations/SNOTEL, seasonal wind patterns, etc.
- **Flooding:** Evaluate and improve stormwater management and infrastructure for high-intensity rainfall events
- **Water Supply:** Drought planning to increase water conservation; consider greywater systems and water re-use



# Chelan County Climate Resiliency Strategy - Timeline

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- Multiple organizations and community members contributed to the process from 2019-2020
- With a strategy in place, we can continue with coordinated action to create a climate resilient Chelan County ~ Round Table



- *Opportunity to advance resilience projects county-wide*
- *Convene Round Table to guide implementation*

# Chelan County Climate Resiliency Strategy - Summary

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Community Engagement



Draft Strategy



Getting to Action

- Collaborative effort with broad support across Chelan County
- Details the expected impacts of climate change on wildfire, snowpack and streamflow, flooding and water supply in the county
- Provides pathways for addressing these impacts to create resilient communities.
- Visit the Chelan County Climate Planning Website to learn more:
  - <https://www.co.chelan.wa.us/natural-resources/pages/county-wide-climate-resilience-planning>



# Climate Resiliency Round Table Draft Charter

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- Formed to move the Strategy forward from planning to implementation
- Inclusive and adaptive ~ comprised of governmental and non-governmental agencies and community stakeholders
- Process to convert strategies into ‘key action themes’
- Prioritize and coordinate climate activities county-wide
- Identify opportunities, constraints, and gaps in knowledge, resources, or funding

# Example Strategy to Key Actions

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**Priority Strategy:** Create fire adapted communities; protect critical facilities; coordinate and improve emergency preparedness systems



**Key Action:** Provide wood chippers that can be used to reduce fuels, rotated around communities. Chipping can be easier to accomplish than burns and not impact air quality.



**Key Action:** Education and community outreach around how forest health = FireWise/SmokeWise Communities. Thinning and prescribed burn has input all down the chain with regard to streams, health of people, GHG emissions mitigation and prevention.



**Key Action:** Ensure that Spanish speaking communities are trained in methods for setting up Smartphones to receive emergency messages in preferred language, create bilingual social media posts



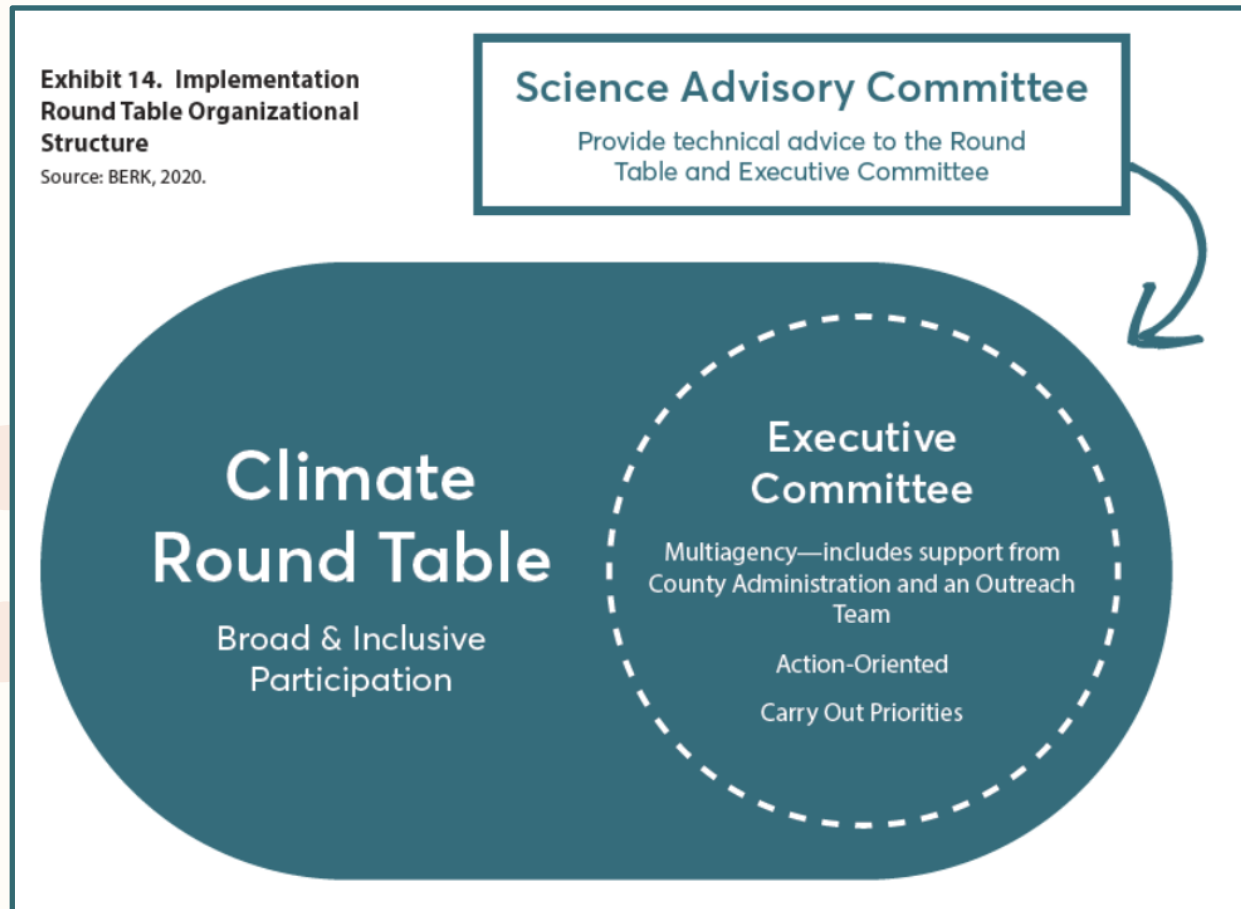
# Climate Resiliency Round Table Draft Charter

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- Operate by consensus
- Frame and discuss policy areas
- Coordinate/Support Project Development and Implementation
  - ✓ Purpose/need
  - ✓ Planning
  - ✓ Implementation
  - ✓ Monitoring and adaptive management
- Diverging recommendations addressed by Executive Committee.
- Quarterly meetings to receive updates on various activities

# Climate Resiliency Round Table Organizational Structure

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# Climate Resiliency Round Table Organizational Structure

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Round Table will consist of three committees to define and implement on-the-ground actions:

- **Climate Round Table:** will be open to anyone who has an interest in climate resilience
  - Divided into **Small Committees** based on ‘Key Action Areas’
- **Executive Committee:** will be a subset of the Round Table executing the group’s priorities
- **Science Advisory Committee:** will provide technical advice to the Round Table and Executive Committee

# Climate Resiliency Round Table Organizational Structure

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## – **Science Advisory Committee:**

- Identify climate impact science applicable to Chelan County
- Provide feedback on key actions and opportunities
- Complete technical review of annual Work Plan and provide recommendations based on best available science
- Identify critical issues and report on ‘current gaps’



# Climate Resiliency Round Table Organizational Structure

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## – Executive Committee:

- Diverse multi-agency and organization representation
- Small Committee Leadership Representation
  - *Work to with Small Committees to finalize Action Items*
  - *Facilitate coordination between committees for Action Items than span multiple Areas of Focus*
- Coordinate County-Wide Climate Resiliency Efforts
  - *Compile all Small Committee Action Items into Annual Work Plan*

# Climate Resiliency Round Table Organizational Structure

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- **Small Committees:**

- Broad and Inclusive participation
- Identify priority Action Items for 1-2 year period

- **Four Areas of Focus:**

- Public Health and Vulnerable Communities
- Wildfire and Forest Health
- Water Resources
- Outreach and Education

# Next Step: Develop Priorities for 1-2 Year Work Plan

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- Review the Climate Resilience Strategies and Themes from December 2020 workshop.
- Identify potential priorities for a 1-2 year work plan for each key subcommittee
- Confirm/identify key tasks for priority action items and associated resource needs.
- Executive Committee will develop an overall work plan after coordinating with subcommittees. See the template for a work plan.

## Impact vs Implementation

High – Easy = Do it Now

Low – Easy = Possible

High – Time Consuming = Challenge (\$\$\$ or personnel)

Low – Time Consuming = Don't Do it



# Wildfire

- **Build awareness of increasing wildfire risk and preparedness** of Chelan County Communities
- **Coordinate and improve emergency preparedness systems**, particularly early detection
- **Develop fire safe places in fire prone areas** with wildland urban interface policies and codes
- **Create fire adapted communities**
- **Coordinate ecological recovery programs**
- **Build partnerships...monitor and respond to climate changes and vulnerabilities in forested and shrub-steppe lands**
- **Proactively address fire resiliency** through activities such as: pre-fire monitoring, maintenance/forest treatment, thinning, prescribed fire, and managed natural fire
- **Air quality:** education, training, and responses to protect people and communities during and after wildfire

## Climate Resiliency Round Table Large Group Polling Activity

- **What are your top 2 priorities?**
- 



# Next Step: Develop Priorities for 1-2 Year Work Plan

## Exhibit 1. Poll Results

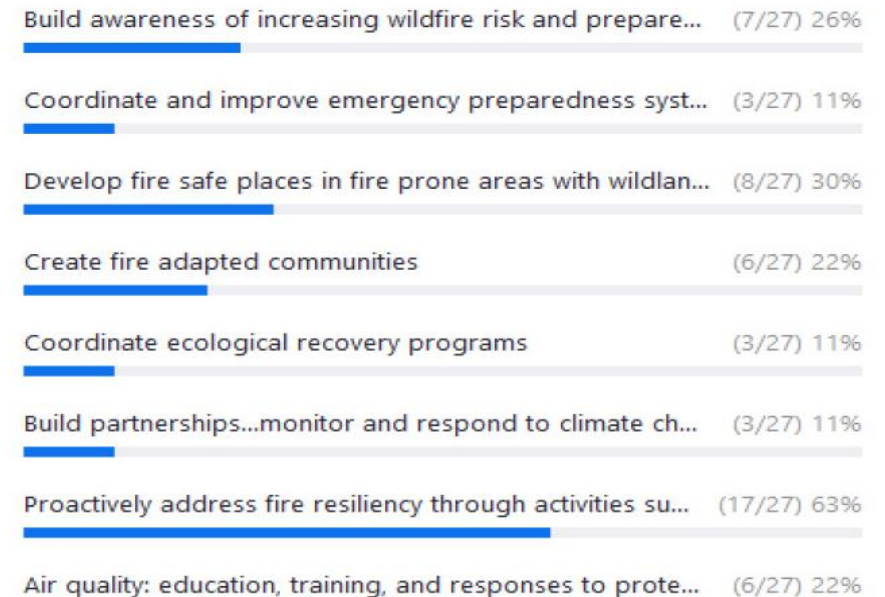
### Wildfire

#### *What is your top priority for wildfire?*

“Proactively address fire resiliency” was the clear leader with 63%, followed by “Develop fire safe places in fire prone areas” at 30%.

#### 1. What is your top priority for wildfire? (Multiple Choice) \*

27/27 (100%) answered





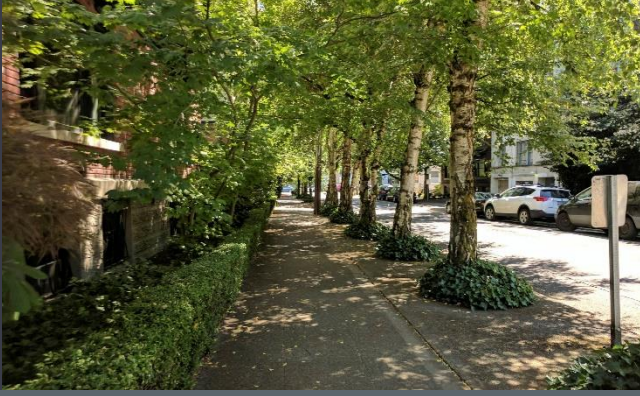
Thank you for  
listening!

*Please contact me for more  
information or visit our  
website*

[Lisa.Dowling@co.Chelan.wa.us](mailto:Lisa.Dowling@co.Chelan.wa.us)

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<https://www.co.chelan.wa.us/natural-resources/pages/county-wide-climate-resilience-planning>



# Preparing for Climate Change in King County: Reflections from the Local Level

**Lara Whitely Binder**

King County Climate Preparedness Program Manager

MRSC | *January 12, 2022*



# MORE THAN 20 YEARS OF ACTION ON CLIMATE CHANGE...





KING  
COUNTY  
2020  
**Strategic  
Climate  
Action Plan**



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## King County's 5-year strategy for:

- reducing greenhouse gas emissions - *countywide*
  - preparing for the impacts of climate change
  - advancing climate equity
-

# WHY DOES THIS MATTER FOR LOCAL GOVERNMENT?

## INCREASED HEAT

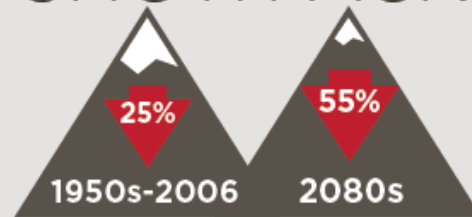
**+5.5 °F**



Average annual air temperature in the Puget Sound region has increased 1.3 °F (1895–2014), and is projected to be 5.5°F warmer in the 2050s.

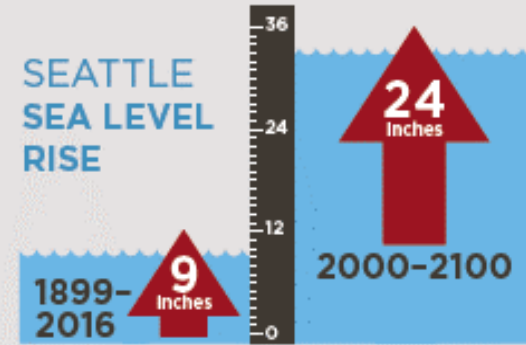
## LESS SNOW

AVERAGE CASCADE SNOWPACK



## RIISING SEA LEVEL

SEATTLE SEA LEVEL RISE



## INCREASED COSTS TO SHELLFISH GROWERS

DUE TO OCEAN ACIDIFICATION



ACIDITY



## CHANGES IN EXTREMES

By the 2080s, our heaviest rain events are expected to be 22% heavier.

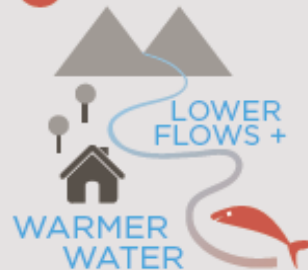


MORE EXTREME HEAT EVENTS

FALL/WINTER



SUMMER



## INCREASED WILDFIRE THREAT



**4**-fold Increase in annual area burned projected for Washington's forests by the 2040s.

## PUBLIC HEALTH IMPACTS DUE TO HEAT



MORE ILLNESSES



MORE HOSPITALIZATIONS AND DEATHS



**Health, Environment, Economy**

# MORE SPECIFICALLY.....

*assuming “Business As Usual”*

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- Damage to public, private infrastructure
- Economic disruption
- Increased demands on emergency services
- Reduced asset life and/or performance
- Disruption to public services
- Increased risks to public health
- Disproportionate impacts on frontline communities
- Increased challenges meeting environmental goals
- Changes in capital finance and insurance markets







# 2020 SCAP PRIORITIES FOR CLIMATE PREPAREDNESS

Reduce climate risks  
equitably

Operationalize  
climate preparedness  
via “mainstreaming”

Accelerate regional  
preparedness



# Developing the 2020 Preparedness Section

## King County Staff Deep Dive Process

Climate Leadership Team;  
Preparedness Steering  
Committee

Public Workshops

Online Public  
Input Tool






Stakeholder  
Meetings

Best Practices

# STRATEGIC FRAMEWORK

Focusing on *how* we  
do our work, rather  
than organizing by  
climate impact

Each strategy has  
stated outcomes and  
performance measures

MAINSTREAM CLIMATE PREPAREDNESS	1	Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.	
TECHNICAL CAPACITY	2	Invest in and use best available science and other technical information to inform climate preparedness work at King County.	
HEALTH AND EQUITY	3	Prioritize health and equity in climate preparedness actions and activities.	
COMMUNITY AND ORGANIZATIONAL PARTNERSHIPS	4	Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.	
OUTREACH AND ENGAGEMENT	5	Invest in public outreach, engagement, and technical assistance related to climate preparedness.	

# WHAT DOES CLIMATE ADAPTATION LOOK LIKE AT KING COUNTY?

## *Updating Design Considerations*

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To meet today's compliance standards, CSO facilities in the would need to be:

- about 40–54% larger, and/or
- able to handle an extra 58–78 million gallons in a large storm

by the 2080s, based on a low and high greenhouse gas scenario.

### **Modeling of Possible Future Climate Change Scenarios**

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**Effects on King County Wastewater  
Treatment Division Combined Sewer  
Overflow Control Volumes – Phases 1 & 2**

June 7, 2021

### **Policy for Incorporating Climate Change Impacts on Rainfall in Combined Sewer Overflow Control Facility Sizing**

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December 2021

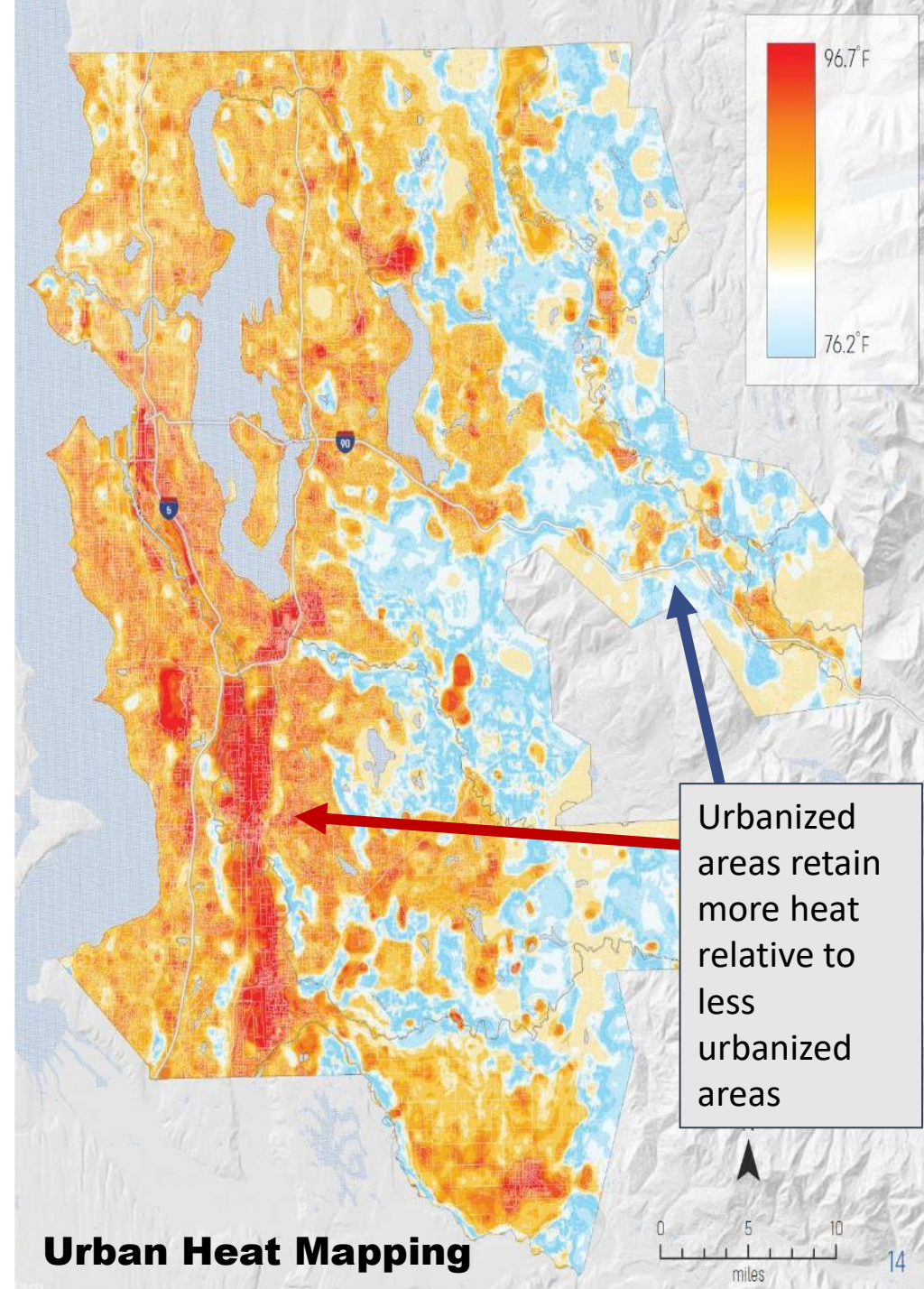
**DRAFT**





## EXTREME HEAT MITIGATION STRATEGY

Strengthening short-term response and coping strategies while adapting our built environment to better handle heat





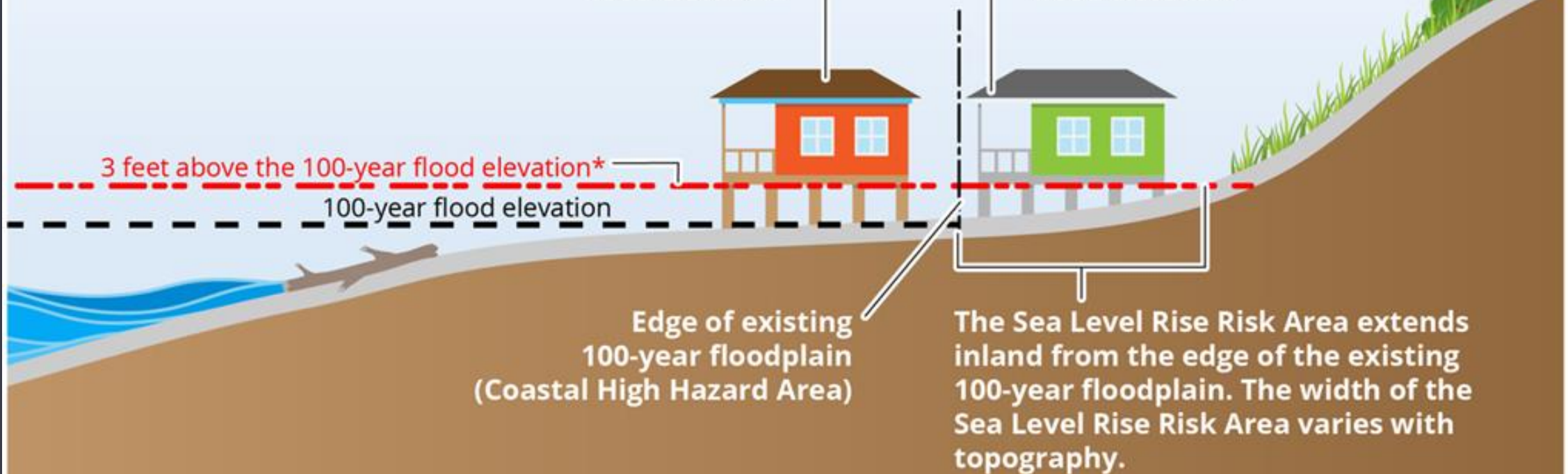
# King County Coastal Floodplain Regulations with the Sea Level Rise Risk Area

## Existing 100-year Floodplain

A new building or a substantially-improved building in the 100-year floodplain must be built 3 feet above the 100-year flood elevation.

## Sea Level Rise Risk Area

Under the adopted regulations, a new or substantially-improved building must now be built 3 feet above the adjoining 100-year flood elevation.





# LESSON #1: REDUCING VULNERABILITY IS NOT SIMPLY A FUNCTION OF HOW OUR CLIMATE IS CHANGING.

It is the *intersection* of changes in climate with human decisions that shapes our vulnerabilities. We have a bigger tool box than we think.



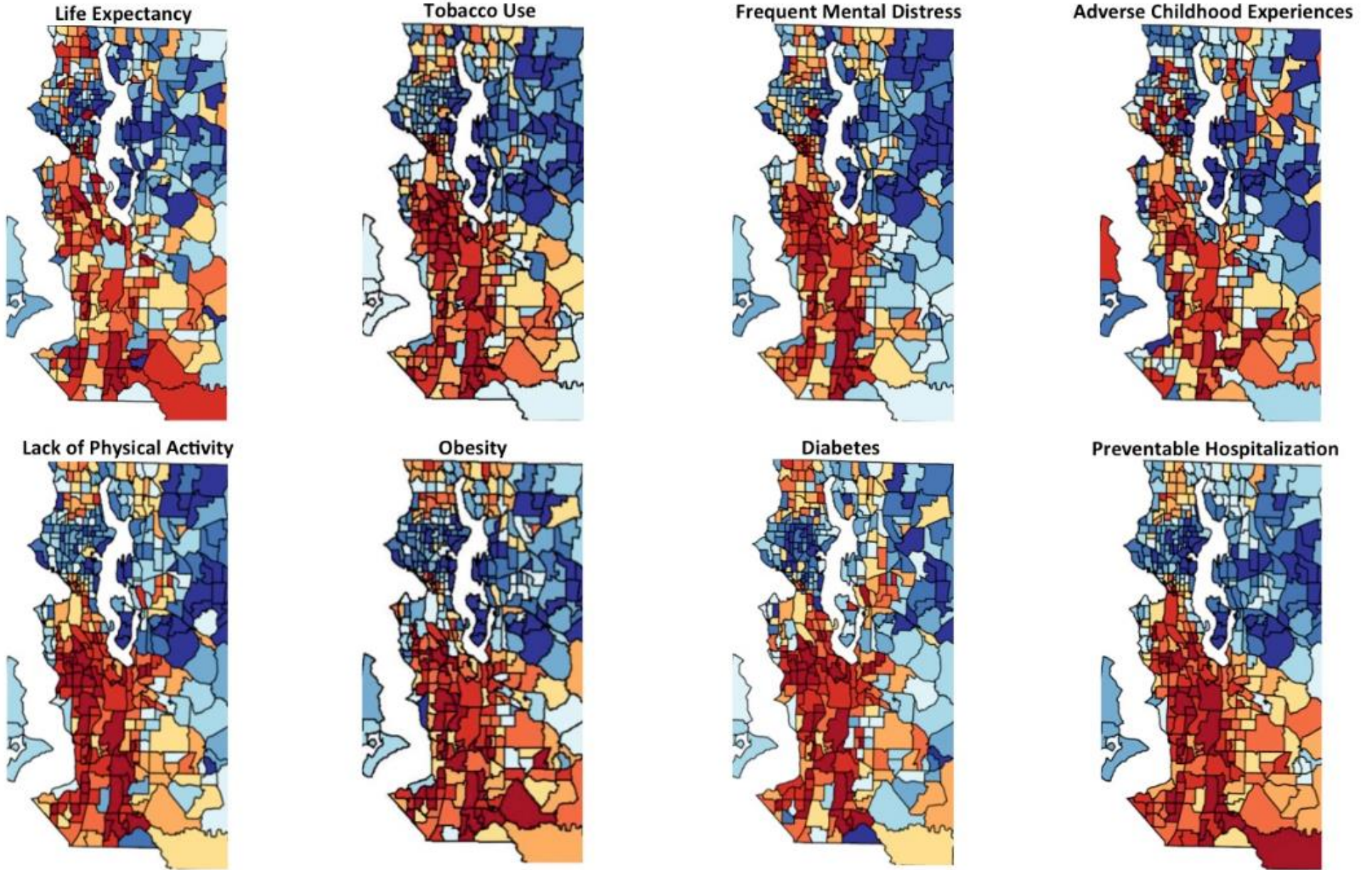


Historic flooding of Cedar Grove Mobile Home Park at Rainbow Bend on the Cedar River, King County, WA. Photo courtesy: Floodplains by Design



# PUBLIC HEALTH INEQUITY

## KING COUNTY HEALTH AND WELL-BEING MEASURES



# LESSON #2: PLANNING IS EASY — IT'S THE DOING THAT'S HARD

Adaptation requires systemic change and a sustained focus on implementation. That type of work can be hard for the public to value and elected officials to get excited about.

# Organizational Change through Mainstreaming

Key to developing long-term resilience

Leadership support  
Policies supporting  
climate action  
Integration into  
planning docs

Budgeting  
Technical guidance  
Staff resources  
Training opportunities  
Technical resources



Connecting climate  
impacts to what staff  
do/org. responsibilities  
Info shared and updated?

Performance measures &  
targets  
Job descriptions  
Annual work plans  
Performance reviews  
Space to innovate



# LESSON #3: GET USED TO “IT DEPENDS”

The question may be simple. The answer rarely is.

Every decision is constrained in some way and requires balancing tradeoffs. We are rarely just planning for climate change.

# WHAT ARE WE LEARNING?

## Stormwater Analysis

- Potential for large increases in future rainfall intensity, although results differ substantially (somewhat by design)
- Stormwater BMP sizing analysis for one site **suggests that BMPs will need to be sized larger but can't say how much so yet.**
- Results were variable and inconsistent between BMP types and soil types, with size increases ranging from near 0% to 200%.
- Rather than focusing on “picking the number”, the focus is on developing a solid methodology & standard for resiliency analyses



# LESSON #4: AN EFFECTIVE PLAN REQUIRES ACCOUNTABILITY

- Who is responsible for getting the actions done -- and do they know that?
- How will you track and measure progress?
- Who are you reporting out to?



# ACCOUNTABILITY: SCAP BIENNIAL REPORT



King County  
strategic

CLIMATE ACTION PLAN

2017 Biennial Report  
June 2018



[www.kingcounty.gov/climate](http://www.kingcounty.gov/climate)

## King County strategic CLIMATE ACTION PLAN 2017 Biennial Report

### goal area 1

#### KEY TAKEAWAYS

King County plays an important role in reducing greenhouse gas (GHG) emissions related to transportation and land use. This goal area outlines key commitments to:

- Provide public transportation options to help make communities more compact, active, and pedestrian oriented.
- Support non-motorized travel through the Regional Trails System.

#### PERFORMANCE KEY

See appendix for more details

Meeting or Exceeding Target



### KING COUNTY SERVICE GOAL

#### Annual Metro Transit Ridership

Target: 142 million passenger boardings by 2020

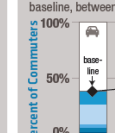


Although Metro ridership is still short of the 2015 target, total transit ridership in the Puget Sound region grew 2.5%—the second fastest pace among the 40 largest metropolitan areas in the United States.\*

King County will reduce the use of sustainable alternative technology.

#### Commuter Transit

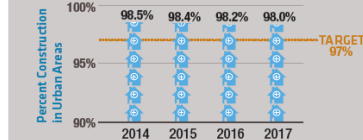
Target: 6% increase in baseline, between 2009-08 and 2017-16



King County supports non-drive-alone transit.

#### New Construction within the Urban Growth Area (UGA)

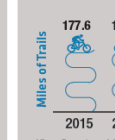
Target: At least 97% of new residential construction within the UGA



Despite a moderate increase in construction in rural areas since 2012, more than 98% of residential growth continues to be concentrated in urban areas.

#### Regional Trails

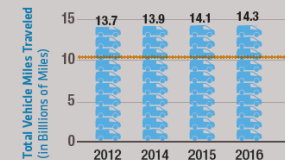
Target: 15 miles of trails by 2020



King County adds Eastside trails as completion, while...

#### Vehicle Mileage Reduction

Target: For all passenger vehicles and light trucks in King County, reduce vehicle miles traveled by 20% below 2012 levels by 2030



## King County strategic CLIMATE ACTION PLAN 2017 Biennial Report

### goal area 5

#### KEY TAKEAWAYS

King County has taken significant action to protect forest and agricultural land by encouraging careful stewardship and management to increase the amount of carbon stored on these lands for their health and resilience.

- Forests and farms absorb and store carbon dioxide in trees and soils.
- In King County, the types of forests and the temperate climate allow the storage of more carbon than almost anywhere else in the world.
- Agricultural soils store significant amounts of carbon, especially if treated with soil amendments such as compost or biosolids that add nutrients and organic matter.
- Protecting rural forests and farms from development eliminates the risk of other land uses.
- Production of locally grown food can help offset potential climate change impacts on food production.

#### PERFORMANCE KEY

See appendix for more details

Meeting or Exceeding Target

Approaching Target

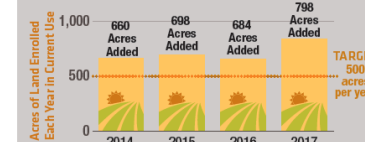
Off Target



### KING COUNTY SERVICE GOAL

#### Land with Stewardship Plan or Enrolled in a Conservation Program

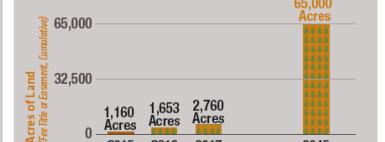
Target: 500 additional acres per year



King County and partners provide much-needed technical support to landowners. Current use taxation programs provide incentives to landowners to preserve and enhance natural resources found on their property.

#### Forest, Agriculture, and Open Space Preservation

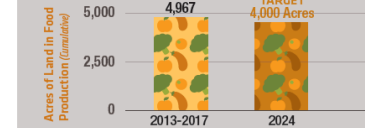
Target: Permanently protect all remaining high-priority lands within 30 years



The Land Conservation Initiative (LCI) established a goal of protecting 65,000 acres within 30 years and calls for new debt policies to accelerate land conservation. Additional financial and staff resources are needed to protect over 2,000 acres per year.

#### Acres of Agricultural Land in Food Production

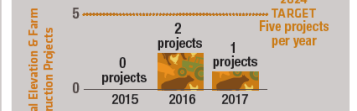
Target: 400 net new acres in food production per year; 4,000 total acres by 2024



A comparison of the 2017 agricultural land use survey with the 2013 survey indicates nearly 5,000 additional acres are farmed for food. However, King County and partners will continue to focus resources in order to meet the goal of 400 net new acres in food production each year through 2024.

#### Farms in 100-Year Floodplain with Raised Agricultural Structures and Farm Pads

Target: 5 projects per year to elevate agricultural structures or support the construction of farm pads



To date, 36 homes and other farm structures have been elevated, and 37 farm pads and one platform have been constructed. Without additional funding, this target will likely not be met.



LESSON #5:  
THERE IS POWER IN PARTNERSHIP

# BENEFITS OF REGIONAL COLLABORATION

Ensure our individual local actions have bigger impact

- Collaborate on **goals & measuring progress**
- Share experiences and **learn from each others'** success and challenges
- **Pursue grants**, funding & resources
- **Coordinate outreach** and messaging
- **Raise the profile** of climate work
- **Share staff training & expertise**
- **Engage elected officials** and other leadership
- **Speak with a collective voice** for greater impact



**PUGET SOUND** Climate  
Preparedness  
Collaborative

# SUSTAINABLE & RESILIENT FRONTLINE COMMUNITIES:

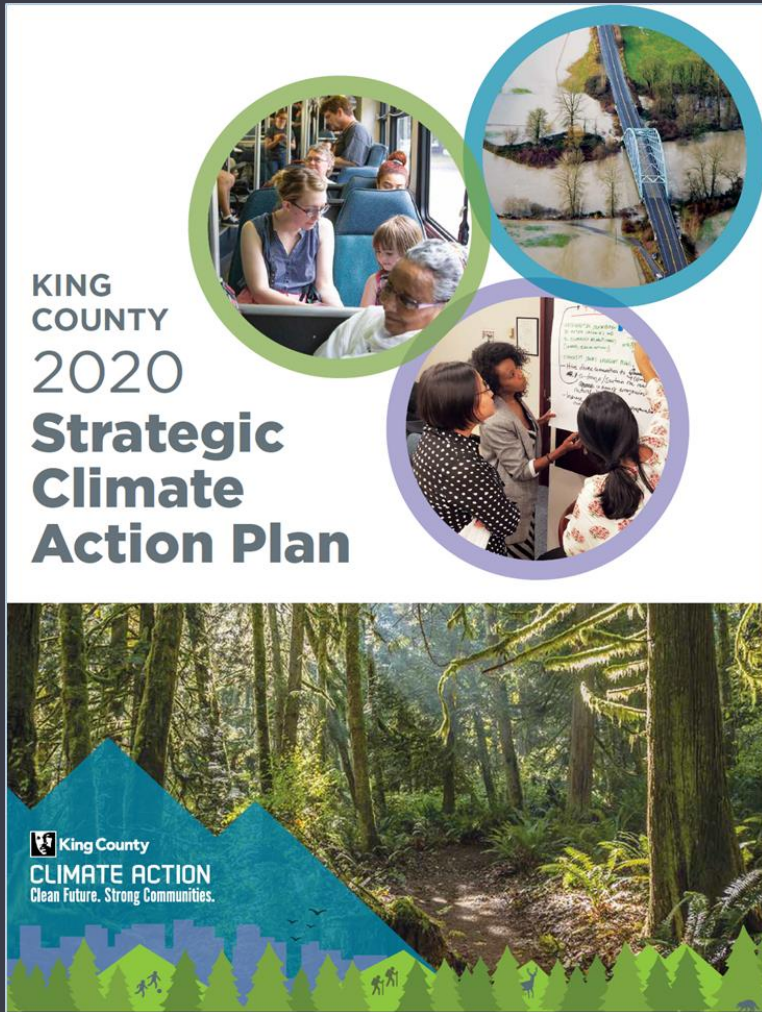
A Community-driven climate justice framework

## VISION

*Frontline communities are centered in developing climate solutions and have the knowledge, skills, resources, capacity, and social political capital to equitably adapt, lead, and thrive in a changing climate.*



*Some members of the Climate Equity Community Task Force at a meeting in Tukwila*



# LARA WHITELY BINDER

King County Climate Preparedness  
Program Manager

[lwbinder@kingcounty.gov](mailto:lwbinder@kingcounty.gov)

206.263.0825





Part 2

## **Climate Impacts Group New Program and Project for Local Climate Resilience**

# Northwest Climate Resilience Collaborative



Idaho State  
University



WASHINGTON STATE UNIVERSITY  
EXTENSION



Institute for  
Sustainable Solutions

PORTLAND STATE UNIVERSITY



**HEADWATERS**  
**ECONOMICS**

## Focus of the Northwest Climate Resilience Collaborative

*How can science-based evidence assist frontline communities in improving their resilience to climate change, while addressing the legacy of systemic inequity that continues to influence their lives and livelihoods?*

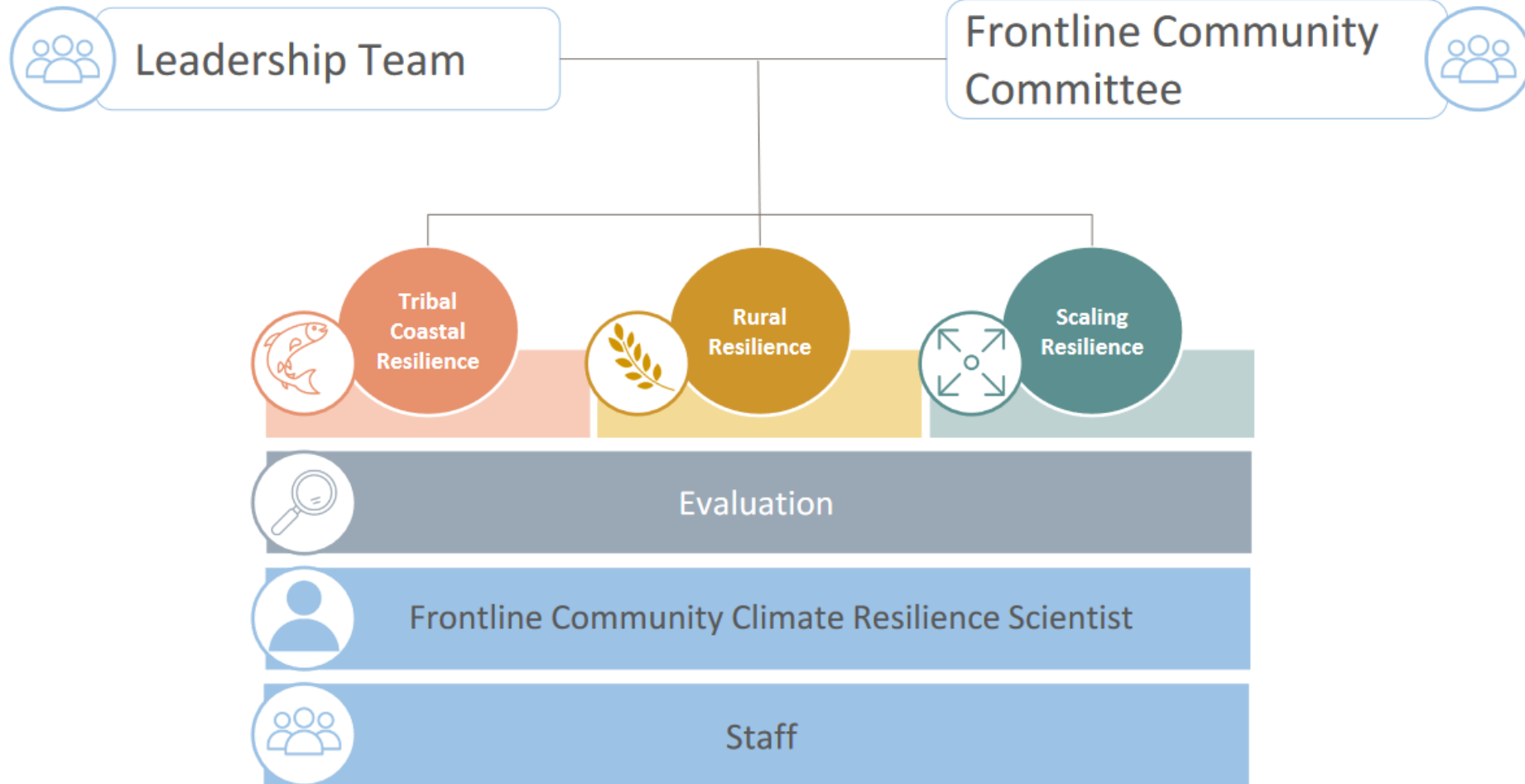
# Frontline communities? Why center them?

- **Disproportionate harm due to high exposure, high sensitivity, low adaptive capacity**
- **Institutionalized social inequalities**
- **Underserved by climate services**
- **Indigenous and local knowledges not widely valued**
- **They are key to identifying problems and solutions**

**WEBSITE:** [bit.ly/resilience-collab](https://bit.ly/resilience-collab)



# What is our program of work?





# **Tribal Coastal Resilience**

**Goal 1: Tribal climate readiness**

**Goal 2: Deep dives on priority adaptations**



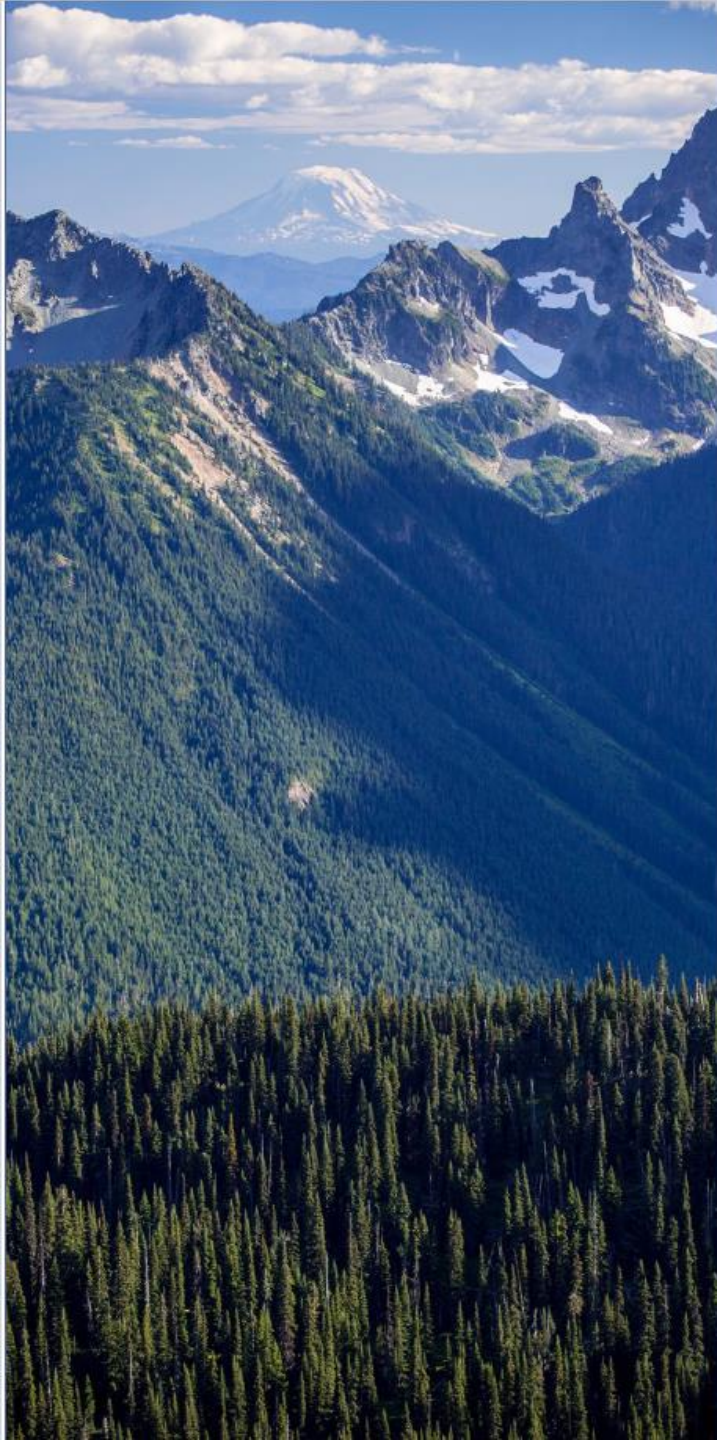
# Rural Resilience

**Goal 1: Increase capacity in 5 rural communities**

**Goal 2: Climate resilience for farmworkers**







# Scaling Resilience



**Out** to affect similar communities

**Up** to inform laws and policy that shape many communities

**Deep** to increase social and community capital



## Washington State Budget Proviso to Updated State Climate Impacts Assessment

- Conducted an updated climate impacts risk assessment of the biophysical climate impacts affecting the state
- Refine scope of assessment with the office of the governor to refine
- Report and associated deliverables completed ***December 15, 2022.***

## **Option: Climate hazard data & summaries for local governments.**

- Access to data on biophysical climate impacts (change in temperature, snowpack, streamflow, wildfire potential)
- Equal access for local jurisdictions
- Geographically specific data summaries (counties, watersheds, WRIAs)
- Resources identifying how to use information with examples

# Option: Climate hazard data & summaries for local governments

## Tribal Climate Tool

Future climate projections for Pacific Northwest and Great Basin Tribes in the USA.

Tribe: Snoqualmie Indian Tribe

Area of Interest: King County

Documentation | Cite Tool | Take Tour | Summary | Tribal Resources

### Maps & Graphs

View maps and graphs that summarize projected changes in climate across your selected geography. You may tailor the view using the choices below.

**View**

☒ Map ☐ Graph

**Climate-related Variable**

Snow Water Equivalent, Apr. 1st Average


Units: inches

**Time Period**

2070-2099

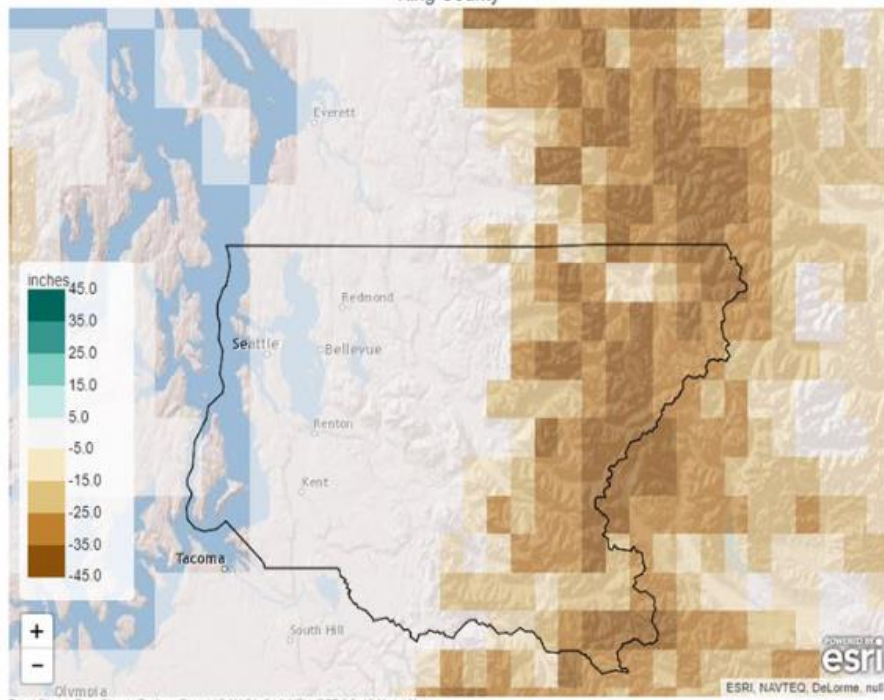
**Future Scenario**

Higher Emissions (RCP 8.5)

 **CREATE SUMMARY REPORT**

### Map

Projected Change in Apr. 1st Average Snow Water Equivalent  
2070-2099 (Higher Emissions (RCP 8.5)) vs. 1971-2000 (Historical)  
King County



inches

45.0  
35.0  
25.0  
15.0  
5.0  
-5.0  
-15.0  
-25.0  
-35.0  
-45.0

ESRI

Powered by ESRI, NAVTEQ, DeLorme, null

**TIP** Click on the map to see values at specific locations.

### Results

Get key results from the maps and graphs. These are offered below in tables, text or raw data.

Table **Text** Data

Projected change in Apr. 1st average snow water equivalent was averaged over the King County, and reported as an average over 10 models of hydrology.

**2070-2099 (Higher Emissions):**  
In 2070-2099 (higher emissions), the Apr. 1st average snow water equivalent is projected to be 3.4 inches, a decrease of 12.9 inches from the historical value.

# Option: Climate hazard data & summaries for local governments





# Option: Climate hazard data & summaries for local governments

## Tribal Climate Tool Future climate projections for Pacific Northwest and Great Basin Tribes in the USA.

[Documentation](#) [Cite Tool](#) [Take Tour](#) [Summary](#) [Tribal Resources](#)

Tribe:

Area of Interest:



### Create Summary Report ?

[DOWNLOAD](#)

Create a report that summarizes projected changes across the selected tribe's geography. Check items to include them in the report.

#### ? Climate-related Variable

##### Temperature

- ☒ Annual Average
- ☒ Jun.-Aug. Avg. Daily Max.
- ☒ Warm Days Above 86°F (30°C)
- ☒ Freeze Free Days

##### Heat Accumulation

- ☒ Above 32°F (0°C)
- ☒ Above 40°F (3°C)
- ☒ Above 45°F (5°C)
- ☒ Above 50°F (10°C)

##### Precipitation

- ☒ Annual Total
- ☒ Oct-Mar Total
- ☒ Apr-Sept Total

##### Snow Water Equivalent(SWE)

- ☒ On April 1st
- ☒ On May 1st

##### Soil Moisture

- ☒ Jul-Sept

##### Vegetation

- ☒ Growing Season

#### Units

Units for temperatures:

Units for water metrics:

#### Future Time Periods

- ☒ 2010-2039
- ☒ 2040-2069
- ☒ 2070-2099

#### Future Greenhouse Gas Emission Scenarios

- ☒ Low Emission Scenario
- ☒ High Emission Scenario

#### Area of Interest

#### King County





Crystal Raymond

Climate Adaptation Specialist

UW Climate Impacts Group

@CIG\_UW [cig.uw.edu](http://cig.uw.edu)

@NW\_CASC [nwcasc.uw.edu](http://nwcasc.uw.edu)

# Questions?



**Lara Whitely Binder**

[lwbinder@kingcounty.gov](mailto:lwbinder@kingcounty.gov)

**Lisa Dowling**

[Lisa.Dowling@co.chelan.wa.us](mailto:Lisa.Dowling@co.chelan.wa.us)

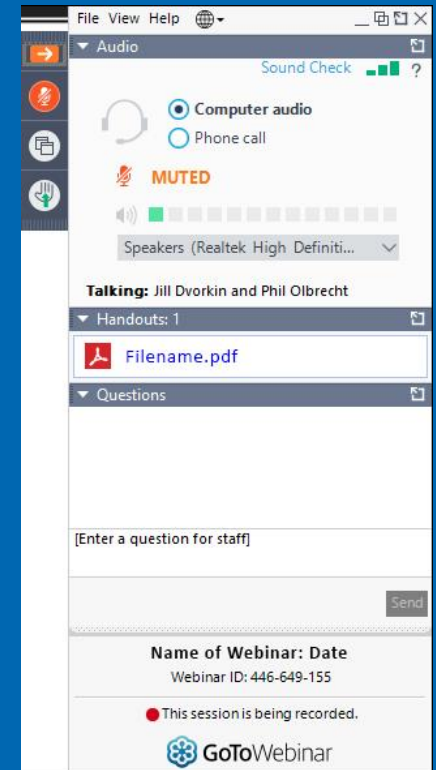
**Crystal Raymond, Ph.D.**

[clrfire@uw.edu](mailto:clrfire@uw.edu)

**Sarah Doar**

[sdoar@mrsc.org](mailto:sdoar@mrsc.org)

1. Click the orange arrow to expand or collapse the toolbar.
2. Enter your inquiry in the “Questions” dialogue box and click the “Send” button.



# Upcoming Trainings



**REGISTRATION IS NOW OPEN FOR:**

**PRA Case Law Highlights 2022**

January 19, 2022 | 10 AM - 11 AM

**Conflict Resolution Skills in Local Government**

January 25, 2022 | 11 AM - 12 PM

**Tax Increment Financing (TIF)**

February 3, 2022 | 10 AM - 11 AM

Learn more at [\*\*mrsc.org/training\*\*](https://mrsc.org/training)



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# Thank you!

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*Please fill out the training evaluation survey at the end of this presentation*