Section: Preparing for Climate Change

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Preparing for Climate Change Section Highlights and Priorities

The Preparing for Climate Change section identifies climate preparedness actions that help King County government and communities prepare for the impacts of climate change and increase climate resilience. The actions represent important next steps in an ongoing and necessary pivot toward becoming a more climate-resilient King County.

VISION
King County creates, supports, and implements policies and actions that reduce climate change vulnerabilities equitably and increase the resilience of King County communities, natural systems, and the built environment.

Highlights

The 2020 Preparing for Climate Change section includes a comprehensive set of actions that cover more programs and issue areas while also deepening existing work on climate preparedness. Because climate change exacerbates many existing environmental, health, and safety challenges, the actions that King County takes now to prepare for climate change will also provide near-term benefits.

Many of the 2020 preparedness actions are focused on operationalizing climate action by incorporating a broad range of climate change considerations into decision processes. The section also includes actions that address specific climate change concerns, including more stormwater runoff, changes in forest health and wildfire risk, sea level rise, increased flooding, hotter summer temperatures, and impacts on salmon and other species.

The 2020 Preparing for Climate Change section also introduces a new strategic framework for guiding King County's climate preparedness work in this and future Strategic Climate Action Plans (SCAPs). The framework reflects major themes and priorities that emerged from County staff engagement, public input, and best practices in climate preparedness. Components include an overarching vision of success, five strategies to focus and organize our work, and a performance measurement framework for tracking progress. The five strategies are:

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

Implementing the performance management framework will be a major focus for 2020–2025. The framework builds on existing biennial reporting practices for climate preparedness actions to include an initial set of performance measures and reporting metrics for each strategy. Finalizing performance measures for the climate preparedness vision is a "Fast Start" priority action.

Finally, the 2020 Preparing for Climate Change section includes new and important opportunities to advance health and equity in King County. The 2020 SCAP includes multiple actions that address climate change-related health impacts and reduce disproportionate impacts on frontline communities. This work will be implemented in coordination with additional preparedness-related actions in the Sustainable & Resilient Frontline Communities (SRFC) section. Understanding and addressing health and equity connections in the implementation of all 2020 climate preparedness actions is also central to this SCAP.

Preparedness Section Highlights and Priorities

Focus Area	Goal/Strategy	Strategy Highlights and Priorities
Mainstream Climate Preparedness 1	Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.	• Works with partners to adapt centralized and program-based capital planning processes to account for climate preparedness. • Incorporates climate change into operations and program delivery.
Technical Capacity 2	Invest in and use best available science and other technical information to inform climate preparedness work at King County.	• Develops a climate change resource hub and guidance to inform County climate preparedness activities. • Expands research on the impacts of heavy rain events and sea level rise in King County to support long-term planning and infrastructure design.
Health and Equity 3	Prioritize health and equity in climate preparedness actions and activities.	In partnership with additional preparedness actions in the SRFC section: • Takes steps to reduce the impacts of extreme events, including urban heat, on frontline communities. • Develops inclusive and equitable climate and health messaging, resources, and guidance.
Community and Organizational Partnerships 4	Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.	• Works with internal and external partners to reduce risks related to wildfire, flooding, landslides, and drought. • Deepens and expands partnerships that advance climate preparedness across King County, including through the Puget Sound Climate Preparedness Collaborative.
Outreach and Engagement 5	Invest in public outreach, engagement, and technical assistance related to climate preparedness.	• Increases opportunities for sharing information about climate impacts and preparedness in outreach and engagement activities. • Supports technical assistance to the public and partners related to wildfire, agricultural impacts, and hazard mitigation planning.

Introduction

Reducing greenhouse gas (GHG) emissions (also known as "climate mitigation") is the most important action we can take as a county government—and as individuals—to decrease the harmful effects of climate change. The more quickly we reduce emissions, the more quickly we can limit how fast and how much our climate changes. Focusing our efforts on mitigation alone is not an option, however.

Washington state is already experiencing rising temperatures, long-term declines in snowpack, increasing wildfire risk, sea level rise, and other measurable environmental changes consistent with the effects of rising GHG emissions. These changes are expected to accelerate in the coming decades, leading to potentially significant impacts on the region's health, infrastructure, environment, and economy. As a result, we must prepare for and adapt to the impacts of a changing climate ("climate preparedness") even as we work in partnership with other communities and state leaders to reduce GHG emissions.

This section identifies 61 climate preparedness actions, organized under a new strategic framework, that will help King County government and communities prepare for the impacts of climate change and increase climate resilience[1]. The 2020 SCAP climate preparedness actions build on the preparedness priorities and accomplishments of the 2015 SCAP to simultaneously deepen and broaden our work on climate preparedness. The increased focus on preparedness reflects a growing recognition that climate change is accelerating and that effectively reducing climate impacts on government operations, communities, and the built and natural environment will require proactive planning across King County programs.

WHAT IS CLIMATE RESILIENCE?

Resilience is a broad concept that can apply to individuals, communities, and social, economic, and environmental systems. Resilience is the capacity to cope with a hazardous event or long-term trend in ways that maintain essential identities, functions, and structures while also maintaining the capacity to learn, adapt, and/or transform.

Adapted from IPCC 2014[1]

The 2020 SCAP climate preparedness actions also build on King County's long-standing commitment to protect public health and safety, provide critical infrastructure, support economic prosperity, and safeguard natural and Tribal treaty trust resources. Because climate change exacerbates many of the challenges we already face with issues like natural hazards, habitat loss, aging infrastructure, and health and income disparities, the actions we take now to prepare for climate change will also create near-term benefits. In that sense, preparing for climate change is inherently part of good government and a necessary component to being responsible stewards of public resources.

Finally, the 2020 SCAP climate preparedness actions advance King County's commitment to equity and social justice, creating important synergies with the Sustainable & Resilient Frontline Communities (SRFC) section. Applying an equity lens to the development and implementation of our climate preparedness efforts provides a crucial opportunity to reduce the disproportionate impacts of climate change on Black, Indigenous, and People of Color (BIPOC) communities and people living with low incomes, and to support the development of sustainable and resilient frontline communities. Coordination and collaboration with the priorities and activities identified in the SRFC section will be a priority as we implement the 2020 SCAP and continue to build out a portfolio of preparedness activities.

How to Read this Section

The Preparing for Climate Change section identifies priority actions that King County will undertake in 2020–2025 as part of its ongoing commitment to prepare for the impacts of climate change. Actions are organized by strategy in each of the following focus areas:

- **Focus Area 1:** Mainstream Climate Preparedness;
- **Focus Area 2:** Technical Capacity;
- **Focus Area 3:** Health and Equity;
- **Focus Area 4:** Community and Organizational Partnerships; and
- **Focus Area 5:** Outreach and Engagement.

Each focus area includes one climate preparedness strategy and associated priority actions. Each strategy also includes a brief description of the strategy, strategy outcomes, and performance measures. Each priority action includes a title, brief description, and designated action owner.

Climate preparedness priority actions are grouped into one of two tables. The first table lists cross-organizational actions that support preparedness efforts across King County government. These actions will be implemented by the County's Climate Action Team. The second table lists actions for specific impacts or department-based preparedness needs and opportunities. These actions will be implemented by the department and division specified in the action. One or both tables are found in each strategy.

Additional information on how to read the climate preparedness priority action tables is provided in the figure on the next page.

Landslide along the Preston Lake Alice Trail, January 2020

How to Read Priority Action Tables in the Preparedness Section

CATEGORY			
Prep. 1.1.1	Priority Action details and *responsible agencies*.	Icon(s)	Icon(s)
Action Number	**Priority Action:** a near term action that King County will take in support of broader goals and strategies. Actions will occur by 2025, unless otherwise noted, and many include earlier deadlines. The Executive reports to the King County Council on progress related to each Priority Action every 2 years.	**King County Role:** the County's role(s) in delivering each Priority Action	**Connections and Considerations** throughout the SCAP and related Deep Dive topics

King County Role

Implement
An action where King County has a lead role in carrying out the activity—may include cases where the County has direct control over an outcome and possesses or can acquire the necessary tools/staffing to make progress on an action.

Convene
An action where King County needs external partners and collaborators to complete the action and King County is taking an active role in that work by convening partnerships for collective climate action.

Support/Advocate
An action where King County's primary role is supporter and/or advocate for the action. This includes actions that would need to be undertaken by other entities or where King County does not have control over the activities necessary to complete an action.

Connections and Considerations

K4C: Aligns with commitments made in collaboration with the King County-Cities Climate Collaboration (K4C).

Resource Need: Commitments where there are pending or unmet resource needs to accomplish the work.

Public Priority: Responds to a recurring theme heard in 2020 SCAP public engagement process.

Fast Start: Priority action to be accomplished by the end of 2022.

Health Blueprint: Consistent with the priorities of Public Health—Seattle & King County's Blueprint for Addressing Climate Change and Health.

Reducing Emissions: Consistent with the priorities of the Reducing Greenhouse Gas Emissions section.

Climate Equity: Consistent with the priorities of King County's Climate Equity Community Task Force (CECTF).

icons with blue

Deep Dive Topic Areas: Topics discussed with King County staff via Deep Dive workshops (see page 248)

Developing the 2020 SCAP Preparedness Actions

The climate preparedness actions for the 2020 SCAP reflect progress resulting from work completed for the 2015 SCAP as well as priorities and ideas gathered from multiple engagement approaches. These approaches included topically focused "deep dive" workshops with King County staff, an internal open house workshop with King County staff, external stakeholder meetings, and three public workshops. Public input submitted via an online SCAP public comment tool also informed the 2020 preparedness actions. This section summarizes major themes and contributions from these processes.

Strategic guidance on development of the climate preparedness actions was provided by an inter-departmental Climate Preparedness Steering Committee created for the 2020 SCAP process. Additional strategic guidance was provided by the County's interdepartmental Climate Leadership Team, a senior level climate cabinet that works collaboratively across departments to ensure that King County is on track to advance the goals, targets, and priority actions in the SCAP.

2015 SCAP Climate Preparedness Accomplishments

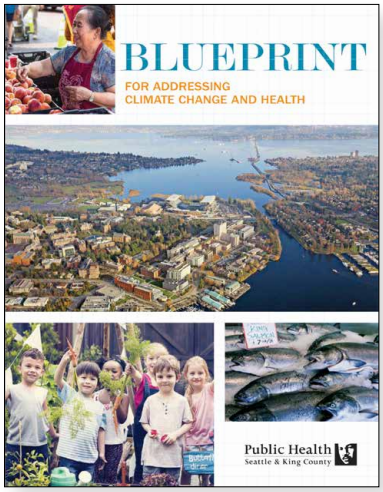
The 2015 SCAP included 19 climate preparedness actions aimed at reducing climate change impacts on King County operations and core functions, such as flood risk reduction, stormwater management, public health, and emergency management. The actions focused on three major areas of work: increasing infrastructure, community, and ecosystem resilience; strengthening regional partnerships; and enhancing technical understanding of climate change impacts on King County.

Accomplishments related to the 2015 SCAP are briefly summarized here. Additional information is available in Appendix IV: 2015 Strategic Climate Action Plan Accomplishments. Continued work on these topics is planned as part of the 2020 SCAP.

- **Increased sea level rise preparedness** by updating local land use codes for Vashon and Maury islands to reduce the risks of sea level rise to shoreline development, and developing adaptation plans for King County-owned assets potentially affected by sea level rise.
- **Strengthened the connection between climate preparedness and hazard mitigation** by updating resources related to landslide hazard risks in King County and incorporating climate change considerations into the update of the County's Regional Hazard Mitigation Plan.

King Tide at Alki, January 2019

- **Increased our understanding of the connections between public health and climate change** by leveraging grant funding and other financial and technical assistance to develop the County's first strategic plan for Public Health—Seattle & King County (Public Health) action on climate change (Blueprint for Addressing Climate Change and Health).



- **Addressed climate change impacts on summer water supply and streamflow** by expanding recycled water use in the Sammamish Valley and actively participating in regional forums focused on streamflow management.
- **Supported planning for salmon recovery in a changing climate** by partnering with watershed-based salmon recovery teams and other technical experts to develop climate change and salmon issue papers for use in salmon recovery and habitat restoration activities in King County.
- **Strengthened regional partnerships for climate preparedness** with the launch of the Puget Sound Climate Preparedness Collaborative, a consortium of local, county, and tribal governments, regional agencies, and other organizations working together to enhance coordination and improve the outcomes of climate change preparedness efforts in the Puget Sound region.
- **Enhanced our technical understanding of climate change impacts on King County** by partnering with the University of Washington to conduct preliminary research on projected changes in heavy rainfall, flood flows, and wastewater conveyance in the County.

Seattle waterfront during a period of heavy wildfire smoke, August 2018

Same location, October 2018

Key Themes: County Staff Engagement

A key step in developing the 2020 SCAP climate preparedness actions was a series of 20 thematically based "deep dive" meetings or workshops with King County staff. Major deep dive themes are noted below. The deep dive discussions identified six major categories of activity for strengthening climate preparedness in King County:

Deep Dive Topic Areas

Flooding

Wastewater Conveyance

Public Health

Stormwater Management

Forest Health & Wildfire

Biodiversity

Salmon Recovery & Fish Passage

Sea Level Rise

Parks & Open Space

Agriculture

Landslide Hazards

Hazard Mitigation

Transit & Roads

Capital Planning & Design

Solid Waste

King County Facilities

Health and equity are considered throughout all topic areas.

1. **Integration:** Additional work is needed to fully incorporate climate preparedness considerations into policies, plans, and processes. In some cases, this requires developing the technical methods and guidelines needed to support evaluation of climate impacts as part of capital planning and project delivery, operations, and strategic planning.
2. **Assessment :** Additional investment in research and technical studies is needed to inform specific climate preparedness decisions that King County programs are looking to make.
3. **Implementation:** While there is a considerable amount of work still needed to identify how we will specifically adapt to climate change, there are steps that King County can take now to reduce those impacts. This includes accelerating ongoing work that reduces the risks associated with existing challenges made worse by climate change, such as flooding and salmon recovery.
4. **Partnership:** We need to continue building strong internal and external partnerships and collaborations focused on the complex range of issues affected by climate change in King County and the Puget Sound region. This includes partnerships with state and local governments, tribal governments, and community-based organizations.
5. **Outreach:** King County outreach, engagement, and technical assistance activities provide an important opportunity to build a shared understanding of why climate change matters in King County and ways to reduce climate impacts. We need to leverage existing outreach, engagement, and technical assistance efforts while also seeking new opportunities to connect with the public.
6. **Equity:** Climate preparedness efforts have a role to play in how we advance equity and social justice in King County. We need to develop preparedness actions that specifically target the disproportionate impacts of climate change on some King County communities while also ensuring that health and equity are considered in the implementation of all climate preparedness actions.

Collectively, these categories—reflected in the 2020 SCAP preparedness strategies and actions—provide strategic insight into how the County should work to reduce climate risks and build climate resilience across King County communities, the built and natural environment, and County operations and core functions.

Flooding along the Snoqualmie River

Key Themes: Public Engagement

King County residents are concerned about climate change. Residents expressed a clear sense of urgency in the need for action on climate change and concern about climate change impacts. The most frequently identified impacts of concern were sea level rise, wildfires, more severe weather, drought/water scarcity, health impacts from heat events/wildfire smoke, food security, and climate change-driven migration.

King County needs to get ahead of the risk. Residents want to see the County get ahead of climate risks by planning for climate change now, rather than delaying action. Recommendations for action included reducing or removing infrastructure in floodplains or other hazardous areas, preparing infrastructure for climate change, modifying codes to account for sea level rise, supporting the development of green stormwater infrastructure, increasing water conservation, and increasing ecosystem resilience by restricting the use of bulkheads on shorelines.

King County should lead by example. Residents would like to see the County provide more examples of what communities are doing to prepare for climate change, including model codes or toolkits, as a way of getting more communities involved in taking action.

King County should increase communication, engagement, and technical assistance related to climate change. Residents would like to see the County be more active in providing information on climate change and related hazards. This includes more information on ways that individuals can reduce GHG emissions and prepare for climate change; increased engagement with private property owners and the business community; and more public announcements before extreme events, especially to people living with low incomes and underrepresented communities.

Additional information on SCAP-related outreach activities and public feedback is included in Appendix VI: Community Engagement Summary.

Public meeting attendees were encouraged to share their concerns.

A Strategic Framework for Action

The accelerating pace of climate change and the long timeframes over which we will be dealing with the consequences of rising GHGs require looking at climate preparedness as part of "the new normal." In that sense, the 2020 SCAP climate preparedness actions represent important next steps in an ongoing and necessary pivot toward becoming a more climate-resilient King County.

But what does a climate-resilient King County look like? How does the County direct its work to achieve that goal? And how will we know if we are on the right track to achieving that goal? To help answer these questions, the 2020 SCAP introduces a new strategic framework for guiding our preparedness work in this and future SCAPs. The new framework provides:

- an overarching vision of success that identifies characteristics of success for our climate preparedness work;
- five strategies to focus and organize our work; and
- a performance measurement framework for tracking progress toward our vision.

Each of these elements is discussed in the following sections.

Strategic Framework for Climate Preparedness

Describes the broader "end state" that motivates King County's climate preparedness efforts. Includes vision-level performance measures.

Identifies key groups of activities for achieving the vision of success. Includes strategy-specific outcomes and five-year performance measures. Success at this level supports multiple outcomes at the vision level.

Identifies priority actions for the current 5-year SCAP period. Success at this level supports outcomes for one or more strategies.

Characterizing Success

Preparing for and adapting to the impacts of climate change in King County is not a one-time activity, nor can our success in this effort be defined by a single metric. To help define success, the Climate Preparedness Steering Committee was asked to identify what successful adaptation to climate change would look like. The exercise explored success in three areas: building organizational capacity for preparedness, delivering and implementing adaptive actions, and assessing outcomes. The suggested timeframe provided to guide the exercise was the 2080s.

VISION

King County creates, supports, and implements policies and actions that reduce climate change vulnerabilities equitably and increase the resilience of King County communities, natural systems, and the built environment.

The resulting vision of success is shown at right. In describing success, the Steering Committee emphasized the importance of building organizational capacity and flexibility to prepare for and adapt to a rapidly changing climate. Success requires ensuring that staff have the technical capacity, skills, and authority to account for climate impacts in decision processes. Increasing integration and coordination of preparedness efforts across programs and with external partners is also critical.

Achieving our vision of success also requires a demonstrated understanding of and commitment to addressing the impacts of climate change on health, equity, and social justice. We need to work with communities—particularly those disproportionately affected by climate change—to develop the information, tools, and on-the-ground changes needed to reduce the harmful effects of climate change and build stronger and more resilient communities. We need to lead by example and, in doing so, help other jurisdictions accelerate their own climate preparedness efforts and contribute to climate resilience more broadly in the Puget Sound region. Finally, we need to have the courage to go beyond incremental change to engage in deeper, more transformational change where needed. We expect to revisit and refine this initial vision and characteristics in partnership with others over time.

Addressing climate change impacts on local agriculture helps support a thriving farm economy.

Climate Preparedness Strategies

Five overarching strategies related to mainstreaming climate preparedness, building technical capacity, prioritizing health and equity, strengthening partnerships, and investing in outreach and engagement are presented as a strategic framework for organizing and guiding climate preparedness work in King County. The five strategies reflect:

- major themes that emerged from staff and public engagement processes;
- emerging best practices in climate preparedness; and
- components of success identified by the Climate Preparedness Steering Committee.

A description of each strategy, including outcome statements, associated performance measures, and priority actions, is provided in this section. The outcome statements briefly describe what King County will achieve as a result of completing strategy actions and ultimately delivering on each strategy. As with the strategies, the outcome statements are not tied to a particular year (e.g., "by 2030") or length of time (e.g., "within 20 years").

Priority actions are organized by strategy. The suite of actions associated with each strategy will change with future SCAP updates to reflect progress made and work still to be done. Although many actions benefit more than one strategy, each action is listed only once. Many actions also address preparedness needs for multiple climate impacts.

Climate Preparedness Focus Areas and Strategies

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.

Performance Measurement Framework

Performance measurement is a key component of King County's action on climate change. Progress on SCAP actions, goals, and targets are reported every two years to the King County Council and the public. This process provides transparency by showing if and how SCAP actions are delivering on intended outcomes. Performance measurement can help identify when it is time to set new goals and targets. Performance measurement can also identify barriers that limit progress. In both cases, the knowledge gained from performance measurement helps the County know how to move forward with its work in order to achieve SCAP goals.

Performance measurement for climate preparedness is an emerging field of practice challenged by the nature of what is being measured and the time frames over which measurement is needed to determine success. For example, performance measures based on reducing damage caused by extreme events such as floods or wildfire (e.g., measuring risks avoided) can be affected by differences in the frequency or specifics of individual events, making it more challenging to draw conclusions about effectiveness over short periods of time.

Performance measurement for climate preparedness is also challenged by the lack of an overarching quantifiable metric for tracking progress over time. This stands in contrast to performance measurement approaches for reducing GHG emissions, where the emission reduction benefits of different types of activities (e.g., reducing vehicle miles traveled, increasing green building practices) can be translated into a quantifiable change in carbon dioxide emissions that is cumulatively tracked over time.

A new climate preparedness performance measurement framework is proposed as part of the 2020 SCAP (see figure). The framework builds on existing biennial reporting practices for the climate preparedness actions to include performance measurement at the strategy and vision level, as described below. The framework reflects experience with performance reporting in King County as well as key insights on the development and use of performance measurement approaches for climate preparedness as reported in Runsten 2018:[2]

- focus on a limited number of performance measures that are manageable in scope;
- leverage existing performance measures where possible;
- expect the need to adjust or change performance measures; and
- set targets after more experience with the performance measures.

As a new framework, adjustments will be needed. Performance measures may need to be modified or replaced. Additional measures may also be added. Our experience with this framework and any needed adjustments will be documented as part of SCAP reporting.

Strategy Performance Measures

The 2020 Preparing for Climate Change section includes a limited number of performance measures and reporting metrics for the five climate preparedness strategies. Most of the performance measures are qualitative but intended to be comparative over time, providing opportunity to describe the degree to which King County is making progress on its preparedness work and strategy outcomes. The potential for quantitative measures will be evaluated based on the types of detail that emerge from reporting on the measures.

Climate Preparedness Performance Measurement Framework

VISION – CLIMATE PREPAREDNESS

King County creates, supports, and implements policies and actions that reduce climate change vulnerabilities equitably and increase the resilience of King County communities, natural systems, and the built environment.

VISION-LEVEL PERFORMANCE MEASURES

Forthcoming (a 2020 SCAP action), related to the following

Climate resilient **communities**	Climate resilient **natural systems**	Climate resilient **built environment**

STRATEGY-LEVEL PERFORMANCE MEASUREMENT

New (included in the 2020 SCAP)

Strategy 1 Performance measures	*Strategy 2 Performance measures*	*Strategy 3 Performance measures*	*Strategy 4 Performance measures*	*Strategy 5 Performance measures*
Strategy 1 Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.	**Strategy 2** Invest in and use best available science and other technical information to inform climate preparedness work at King County.	**Strategy 3** Prioritize health and equity in climate preparedness actions and activities.	**Strategy 4** Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.	**Strategy 5** Invest in public outreach, engagement, and technical assistance related to climate preparedness.

PRIORITY ACTION-LEVEL PERFORMANCE MEASUREMENT

Continuing (since 2015 SCAP)

Strategy 1 Priority action status reporting	*Strategy 2 Priority action status reporting*	*Strategy 3 Priority action status reporting*	*Strategy 4 Priority action status reporting*	*Strategy 5 Priority action status reporting*

Vision Performance Measures

Selecting performance measures for the vision of success is a "Fast Start" 2020 SCAP climate preparedness action (Action 1.1.4).

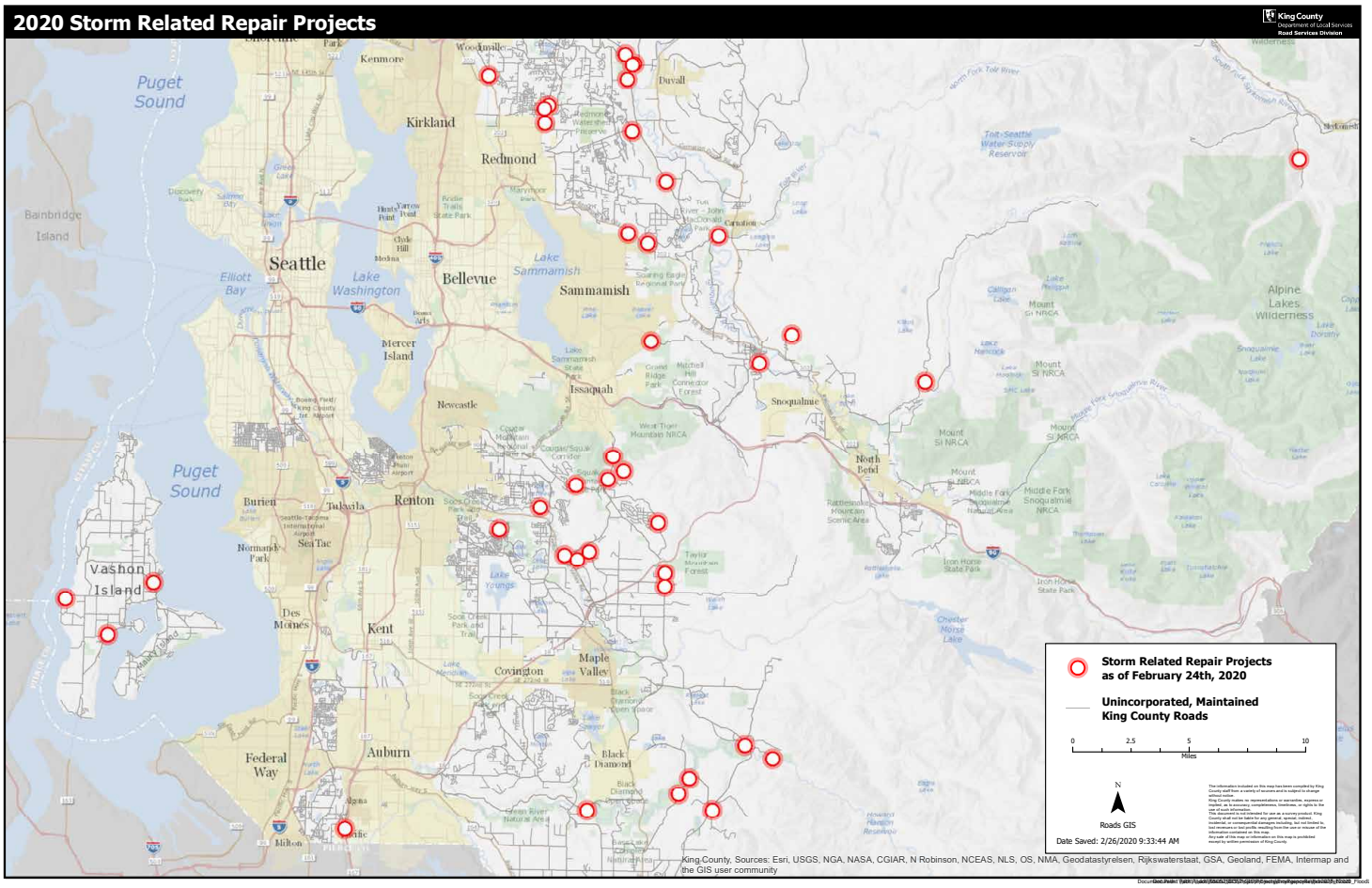
The County's vision of success for climate preparedness describes the broader end state or desired future that King County is ultimately looking to achieve with respect to climate preparedness. This vision—and the resulting approach for performance measurement at the vision level—is centered on three key goals: climate resilient communities, climate resilient natural systems, and a climate resilient built environment.

While these goals are central to the vision of success, SCAP actions are not the sole determinants for achieving that vision. As a result, performance measures at the vision level will reflect the effectiveness of our SCAP actions *and* the effectiveness of actions taken by King County and other jurisdictions, agencies, and organizations in and beyond the King County region. For example, climate preparedness efforts by other King County communities will influence how quickly we see achieve our vision of success.

Progress on our vision will also be governed by actions taken by King County and others to address underlying stressors that can exacerbate climate impacts on people, places, and systems. These underlying issues can include:

- existing disparities in asthma rates and cardiovascular disease driven by inequities in income and healthcare access that leave some communities disproportionately affected by projected increases in wildfire smoke and extreme heat events;

The February 2020 winter storm event resulted in over $10M in damages to the unincorporated King County road system. At one point during the storm, over 30 roads were temporarily closed due to flooding and storm related issues.



- habitat loss and pollution, which can leave species and habitats more vulnerable to climate change impacts; and
- aging infrastructure and inadequate funding for infrastructure maintenance, which can leave infrastructure more at-risk of damage and failure during extreme events.

Leveraging existing King County performance metrics will be a priority when selecting the vision-level performance measures. Performance measures for climate resilient natural systems, for example, may include connected floodplains, healthy forests, natural shorelines, and restored habitat. Using existing performance management structures reduces the amount of additional data collection and performance reporting required for programs. Leveraging existing measures also helps link the SCAP and the climate preparedness vision of success to other County efforts, creating synergies between efforts. This includes performance measures and targets being developed for the Department of Natural Resources and Parks' (DNRP) Clean Water Healthy Habitat initiative.

Other related program efforts with potentially relevant performance management metrics include the King County Hazard Mitigation Plan, the Land Conservation Initiative, the Clean Water Plan, the Stormwater Services Strategic Plan, the Flood Hazard Management Plan, Community Health Indicators, and numerous King County asset and service performance metrics. New metrics will also be identified and adopted, if needed.

Reporting on Performance Measures

In general, progress on meeting SCAP priority actions, target measures, and outcomes are reported every two years in accordance with the reporting requirements of King County Code 18.50. Reporting on the performance measures for this new framework will be integrated into current SCAP reporting practices as follows. Adjustments to this reporting approach will be made as needed based on lessons learned in implementing the approach.

- **Action Performance Measure Reporting.** As noted above, progress on individual SCAP actions is currently reported biennially to the King County Council and will continue as part of this performance management framework. Reporting is based on action status (complete or ongoing, in progress, needs attention). Notable accomplishments related to those actions are reported qualitatively every five years as part of each SCAP update.
- **Strategy Performance Measure Reporting.** Strategy performance measures will be reported on twice within any five-year SCAP cycle and timed to align with SCAP biennial reporting. Due to the time required for data collection and the frequency of SCAP progress reports, strategy-level reporting in the five-year SCAP period will include one interim and one in-depth assessment. The interim assessment will be submitted with the first biennial report following adoption of a SCAP. The interim assessment will use examples, case studies, and other summary information to show if and how we are making progress on each strategy. The in-depth assessment, based on staff interviews and other data collection methods, will be submitted with the second biennial report following SCAP adoption. The more detailed assessment will be used to inform development of new SCAP actions.
- **Vision Performance Measure Reporting.** Vision-level performance measure reporting is expected to occur once per SCAP cycle and will be timed to coincide with the in-depth strategy performance assessment described above or as part of the five-year SCAP updates. The specific timing will be finalized with selection of the vision level performance measures.

The 2020 SCAP Climate Preparedness Actions

FOCUS AREA 1: MAINSTREAM CLIMATE PREPAREDNESS

Strategy 1: Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.

About this strategy: Effectively preparing for climate change requires accounting for climate impacts in the policies, plans, practices, and procedures that influence day-to-day decision-making and outcomes at King County. Effectively preparing also requires looking beyond adjustments to individual policies, plans, practices, and procedures to understand where more transformative changes in how King County does it work may be needed to achieve climate-resilient outcomes. Finally, effectively preparing requires acting on what we are learning and evaluating the effectiveness of those actions over time, ultimately implementing well-informed decisions that reduce climate impacts and increase resilience. In this way, preparing for climate change inherently becomes part of what the County does rather than an activity considered separate from other decision-making and implementation activities.

Strategy outcomes: King County is developing and implementing climate-resilient decisions that account for and reduce climate impacts equitably on King County communities, natural systems, and the built environment. As part of this work, King County is identifying and pursuing opportunities to implement more transformative approaches to how we do our work. King County is also evaluating climate preparedness action outcomes to support institutional learning and to inform ongoing climate preparedness activities.

Strategy 1 Performance Measures	*Reporting Metric or Target*
1. King County policies, plans, practices, and procedures require consideration of climate impacts, where relevant, as part of decision processes.	*By 2025:* King County programs have successfully delivered on updates identified in the 2020 SCAP actions. *By 2030:* King County programs have identified and updated remaining relevant policies, plans, practices, and procedures.
2. King County is accounting for climate impacts in decision processes and implementing climate resilient actions.	Qualitative assessment (comparative over time) of if/how King County programs are making progress on: • clearly articulating if/how climate change affects a planned activity or other type of decision; • adjusting decisions or actions to account for climate impacts; and • implementing climate-resilient actions.
3. SCAP climate preparedness actions are achieving their expected outcomes.	Target for *completed* actions: 100% Combined quantitative and qualitative assessment (comparative over time) of if/how King County's climate preparedness actions are delivering on the expected outcomes identified for those actions. The time frame for when SCAP action outcomes will be achieved will depend on the action and may extend beyond any single five-year SCAP window.

1.1. STRATEGY 1 ACTIONS SUPPORTING PREPAREDNESS ACROSS DEPARTMENTS

	Priority Actions	King County Role	Connections and Considerations
Prep. 1.1.1	**Adapt centralized capital planning and review processes to include climate considerations earlier in project planning and budgeting stages.** *(Climate Action Team)* The Climate Action Team will partner with the Capital Projects Management Working Group, the Office of Performance, Strategy and Budget, and other partners to identify and implement changes in capital planning and budgeting processes that support early inclusion of climate mitigation and preparedness options in those processes. This includes looking at steps related to project planning, chartering, predesign, and budgeting.	Implement	Public Priority Reduce Emissions Capital Planning
Prep. 1.1.2	**Establish an interdepartmental King County climate preparedness workgroup.** *(Climate Action Team)* The Climate Action Team will establish an interdepartmental climate preparedness workgroup to support implementation of SCAP preparedness actions and to provide technical input on other cross-organizational preparedness needs.	Implement	Fast Start
Prep. 1.1.3	**Develop a funding toolbox for financing climate preparedness needs.** *(Climate Action Team)* The Climate Action Team will evaluate the role of traditional and emerging options for funding climate preparedness, including options for incentivizing preparedness investments, and develop recommendations for how those funding tools could be used to fund preparedness needs.	Convene	Public Priority
Prep. 1.1.4	**Finalize performance measures for climate preparedness.** *(Climate Action Team)* The Climate Action Team will develop a final list of performance measures for King County's climate preparedness efforts. These performance measures will leverage existing and emerging performance measurement frameworks to track progress on reducing climate impacts and increasing the resilience of King County communities, natural systems, and the built environment.	Implement	Fast Start

1.2. STRATEGY 1 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections and Considerations
Prep. 1.2.1 **Develop and implement a climate change capital planning strategy for flood mitigation projects.** *(DNRP)* The Water and Land Resources Division will examine approaches to incorporating more adaptability in the design and building of capital projects for flood mitigation as part of the update to the King County Flood Hazard Management Plan. Results from this work will inform the development of a strategic approach to integrating climate change into flood mitigation capital projects.	Implement	Flooding Sea Level Rise Capital Planning
Prep. 1.2.2 **Improve permitting guidance related to sea level rise and bulkheads.** *(DLS)* The Permitting Division, in partnership with WLRD and the Climate Action Team, will develop updated guidance for property owners and county staff related to sea level rise, shoreline development, and bulkheads. This work will also include improved guidance and/or recommended code changes related to bulkheads that add clarity to the administrative interpretation of existing code, inclusive of sea level rise considerations.	Implement	Sea Level Rise
Prep. 1.2.3 **Develop guidance and recommendations to further incorporate climate change considerations within Wastewater Treatment Division programs, projects, and operations** *(DNRP)* The Wastewater Treatment Division (WTD) will establish a Climate Adaptation Work Group and utilize their expertise to further develop, document, and communicate guidance and procedures for systematically addressing climate change impacts within WTD programs, projects, and operations. This includes developing guidance that helps establish division-wide priorities and coordination of recommended adaptation efforts.	Implement	Wastewater Conveyance

1.2. STRATEGY 1 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections and Considerations
Prep. 1.2.4 **Develop a methodology and standard for assessing climate resiliency for stormwater management.** *(DNRP)* The Water and Land Resources Division will develop a methodology and standard for conducting climate resiliency analyses for stormwater management. This includes evaluating the impacts of additional climate change scenarios at more locations around the County to better understand the effects and broader implications of increased rainfall on stormwater infrastructure in King County. Results from this work will help inform what combination of regulatory changes, operational changes, and capital investments will achieve the best outcomes for climate resiliency.	Implement	Stormwater Management
Prep. 1.2.5 **Include the effects of future climate conditions in prioritization of fish passage barriers.** *(DNRP)* The Water and Land Resources Division will work with partners to develop and implement a fish passage barrier prioritization method that includes evaluation of how climate change may affect fish passage. WLRD will then incorporate the prioritization output into the planning of fish passage restoration across county agencies.	Implement	Salmon Recovery
Prep. 1.2.6 **Factor future climate conditions into design, operation, and maintenance of assets in streams.** *(DNRP)* The Water and Land Resources Division will work with King County agencies responsible for fish passage barriers to develop guidance, methods, and standards for incorporating projected climate change impacts on King County streams into county asset management efforts that affect fish passage.	Implement	Salmon Recovery

1.2. STRATEGY 1 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections and Considerations
Prep. 1.2.7	**Update the King County Habitats of Local Importance and Species of Local Importance lists in the King County Comprehensive Plan to account for climate impacts.** *(DNRP)* The Water and Land Resources Division will use existing literature, data, and expert input to evaluate climate change impacts on species and habitats in King County. Results from the assessment will be used to update the King County Comprehensive Plan. Results from the evaluation will also inform open space management, acquisition, habitat restoration, and other activities undertaken by the County and regional partners.	Implement	Biodiversity
Prep. 1.2.8	**Update King County's Comprehensive Plan Biodiversity Conservation Approaches and DNRP's Ecological Lands Handbook to account for the impacts of climate change**. *(DNRP)* The Water and Land Resources Division will update the Comprehensive Plan's Biodiversity Conservation Approaches section and the DNRP Ecological Lands Handbook to reflect our current understanding of climate change impacts on ecological systems. This update will help ensure that recommendations and decisions based on these documents are made with the best currently available information.	Implement	Biodiversity
Prep. 1.2.9	**Update Parks operating protocols and communications plans to account for wildfire and other extreme weather events**. *(DNRP)* King County Parks will review current operating protocols and communications plans to ensure that existing protocols are adequate relative to recent trends in extreme events and projected climate impacts. New protocols for managing wildfire smoke exposure for staff will also be developed.	Implement	Fast Start Parks & Open Space

1.2. STRATEGY 1 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections and Considerations
Prep. 1.2.10	**Incorporate best available information on climate impacts into the implementation of the 2020–2025 Parks, Recreation, Trails and Open Space Levy.** *(DNRP)* King County Parks will implement levy commitments with consideration given to climate change preparedness, as appropriate. This includes, for example, incorporating anticipated climate change impacts into capital planning, project delivery, and asset management; including SCAP-related considerations in Parks' grants and funding awards; addressing climate change considerations in the 2021 update of King County's Open Space Plan; and prioritizing urban equity acquisitions that produce multiple benefits, like addressing urban heat island effects and providing green stormwater benefits.	Implement	Parks & Open Space
Prep. 1.2.11	**Incorporate best available information on climate change impacts into the delivery of capital planning, capital projects, and program delivery for Roads.** *(DLS)* The Roads Division will incorporate information about climate change impacts into Division capital planning, capital projects, and program delivery to the extent feasible under available funding to help ensure that service reliability, public safety, equity, and environmental goals are met in the face of a changing climate.	Implement	Transit & Roads Capital Planning
Prep. 1.2.12	**Update Metro operating protocols and plans to account for wildfire smoke and other extreme events.** *(Metro)* King County Metro will review current operating protocols to ensure that existing protocols are current with recent trends in extreme events and expected climate change impacts. New protocols for managing wildfire smoke will also be developed.	Implement	Fast Start Transit & Roads

Strategy 2: Invest in and use best available science and other technical information to inform climate preparedness work at King County.

About this strategy: King County is committed to using best available science and other technical information to inform its climate preparedness work. This strategy includes drawing on existing climate change research and technical studies conducted by other departments and organizations, as well as directly funding and/or conducting new studies and technical assessments specific to County decision needs. This also includes building internal staff capacity and expertise to apply best available science related to preparedness needs.

Strategy outcomes: King County is applying best available science related to climate impacts and adaptation practice in decision-making, contributing to the development of more climate-resilient decisions. The County is also identifying, funding, and/or participating in development of research and technical assessments needed to support climate-resilient decision-making.

Strategy 2 Performance Measures	*Reporting Metric or Target*
1. King County staff are accessing and applying relevant research, data, guidance, and other technical information related to climate impacts and climate preparedness.	King County staff report knowing where to find relevant climate information and feel they have the technical guidance needed to consistently apply that information in decisions.
2. King County is funding or otherwise pursuing the technical information and research needed to inform climate-resilient decision-making, and sharing that technical information with others.	Examples and qualitative assessment of if/how King County is making progress on identifying, funding, and/or participating in the development of research and technical assessments, and what we are learning from that work.

Reducing flood risk while supporting habitat complexity (Stossel Revetment Emergency Repair, 2018)

2.1. STRATEGY 2 ACTIONS SUPPORTING PREPAREDNESS ACROSS DEPARTMENTS

Priority Actions	King County Role	Connections & Considerations
Prep. 2.1.1 **Develop and maintain a Climate Change Resource Hub to inform climate preparedness activities at King County.** *(Climate Action Team)* The Climate Action Team will develop and maintain a common set of climate resources to support incorporation of climate impacts considerations into County decision processes and other activities. Shared resources include best practice guidelines, technical studies, data, GIS resources, training opportunities, and tools.	Implement	Reduce Emissions; Climate Equity; Capital Planning
Prep. 2.1.2 **Develop a shared set of climate change scenarios for use in capital planning and other decision-making across County programs.** *(Climate Action Team)* The Climate Action Team will partner with the Capital Projects Management Working Group and other to develop a common set of climate change scenarios and technical guidance for use by King County programs. The scenarios and guidance will be included in the Climate Change Resource Hub and updated as needed based on best available science.	Implement	Fast Start; Capital Planning

Murray Combined Sewer Overflow Storage Facility construction

2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 2.2.1 **Evaluate how projected changes in flooding affect infrastructure and flood mitigation activities in King County.** *(DNRP)* As part of the Flood Hazard Management Plan update, the Water and Land Resources Division will examine how currently projected climate-driven changes affect future flood risk, and in turn evaluate impacts to future flood mitigation efforts in King County. The RFMS will also look at relevant data with stakeholders to evaluate the impact of sea level rise on coastal properties and evaluate risk reduction measures for properties throughout the county. These efforts will be aimed at developing a more flood- and climate change-resilient community.	Implement	Public Priority; Flooding; Sea Level Rise
Prep. 2.2.2 **Assess the hydraulic impacts of saltwater intrusion on the Wastewater Treatment Division conveyance system and develop a strategy for addressing those impacts.** *(DNRP)* The Wastewater Treatment Division (WTD) will conduct a salinity intrusion study to provide an updated understanding of the scope and scale of salinity intrusion into the wastewater conveyance system. WTD will also develop recommendations for reducing salinity intrusion in the wastewater conveyance system.	Implement	Wastewater Conveyance; Sea Level Rise
Prep. 2.2.3 **Expand the Wastewater Treatment Division's assessment of how projected changes in rainfall intensity affect the wastewater system.** *(DNRP)* The Wastewater Treatment Division will expand an initial assessment of heavy rain events completed as part of the 2015 SCAP to include data from up to ten additional climate scenarios, providing a more robust assessment on how changes in the intensity, duration, and magnitude of heavy rain events in King County affect wastewater conveyance and treatment.	Implement	Wastewater Conveyance

2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 2.2.4 **Partner with the U.S. Geological Survey to aid in the development of their Puget Sound Coastal Storm Modeling System.** *(DNRP)* The Wastewater Treatment Division (WTD) will partner with the U.S. Geological Survey to evaluate projected changes in the magnitude, frequency, and timing of coastal flooding along key segments of the King County shoreline important to WTD. The study will also assess the influence of sea level rise on groundwater levels in the lower Duwamish River valley and evaluate potential changes in bluff erosion at a limited number of locations on Vashon Island.	Convene	Wastewater Conveyance Sea Level Rise
Prep. 2.2.5 **Investigate the use of smart system technology and operational adjustments to optimize performance of existing stormwater assets.** *(DNRP)* The Water and Land Resources Division will pilot the use of remote sensors to monitor facility performance in real time and use that information to identify options for modifying facility outlet control devices to improve performance. Stormwater Services will also evaluate stormwater management methods and practices that could increase climate resilience. This includes evaluating changes in maintenance cycles/intervals to maximize performance and bio-swale vegetation management.	Implement	Stormwater Management

Roadside rain gardens absorb large amounts of stormwater from streets and sidewalks.

2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations
Prep. 2.2.6	**Assess potential benefits of levee setbacks on summer low-flow conditions.** *(DNRP)* The Water and Land Resources Division will examine the potential benefits of levee setbacks on groundwater recharge in floodplains and determine if, and to what degree, any benefit could help mitigate projected decreases in summer flows as a result of climate change.	Implement	Salmon Recovery
Prep. 2.2.7	**Evaluate projected changes in summer streamflow volumes in major King County watersheds.** *(DNRP)* The Water and Land Resources Division will utilize a recently expanded set of climate change streamflow data to evaluate projected changes in summer low streamflows for the Green and Snoqualmie Rivers. Analyses for the White and Cedar Rivers are contingent on data availability. Information from this assessment will be used to inform salmon recovery and habitat restoration projects, strategic planning, and outreach efforts.	Implement	Salmon Recovery
Prep. 2.2.8	**Assess King County irrigation water needs.** *(DNRP)* The Water and Land Resources Division will conduct a comprehensive, countywide assessment of agricultural water need in King County to better understand current and future demand for agricultural water in King County, and to identify actionable opportunities for addressing this demand in concert with other water needs, including instream flows for salmon recovery. Result from the assessment will help inform long-term planning related to agricultural production in King County.	Implement	Fast Start Agriculture
Prep. 2.2.9	**Conduct a climate change impacts assessment for agricultural production in King County.** *(DNRP)* The Local Food Initiative will coordinate collection of available scientific information to assess climate change impacts on King County agriculture. The assessment will also identify actions that farmers and King County agricultural programs can take to address climate change impacts, helping to sustain a healthy and thriving King County farm economy over the long term.	Convene	Climate Equity Agriculture

2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations
Prep. 2.2.10	**Develop a systematic approach for updating and maintaining King County's landslide inventory database and landslide hazard mapping.** *(DNRP)* The Water and Land Resources Division, in partnerships with other internal and external partners, will update the County's current landslide inventory database and landslide hazard maps along river corridors and all areas in unincorporated King County, with the goal of developing a more systematic approach for mapping hazards, tracking events, and sharing landslide information relevant to public safety, land use, permitting, asset management, flood risk, and emergency management decisions.	Implement	Resource Need Landslide Hazards
Prep. 2.2.11	**Explore opportunities to update the 2006 vulnerable roads assessment and incorporate climate change impacts as a factor in that assessment.** *(DLS)* The Roads Division will explore opportunities to update the 2006 vulnerable roads assessment and incorporate climate change impacts as an evaluation factor in that assessment. Information from that assessment will be used to inform capital planning and project delivery in Roads, among other activities.	Implement	Public Priority Transit & Roads Resource Need
Prep. 2.2.12	**Conduct a climate change vulnerability assessment for Metro and identify actions that can be taken to address those impacts.** *(Metro)* Metro will conduct a climate change vulnerability assessment that evaluates and prioritizes climate change impacts for current and planned Metro operations, assets, and service delivery, including the proposed South Base in south King County. Metro will also identify actions for equitably addressing priority impacts identified in the assessment.	Implement	Fast Start Transit & Roads
Prep. 2.2.13	**Evaluate how groundwater levels at King County International Airport change in response to seasonal changes in rainfall and tidal fluctuations.** *(DES)* King County International Airport will partner with WLRD to evaluate the sensitivity of groundwater levels at the airport to seasonal changes in rainfall and tidal fluctuations. The assessment, which will leverage USGS modeling work planned as part of the 2020 SCAP, will inform long-term planning related to stormwater management and adapting airport infrastructure and operations to the impacts of climate change.	Implement	King County Facilities

2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations	
Prep. 2.2.14	**Develop a sustained monitoring program for tracking offsite stormwater flows that affect King County International Airport.** *(DES)* King County International Airport will develop a sustained monitoring program for tracking offsite stormwater flows onto airport grounds to better understand the potential effects of offsite drainage on stormwater management capacity. Information from that monitoring program will examine 1) how much runoff is entering airport property, 2) how that runoff varies based on seasonal patterns and antecedent conditions, and 3) the effectiveness of efforts to reduce that runoff.	Implement	King County Facilities	Stormwater Management
Prep. 2.2.15	**Evaluate the impacts of heavier rain events on stormwater capacity at King County International Airport.** *(DES)* King County International Airport will leverage new climate change scenarios for rainfall in King County to examine how projected changes in rainfall intensity and duration affect stormwater capacity at the airport. Information from the assessment will be used to support long-term planning and asset management at the airport.	Implement	King County Facilities	Stormwater Management
Prep. 2.2.16	**Complete a climate change vulnerability assessment and action strategy for the Solid Waste Division.** *(SWD)* The Solid Waste Division (SWD) will conduct a rapid climate change vulnerability assessment that evaluates and prioritizes climate change impacts on SWD assets and operations, and identifies actions for addressing key impacts. Results from the assessment will help SWD be strategic in addressing climate change impacts as part of asset management and long-term planning.	Implement	Solid Waste	

FOCUS AREA 3: HEALTH AND EQUITY

Strategy 3: Prioritize health and equity in climate preparedness actions and activities.

About this strategy: Climate change affects all King County residents, but not all residents are affected in the same way. Existing inequities related to health care, housing, employment, language, and other socioeconomic factors can create disproportionate impacts on people living with low incomes, immigrant and refugee communities, people with disabilities, and BIPOC communities (i.e., frontline communities). People living in or near areas affected by specific types of climate-related hazards, such as river and coastal flooding or wildfires, can also be affected in disproportionate ways, particularly those who have limited resources or awareness of how to prepare for, adapt to, or recover from those hazards. Finally, health factors (e.g., age, pregnancy), and underlying medical issues such as cardiovascular, respiratory, kidney, cerebrovascular, or mental health disease can increase vulnerability to climate impacts.

Grounding our climate preparedness work in climate and health equity, with a focus on frontline communities and other potentially vulnerable populations, will help ensure that our efforts help address disproportionate impacts. As a strategy closely linked to the focus of the Sustainable & Resilient Frontline Communities section, the activities pursued under this strategy, including the priority actions listed below and performance measurement, will be informed by and coordinated with the work of the Sustainable & Resilient Frontline Communities section.

Strategy outcomes: King County's climate preparedness efforts are contributing to improved climate equity and health outcomes and increased climate resilience in communities disproportionately affected by climate change.

Strategy 3 Performance Measures	*Reporting Metric or Target*
1. King County is developing and implementing actions specifically focused on improving climate equity and related health outcomes for disproportionately impacted communities.	Qualitative assessment (comparative over time) of if/how King County programs are making progress on: • developing and implementing climate preparedness actions specifically focused on addressing climate equity and health disparities; and • including targeted efforts related to climate equity and health disparities in the development and implementation of other climate preparedness activities.

3.1. STRATEGY 3 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 3.1.1 **Develop and implement an Urban Heat Island Strategy.** *(Climate Action Team)* The Climate Action Team will work with internal and external partners to develop and implement strategies for reducing temperatures and the associated risk of heat-related illness in areas identified as urban heat islands. The strategy will leverage and build on ongoing efforts related to mapping surface temperatures in King County, increasing tree canopy, providing access to green space and open space, and green building.	Convene	Climate Equity Health Blueprint Reduce Emissions
Prep. 3.1.2 **Develop messaging and guidance to prepare equitably for and mitigate climate-related health impacts.** *(Public Health)* Public Health will collaborate with agency and community partners to address gaps in climate and health knowledge and co-develop inclusive and equitable climate and health messaging, resources, and guidance.	Convene	Climate Equity Health Blueprint
Prep. 3.1.3 **Account for equity in how Metro creates and shares information about changes in service related to extreme weather events.** *(Metro)* Metro will work to minimize the impact of weather-related service changes on disproportionately impacted communities by expanding ethnic media connections and pursuing other opportunities to create and share service-related information to these communities.	Implement	Climate Equity Transit & Roads
Prep. 3.1.4 **Design bus stops to account for more extreme weather events, particularly at stops serving communities who may be disproportionately impacted by those events.** *(Metro)* The Bus Stop Improvements team will develop and incorporate climate change metrics in the process for selecting and prioritizing bus stop shelter improvements. Beginning in 2021, at least 10% of the weather-related improvements will be constructed at bus stops in climate priority areas.	Implement	Climate Equity Health Blueprint Transit & Roads

FOCUS AREA 4: COMMUNITY AND ORGANIZATIONAL PARTNERSHIPS

Strategy 4: Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.

About this strategy: Collaborations and partnerships are critical to addressing the complex challenges of climate change. Strengthening collaborations and partnerships between County departments and with other jurisdictions and organizations provides opportunities to align preparedness activities, leverage limited resources, share lessons learned, stay informed of issues relevant to King County's climate preparedness efforts, and develop equitable approaches to reducing impacts that match the scale of the challenges and opportunities presented by climate change.

Effective and equitable collaborations and partnerships is a shared priority for the Climate Preparedness and Sustainable & Resilient Frontline Communities sections. Activities pursued under this strategy, including the priority actions listed below and performance measurement, will be informed by and coordinated with priorities and activities identified in the Sustainable & Resilient Frontline Communities section.

Strategy outcomes: King County's climate preparedness efforts have been strengthened through strong internal and external collaborations and partnerships, and are contributing to climate resilience more broadly in King County and the Puget Sound region.

Strategy 4 Performance Measure	*Reporting Metric or Target*
1. King County is building and/or supporting the collaborations and partnerships necessary to make progress on climate preparedness outcomes and improving regional climate resilience.	Qualitative assessment (comparative over time) of if/how King County programs are building and sustaining collaborations and partnerships related to climate preparedness, and if/how those collaborations and partnerships are resulting in progress on preparedness priorities.

Restoring fish passage, Zackuse Creek culvert replacement (before and after)

4.1. STRATEGY 4 ACTIONS SUPPORTING PREPAREDNESS ACROSS DEPARTMENTS

Priority Actions	King County Role	Connections & Considerations
Prep. 4.1.1 **Expand the K4C model for collaboration to include climate preparedness topics and issues.** *(Climate Action Team)* The Climate Action Team will partner with King County-Cities Climate Collaboration (K4C) to plan and prepare for the impacts of climate change on K4C communities and the King County region. This includes identifying shared climate impact concerns and pursuing opportunities for addressing those concerns.	Convene	K4C Public Priority
Prep. 4.1.2 **Strengthen the role of the Puget Sound Climate Preparedness Collaborative in advancing and aligning local and regional climate preparedness efforts.** *(Climate Action Team)* The Climate Action Team will work with other members of the Puget Sound Climate Preparedness Steering Committee to grow and sustain the work of the Collaborative. This includes pursuing financial sustainability for the Collaborative, expanding opportunities to engage with communities about climate preparedness, and addressing key knowledge gaps related to climate preparedness.	Convene	Public Priority

Irrigating with recycled water at Starfire Sports in Tukwila

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.1	**Increase coordination around planning for sea level rise in the lower Duwamish.** *(Climate Action Team)* The Climate Action Team will partner with King County-Cities Climate Collaboration (K4C) to plan and prepare for the impacts of climate change on K4C communities and the King County region. This includes identifying shared climate impact concerns and pursuing opportunities for addressing those concerns.	Convene	Public Priority Sea Level Rise
Prep. 4.2.2	**Expand the use of recycled water in the Sammamish Valley to help mitigate projected changes on summer low streamflows.** *(DNRP)* The Water and Land Resources Division will work with partners to explore if changes in flow management at Howard Hanson Dam on the Green River could be utilized to ameliorate the expected impacts of climate change, while meeting operational and regulatory expectations. Adjustments could include changing the timing of releases or the depth of release from the reservoir to help address high summer temperatures in downstream reaches.	Convene	Wastewater Conveyance
Prep. 4.2.3	**Work with partners to explore changes in regulated streamflow management for the Green River to account for climate impacts on salmon.** *(DNRP)* The Water and Land Resources Division will work with partners to explore if changes in flow management at Howard Hanson Dam on the Green River could be utilized to ameliorate the expected impacts of climate change, while meeting operational and regulatory expectations. Adjustments could include changing the timing of releases or the depth of release from the reservoir to help address high summer temperatures in downstream reaches.	Support/ Advocate	Salmon Recovery

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.4	**Partner with major landowners and land managers to better understand and enhance the role upper watershed forests in reducing climate change impacts on salmon.** *(DNRP)* The Water and Land Resources Division will partner with WRIA teams, the Rural Forest Commission, major forest landowners and land managers to assess the benefits of upper watershed forests for salmon recovery and habitat restoration in a changing climate, and recommend strategic approaches for maximizing those benefits.	Convene	Salmon Recovery
Prep. 4.2.5	**Work with partners to update the Wildlife Habitat Network to include and enhance habitat connectivity needs related to vulnerable species and habitats in King County.** *(DNRP)* The Water and Land Resources Division will work with partners to update the Wildlife Habitat Network to account for and enhance climate change-related habitat connectivity needs for vulnerable species and habitats in King County. Results from the assessment will support regional efforts related to open space management, land acquisition, and habitat restoration.	Convene	Biodiversity
Prep. 4.2.6	**Work with King County programs and regional partners to evaluate and support the use of beaver as an adaptation strategy for addressing hydrologic change, where appropriate.** *(DNRP)* The Water and Land Resources Division will evaluate the use of beaver as an adaptation strategy for addressing climate change impacts on water quality, streamflow volume, and riparian habitat, and develop recommendations on how and where beaver can be strategically incorporated into a climate change response to hydrologic change. Project staff will also work with other County programs and regional partners to support and enhance those benefits, where appropriate.	Convene	Resource Need Biodiversity

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.7 **Develop a King County Wildfire Risk Reduction Strategy.** *(DES)* The Office of Emergency Management will partner with King County communities, fire districts, and other organizations to develop an integrated King County strategy for wildfire. The strategy will review current efforts to address wildfire risk in King County and develop recommendations for addressing identified gaps and opportunities.	Convene	Public Priority Forest Health & Wildfire Hazard Mitigation
Prep. 4.2.8 **Develop guidelines for sourcing tree seedlings to help forest planting practices account for climate change.** *(DNRP)* The Water and Land Resources Division will convene forestry practitioners and academics to discuss adapting forest planting practices to account for climate change, and develop a state of the science paper on assisted migration in the PNW with specific recommendations for tree planting that can be used to inform forest planting decisions by King County, small private forest landowners, and others.	Convene	Forest Health & Wildfire
Prep. 4.2.9 **Ensure that all forest plans developed and approved by King County and partners account for climate change.** *(DNRP)* The Water and Land Resources Division will work with public and private forestland partners to ensure that all forest plans developed and/or approved by King County include strategies to minimize risk from climate change. This applies to forest stewardship plans developed to guide management of King County-owned forest lands as well as forest plans developed for private forest landowners who want to enroll in Public Benefit Rating System and other Current Use Taxation program.	Implement Convene	Forest Health & Wildfire

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.10	**Account for climate change impacts in the Agricultural Land Resource Strategic Plan for the Snoqualmie Valley.** *(DNRP)* The Water and Land Resources Division will work with partners to include consideration of climate impacts and resiliency in the Agricultural Land Resource Strategic Plan for Snoqualmie Valley. Doing so will help ensure that future management and infrastructure improvements developed through the strategy account for climate change.	Convene	Agriculture
Prep. 4.2.11	**Work with partners to ensure that climate change mitigation and preparedness are incorporated into farm plans and strategies.** *(DNRP)* The Water and Land Resources Division will work with partners to help ensure that farm plans include information related to climate mitigation and climate preparedness. This includes incorporating actions to make farms more resilient to climate change and to minimize or offset carbon emissions generated on farms.	Convene	Agriculture
Prep. 4.2.12	**Work with partners to help farmland owners elevate homes within the Snoqualmie River 100-year floodplain and increase access to high ground for animals and equipment during floods.** *(DNRP)* The Water and Land Resources Division will work with the Flood Control District, farmers, farmland owners, and other partners to minimize asset risk exposure to flooding. This includes pursuing opportunities to elevate homes that are vulnerable to flooding, increase access to higher ground for farm animals and equipment, and construct new farm pads, when appropriate compensatory flood storage can be identified and created.	Convene	Agriculture Flooding

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.13	**Increase interdepartmental coordination related to landside response, reporting, and risk reduction in King County.** *(DNRP)* The Water and Land Resources Division will form an interdepartmental landslide hazard committee for the purpose of identifying and updating landslide response roles and resources, increasing public awareness of landslide hazards and preparedness, and updating policies and codes, as appropriate, to address current and projected landslide risks.	Implement	Landslide Hazards
Prep. 4.2.14	**Develop and implement a climate change health impact surveillance strategy for Public Health.** *(Public Health)* Public Health will work with partners to develop climate, health and resilience data indicators and surveillance systems for monitoring climate-related health impacts. Information collected through these systems will inform timely public health action and provide a clearer understanding of trends in health status, inequities, and vulnerabilities related to climate impacts.	Convene	Resource Need Public Health

Clearing a landslide from Jones Road (2009)

FOCUS AREA 5: OUTREACH AND ENGAGEMENT

Strategy 5: Invest in public outreach, engagement, and technical assistance related to climate preparedness.

About this strategy: Successfully preparing for and adapting to climate change requires building a shared understanding of how climate change affects King County, how the County is actively working to reduce climate impacts and build resilience, and what individuals and communities can do to reduce climate risks. This includes outreach and engagement work to King County staff, residents, and businesses.

Effective and equitable outreach, engagement, and technical assistance related to climate preparedness is a shared priority for the Climate Preparedness and Sustainable & Resilient Frontline Communities sections. Activities pursued under this strategy, including the priority actions listed below and performance measurement, will be informed by and coordinated with priorities and activities identified in the Sustainable & Resilient Frontline Communities section.

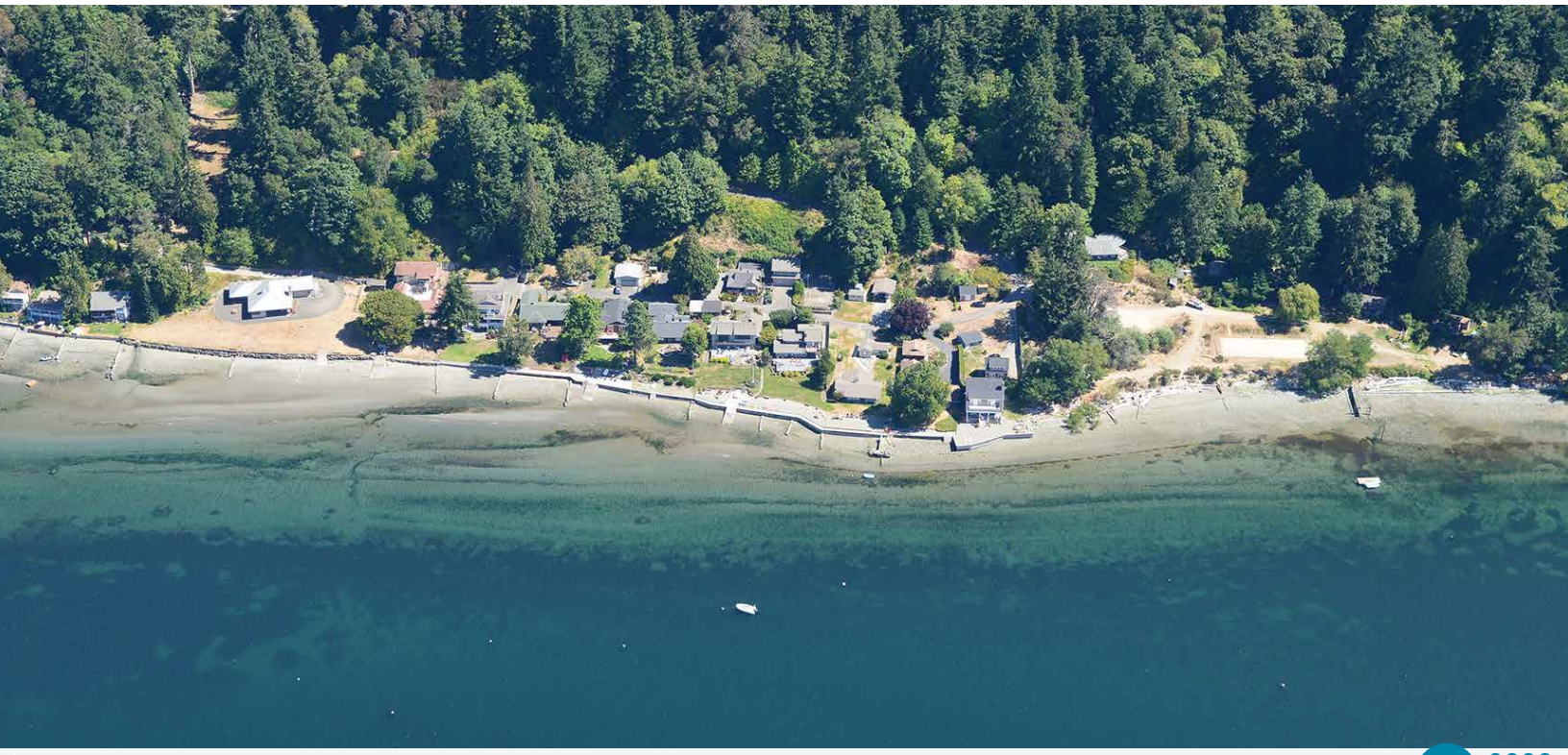
Strategy outcomes: King County staff and residents are learning about and acting on information about climate change impacts on King County, the County's efforts to address climate change, and actions they can take to reduce the impacts of climate change.

Strategy 5 Performance Measures	*Reporting Metric or Target*
1. Relevant King County staff have the tools, resources, and information needed to support increased outreach, engagement, and technical assistance about climate change with the communities they serve.	Communications staff and other public facing staff involved in outreach, engagement, and technical assistance activities in programs engaged in climate preparedness work at King County report having the tools, resources, and information needed to support increased outreach, engagement, and technical assistance related to climate change. Results will be comparative over time.
2. King County programs are creating a diverse range of opportunities for residents to access, view, or otherwise learn about climate impacts in King County, local efforts to address climate change, and actions that residents can take to reduce the impacts of climate change on their families and communities.	Qualitative assessment (comparative over time) of if/how relevant King County programs are sharing information about climate change with residents and related measures of effectiveness.

5.1 STRATEGY 5 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 5.1.1 **Incorporate information on changing flood risk and ways to reduce that risk into outreach for coastal and river floodplain property owners.** *(DNRP)* The Water and Land Resources Division will develop and integrate information about climate change impacts on flood risk and floodplain management into its communications and engagement activities, helping to build greater public understanding of how climate change affects river and coastal flooding and capacity for resilience to current and future flood risk.	Implement	Public Priority Flooding
Prep. 5.1.2 **Increase outreach and engagement related to sea level rise on Vashon-Maury Island.** *(DNRP)* The Water and Land Resources Division will work with internal and external partners to increase outreach and engagement related to sea level rise on Vashon-Maury Island. This includes incorporating information on sea leave rise into ongoing engagement work like the like Shore Friendly and DLS's once a week Vashon permit office. The Division and its partners will also seek opportunities for more focused discussions on sea level rise, including, for example, public workshops specifically focused on sea level rise.	Implement	Sea Level Rise

Vashon Island shoreline



5.1 STRATEGY 5 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations
Prep. 5.1.3	**Develop and implement a holistic stormwater and climate change communications strategy for use by King County and community partners.** *(DNRP)* The Water and Land Resources will develop and implement a stormwater/climate change communications strategy as part of Stormwater Service's Strategic Communications Plan for use by the County and partner jurisdictions that emphasizes the health, safety, and ecological benefits of a climate-resilient stormwater management program.	Implement	Stormwater Management
Prep. 5.1.4	**Increase technical assistance related to wildfire.** *(DNRP)* The Water and Land Resources Program will work with partners to ensure that public and private forestlands within the wildland/urban interface are managed to be as adaptable as possible in the face of a changing climate. This includes expanding the incorporation of "Firewise" practices across a range of scales (individual homes to communities) and supporting the development of clear plans for wildfire response, community evacuation and wildfire disaster recovery.	Convene	Public Priority Forest Health & Wildfire

Community outreach and engagement are important to developing a shared understanding of our climate challenges and opportunities

5.1 STRATEGY 5 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

	Priority Actions	King County Role	Connections & Considerations
Prep. 5.1.5	**Incorporate information on climate change impacts and action into Parks communications materials and other engagement activities.** *(DNRP)* King County Parks will incorporate information on climate change impacts and preparedness, as well as the division's role and actions to address those challenges, into ongoing communications and engagement activities. This may include, for example, incorporating information into web content, social media postings, printed materials, and presentations; developing on-site informational and interpretive signage; and sharing information through community engagement processes.	Implement	Parks & Open Space
Prep. 5.1.6	**Support increased farmer participation in federal disaster insurance programs.** *(DNRP)* The Water and Land Resources Division will work with partners to raise producer awareness of Federal agricultural disaster relief programs that can help reduce the economic consequences of crop loss. This work will also assist farmers with program enrollment if it is deemed to be an appropriate business decision.	Implement Support/ Advocate	Agriculture
Prep. 5.1.7	**Conduct trainings for partner jurisdictions on climate change and hazard mitigation.** *(DES)* The Office of Emergency Management will host trainings with partner jurisdictions on incorporating climate change into hazard mitigation. The trainings will include information on how climate change affects natural hazards in King County; how to evaluate and adjust hazard mitigation strategies to account for climate impacts, including the potential for disproportionate impacts on frontline communities; and best practices for sharing information about climate risks with the public.	Implement	Hazard Mitigation

Preparedness Section Endnotes

1 IPCC. (2014). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

2 Runsten, K. (2018). Climate Ready Boston?: Identifying indicators to evaluate the City of Boston's efforts to implement its climate change adaptation initiatives. Master's Thesis, Massachusetts Institute of Technology.