



Agency Recommendation Summary

Funding the public health system to address climate change will allow us to maximize the health co-benefits of climate change mitigation efforts and effectively plan to equitably implement adaptation actions that are necessary to prevent the worst impacts of climate change. To achieve this, the Department of Health (DOH) will need to build internal capacity and partnerships, engage with communities, and invest in critical public health infrastructure projects in disadvantaged communities. This includes surveillance (e.g., improved vector/HABS monitoring), early warning systems to support response (e.g., climate services; heat action plans), and support for interventions that reduce human exposures to climate hazards (e.g., wildfire smoke), reduce greenhouse gas emissions, and advance equity.

Fiscal Summary

Fiscal Summary <i>Dollars in Thousands</i>	Fiscal Years		Biennial	Fiscal Years		Biennial
	2022	2023	2021-23	2024	2025	2023-25
Staffing						
FTEs	0.6	14.2	7.4	14.1	14.0	14.05
Operating Expenditures						
Fund 001 - 1	\$69	\$3,499	\$3,568	\$2,782	\$2,528	\$5,310
Total Expenditures	\$69	\$3,499	\$3,568	\$2,782	\$2,528	\$5,310

Decision Package Description

Background

DOH collaborated with other state agencies to help publish Washington's Integrated Climate Response Strategy in 2012. Following recommendations in that report DOH created the first Climate and Health position in 2015 and reorganized the Office of Environmental Public Health Sciences in 2019 to create a Climate and Health Section.

Staff that are now in the Climate and Health Section have reviewed climate policies for years and watched Washington become a national leader on state level climate change mitigation policies. In 2020, the Washington state legislature committed to being carbon neutral by 2050.

To achieve the net zero emissions goal, the state has advanced policies to reduce the major sources of greenhouse gas emissions, invested in innovative climate change adaptation strategies, and mandated a transition to a 100% clean energy future. These policies include:

- The Clean Energy Transformation Act (CETA): This Act decarbonizes the electricity sector, requiring net zero emissions by 2030 and 100% renewable or non-emitting electricity by 2045 (RCW 19.405).
- Climate Commitment Act (CCA): This is a cap and invest strategy that will reduce GHG's and invest in climate change adaptation efforts.
- Incorporating Climate Change Adaptation into Comprehensive Plans Budget Proviso: HB 1099 did not pass, but it was funded through a budget proviso. DOH will work with the Department of Commerce (COM) and others on guidance for cities and counties to plan for climate change.
- Heat Island Adaptation Budget Proviso: This proviso encourages municipal electric utilities and public utility districts (PUDs) to assist electric customers in the acquisition and installation of materials and equipment for energy conservation.
- Healthy Environment for All (HEAL) Act: The HEAL Act integrates environmental justice principles into agency policies and state-funded projects and requires consideration of climate change. The CCA relies on the Environmental Justice Council, created by the HEAL Act, to provide guidance in prioritizing investments.

Problem Statement

Washington State is facing climate change impacts including sea level rise, wildfires, ocean acidification, changing vector habitats and hydrology patterns (reduced snowpack and changing precipitation patterns, floods, and droughts). The health burdens of these impacts are unevenly felt in Washington's communities of color and low-income communities. The public health system in Washington state does not currently have the capacity or resources to comprehensively address these problems or respond to climate related emergencies. Climate change policies in Washington often invoke public health as a justification for climate change policies but have yet to fund the public health system in a way that

assures that we realize these benefits.

Solution

This proposal will build internal capacity, improve partnerships, enhance engagement with our communities, and invest in critical public health infrastructure projects. DOH will do this by developing and funding health protective climate adaptation projects that will mitigate the worst impacts of climate change and help state agencies respond to climate hazards when they occur. DOH will do this by working alongside state agencies, local agencies, community-based organizations, and community members to assert public health’s role in statewide climate policy. The Climate and Health Section’s Climate Justice Coordinator will work with staff across the section to assure that we address environmental justice issues and improve health equity as an integral part of how DOH operates.

Health Conditions & Environmental Hazards	Assessment			
	WA Dept of Ecology ¹	Washington State ²	Swinomish Tribe ³	National Climate Advisory ⁴
Heat	x	x	x	x
Flooding		x		
Drought		x		x
Wildfires	x	x		x
Allergens		x		
Air quality & respiratory disease	x	x	x	x
Infectious, water, and vector diseases	x	x		x
Food-borne illness, including shellfish	x	x	x	x
Harmful algal blooms	x	x		x
Sea level rise	x	x		
Mental health	x	x		x
Injury from severe storms		x		
Drinking water and water Supply	x	x		x

¹ Preparing for a Changing Climate: Washington’s Integrated Climate Response Strategy. Department of Ecology, 2012.

² Climate Change Impacts and Adaptation in Washington State. UW CIG, 2013.

³ Swinomish Climate Change Initiative Climate Adaptation Action Plan, 2010.

⁴ Fourth National Climate Assessment: Northwest Region, National Climate Advisory, 2018.

Approach

DOH will build internal capacity and partnerships, engage with our communities, and invest in critical public health planning and infrastructure projects. DOH will also be able to leverage a favorable policy environment that will allow DOH to influence the state’s investment in climate adaptation and integrate health into counties and cities’ Comprehensive Plans, Climate Action Plans, and Local Hazard Mitigation Plans. A revolving loan fund pilot will demonstrate DOH’s capacity to fund climate adaptation projects in those plans and evaluate improvements to health outcomes and determinants of health, including social equity. DOH will achieve this by:

Collaborating with UW CHanGE to improve the *Clean Energy Transformation Act (CETA) Cumulative Impact Analysis (CIA)* by including a more comprehensive set of climate related hazards and adding disease forecasts. DOH will build internal capacity by creating a

climate specific epidemiologist position that will be mentored by the University of Washington's [Center for Health and the Global Environment](#) (UW CHanGE) on climate related disease and hazard modeling. The position will also engage with the DOH syndromic surveillance program to build and improve dashboards and monitor for climate sensitive risks.

Building Capacity and Subject Matter Expertise: DOH will build upon existing capacity and subject matter expertise to inform public health interventions. Capacity will be added to improve responsiveness to climate and health impacts Washington is already experiencing such as heat waves, poor air quality due to increased wildfires, lack of adequate indoor ventilation and filtration, hydrological risks (sea level rise, flooding, drought, etc.), harmful algal blooms, and at-risk onsite septic systems. Programmatic staff will then work with partners to fund critical infrastructure projects in highly impacted communities. These infrastructure improvements may include:

- Ventilation improvements in schools that will help schools adapt to heat, wildfire, and COVID-19 risk factors.
- Replacing refrigeration in stores and restaurants so food can be kept safe and provide critical community services during heat events, while also meeting new hydrofluorocarbon restrictions passed into law in 2019 (Hydrofluorocarbon Greenhouse Gas Emissions E2SHB 1112, Chapter 284 Section 3).
- Replace, protect, or remove septic systems that are or will be regularly 'washed' at high tide.
- Create a cleaner air room program that provides supplies (HEPA air cleaners, sensors) and guidance to vulnerable individuals and communities experiencing wildfire smoke in collaboration with the DOH Emergency Preparedness and Response division.

Creating a Revolving Loan Fund Pilot: The Office of Drinking Water (ODW) operates a large revolving loan fund and has the capacity and infrastructure to support the Climate and Health program's pilot program to fund climate resilient infrastructure. Initial investments will be made in:

- Improving ventilation in public facilities that serve at risk populations (e.g. improved HVAC system at a Methow Valley School to adapt to wildfire smoke and heat events).
- Removing septic systems currently compromised by or at risk of failure due to sea-level rise. Finding alternative, climate adaptive solutions for wastewater disposal for those homes.
- Replacing or improving refrigeration or freezer capacity for critical pieces of food distribution systems (e.g. upgrading refrigeration capacity at a rural store to keep food safe and adaptive to heat waves and other climate risks).

Developing a Weatherization plus health contract with PHSKC: Through collaboration with local health, Public Health Seattle King County (PHSKC) will lead a community-based approach to developing curriculum for Community Health Workers and weatherization practitioners. Research shows that collaboration between weatherization and public health agencies improves health outcomes of weatherization plus health programs.

Improving community engagement with highly impacted communities by funding engagement opportunities that lead to better understanding of communities' lived climate change experiences and their priorities for improving community health and protection from climate related hazards. To facilitate meaningful engagement with community partners, funding will also cover food, incentives, childcare, and other culturally appropriate amenities. DOH will also fund community-based organizations to support climate mitigation and adaptation planning and interventions.

Improving Statewide Surveillance: Improving the limited existing statewide surveillance capacity for climate sensitive disease vectors (ticks, mosquitos), freshwater harmful algal blooms, and pollen.

Funding Climate Action Planning: Funding local health and planning jurisdictions to collaborate on either implementing health protective elements of climate action plans in counties where such plans exist and funding local health and planning agencies to create climate action plans

where they do not yet exist.

There is an urgent need for Washington state to adapt to climate change in order to avoid the worst health impacts. Failing to fund this decision package act will put communities at risk for increased health impacts from climate related effects like wildfire smoke, heat waves, flooding, drought, and other extreme weather events. It would place the burden of adaptation on non-health agencies and DOH may miss opportunities to maximize co-benefits of climate change mitigation policies. DOH has emerged as a leader on climate and health equity but could fail to address climate inequities if not sufficiently funded. The burden of a failure to act would fall disproportionately on communities already experiencing environmental health disparities.

Assumptions and Calculations

Expansion, Reduction, Elimination or Alteration of a current program or service:

The Climate Change Coordinator Position was created in 2015 without a dedicated funding source. Since 2015 that position has charged to a variety of state and federal funding sources. In 2019 the Office of Environmental Public Health Sciences did a reorganization that created a climate and health section. Two funds, the zoonotic disease fund and the healthy communities fund were combined for an annual budget of approximately \$620,000.

This funding supports a senior epidemiologist and program manager, a climate and health coordinator, a public health entomologist, a climate justice coordinator, and portions of air quality staff.

Biennium 17-19		Biennium 19-21	
Total Expenditures	\$1,485,512	Total Expenditures	\$1,158,583

Detailed Assumptions and Calculations:

The climate and health program has subject matter expertise needs that are not being met including heat, sea-level rise and other hydrological risks, ventilation, septic, and contracts management. This would be an expansion of staff to meet these emerging and growing needs.

Overall, between the Climate and Health Section and Emergency Preparedness and Response, DOH is requesting 10.0 additional FTE starting in FY 2023 ongoing. For FY2022, DOH is requesting support staff time to establish and recruit for the new positions and update the climate and health operational plan.

Workforce Assumptions:

DOH has a variety of contracts listed. Here is some background on how DOH got to those contract numbers:

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- Improved Climate Change Communications – This contract was also informed by a grant application co-authored with the DOH Center for Public Affairs (C4PA).
- Community Engagement – This proposal was developed by the DOH climate justice coordinator and based on experience.
- Cleaner Indoor Air Program – DOH is doing a grant funded pilot/research study on cleaner indoor air rooms. This estimate is based on being able to provide limited support for cleaner air rooms in advance of or during wildfire smoke events. Costs are based on costs during a recent research study.
- Weatherization plus Health – Costs estimate are from a grant application DOH co-authored with significant input from Public Health Seattle King County (PHSKC), DOH Division of Prevention and Community Health, and engagement with the Department of Commerce.
- Climate Action Planning – DOH staff have done significant engagement with local planners and the Department of Commerce on the costs, feasibility, and extent of climate action planning in Washington State. These dollar figures were also vetted through a grant application process.
- Climate Adaptation Revolving Loan Fund Pilot – after consultation with DOH Office of Drinking Water (ODW) on the state revolving

loan fund, it would be a good model for funding climate infrastructure projects. Since this would be new work, DOH does not yet have estimates for various projects. DOH anticipates at this funding level, funding could support one each of three types of adaptation projects and recuperate the investment in order to fund future projects.

Starting in FY 2022, the Climate and Health Section and Emergency Preparedness and Response will establish and recruit for the positions described below. The Climate and Health section will update their operational plan to establish goals, metrics, and deliverables of the section through FY2025. This package will also fully fund a air quality policy specialist (Cleaner Indoor Air Program) focusing on wildfire smoke that has partial funding from Foundational Public Health Services. Costs include salary, benefits and FTE related costs for the last quarter for FY 2022.

0.1 FTE, Senior Epidemiologist – establish and recruit new positions and lead operational plan updates

0.1 FTE Climate and Health Coordinator (Public Health Advisor 4) – facilitate operational plan updates, support creation of new position

0.1 FTE Wildfire Smoke Subject Matter Expert (Management Analyst 4)

0.1 FTE Emergency Management Program Specialist 3 – establish and recruit new positions, update operational and emergency response planning as necessary

Build Capacity and Partnership

Contract with UW CHanGE: \$150,000 per year starting in FY2023 for three years to support the development of climate hazard projections and disease projections. UW CHanGE contract: DOH co-authored a grant application with UW CHanGE that was not funded. DOH used the assumptions and agreements made with UW CHanGE to inform these numbers and have discussed this proposal with the UW. Starting in FY 2023 and ongoing, 1.0 FTE Climate Epidemiologist (EPI3) costs include salary, benefits, and FTE related costs. Key Tasks: Disease projections, collaboration with UW CHanGE, Climate related syndromic surveillance dashboard creation and management.

Improved Surveillance: After one year of surveillance planning \$75,000 per year starting in FY2023 to improve surveillance on changing vector habitats, freshwater HABS risks, and pollen volumes and distribution. Funding would cover supplies, monitoring equipment, travel to surveillance sites, and consolidated contracts with LHJ's whose staff will be trained by the DOH public health entomologist.

Improved Subject Matter Expertise: The climate and health section has subject matter expertise in areas such as wildfire smoke and public health entomology, however, key subject matter expertise is lacking. For example, DOH does not have a heat SME to support the department during heat waves and projections predict increasing needs for HABS, sea-level rise, floods, and droughts. A ventilation SME will help DOH develop guidance and provide technical assistance for improving indoor air quality during wildfire smoke and heat events.

1.0 FTE Heat SME (Health Services Consultant 3 (HSC3)) for FY2023 and thereafter. Key Tasks: Coordinates heat response across the agency. Monitors forecasts for heat waves. Coordinates with stakeholders on heat response. Creates, publishes, and communicates heat guidance.

1.0 FTE Sea Level Rise, Flooding, Drought, and Precipitation SME (HSC3) FY2023 and thereafter. Key Tasks: Coordinates health related sea level rise, flooding, drought, and precipitation response across the agency. Monitors forecasts for hydrological risks. Coordinates with stakeholders on response efforts. Creates, publishes, and communicates necessary guidance.

1.0 FTE Ventilation SME (Industrial Hygienist 3 (IH3)) FY2023 and thereafter. Key Tasks: Creates and provides technical assistance to institutions (schools, community centers, homeless shelters) on the design and operation of heating, ventilation, and air conditioning systems that can protect people from heat, smoke, and other indoor air quality risks.

0.5 FTE HABS SME (MA4) for FY 2023 and thereafter. Key Tasks: Prevents exposure to HABS events through collaboration with local

health and sister agencies. Conducts surveillance, develops and communicates guidance. Collaborates with the EPI3 to model changes in HABS risks due to climate change.

Improved Climate Change Communication: \$120,000 one-time funding in FY2023. Contract with communication strategy firm to support workshops, incorporate input from public health practitioners and communities, and develop communication strategy, messages and customizable materials for DOH to implement with partners. The communication materials will support general public facing climate change and health communication.

0.5 FTE Administrative Assistant 3 (AA3) for FY2023 and thereafter. Key Tasks: Provides administrative support for the Office of Environmental Public Health Sciences including the Climate and Health Section. *Supports all projects

Community Engagement

Community Engagement: \$30,000 FY2023, \$120,000 FY2024-5 To assure the programs and activities in this proposal are meeting the needs of impacted communities staff will fund local partners to do enhanced community engagement that will include participation incentives, food, childcare, live translation, and other culturally appropriate provisions. In FY2023, 3-5 grants will fund community-based and/or tribal health organizations to support community engagement about climate health risks and solutions, partake in an insights exchange workshop and narrative development training, and create a finished communication product that conveys community perspectives.

Cleaner Indoor Air Program: \$50,000 per year starting in FY2023. The goal of this program is to help wildfire prone communities adapt to wildfire smoke and protect highly vulnerable individuals from the health impacts by providing resources to improve indoor air quality during wildfire smoke. This program will provide technical assistance and indoor air filtration materials to individuals and communities, and occasionally air quality monitors to understand program and intervention effectiveness.

0.5 FTE WFS SME (MA4) for FY2023 and thereafter. Key Tasks: Reduces exposure to wildfire smoke through collaboration with stakeholders, management of wildfire smoke advisory committee, development of air quality guidance, engagement on air quality policies, supports wildfire smoke emergency response, engages with media and responds to media requests.

Weatherization plus health contract with PHSKC: \$250,000 per year for two years (FY2023-24) Public Health Seattle King County will lead a community-based approach to developing curriculum for Community Health Workers and Weatherization practitioners. Research shows that collaboration between weatherization and public health agencies improves health outcomes of weatherization plus health programs.

Critical Infrastructure Projects

Climate Action Planning: (\$200,000 FY2023 \$350,000 FY2024-FY2025) Grant program to implement climate action plans where they exist and to create them where they do not. DOH will require local public health and local planning agencies to apply jointly to foster cross-sector collaboration.

Climate Adaptation Revolving Loan Fund: (\$1,000,000 FY2023, add \$200,000 in FY2024 and FY2025) Revolving loan program to fund local climate adaptation investments. Initial eligibility will be for school ventilation improvements, sceptics impacted by sea level rise, and store/restaurant refrigeration systems. Funding level will need to be assessed by program staff in year one and scaled up over multiple years after that. Will require technical assistance from the Office of Drinking Water's revolving loan fund staff.

1.0 FTE Climate Change Contracts Officer (Contracts Specialist 2) for FY2023 and thereafter. Key Tasks: Creates, monitors, and manages consolidated contracts with local health, infrastructure contracts with partners, procurements, the UW CHanGE contract, community engagement contracts, climate action planning contracts, and other contracting needs of the climate and health section.

1.0 FTE Climate Sensitive Onsite Sewage Expert (Environmental Specialist 4 (ES4)) for FY2023 and thereafter. Key Tasks: Identify onsite septic systems vulnerable to sea level rise. Work with owners, local government, and other partners to identify climate adaptive solutions.

Climate Ready Emergency Preparedness and Response

1.0 FTE Heat and Climate Coordinator (Emergency Management Program Specialist 3 (EMP 3)) for FY2023 and thereafter.

0.5 FTE Smoke and Fire Coordinator (EMP 3) for FY2023 and thereafter.

How is your proposal impacting equity in the state?

The health burdens of climate change impacts are unevenly felt in Washington's communities of color and low-income communities. The public health system in Washington state does not currently have the capacity or resources to comprehensively address these problems or respond to climate related emergencies. Climate change policies in Washington often invoke public health as a justification for climate change policies but have yet to fund the public health system in a way that assures that benefits are realized.

This proposal will build internal capacity, improve partnerships, enhance engagement with our communities, and invest in critical public health infrastructure projects. DOH will do this by developing and funding health protective climate adaptation projects that will mitigate the worst impacts of climate change and help state agencies respond to climate hazards when they occur.

Strategic and Performance Outcomes

Strategic Framework:

Results Washington: Results WA does not have specific measures for climate change, it is expect that 2021+ update that will include at least one climate change metric. Results Washington's core values and how this decision package would support them are:

People Matter – We are focusing on climate adaption which improves people's ability to adapt to climate change. We also fund enhanced community engagement

Resources Matter – We are funding climate change adaptation planning and implementation steps and resourcing our public health system to adapt to climate change.

Ideas Matter – If funded this will be a one-of-a-kind public health program leading the nation on state level climate adaptation.

Teamwork Matters – This project works with partners across the state agency family as well as academia and local community organizations.

Agency Strategic Plan:

Equity This would be an equity focused project that promotes community engagement and climate projection development to identify highly impacted communities. It will use both data and engagement information to dedicate funding where it can do the most to promote equity.

Innovation If funded this will be a one-of-a-kind public health program leading the nation on state level climate adaptation.

Partnership This project works with partners across the state agency family as well as academia and local community organizations.

Performance Outcomes:

Results Washington: Results WA does not have specific measure however, the 2021+ update will include at least one climate change metric. Results Washington’s core values and how this decision package would support them are:

- **People Matter** – We are focusing on climate adaption which improves people’s ability to adapt to climate change. We also fund enhanced community engagement
- **Resources Matter** – We are funding climate change adaptation planning and implementation steps and resourcing our public health system to adapt to climate change.
- **Ideas Matter** – If funded this will be a one-of-a-kind public health program leading the nation on state level climate adaptation.
- **Teamwork Matters** – This project works with partners across the state agency family as well as academia and local community organizations.

Agency Strategic Plan:

- **Equity** This would be an equity focused project that promotes community engagement and climate projection development to identify highly impacted communities. It will use both data and engagement information to dedicate funding where it can do the most to promote equity.
- **Innovation** If funded this will be a one-of-a-kind public health program leading the nation on state level climate adaptation.
- **Partnership** This project works with partners across the state agency family as well as academia and local community organizations.

Other Collateral Connections

Puget Sound Recovery:

No

State Workforce Impacts:

None.

Intergovernmental:

Local Government – DOH proposes a number of consolidated contracts with local government agencies. These include vector surveillance, weatherization plus health improvements, climate action planning, and infrastructure projects. DOH anticipates local government support. Specifically, DOH proposes working with local health and local and regional planning agencies. Infrastructure projects will need to be consistent with local priorities and planning.

Impacts to other state agencies:

DOH proposes improving on our CETA CIA. Many policies now use this tool to identify communities highly impacted by climate change. DOH will need to work with state agency partners to make sure the timing of updating this tool supports ongoing work and does not create confusion. (Ecology, Commerce)

Legal or Administrative Mandates:

N/A

Stakeholder Response:

Stakeholders and anticipated support or opposition:

State agencies: Support – DOH will have increased funds and capacity for engaging with them on climate adaptation actions. Key will be good communication and coordination.

Local Health Jurisdictions: Support – LHJ’s have specifically requested and partially funded WFS and HABS positions. They will also be eligible for climate planning grants, and will be intended beneficiaries of the climate communication work.

Community based organizations: Support – Funding and engagement opportunities that are supportive and not extractive (e.g. when communities are asked for time and information but get nothing in return).

Academic Partners: Support – Contracts increase engagement between DOH and academia. Potential opposition if other academic groups believe UW CHanGE is not the best or only option for this contract.

Potential opposition: Stakeholders advocating for smaller government, groups who do not believe in climate change, programs or partners that would prefer to see the funding allocated differently.

Changes from Current Law:

None.

State Facilities Impacts:

None.

IT Addendum

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?

No

Objects of Expenditure

Objects of Expenditure <i>Dollars in Thousands</i>	Fiscal Years		Biennial	Fiscal Years		Biennial
	2022	2023	2021-23	2024	2025	2023-25
Obj. A	\$44	\$1,037	\$1,081	\$1,032	\$1,030	\$2,062
Obj. B	\$15	\$386	\$401	\$384	\$383	\$767
Obj. C	\$0	\$1,875	\$1,875	\$1,195	\$945	\$2,140
Obj. E	\$4	\$69	\$73	\$68	\$67	\$135
Obj. J	\$2	\$29	\$31	\$0	\$0	\$0
Obj. T	\$4	\$103	\$107	\$103	\$103	\$206

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