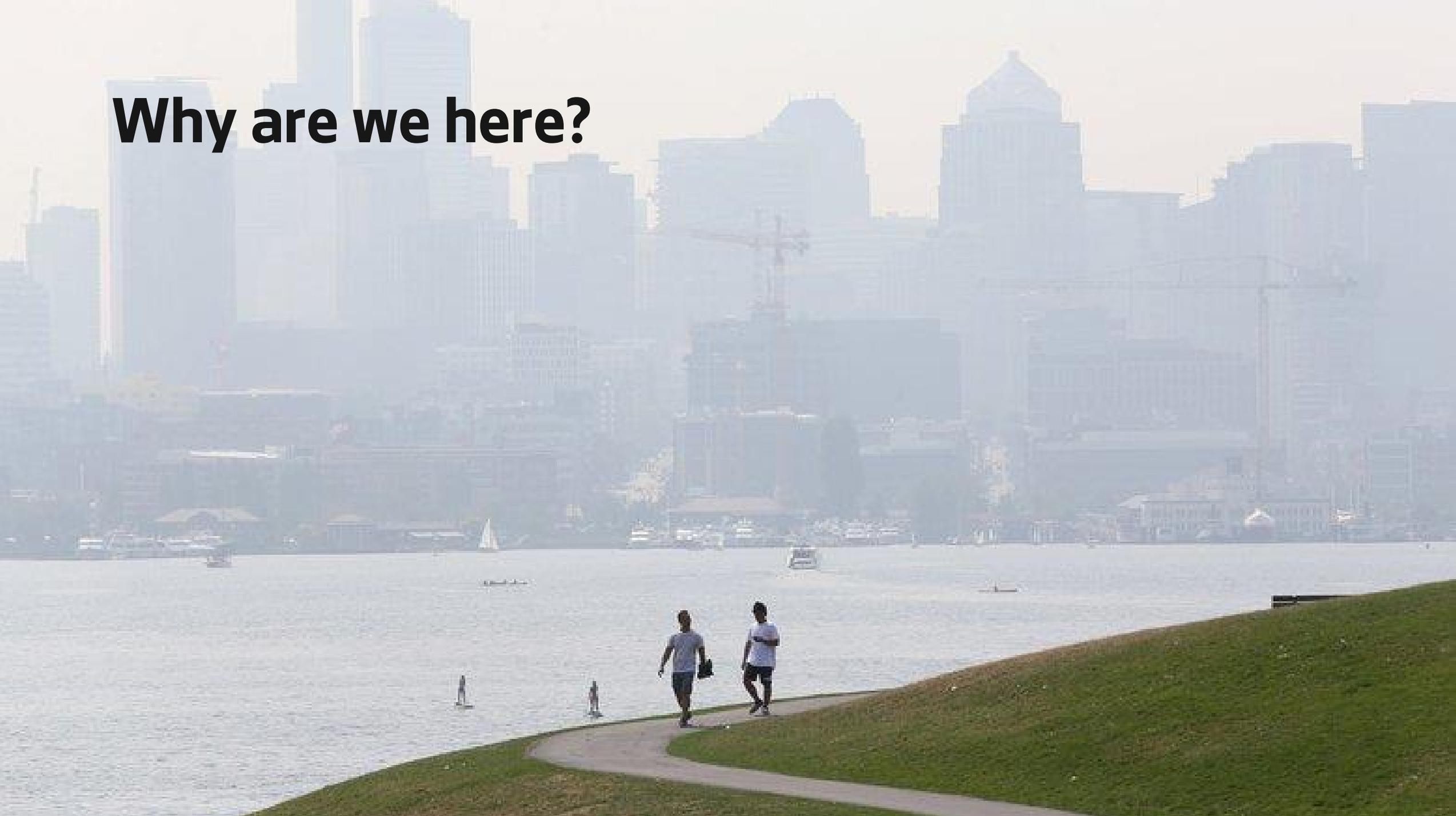


Climate Change Initiatives

Customer Review Panel

January 31, 2020

Why are we here?



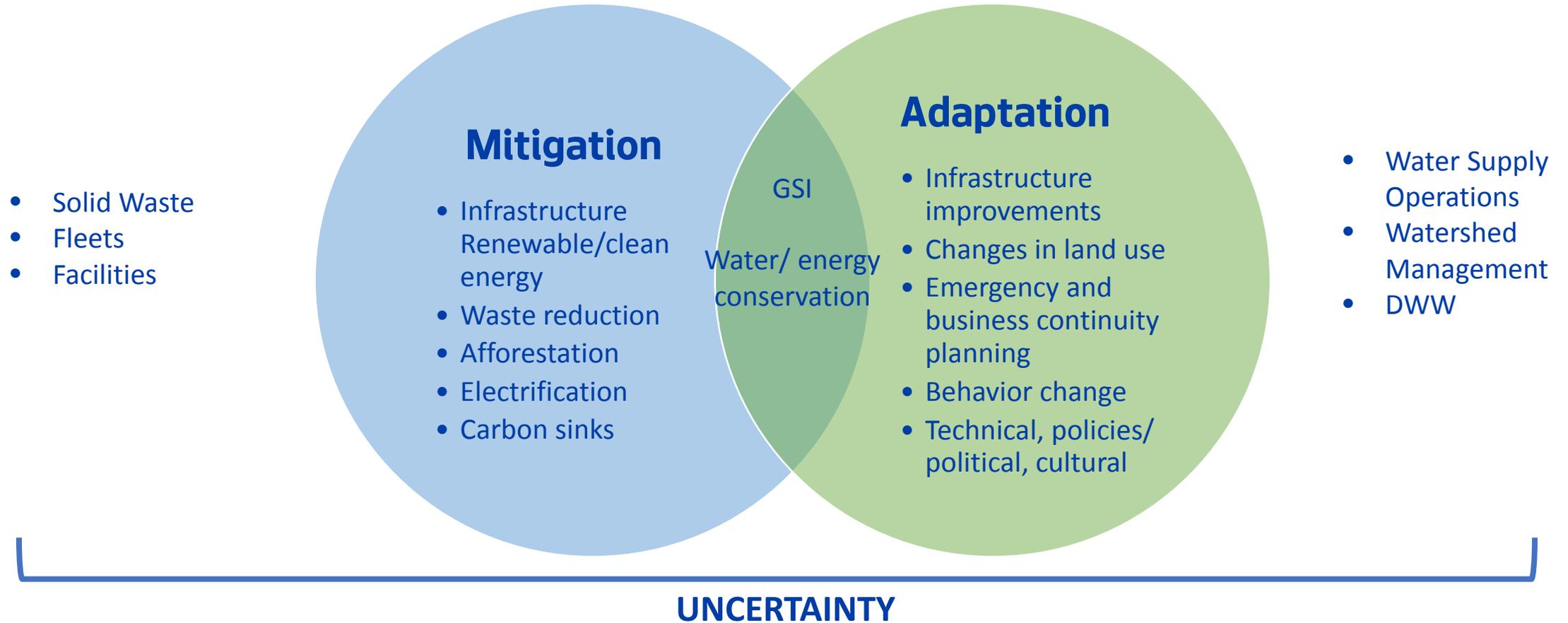


What changes have you noticed?

What are we doing?



Climate Mitigation versus Adaptation?



DRAWDOWN

THE MOST COMPREHENSIVE
PLAN EVER PROPOSED TO
REVERSE GLOBAL WARMING
EDITED BY PAUL HAWKEN

#3 Reduce food waste

#12 Re-establish temperate forests

#26 Transition to electric vehicles

#36 Use alternative cement

#44 Use LEDs - commercial lighting

#46 Save water in homes

#47 Develop bioplastic materials

#55 Increase household recycling

#56 Increase industrial recycling

#58 Reduce landfill methane

#60 Increase composting

#68 Build waste to energy plants

#70 Increase recycled paper

#71 Improve water distribution



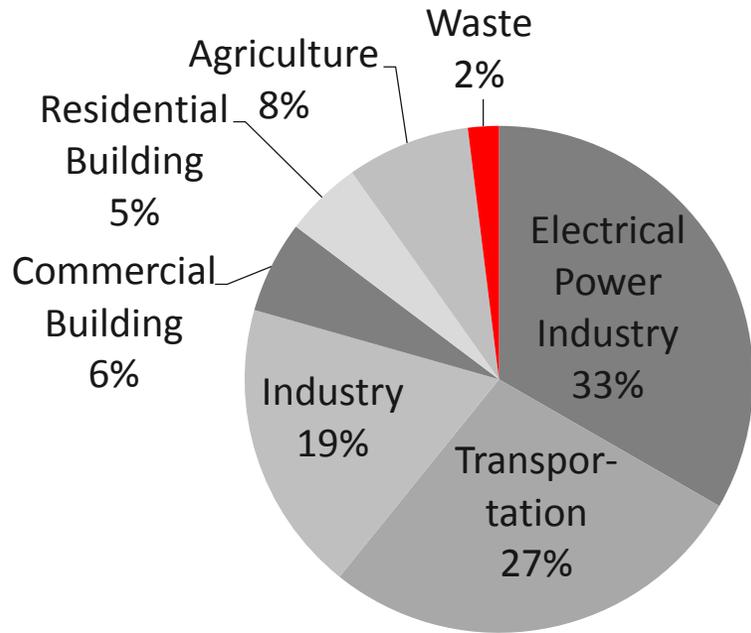
What do SPU customers think about climate change?

- **79% believe climate change is happening.** 71% think it is affecting the weather. *(2019 Yale Climate Opinion Survey – King County)*
- Business customers: **Climate change is a top concern** and they have **no knowledge of SPU’s efforts in this area.** *(2016 SPU Business Customer Focus Group)*
- “Since we are facing more catastrophic events, dealing with clean water is one of the first things to deal with. Communicating this issue/challenge with the public and **preparing for this is a big deal. Financially, what do we need to be doing to stay ahead of this?**” *(2019 Business Customer Interviews)*

Solid Waste

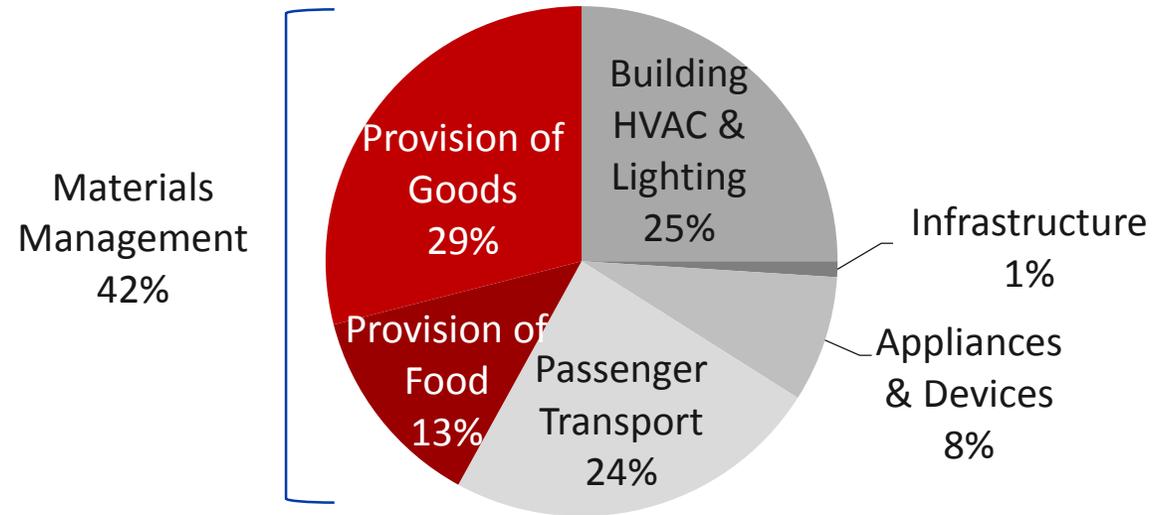
Reducing Greenhouse Gas Emissions

Traditional Sector-Based Inventory



Source: U.S. Inventory of GHG Emissions and Sinks : 1990-2006 (US EPA, 2008)

Consumption-Based Inventory



Source: Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices. U.S. EPA.

Focusing on Waste Prevention

Both residents recycle 40% and compost 40% of their waste



75 pounds of waste



300 pounds of waste

Using less has the least impact on the environment!

Fleets and Facilities

Reducing Greenhouse Gas Emissions

Fleets

City Goals

- Reduce GHG emissions by 50% by 2025.
- Accelerate fleet electrification and phase out fossil fuels by 2030.



Current Actions

- Electrifying fleet (68 vehicles)
- Implementing SBP Green Fleet Action Plan
 - Installing vehicle charging stations
(59 chargers across 6 facilities)
 - Operational changes
(fleet right sizing, anti-idling policy)
 - Pilot programs to test emerging technology

Facilities

City Goals

- Energy benchmarking and building tune ups
 - Track building energy performance
 - Identify low cost improvements
- Green New Deal Executive Order
 - No fossil fuel systems or appliances in new municipal buildings.
 - Electrification strategies for all other buildings by 2021.

Current Actions

- Tracking 9 SPU facilities.
- Completed improvements at Operations Control Center.

- Developing an electrification strategy for SPU facilities.

Watershed Management and Water Supply

Adapting to Climate Change

Drought and Wildfire



Extreme Precipitation



Climate Change Analysis

- Completed watershed vulnerability to climate change
- Recommended adaptation strategies to increase resilience
 - Forests and streams
 - Road crossings
- Conducting wildfire risk assessment

Further Action

- Implement adaptation strategies to improve resiliency
- Monitor to determine effectiveness, learn and continue to adapt
- Define wildfire risk and identify triggers that may prompt SPU to consider additional strategies



Climate Change Analysis

- Third round of climate change planning since 2000
- Previous analysis used a small number of global climate models to generate scenarios, some uncertainty in results
- Using more climate models in latest analysis did not improve precision
- Pivoting to a different approach
 - Very specific climate-based predictions for our water supply is not possible
 - Focus planning efforts on key drivers, lower snowpack and more precipitation in our watersheds falling as rain

Further Action

- Complete adaptation planning with strategies and options to improve resiliency
- Prioritize lower cost options that are easier to implement and resolve constraints now and, in the future
- Identify triggers that might move SPU towards more costly water supply alternatives
 - Severity and frequency of summer and/or snowpack droughts
 - Frequency of large flood events



Drainage + Wastewater

Adapting to Climate Change

Climate Change Impacts



**More Intense +
More Frequent Storms**



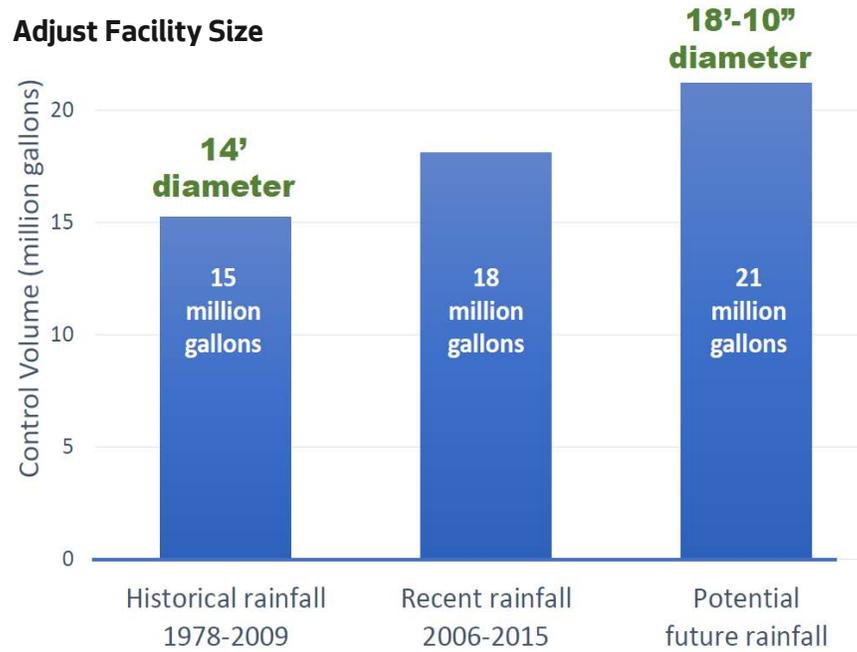
**Past Is Not
Predictive of the Future**



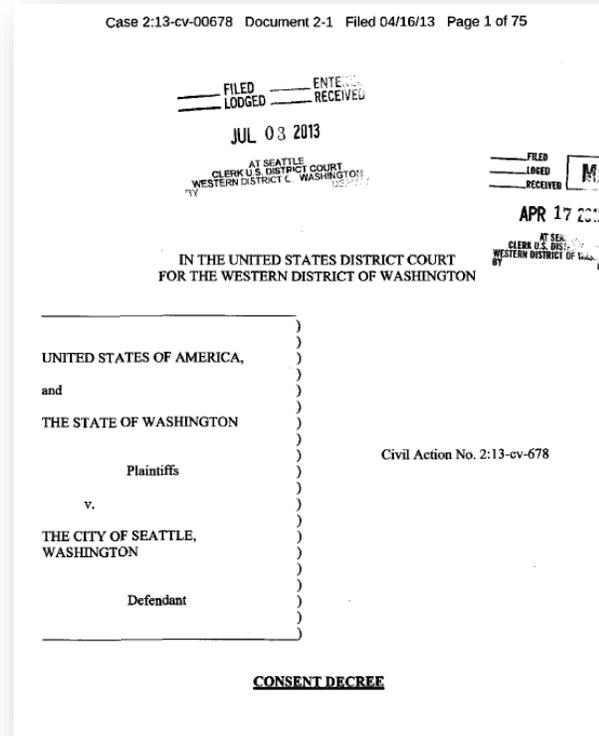
**The Shoreline Is
Changing**

Current and Future Actions

Adjust Facility Size



Technical



Political & Policy



Cultural

Partnerships and Outreach

Partnerships

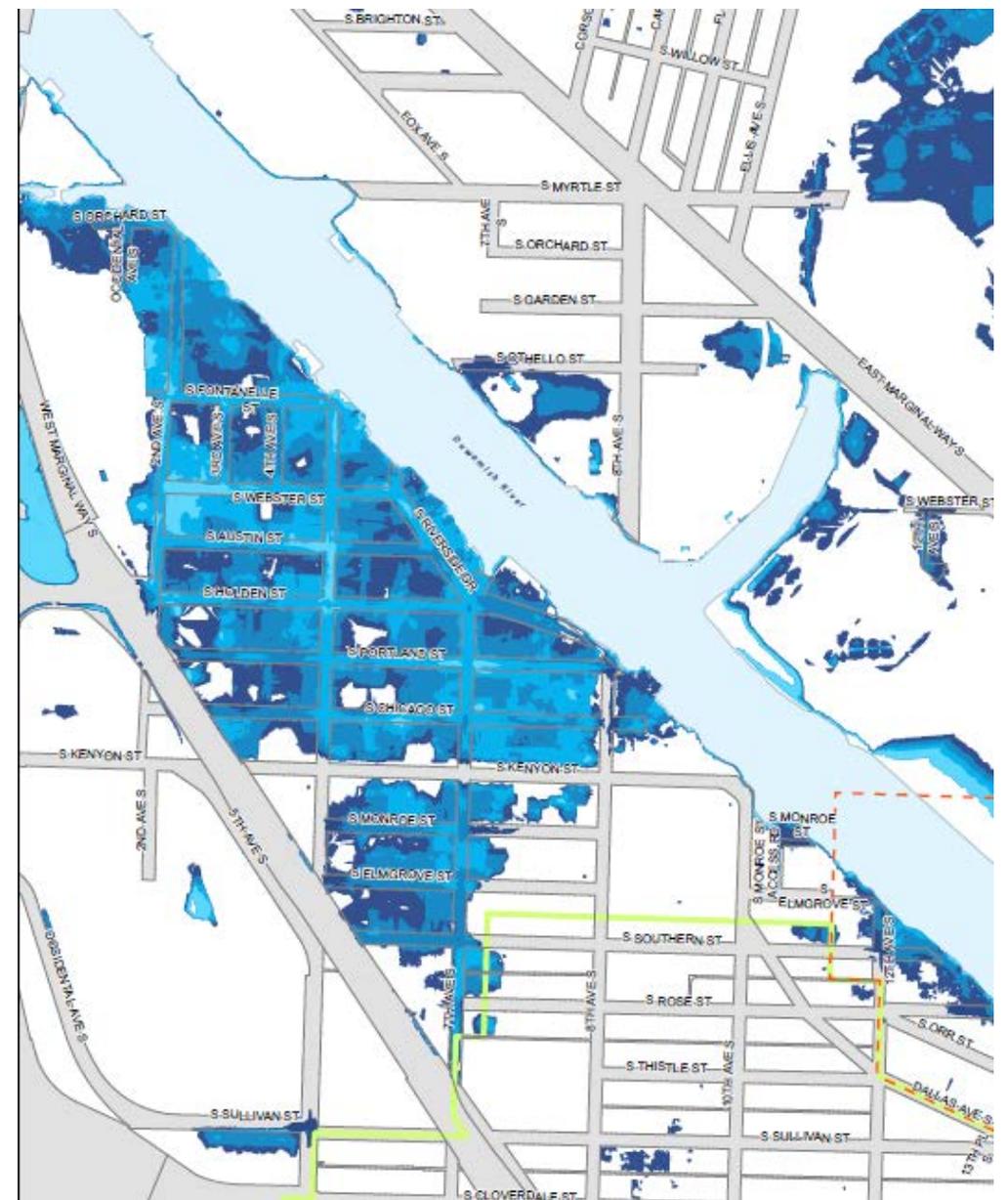
- Inter-governmental
- State/Federal
- Philanthropy
- UW/Technical Colleges
- Private sector



Partnership Example

Center for Community Investment grant

- How can SPU leverage its drainage and wastewater investment in South Park to align with community priorities and to anchor sea level rise adaptation in the industrial area?



Thank you!

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