#### Bridging the Gap Between Science and Decision-Making

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### Acknowledgments

#### **Coastal Resilience**



#### **Tribal resources**

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

Since 1995





# **NORTHWEST** Climate Adaptation Science Center















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



# *Educating* key actors about climate risks & response options



State of Knowledge Report Climate Change Impacts and Adaptation in Washington State: Technical Summaries for Decision Makers

Prepared by the Climate Impacts Group University of Washington

December 2013



COLLEGE OF THE ENVIRONMENT





### *Enabling* the use of climate (impacts/adaptation) science in risk assessment & management





### Embedding scientists in management contexts & science in management processes







#1: Washington'sSea Level RisePlanning Toolkit

Increasing Washington State's Capacity to Prepare for Sea Level Rise

# What will happen here?

State-of-the-art, Washington-specific sea level rise projections

# What is my specific risk?

Locally-, greenhouse gas scenario-specific, and probabilistic risk estimates

## What can I do about it?

Technical guidance for a range of applications

### Best available sea level rise science for Washington?



#### PROJECTED SEA LEVEL RISE for WASHINGTON STATE

#### A 2018 ASSESSMENT

Miller et al. (2018)

### Sea Level Rise Data Visualizatic Tool

171 locations130 years2 GHG scenarios10 likelihoods



Jefferson

Select a location to view localized relative sea level rise (RSLR) projections.

Select County (optional)

Select WRIA (optional)

Select likelihood(s) @

0.1%

(AII)

(AII)



bit.ly/waslrviz



#### What can I do about it? Coupling data & tools with technical advice



How to Choose (scenarios)



How to Map (impacts)



How to Use (in restoration)



### #2: Co-Producing Tribal Resources for Climate Change Vulnerability Assessment



Addressing gaps in Tribal capacity for vulnerability assessment

# "What will happen here?"

Provide climate data at the scale of tribal decision making

# "What can I do about it?"



Support tribal staff through the vulnerability assessment process

# "What are best practices?"

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Make the vulnerability assessment process more accessible to tribal staff

### Provide tribally-relevant climate data

Previously available climate data for NW and Great Basin tribes:

- Average annual temperature and precipitation
- Reservation scale



### \*To know what information will be most useful, ask the intended user.

Tribes are *actually* concerned about:

- Diverse impacts (wildlife, wildfire, heat, water availability, invasives...)
- Reservations and watersheds, counties, traditional territories, ceded lands



### Tribal Climate Tool: Climate summaries tailored to tribes





### \*To make information easy to use, solicit iterative user testing and feedback

	High	2040- 2069	51.7+/-1.4 °F	+5.5 °F	
	High	2070- 2099	55.1+/-2.0 °F	+8.8 °F	
			Data Source: MACAv2-METDATA		
JunAug. Maximum Tempe	erature				
Average daily maximum	Emissions	Time	Value	Change	
temperature from June to August.	Historical	1990	76.8 °F		
	Low	2010- 2039	79.9+/-1.0 °F	+3.1 °F	
	Low	2040- 2069	82.3+/-1.7 °F	+5.5 °F	
	Low	2070- 2099	83.5+/-1.9 °F	+6.8 °F	
	High	2010- 2039	80.3+/-0.9 °F	+3.6 °F	
	High	2040- 2069	84.2+/-1.9 °F	+7.4 °F	
	High	2070- 2099	88.4+/-2.6 °F	+11.6 °F	

#### bit.ly/cigtvar

#### **Tribal Climate Technical Support Desk**



\*Information on its own isn't enough; support is often needed to ensure use



#### Tribal Technical Support Desk remains open!



### \*Commit to sustained partner relationships



#### **Federal Government**

Motivate & prepare to enable increasingly sophisticated climate-based decision making

> Require & incentivize sciencebased action to address climate risks

Promote large-scale *and* targeted research (especially observation & modeling at all scales) designed to support decisionrelevant questions

Build & sustain regional/local capacity to connect science/practice

Recognize local specificity of needs, relinquish expectations of universality, support knowledge transfer

#### Regional Boundary Organizations

Leverage federal resources and science programs for local benefit

> Develop & sustain mutuallybeneficial long-term relationships with local partners

Elicit local knowledge needs and adaptation priorities; innovate to meet these needs

Develop, deliver & support the use of actionable climate information

Develop capacities for researchers & practitioners to apply climate information in planning & implementation



UW Climate Impacts Group @CIG\_UW cig.uw.edu

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