FACET

Kitsap County Technical Advisory Committee (TAC) Meeting – July 15, 2024

Projection Scenario and Wind/Wave Decisions

Attendees:	**Organization**
Jim Rogers	Kitsap County DCD
Dawn Spilsbury	Facet
Alexandra Plumb	Facet
Jessica Cote	Blue Coast Engineering
Allison Satter	NBK
Anna Whalen	NBK CPLO North
Ally Bradley	WSDOT
Benjamin Harrison	Port Gamble S'Klallam Tribe
Christina Kereki	Kitsap County DCD
Heather Cleveland	Kitsap County DCD
Jan Glarum	Kitsap DEM
Steve Todd	Suquamish Tribe
Cynthia Rossi	Point No Point Tribal Council
Tom Colby	KPUD
Joel Purdy	Kitsap PUD – Water Resources
Kirvie Mesebeluu-Yobech	Kitsap County DCD
Colin Poff	Kitsap County DCD
Cinde Donoghue	Ecology
Alison O'Sullivan	Suquamish Tribe
Unidentified Caller	(360) ***-**51

Objectives:

1. Choose projection scenarios – Relative Concentration Pathway (RCP), timeframe and probabilities;
2. Choose locations for wind/wave modeling; and
3. Review list of asset types and sources to include in the evaluation.

Sea Level Scenarios (SLR):

After a welcome and round of introductions, the team discussed the options for sea level scenarios (SLR) projection scenarios with background information to help inform the decisions.

The County noted that since the RCP 4.5 and RCP 8.5 is almost identical, it doesn't make sense to map both. Using RCP 8.5 makes sense considering trends in greenhouse concentrations are moving more towards RCP 8.5 and not towards RCP 4.5.

Heather: almost everyone used 8.5 in the examples. Since this assessment is for the planning level, should use the 8.5 RCP value.

Christina: I agree that RCP 8.5 is the better choice.

Ally: I agree with RCP 8.5 as well. WSDOT prefers to use the high emissions scenario as a baseline to better plan for resiliency in the transportation system.

Steve Todd: I also agree with RCP 8.5 for this assessment and Jim's rationale. If science suggests we are trending closer to 4.5 or above 8.5 (for that matter) in the coming years then future assessments can look at those scenarios, hopefully with greater certainty.

Joel: The table [of projection visualizations, included below] includes 2010 and 2020 [2010 was a hind cast when the model was developed in 2018]. Have the increases projected for 2020 documented to have occurred? It may be appropriate to verify to determine if we have met or exceeded those values.

The team suggested using 2050 + 2100 as a starting point for discussion.

Benjamin: 2050 is a decent standing for any project that is near term (what actions can or should be taken) understanding that there is vulnerability; 2100 looks more at long term (lower probability events or higher risk) and to mitigate potential damage. Near-term target needs to be set to protect existing infrastructure and identify the current risks. Long term should include mitigation and protection standards.

The team proposes to use the list of assets and line up with the projections and then review if which scenarios aligns with the different asset types to assist in looking long versus short term for the vulnerability analyses – where does it make sense to look at the 2050 scenario and where does it make sense to use the 2100 scenario.

Jim asked if 2150 it is too far out given the amount of uncertainty in the projections that distant in the future. The term will map and assess the 2050 and 2100 scenarios and then reassess with the County if makes sense to look at the 2150 scenario.

The team suggested starting with the 50% certainty and adding two more certainties – either one more and one less certain or both with a lower certainty but that would result in higher SLR amounts to take a conservative approach for the vulnerability assessment.

Jim: Including a level with more certainty, and lower projected rise amount, like 83% or 90% would make political sense, since we are using the higher RCP value. It would not appear like the assessment is only looking at extreme values. Using 90% is likely easier to explain than the number 83% (which is based on bell curve statistics).

Benjamin: Also include a value on the other end of the spectrum. We don't understand ice melting dynamics to create enough certainty so should not rely on SLR rates represented by the higher levels of certainty; the current understanding is less rise in the near term and more rise later in the century. A conservative option should be selected in terms of mitigating and supports using the 1% certainty amount.

The group was asked if there were any objections or alternate proposals to using 90%, 50% and 1%. No objections were voiced or alternates proposed.

Decision: RCP – 8.5; Timeframe – 2050, 2100 (2150 is a possibility and maybe included later); Level of Confidence – 50%, 90% 1% .

Wind/wave and bluff erosion discussion:

The team provided information on wind/wave modeling including what it provides above just using still water mapping that only takes into account SLR and storm surge (no waves). The group was asked for recommendations of areas that would be important to include since mapping the entire coast is not practical and out of scope. The team is proposing to look at six to eight sites.

Ally: Sinclair Inlet, especially the intersection of SR3 and SR16, would be good to include.

Joel: Are residential homes included in the list of assets? Yes. There are several low lying communities that may be particularly susceptible to wind run up and over topping, like Indianola Spit. The City of Port Orchard wells near the shoreline have flooding concerns. Keyport has a well near the shoreline.

Jessica: Individual residences, especially where there are vertical bulkheads, can be tricky to model accurately at this scale without site specific surveying. But we will look at those areas to see if helpful information can be conveyed.

Anna: Will the locations with assets be included in the wind/wave modeling or could they be used/considered when selecting sites to model? Yes. Anything that is in the unincorporated area may be included.

The team clarified that the area for SLR and inundation mapping is the entire county, minus Bainbridge Island which is undergoing their own mapping project. But for the vulnerability assessment and wind/wave modeling, the cities and navy properties are excluded.

The group pointed out errors in the classification of the map included in the presentation. A map that correctly shows where incorporated cities and navy property are included will be distributed along with the notes (See below).

The team discussed measuring bluff erosion rates and why it is complicated and not yet accurate due to the large number of hard to measure, compounding elements that exacerbate slope failures, both large slides and small sluffs. Establishing an erosion rate is outside the scope of this project but the team will include a brief assessment of BAS and provide a recommendation for future bluff erosion assessments.

The group noted that SR 104 near Port Gamble is by a bluff. Roads that transit across higher bluff areas may be particularly susceptible and at higher risk.

Concern with mapping areas that may include at-risk assets due to proximity to a bluff, since the connection between SLR and bluff erosion is not established with great certainty currently, may prompt protective actions, like seawalls. The team will keep this in mind and discuss with the group prior to any public map distribution.

***Decision*:** The team will include the area around SR 3 and SR 16 and a low-lying, residential area in the wind/wave modeling. The team will recommend 4-6 other sites that may provide representative information for the different Kitsap County shore forms.

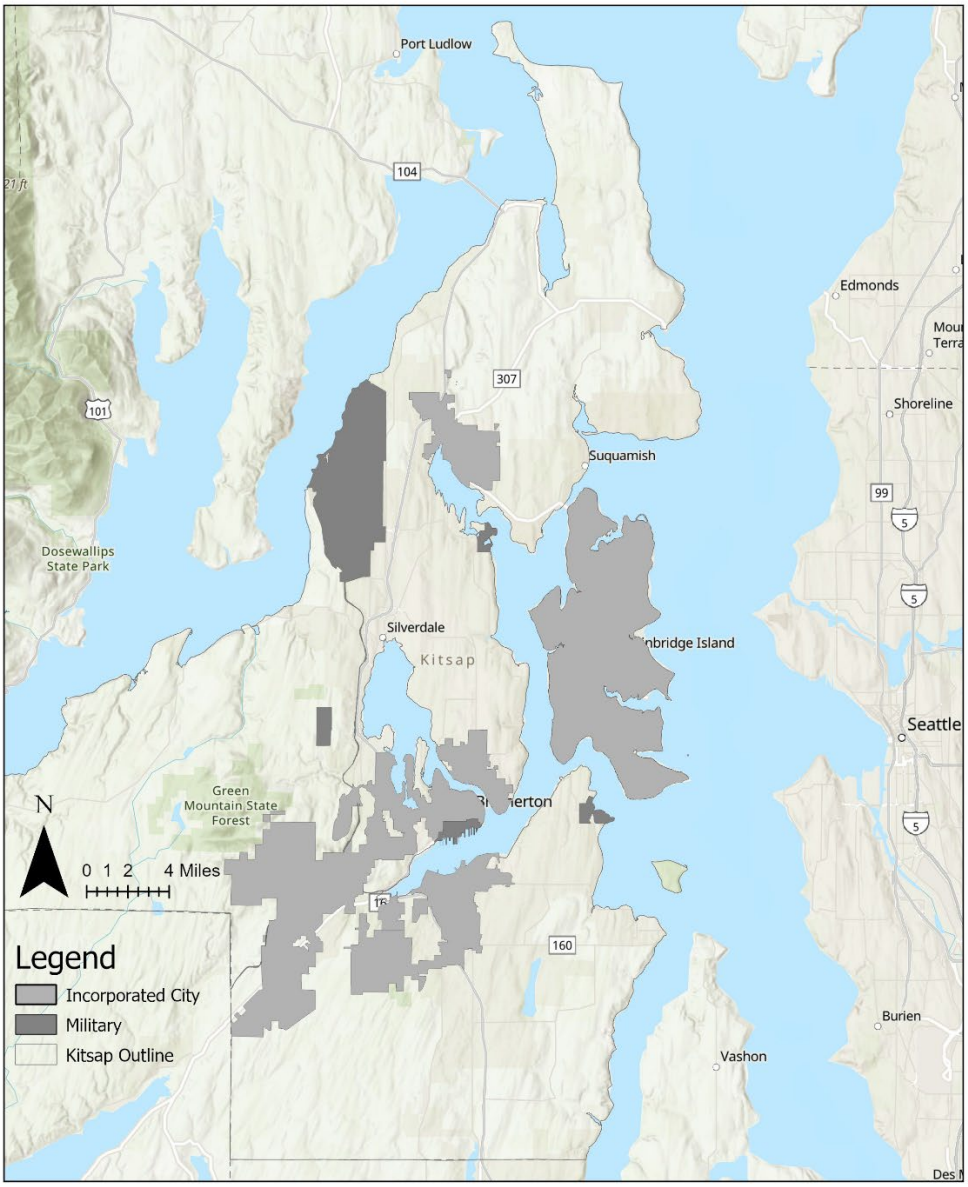
Timeline:

There will be a briefing to the Board of County Commissioners 8/19 and to the Planning Commission 8/20. The public meeting is tentatively scheduled for the second week in September and will include a survey (to be developed).

The team will share maps displaying the different SLR scenarios and asset locations with the group prior to conducting the analyses. Whether this will be done by email or with another meeting is to be determined.

Next Steps:

Due to time constraints, the team will circulate the table listing the assets and their data sources for the group to review (see below). The team will correct the map of incorporated city limits and navy property and distribute to the group (see below).

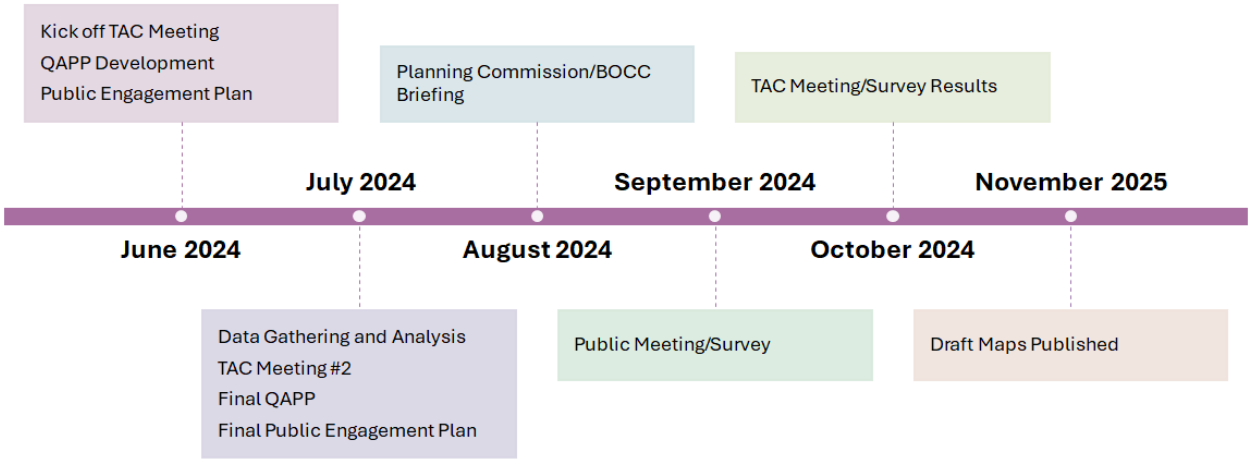


Kitsap County Lands Designation

Data Parameter	**Source**
Elevation and Environmental	

Data Parameter	**Source**
Bare-earth, LiDAR based topography	NOAA, WA DNR LiDAR Portal
Projections of relative sea level rise and extreme coastal water levels (flood return frequencies)	UW CIG, Miller et al., 2018 Projections
Sea Level Rise Tidal Surfaces	NOAA Sea Level Rise Data Viewer/Download, DoD (https://drsl.serdp-estcp.org/Site)
Tidal datums and predictions	NOAA-National Ocean Service (NOS)
Navigational charts (bathymetry)	NOAA Office of Coast Survey
Zoning, Shoreline Designations	Kitsap County
Surface hourly wind records	National Climate Data Center (NCDC)
Streams	Kitsap County, Suquamish Tribe
Assets	
Existing Flow Control Infrastructure (culverts, tide gates, outflow pipes and retention pond locations, component sizing and condition)	Kitsap County, WSDOT, Suquamish Tribe
Critical Infrastructure: • Airports • Fire Stations • Law Enforcement • Hospitals • Libraries • Schools • Bridges • Roads • Brownfield/landfill sites(active and past) • Sewer Systems • Superfund Sites • Substations • Wells	Kitsap County, WSDOT

Data Parameter	Source
Subsurface communication infrastructure (type, locations, salinity and moisture tolerances)	Public Utility Districts, Vendors, Kitsap County
Building Footprints	Microsoft 2021
On site septic (locations, types)	Kitsap County Department of Community Development – Environmental Health records
Flood coverage maps (areas)	Kitsap County, FEMA
Areas of flooding concern (dates, areas)	Public feedback during meetings, Interviews with Public Works and Emergency Management
Marine infrastructure (ferries, ports, marinas, ramps)	Kitsap County, WA State Parks, WADNR, WSDOT
Historical and Cultural Sites	Tribes, DAHP, Kitsap County
Wetlands and Critical Areas	NWI, Kitsap County, Ecology, USFWS
Parks and Nearshore Access	Kitsap County, WA State Parks, WADNR


Kick off TAC Meeting
QAPP Development
Public Engagement Plan
Planning Commission/BOCC Briefing
TAC Meeting/Survey Results
June 2024
July 2024
August 2024
September 2024
October 2024
November 2025
Data Gathering and Analysis
TAC Meeting #2
Final QAPP
Final Public Engagement Plan
Public Meeting/Survey
Draft Maps Published