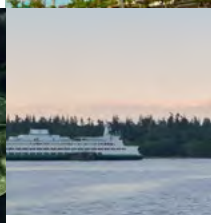
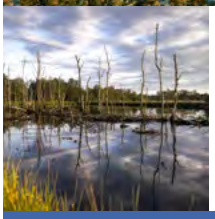
Climate Change Adaptation Certification Tool:
Moving communities from planning to implementation







EVALUATE

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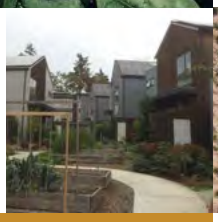
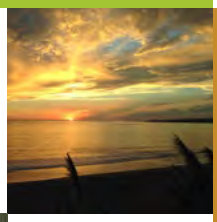
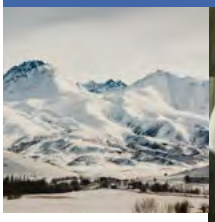
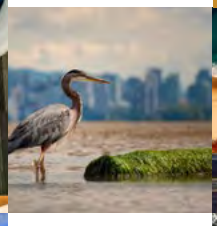
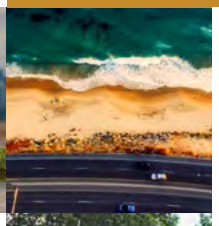




DETERMINE




EcoAdapt™
Meeting the challenges of climate change

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2022

Climate Change Adaptation Certification Tool

Climate change has implications for both the effectiveness and hazard potential of many of the projects undertaken by local and regional governments today. Failing to properly evaluate the potential vulnerability of any project prior to approval can lead to missed opportunities to improve design, optimize siting or avoid risk.

The **Climate Change Adaptation Certification (CCAC) Tool** is for use during regulatory or procedural review processes being carried out as a matter of regular, ongoing community business. It is recommended that the CCAC become embedded as a regulatory requirement; alternatively, the CCAC could be a discretionary review tool used to evaluate an idea and inform all parties of expected impacts from a changing climate on a project during its lifecycle. Potential liabilities associated with a course of action could be identified prior to permitting or funding, which should enable decision makers to drive climate savvy and sustainable choices.

Using the CCAC will enable community services, infrastructure, ecosystems (and thereby local economies) to better anticipate and respond to climate change impacts by protecting public funds from climate risk or future community exposure to risk under altered conditions.

What "project" should apply the CCAC?

The CCAC should be applied to any decision that uses public funds, has a life cycle of greater than five years and can impact public good. This includes, but is not limited to:

- Fiscal Expenditures
- Capital Planning
- Permitting
- Infrastructure Design and Siting

The objective of applying the CCAC to these decisions is to:

- Explicitly evaluate the implication of future conditions on project function and longevity
- Understand the long-term sustainability of a project at the funding or permitting phase
- Reduce community risk from actions today that become a liability under future conditions

Who should apply the CCAC?

The CCAC can be used by local government, elected officials, businesses and individuals to enable climate savvy decision making. The CCAC informs any proponent of a publicly funded capital project, fiscal decision or privately-funded development of the climate change risks faced by the project, and to guide them toward reducing that risk.

The CCAC process includes the following:

STEP 1: Identification of Climate Change Risk Factors

Completing this step will identify if climate change impacts could affect a project over its lifetime. Step 1 provides a series of impact indicators that steer a proponent to think about how eight anticipated change factors have the potential to affect a project area. If any indicator is marked as present, then the change factors could be relevant to a project's long-term success. Therefore, it will have a "Yes" for that factor, requiring Step 2.

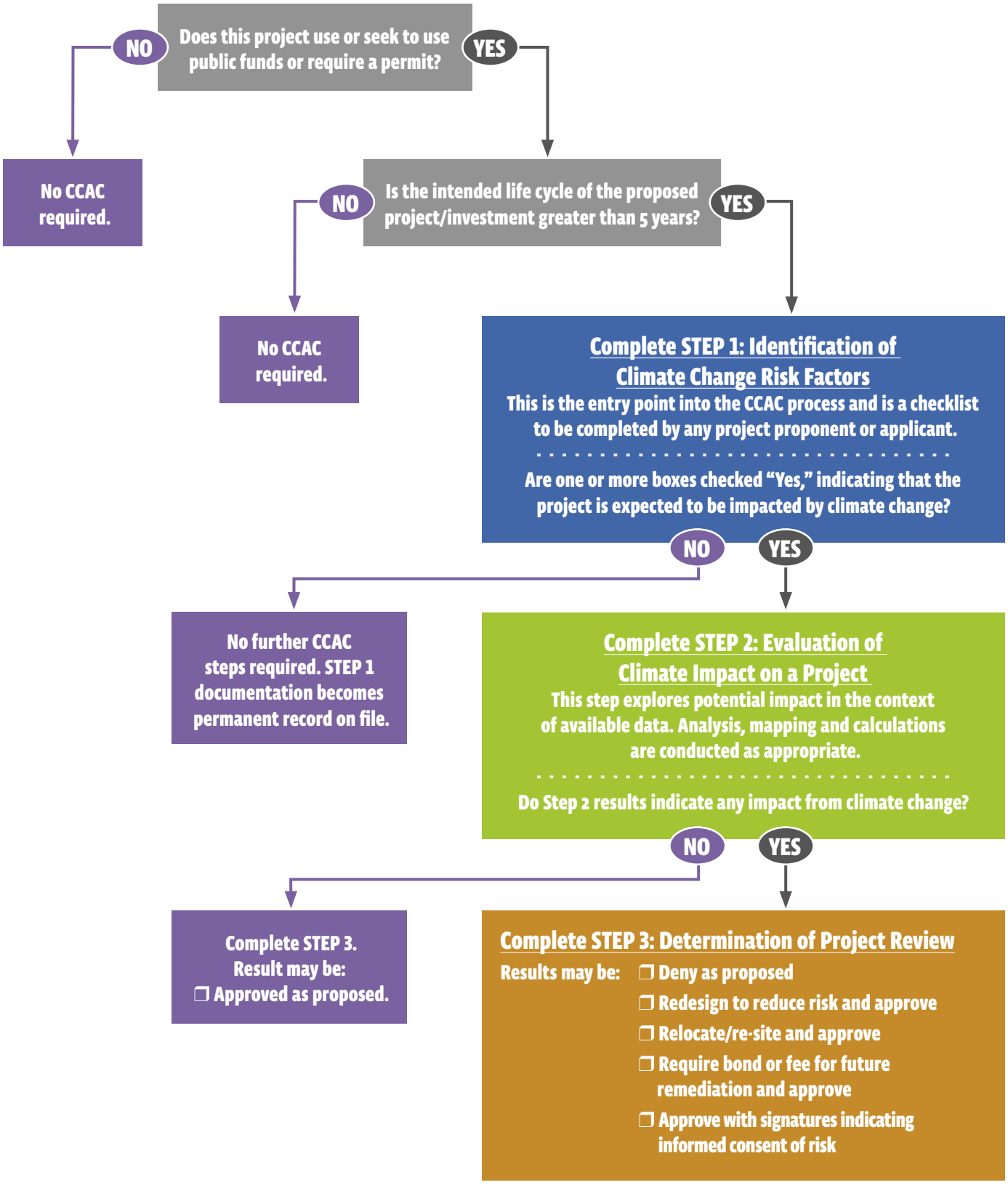
STEP 2: Evaluation of Climate Impact on a Project

If Step 1 detects likely impacts from climate change risks to a project area, then Step 2 asks a project proponent to dive deeper into existing climate data. Narratives, mapping and calculations will be sought to evaluate the project relative to future conditions and assess whether, as proposed, the project will involve (and should therefore avoid) future risk. Results of Step 2 are used by decision makers in Step 3 to inform a determination for the project.

STEP 3: Determination of Project Review

The CCAC review steps should allow a project to move forward only when it is expected to function sustainably over time; in other words, if it has avoided, minimized or mitigated future negative performance. A project should only proceed when awareness and accountability of risk is accepted. Thereby, a community will not be blindly on the hook for the costs to replace, retrofit, decommission or litigate responsibility for future damage, harm or poor project performance. Step 3 provides evidence that responsible parties are aware of climate change impacts and implication to the project they are either allowing or undertaking.

Climate Change Adaptation Certification (CCAC) Pathway to Climate Savvy Planning



STEP 1: Identification of Climate Change Risk Factors

STEP 1 will determine applicability of further CCAC review of a project. It should be completed by a project proponent with review by the appropriate project review authority.

Climate Change Risk Factors	• Identify if the following issues could affect the project over its lifetime. • Check all that apply. • If one or more of these boxes is checked, check YES in Column 3.	Climate Change Risk Identified For
PRECIPITATION Changing patterns will result in different and greater extremes, duration, and intensity.	**The project or access to it:** ❒ involves proper **sizing of stormwater infrastructure** to treat and accommodate run-off. ❒ involves **diversion or impoundment** of surface water. ❒ involves **culverts, bridges, retaining walls or other structures** within a riparian area to convey water or prevent flooding. ❒ relies on a **predictable and reliable water supply.** ❒ is within or near a mapped **flood zone.** ❒ is affected by **nuisance, localized or chronic flooding** that is known generally to occur, and may or may not be mapped. ❒ may be vulnerable to **erosion or landslides.** ❒ relies on a predictable, reliable, and affordable **power supply and other utilities.** ❒ is located within a **Wildland-Urban Interface** boundary or may be vulnerable to wildfire. ❒ relies on **sanitary sewers or community/private septic systems.** ❒ intersects with the **multimodal transportation** system. ❒ other possible effects of precipitation changes (attach information and explanation).	**PRECIPITATION** ❒ YES ❒ NO
TEMPERATURE Changes will include more extremes and prolonged highs or lows.	**The project or access to it:** ❒ relies on a **predictable and reliable water supply.** ❒ may be vulnerable to **wildfire**. ❒ uses **energy** generated by fossil fuel combustion (on site or from a power utility). ❒ will have a **maintenance budgets for repairs and replacements.** ❒ relies on **good air quality.** ❒ intersects with the **multimodal transportation** system. ❒ involves **habitat creation, restoration, or enhancement** that relies on current temperature levels for successful implementation. ❒ other possible effects of temperature changes (attach information and explanation).	**TEMPERATURE** ❒ YES ❒ NO
SEA LEVEL RISE Relative sea level changes will result in intermittent or permanent inundation.	**The project or access to it:** ❒ is located within the **coastal zone.** ❒ relies on a **stable shoreline.** ❒ is within or adjacent to a mapped **flood zone.** ❒ is within or may be affected by an area **known to be vulnerable to flooding.** ❒ involves **dock or harbor infrastructure.** ❒ relies on **groundwater** that may suffer from saltwater intrusion over time. ❒ requires healthy and properly functioning **tidal marsh, estuaries, or other tidal ecosystems.** ❒ relies on proper functioning of a **sanitary sewer system** regulated by the National Pollution Discharge Elimination System (NPDES). ❒ relies on a **septic system** that is within or near the coastal zone. ❒ intends to enhance **tidal ecosystems.** ❒ other possible effects of sea level rise (attach information and explanation).	**SEA LEVEL RISE** ❒ YES ❒ NO

Climate Change Risk Factors	• Identify if the following issues could affect the project over its lifetime. • Check all that apply. • If one or more of these boxes is checked, check YES in Column 3.	Climate Change Risk Identified For
VEGETATION CHANGES Long-term temperature and precipitation changes will cause shifts in regional vegetation.	**The project or access to it:** ❒ could be affected by changes in **vegetation**. ❒ could be affected by changes to transportation **corridor buffers** and impacts to roadways (brush fires, deadfall, water flow, etc.). ❒ could be affected by **increased fuel load and wildfire risk** (e.g., potential for dead-wood and detritus as die-off occurs increasing the fuel load and risk for wildfires). ❒ has energy demands for heating and cooling that could increase if the percentage of **tree-cover/ canopy changes.** ❒ other possible effects of vegetation changes (attach information and explanation).	**VEGETATION CHANGES** ❒ YES ❒ NO
SLOPE STABILITY Sea level and precipitation changes compromise once stable slopes.	**The project or access to it:** ❒ relies on the **integrity** of nearby slopes. ❒ proposes **development or investment** on or near a slope. ❒ other possible effects of slope instability (attach information and explanation).	**SLOPE STABILITY** ❒ YES ❒ NO
OCEAN ACIDIFICATION Changes in ocean pH will have implications on permitted discharge and ocean health.	**The project or access to it:** ❒ relies on **sanitary sewer** that is subject to a NPDES permit. ❒ relies on or affects **shellfish** within our local water. ❒ other possible effects of ocean acidification (attach information and explanation).	**OCEAN ACIDIFICATION** ❒ YES ❒ NO
PEOPLE Inequalities, climate migration and regional population changes can all affect community efforts to increase climate resilience.	**The project or access to it:** ❒ relies on a **stable population.** ❒ is designed and **built to serve the current population.** ❒ is designed to serve all community members. ❒ is designed to correct past inequalities. ❒ may preclude future use or access to the site. ❒ may affect others in the community. ❒ could be adversely affected if population were to **increase or decrease in our region.** ❒ other possible effects of population changes (attach information and explanation).	**POPULATION CHANGES** ❒ YES ❒ NO
GREENHOUSE GAS EMISSIONS Mitigation of future greenhouse gas (GHG) emissions and fossil fuel dependence are driven in part by local/regional permitting decisions.	**The project or access to it:** ❒ does not **take cars off the road** or **decrease idling times.** ❒ neither improves nor increases **access to non-motorized transportation options.** ❒ is dependent on fossil fuel and does not use **renewable energy** sources sufficient to cover demand. ❒ other possible effects of GHG emissions (attach information and explanation).	**GREENHOUSE GAS EMISSIONS** ❒ YES ❒ NO

CHECK ALL YOUR "YES" FACTORS

❒ PRECIPITATION	❒ SEA LEVEL RISE	❒ SLOPE STABILITY	❒ PEOPLE
❒ TEMPERATURE	❒ VEGETATION CHANGES	❒ OCEAN ACIDIFICATION	❒ GREENHOUSE GAS EMISSIONS

- **For each Climate Change Risk Factor that indicated "YES" to climate risk, evaluation of the project is now required.**
- **Proceed to STEP 2 and complete each Evaluation marked as Required.**
- **If you did not check any "YES" factors, no further CCAC steps are required. STEP 1 documentation becomes permanent record on file.**

STEP 2: Evaluation of Climate Impact on a Project

STEP 1 concluded that the project is subject to impacts from at least one of eight Climate Change Risk Factors (evidenced by a "YES").

Next, complete STEP 2 to evaluate any potential long-term climate change impact to the project's success.

- Use this chart below to determine which evaluation questions are required to be answered.
- In Column One check all Climate Change Risk Factors that had a "YES" result in STEP 1.
- Complete Evaluations A-J accordingly.

Check your "YES" factors from STEP 1	Climate Change Risk Factor	Complete the Evaluations for Each Checked Factor											
		A	B	C	D	E	F	G	H	I	J	K	L
❒	PRECIPITATION	✘		✘	✘	✘	✘	✘	✘	✘	✘		✘
❒	TEMPERATURE				✘	✘	✘	✘	✘	✘	✘		✘
❒	SEA LEVEL RISE	✘	✘										✘
❒	VEGETATION CHANGES	✘		✘	✘			✘	✘	✘	✘		✘
❒	SLOPE STABILITY			✘									✘
❒	OCEAN ACIDIFICATION					✘	✘						✘
❒	PEOPLE							✘	✘	✘	✘	✘	✘
❒	GREENHOUSE GAS EMISSIONS								✘	✘	✘		✘

Once submitted to the appropriate Project Review Authority (permitting agency, board or other personnel authorized to act on or allow the project to proceed), responses to STEP 2 Evaluation will provide the information necessary for them to make a climate savvy determination in STEP 3.

STEP 2: Evaluation

A Evaluate project susceptibility to flooding and determine impact.

1. **Map the project area** (inclusive of its access corridors, key utility infrastructure, and associated multimodal transportation infrastructure) in relation to **flood zones and frequently flooded areas** (both episodic and chronic) using:
   - Local flood zone data;
   - Local wetland data;
   - Project site assessment data;
   - Regional flood zone data;
   - Regional flood mapping tools:
     - Use FEMAs Flood Map Service Center (MSC) portal (https://msc.fema.gov/portal/search) by entering the project address and reviewing maps it produces to identify any potential flooding impacts. MSC is the official public source for flood hazard information produced in support of the National Flood Insurance Program.
     - The NOAA Coastal Flood Exposure Mapper online visualization tool (https://coast.noaa.gov/floodexposure/#/map) supports communities that are assessing their coastal hazard risks and vulnerabilities by creating a collection of user-defined maps that show the people, places, and natural resources exposed to coastal flooding. The tool is currently unavailable for the west coast (see https://coast.noaa.gov/digitalcoast/tools/flood-exposure.html for more information). Use if available to the project area.

2. **Provide a narrative review** explaining the projects' overlap with mapped flood areas. Also, document that you have contacted City or County engineering and public works' staff and incorporate their knowledge of whether the project area is affected by **nuisance, localized or chronic flooding** that is generally known to occur, though not necessarily mapped.

RESULT:

❒ Project unaffected by flooding or flood zones.

❒ Assessment indicates climate change risk to project that cannot be avoided.

❒ Assessment indicates climate change risk to the project, but risk could be minimized by (explain here or in attachment):

STEP 2: Evaluation

B Evaluate local sea level rise projections relevant to project area and determine impact.

1. **Get local sea level rise projections for 2100:**
   - If options exist, use high GHG emissions scenarios (e.g., RCP8.5 or similar), likely or 50% assessed probability of exceedance for 2100. Also consider the impact of the 99 and 0.1% values because, while these have a lower likelihood, they are assumed possible and a project should know these potential risks. Examples include:
     - Washington Coastal Resilience Project: http://www.wacoastalnetwork.com/wcrp-documents.html
     - State of California Sea Level Rise Guidance: opc.ca.gov/webmaster/ftp/pdf/agenda_items/20220314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf
     - Unified Sea Level Rise Projections-South Florida Compact: southeastfloridaclimatecompact.org/wp-content/uploads/2015/10/2015-Compact-Unified-Sea-Level-Rise-Projection.pdf

2. **Apply these values on a sea level rise viewer:**
   - NOAA Sea Level Rise Viewer: https://coast.noaa.gov/slr. NOAA's tool only shows estimates up to 6 feet. If your scenario shows >6 feet, use Surging Seas: https://riskfinder.climatecentral.org.

3. **Compare the sea level rise viewer output(s) with project site map or local GIS data layers to evaluate vulnerability of:**
   - project footprint;
   - project related dock and harbor infrastructure;
   - transportation corridors needed to access the project;
   - utilities (e.g., power transmission, sewer/septic, stormwater/drainage, water/wells); and,
   - any other essential elements of the project.

4. **Provide a narrative review** explaining inundation, interaction with tides, erosion with or without slope stability issues, and any interaction with upstream flows.

RESULT:

❏ Project unaffected by sea level rise.

❏ Assessment indicates climate change risk to project that cannot be avoided.

❏ Assessment indicates climate change risk to the project, but risk could be minimized by (explain here or in attachment):

C Evaluate project vulnerability to landslides and other geologic hazards.

1. **Map the project and its access corridors under changing conditions.** (project area) using local Geological Hazardous Areas Maps for slope stability or landslide (e.g., USGS Landslide Inventory, https://www.usgs.gov/tools/us-landslide-inventory) to produce a map with landslide data layers overlaying the project area.

2. **Provide narrative review** of the project in relation to slope stability and how this might be impacted by changes in precipitation, extreme weather events and/or sea level rise. Understanding that resilient infrastructure relies on slope stability, if mapping shows the project area could be affected by landslides explain how to plan for it in design and/or avoid steep slopes for location of critical infrastructure or public investment where an alternative is possible.

RESULT:

❏ Project unaffected by landslides and other geologic hazards.

❏ Assessment indicates climate change risk to project that cannot be avoided.

❏ Assessment indicates climate change risk to the project, but risk could be minimized by (explain here or in attachment):

STEP 2: Evaluation

D Evaluate project stormwater infrastructure design and its ability to accommodate future hydrological conditions.

1. **Calculate stormwater design based on:**
   - Projected flow rates for 2050.
     Because most hydrological models used for development of local Stormwater Manuals are based on historical and not future flows, project proponents must calculate flows with future precipitation flow rates as inputs.
   - Consult regional precipitation projections, e.g., USGS National Climate Change Data Viewer with HUC Watersheds (https://www2.usgs.gov/landresources/lcs/nccv/maca2/maca2_watersheds.html).

2. **Provide a narrative review** comparing infrastructure sizing requirements to accommodate historical flows versus anticipated future flows. Show your understanding of the likely future precipitation changes that will affect the project and its infrastructure.

RESULT:

- ❑ Project unaffected by future hydrologic conditions.
- ❑ Assessment indicates climate change risk to project that cannot be avoided.
- ❑ Assessment indicates climate change risk to the project, but risk could be minimized by (explain here or in attachment):

E Evaluate project connection to a healthy aquatic environment.

1. **Map the project's proximity to aquatic environments (freshwater, marine and estuarine) including connections via watersheds, aquifers and shorelines.**

2. **Provide a narrative review explaining the project as it relates to:**
   - Discharge permits. Consider how factors such as pH, temperature, salinity, nutrients will be altered due to climate change, and how this may adversely affect compliance if discharge cannot be adjusted.
   - Species and habitat locally managed for harvest or protection. Consider how changes in water chemistry may impact these species and systems and your ability to meet management goals.
   - Any other aquatic activity that affects or is affected by altered water chemistry.

RESULT:

- ❑ Project unaffected by changes in aquatic condition.
- ❑ Assessment indicates climate change risk to project that cannot be avoided.
- ❑ Assessment indicates climate change risk to the project, but risk could be minimized by (explain here or in attachment):

F Evaluate project dependence on and access to the reliable provision of water supply, septic/sewer systems that function over time without compromising the health of relevant ecosystems.

1. **Map the project area and show it in relation to:**
   - Regional and/or local aquifer recharge area maps (e.g., Critical Aquifer Recharge Areas maps);
   - Wellhead Protection Area mapping;
   - Watershed boundaries;
   - Critical habitat or species designation areas; and,
   - Identify National Pollution Discharge Elimination System (NPDES) and other permitted outfalls or discharges.

2. **Provide a narrative review that:**
   - Demonstrates a predictable, reliable and affordable water supply for the lifespan of the project under future predicted precipitation and temperature patterns.
   - Explains any water saving measures the project employs.
   - Explains the leach field or sewer outfall drainage basin in the context of its over-saturation or dehydration (either of which can render a septic/sewer ineffective).
   - If the project will utilize a discharge facility subject to an NPDES permit, explain your understanding of the relationship between stormwater, sewage discharge permits and receiving water chemistry (e.g., changing temperatures, pH/ocean acidification, salinity), which may compromise stormwater and sewage discharge compliance making capital projects/investment for additional siting or capacity necessary.

RESULT:

- ❑ Project unaffected by either the provision or failure of water supply or wastewater systems.
- ❑ Assessment indicates climate change risk to project that cannot be avoided.
- ❑ Assessment indicates climate risk to the project, but risk could be minimized by (explain here or in attachment):

STEP 2: Evaluation

G Evaluate project area susceptibility to wildfire.

1. **Map the project's proximity to the Wildland Urban Interface and/or wildfire hazard areas. Overlay the following data layers on the project area:**
   - Regional or local GIS layers showing Wildfire Hazard Area or any available wildfire risk mapping , such as the Southern Wildfire Risk Assessment (https://www.tn.gov/tnwildlandfire/suppression/predictive-services/what-s-your-risk.html).

2. **Provide a narrative review demonstrating your understanding of how long-term temperature and precipitation trend changes may cause shifts in vegetation and habitats affecting the project area's vulnerability to wildfire.**

RESULT:

❏ Project unaffected by wildfire risk.

❏ Assessment indicates climate change risk to project that cannot be avoided.

❏ Assessment indicates climate change risk to the project, but risk could be minimized by (explain here or in attachment):

H Evaluate project transportation needs.

1. **Provide a narrative review explaining how motorized and non-motorized transit will be influenced by the project.** Will non-motorized and/or public transit be increased or supported by this project (e.g., creation of bike lanes, sidewalks, or non-motorized paths)? Will this project increase automotive miles driven or idle times?

RESULT:

❏ Project will facilitate multimodal transportation.

❏ Assessment indicates no accommodation of multimodal transit.

❏ Assessment indicates that multimodal transit could be accommodated by:

I Evaluate project dependence on access to the reliable provision of a power supply, as well as its source and transmission.

1. **Inventory all energy requirements for the project and note the anticipated source of power.**

2. **Provide a narrative review explaining:**
   - How power source or transmission maybe compromised by climate change (e.g., infrastructure damage to sea level rise or extreme weather events, decreased function of hydroelectric power due to flood or drought).
   - How power demand or price may change due to climate change (e.g., more hot days require additional energy for cooling systems).
   - Anticipate use and maintenance budgets for items (e.g., HVAC systems, pumps) that are vulnerable to unplanned heavy demand due to more extreme weather (e.g., if future use becomes greater than currently budgeted, what will be the cost to future owner/operators? Will this change affordability?).
   - Back up options to fill gaps in availability and quantity.

RESULT:

❏ Project unaffected by changes in energy demand, access or cost

❏ Assessment indicates climate change risk to project that cannot be avoided.

❏ Assessment indicates climate change risk to the project, but risk could be minimized by (explain here or in attachment):

STEP 2: Evaluation

J Evaluate the potential greenhouse gas emissions attributable to this project.

1. **Calculate project energy demand then estimate likely GHG emissions based on the energy source (including back-up generator systems) used to meet that demand.** To approximate greenhouse gas (GHG) emissions, use this equation:

   Annual GHG emissions = amount of energy used x CO2e emissions factor

   For a quantitative GHG emissions analysis see the USEPA Inventory Guidance (https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance) or the ICLEI Community Protocol for Accounting and Reporting of GHG Emissions (https://icleiusa.org/us-community-protocol/). For a qualitative GHG emissions analysis, consider the amount of energy and the energy source (e.g. renewable, conventional utility power, diesel or gas generator, propane) the project will require.

2. **Provide a narrative review explaining:**
   - Do insulation or design elements for conservation requirements need to change due to future winter low and summer high temperatures?
   - Will additional energy demand due to climate change reduce the effectiveness of energy conservation measures or increase overall GHG emissions?
   - Does the project use renewables or enable their use in the future? Are structures located/oriented on the site to maximize on-site renewable energy generation such as solar (passive or active) or geothermal?
   - Will changes in vegetation due to climate change affect energy demand (e.g., increased heating or cooling as trees mature or die)?
   - Is the energy required produced by the combustion of fossil fuels?
   - Will the project decrease idling times, improve access or use of non-motorized transit, or otherwise improve the transit system for greater energy efficiency?
   - Will the project affect (positive or negative) any existing GHG emissions inventories?

RESULT:

- ❏ Project does not result in any increase or decrease in GHG emissions
- ❏ Assessment indicates an emissions increase due to the project that cannot be avoided.
- ❏ Assessment indicates an emissions increase due to the project, but it could be prevented by (explain here or in attachment):

K Evaluate the project's connection to local and regional population.

1. **Provide a narrative review explaining how the project will function over time relative to population change.** Will either increases or decreases (possibly due to climate migration) affect the long-term success of the project? Do your anticipated outcomes depend on certain local or regional population statistics?

RESULT:

- ❏ Project unaffected by population.
- ❏ Assessment indicates climate change risk to project that cannot be avoided.
- ❏ Assessment indicates climate change risk to the project, but risk could be minimized by (explain here or in attachment):

L Evaluate project impact on community equity during implementation and over its lifetime.

1. **Provide a narrative review explaining how the project may benefit or adversely impact community members, especially low-income and traditionally underserved community members. Consider impacts such as:**
   - How the project may preclude future use or access to the site.
   - Any project impacts (positive or negative) to air or water quality.
   - If the project uses community resources to the advantage of one group over another.
   - Whether the project affects affordable housing.
   - If the project affects individuals without insurance.
   - Whether the project increases, decreases, or is neutral in shifting the burden of energy or other costs on lower income community members.
   - If the project perpetuates inequities from past practices (e.g., redlining).
   - Will transit accessibly be affected or required?
   - Will needed project communications be accessible by all community members?

RESULT:

- ❏ Project provides does not negatively affect low-income or traditionally underserved community members.
- ❏ Assessment indicates a risk to low-income or traditionally underserved community members that cannot be avoided
- ❏ Assessment indicates a risk to low-income or traditionally underserved community members, but the action could be made more equitable by (explain here or in attachment):

STEP 3: Determination of Project Review

STEP 2 results indicate climate change risk to the project during its expected life cycle.
Complete STEP 3 to decide conditions of approval.

1. **Proponents assessment** of the proposed project under future conditions:

2. **Staff assessment** of the proposed project under future conditions (include reference to any existing local, regional, and state natural hazard vulnerability assessments, climate vulnerability assessments, and/or climate action plans):

3. **CCAC Determination:**

❒ **Project approved as proposed.** Low risk from future climate conditions.

❒ **Project denied.** High risk that cannot be minimized or avoided with project alterations.

❒ **Project redesigned to reduce risk and approved.**
- Explain how risk was reduced due to the components of the redesign.

❒ **Project relocated/sited in alternate location and approved.**
- Explain how risk was reduced because of this move. Explanation should include a review of new site to ensure vulnerabilities do not exist at the new location.

❒ **Project approved with conditions.** Applicant required to assume responsibility for anticipated future remediation necessitated due to permitting/funding/approving this now despite the known vulnerabilities.
- Bond required in the amount of $_____.
- Fee required in the amount of $_____.
- Explain and document the expected remediation.

❒ **Project approved with informed consent regarding the risk.**
- Describe the risk.

Project Review Authority

Name: _____

Date: _____

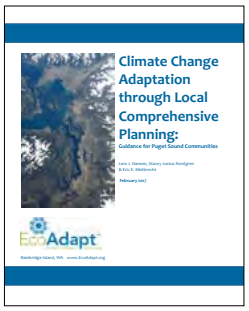
Project Proponent

Name: _____

Date: _____

Climate Change Adaptation Certification Resources and Acknowledgments

EcoAdapt and Foresight Partners Consulting developed the Climate Change Adaptation Certification project, process, and 3-Step Tool in order to advance nascent local conversations around climate change adaptation to tangible implementation actions. This work began in the Puget Sound region of Washington where they also developed guidance for anyone wanting to understand why and how to incorporate climate considerations into local Comprehensive Planning—addressing planning for both adaptation and mitigation. This guidance is also available:



Climate Change Adaptation through Local Comprehensive Planning: Guidance for Puget Sound Communities. Hansen, L.J., S.J. Nordgren and E.E. Mielbrecht. 2017. EcoAdapt. Bainbridge Island, WA. www.CAKEx.org/documents/climate-change-adaptation-through-local-comprehensive-planning-guidance-puget-sound-communities

The Climate Change Adaptation Certification Tool was developed to support communities beyond planning—helping them implement their updated Comprehensive Plan. Using this 3-Step CCAC Tool for rapid implementation of climate savvy planning goals and policies will enable community services, infrastructure, ecosystems, and economies to better anticipate and respond to the effects of climate change.

We would like to thank Jennifer Sutton (City of Bainbridge Island), James Rufo Hill (Seattle Public Utilities) and James B. Hansen (California Fish and Wildlife) for their time and insight as reviewers of this tool and its applicability to planning processes across a variety of circumstance.

In order to make this product useful and used, the authors surveyed community adaptation efforts and interviewed local, regional, and state employees around the Puget Sound to identify regulatory or discretionary processes already in place where one could integrate climate change adaptation into permitting—something beyond planning goals and policies. We would also like to thank (in alphabetical order) all those who took the time to inform us through interviews, including Mike Burnham (Thurston Regional Planning Council), Eileen Canola (Snohomish County), Christy Carr (City of Bainbridge Island), Ryan Dicks (Pierce County), Lisa Dulude (Snohomish County), Gary Idleburg (Washington State Department of Commerce), Jennifer Lee (Puget Sound Partnership), Kelly McGourty (Puget Sound Regional Council), Tracy Morgenstern (City of Seattle), Phillip North (Tulalip Tribes), Allison Osterberg (Thurston County), Joyce Phillips (City of Olympia), Jennifer Pouliotte (Puget Sound Partnership), Carol Lee Roalkvam (Washington State Department of Transportation), Dara Salmon (Snohomish County), Joseph Tovar (Tovar Planning), Lara Whitely-Binder (King County), and Manuela Winter (Snohomish County).

Sample resource they shared included:

- Washington State Department of Transportation (WSDOT)—Guidance for Project-Level Climate Change Evaluations for NEPA and SEPA demonstrates how WSDOT should address climate change in its environmental documents/reviews
- King County—Sustainable Infrastructure ScoreCard used to meet the requirements of Seattle's Green Building and Sustainable Development Ordinance
- Seattle Public Utilities—Stage Gate process used internally by employees during project development
- Snohomish County's Puget Sound Initiative—Climate Change Decision Support Tool used by public works employees to consider climate change related impacts in their own project planning

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