



# QUICK GUIDE

## Addressing Climate-Related Evaluation Criteria in OWEB Grant Applications

### About this Document

The Quick Guide was developed as an entry point to addressing climate-related evaluation criteria in OWEB's grant applications. Climate-related evaluation criteria were adopted by the OWEB board in July 2023 (ORS 695-005-0045).

Climate-related evaluation criteria apply to grant programs including Restoration, Stakeholder Engagement, Monitoring, Technical Assistance, Outcome-Based Watershed Council Operating Capacity, Land Acquisition, Water Acquisition, and Focused Investment Partnership. In addition to existing evaluation criteria for the aforementioned grant programs, grant applications shall also be evaluated, wherever possible, on:

- (1) How engagement with, and input from, local communities disproportionately impacted by climate change<sup>1</sup> has informed or will inform the project.
- (2) How changing climate conditions are incorporated into the project and how the project will contribute to durable adaptation and resilience for ecosystems<sup>2</sup>, including human communities.
- (3) How consideration of greenhouse gas emissions or long-term carbon sequestration<sup>3</sup> or storage<sup>4</sup> has informed the project.

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<sup>1</sup> Local communities disproportionately impacted by climate change includes communities such as Native American tribes, communities of color, rural communities, coastal communities, communities experiencing lower incomes, and other communities traditionally underrepresented in public processes, including seniors, youth, and persons with disabilities.

<sup>2</sup> Durable adaptation and resilience for ecosystems means the extent to which a project is expected to help an ecosystem, including human communities, adjust to, respond to, or recover from the effects of a changing climate.

<sup>3</sup> Carbon sequestration means the process of capturing and storing atmospheric carbon dioxide.

<sup>4</sup> Carbon storage means the storage of carbon in plants, soils, geological formations, and the ocean.

# Introduction

The Quick Guide gives grant applicants a starting point to respond to climate-related questions in grant applications. It draws on the steps in a basic climate adaptation planning process, as well as the climate-related evaluation criteria, to help you:

1. **Assess the potential impacts** of climate change on your ecosystem and/or project.
2. **Build climate considerations directly into the project**, including identifying actions that will improve the ability of ecosystems to adjust to, respond to, or recover from the effects of climate change and/or enhance long-term carbon sequestration or storage.
3. **Consider** greenhouse gas emissions and long-term carbon sequestration or storage in your project.
4. **Build engagement** with and input from local communities disproportionately impacted by climate change into your project.

This Quick Guide takes you through four basic steps, enabling you to respond quickly to the climate-related questions in OWEB grant applications. Prior to assessing climate impacts, it's helpful to briefly summarize your primary project goals and activities as well as the defining features, environmental conditions, and species relevant to your project. Clearly stating your project goals and activities will help you respond to the questions laid out in the other steps.

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## STEP 1 Assess Climate Changes and Impacts

Identify the climate stressors likely to have the most significant impact on your project and/or watershed. For each stressor, look at projected changes and describe how those changes will affect your project goals and/or watershed.

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## STEP 2 Evaluate Project Activities in the Context of Climate

Identify any planned project activities that will help to address climate impacts and could enhance long-term carbon sequestration or storage. For planned activities, assess whether you may need to modify where, how, or when to implement to improve long-term project outcomes. Consider new project activities to further reduce climate impacts, improve ecosystem or species resilience, and/or enhance long-term carbon sequestration or storage.

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## STEP 3 Consider Greenhouse Gas Emissions and Long-term Carbon Sequestration or Storage in the Project

Look at the primary project activities and explore opportunities for, and evaluate tradeoffs of, reducing greenhouse gas emissions, enhancing long-term carbon sequestration, or protecting carbon storage in their design and implementation.

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## STEP 4 Engage Local Communities Disproportionately Impacted by Climate Change

Identify any local communities disproportionately impacted by climate change and explore potential opportunities for engagement and how their input could be used (or has been used) to inform the project.

# QUICK GUIDE WORKBOOK

## **Describe project context.**

Briefly describe your project and the watershed in which it occurs. What are the primary project goals and activities? What are the defining features, environmental conditions, and species relevant to your project? It's helpful to have this information summarized before you begin assessing climate impacts and evaluating your project activities.

1. Briefly describe your watershed, including its defining features, environmental conditions, and species of concern.

2. Briefly outline your project goal(s) and activities.

## STEP 1 Assess Climate Changes and Impacts

From the list below, circle the climate variables likely to have the most significant impact on your project and/or watershed.

Warmer temperatures and extreme heat	Altered precipitation (annual, seasonal)	Increased risk of wildfire
Reduced snowpack	Reduced soil moisture or drought	Insects and pathogens
More extreme precipitation	Altered streamflows (lower, higher)	Invasive species
Sea level rise	Warmer stream temperatures	Other (describe)

For each variable circled above, describe observed or projected changes and the anticipated impacts on your project and/or watershed. Resources to aid you in summarizing changes and impacts are listed on the next page.

### Example climate variable: Reduced soil moisture or drought

#### Example observed or projected change:

- Persistent and severe droughts have occurred in Oregon since 2000
- Increased severity and duration of droughts

#### Example impacts on project/watershed:

- Recent long-term drought has led to a decline in grassland community diversity
- Possible shifts from perennial species to annual species in perennial grasslands

### Climate variable #1:

**Observed or projected change:**

**Impacts on project/watershed:**

### Climate variable #2:

**Observed or projected change:**

**Impacts on project/watershed:**

### Climate variable #3:

**Observed or projected change:**

**Impacts on project/watershed:**

## STEP 1 Resources for Climate Changes & Impacts

1. OWEB: [Regional Climate and Habitat and Species Summaries](#)
2. Oregon Climate Change Research Institute: [Future Climate Projections for Oregon Counties](#)
3. Oregon Climate Change Research Institute: [Oregon Climate Assessments](#)
4. U.S. Forest Service: [Adaptation Partners](#) (climate change vulnerability assessments and adaptation strategies for the western US)
5. [The Climate Toolbox](#) (collection of web tools for visualizing past and projected climate and hydrology)

### Application Questions Addressed in this Information

The information from STEP 1 addresses “climate changes and impacts” in the **Problem Statement** in OWEB grant applications.

**Example Question:** *The Restoration grant application Problem Statement section asks:*

*Describe the watershed problem(s), including climate changes and impacts, that this restoration project seeks to address.*

**Example Response:**

*Persistent and severe droughts have occurred in the region in the last 20 years. This long-term drought has led to a decline in grassland community diversity. Climate models project less precipitation during the growing season and an increased severity and duration of droughts. Decreased growing season precipitation may further shift the composition and abundance of grasslands, with increases in invasive species and/or drought-tolerant native species.*

## STEP 2 Evaluate Project Activities in the Context of Climate

- A. Refer to the **climate impacts** you summarized in [STEP 1](#) as well as your anticipated project activities.
- B. Identify any **planned project activities** that will help to reduce climate impacts on or increase the resilience of your watershed and/or project (these are considered *adaptation or resilience actions*<sup>5</sup>).
- C. For **planned activities**, **assess** whether you may need to modify where, how, or when to implement to improve long-term outcomes.
  - (If there are any climate impacts that have not been addressed through planned project activities, **identify new activities** to consider implementing that address these impacts.)
- D. As applicable, identify if a given action **promotes long-term carbon sequestration or protects carbon storage**. Refer to the [resources](#) on the next page for examples of adaptation actions and carbon sequestration/storage benefits.

A. Impacts on Project/Watershed (copy from <a href="#">STEP 1</a> )	B. Project Activity and How it Addresses the Impact (adaptation & resilience actions)	C. If this is a Planned Activity, Any Modifications? (e.g., where, how, or when to implement)	D. Is There a Potential Carbon Benefit? (i.e., sequestration/ storage)
<p><b>Example:</b> Decreased spring precipitation and increased drought stress could shift the composition of grasslands to more drought-tolerant or invasive species</p>	<p><b>Example 1:</b> Remove non-native annual grasses and other invasive plant species</p> <p>➤ Helps to reduce competition for limited soil moisture</p>	<p><b>Example 1:</b> Could focus on intact/high-integrity areas first</p>	<p><b>Example 1:</b> Maintains carbon sequestration capacity of natural ecosystems</p>
<p>“ “</p>	<p><b>Example 2:</b> Plant/seed with native species</p>	<p><b>Example 2:</b> Adjust species mix to include those native species that are a suitable combination under drier conditions</p> <p>➤ Limits plant community sensitivity to reduced moisture</p>	<p><b>Example 2:</b> Promotes carbon sequestration</p>

<sup>5</sup> Adaptation and resilience actions help an ecosystem, including human communities, adjust to, respond to, or recover from the effects of a changing climate.

A. Impacts on Project/Watershed (copy from <a href="#">STEP 1</a> )	B. Project Activity and How it Addresses the Impact (adaptation & resilience actions)	C. If this is a Planned Activity, Any Modifications? (e.g., where, how, or when to implement)	D. Is There a Potential Carbon Benefit? (i.e., sequestration/ storage)

<b>Examples of Adaptation and Carbon Sequestration/Storage Strategies</b> Modified from the Wildlife Conservation Society's (WCS) Climate Adaptation Fund applicant guidance and <a href="#">Ontl et al. 2019</a>		
Management Action	Example Adaptation Benefit	Potential Carbon Benefit
Measures to maintain water levels in wetlands and/or floodplains	Reduce vulnerability to drought, wildfire	Avoided carbon loss
Increasing tree species diversity	Reduce vulnerability to drought, wind damage, pests	Avoided carbon loss, enhanced carbon storage
Reducing fuels to decrease potential fire severity	Reduce vulnerability to fire	Avoided carbon loss from vegetation and soils
Planting future-adapted species	Facilitating plant community transition	Enhanced carbon storage

## STEP 2 Resources for Adaptation and Resilience, Nature-based Solutions (NBS), Carbon

1. Northern Institute of Applied Climate Science: [Menus of Adaptation Strategies and Approaches](#) (e.g., [Forest Carbon Management](#), [Forested Watersheds](#))
2. U.S. Forest Service: [Adaptation Partners](#) (climate change vulnerability assessments and adaptation strategies for the western U.S.)
3. Nature-based Solutions: [NBS Benefits Explorer](#)
4. The Nature Conservancy (TNC): [Resilient Land Mapping Tool & Carbon Analysis](#)

### Application Questions Addressed by this Information

The information from STEP 2 addresses questions in OWEB grant applications including:

- “considers changing climate conditions”
- “provides adaptation, resilience, and/or long-term carbon sequestration and storage benefits”

#### **Example Question:** *The Stakeholder Engagement grant application Goals & Objectives section asks:*

*Describe the direct correlation the Stakeholder Engagement effort will have with future restoration or acquisition activities. As applicable, describe how the resulting project or outcome considers changing climate conditions and will protect or restore fish or wildlife habitat, watershed function, and water quality or quantity, and/or provide adaptation, resilience, or long-term carbon sequestration or storage benefits.*

#### **Example Response:**

*This Stakeholder Engagement project will improve shrubland and grassland conditions by engaging private landowners in habitat restoration activities and encouraging better stewardship practices. Community members will participate in habitat restoration activities including removal of non-native annual grasses and planting/seeding with native species. Climate change is projected to lead to decreased spring precipitation and increased summer drought stress. Removing non-native grasses will help to reduce competition for limited soil moisture and planting with native species suitable under drier conditions will improve grassland community resilience. In addition, these actions help to maintain and promote carbon sequestration.*



## STEP 3

# Consider Greenhouse Gas (GHG) Emissions and Long-term Carbon Sequestration or Storage in the Project

Reflect on your project activities as well as the activities identified in [STEP 2](#). Explore opportunities for, and evaluate tradeoffs of, reducing greenhouse gas emissions, promoting long-term carbon sequestration, or protecting carbon storage in their design and implementation. The purpose of this step is to demonstrate consideration of GHG emissions in project design and implementation; in some cases, reducing GHG emissions may not be feasible or realistic given the overall goal(s) or constraints of the project.

1. Circle possible options for reducing greenhouse gas emissions in your project.

**Convene virtual meetings or workshops**

**Use monitoring equipment that allows for the remote collection of data**

**Use electric, hybrid, or biodiesel vehicles**

**Carpool or minimize the number of vehicle trips**

**Reuse materials (e.g., install used concrete slabs in bridge)**

**Use electric equipment**

**Limit use of heavy equipment**

**Locally source project materials**

**Other (describe)**

2. Reflect on the possible options you just identified for reducing GHG emissions. What might be the tradeoffs or constraints associated with the options?

**Example:**

- *Carpool: no tradeoffs; we already do this to save on fuel costs*
- *Limit use of heavy equipment: tradeoff is an increased length of time to realize benefits; installing large woody debris and re-meandering creek using heavy equipment will result in immediate habitat benefits whereas benefits will only be realized many years later in a project that only includes planting*

3. Consider opportunities to enhance long-term carbon sequestration or storage in the project. What opportunities might there be to modify the design, project activities, or how the project is implemented to promote sequestration or storage? *The [Nature-Based Solutions \(NBS\) Benefits Explorer](#) provides examples of activities that can provide carbon sequestration benefits.*

## STEP 3 Resources for Carbon (GHG Emissions, Sequestration, Storage)

1. Nature-based Solutions: [NBS Benefits Explorer](#)
2. The Nature Conservancy (TNC): [Resilient Land Mapping Tool & Carbon Analysis](#) (forest carbon)
3. Graves et al. 2020: [Potential greenhouse gas reductions from Natural Climate Solutions in Oregon, USA](#)

### Application Questions Addressed by this Information

The information from STEP 3 addresses questions in OWEB grant applications including:

- “consideration of greenhouse gas emissions”
- “consideration of long-term carbon sequestration or storage”

#### **Example Question:** *The Restoration grant application Design section asks:*

*Describe the design alternatives that were considered and why the preferred alternative was selected. As part of your response, describe how consideration of greenhouse gas emissions or long-term carbon sequestration or storage has informed or will inform the design alternatives and the selection of the preferred alternative.*

#### **Example Response:**

*The project proponents considered an alternative that included only riparian restoration, which would be less expensive and result in fewer greenhouse gas emissions. However, the aquatic benefits to this alternative would only be realized many years in the future as vegetation matures and begins to provide stream shade, and eventually contribute large wood to provide habitat complexity. The preferred alternative includes use of excavators to re-meander the creek and place large wood, in addition to riparian planting. This will provide an almost immediate benefit to instream habitat as well as provide long-term carbon sequestration from riparian plantings. Wherever possible, we will source large wood from our U.S. Forest Service partners at a site less than a mile from the project location.*

## **STEP 4** Engage Local Communities Disproportionately Impacted by Climate Change

Select the relevant communities from the definition of “local communities disproportionately impacted by climate change” (below). Think about ways to solicit input from those communities and how their input could be used (or has been used) to inform the project. *Resources to aid in your response are on the next page.*

Local communities disproportionately impacted by climate change includes communities such as:

**Native American tribes**

**Coastal communities**

**Youth**

**Communities of color**

**Rural communities**

**Persons with disabilities**

**Communities experiencing lower incomes**

**Seniors**

**Other communities traditionally underrepresented in public processes**

1. How might you engage, or have you engaged, with the communities you selected above? Consider opportunities that are inclusive and invite equitable and meaningful participation from these communities. *Common ways to solicit input include hosting or attending community events, convening focus groups, organizing online meetings or surveys, and one-on-one conversations, among others.*
  
2. Where and how could input from these communities inform your project or how has it already informed your project? *For example, input can inform prioritizing locations to implement activities, identifying what activities to implement and when/how, or exploring design alternatives and selecting the preferred alternative, among others.*

## STEP 4 Resources for Identifying and Engaging with Local Communities Disproportionately Impacted by Climate Change

1. U.S. EPA: [EJScreen Environmental Justice Screening and Mapping Tool](#) (helps to identify where environmental justice communities are located)
2. State of Oregon: [Climate Equity Blueprint](#) (Section III. Lead meaningful community engagement is particularly helpful)
3. Queensland Government: [Community Engagement Toolkit for Planning](#) (six core principles)
4. Hubbard et al. 2020: [Oregon Climate Adaptation Framework: Climate Equity \[Level-Setting Workshop II\]](#) (Presented at State of Oregon Climate Adaptation Framework Planning: May 2020 Diversity, Equity, and Inclusion (DEI) Level-Setting Workshops)

### Application Questions Addressed by this Information

The information from STEP 4 addresses the question in OWEB grant applications:

- “Describe how engagement with local communities disproportionately impacted by climate change has informed or will inform the project.”

**Example Question:** *The Stakeholder Engagement grant application Goals and Objectives section asks:*

*Identify up to 5 objectives of this Stakeholder Engagement application. For at least 1 objective, describe planned engagement with local communities disproportionately impacted by climate change and how their input will inform the resulting acquisition or restoration project.*

#### **Example Response:**

*Objective: Engage local communities disproportionately impacted by climate change in the region, which includes rural communities, communities of color, and persons with disabilities, to evaluate restoration alternatives at the Alpha Creek Dam. The Council will convene 1-2 focus groups with representatives from these disproportionately impacted communities (e.g., Alpha Lake Community Justice Project, Alpha Lake Disability Equity Center, Alpha Lake Latino Community Association), or meet with representatives individually, to get their perspectives on priority watershed problems and restoration alternatives. Their input will be used to inform the selection of the preferred restoration alternative. Success will be indicated by a majority (>50%) of these communities supportive of the chosen alternative and the identification of a path forward for the Council to proceed with restoration.*

## Other Helpful Resources

1. Beechie et al. 2012: [Restoring Salmon Habitat for a Changing Climate](#) (fisheries-specific adaptation/resilience resource)
2. Timpane-Padgham et al. 2017: [A systematic review of ecological attributes that confer resilience to climate change in environmental restoration](#) (Table 1 is particularly helpful)
3. Perry et al. 2015: [Incorporating climate change projections into riparian restoration planning and design](#)
4. NBS Initiative: [NBS Evidence Platform](#) (tool linking NBS to climate change adaptation outcomes based on peer-reviewed literature)
5. [Carbon in Riparian Ecosystems Estimator for California](#) (tool that predicts fluctuations in carbon stocks in California's riparian forests from their planting at year zero to year 100)