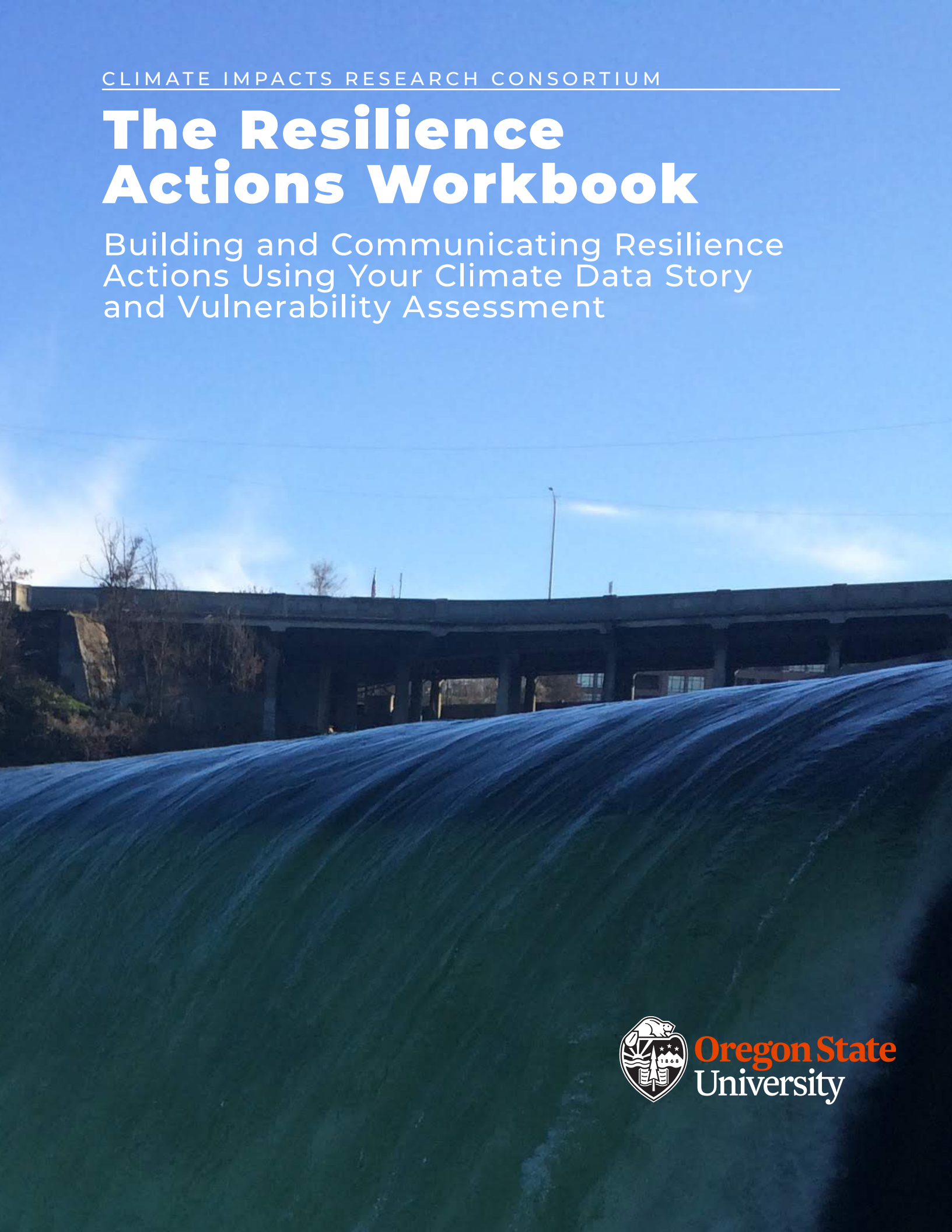
CLIMATE IMPACTS RESEARCH CONSORTIUM

The Resilience Actions Workbook

Building and Communicating Resilience Actions Using Your Climate Data Story and Vulnerability Assessment



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About the Resilience Actions Workbook

The Resilience Actions Workbook is the third volume of the Climate Impact Research Consortium (CIRC) three-volume ***Climate Resilience Workbook*** series.

The series includes:

- ***The Climate Toolbox Workbook (Volume 1, Modules 1 and 2)***
- ***The Vulnerability Assessment Workbook (Volume 2, Modules 3 and 4)***
- ***The Resilience Actions Workbook (Volume 3, Modules 5 and 6)***

The Climate Resilience Workbook Series: ***The Climate Resilience Workbook*** series helps users to access and apply global climate information at a local scale to develop relevant resilience actions. The series begins with an introduction to climate data analysis through ***The Climate Toolbox Workbook***. ***The Climate Toolbox Workbook*** is a user's guide to the Climate Toolbox, providing a road map for users to analyze climate information and communicate *climate data stories*, data-driven narratives about climate impacts and trends relevant at the community level. Then, ***The Vulnerability Assessment Workbook*** provides a framework to integrate those data analyses with judgement and choices. And finally, ***The Resilience Actions Workbook*** provides tools to help understand the human landscape of a community and plan resilience actions that integrate the outputs from the first two workbooks.

Questions around climate information and climate change are far-reaching and can be overwhelming. ***The Climate Resilience Workbook*** series seeks to help users develop skills in manageable chunks; learn how to analyze, integrate, and use information from a range of sources; and develop plans that are actionable at a local scale. We hope that through investigating discrete issues, the holistic picture becomes clearer.

Resilience Actions Workbook Goals: ***The Resilience Actions Workbook*** provides tools to help you understand the human landscape of your community and to plan resilience actions that integrate the best available scientific research and tools with your local experience and judgement. Finally, this workbook provides guidance on how to communicate effectively about the process, decisions, and findings. Blank worksheets for you to use are provided in ***Appendix 6*** at the end of this workbook.

About the Modules: This workbook covers ***Module 5 — Understanding Stakeholders, Setting Goals, and Planning Actions*** and ***Module 6 — Communication*** of the CIRC ***Climate Resilience Workbook*** series. The exercises in ***Module 5*** and ***Module 6*** use the outputs of your climate data stories and analysis and vulnerability assessment to plan resilience actions and communicate your findings and process.

If you're looking for ***Modules 1*** and ***2***, they are in ***The Climate Toolbox Workbook***. ***Modules 3*** and ***4*** are in ***The Vulnerability Assessment Workbook.***

The Resilience Actions Workbook Instructions: Use this workbook to build on the climate data analysis, climate data stories, and vulnerability assessment you previously created using the Climate Toolbox, ***The Climate Toolbox Workbook,*** and ***The Vulnerability Assessment Workbook***. ***The Resilience Actions Workbook*** can be used a la carte depending on your and your audience's needs. Feel free to use other sources to help you, too. We recommend considering each of the provided sections to establish an in-depth understanding, then scale back as appropriate for your audience.

Workbook Exercises, Examples, and Worksheets: The exercises in this workbook will help you to engage with your stakeholders, coproduce resilience actions, and communicate about your process and decisions. As in ***The Climate Toolbox Workbook*** and ***The Vulnerability Assessment Workbook,*** CIRC provides examples (written in italics) that reference the work of the community in Spokane, Washington, as part of the Spokane Community Adaptation Project to illustrate how a community may use its analysis and judgement to prepare resilience actions tailored to meet local needs. Example worksheets are found throughout this workbook. Blank worksheets are provided in ***Appendix 6***.

About RISA and CIRC: The mission of the National Oceanic and Atmospheric Administration (NOAA) Regional Integrated Sciences and Assessments (RISA) program is to put climate science to work for stakeholders. The Pacific Northwest Climate Impacts Research Consortium (CIRC) is the NOAA RISA team for Washington, Oregon, Idaho, and western Montana. CIRC aids climate adaptation efforts by Pacific Northwest communities, policymakers, and resource managers through individual resilience efforts with community groups, online climate tools, communication of climate science, and the advancement of climate and social science. This work is possible under NOAA grant NA15OAR4310145.

(a little bit louder now….) One More Shout-Out to the Community of Spokane, Washington: This workbook and the companions, ***The Climate Toolbox Workbook*** and ***The Vulnerability Assessment Workbook,*** were originally created for the community of Spokane, Washington, as part of the Spokane Community Adaptation Project (SCAP). CIRC would like to thank the SCAP participants who made these workbooks possible. Thank you!

Special Thanks: Katherine Hegewisch, Crystal Barnes, Nancy Steinberg, Abby Metzger, Nathan Gilles, and our RISA network review team: Tina Buxbaum from Alaska Center for Climate Assessment and Policy, Amanda Farris from Carolinas Integrated Sciences and Assessment, and Julie Kalansky from Climate Information for California and Nevada.

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Contents

Big Concepts

While the advice to dive straight in might work for swimming, in this case, please resist the temptation to just start doing things. We encourage you to take the time to get to know and understand your community, establish thoughtful goals, and brainstorm the myriad ways to move you and your community closer to your goals. In short, DON'T just do it.

Most concepts and definitions in this workbook are introduced as needed. However, there are some big concepts to familiarize yourself with before getting started.

Consider Both Adaptation and Mitigation

A "both" (adaptation and mitigation) approach is needed. There are lots of mitigation strategies that we should absolutely employ to reduce greenhouse gasses in the atmosphere. However, the price that our climate continues to pay requires adaptation strategies while we wait for the mitigation strategies to yield results. For example, even if we stopped putting excess carbon dioxide into the ocean, the current trajectory of acidification will likely continue for ~200 years before the ocean returns to a pre-climate change pH. This doesn't mean that you shouldn't mitigate, just that adaptation strategies also need to be developed and employed.

Go "Glocal." Start Broad, Then Narrow Your Focus

When talking about big global issues (climate change being about as global as it gets), ground concepts in place using local or personal examples; consider your big resilience goals first, then think about all the different tools you could possibly use, invent, or repurpose.

Know Your Audience

We encourage you to think about your community's human capital and capacity as a whole entity before getting specific about which individuals may be the cornerstones of any resilience action.

Representation Matters

Think about how you will ensure that you are connecting with and addressing the needs of the sectors of your community who may not be well-represented in your discussions. These voices are important and are most often the "first and worst" to experience climate impacts.

Use What You Have

Resilience actions do not need to be brand-new; sometimes an action that has been successful elsewhere or builds on existing and/or familiar work has an easier time gaining traction.

Communication and Engagement Are Two-way Conversations

When it comes to communication, the old adage, "It takes two to tango" couldn't be more appropriate. Indeed, it takes two to talk. Yet, communicating science and policy has historically emphasized a one-way flow of information, from assumed expert to non-expert. Such a binary framework, based on an "us" and "them" structure, may create barriers and actually be counterproductive. When you communicate and engage with stakeholders, it's helpful to think of it as a conversation, where you ask probing questions, work to understand the other person's priorities and concerns, reflect back information to ensure comprehension, and coproduce a narrative that satisfies both of you. In essence, you are finding the common denominator between different (and even competing) perspectives through conversation. Such intentional conversation may seem like an obvious skill, but it takes practice! ***Module 6*** shares a framework to help you practice. Plus, all the work you've put into your climate data stories and vulnerability assessment will help you to share how you've arrived at your perspective.

You're Not Here to Debate Climate Science

The Climate Resilience Workbook series is all about transforming information into actions to improve your community members' lives. The good news is that you are not here to debate the science behind climate change. You are, however, encouraged to find tangible, real-world examples of climate change impacts that relate to a person's everyday experience. Maybe a person has seen their electricity bill double in the summer because of increased air conditioning use, or their coastal property is eroding, or the nearby asphalt road is melting off into a ditch, or they no longer see snowpack like they used to. The point is to not get hung up on the data and debate if climate change is to blame. Instead, your goal should be to identify local changes that are impacting livability and livelihoods, and to build feasible resilience actions and strategies.

Module 5 — Understanding Stakeholders, Setting Goals, and Planning Actions

About Understanding Stakeholders, Setting Goals, and Planning Actions: In this module, you will use the outputs from the ***Vulnerability Assessment Table (VAT)*** you created in ***The Vulnerability Assessment Workbook*** to create defensible resilience strategies for your community. In order to do this, you will identify and understand who you will be working with and their relationships within the community (***Understanding Stakeholders***). Then, you will set goals, plan actions (***Setting Goals and Planning Actions***), and reflect on whether your goals were accomplished (***Measuring Success***).

The exercises in this module can be used a la carte depending on the level of depth needed. Feel free to use exercises from other sources to understand the human landscape of your community and develop strategies according to your needs. We recommend considering each of the topics or ideas in detail. Then, if needed, scale back to a level that is most appropriate for your needs.

Goals for Understanding Stakeholders, Setting Goals, and Planning Actions:

- **Increase your community's resilience to a changing climate by understanding local stakeholders and their needs**
- **Get specific about how your community chooses to respond to a changing climate**

Module 5 at a Glance:

- **Understanding Stakeholders**
- **Setting Goals and Planning Actions**
- **Measuring Success**

Understanding Stakeholders

About Understanding Stakeholders: Understand and strategize how to use the human capital of your community to achieve your resilience goals. You will want appropriate representation from interested *stakeholders*. If you are wondering whether or not to include someone, please err on the side of inclusion. Wicked problems like climate change require creative and diverse views. Use these exercises to help plan how much time and resources you allocate to specific individuals and organizations. The exercises are broken into three parts:

Stakeholder — a person or organization with an interest in (i.e., a stake) or who is affected by a given issue (or set of issues)

Stakeholder Inventory
Understanding Stakeholder Interest and Impact
Developing Engagement Strategies

Goal for Understanding Stakeholders: Understand who your stakeholders are and what they care about. And use that information to develop tailored engagement strategies according to their relative interests and impacts within your community.

Stakeholder Inventory

About Stakeholder Inventory: The ***Stakeholder Inventory*** exercise below will help you understand who your stakeholders are and what they care about. Consider your stakeholders as broad sectors of your community that you will need to work with to accomplish your resilience goals. Periodically revisit and revise your ***stakeholder inventory*** to keep it up to date.

Goal for Stakeholder Inventory: To create an inventory of your stakeholders.

Instructions for Worksheet 10: Stakeholder Inventory:

- Step 1. Write broad categories to describe stakeholders in your community in the *Category* column.
- Step 2. Provide a description of what those categories mean to your community in the *Description* column.
- Step 3. Using the categories and descriptions that are applicable to your community, populate actual names of organizations and people in the *Organizations/People* column.

Worksheet 10: Stakeholder Inventory (Example)

Category	Description	Organizations/People
People and organizations who live, work, play, or worship in the community	*Those whose everyday lives are expected to be directly affected by climate impacts and stressors*	*Residents* *Visitors/tourists*
People and organizations interested in the use or non-use of a location	*Those who assign values to and are concerned with how resources are used*	*Riverkeeper* *Chamber of Commerce* *Residents*
People and organizations interested in decision-making processes	*Those interested in legal and procedural aspects. They want to make sure that policies and procedures are followed*	*City Council*
People who pay the bills or taxes	*Those whose money is directly or indirectly used to support resource management*	*Residents* *Businesses*
People who represent citizens or are legally responsible for public resources	*Those who have legal authority and obligations*	*Elected Officials/government*

Understanding Stakeholder Interest and Impact

About Understanding Stakeholder Interest and Impact: Using your ***Stakeholder Inventory,*** the ***Stakeholder Interest and Impact Matrix*** will help show how your stakeholders relate to one another in the context of your community. Remember that these relationships are not static, as people may change their interest and impact based on the topic or their capacity. This matrix helps you understand the relative interest and impact of your stakeholders at **a single point in time**. You may use it to inform how you WISH stakeholders related. For example, if you have someone who is highly impactful, yet not interested, you may wish to engage them in such a way that sparks their interest. Or, conversely, if someone is currently ranked high interest and high impact, yet their impact is toxic to the group, you may wish to take measures to mitigate how much impact they have within your group.

Goal of Understanding Stakeholder Interest and Impact: Record and assess the relative *interest* and *impact* of identified stakeholders at a snapshot in time.

Instructions for Worksheet 11: Stakeholder Interest and Impact Matrix:

- Step 1. Consider the *categories*, *definitions*, and *organizations/people* you identified in your ***Stakeholder Inventory.***
- Step 2. Reference the box below to fit your *organizations/people* into ***Worksheet 11: Stakeholder Interest and Impact Matrix.*** We've provided some ideas to think about as you organize your stakeholders. Please get specific in identifying your stakeholders. We've provided descriptions, but you'll want to actually write in names from your inventory.

Worksheet 11: Stakeholder Interest and Impact Matrix (Food for Thought)

High Interest/Low Impact These are the people who are keeping a close watch on you...and probably lots of others too. They can help you understand and flag issues before they occur, but they may lack capacity or skill to implement ideas. **Pros:** Actively seek information and are ready to be assigned tasks **Cons:** Little to no impact in the community for various reasons - lack of capacity, lack of skill, etc.	**High Interest/High Impact** These are your movers and shakers. These are the individuals and organizations with interest and ability to get things done. **Pros:** Understand the community and context, often have vast connections and trusted relationships **Cons:** They're often really busy and may have strong opinions about what needs to get done, and how to do it.
Low Interest/Low Impact These are people who do not necessarily engage in planning until some aspect sparks their interest. **Pros:** With the right engagement and communication, they can become advocates **Cons:** Easy to forget it can take a great deal of time and effort to bring on board.	**Low Interest/High Impact** These are often decision-makers, such as elected officials and other leadership positions. They're important for getting things done but often have very little time to engage. **Pros:** A clear, concise message delivered at the right time can help move you forward by leaps and bounds **Cons:** Your message cannot wander or waste their time.

Developing Engagement Strategies

About Developing Engagement Strategies: Engagement is not a one-size-fits-all, and it is not a one-way push of information. Effective and inclusive engagement emphasizes listening to and responding to the needs and wants of your stakeholders. You may need to work harder to draw this information out of some stakeholders than others, particularly those who fall in the low interest/low impact quadrant. Remember, that ranking does not indicate that they are unimportant, just that they have different needs and interests. Depending on who your stakeholders are and how much interest and impact they have in your community, your engagement approaches may differ. Use the ***Stakeholder Impact and Interest Matrix*** to inform your development of effective engagement strategies.

Goal of Developing Engagement Strategies: Develop specific strategies to engage your stakeholders at the appropriate level and frequency.

Instructions for Worksheet 12: Developing Engagement Strategies:

- Step 1. Look at how you cataloged your stakeholders in the ***Stakeholder Impact and Interest Matrix***.
- Step 2. Think about characteristics of the categories of impact and interest.
- Step 3. Brainstorm ways to engage with each group and record them in ***Worksheet 12: Developing Engagement Strategies.*** Include ways that you will receive, evaluate, and incorporate ideas from your stakeholders. Remember that engagement is not a one-way street. We've provided a few ideas, but please get creative and specific.

Worksheet 12: Developing Engagement Strategies (Ideas to Get You Started)

High Interest/Low Impact Newsletters, websites, surveys, social media posts, and community meetings Consider recording meetings to capture feedback.	**High Interest/High Impact** Newsletters, websites, social media, leadership roles in community meetings, contributing to articles, and recruiting others. Consider recording meetings to capture feedback.
Low Interest/Low Impact Public Service Announcements (PSAs) on billboards, public transportation, signage in parks/restored natural areas (e.g., areas that may have been converted to public use after a flood buyout), discussions at meetings that are in their interest...stay friendly and open; it's okay for people to not be interested. Consider asking what would make them more interested.	**Low Interest/High Impact** Discussions at meetings that are in their interest, specific requests for assistance, short, targeted interactions. Follow-up to confirm that their needs are met.

Discussion Point: Working with communities on climate issues can be exhausting. Discuss how to set boundaries and expectations.

Tip: In general, tasks and projects where people can have latitude and ownership over their products are great engagement strategies. Your stakeholders will always outnumber you, so think about their motivations and plan out tasks accordingly.

Setting Goals and Planning Actions

About Setting Goals and Planning Actions: In ***The Vulnerability Assessment Workbook***, you analyzed multiple climate impacts and prioritized them using the ***Vulnerability Assessment Table (VAT)***. In ***Setting Goals and Planning Actions***, you will use this information and practice setting goals and brainstorming strategies to address your identified vulnerabilities. You may wish to include projects and initiatives that your community has already undertaken that you'd like to amplify or replicate. Remember to reference the work you completed using ***The Climate Toolbox Workbook*** and ***The Vulnerability Assessment Workbook***.

We recommend addressing goals first to decide what it is that you would like to achieve overall. Feel free to dream big, and don't think too hard about HOW you will achieve these goals. Focus on ***Setting Goals*** that are **S**pecific, **M**easurable, **A**udience- or issue-driven, **R**ealistic, and **T**ime-bound (***SMART***).

After coming up with your ***SMART goals***, generate as many ways that you might reach them as possible. Get creative to generate more strategies than you need, and don't get too hung up on the details. Outline the gist of an idea, then move on to the next one. It's easy to fall in love with an idea here…resist the urge! It is unlikely that your first idea will be your best. Usually generating a bunch of strategies and iterating them will reveal many pieces and parts that can be combined into something greater.

Identify the ideas with the best chance of success and most realistic use of resources, and then plan out your actions in detail. This module will help you do this.

Goals for Setting Goals and Planning Actions: Decide what you would like to achieve (***Setting Goals***), put a bunch of ideas down on paper (***Generating Strategies***), and choose the most feasible options to flesh out and implement (***Planning Actions***).

Instructions for Setting Goals and Planning Actions:

- Step 1. Complete the steps.
- Step 2. Set goals so you know where you're aiming (and understand if and when you get there).
- Step 3. Develop ideas that will help move you towards your goal. (Come up with more than you need.)
- Step 4. Develop specific plans to help your community to become more resilient.

Setting Goals

About Setting Goals: Decide what you would like to achieve, and don't worry too much about how you might achieve your goal. We'll do that later in ***Generating Strategies.***

There are many tools to help establish goals. You might be familiar with the term ***SMART Objectives***, used by the National Oceanic and Atmospheric Administration (NOAA), among others.

SMART Objectives contain the following characteristics:

Specific — Use specific verbs that describe observable changes in the outcome as a result of the project.

Measurable — Add a numerical target to the objective — something that can be counted.

Audience- or issue-directed — Focus the objective on changes that will occur within the audience, or to the issue being addressed.

Realistic and ambitious — What is the plausible change within the time frame? Ensure that the objective is attainable yet challenging.

Time-bound — Set a time limit for achieving the objective.

These pieces fit into a goal statement like this:
By [a time] (T), [a specific amount] (M), of the [audience or issue] (A) will be able to [plausibly do something] (S) (R).

Goal for Setting Goals (so meta!): Practice developing ***SMART Goals***.

Instructions for Worksheet 13: Setting SMART Goals:

- Step 1. Reference the information you've developed in ***The Vulnerability Assessment Workbook,*** the ***Vulnerability Assessment Table (VAT),*** and the ***Understanding Stakeholders*** exercises.
- Step 2. Using ***Worksheet 13: Setting SMART Goals***, develop a few goals that are **S**pecific, **M**easurable, **A**udience- or issue-driven, **R**ealistic, and **T**ime-bound.

Worksheet 13: Setting SMART Goals (Example)

SMART Goals	
Specific — Use specific verbs that describe observable changes in the outcome as a result of the project.	*Reduction in number of people exposed to unhealthy air*
Measurable — Add a numerical target to the objective — something that can be counted.	*30% reduction*
Audience- (or issue-) directed — Focus the objective on changes that will occur within the audience- or to the issue being addressed.	*Spokane community business members, public health workers*
Realistic and ambitious — What is the plausible change within the time frame?	*Agree to public-private partnership based on projected numbers of days that the cooling centers would be needed.*
Time-bound — Set a time limit for achieving the objective.	*Summer 2020*
Goal Statement: *In the summer of 2020, the SCAP team would like to see a 30% reduction in exposure to unhealthy air quality by sensitive populations in Spokane, WA.*	

Planning Actions

About Planning Actions: This is where the fun begins. Be as specific as you can when ***Planning Actions***. They should all clearly connect to why you're doing everything — your goal. Try not to just DO stuff; have a reason and make your actions support your ***SMART Goals.***

Begin by ***Generating Strategies*** that will help you to reach your goal. Even if you don't implement all the strategies you come up with here, you still have a list of really good ideas. Do a coarse evaluation. Then turn your best, most feasible ideas into actions and save the rest in the "really good ideas for later" file.

Goals for Planning Actions: Have more ideas than you will ever, ever, ever need, and plan actions and activities that help you and your community reach the goals you set.

Instructions for Planning Actions: *Planning Resilience Actions* is a two-step process.

- Step 1. Using ***Worksheet 14: Generating Strategies*** generate as many strategies as you possibly can around the ***SMART Goals*** you developed in ***Worksheet 13: Setting SMART Goals.***
- Step 2. Use the best of those ideas to plan actions using ***Worksheet 15: Planning Resilience Actions.***

Instructions for Worksheet 14: Generating Strategies: Using the table below, generate lots of strategies. Do this as many times as you need to:

- Step 1. Write your ***SMART Goal.***
- Step 2. Outline strategies. (Get the gist of your ideas on paper and polish them up later. Try not to get too hung up on any of the details.)
- Step 3. Assess if the cost of your strategy is super high, super low, or somewhere in the middle. Indicate that by High/Medium/Low. Remember that cost is not always monetary. It can also indicate investment of time, political buy-in needed, etc.
- Step 4. Assess your likelihood of success (High/Medium/Low).
- Step 5. Pick a few of the most promising strategies and plan actions around them in ***Worksheet 15: Planning Actions.***

Tip: Don't spend too much time assigning actual numbers; get a general sense and move on. The point is to get a bunch of ideas on paper.

Worksheet 14: Generating Strategies (Example)

Goal	Strategy	Cost (H/M/L)	Likelihood of Success (H/M/L)
Decrease number of people exposed to unhealthy air by 30%	*Institute public cooling centers in public buildings*	*M*	*H*
	Install AC unit filtration in every single indoor space	*H*	*H*
	Water stations with misters in public spaces	*M*	*M*
	Hang shade cloth over downtown streets	*L*	*H*
	Public awareness campaign alerting projected high heat (news ticker thermometer)	*L*	*M*
	Staffed heat response tents at city/county parks during heat events	*H*	*H*
	Volunteer "heat assist" training/certification for public workers to aid in response	*M*	*H*
	Pop-up tents for shade, and cool-weave uniforms for outdoor workers	*M*	*H*

Instructions for Worksheet 15: Planning Resilience Actions: Use the steps below to fill in the details for your most promising ideas developed in ***Worksheet 14: Generating Strategies.***

- Step 1: Transfer your most promising strategy to ***Worksheet 15: Planning Resilience Actions.***
- Step 2: Describe the actions that must take place to achieve your strategy.
- Step 3: Identify who the people are who will implement your actions (*Stakeholders*).
- Step 4: Identify how you plan to measure your success.
- Step 5: Identify how you will fund your actions.
- Step 6: Indicate the management mechanisms that will support your actions. (Include existing or needed mechanisms.)
- Step 7: Identify your timeline and/or time constraints.

Worksheet 15: Planning Resilience Actions (Example)

Strategy	Actions	Leaders/ Partners	Measures of Success	Funding/ Costs	Management Mechanisms (Existing or Needed)	Timeline
Public Cooling Centers in public buildings	*Institute cooling centers in public buildings, based on historical high temp times and weekly weather predictions*	*City and county government, schools, libraries, Arena*	*Number of attendees using the centers* *Less heat related ER visits/EMS response*	*Facility usage analysis*	*Public-private partnership*	*Can get the agreements in place now to prepare for summer months*

Measures of Success

About Measures of Success: Using appropriate measures of success developed in ***Setting SMART Goals***, this section will help you assess your success in achieving your goals. This sort of information is particularly helpful for convincing potential funders to support your efforts. Remember to use the work you did previously in ***The Climate Toolbox Workbook*** and ***The Vulnerability Assessment Workbook***.

Goal for Measures of Success: Choose measures of success that are meaningful and help tell your story in a thoughtful way.

Instructions for Worksheet 16: Measures of Success:

- Step 1: Being as specific as you can, fill in ***Worksheet 16: Measures of Success.***
- Step 2. Complete for each ***Resilience Action Plan*** that you choose to pursue.

Worksheet 16: Measures of Success (Example)

State *Resilience Action Plan*: *Develop public-private partnerships with large air-conditioned spaces to open doors to the public during high heat events.*
Describe your goal. Your goal is the change you want to see. Include details: who, what, and when, etc. *Our goal is to have 30% reduction in heat-related illnesses among the homeless in Spokane, who are most vulnerable during high heat events.*
Describe how you will measure that your change happened. Include metrics: people impacted, dollars saved, viable businesses, etc. *Number of new partnerships enacted* *% of days with dangerous heat that had doors open to public* *Number of people attending cooling centers* *Reduction in number of people experiencing heat-related illness*
Describe how your *Resilience Action Plan* will support the desired change. Include relevant details: partnerships, policies, public awareness campaigns, etc. *By setting up partnerships, businesses show prioritization of heat events as a threat to public health, and climate models can produce information that will help determine how many days they need to be open, etc.*

Discussion Point: In some instances, such as applying for large grants, you may need very specific documentation of measures of success. You might not need to provide documentation in every instance, so choose measures of success that appropriately support your needs.

Tip: This exercise also helps you test your assumptions. If you don't test your assumptions, someone else will. Other people are really good at finding problems with your ideas and noting inconsistencies and/or leaps of logic that don't quite make it.

Module 6 — Communication

About Communication: Like any skill, communication is something that can be learned through thoughtful, regular practice. ***Module 6 — Communication*** will help you walk your audience through your vulnerability assessment process from start to finish. You will learn how to structure and discuss your climate vulnerability assessment process, to discuss how you drew conclusions about climate impacts to your community, and to discuss what steps your community might take when implementing resilience actions.

One way to frame this module is to consider communication as conversation. Rather than a one-way street where an assumed expert megaphones an audience to convince them of their point, ***Module 6 — Communication*** will help you practice framing climate information and vulnerability as a shared, flexible, and responsive conversation where participants arrive at a coproduced solution.

Goal of Communication:

- **Communicate your results and processes to your audience**

Module 6 at a Glance:

- **Why Tell a Climate Vulnerability Story?**
- **Parts of Your Climate Data Story (Revisited)**
- **Parts of Your Climate Vulnerability Story**

Why Tell a Climate Vulnerability Story?

"Storytelling [is] not just important for the human mind; it is the human mind."
-EO Wilson

Often we assume facts alone will change the hearts and minds of people, that saying something loud and long enough will convince the audience. But facts alone do not often lead to long-term, meaningful behavioral change. You also need to talk about what ought to be done, to envision a shared set of values to help your community get where it needs to go. The facts are the "what?" Good communication also explores the "so what?"

Storytelling is one way you can begin to answer the "so what?" We humans are naturally attuned to storytelling as a mode of communication and have been telling stories since before we had written language. This "communion of experience" can evoke trust, understanding, and buy-in. It humanizes us and powerfully conveys the things most important to us. You already tell stories all the time in everyday conversation. So, think of storytelling as something you are already good at and need to practice, rather than a new skill you have to learn. And by telling your climate vulnerability story, you can build trust through narrative, an essential step in devising effective resilience actions.

Climate Data Story — a narrative outlining climate facts and impacts specific to your community (the problem)

Climate Vulnerability Story — a narrative that discusses how the *Climate Data Story* (facts and impacts), combined with local knowledge, reveals community vulnerabilities and opportunities to create a more resilient community (the solution)

Elements of Good Storytelling

Good storytelling has two key components: a *complication* (a problem or set of problems) and a *resolution* (or solution or set of solutions) to that initial complication. With this in mind, your presentation to your audience has two key pieces: your ***Climate Data Story*** (the complication and the set up at the beginning of your narrative, aka, your problems), and your ***Climate Vulnerability Story*** (your solutions), which is drawn from the results of your vulnerability assessment.

Start with your ***Climate Data Story***. Then proceed to your ***Climate Vulnerability Story*** where you discuss your decision process and introduce actions that "solve" or work to solve the problems you introduced.

Remember to use exercises completed in ***Module 5 — Understanding Stakeholders*** to help you connect. Feel free to make your story personal. Share your own experience and hopes for change. By humanizing yourself and your motives, you will make the information you're conveying more approachable.

In your story, you'll need to strike a balance between explaining all the details of your problem and providing an appropriate amount of context and information. Too much depressing detail, and you run the risk of paralyzing your audience. Not enough detail, and it might look like you didn't do your homework. Remember that part of your story is to help your audience to understand the issues, AND that you need their support and involvement to help bring about the resilience actions for your community. It might not be apparent where this balance is, so discuss it with your colleagues and use the ***Vulnerability Assessment Table (VAT)***.

Instructions for Communication:

- Step 1. Introduce your ***Climate Data Story.***
- Step 2. Introduce your ***Climate Vulnerability Story.***

Step 1: Start by introducing your ***Climate Data Story*** to your audience. To do this, use the analysis you have already done using ***The Climate Toolbox Workbook***. Detailed instructions for writing climate data stories can be found in ***The Climate Toolbox Workbook Module 2 — Telling Your Climate Data Story***.

Table 7: Parts of Your Climate Data Story is copied from pages 18-20 in ***The Climate Toolbox Workbook*** for your convenience.

Tip: Remember, your goal is to present solutions to your audience. For every problem you present, try to present a solution, or a way to come to a solution. Also, if you need help to get to a solution, this is a great time to crowdsource ideas!

Table 7: Parts of Your Climate Data Story

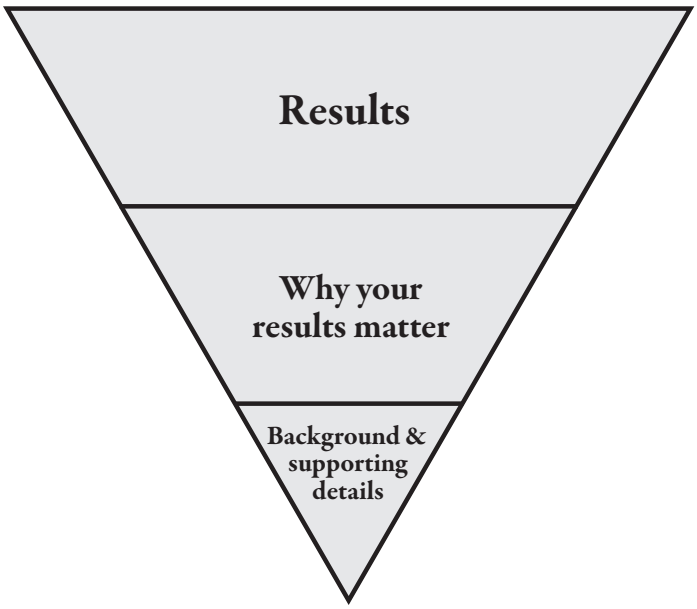
- **Introduce a clear and concise topic:** Begin your ***Climate Data Story*** by introducing a clear topic.
  - **State your take-away message**: In one or two sentences, state your topic and why it is important.
  - **Summarize your topic**: Start your ***Climate Data Story*** with a brief summary of what your audience can expect, including the key elements you will cover.
  - **Describe what your audience can do with the information you present. Include:**
    - Decisions that can be informed by your ***Climate Data Story***
    - Further study and analysis that might be needed
- **Make your story about local issues**:
  - Apply local knowledge and expertise.
  - Use observed historical climate.
  - Add your sense of place.
- **Know your audience:** Tailor your communication to your audience.
- **Structure your climate data story around three broad elements:**
  - Facts
  - Impacts
  - Narrative
- **Results**
- **Describe and cite what you did**

Case Study — Spokane Community Adaptation Project

About this Case Study: Participants in the CIRC Spokane Community Adaptation Project were the first to use ***The Climate Toolbox Workbook*** to write climate data stories, shown below. The example focused on temperature impacts in Spokane. The team performed an in-depth analysis and produced a full report, including figures and discussion around the data. The ***Climate Data Story*** below was written by community members and tells the story of how data projections researched using the Climate Toolbox may impact a local event.

Example Climate Data Story — Bloomsday

Held every year in May, Spokane's Lilac Bloomsday Run (Bloomsday) is a seven-and-a-half-mile run that draws roughly 50,000 participants and raises money for charities. Bloomsday is already experiencing an increase in heat-related health issues. During the May 2018 Bloomsday race, warmer-than-normal temperatures likely led to an increase in heat-related illnesses and an increase in the dropout rate for the race. Heat-related illnesses will likely be a factor during future Bloomsdays. A comparison between recorded historical temperatures and projected future temperatures shows how. The first Bloomsday run was held in 1977. The mean maximum daily temperature for May for the race's early years (defined here as 1971–2000) was roughly 68°F. By the end of this century (2081–2099), mean maximum daily temperature for May is projected to be 76°F under the high emissions scenario (RCP 8.5), an increase of over 8°F. The increase in temperature strongly suggests the likelihood of a corresponding increase in heat-related health issues during Bloomsday.



Tip: "Invert the pyramid" Often in science and policy, we give a lot of background, describe our methods, share our findings, and then provide a brief wrap-up on the significance of our findings. Storytelling requires that you invert that approach: Tell the most important findings of your work first, why those findings matter and how they relate to your audience, and then, time permitting, a little bit about how you got there (the methods). If your stakeholders want to go into methodology, they'll let you know!

Step 2: Introduce your ***Climate Vulnerability Story*** to your audience. To do this, use the format your audience is familiar with from your ***Climate Data Story***. Use ***Table 8: Parts of Your Climate Vulnerability Story*** below to outline the parts of your ***Climate Vulnerability Story***.

Table 8: Parts of Your Climate Vulnerability Story

- **Introduce a clear and concise topic:** Begin your ***Climate Vulnerability Story*** by restating the key findings of your ***Climate Data Story***. This is your complication, or the problem that you plan to address.
    - Remember to include the "why."
- **State your recommended resilience actions:** State your solutions right away, and then backtrack and explain how you got there.
- **Explain your process: Be transparent:** Explain how you arrived at your resilience actions:
    - Step 1: Explain your inputs to the ***Vulnerability Assessment Table (VAT)***.
        - Explain the data. Discuss:
            - Climate data
            - Non-climate data
        - Explain how you made your judgment calls around:
            - Likelihoods
            - Consequences
            - Risks
        - Use your notes to explain how you made judgement calls around your community's adaptive capacity.
    - Step 2: Explain your outputs from the VAT.
        - Using outputs from the VAT, explain how you made choices around and prioritized resilience strategies for your community.
- **Discuss your goals, action plans, and measures of success:** (Explain not only what should be done but also that it can be done.)
    - Explain how you set your goals (the components of your SMART goal).
    - Explain how you chose the recommended action plans (by brainstorming then assessing which ones are the best/most feasible).
    - Explain how you will measure your impact on the community (Measures of Success).
- **Emphasize your audience's agency:** At this point you have addressed both your problem (your ***Climate Data Story***) and your solution (your ***Climate Vulnerability Story***). Make it clear that your solution — even if it is a partial solution — means that your audience can act. Ultimately your goal is to get your audience on board with your resilience actions. They should feel empowered, not helpless, to act.

Tip: Be transparent about data, but don't bore your audience. This can be tricky. Explain as much of your process as needed to present a defensible argument. A long list of points to remember dilutes your message and allows people to cherry-pick their favorite ideas. In this instance, you are the one forming the message, so focus on just a few ideas at a time. You can always refer back to or share the complete document explaining your process and your results, such as a completed vulnerability assessment.

The Climate Resilience Series Final Thoughts

Throughout ***The Climate Resilience Workbook*** series, you've spent time learning how to use climate tools to query global climate data sets and apply the findings to events impacting your local community. You've learned methods to combine those quantitative results with your own judgement and reasoning to develop a robust vulnerability assessment that reflects the collective knowledge and conclusions of your community. And finally, you've used this body of knowledge to develop action plans relevant to your community while learning to connect all this information back to your stakeholders with an engaging approach through storytelling. By using a systematic approach that is grounded in data, you join a wide network of climate resilience professionals. We hope that you join them!

A few places to get you started:

- **Climate Adaptation Knowledge Exchange** cakex.org/
- **Drought Early Warning System** drought.gov/drought/regions/dews
- **American Society of Adaptation Professionals** adaptationprofessionals.org/
- **Climate.gov science & information for a climate-smart nation** climate.gov/news-features

Appendix 6 — Blank Resilience Actions Worksheets

Worksheet 10: Stakeholder Inventory

Category	Description	Organizations/People

Worksheet 11: Stakeholder Interest and Impact Matrix

High Interest/Low Impact	High Interest/High Impact
Low Interest/Low Impact	Low Interest/High Impact

Worksheet 12: Developing Engagement Strategies

High Interest/Low Impact	High Interest/High Impact
Low Interest/Low Impact	Low Interest/High Impact

Worksheet 13: Setting SMART Goals

SMART Goals	
Specific — Use specific verbs that describe observable changes in the outcome as a result of the project.	
Measurable — Add a numerical target to the objective — something that can be counted.	
Audience- or issue-directed — Focus the objective on changes that will occur within the audience, or to the issue being addressed.	
Realistic and ambitious — What is the plausible change within the time frame?	
Time-bound — Set a time limit for achieving the objective	
Goal Statement: By (T), (M), of the (A) will be able to (S) (R).	

Worksheet 14: Generating Strategies

Goal	Strategy	Cost (H/M/L)	Likelihood of Success (H/M/L)

Worksheet 15: Planning Actions

Strategy	Actions	Leaders/ Partners	Measures of Success	Funding/ Costs	Management Mechanisms (Existing or Needed)	Timeline

Worksheet 16: Measures of Success

State *Resilience Action Plan*:
Describe your SMART goal. Your goal is the change you want to see. Include details: who, what, and when, etc.
Describe how you will measure that your change happened. Include metrics: people impacted, dollars saved, viable businesses, etc.
Describe how your *Resilience Action Plan* will support the desired change. Include relevant details: partnerships, policies, public awareness campaigns, etc.

References

CEC 2017. *North American Marine Protected Area Rapid Vulnerability Assessment Tool*. Montreal, Canada: Commission for Environmental Cooperation. 30pp.

Mooney, Ann, Nathan Gilles, Katherine Hegewisch, John Abatzoglou, and Meghan Dalton. "*The Northwest Climate Toolbox Workbook: Discovering and applying your climate data story for climate adaptation planning*," Corvallis, Oregon: The Pacific Northwest Climate Impacts Research Consortium (CIRC), College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, 2019.

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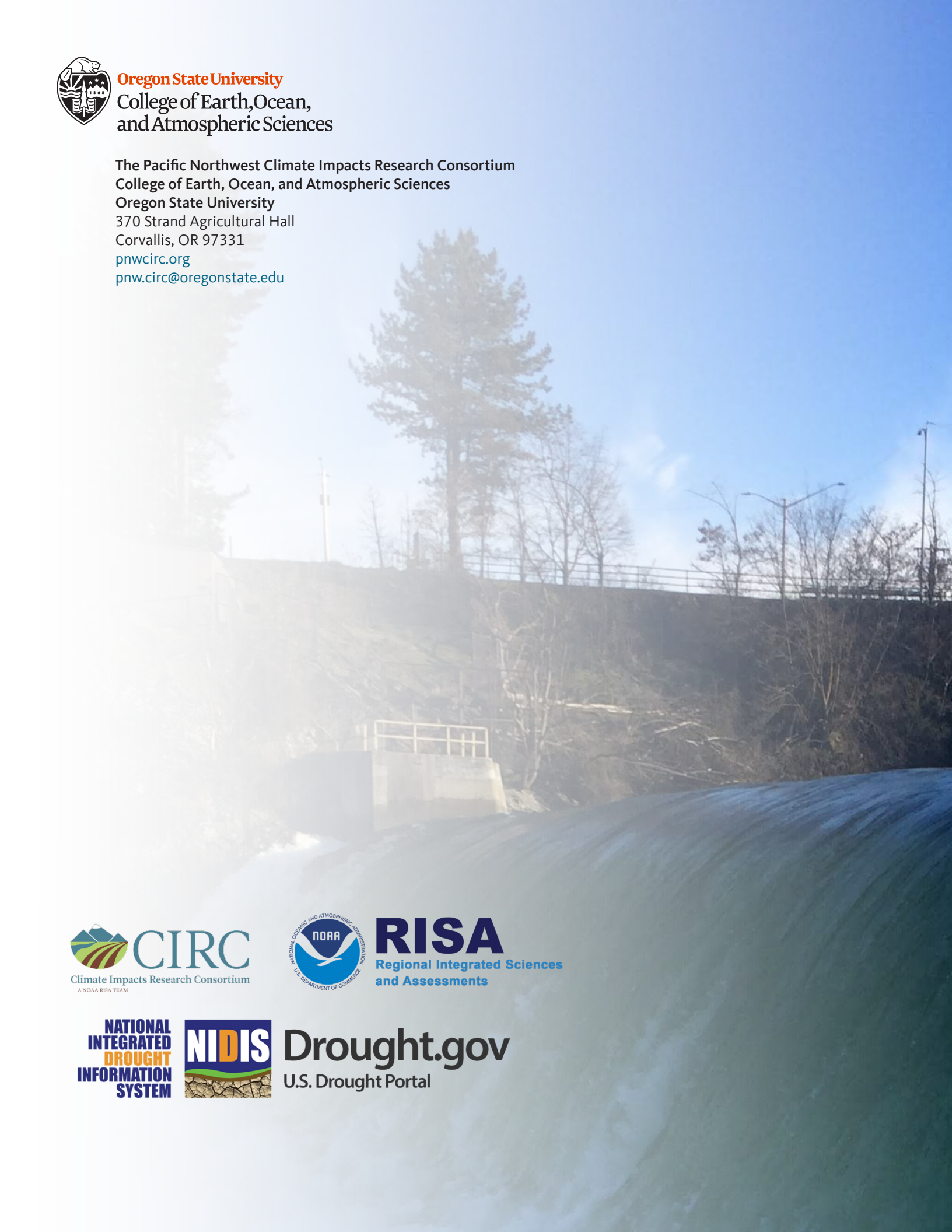
National Oceanic and Atmospheric Administration (NOAA), Coastal Services Center. 2013. *Introduction to Stakeholder Participation.* NOAA Coastal Services Center. Charleston, South Carolina

National Oceanic and Atmospheric Administration (NOAA), Office for Coastal Management. Digital Coast. *Writing SMART Objectives.* NOAA Office for Coastal Management, South Carolina (https://coast.noaa.gov/digitalcoast/training/writing-smart.html).

BEST TIP EVER: You're talking about difficult and potentially scary information. Be as clear and concise as you can, tailor your message to your audience, and defend your arguments without swamping people with extraneous "stuff."

"If I had more time, I would have written you a shorter letter." — Mark Twain, or Woodrow Wilson, or Blaise Pascal, or Benjamin Franklin, or Winston Churchill, The Notorious RBG (unverified), or apocryphal to some if not to all. Many great thinkers value brevity, so let's do it too. Just like tweeting, but better.

Notes



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