YOUTH ENGAGING IN THE SCIENCE OF RESILIENCE
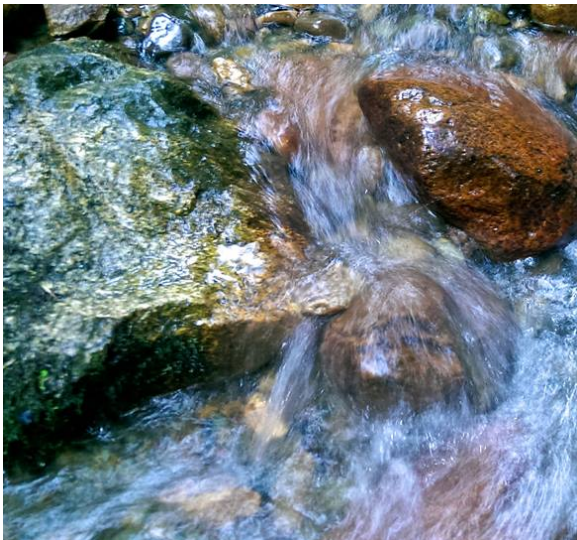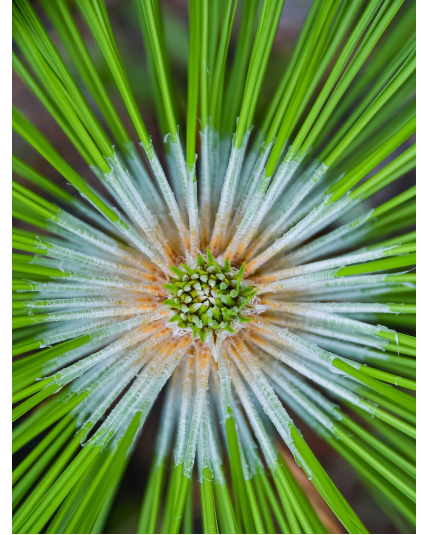
Youth Climate Action Guidebook

UNC | INSTITUTE FOR THE ENVIRONMENT

Center for PUBLIC Engagement with SCIENCE

NORTH CAROLINA Museum of Natural Sciences

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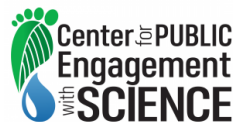
Introduction to Resilience-Building Action Projects

What is climate resilience?
The U.S. Climate Resilience Toolkit defines climate resilience as "the capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption". Climate resilience can happen on many scales (local to global) and can include anything from large scale habitat restoration to city planning to making homes more flood-resilient.

What is a resilience-building action project?
These projects also consider vulnerable populations that experience disproportionate impacts from climate hazards, such as children, the elderly, people experiencing homelessness, low-income communities of color, and coastal communities. From assessing climate data to practicing your leadership skills, your action project will help translate your knowledge about climate change in your community into real-world solutions.

Purpose of the Guidebook
This guidebook will help you plan your action project. The initial brainstorm pages will help you consider where to start, and the Action Project Framework will navigate you through steps to get to your destination: the completion of your project!

Getting Started

Part 1: Personal Strengths & Background

Think about a time that you were part of a successful project in your school, religious group, sports team, club, etc. What role did you play and how did you contribute? What made the project successful?

What are your strengths (ie. leading, problem solving, brainstorming, organizing, etc.)? How can you use your strengths in a project setting?

Optional: Take the [16Types quiz](). What are your strengths/leadership qualities according to the results? Do you agree?

Part 2: Community Needs

Take a moment to think about the community you live in. What are community issues that impact you personally?

What are some issues that are impacting others in your community?

Climate change has economic, social and environmental impacts. How might the issues you identified be related to climate change?
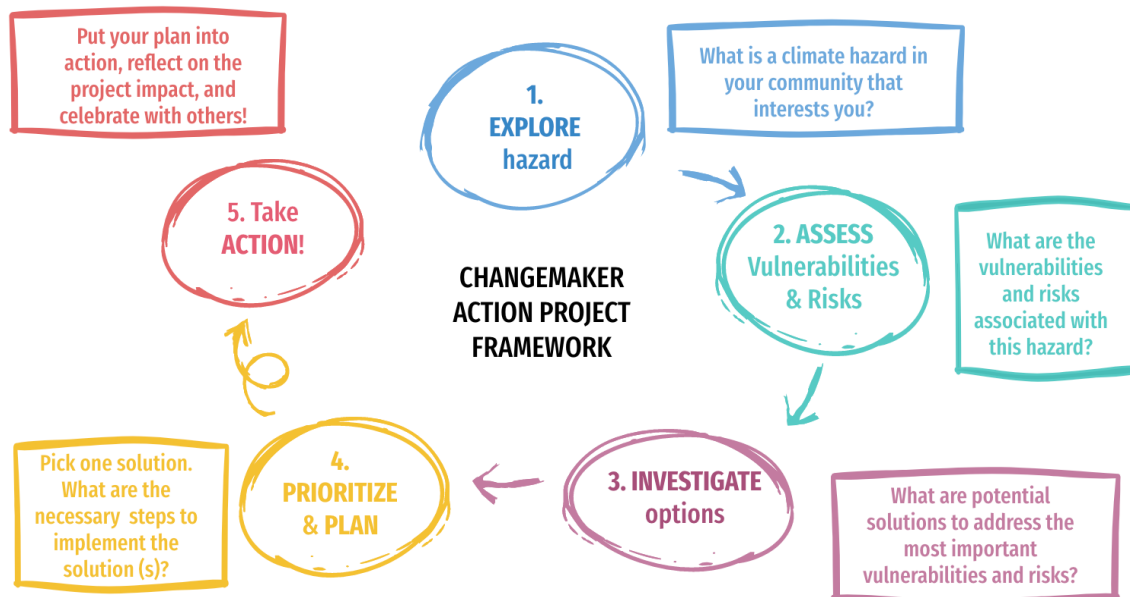
A successful project combines your personal strengths and interests with the needs of your community. Using your answers from the above questions brainstorm some potential project topics.

Successful Action
Projects

What are my strengths?

What does my community need?

Changemaker Action Project Framework

(Adapted from the US Climate Resilience Toolkit)

The Changemaker Action Project Framework includes steps and guiding questions meant to help direct and inspire your action project. The guidebook will take you through a detailed look at each of these steps.

Put your plan into action, reflect on the project impact, and celebrate with others!

5. Take ACTION!

1. EXPLORE hazard

What is a climate hazard in your community that interests you?

CHANGEMAKER ACTION PROJECT FRAMEWORK

2. ASSESS Vulnerabilities & Risks

What are the vulnerabilities and risks associated with this hazard?

Pick one solution. What are the necessary steps to implement the solution (s)?

4. PRIORITIZE & PLAN

3. INVESTIGATE options

What are potential solutions to address the most important vulnerabilities and risks?

Using This Framework

- You **may start later than step 1** or **complete these steps out of order**. Every project is different!
- **This framework will not work perfectly for all of your projects**. This is just one way to break down the steps to make brainstorming and planning easier for you.
- This framework is particularly useful to help you consider **how your action project will build climate resilience**.
- **If you are unsure of a project topic or direction,** use this framework to help get started.
- We recommend that you **return to this framework** throughout your project's brainstorming, planning, and implementation phases.

1. EXPLORE a hazard

OVERVIEW
In this step, you will explore climate hazards in your community and then select one to focus on for your action project. In order to identify local climate hazards, you will need to do some **preliminary research about your community**.

"Explore" Strategies
- Examine maps and existing data relevant to the climate hazards of interest
- Explore climate-related news stories in North Carolina/ Southeast
- Investigate past and projected climate trends
- Select one of the hazards you investigated to focus on for your project.

Suggested Tools

General
- [North Carolina Climate Science Report](#) Plain Language Summary
- [Effects of Climate Change on the Southeast](#) assessment (NC State)
- [Climate Explorer tool](#) (U.S. Climate Resilience Toolkit)
- [Climate Extremes](#) (Convergence, UNC- Chapel Hill)

Extreme Heat
- [Climate Toolbox](#) (variable: temperature)
  Suggestion: examine changes in mean temperature by comparing different time periods
- NASA Vital Signs: [Global Temperature](#)

Extreme Rainfall
- [Climate Toolbox](#) (variable: precipitation)
  Suggestion: compare annual precipitation for different time periods

Sea Level Rise
- Climate Central's [Surging Seas tool](#)
  Suggestion: examine the impact of sea level rise by changing the number of feet on the measuring tape

- NASA Vital Signs: [Sea Level](#)

After exploring the different climate hazards impacting your community, select ONE you might like to explore further in your action project.

- ❏ Extreme Heat
- ❏ Extreme Rainfall/ Flooding
- ❏ Sea Level Rise
- ❏ Wildfires
- ❏ Drought
- ❏ Other:_____

If other, explain how the hazard you selected is related to human-caused climate change.
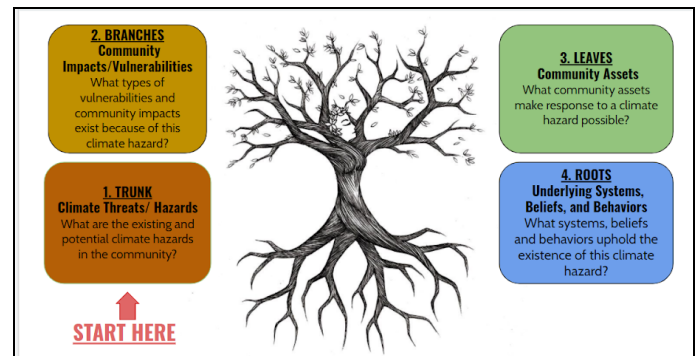
OVERVIEW

In this step, you will identify and assess the vulnerabilities and risks associated with your selected climate hazard.

Vulnerabilities are particular areas or populations who are more susceptible to the negative impacts associated with a climate hazard.

Risks are potential community dangers associated with a climate hazard.

"Assess" Strategies

- Use maps and available data to identify areas and populations vulnerable to the climate hazard you selected
- Identify factors that contribute to risk
- Explore experience of impacted individuals (news stories, interviews)
- Complete a Climate Tree diagram (see below)

Suggested Resources and Activities

- Complete the Climate Tree activity (module 5)
- Conduct an interview with an elder in your community
- Explore the [Climate Effects on Health](#) page (Centers for Disease Control and Prevention)
- Read the [Executive Summary](#) of the N.C. Climate Risk and Assessment Plan
- Find out if your town or county of residence has a climate resilience, hazard mitigation or disaster preparedness plan

Consider risks and vulnerabilities associated with your chosen climate hazard:

What **health** risks and vulnerabilities are associated with your climate hazard?

What risks and vulnerabilities have **people in your community** already experienced because of your climate hazard?

What **other risks and vulnerabilities** might be associated with your climate hazard and are worth exploring further?

3. INVESTIGATE options

OVERVIEW

In this step, you will begin to identify potential solutions to address the vulnerabilities and risks associated with your climate hazard.

A **Community asset is** any existing feature/resource that could contribute to your community's response to a climate hazard. This can be a person, an organization, an ecological feature, etc. Community assets are important to identify because they can be combined and leveraged during action projects to create **solutions**.

"Investigate" Strategies

- Compile a list of existing assets in your community, such as cooling centers, community gardens, urban forests, and affordable health centers that are contributing to your community's ability to address this hazard

Tools and Activities

- Check out these case studies from the U.S. Climate Resilience Toolkit
- Complete the Identifying Community Assets worksheet on the following page
- Use Google Maps to create a visual map of your community assets

Identifying Community Assets

Community assets are existing resources that can help your community improve its response to climate change. This can be a person, an organization, an ecological feature, etc. You can leverage community assets to develop solutions to climate hazards, making them important considerations for your action project. Use the table below to identify community assets that may benefit your action project.

Climate Hazard Focus for Action Project _____

Asset	Type of Asset (person, organization, place, etc.)	Potential benefit to action project	How to access (contact person, land manager, etc.)
Ex: Trees Durham	Organization	Plant shade trees that reduce urban heat island effects	Shaundrelle Todd (Executive Director)

Overview

Using the information you gathered from previous steps along with your own interests, skills and expertise, you will decide on the topic/pick a solution to pursue for your action project and make a plan for implementing it.

"Prioritize & Plan" Strategies

- Investigate what other communities are doing to address your climate hazard using the U.S. Climate Resilience Toolkit Case Studies

Create a list of potential solutions that could address your climate hazard.
List existing solutions from other communities and ones that you have brainstormed.

1.

2.

3.

4.

5.

From this list, which solution do you like best and is most realistic for you to implement (this is your action project!):

Why have you selected this solution?

Plan: Identifying Project Type

Every action project will look different depending on the focus area, scope and audience. Read the descriptions below and check the box(es) of the project types that best describe your action project.

❏ **Data-based project:** these projects are centered around collecting and/or communicating climate data. You can collect your own data, contribute to an existing project such as a citizen science initiative, or use existing data to tell a story.

> *Examples:* Use a personal air quality sensor to collect air quality data on your school campus and write an article for your school newspaper reporting your findings; document the impact of a flood event in your community using the ISeeChange app and write a reflection on your experience that includes your observations

❏ **Education-based Project:** these projects help raise awareness about a particular issue through involving the public. They can range from leading a one-time event like a workshop to designing social media posts to hosting a virtual webinar about a particular climate hazard.

> *Examples:* Create a virtual Climate Summit for students at your school featuring local youth taking action in their communities; get your school environmental club to start a Project Drawdown team; organize a youth-led climate strike

❏ **Service-based project:** these projects involve coordinating a one-time or ongoing effort that directly benefits a particular place or population. These projects tend to be very visual (you can see the difference from start to finish) and involve organizing volunteers to help complete a task.

> *Examples:* work with your local government to help residents install rain barrels; remove invasive species from a local park; coordinate a tree planting session; volunteer at a community garden

❏ **Communication project:** While communicating about your action project is a step involved in all project types, it can also be a project in itself. These projects use a communication method such as writing, video, audio, or art to broadcast a message about a particular climate hazard.

> *Examples:* create a website or social media campaign about a particular climate issue in your community such as extreme heat; interview community members about their experiences with a climate hazard (such as a flood) for a podcast; create a Climate Story page.

Plan: Identifying Resilience Building Elements

A key component of your action project is to identify how your project represents a resilient solution to an issue arising from one or more climate impacts in your community. Climate resilient solutions can take many forms. Examine the descriptions below and check which apply based on the solution you will be implementing through your action project.

❏ **Climate Mitigation:** Mitigation strategies **reduce or prevent emissions of greenhouse gases** like CO_2.

> *Examples:* using renewable energy, conserving energy, taking public transportation, walking or biking instead of driving, composting

❏ **Climate Adaptation:** Adaptation strategies **reduce society's vulnerability to climate impacts** through harm reduction (reactive) or by preparing for future climate impacts (proactive).

> *Example:* opening cooling or shading stations for residents on extreme heat days (reactive); upgrading stormwater infrastructure to prepare for extreme rainfall events (proactive)

❏ **Co-Benefits:** co-benefits are resilience strategies that simultaneously address multiple climate hazards.

> *Example*: urban forests provide co-benefits to communities by improving air quality, absorbing CO_2, providing shade, slowing stormwater runoff, and improving water quality

❏ **Community Capacity Building:** Recognizing the imperative of **social inclusion** as well as the critical role that **networks** among individuals and institutions play in conveying information and mutual support.

> *Example:* a farmer's market doubles food stamp dollars for shoppers using food stamps and advertises this information at community hubs in multiple languages

❏ **Other**-please specify: _____

Below, please explain how your action project will build resilience in your community.

Plan: SMART Goals

In this section you will outline the top 3 goals for your proposed project. These are the steps that come to mind first as being the most pertinent to address. In other words, what are the intended outcomes of your project? What do you need to accomplish in order to consider your project a success?
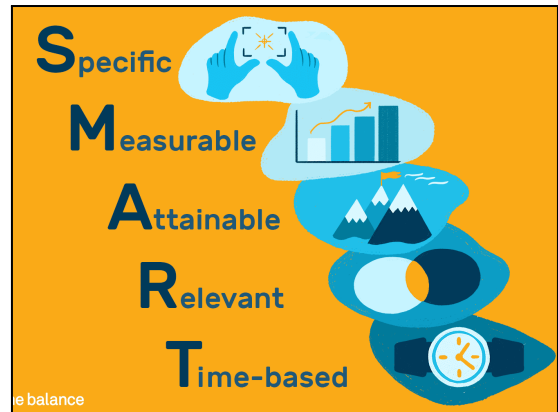
SMART goals are:

Specific: **What** do I want to accomplish? **Why** is this goal important?

Measurable: **How** will I know when the goal is met?

Attainable: How realistic is this goal given my other time commitments, project constraints, etc.?

Relevant: Does accomplishing this goal contribute to the overall purpose of this project?

Time-based: When do I need to accomplish this goal?

Example SMART goals for starting a school community garden:

Example goal 1: *I will get the permission of my school's principal and science teacher before moving forward with any planning, ideally by March 10th 2017.*

Example goal 2: *I will share my plan with my school's environmental club via PowerPoint presentation by May 2017 so they can help support me as "allies" with this plan.*

List your SMART goals below:

Goal #1   **Completion date:**

Goal #2   **Completion date:**

Goal #3   **Completion date:**

Plan: Key Players

In this section, you will identify **Key Players** who need to be involved for permission, support, or because they are impacted by your project.

Whose permission do you need?

Authorities-authorities are people you need **approval/permission** from in order to move forward with or complete your project.

List the names and descriptions of relevant authorities:

NAME OF AUTHORITIES	RELATIONSHIP TO YOU	ROLE IN PROJECT	HOW WILL YOU CONTACT?

Permits and Permissions necessary to complete your project: *If you will need permissions or permits, what is being done to obtain them, and when will they be issued?*

Whose support do you need?

Allies-your allies are people who can support you in implementing your project. These can be friends, family, teachers, students at your school, volunteers that you will recruit to help, etc. Allies are people that are vital to the successful completion of your project.

List the names and descriptions of your allies:

NAME OF ALLIES	RELATIONSHIP TO YOU	ROLE IN PROJECT	HOW WILL YOU CONTACT?

Who is impacted?

Audience-your audience is who your project will impact/ who your project will benefit.

List the names and descriptions of your audience:

NAME OF AUDIENCE	RELATIONSHIP TO YOU	ROLE IN PROJECT	HOW WILL YOU CONTACT?

Plan: Resources (If Applicable)

In this section, you will identify the specific materials and tools you might need in order to complete your project. **Please include in this list any materials/tools you already have access to.**

What materials will you need?

Materials are things that become part of the finished project, such as lumber, nails, and paint. List each item, its description, quantity, unit cost, total cost, and source.

Item	Description	Quantity	Unit Cost (if you need to purchase)	Total cost (if you need to purchase)	Source
Ex. Plywood	*¾",4'x8', B-C Interior Grade*	*3 sheets*	*$20.00*	*$60.00*	*ABC Hardware donation*

Plan: Costs (If Applicable)

In this section, you will consider the potential costs of any materials or other expenses associated with your action project.

Item	Projected Cost
Grand Total:	

Does your project have a funding component? If yes, describe how you will raise the funds (grant, campaign, crowdfund, donations, etc.)

*Type of fundraising:*

Goal amount:

Total Revenue (Subtract the Grand Total from the expenses above):

Plan: Set a Timeline

In this section you will outline **a timeline with benchmarks for completion dates of specific tasks**. *Start by adding in your SMART goals, and then fill in any other things you may need to accomplish between these (ie. contacting key players, permissions, etc.)*

| STAGE 01 | STAGE 02 | STAGE 03 | STAGE 04 | STAGE 05 |
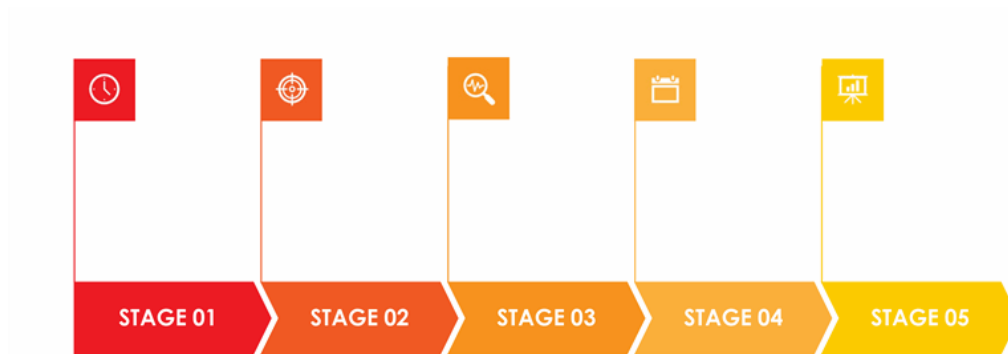
Consider working backwards: When is your projected project end date? What will you have accomplished 1 month from the end date? 2 months from the end date? 3 months from the end date? Think about when you want to reach out to contacts, have materials made or purchased, host an educational event, etc.

Plan: Anticipate Challenges and Barriers

*In this section, you will identify present or upcoming **challenges** or **barriers** to your project as well as ideas for how you might overcome them. Consider:*

- *What are my worries/ fears about the project up until this point?*
- *What is preventing me from sticking to my SMART goals and timeline? How am I getting stuck?*
- *Is there anyone or anything challenging what I am doing?*

Please complete the table below accordingly.

CHALLENGE/BARRIER	HOW I CAN OVERCOME

Plan: Project Longevity

In this section, you will consider the future of your project beyond its initial completion.

Do you intend for your project to carry on if/when you leave your community? Will you continue to be involved or not?

What specific actions, if any, are you taking to ensure your project continues (i.e. involving younger students at your school, doing it with an environmental club, etc.)?

Overview

This is where you put the steps into action and implement your project. During the Take Action section, it is also important to consider how you will communicate about your project to others, whether they be community members or a broader audience. Then it is time to reflect on and celebrate your accomplishments!

"Action" Strategies

Communication and Documentation:

- Create a [press release](#) to get coverage of your action project and Invite media teams such as local news outlets, school newspaper, etc. to cover your action project as a story.

- Advertise your action project via e-mail, social media, and word of mouth

- Designate someone to take photos/ video throughout your project implementation

- Send personal thank-yous to volunteers, peers, mentors and community partners who helped with your project

Sharing your Climate Story

- Submit your climate story to the [Yale Climate Connections](#)

- Submit your climate story to [Climate Generation](#)

- Submit your climate story to [Connect4Climate](#)

Appendix A: Action Project Framework Overview Table

Use the table below to map out your progress in one place as you advance through the Guidebook.

1. EXPLORE	2. ASSESS	3. INVESTIGATE	4. PRIORITIZE & PLAN	5. Take ACTION!