



Adapting to Climate Change

Competency

Educators will identify how climate change impacts their school and local communities. They will also advocate for and take action to adapt and build resilience.

Key Method

Educators will learn about climate change and how it impacts education and students. They will also learn how to plan for adaptations within their school that can help their local community deal effectively with impacts of climate change.

Method Components

What Are the Impacts of Climate Change?

As climate change accelerates, the impact on communities will increase.

Understanding the impact of climate change is the first step toward adapting to the issues that will affect each community. Changes include:

- Increase in temperature;
- Increase in severity and frequency of extreme weather events;
- Increase in damages to communities; and
- Increase in trauma due to loss of security, safety, and life.

What Is Society's Role in Adapting to Climate Change?

Adapting to climate change involves taking actions to minimize its negative impacts on society and the environment.

These are some ways that we can adapt to climate change:

- **Increase resilience:** Building resilience to climate change involves developing infrastructure and systems that can withstand extreme weather events, such as floods, hurricanes, wildfires, and drought. This can include building sea walls, improving water management systems, and developing drought-resistant crops.
- **Manage risks:** Identifying and managing risks associated with climate change is important to reduce the negative impacts on communities and ecosystems. This can involve developing early warning systems for extreme weather events, protecting critical infrastructure, and implementing land use planning that considers potential risks.
- **Enhance preparedness:** Preparing for climate change involves developing emergency plans and response strategies to deal with extreme weather events. This can include improving evacuation plans, developing communication networks, and providing emergency supplies and services.
- **Promote ecosystem health:** Ecosystems are important for providing a range of services, including carbon sequestration, water filtration, and habitat for wildlife. Protecting and restoring ecosystems can increase their resilience to climate change and provide benefits to human communities.
- **Invest in research and technology:** Investing in research and technology can help develop new ways to adapt to climate change, such as developing new crop varieties, improving weather forecasting, and designing new infrastructure to withstand extreme weather events.
- **Build community engagement:** Building community engagement and participation in climate adaptation efforts can help promote a shared sense of responsibility and increase the effectiveness of adaptation strategies. This can involve educating communities about the risks of climate change, developing partnerships with community organizations, and providing opportunities for community participation in decision-making processes.

Adapting to climate change is an ongoing process that requires collaboration and action at all levels, from local communities to national governments. By taking action to adapt to climate change, we can minimize its negative impacts and build a more resilient and sustainable future.

What Are the Impacts of Climate Change on the School Community?

Climate change has already had an impact on the education sector. These impacts will be exacerbated in the future and will impact our students' economic future,

mental and physical well-being, and potential careers. But the education sector can prepare for the future and impact by creating an action plan.

Climate change will bring more frequent and intense extreme weather, including flooding, hurricanes, wildfires, and high heat. These events can cause schools to close, disrupting student learning and school-based support.

School districts that plan ahead for extreme weather by identifying local climate risks, creating plans for disruptions to learning, supporting the mental health of students, transitioning to green school yards, and serving as sources of energy and food during disaster will be more resilient to the impacts of climate change and can better support students and families.

What Is the Impact on Learning?

The impact of climate change on students, families, communities, and schools has been devastating. Some examples include:

- Destruction of infrastructure (roads, power supply) or loss of use due to heat or snow days
- Loss of buildings, homes, security
- Loss of loved ones, caregivers
- Poor health due to air pollution, mold from water damage, increased vector-borne diseases, and more
- Increase in food insecurity

What Is the Role of Schools in Adapting to Climate Impacts?

As the central hub of a community, schools can support community members as they make adaptations to climate impacts. Here are some examples:

- **Emergency plans:** Schools can develop emergency plans to deal with extreme weather events, such as floods, hurricanes, wildfires, and high heat. These plans should include evacuation procedures, communication networks, online learning plans, and emergency supplies. Schools can provide students with support in case of trauma/SEL systems and have plans in place in case of disaster, including plans to support a potential influx of students due to destruction elsewhere.
- **Sustainable infrastructure:** Schools can invest in sustainable infrastructure—such as green roofs, rain gardens, and permeable pavements—to reduce stormwater runoff, minimize the risk of flooding, and reduce heat.

- **Sustainable transportation:** Schools can promote sustainable transportation options—such as walking, biking, or public transportation—to reduce the use of fossil fuels and minimize air pollution.
- **Curriculum integration:** Schools can integrate climate change and sustainability into their curriculum to educate students about the impacts of climate change and inspire them to act.
- **Community engagement:** Schools can engage with the wider community to build partnerships and collaborate on climate adaptation efforts. This can involve participating in community events, hosting educational workshops, and promoting community involvement in school sustainability initiatives.

What Actions Can Educators Take?

Educators can serve as ambassadors and leaders for their school community, acting as a liaison between community members and the resources available for the community. Here are some of the ways that educators can lead their community in adaptations:

- **Plan for climate risk:** Educators should recognize that every school and surrounding areas have different needs, which in turn, require different adaptations to climate change. Educators can determine the possible climate risks in their community; identify and evaluate existing emergency preparedness plans and climate adaptation plans, providing examples of where adaptations to climate change have been effective; and create vision boards for the future and engage in reverse planning.
- **Find local resources:** Educators can help determine the initiatives that are currently happening in their district and make recommendations for improvements. They can also identify potential resources for climate adaptation at the local, state, and federal levels.
- **Collaborate with their community to build and adapt:** Educators can reach out to local businesses, local government, community members, parents, and students to support their efforts. By determining the role of policy in the decisions they want to make, educators can advocate for the policies their community needs to adapt.

Supporting Rationale and Research

K12 Climate Action Commission. (2021). K12 Climate Action Plan 2021. The Aspen Institute: Washington, DC.

<https://www.thisisplaneted.org/img/K12-ClimateActionPlan-Complete-Screen.pdf>

Agrawal-Hardin, N., & Green, M. (October 10, 2022). "Why education must lead in addressing climate change." The Hechinger Report. Retrieved from:

<https://hechingerreport.org/student-voices-why-education-must-lead-in-addressing-climate-change/>

Akopian, N., Faggert, M., & Schifter, L. (2022). K12 Education and Climate Provisions in the Inflation Reduction Act. The Aspen Institute: Washington, DC. Retrieved from:

<https://www.thisisplaneted.org/blog/school-climate-provisions-in-the-inflation-reduction-act>

Katz, E., Neuberger, J., & Schifter, L. (2022). Education and Climate Provisions in the Infrastructure Investment and Jobs Act. The Aspen Institute: Washington, DC.

Retrieved from: <https://www.thisisplaneted.org/blog/education-and-climate-ijja>

Katz, E., Schifter, L. & La Pinta, A. (2020). A State Policy Landscape: K12 Climate Action. The Aspen Institute: Washington, DC. Retrieved from:

<https://www.thisisplaneted.org/blog/state-policy-landscape-2020>

Resources

Resources: Climate Change and the Environment

[Adaptation and Resilience](#)

[CDC: Climate Change and Environmental Health Data](#)

[Climate Change Education Hub: SubjectToClimate](#)

[Climate Literacy: The Essential Principles of Climate Science](#)

[Climate Solutions 101 | Project Drawdown](#)

[New Jersey Climate Change Standards](#)

[Probable Futures website](#)

[Questions to Help You Start Taking Action](#)

[Research and resources from the Harvard Center for Climate Health and the Global Environment](#)

[Supporting young people with climate anxiety: mitigation, adaptation, and resilience](#)

[United Nations: What Is Climate Change?](#)

[Yale Program on Climate Change Communication](#)

Videos

[CDC: Climate Change and Your Health](#)

[The Most Important Thing You Can Do to Fight Climate Change: Talk About it.](#)

Local Adaptations

[NOAA: Climate Data Online](#)

Collaborating with Your Community to Build and Adapt

[Creating a School Community](#)

Action Plans

[Aspen Institute: K12 Climate Action Plan](#)

[Guide to Starting a School Garden](#)

[How to Start a Food Pantry](#)

[How to Write an Action Plan \(With Template and Example\) | Indeed.com](#)

[Template for Action Plan](#)

[Writing an Action Plan](#)

Submission Guidelines & Evaluation Criteria

To earn this micro-credential, you must receive a passing score in Parts 1 and 3 and be proficient in all components in Part 2.

Part 1. Overview Questions (Provides Context)

(500-750 words)

Do not include any information that will make you identifiable to your reviewers.

Please answer all of the following questions:

1. Describe and provide supporting details on the impact of climate change on your community.
2. Describe the needs of your students, district, and community based on the impacts of climate change.
3. What systems, structures, or personnel does your district have to help adapt to climate change?

Passing:

All three questions are answered completely and include details.

Part 2. Work Examples/Artifacts/Evidence

To earn this micro-credential, please submit the following four artifacts as evidence of your learning. See the rubrics for the passing indicators. Combine all documents into one PDF with links, where needed. Then upload to the reviewer.

Note: There are two options for this section of the micro-credential. Option 1 is for educators to complete without students. Option 2 is for educators to complete in their classroom while working with students. There are two separate rubrics. Please indicate at the top of your submission which option you chose. Be sure to follow the correct rubric.

Do not include any information that will make you or your students identifiable to your reviewers.

Option 1: (without students)

Artifact 1: Select a Problem

Examine the needs of your school community and select one problem, which, if adapted, would have an impact on preparing the community for climate change. Describe the problem you will address. Provide references for the current state for your organization. Write an essay or create a presentation that identifies and discusses the problem for which you will solve. It should include:

- A statement of the problem;

- The current relevant infrastructure;
- The current system or procedures that are creating or adding to the problem; and
- References for the information you used.

Artifact 2: Set an Ideal Goal

Create an action plan to fix this problem for your future community. In the action plan, describe how this will demonstrate adaptation to the problem previously defined. The action plan should include short-term and long-term goals that can be accomplished in three to five years.

Utilize the below resources to complete Artifact 2:

- [How to write an action plan?](#)
- [Template for Action Plan](#) (pdf)
- [Template for Action Plan](#) (copy Google doc)

Artifact 3: Identify Steps You Can Take Today

Select one of the short-term goals. Create an infographic, essay, or presentation that explains the steps you or your site will take to prepare and equip your school to serve the changing needs of your community.

It should include:

- The people or organizations you will need to involve;
- The resources necessary to make those changes/adaptations;
- A description of how these changes would help your school adapt; and
- What you hope for your school.

Artifact 4: Present to an Audience

Create a presentation, speech, poster, or trifold brochure to share your project with an audience. Present your project to a select group (e.g., your coworkers, site leader, board of education, or superintendent). Write a reflection that includes:

- A description of the group you worked with on the project;
- The audience's response and feedback; and
- Next steps in your project.

Option 2: (with students)

Artifact 1: Select a Problem

Create a classroom project that is aligned with your state standards or will inform students about the role schools can play during a crisis, including being a trendsetter in its response to climate change.

As a class, discuss the impact of climate change. Generate a list of climate change issues that currently or may impact your community. Describe the problem that is most likely to affect your community and will need adaptations to fit the needs of your future community.

With your class, create a three-column chart that captures the information from your classroom discussion or lesson (see example below).

Climate Change Concern	Anticipated Community Change and Impact	Possible Adaptation
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Upload a digital chart or an image if created on chart paper. Be sure to state the problem that your class plans to adapt.

Artifact 2: Draft a Utopian Plan

Have student teams develop a utopian solution or plan for a future community adaptation associated with the effects of climate change. The students' plan or model should include:

- The impact on the community;
- At least one way that the community can adapt; and
- An explanation of how their adaptation can help the community.

Upload an image and a description of the students who created the adaptations, including a summary that explains the students' work and how their adaptations can support their community.

Artifact 3: Deliver Three Student Presentations

Have your student teams present their plans to an audience that may include other student teams in your class, another class at your school, site leaders, or other community members. Write a description of the audience, the presentation format used, and a summary of the feedback your students received. Upload images of three student presentations along with your description. Be sure to protect the identity of your students.

Artifact 4: Discuss and Reflect

After presentations are made, the class will discuss them. Have students reflect on what they learned through the project and from the audience reaction and feedback. Upload an image of the chart paper used, typed notes, or three written reflections from the students.

Part 2. Rubric

Option 1 (without students):

	Proficient	Basic	Developing
Artifact 1: Select a Problem	<p>The problem selected is clearly defined.</p> <p>This artifact includes:</p> <ul style="list-style-type: none"> - The reason for selecting the problem; - Current infrastructure, system, or process; - Current system or process; and - Research to define it. 	<p>The problem is somewhat defined, or the definition of the problem is missing one of the following:</p> <ul style="list-style-type: none"> - Reason for selecting the problem; - Current infrastructure, system, or process; or - Research to define it. 	<p>The problem is not defined and is missing two or more of the following:</p> <ul style="list-style-type: none"> - The reason for selecting the problem; - Current infrastructure, system, or process; or - Research to define it.
Artifact 2: Set an Ideal Goal	<p>The solutions are described, and an action plan is created to respond to the community's changing needs caused by climate change.</p> <p>The action plan includes:</p> <ul style="list-style-type: none"> - Smart Goals related to the problem; - How these actions will lead to a solution; 	<p>The solutions are described, and an action plan is created, but they may lack the following required elements:</p> <ul style="list-style-type: none"> - Smart Goals related to the problem; - How these actions will lead to a solution; - Both long-term and short-term goals; and - A timeline of next steps. 	<p>There is no solution given, or one does not explain how it will solve the problem.</p> <p>The action plan may be missing, or it does not address the community's problem or need.</p>

	<ul style="list-style-type: none"> - Long-term and short-term goals; and - A timeline of next steps 		
Artifact 3: Identify Steps You Can Take Today	One solution is selected and acted on so that changes toward adapting the school/district to fit the needs of the community can be made.	One solution is selected but it is not clear how changes will be made or it is not clear how those solutions can be enacted.	One solution is selected but it is not clear how it will take place or steps are not clearly defined and reasonable.
Artifact 4: Present to an Audience	The solution is shared with an audience. There is a description of the audience, an explanation of the presentation format, and summary of how the audience received it.	The solution is shared with an audience but the reflection is missing one of the following: <ul style="list-style-type: none"> - Description of the audience; - Audience feedback or next steps; or - A description of how the audience received the presentation. 	The solution may or may not be shared with an audience. The reflection is missing two or more of the following: <ul style="list-style-type: none"> - A description of the audience - Audience feedback or next steps; or - A description of how the audience received the presentation.

Option 2 (with students):

	Proficient	Basic	Developing
Artifact 1: Select a Problem	The problem selected includes a three-column chart with a list of climate changes	The problem selected includes a three-column chart that lists fewer than five	The three-column chart is missing or incomplete.

	<p>that impact the community. It includes at least five ways that climate change may affect the community.</p> <p>The class has identified at least one adaptation for each community change.</p>	<p>climate change impacts.</p> <p>OR</p> <p>The problem does not have an identified adaptation for each impact.</p>	
<p>Artifact 2: Draft a Utopian Plan</p>	<p>The draft includes images or evidence of student-created utopian plans that explain an adaptation to the climate change issue.</p> <p>The draft includes sufficient examples to help illustrate and explain the issue, impact, and adaptation. The explanation includes:</p> <ul style="list-style-type: none"> - The impact that climate change has or may have on the community; - One way that the community could adapt; and 	<p>The draft includes images of student-created utopian plans. If included, the explanation may not sufficiently demonstrate how the adaptation will support the community.</p> <p>The submission is missing one of the following required elements:</p> <ul style="list-style-type: none"> - The impact that climate change has or may have on the community; - One way that the community could adapt; or - An example of how this adaptation would 	<p>The draft includes images or explanations of the adaptations but does not meet the following expected criteria:</p> <ul style="list-style-type: none"> - The impact that climate change has or may have on the community; - One way that the community could adapt; and - Example of how this adaptation would support the community.

	- An example of how this adaptation would support the community.	support the community.	
Artifact 3: Deliver Three Student Presentations	Description includes three student presentations. The summary explains the format of the presentations. The submission includes a description of the audience and a summary of the feedback received from the audience.	Description includes three student presentations. The summary is missing one of the following: - A description of the audience; - An explanation of the format used for the presentations; or - Feedback received from the audience.	Description includes fewer than three student presentations. The summary information is missing two or more of the following: - A description of the audience; - An explanation of the format used for presentations; or - Feedback received from the audience.
Artifact 4: Discuss and Reflect	Submitted class notes include: - Reflection on feedback received; - Summary of what students learned about climate change; and - Future questions or ideas. Three student reflections are included that indicate an understanding of climate change.	Submitted class notes are missing one of the required elements: - Reflection on feedback received; - Summary of what students learned about climate change; or - Future questions or ideas. Fewer than three student reflections are included.	Either the class notes or the student reflections are missing.

Part 3. Reflection

(400-500 words)

For tips on writing a good reflection, review this resource:

[How Do I Write a Good Personal Reflection?](#)

Do not include any information that will make you identifiable to your reviewers.

Answer all of the following questions:

1. How has this project impacted the way you approach your job?
2. How has this project made you reflect on the future role of schools in your community?
3. What steps will you take to encourage and continue changes in your school/district?

Passing:

The educator answered all three questions completely and the essay references one or some of the artifacts.