



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 at their school that can help their local community effectively address the 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 challenges it will pose for 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 climate-change risks is important for reducing 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 provide a range of services, including carbon sequestration, water filtration, and wildlife habitat. Protecting and restoring ecosystems can increase their resilience to climate change and benefit 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 crop varieties that withstand extreme weather, improving weather forecasting, and designing infrastructure that withstands extreme weather events.
- **Build community engagement:** Increasing community engagement and participation in climate adaptation efforts can promote a shared sense of responsibility and enhance 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 affected the education sector. These impacts will worsen and affect our students' economic prospects, 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 disasters 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, and 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 plans to address extreme weather events, such as floods, hurricanes, wildfires, and extreme heat. These plans should include evacuation procedures, communication networks, online learning plans, and emergency supplies. Schools can provide students with support through trauma/SEL systems and have disaster plans in place, including measures to support a potential influx of students from areas affected by 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 fossil fuel use and minimize air pollution.
- **Curriculum integration:** Schools can integrate climate change and sustainability into their curricula to educate students about its impacts 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 in their school community, acting as liaisons between community members and available resources. 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 its surrounding areas have different needs, which in turn require different adaptations to climate change. Educators can determine potential climate risks in their community; identify and evaluate existing emergency and climate adaptation plans, providing examples of where climate change adaptations have been effective; and create vision boards for the future and engage in reverse planning.
- **Find local resources:** Educators can help identify initiatives underway in their district and recommend 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](#)

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.

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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. Upload each artifact as a file or URL for review.

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

For **Part 2**, you will **complete ONE** of the two options below:

- Option 1: Without Students
- Option 2: With Students

You must choose **only one option** and complete **all four artifacts** for that option.

Option 1: (Without Students)

Artifact 1: Climate Impact Analysis

Examine the needs of your school community and select one problem that, if addressed, would help prepare the community for climate change. Write an essay, make an infographic, or create a presentation that identifies and discusses the problem you will solve. Your submission must include:

- A Clear Problem Statement: Define the problem and ground it specifically in your school or community context.
- Rationale for Selection: Include a clear reason why you selected this specific problem over others.
- Infrastructure and Systems Analysis: Describe the current relevant infrastructure, systems, or processes.

- Systemic Contribution: Explain explicitly how these current systems or procedures are contributing to or adding to the problem.
- Research and References: Provide references for the information used and the current state of your organization.

Artifact 2: Adaptation Strategy Plan (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- and long-term goals that can be achieved within three to five years.

Utilize the resources below to complete Artifact 2:

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

Artifact 3: Resource or Tool Selection (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
- Include a clear, realistic statement of your specific hopes and goals for the school's achievement as a result of these actions.

Artifact 4: Reflection on Anticipated Impact (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: Climate Impact Learning Activity

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 their response to climate change. Ensure the project and activities are specifically tailored to be appropriate for your intended grade level or course.

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 that will need adaptations to fit the needs of your future community.

With your class, create a three-column chart to capture 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 address.

Artifact 2: Student Centered Adaptation 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: Evidence of Student Engagement or Work

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 at least three images of student presentations along with your description. Be sure to protect your students' identities.

Artifact 4: Reflection

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 of the class discussion, or exactly three written reflections from students

Part 2. Rubric

Option 1 (without students):

| | Proficient | Basic | Developing |
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| <p>Artifact 1: Climate Impact Analysis (Select a Problem)</p> | <p>The problem is clearly defined and grounded in the school or community context.</p> <p>Includes a clear reason for selecting the problem.</p> <p>It describes the current infrastructure, systems, or processes.</p> <p>It explains how current systems contribute to the problem. It includes relevant research or references.</p> | <p>The problem is described but lacks clarity or completeness.</p> <p>Includes most required elements, but one element is missing or underdeveloped.</p> <p>It may lack a clear rationale for selecting the problem, may not fully describe the current infrastructure, systems, or processes, may not clearly explain how current systems contribute to the problem, or may include limited research or references.</p> | <p>Unclear or not grounded in the school or community context.</p> <p>Submission is missing two or more required elements. I</p> <p>Does not clearly explain why the problem was selected, does not adequately describe the current infrastructure, systems, or processes, does not explain how current systems contribute to the problem, and does not include relevant research or references.</p> |
| <p>Artifact 2: Adaptation Strategy Plan (Set an Ideal Goal)</p> | <p>A clear action plan is presented that responds to the identified problem and demonstrates adaptation to climate change.</p> <p>The plan describes proposed solutions or adaptations.</p> | <p>An action plan is presented that addresses the identified problem.</p> <p>The plan includes most required elements, but one element is missing or underdeveloped.</p> | <p>The action plan is unclear or incomplete.</p> <p>Two or more required elements are missing.</p> |

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| | <p>It explains how the actions address community needs.</p> <p>It includes both short-term and long-term goals. It provides a reasonable timeline for next steps.</p> | <p>Explanation of how actions address community needs, the inclusion of both short-term and long-term goals, or the timeline for next steps may be unclear or incomplete.</p> | <p>The plan does not clearly describe solutions, explain how actions address community needs, include both short-term and long-term goals, or provide a reasonable timeline.</p> |
| <p>Artifact 3: Identify Steps You Can Take Today</p> | <p>One short-term goal is selected and clearly outlines the steps the educator or site will take to prepare and equip the school to serve the community's changing needs.</p> <p>The work is presented as an infographic, essay, or presentation.</p> <p>The submission clearly identifies the people or organizations that must be involved to carry out these steps and describes their role in the work.</p> <p>It identifies the resources or tools necessary to implement the proposed changes or adaptations.</p> | <p>A short-term goal is selected, and steps are described to prepare and equip the school to serve the community's changing needs, but the steps may be general or incomplete.</p> <p>The work is presented as an infographic, essay, or presentation.</p> <p>The submission identifies people or organizations to involve, but their roles may be unclear or minimally described.</p> <p>Some resources or tools are identified, though they may not be clearly connected to the proposed changes or adaptations.</p> | <p>A short-term goal is not clearly identified, or the steps to prepare and equip the school are unclear, unrealistic, or missing.</p> <p>The work may not be clearly presented as an infographic, essay, or presentation.</p> <p>The submission does not clearly identify the people or organizations needed to carry out the work, or it omits their roles.</p> <p>Resources or tools necessary for the proposed changes or adaptations are missing or unclear.</p> |

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| | <p>The submission clearly explains how these steps would help the school adapt to climate impacts. It includes a clear, realistic statement of what the educator hopes the school will achieve as a result of these actions.</p> <p>The work is clearly organized and communicated.</p> | <p>The submission describes how the steps could help the school adapt to climate impacts, but the explanation may lack clarity or detail.</p> <p>A hope for the school is stated, but it may be broad or loosely connected to the actions described.</p> <p>Organization or clarity may be uneven.</p> | <p>The submission provides little or no explanation of how the steps would help the school adapt to climate impacts. A clear statement of what the educator hopes for the school is missing or not connected to the actions described. The work lacks clarity, organization, or required components.</p> |
| <p>Artifact 4: Present to an Audience</p> | <p>The project is a presentation, speech, poster, or trifold brochure with a clearly identified audience.</p> <p>The reflection clearly describes the group the educator worked with on the project.</p> <p>It includes a clear summary of the audience's response and feedback.</p> <p>The reflection clearly identifies the next steps for the project</p> | <p>The project is a presentation, speech, poster, or trifold brochure.</p> <p>The reflection describes the group the educator worked with, but the description may be general or limited.</p> <p>Audience response or feedback is included, but it may be brief or unclear.</p> <p>Next steps are mentioned, but they may be general or not</p> | <p>The project may not be clearly communicated to the audience, or the audience may not be clearly defined.</p> <p>The reflection does not clearly describe the group the educator worked with.</p> <p>Audience response or feedback is missing or unclear.</p> <p>Next steps for the project are missing or not connected to the presentation.</p> |

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| | <p>based on the presentation and feedback.</p> <p>Clearly written and organized.</p> | <p>clearly connected to the feedback received.</p> <p>The reflection is understandable, but organization or clarity may be uneven.</p> | <p>The reflection lacks clarity, organization, or required components.</p> |
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Option 2 (with students):

| | Proficient | Basic | Developing |
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| Artifact 1: Select a Problem | <p>A classroom project is created that is aligned with state standards or that informs students about the role schools can play during a crisis, including serving as trendsetters in responding to climate change.</p> <p>The project clearly addresses climate change impacts relevant to the community.</p> <p>The activity is appropriate for the intended grade level or course and is clearly described</p> | <p>A classroom project is created to address climate change, but alignment with state standards or the role of schools during a crisis may be general or implied.</p> <p>The project references climate change impacts, but the connection to the community or school-based responses may be limited.</p> <p>The activity is described, but details needed for classroom implementation may be unclear or incomplete.</p> | <p>The classroom project is unclear, incomplete, or not clearly focused on climate change.</p> <p>Alignment to state standards or the role of schools during a crisis is missing or unclear.</p> <p>Neither climate change impacts nor school responses are clearly addressed.</p> <p>The activity lacks sufficient detail for classroom implementation or is missing required components.</p> |

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| | <p>so it could be implemented in a classroom.</p> <p>The instructional purpose is clear, and the work is clearly communicated.</p> | <p>Organization or clarity may be uneven.</p> | |
| <p>Artifact 2: Draft a Utopian Plan</p> | <p>Student teams develop a utopian solution or plan for a future community adaptation connected to the effects of climate change.</p> <p>The plan or model clearly describes the impact of climate change on the community, includes at least one way the community can adapt, and clearly explains how the adaptation would help support the community.</p> <p>An image of the student-created plan or model is included, along with a clear description of the students who created it and a summary that explains the students' work and how their adaptation supports the community.</p> | <p>Student teams develop a plan or model connected to climate change, but one required element may be unclear or underdeveloped.</p> <p>The submission may describe the community impact, an adaptation, or how the adaptation helps the community, but one of these elements may be limited or incomplete.</p> <p>An image and description are included, but the summary of the students' work or how the adaptation supports the community may be general or unclear.</p> | <p>The student plan or model is unclear, incomplete, or not clearly connected to climate change.</p> <p>The submission does not clearly describe the community impact, an adaptation, or how the adaptation helps the community.</p> <p>An image, student description, or summary of the work is missing or unclear.</p> <p>Required components are missing or not clearly communicated.</p> |

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| <p>Artifact 3: Deliver Three Student Presentations</p> | <p>Student teams present their adaptation plans to an audience, which may include other student teams, another class, site leaders, or community members.</p> <p>The submission includes a clear description of the audience and the presentation format used.</p> <p>A clear summary of the feedback students received is provided.</p> <p>Images of three student presentations are uploaded, and student identities are protected.</p> <p>The submission is clearly organized and communicated.</p> | <p>Student teams present their plans to an audience. The submission includes a description of the audience or the presentation format, but one of these elements may be unclear or incomplete.</p> <p>Feedback from the audience is included, but the summary may be brief or general.</p> <p>Images of student presentations are included, but fewer than three images may be provided, or student identity protection may be unclear.</p> <p>Organization or clarity may be uneven.</p> | <p>Student presentations are missing, unclear, or not clearly connected to the adaptation plans.</p> <p>The audience or presentation format is not clearly described.</p> <p>Audience feedback is missing or unclear.</p> <p>Images of student presentations are missing, insufficient, or do not protect student identities.</p> <p>Required components are missing or not clearly communicated.</p> |
| <p>Artifact 4: Discuss and Reflect</p> | <p>Students reflect on what they learned through the project and from the audience reaction and feedback.</p> <p>The submission includes evidence of class discussion and</p> | <p>Students reflect on the project or the audience feedback, but one aspect of the reflection may be limited or unclear.</p> <p>Evidence of reflection is included, but it may be</p> | <p>Student reflection is missing, unclear, or does not address learning from the project or audience feedback.</p> |

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| | <p>reflection, such as an image of chart paper, typed notes, or three written student reflections.</p> <p>The reflections demonstrate understanding of climate change and the role of community feedback.</p> <p>Student identities are protected, and the submission is clearly organized and communicated.</p> | <p>incomplete, such as fewer than three written reflections or limited documentation of class discussion.</p> <p>The reflections show some understanding of the project, but depth or clarity may be uneven.</p> <p>Organization or clarity may be uneven.</p> | <p>Evidence of class discussion or reflection is missing or insufficient.</p> <p>Fewer than three student reflections are included, or documentation does not demonstrate student learning.</p> <p>Required components are missing or not clearly communicated.</p> |
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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 at least one of the artifacts you created above.