

## Lesson Plan: Climate Change Impacts in Antigua & Barbuda

As a **High School** or introductory **Undergraduate** teacher, you can use this lesson plan to **introduce climate change and its impacts in Antigua & Barbuda**.

This lesson plan provides an introduction to climate change, causes and impacts of climate change globally, climate change risk profile for Antigua & Barbuda that includes climate impacts on major sectors of the country such as agriculture, water resources, human health, coastal resources, fisheries and tourism. This lesson plan also mentions health risks arising from uncertain epidemics due to changing climate.

Thus, the use of this lesson plan allows you to teach Climate Science and Climate Change in your classrooms.

Use this Lesson Plan to help the students to understand and find answers to:

1. What is Climate Change? What are its causes?
2. What are the impacts of climate change on Antigua & Barbuda?
3. What are the impacts of climate change on agriculture, water resources, human health and coastal resources & economy in Antigua & Barbuda?
4. What mitigation practices can be adopted to control the impacts of climate change in Antigua & Barbuda?

### About the Lesson Plan

Grade Level	High School, Undergraduate
Climate Topic	Climate Change Impacts in Your Country
Location	Caribbean Islands, Antigua & Barbuda
Access	Online
Language(s)	English
Approximate Time Required	60 mins

### Contents

1.	<b>Reading</b> (15 min) and <b>Video</b> (5-15 min)	A reading from the NASA Global Climate Change website that includes information about what is the scientific evidence for climate change, causes, and impacts of climate change. This can be accessed <a href="#">here</a> .  <b>Optional:</b> A set of 7 short video micro-lectures (2-5 minutes in length) on climate change and global warming developed by the National Research Council, The National Academies of Sciences, Engineering, and Medicine. This can be accessed <a href="#">here</a>
2	<b>Reading 1 (World Bank)</b>	A reading by Climate Change Knowledge Portal of the World Bank that explains climate change and impacts in Antigua & Barbuda.  This can be accessed <a href="#">here</a> .
3	<b>Reading 2 (USAID)</b>	This reading is the Climate Change Risk Profile fact sheet for the Eastern and Southern Caribbean by Climatelinks: A Global Knowledge Portal for Climate and Development Practitioners USAID.  This can be accessed <a href="#">here</a> .
4	<b>Reading 3 (WHO)</b>	This report by the World Health Organization is a Climate and Health Country Profile for Antigua & Barbuda.  This can be accessed <a href="#">here</a> .
5	<b>Classroom/Laboratory Activity</b> (15 min)	A classroom/laboratory activity based on a reading and video on Antigua & Barbuda. This reading and video explains the causes and impacts of Antigua & Barbuda on Antigua & Barbuda and also states the possible solutions to counter the crisis.  The reading can be accessed here. The video can be accessed here.

### Step-by-step User Guide

(Here is a step-by-step guide to using this lesson plan in the classroom/laboratory. We have suggested these steps as a possible plan of action. You may customize the lesson plan according to your preferences and requirements.)

<p><b>1</b></p>	<p>Introduce Climate Change through the readings and videos</p>	<p>This reading titled, “The Causes of Climate Change” from the NASA Global Climate Change website, provides introductory information on climate change and global warming. It contains information on the scientific evidence of climate change, its causes and impacts.</p> <p>This can be accessed <a href="#">here</a>.</p> <p>Optional: This set of 7 short video micro-lectures (2-5 minutes in length) have been developed by the National Research Council, The National Academies of Sciences, Engineering, and Medicine. This can be used to provide additional information on climate change.</p> <p>They include:</p> <ol style="list-style-type: none"> <li>1. What is Climate? Climate Change, Lines of Evidence Chapter 1</li> <li>2. Is Earth Warming? Climate Change, Lines of Evidence Chapter 2</li> <li>3. Greenhouse Gasses. Climate Change, Lines of Evidence Chapter 3</li> <li>4. Increased Emissions. Climate Change, Lines of Evidence Chapter 4</li> <li>5. How Much Warming? Climate Change, Lines of Evidence Chapter 5</li> <li>6. Solar Influence. Climate Change, Lines of Evidence Chapter 6</li> <li>7. Natural Cycles. Climate Change, Lines of Evidence Chapter 7</li> </ol> <p>This video playlist can be accessed <a href="#">here</a>.</p>
<p><b>2</b></p>	<p>Discuss causes and impacts of Climate Change in Antigua &amp; Barbuda</p>	<p>Use this interactive website by the Climate Change Knowledge Portal of the World Bank to have your students understand the impacts of Climate Change in Antigua &amp; Barbuda. This resource includes the following:</p> <ol style="list-style-type: none"> <li>I. Climate Change Overview of Antigua &amp; Barbuda</li> <li>II. Country Summary</li> <li>III. Current Climatology: Climate Trends and Variability in Temperatures and Precipitation</li> <li>IV. Climate Projections</li> <li>V. Vulnerability of Antigua &amp; Barbuda to Climate Change</li> </ol> <p>Each section contains relevant climate change information including data, projections, and visualizations. The data is visualized through interactive graphs and users can select different indices, model projections, timescales, and sectors to better understand the impacts of climate change in Antigua &amp; Barbuda.</p> <p>This can be accessed <a href="#">here</a>.</p>

3	Further understanding on impacts of Climate Change on key sectors in Antigua & Barbuda	<p>You may wish to have your students explore climate change and its risks in the Eastern &amp; Southern Caribbean in more detail through a resource from climatelinks: A Global Knowledge Portal for Climate and Development Practitioners of the USAID.</p> <p>This factsheet on climate risks in Eastern &amp; Southern Caribbean includes information on:</p> <ol style="list-style-type: none"> <li>I. Current and future climate impacts and vulnerabilities</li> <li>II. Climate impacts on key sectors of:             <ol style="list-style-type: none"> <li>1) Agriculture</li> <li>2) Water Resources</li> <li>3) Human Health</li> <li>4) Coastal Resources</li> <li>5) Fisheries</li> <li>6) Tourism</li> </ol> </li> </ol> <p>This can be accessed <a href="#">here</a>.</p>
4	Discuss impacts of Climate Change on Health, in Antigua & Barbuda	<p>Use a reading by the World Health Organization (WHO) to stress to your students how climate change can impact human health in Antigua &amp; Barbuda. This factsheet (8 pages) titled Climate Change and Health: Country Profile: Antigua &amp; Barbuda includes information on:</p> <ol style="list-style-type: none"> <li>I. Current and Future Climate Hazards</li> <li>II. Current and Future Health Risks due to Climate Change</li> <li>III. Co-benefits to Health from Climate Change Mitigation</li> </ol> <p>This resource can be accessed <a href="#">here</a>.</p>
5	OPTIONAL Classroom/Laboratory Activity on the 'Lake Chad Crisis'	<p>You may wish to conduct a {roleplay} activity in your classroom/laboratory to further engage your students in understanding the climate crisis in Antigua &amp; Barbuda; specifically on the impact of climate change on food security and water security in Antigua &amp; Barbuda.</p>

### Learning Outcomes:

The tools in this lesson plan will enable students to:

- learn about climate change and global warming
- understand the impacts of climate change in Antigua & Barbuda
- discuss how changing weather patterns due to climate change could affect Antigua & Barbuda's future
- describe the current and future health risks and economic impacts on Antigua & Barbuda due to climate change

### Additional Resources

1	Reading	<p><a href="#">Eastern &amp; Southern Caribbean Greenhouse Gas Emissions Fact Sheet:</a> This fact sheet by Climatelinks: A Global Knowledge Portal for Climate and Development Practitioners of the USAID, provides information on 2011 greenhouse gas (GHG) emissions in the Eastern and Southern Caribbean Region</p>
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2	Reading	<a href="#">Intended Nationally Determined Contribution, Antigua &amp; Barbuda</a> : This report provided by UNFCCC is a submission of commitment towards mitigating Climate Change by Antigua & Barbuda.
3	Reading	<a href="#">Rapid Climate Change Vulnerability Assessment- Eastern &amp; Southern Caribbean Region</a> : This technical assessment report by Climatelinks: A Global Knowledge Portal for Climate and Development Practitioners of the USAID, reviews the application of a rapid climate change vulnerability assessment in the Eastern and Southern Caribbean Region.

**Credits / Copyrights:**

1	Reading “The Causes of Climate Change”	by the <a href="#">NASA Global Climate Change</a> website
2	A set of videos; “Climate Change: Lines of Evidence”	Presented by National Research Council, <a href="#">The National Academies of Sciences, Engineering, and Medicine</a>
3	Reading “Climate Change Risk Profile for Antigua & Barbuda”	By <a href="#">Climate Change Knowledge Portal of the World Bank</a>
4	Reading “Climate Change Risk Profile for Eastern & Southern Caribbean”	By <a href="#">Climatelinks</a> : A Global Knowledge Portal for Climate and Development Practitioners, USAID
5	Reading “Climate Change and Health: Country Profile: Antigua & Barbuda”	By <a href="#">World Health Organization</a>
6	Additional Resources	<a href="#">Eastern &amp; Southern Caribbean Greenhouse Gas Emissions Fact Sheet</a> <a href="#">Intended Nationally Determined Contribution, Antigua &amp; Barbuda</a> <a href="#">Rapid Climate Change Vulnerability Assessment- Eastern &amp; Southern Caribbean Region</a>