Lesson Plan: Climate Change Impacts in Democratic Republic of Congo

As a High School or Undergraduate Earth Sciences, Environmental Sciences, or Geography teacher, you can use this lesson plan to teach your students about climate change and global warming and specifically the impacts of climate change in Democratic Republic of Congo.

This lesson plan provides an introduction to climate change, causes, and impacts of climate change globally, climate change risk profile for Democratic Republic of Congo that includes climate impacts on major sectors of the country such as agriculture, water resources, human health, ecosystems, energy, infrastructure, and disasters. This lesson plan also includes the current and future health risks in Democratic Republic of Congo due to climate change.

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

Use this lesson plan to help your students find answers to:

- What is climate change? What are the causes of global warming?
- What are the global impacts of climate change?
- What are the impacts of climate change in Democratic Republic of Congo?
- How will increased temperatures impact Democratic Republic of Congo?
- How will changing weather patterns including changes in precipitation, storms, droughts impact Democratic Republic of Congo in the future?
- What are the current and future health risks due to climate change in Democratic Republic of Congo?
- How will climate change affect food security in the Democratic Republic of Congo?
About the Lesson Plan

Grade Level: High school, Undergraduate

Discipline: Earth Sciences, Environmental Sciences, Geography

Topic(s) in Discipline: Climate Change, Global Warming, Climate Change Risk Profile of Democratic Republic of Congo, Health Impacts of Climate Change

Climate Topic: Introduction to Climate Change, Climate Variability Record, Climate and Health, Climate Change and Food Security, Climate and Agriculture

Location: Africa, Democratic Republic of Congo

Access: Online

Language(s): English
Approximate Time Required: 60 – 75 min

1. Reading (15 min) and Video Micro-Lectures (5-15 min)

A reading from the NASA Global Climate Change website that includes contains information about what is the scientific evidence for climate change, causes and impacts of climate change.

This can be accessed at:

https://climate.nasa.gov/causes/

Optional: A set of 7 of 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 at:

https://www.youtube.com/playlist?annotation_id=annotation_709415&feature=iv&list=PL38EB9C0BC54A9EE2&src_vid=qEPVyrSWfQE

2. Readings (30 min)

A set of two readings to explain climate change and impacts in Democratic Republic of Congo.

Reading 1 by climatelinks: A Global Knowledge Portal for Climate and Development Practitioners USAID

This can be accessed at:
3. Reading (15 min)

A reading by climatelinks: A Global Knowledge Portal for Climate and Development Practitioners USAID on how climate change can impact food security in the country.

This can be accessed at:


4. Suggested questions/assignments for learning evaluation

- What is climate change? What are the causes of global warming?
- What are the global impacts of climate change?
- What are the impacts of climate change in Democratic Republic of Congo?
- How will increased temperatures impact Democratic Republic of Congo?
- How will changing weather patterns including changes in precipitation, storms, droughts impact Democratic Republic of Congo in the future?
- What are the current and future health risks due to climate change in Democratic Republic of Congo?
- How will climate change affect food security in the Democratic Republic of Congo?
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.

1. **Introduction to Climate Change**

   Introduce to your students what is climate change and global warming using a reading from the NASA Global Climate Change website. This resource contains information about what is the scientific evidence for climate change, causes and impacts of climate change.

   This resource can be accessed at:

   [https://climate.nasa.gov/causes/](https://climate.nasa.gov/causes/)

   **Optional:** You may choose to provide your students with further information about global climate change using a set of video micro-lectures. This set of 7 of 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.

   They include:

   - What is Climate? Climate Change, Lines of Evidence Chapter 1
   - Is Earth Warming? Climate Change, Lines of Evidence Chapter 2
   - Greenhouse Gases. Climate Change, Lines of Evidence Chapter 3
   - Increased Emissions. Climate Change, Lines of Evidence Chapter 4
   - How Much Warming? Climate Change, Lines of Evidence Chapter 5
   - Solar Influence. Climate Change, Lines of Evidence Chapter 6
   - Natural Cycles. Climate Change, Lines of Evidence Chapter 7

   This video playlist can be accessed at:

   [https://www.youtube.com/playlist?annotation_id=annotation_709415&feature=iv&list=PL38EB9C0BC54A9EE2&src_vid=qEPVyrSWfQE](https://www.youtube.com/playlist?annotation_id=annotation_709415&feature=iv&list=PL38EB9C0BC54A9EE2&src_vid=qEPVyrSWfQE)
2. Readings; Climate Change in Democratic Republic of Congo

Use the following readings to explain climate change and climate risks in Democratic Republic of Congo to your students.

A. First, use the factsheet Climate Change Risk Profile: Democratic Republic of Congo from climatelinks: A Global Knowledge Portal for Climate and Development Practitioners USAID. This factsheet (5 pages) includes the climate summary, historical and future climate, impacts on major sectors such as agriculture, water resources, human health, ecosystems, energy, infrastructure, and disasters, for Democratic Republic of Congo.

This resource can be accessed at:


B. You may wish to have your students explore climate change and its risks in Democratic Republic of Congo in more detail through a resource from the Climate Change Knowledge Portal of the World Bank.

This resource can be accessed at:


This resource contains the information specific to Democratic Republic of Congo and includes the following sections:

1. Overview

2. Climate Data - Historical and Future Projections

3. Climate by Sector – Agriculture, Energy, Water, Health

4. Vulnerability
5. Climate Impacts – Agriculture, Water, Sea Level Rise

6. Adaptation

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 Democratic Republic of Congo.

3. Reading: Climate Change and Food Security in Democratic Republic of Congo

Use a reading by climatelinks: A Global Knowledge Portal for Climate and Development Practitioners USAID to stress to your students how climate change can impact food security in the Democratic Republic of Congo. This factsheet (7 pages) titled Climate Risks in Food For Peace Geographies: Democratic Republic of Congo includes information on how climate change can impact the agricultural sector in the country. You could use this factsheet to help your students better understand climate stressors and climate risks in the agricultural sector such as increased crop losses/failure, increased livestock mortality, more pests, weeds, pathogens, and damage to limited transport networks in South Kivu and parts of Kasai and Tanganyka and other regions in the country.

This resource can be accessed at:


4. Questions/Assignments

Use the tools and the concepts learned so far to discuss and determine answers to the following questions:

Use the tools and the concepts learned so far to discuss and determine answers to the following questions:

- What is climate change? What are the causes of global warming?
- What are the global impacts of climate change?
What are the impacts of climate change in Democratic Republic of Congo?
How will increased temperatures impact Democratic Republic of Congo?
How will changing weather patterns including changes in precipitation, storms, droughts impact Democratic Republic of Congo in the future?
What are the current and future health risks due to climate change in Democratic Republic of Congo?
How will climate change affect food security in the Democratic Republic of Congo?

3 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 Democratic Republic of Congo
- discuss how changing weather patterns due to climate change could affect Democratic Republic of Congo’s future
- describe how climate change can potentially impact food security in the Democratic Republic of Congo

4 Additional Resources

If you or your students would like to explore the topic further, these additional resources will be useful.

1. Webpage; ‘Democratic Republic of Congo’ on Climatelinks

Climate Change in Democratic Republic of Congo specific factsheets, case studies compiled by Climatelinks, USAID.
2. Reading; ‘Democratic Republic of Congo’s Intended Nationally Determined Contribution (INDC)’ (in French)


This can be accessed at:

https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Democratic%20Republic%20of%20the%20Congo/1/CPDN%20-%20R%C3%A9p%20D%C3%A9m%20du%20Congo.pdf


Climate Data and Visualizations for the Democratic Republic of Congo by Climate Watch.

This can be accessed at:

https://www.climatewatchdata.org/countries/COD

5 Credits/Copyrights

All the teaching tools in our collated list are owned by the corresponding creators/authors/organizations as listed on their websites. Please view the individual copyright and ownership details for each tool by following the individual links provided. We have selected and analyzed the tools
that align with the overall objective of our project and have provided the corresponding links. We do not claim ownership of or responsibility/liability for any of the listed tools.

1. Reading; “The Causes of Climate Change”

By NASA’s Global Climate Change website.

2. A set of videos; “Climate Change: Lines of Evidence”


3. Readings; “Climate Change Risk Profile- Democratic Republic of Congo’ and ‘Climate Change Knowledge Portal- Democratic Republic of Congo’

By Climatelinks: A Global Knowledge Portal for Climate and Development Practitioners, USAID.

By World Bank Group

4. Reading; “Climate Change and Food Security in Democratic Republic of Congo”

By Climatelinks, USAID

Additional Resources

Climatelinks, USAID
UNFCCC
Climate Watch