

In Europe Schools: Climate Change

Planning Grid for teachers

How should we deal with climate change? This is the question young people will try to answer in a short documentary they will create guided by this interactive education kit.

Content focus: *Climate change*

Research Question: *How should we deal with climate change?*

End Product: *Documentary*

Rationale and learning outcomes

The world struggles with the issue of climate change. Over the last decades, our planet's situation has worsened while politicians and society in general have not changed their habits enough to mitigate the effects of the massive rising quantity of CO₂ gases emitted by human activities.

Due to this, some individuals and groups are trying to make an effort to act against climate change. But others, despite all the evidence and scientific reports, do not believe that the latest events of climate change are caused by humans.

Considering different views, and various ways to deal with it, the research question of this theme is: **how should we deal with climate change?**

Learning outcomes:

- Students will recognise climate change characteristics, and different ways of dealing with it in the past and present
- Students will develop knowledge about policies and the extreme weather events that occurred during the last decades
- Students will identify and evaluate different perspectives and solutions to the issue

- Students will present and explain a proposal for dealing with climate change, based on the research question
- Students will make a connection between climate change and their personal lives

Please note

- Please **start** the project filling in **the short questionnaire** you will find in the online version of this planning grid with your class **before** you introduce the project. We would love to receive your feedback on this project, to measure the learning skills.
- There's also a short questionnaire for the students, **before** and **after**.

Timing

The full lesson plan takes 7-8 hours (homework included).

There are some suggestions in the explanations to pick and choose activities based on the timing and the students' groups.

Assessment

To assess the students' documentaries, there is an assessment grid with ten items which can also be shared with the students in the beginning of the project.

This assessment grid has two different versions:

1. Assessing the documentaries while working on them and
 2. Assessing the documentaries at the end of the project.
- Version 1 can be used as a checklist by the groups while doing the documentary, version 2 can be used either for co-assessment or for assessment.*

Download the videos

Download the videos as one package (8 video's, 1,9 GB) or as separate videos. The links are available in the online version of this document.

Step 1 Part 1: Introducing the Project In Europe

Introduction

The introduction has the objective of introducing the project and motivating students.

Objective

- Students will learn about the project, the main objectives and the goals they have to achieve (creating a short documentary about their perspective on certain historical issues).

Preparation and materials

- Presentation videoclip (please find the link online in step 1 part 1)
- Assessment grid (annex 1)
- Organise the communication with the partner school (Skype, video, email, etc.)
- Analyse and if necessary, adapt the assessment criteria to give to students.

Planning Grid

Please start with a short questionnaire before you introduce the project. You can find the link online

- 1) Introduction of the project:
 - a) Students will watch a video clip that presents the objective of the project – creating a short 10-15 minute documentary and exchanging it with other European schools. This video is the same for all topics.
 - i) If necessary, give more explanation to the students, addressing the objective of the lesson, the steps, timing, characteristics of the video clip students have to create, etc.
 - b) Set up a brief communication with the partner students, if possible via Skype:

- i) Students from each class should introduce themselves:
Hello, this is our class. We are looking forward to this project, we are very excited. I am Michael, I'm 16 years old, Delphine: Hello..."
- ii) If a Skype meeting is not possible, prepare a short presentation video to send them or write an email with the presentation and add a picture of the class.

This activity does not have to take longer than 15-20 minutes but has a significant effect on student motivation and the success of the project.

If the students' English level is poor, you can communicate via email, so they have time to prepare the communication and translate the answers.

- c) Explain the assessment criteria to the students.

ANNEX 1: Assessment grid for the students' documentaries

1) Version for students while working on the documentary

The documentary made by the students	Yes	No
1. Is focused on the enquiry question		
2. Uses the camera angles, editing choices, voice-over and sounds in a purposeful way in accordance with the story told		
3. Has the requested length and a clear structure (presentation, interview, conclusion, source credits)		
4. Integrates the story with its historical context		
5. Uses primary sources (e.g. an oral history interview) that support the enquiry question		
6. Gives different, fair and balanced perspectives		
7. Shows difference(s) between past and present		
8. Gives different causes and/or explains consequences		
9. Distinguishes evidence-based facts from unsubstantiated opinion		
10. Is created in an attractive / original way that catches the viewer's attention and holds his interest		

2) Version for assessing the documentaries at the end of the project

The documentary made by the students	Yes	Partly yes	Partly no	No
1. Is focused on the enquiry question				
2. Uses the camera angles, editing choices, voice-over and sounds in a purposeful way in accordance with the story told.				
3. Has the requested length and a clear structure (presentation, interview, conclusion, credits of the sources)				
4. Integrates the story with its historical context				
5. Uses primary sources (e.g. an oral history interview) that support the enquiry question				
6. Gives different, fair and balanced perspectives				
7. Shows difference(s) between past and present				
8. Gives different causes and/or explains consequences				
9. Distinguishes evidence-based facts from unsubstantiated opinion				
10. Is created in an attractive / original way that catches the viewer's attention and holds his interest				

Climate Change: Step 1 Part 2: Introducing the Topic

Students will watch the starter clip, which is based mainly on a personal way of dealing with climate change. Students will thereby learn more about the topic, and reflect on the research question. This will stimulate their interest in the topic and will help them to start identifying the different options for dealing with climate change.

Introduction

This part has the objective of introducing the topic and motivating students.

Lesson objectives

- Students will watch a video based on an individual strategy for fighting climate change.
- Students will start reflecting on the topic 'climate change', their own knowledge of it, and their opinion of its importance.
- Students will learn more about the significance of climate change, also learning to distinguish between fake news and scientific news.
- Students will make relations between the causes and effects of climate change.
- Students will start thinking about the research question - how should we deal with climate change - as actors who can deal with the climate crisis in different ways. This will stimulate their interest in the topic and it will get them started in identifying the different options for dealing with it.

Preparation and materials

- Climate change starter clip
- Handout about climate change news for students ([handout 1: climate change news](#))
- Handout about climate change cause-effect for students ([handout 2: climate change cause-effect](#)) /

Planning grid

1) Motivation to the lesson

a) Watch the starter clip and comment on it as a whole class. If necessary, briefly explain the topic and the different options for fighting against it, and focus on the topic of the question.

b) Some possible questions you could ask your students:

1. Comprehension

- What is shown in the clip?
- Who are the people in the clip?
- How are the protagonists dealing with climate change?

2. Discussion

- Why do some people try to fight against climate change as individuals? Do you think this has any positive consequence?
- What is your own perspective on this theme? How do you think we should deal with climate change?
- Do you know some examples in your family, town or country of dealing with climate change?

2) Introduction of the topic

a) Students should reflect on the following:

- What is climate change?
- What are the causes of climate change?
- What are the consequences of climate change?
- Do you think this topic is important? Why?
- What perspective(s) might different people have about it?

b) To learn more about the topic, the contemporary situation and causes and effects, tell students to do the following activities in pairs:

1. Tell students to work with this list of fake news and scientist news about climate change. They should recognise the scientific news in order to realise the characteristic of Climate Change. (handout 1: climate change news)

Climate Change: Step 1, Part 2 - Students handout 1

FAKE NEWS AND SCIENTIFIC NEWS ABOUT CLIMATE CHANGE

Choose which of the statements of each pair is the scientific news, like in the example below.

FAKE NEWS OR SCIENTIFIC NEWS?			
Globally about 1% of coral is dying out each year	√	Corals are resilient to bleaching	
Volcanoes emit more CO2 than humans		Humans emit 100 times more CO2 than volcanoes	
500 scientist refute the consensus about climate change		97% of climate experts agree that humans are causing global warming	
The natural cycle adds and removes CO2 to keep a balance; humans add extra CO2 without removing any		Human CO2 is a tiny % of CO2 emissions	
Polar bear numbers are increasing		Polar bears are in danger of extinction along with many other species.	
There is increasing evidence that hurricanes are getting stronger due to global warming		Hurricanes are not linked to global warming	
The last decade (2010-2019) was the hottest on record		The planet has cooled down during the last decade	
Renewable energy is too expensive		All of the costs associated with burning fossil fuels (air pollution and health effects) are significantly higher than renewable energy sources	
The 20 warmest years on record all occurred in the past 22 years		The 20 warmest years on record occurred around the last 500 years	
Human CO2 emissions are the most important source of greenhouse gas emission nowadays		Humans CO2 emissions are too insignificant to affect global climate	
Most man-made emissions of CO2 come from burning fossil fuel		Most man-made emissions of CO2 come from the agriculture industry	
Since the industrial revolution began around 1750, CO2 levels have risen 10%		Since the industrial revolution began around 1750, CO2 levels have risen over 30%	
Glaciers are growing in both poles		Glaciers are retreating, and that is becoming a serious problem for millions who rely on glaciers for water	
Extreme weather events occur more frequently and are worsened by global warming		Extreme weather is not caused by global warming	
Climate change does not affect animals and plants		Vegetation and land animals are suffering from climate changes as habitats change faster than species can adapt	
CO2 presents a danger to public health and welfare		CO2 is not a pollutant	

These are the answers:

FAKE NEWS OR SCIENTIFIC NEWS?			
Globally about 1% of coral is dying out each year	✓	Corals are resilient to bleaching	
Volcanoes emit more CO2 than humans		Humans emit 100 times more CO2 than volcanoes	✓
500 scientist refute the consensus about climate change		97% of climate experts agree that humans are causing global warming	✓
The natural cycle adds and removes CO2 to keep a balance; humans add extra CO2 without removing any		Human CO2 is a tiny % of CO2 emissions	✓
Polar bear numbers are increasing		Polar bears are in danger of extinction along with many other species	✓
There is increasing evidence that hurricanes are getting stronger due to global warming	✓	Hurricanes are not linked to global warming	
The last decade (2010-2019) was the hottest on record	✓	The planet has cooled down during the last decade	
Renewable energy is too expensive		All of the costs associated with burning fossil fuels (air pollution and health effects) are significantly higher than renewable energy sources	✓
The 20 warmest years on record all occurred in the past 22 years	✓	The 20 warmest years on record occurred around the last 500 years	
Human CO2 emissions are the most important source of greenhouse gas emission nowadays	✓	Humans CO2 emissions are too insignificant to affect global climate	
Most man-made emissions of CO2 come from burning fossil fuel	✓	Most man-made emissions of CO2 come from the agriculture industry	
Since the industrial revolution began around 1750, CO2 levels have risen 10%		Since the industrial revolution began around 1750, CO2 levels have risen over 30%	✓
Glaciers are growing in both poles		Glaciers are retreating, and that is becoming a serious problem for millions who rely on glaciers for water	✓
Extreme weather events occur more frequently and are worsened by global warming	✓	Extreme weather is not caused by global warming	
Climate change does not affect animals and plants		Vegetation and land animals are suffering from climate change as habitats change faster than species can adapt	✓
CO2 presents a danger to public health and welfare	✓	CO2 is not a pollutant	

2. Students have to create Climate Change cause-effect chains using the given statements (handout 2: climate change cause-effect). Here are some examples of the chains students can write:

- Need fossil fuel for industry production - Fossil fuels produce great quantities of CO₂ - Greenhouse gas emission - Increases Earth's temperature – Desertification – Less land for agriculture - Less food for population // animals and plants have to migrate
- Earth temperature is increasing – Heavy precipitation occurs more frequently - Flooding occurs more frequently
- Need of land for agriculture – Trees are cut down – Less trees to absorb CO₂ - Many species move to new locations
- Diet based on meat - Need of land for feeding cattle – Trees are cut down
- Need of food for population – Need of land for agriculture – Trees are cut down
- Increase of greenhouse emission – Increase of oceanic temperatures – Glaciers are melting - Sea levels rise
- Sea water becomes more acidic – Sea animals and plants are perishing
- Need of fossil fuel for transportation – Increase of greenhouse gas emissions
- High temperature extremes - Large wildfires occur more frequently – Desertification - Shortages of water and food - Regions become uninhabitable

c) Students could then discuss in small groups and draw some conclusions about the real situation of Climate Change, using these questions as a guideline:

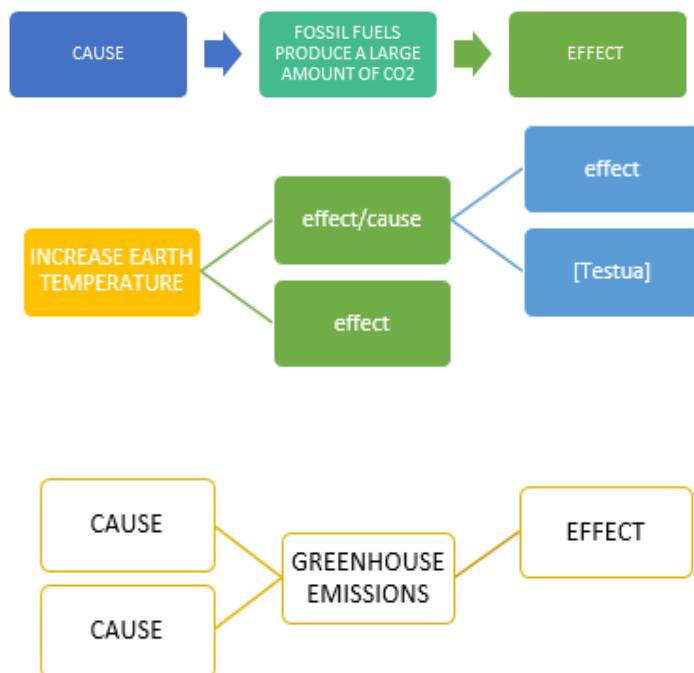
1. Do you think climate change is real? Why?
2. What do you think are the main causes for it?

* In you find yourself stretched for time, or if you think your students have enough knowledge about Climate Change, you could skip activity B (where they learn more about the topic).

Climate Change Step 1, Part 2 – Students handout 2

CLIMATE CHANGE: CAUSE & EFFECTS

The main cause of climate change is the emission of greenhouse gases, especially CO₂ and methane. The (increased) emission of these gases is caused mainly by human actions during the last centuries. Such gases cause a variety of effects that, at the same time, are the cause of different effects. It is also possible that an effect is triggered by different causes, or that a cause creates different effects. To dive deeper into this cause-effect relationship and the option of multi-causality, please choose from these flow charts and use them to create cause-effect chains including some of the provided statements.



- ANIMALS AND PLANTS HAVE TO MIGRATE
- DESERTIFICATION
- DIET BASED ON MEAT
- EARTH TEMPERATURE IS INCREASING
- FLOODING IS BECOMING MORE FREQUENT
- FOSSIL FUELS PRODUCE A LARGE AMOUNT OF CO₂
- GLACIERS ARE MELTING
- GREENHOUSE EMISSIONS
- HEAVY PRECIPITATION IS MORE FREQUENT
- HIGH TEMPERATURE EXTREMES
- INCREASE OF EARTH TEMPERATURE
- INCREASE OF OCEANIC TEMPERATURE
- INCREASE OF GREENHOUSE GAS EMISSION
- LARGE WILDFIRES OCCUR MORE FREQUENTLY
- LESS FOOD FOR POPULATION
- LESS LAND FOR AGRICULTURE
- LESS TREES TO ABSORB CO₂
- MANY SPECIES MOVE TO NEW LOCATIONS
- NEED FOSSIL FUEL FOR INDUSTRY PRODUCTION
- NEED OF FOOD FOR POPULATION
- NEED OF FOSSIL FUEL FOR

3) Introduction of the research question: how do you think we should deal with climate change?

a) Ask students to individually write down their reflections on the research question.

* At the end of the project, students will come back to the enquiry question and write down reflections on it for a second time, comparing their responses to see if they have modified/developed ideas on the topic. It would be a good idea to take a picture of the ideas written on the blackboard.

* More information about **birth strike** (for teachers):

<https://www.theguardian.com/lifeandstyle/2019/mar/12/birthstrikers-meet-the-women-who-refuse-to-have-children-until-climate-change-ends>

Step 2, Part 1: The ‘then and now’ of Climate Change

Students discuss climate change as an all time, worldwide phenomenon, using the fact sheet about climate change throughout history.

They will also analyse the timeline of conferences and weather events of the last decades to be aware of the consequences that these agreements have had for climate change. This will give them an idea of how policies concerning climate change have changed over time, and what still has to be done.

Introduction

During this lesson, students will learn about historical examples of climate change and identify different types of effects that climate change has had in history. They will then look at conferences and weather events from the last decades in order to draw some conclusions about how political decisions have or have not been implemented, and what the contemporary consequences of those decisions are.

Lesson objectives

- Students will have group discussions about climate change as an all time, worldwide phenomenon, using texts on different types of climate change events throughout history.
- Students will draw some conclusions about similarities and differences between these events throughout history.
- Students will analyse the climate change timeline that includes conferences, treaties and the extreme weather events of the last decades in order to be aware of the intentions and real actions taken by governments, and the real effects on the weather.

Preparation and materials

- Factsheets with information about Climate change in history. There are three documents about this topic.
- Climate change in history ([annex 1](#)) with explanations for teachers. This information can be used to explain the historical context to students before they start analysing the examples of climate change events in history.
- Climate change events in history ([annex 2](#)). Various events related to different historical periods are explained briefly.

- Climate change deeper explanations ([annex 3](#)). There are three examples of climate change events in history with deeper explanations for higher level students.

Depending on the level of your students, choose which of the documents you want to use with your students. Give a copy of the document to each group of 3-4 students and tell students to share the events among them.

- Timeline with information about climate change. This timeline gives information about important worldwide conferences and treaties concerning climate change during the last decades, and the annual summary of the most recent extreme weather events. ([Climate change digital timeline](#))
- A handout with different extreme weather newspaper headlines. The overview includes a “?” mark in order to motivate students to think about local/national examples. ([annex 4](#))
- Graphs and tables about climate effects and climate change development created by the UN Climate Change Secretariat and WMO. ([annex 5](#) and [annex 6](#))

* Depending on the time you have, you can focus only on some of the aspects (climate change in history, conferences, weather events...)

Planning grid

1) Analysing climate change in history

a) Students should read the short text about climate change in history in small groups and discuss the main differences in causes and effects between different events. How did people cope with climate change in the past?

b) Come to a short conclusion in a whole class procedure. Students might conclude that climate change has happened throughout history worldwide, and that the effects were very important. The main

difference is that nowadays, the main cause of change is human action, and the number of effects will multiply in a short time.

2) Analysis of agreements, facts and weather events

a) Organise the class in three groups and tell students to analyse the information in the sources using the given questions as their guideline (model: experts).

1. Some students will analyse the conferences and treaties that appear in the climate change timeline. They can find some recent examples of agreements and disagreements and analyse them:
 - What countries are involved: which countries have signed or agreed with it? Which countries have not?
 - Have the agreements already been implemented?
 - Is it possible to notice the effects of these agreements?

2. Some students will analyse the weather events that appear in the climate change timeline, including the handout with weather events headlines. They can find some recent examples of different events and analyse them:

- Which are the main weather events?
- What countries or regions are involved?
- What are the consequences (social, economic, ...) of these events?
- What will happen in a few years if things do not change?
- Add one or two headlines about extreme weather events that have happened recently in your city or country.

3. Some students will analyse the climate change developments that appear in graphs and tables. They can choose some graphs or tables and analyse them:

- What are the main consequences of climate change?
- What countries and/or regions are involved?
- Which economic sectors are involved?

- What are the consequences (social, economic, ...) of climate change?
- What will happen in a few years if things do not change?

b) Reorganise the class in groups of three or six, with one or two experts on each topic in each group. Tell them to inform each other about the main ideas that have appeared in each group and reflect on the consequences that climate change will bring if we do not take actions to mitigate them.

3) Final discussion

Put the whole class together and discuss the solutions that politicians have or want to implement. Discuss with the students whether they think that the way politicians are dealing with climate change will make a real difference, and if not, what should be done.

Annex 1 (teachers)

Climate change in history

The climate is always changing. There were ice ages and warmer periods when alligators were found in Spitsbergen. Ice ages have occurred in a 100,000-year cycle for the last 700,000 years, and there have been previous periods that appear to have been warmer than the present despite CO₂ levels being lower than they are now. More recently, we have had the medieval warm period and the little ice age.

Greenhouse gases, mainly CO₂ but also methane, were involved in most of the climate changes in the past. When they were reduced, the global climate became cooler. When they were increased, the global climate became warmer. Volcanic eruptions have caused strong cooling following a period of unusually heavy activity.

When CO₂ levels jumped rapidly, the global warming that resulted was highly disruptive and sometimes caused mass extinctions. Symptoms from those events include big, rapid jumps in global temperatures, rising sea levels and ocean acidification. Humans today are emitting prodigious quantities of CO₂ at a rate faster than even the most destructive climate changes in the planet's past.

The concentration of carbon dioxide has been increasing since the beginning of the Industrial Revolution. From 289 ppm of carbon dioxide in the atmosphere in 1750, to 380 ppm by 2005 and to 407 ppm in 2018. Most of the increase has occurred since 1959, as world energy usage has expanded dramatically.

Source: [Skeptical science](#)

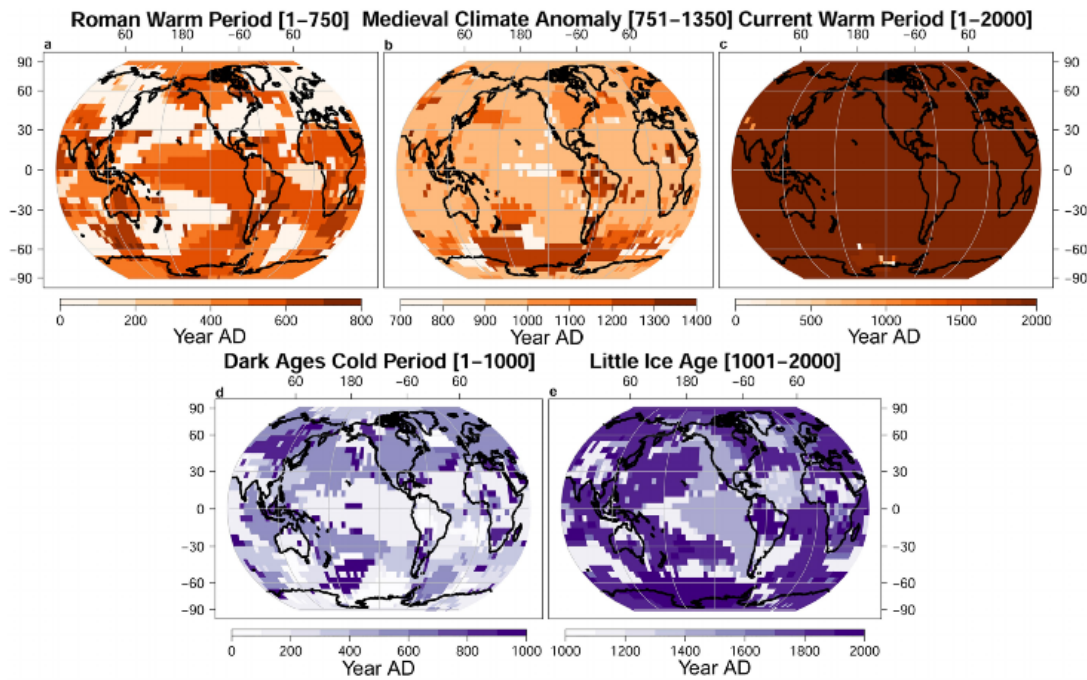


Fig. 3 | Timing of peak warm and cold periods. a–c, Centuries with the highest ensemble probability of containing the warmest (a–c) and coldest (d, e) 51-year period within each putative climatic epoch (see Methods). The full time ranges over which the search was performed for each epoch are indicated in parentheses. The numbers on the y axis and upper x axis are degrees latitude and longitude.

Maps: Raphael Neukom¹, Nathan Steiger², Juan José Gómez-Navarro³, Jianghao Wang⁴ & Johannes P. Werner, [No evidence for globally coherent warm and cold periods over the preindustrial Common Era](#), *Nature* July 2019, page 3

Annex 2

Some examples of climate change in history:

***Early Bronze Age.** The climate was warm in Europe at altitudes now beyond cultivation, such as Dartmoor, Exmoor, the Lake district and the Pennines in Great Britain. The climate appears to have deteriorated towards the Late Bronze Age, with a period of unusually cold climate in the North Atlantic region 1800-1500 BC.

Source: BROWN Tony, *The Bronze Age climate and environment of Britain*, 2008

***Prehistoric Central North Africa.** Climate cooler and wetter, some parts of the present Saharan desert may have been populated, judging by cave art and other signs of settlement in the area.

Source: *Historical climatology*, Wikipedia

***Roman Warm Empire.** The first known global pandemic struck in 451 AD and recurred until 750 AD leading to the premature death of up to a quarter of the human population in the Eastern Mediterranean region. The plague of Justinian (536-750 AD) coincided with a period of major climate change in the Eastern Mediterranean. The largest dry to wet climatic shift of the last 11,000 years occurred in the 6th century AD. This was briefly interrupted (535-536 AD) by a climatic reversal and failure of harvests which may have been caused by a major volcanic eruption. The climatic instability created the environmental condition to allow the plague to spread exceptionally quickly with devastating consequences for human mortality.

The Justinian plague era came to an end when the climate became drier once again. The wetter climate would have increased the number of rats and other rodents which carry fleas, which in turn carry the plague bacterium.

Source: *Climate change and the Plague of Justinian*, University of Plymouth

***Warm Period in Middle Ages.** There was a warm period between about 800-1300 AD. During this period some parts of the globe may have been warmer than they are today, such as the North Atlantic. The effects of the warm period were particularly evident in Europe, where grain crops flourished, many new cities arose, and the population more than doubled. During this period, the Vikings colonised southern Greenland because the milder climates allowed favourable open-ocean conditions for navigating. The Greenland settlement lasted until 1300 AD when the little Ice Age ended the possibility of farming.

Source: *Why Greenland Viking vanished*, Smithsonian, 2019, *Medieval warm period*, Skeptical Science

***1046 Cold winter** in the middle of the Warm Period. As it appears in the Anglo-Saxon Chronicle (1046): “And in this same year after the 2nd of February came the severe winter with frost and snow and with all kinds of bad weather, so that there was no man alive who could remember so severe winter as that, both through mortality of men and disease of cattle; both birds and fishes perished through the great cold and hunger.”

Source: *The Little Ice Age Was Not So Little*, Alternate history, ASB-Environmental

***Medieval Little Ice Age.** In 1300, temperatures dropped dramatically in parts of Europe and North America. The Little Ice Age was not a time of continuous cold climate, but rather repeated periods of cooling and warming, each of which occurred during times of solar minima, that lasted until 1800.

With the colder climate, early snows, violent storms, and recurrent flooding massive crop failures occurred, resulting in famine and disease. Glaciers began advancing and pack ice extended southward in the North Atlantic, blocking ports and affecting fishing.

The change from the warm to the cold period was abrupt and devastating, leading to the Great Famine from 1310 to 1322. Continuous rain impeded the sowing of grain crops, and harvests failed once and again. Diseases increased, people died of starvation, and many farms were abandoned. 1316 was the worst year for cereal crops in the entire Middle Ages. Cattle could not be fed, hay wouldn't dry and couldn't be moved so it just rotted.

Sources: *Medieval Warm Period*, Science direct, EASTERBROOK, D, *Evidence Based Climate Science*, HUHTAMAA, H, *Climate and the Crises of the Early Fourteenth Century in Northeastern Europe*

***Europe's 'bleak midwinter' of 1430-1440** made dramatic changes in response to food shortages and famine caused by exceptional cold. Crops failed, food and fuel prices rose. Malnutrition and famine struck many parts of Europe. Weakened populations fell prey to disease and pestilence, worsened by environmental and living conditions. Authorities responded by changing trade policy, banning food exports and introducing new approaches to protect people from hunger, such as communal granaries for storage. Norse colonies in Greenland starved and vanished as crops failed and livestock could not be maintained through increasingly harsh winters.

Source: *What can a Medieval Climate crisis teach us about Modern day warming*, The Guardian, 2016

***17th century Little Ice Age.** The coldest temperatures in Northwestern Europe and southeastern North America. This Ice Age is well documented by paintings, diaries, and events held on frozen lakes and rivers in the 17th and 18th centuries. The most serious period was from 1645 to 1715, during which sunspots became exceedingly rare.

Temperatures in Europe decreased, snow and ground frost became frequent, glaciers in the Swiss Alps reached farms and buried villages. Sea ports were blocked in Iceland and Holland and cereal grain harvests failed, leading to mass famines. The Thames River and canals and rivers of the Netherlands froze over during the winter. The population of Iceland decreased by about half.



Jan Griffier – *The Great Frost* – 1663
(Thames River, London)

In parts of China, warm-weather crops that had been grown for centuries were abandoned. In North America, early European settlers experienced exceptionally severe winters.

Source: *Environmental History Resources*

***Europe's Little Ice Age in 1790-1830.** Cold weather, cool temperatures, low sunspot activity; it was a time of intense cooling and great hardship. Widespread famines due to crop failures spread across Europe. Several notable events occurred during this period, including the French Revolution and Napoleon's defeat in Russia because of a bitterly cold winter. The 1794-95 winter was particularly harsh, which concluded in bad harvests and food shortage.

***1815, the year without a summer,** due to volcanic dust, happened in the middle of the Little Ice Age from 1790 to 1830. Evidence suggests that this phenomenon was caused by the 1815 eruption of Mount Tambora in April in the Dutch East Indies (now Indonesia). This eruption was the world's largest eruption in at least 1,300 years. The result was a further reduction in solar irradiance that brought record cold to much of the world during the summer. The unusual cold caused crop failure, an increase in food prices, widespread famine, and epidemics of cholera and other diseases.

Source: *Blast of the Past*. Smithsonian magazine

***Beginning of the Industrial era.** Some studies reveal that warming in some regions actually began in the 1830s, as an immediate effect of burning fossil fuel. That warming did not develop at the same time across the planet. The tropical oceans and the Arctic were the first regions to begin warming in the 1830s. Europe, North America and Asia followed two decades later.

With the dawn of the Industrial age and the burning of fossil fuels such as coal, natural gas and oil, humans began to significantly add to the amounts of carbon dioxide and other greenhouse gases in the atmosphere, enhancing the planet's natural greenhouse effect and causing higher temperatures.

Source: *The industrial revolution kick started global warming much earlier than we realised*, The conversation.

Annex 3

DEEPER EXPLANATIONS OF SOME HISTORICAL CLIMATE CHANGES

***Warm Period in Middle Ages**

There was a warm period between about 800-1300 AD. During this period, some parts of the globe may have been warmer than they are today, such as the North Atlantic. The effects of the warm period were particularly evident in Europe, where grain crops flourished, alpine tree lines rose, many new cities arose, and the population more than doubled.

Excavations have shown the presence of birch trees during the early Viking period. The Vikings took advantage of the climatic amelioration to colonise southern Greenland in 985 AD, when milder climates allowed favourable open-ocean conditions for navigation and fishing. Erik the Red explored Greenland from Iceland and gave it its name. He claimed land in southern Greenland and became a chieftain in about 985 AD. Greenlanders brought grain seed, probably barley, oats and rye, horses, cattle, pigs, sheep and goats. The southern coastal area was forested at the time. Greenland settlements lasted about 500 years before cooling during the Little Ice Age ended the settlements. From 1000 to 1300 AD the settlements thrived under a climate favourable to farming, trade, and exploration. A cooling, steadily deteriorating climate began after 1300 AD and farming became impractical. A bishop who travelled there about 1350 AD found that the settlement was completely abandoned. The church abandoned Greenland in 1378 AD because ships could not get through the sea ice between Iceland and Greenland.

During the Medieval Warm Period, wine grapes were grown as far north as England or North America, where growing grapes is now not feasible, and about 500 km north of present vineyards in France and Germany. Wheat and oats were grown around Trondheim, Norway, suggesting that the climate was about 1°C warmer than it is at present.

Evidence also suggests that some places were very much cooler than today including the tropical pacific. This arid period may have depopulated the Great Plains of North America.

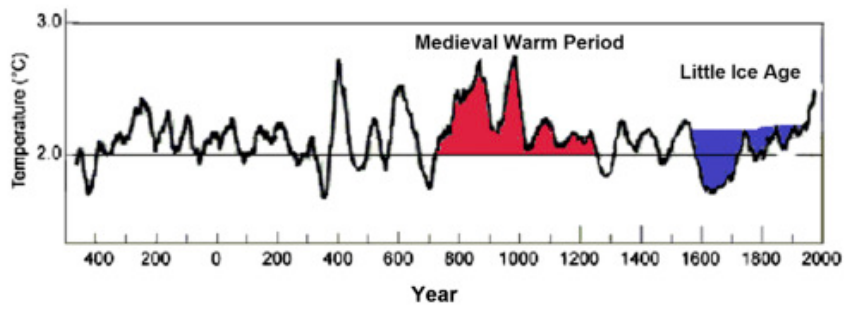


Figure 21.10. Temperature reconstruction from tree rings in China. (Red = warm, blue = cool.)

Graphic source: EASTERBROOK,, *Evidence-Based Climate Science*, Nature, 2016

Source: *Why Greenland Viking vanished*, Smithsonian, 2019, *Medieval warm period*, Skeptical Science

*Medieval Little Ice Age

At the end of the Medieval Warm Period, ~**1300 AD**, temperatures dropped dramatically in parts of Europe and North America and the cold period that followed is known as the Little Ice Age. The periods of colder climate that ensued for five centuries were devastating. The population of Europe had become dependent on cereal grains as a food supply and with the colder climate, early snows, violent storms, and recurrent flooding that swept Europe, massive crop failures occurred, resulting in widespread famine and disease. Glaciers in Greenland and elsewhere began advancing and pack ice extended southward in the North Atlantic, blocking ports and affecting fishing.

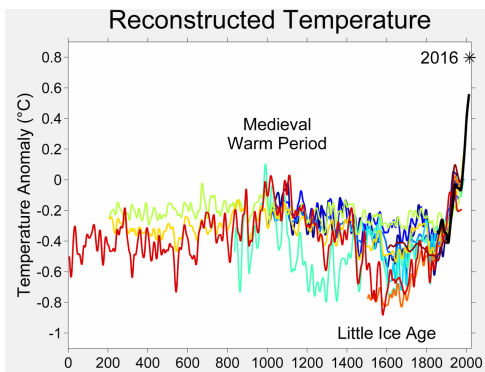
The change from the warm to the cold period was abrupt and devastating, leading to the Great Famine from 1310 to 1322. In the winter of 1309–1310, the Thames River froze over and poor people were especially affected. The year 1315 was particularly bad. Jean Desnouelles wrote at the time:

“Exceedingly great rains descended from the heavens and they made huge and deep mud-pools on the land. Throughout nearly all of May, June, and August, the rains did not stop.” Corn, oats, and hay crops were beaten to the ground, August and September were cold, and floods swept away entire villages. Crop harvests in 1315 were a disaster, affecting an enormous area in northern Europe. In some places, up to half of farmlands was eroded away. Cold, wet weather prevented grain harvests, and fall plantings failed, triggering famines.

In 1316 AD, spring rain continued, impeding the sowing of grain crops, and harvests failed once again. Diseases increased, newborns and elderly people died of starvation, and multitudes scavenged anything edible. Entire communities disappeared and many farms were abandoned. This year was the worst for cereal crops in the entire Middle Ages. Cattle couldn't be fed, hay wouldn't dry and couldn't be moved so it just rotted.

Thousands of cattle froze during the bitterly cold winter of 1317–1318 and many others starved. The cold immobilised shipping. Rain continued through the summer and people suffered for another seven years.

The Little Ice Age was not a time of continuous cold climate, but rather repeated periods of cooling and warming, each of which occurred during times of solar minima, characterised by low sunspot numbers, low total solar



irradiance, decreased solar magnetism, increased cosmic ray intensity, and increased production of radiocarbon and beryllium in the upper atmosphere.

Graphic source: 2000 year temperature comparison,
Wikimedia

Sources: Medieval Warm Period, Science direct,
EASTERBROOK, D, Evidence Based Climate Science,
HUHTAMAA, H, Climate and the Crises of the Early
Fourteenth Century in Northeastern Europe

***1815, the year without a summer,**

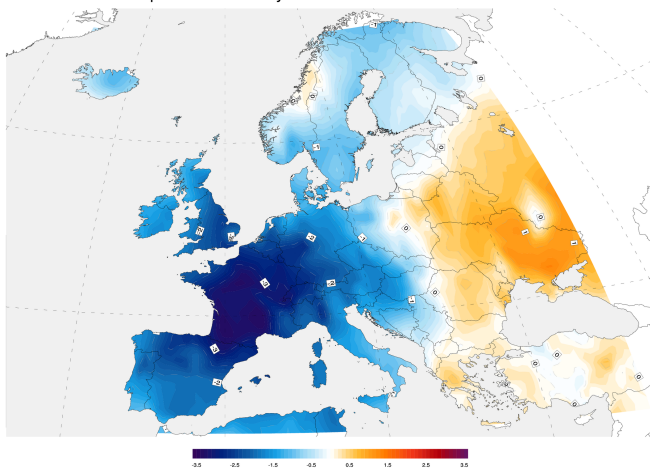
happened in the middle of the Little Ice Age from 1790 to 1830 due to volcanic dust. This year was also called the Poverty Year, because of severe climate abnormalities that cause average global temperatures to decrease by 0.4–0.7 °C., which resulted in major food shortages.

Evidence suggests that the anomaly of having the lowest sun spot number to date since record, was predominantly caused by the 1815 eruption of *Mount Tambora* in April in the Dutch East Indies (now Indonesia). This eruption was the world’s largest eruption in at least 1,300 years. It ejected immense amounts of volcanic ash into the upper atmosphere, where the jet stream carried it around the world. The result was a further reduction in solar irradiance that brought record cold to much of the world during the summer. The unusual cold played havoc with agricultural production in many parts of the world, resulting in crop failures, dramatic increases in food prices, famine, cultural disruptions, and epidemics of cholera and other diseases. Rapid, dramatic temperature changes occurred frequently, as temperatures sometimes went from above-normal summer levels to near freezing within hours. U.S. grain prices at least quadrupled, and oat prices increased almost eightfold.

Elsewhere around the world, famine, riots, arson, and looting occurred in many European cities, while China suffered from massive crop failures and disastrous floods. A disruption in the Indian summer monsoon spread a cholera outbreak

from a region near the River Ganges all the way to Moscow. “The Year Without a Summer” also had cultural effects:

1816 Summer Temperature Anomaly



- The lack of oats to feed horses likely inspired German inventor Karl Drais to research new ways of horseless transportation, which led to his invention of the precursor to the bicycle.

- Many Americans left New England for the Midwest, accelerating the westward movement of the American people. Vermont alone had as many as 15,000 people emigrate, including the family of Joseph Smith, who moved from Norwich, Vermont, to Palmyra, New York. This move

may have made possible the publication of the Book of Mormon and the founding of the Church of Jesus Christ of Latter-day Saints.

- In June 1816, Mary Shelley was forced by the weather to spend her Swiss holiday indoors with her literary companions, where to pass the time they decided to have a contest to see who could write the scariest story. The result was the novel *Frankenstein; or, The Modern Prometheus*.

Map source: *Year without summer*, Wikipedia.
source: *Blast of the Past*. Smithsonian magazine

Annex 4

WEATHER HEADLINES

Brazil counts the cost after highest recorded rainfall in 110 years
Flooding and landslides kill at least 30 people and 2,600 are evacuated from their homes
Wed 29 Jan 2020

Nine dead and four missing as storm Gloria batters Spain
22 Jan 2020
High winds, heavy rain, snowfall and huge waves lash eastern regions

Storm Dennis: flood-hit communities brace for more heavy rain
Rivers Severn, Teme and Wye will remain high as rain builds up again from Wednesday morning
Wed 19 Feb 2020

'Unprecedented' globally: more than 20% of Australia's forests burnt in bushfires
Researchers' figure contrasts starkly with proportion of forest burned over such a period on any other continent
Mon 24 Feb 2020

All-time temperature records tumble again as heatwave sears Europe
Highs in Germany, Netherlands and Belgium exceeded for second time in 24 hours
Fri 26 Jul 2019

Storms in France, Greece and Italy leave 'biblical destruction'
Nine people die as weekend of heavy rain brings landslides, floods and collapsed overpass
Mon 25 Nov 2019

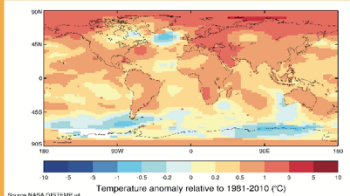
A heat wave in Antarctica melted 20% of an island's snow in 9 days
February 24, 2020

?

Annex 5

THE GLOBAL CLIMATE 2015–2019

GLOBAL TEMPERATURE RISE

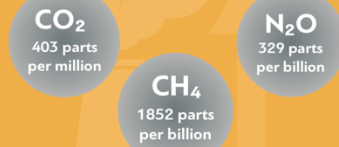


Global five-year average temperature anomalies relative to 1981–2010 for 2015–2019. Data are from NASA GISTEMP v4. Data for 2019 to June 2019.

- 2015–2019
 - Warmest five-year period
 - 0.2 °C higher than 2011–2015
- 2016
 - Is the warmest year on record, over 1 °C higher than pre-industrial period

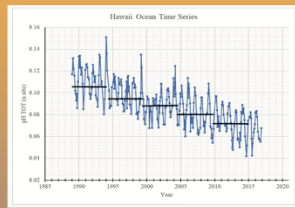
GREENHOUSE GAS CONCENTRATIONS INCREASE

Global mean surface concentrations 2015–2017



OCEAN ACIDIFICATION

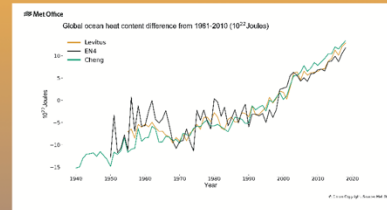
Ocean acidity increasing due to rising CO₂



pCO₂ and pH records from three long-term ocean observation stations. Credit: IOC-UNESCO, NOAA-PMEL, IAEA OA-ICC.

OCEAN WARMING

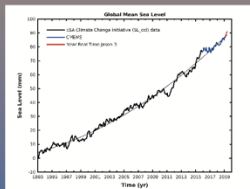
In 2018, global ocean heat content reached record levels



Source: NOAA NCEI, UK Met Office, IAP.

SEA LEVEL CONTINUES TO RISE

Global sea level continued to rise
Ice melt major contributor



Data source: European Space Agency (ESA) Climate Change Initiative (CCI) sea level data until December 2015, extended by data from the Copernicus Marine Service (CMEMS) as of January 2016.

CRYOSPHERE

Ice melt is an indicator of global warming.

Arctic

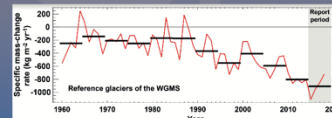


Arctic average summer minimum and winter maximum sea-ice extents were well below the 1981–2010 average every year from 2015 to 2019.

Antarctic



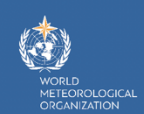
Antarctic experienced its lowest and second lowest summer sea-ice extent in 2017 and 2018, respectively.



Average of observed annual specific mass change rate of all World Glacier Monitoring Service (WGMS) reference glaciers, including pentadal means.

EXTREME EVENTS

Mortality and economic losses



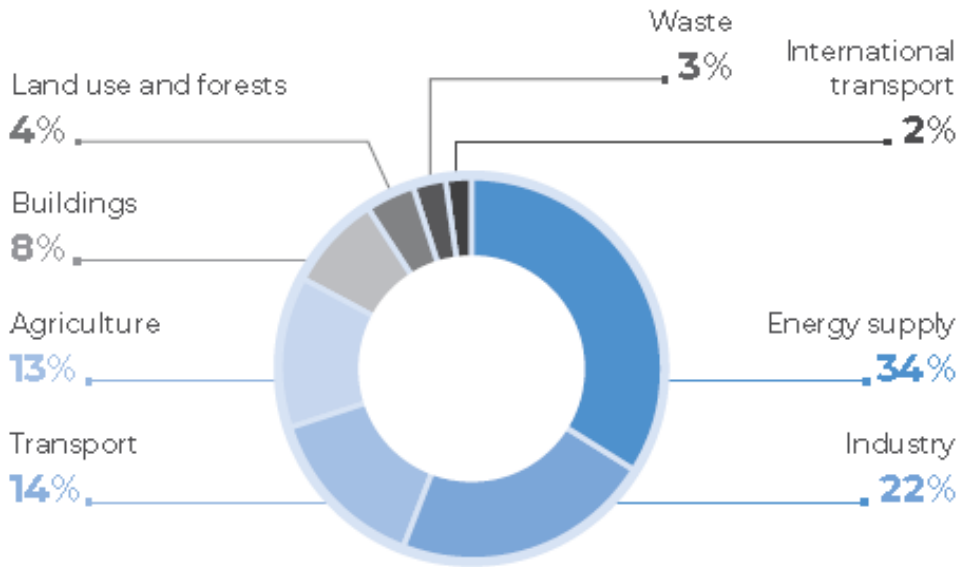
The **Global Climate in 2015–2019** is part of the WMO Statements on Climate providing authoritative information on the state of the climate and impacts. It builds on operational monitoring systems at global, regional and national scales. Authored by: Peter Siegmund, lead author (Royal Netherlands Meteorological Institute), Jacob Abermann (University of Graz, Austria), Omar Baddour (WMO), Pep Canadell (CSIRO Climate Science Centre, Australia), Anny Cazenne (Laboratoire d'Etudes en Géophysique et Océanographie Spatiales CNES and Observatoire Midi-Pyrénées, France), Chris Derksen (Environment and Climate Change Canada), Arthur Garreaud (Météo-France), Stephen Howell (Environment and Climate Change Canada), Kiratoni Isensee (IOC-UNESCO), John Kennedy (UK Met Office), Ruth Mottram (Danish Meteorological Institute), Matthias Huss (ETH Zürich), Rodica Nitu (WMO), Selvaraju Ramasamy (Food and Agriculture Organization of the United Nations (FAO)), Katherina Schoo (IOC-UNESCO), Michael Sparrow (WMO), Oksana Tarasova (WMO), Blair Trewin (Bureau of Meteorology, Australia), Markus Ziese (Deutscher Wetterdienst (DWD))

Annex 6

Climate action and support trends

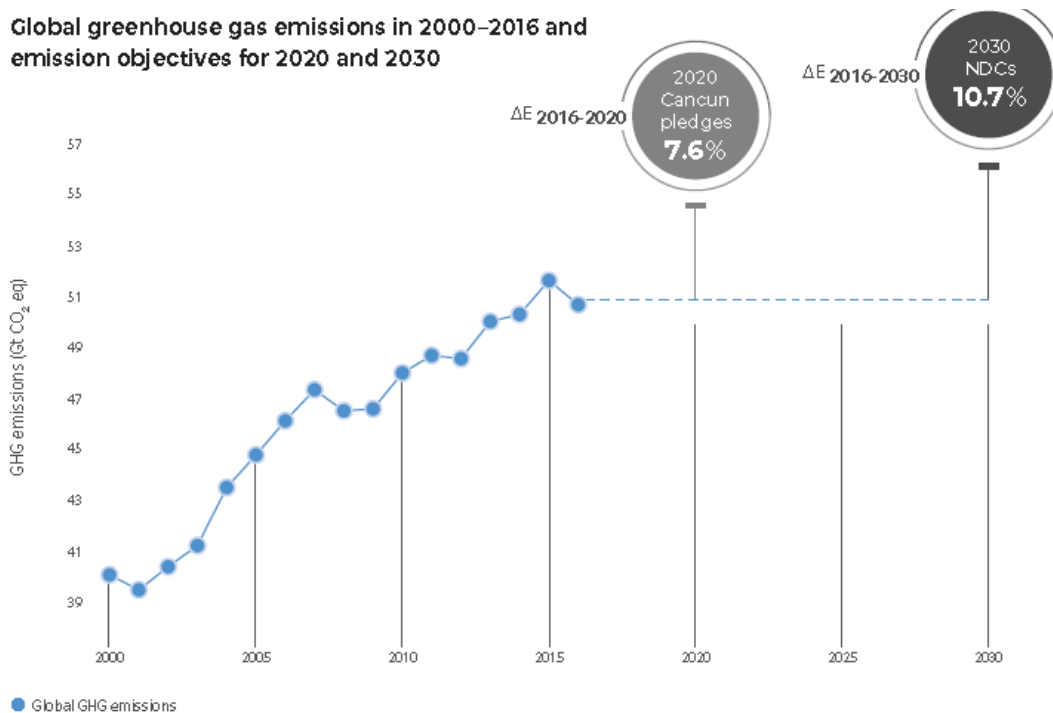
2019 United Nations Climate Change Secretariat

Global greenhouse gas emissions by sector in 2016



Source: UNFCCC

Global greenhouse gas emissions in 2000–2016 and emission objectives for 2020 and 2030



Source: UNFCCC

Impacts in key vulnerable sectors identified in Parties' intended nationally determined contributions

Sector	Observed and projected impacts
Agriculture	<ul style="list-style-type: none"> › Increased frequency and severity of crop disease › Increased soil erosion › Losses in agricultural production and crop yield due to extreme weather
Water	<ul style="list-style-type: none"> › Changes in water distribution › Reduced water availability and quality
Health	<ul style="list-style-type: none"> › Hunger and malnutrition due to increased food insecurity › Increase in water-borne diseases such as diarrhea due to water scarcity › Increase in vector-borne diseases such as malaria due to higher temperatures › Mortality and morbidity due to extreme events
Forestry	<ul style="list-style-type: none"> › Increase or projected increase in forest fires › Changes in the distribution of forest species
Biodiversity	<ul style="list-style-type: none"> › Changes in the timing and duration of growing seasons › Changes in the distribution of species › Species endangerment and extinction
Coastal zones	<ul style="list-style-type: none"> › Increased risk of flooding and inundation due to extreme weather › Increased coastal erosion › Changes to coastal ecosystems › Alterations in sediment deposition patterns
Fisheries	<ul style="list-style-type: none"> › Changing population numbers and distribution because of ocean acidification and ocean circulation patterns › Habitat loss and degradation for marine animals
Tourism	<ul style="list-style-type: none"> › Reduced winter tourist traffic due to reduced snow cover › Archaeological sites and ancient buildings threatened by extreme weather › Endangered tourist areas due to coastal erosion and sea level rise
Energy	<ul style="list-style-type: none"> › Challenges for thermal generation › Higher demand for cooling › Economic losses due to interruptions caused by extreme weather

Adaptation measures identified by Parties in priority sectors

Sector	Examples
Agriculture	<ul style="list-style-type: none"> › Drought-resilient crops › Food storage, monitoring and distribution › Training for farmers, local administrators and other stakeholders › Implementing climate criteria for agricultural programmes › Adapting agricultural calendars
Water	<ul style="list-style-type: none"> › Water harvesting, storage, metering and saving tools › Integrated water resource management practices › Water treatment facilities › Enhancing water allocation schemes › Public awareness campaigns
Health	<ul style="list-style-type: none"> › Developing contingency plans for health emergencies › Early warning systems for extreme events › Public awareness campaigns
Forestry	<ul style="list-style-type: none"> › Sustainable forest management, including through community forest management › Quantitative objectives for forest protection › Economic incentives for forest protection
Biodiversity	<ul style="list-style-type: none"> › Establishing protected areas and biodiversity corridors › Recovering ecosystems, including forests and marine (mangroves and coral reefs) › Providing water and food points for wildlife
Coastal zones	<ul style="list-style-type: none"> › Coastal afforestation, including mangroves › Integrated coastal zone management practices › Sand banks and structural technologies › Implementing local monitoring networks
Fisheries	<ul style="list-style-type: none"> › Aquaculture › Using technology for open sea cultivation › Monitoring, diagnosing and treating diseases
Tourism	<ul style="list-style-type: none"> › Nature-based and sustainable tourism › Diversification of tourism offerings › Artificial snow in ski areas
Energy	<ul style="list-style-type: none"> › Diversification of energy generation › Climate proofing, and integrating climate considerations into energy sector investments › Public awareness campaigns to increase energy efficiency
Disaster risk management	<ul style="list-style-type: none"> › Early warning systems › Risk management institutions › Hazard mapping › Resilience standards for buildings and infrastructure › Emergency operation plans

Step 2, Part 2: Different perspectives in Climate Change

Students will analyse and make inferences about how different people - characters in the clip and others - deal with climate change. This will help them draw conclusions about their perspectives on fighting against it. It will increase their understanding of the different ways in which climate change is viewed, and deepen their knowledge on the variety of options for dealing with the issue.

Introduction

During this lesson, students will learn more about climate change by analysing how some people take action to deal with it, in order to be aware of the different ways of answering to the issue.

Objectives

- Students will analyse and make inferences about how different people, amongst others the characters of the clip, deal with climate change in order to draw conclusions about their own perspectives.
- Students will experience that exploring different perspectives, gathering more facts and analysing those, is basic to the development of a well-considered personal view.
- Students will brainstorm to find possible answers to the research question.

Preparation and materials

- Character cards with some protagonists from the videoclip, and other characters that have different perspectives on climate change. The characters that appear in the video clip are *Blythe Pepino* and *Margaret Thatcher*. The other characters are: *Wangari Maathai*, *Sebastia and Leila Salgado*, *William Robert Kininmonth*, *Wibjorn Karlen*, *Greta Thunberg*, *Jason Warner*, *Boyan Slat*, *Blanca Bernal*, *Werner Baumann*, *Xi Jinping* and *Skeena Rathor*. The characters all have unique perspectives on climate change and act upon those in different ways ([Annex 1](#))
- There are thirteen different characters, so divide the class in 13 groups. Depending on the number of students in your class, you will have groups of 1-3 students. Each group will study a different character. Make enough copies of the character cards for each group. If you prefer to have less

characters, you can make a selection. Try to maintain as many different perspectives as possible. Here you is some additional information about the characters to help you do so.

a. People dealing with climate change:

- Scientists: **Blanca Bernal**
- Companies: **Jason Warner (Budweiser)**
- NGOs: **Blythe Pepino, Wangari Maathai, Greta Thunberg**
- Individuals: **Sebastia and Leila Salgado, Boyan Slat**
- Politicians: **Margaret Thatcher**

b. Anti-climate change/sceptical people:

- **Wibjörn Karlén,**
- **William Robert Kininmonth**

c. Initiatives by people or companies that both aim to contribute to dealing with climate change, but whose impact is simultaneously controversial:

- Companies: **Werner Baumann (Monsanto)**
- Great constructions: **Xi Jinping (Three Gorges Dam)**
- Movements: **Skeena Rathor**

- In order to better understand the different perspectives on the topic, students will analyse the character cards to decide what perspective each of them has. Students will realise that motives and ideas of people involved often are based on feelings, hopes, fears and political ideologies.

Planning grid

1) Introduction and analysis of different characters

a) Give a copy of a different character card to each group. Before they start their analysis, start a the classroom discussion to remind the students who the characters from the video clip are (Blythe Pepino and Margaret Thatcher). Tell them that most of the other characters are not in the video clip.

b) Tell students to analyse the information that appears in the cards individually or in pairs/groups (depending on the number of students you have in class). Ask them to identify the perspective of those involved

in climate change, as well as how their character has dealt with it (researching, responding with an action, denying it, etc.).

c) Next, they will explain to the whole class what their conclusions are. Let students discuss the different perspectives.

d) Another option is to give each group all the character cards and ask students to rank them from most positive perspective to least positive perspective in dealing with climate change. Then, they can try to figure why each character has that perspective, how these characters deal with climate change, and what their solutions are.

2) Reflection on the research question

- a) To finish, ask students to reflect on why people act differently on climate change. What caused some people think differently than others? Why do they deal with the issue in such different ways? What reasons could they have for doing so?
- b) Students can finish this part individually by writing about some ways of fighting climate change.

3) Homework

Ask the students to look at news media for local, regional or national examples of how climate change is fought. Ask them to bring the example to school for the next lesson. This will help them to focus on the topic they will choose for the documentary.

ANNEX 1 CHARACTER CARDS

Blythe Pepino



This activist and musician (former singer of Vaults, now Mesadorm) is a member of the *BirthStrike* movement. In response to the coming climate breakdown and civilisation collapse, members of the movement have decided not to have children because they don't want to bring them up on this planet.

She fears that we, as a society, are not preparing for what is going to happen (loss of land, floods, food shortages, economic collapse). She wants to use her decision to catalyse change, and to force authorities to take action against climate change.

Margaret Thatcher

This former United Kingdom prime minister was already conscious of the reality and global threat of climate change in 1989.

With her speech to the UN in November 1989, Thatcher became the first prominent political leader to warn the world about the danger of climate change, and to outline a strategy for dealing with it. She brought up the threat from greenhouse gases and the “large hole” in the ozone layer. Some say that in the last 60 years, she has done more than anyone else to put environmental issues on the national and international agenda.



Wangari Maathai



Professor Wangari Maathai (1940-2011) was a renowned Kenyan social, environmental and political activist. She was the first African woman to win a Nobel Prize.

In 1977, she founded the Green Belt Movement: an environmental NGO focused on the planting of trees, environmental conservation and women's rights. The movement responded to the needs of rural Kenyan women who reported that their streams were drying up, their food supply was less secure, and they had to walk further and further to get firewood for fuel and fencing.

GBM encouraged women to work together to grow seedlings and plant trees to bind the soil, store rainwater, provide food and firewood, and to secure a small financial compensation for their work.

picture:

https://en.wikipedia.org/wiki/Wangari_Maathai#/media/File:Wangari_Maathai_in_2001.jpg

Sebastião and Lélia Salgado



Brazilian photographer Sebastião Salgado and his wife Lélia have planted 2 million trees in 20 years to restore a destroyed forest in Brazil, stimulating a revival in bio-diversity of insects, birds and fish.

In the 1990s, only about 0.5% of the land was covered in trees. Sebastião and Lélia founded Instituto Terra, a small

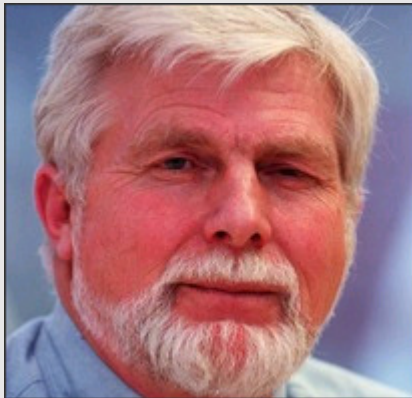
organisation that has since planted 4 million saplings and has brought the forest back to life. "Perhaps we have a solution." Sebastião said. "There is a single being which can transform CO₂ into oxygen, which is the tree. We need to start tree planting on a massive scale. You need a forest with native trees, and you need to gather the seeds in the same region you plant them, or the serpents, and the termites won't come. And if you plant forests that don't belong there, the animal population won't grow, and the forest will be silent."

Picture:

https://commons.wikimedia.org/wiki/File:Sebastião_Salgado_06.jpg#/media/File:Sebastião_Salgado_06.jpg

Wibjörn Karlén

Karlén is a retired professor of the Department of Physical Geography and Quaternary Geology from Stockholm University and a member of the Royal Swedish Academy of Sciences.



In 2010, he predicted that natural climate changes, caused to a large degree by the sun's activity, would more likely make the climate colder than warmer in the next decades.

He is part of the climate realists non-profit association that promotes a 'rational' climate

and energy policy. This group supports the claim that the scientific basis for climate policy is insufficient to justify the disruptive transformation of society that is now underway. Misguided measures without a secure scientific basis have negative consequences for the environment and the economy and do not have the intended effect.

“Newspapers should think about the damage they are doing to many persons, particularly young kids, by spreading the exaggerated views of a human impact on climate. As far as I can see, the IPCC 'Global Temperature' is wrong.

Temperature is fluctuating but it is still cooler than in the 1930s and 1940s. It will take about 800 years before the water level has increased by one meter.”

Picture: [Klimatrealisternas syfte](#)

Greta Thunberg

Thunberg is a 17-year-old Swedish environmental activist whose campaigning has received international recognition. She has given speeches at many institutions such as the UN Climate Change Conference, she spoke for the Pope, and she inspired 4 million people to join the global climate strike on September 20, 2019, in what became the largest climate demonstration in human history. Her aim is to urge immediate action to address the climate crisis.

She convinced her parents to adopt lifestyle choices to reduce their own carbon footprint. In 2018, she started spending her school days outside the Swedish parliament to call for stronger action on climate change with a sign reading Skolstrejk för klimatet (School strike for the climate). Soon, other students engaged in similar protests and they organised a school climate strike movement, Fridays for Future. “We can’t just continue living as if there was no tomorrow, because there is a tomorrow. That is all we are saying,” said Greta in 2019. A sailboat took her from the United States to Portugal to take part in Madrid’s Climate Summit without flying, in order not to increase her carbon footprint.



Picture: https://upload.wikimedia.org/wikipedia/commons/c/cd/Greta_Thunberg_4.jpg

Jason Warner

Warner is the Zone President for Europe at AB InBev beers, a Belgian multinational drink and brewing company that includes Budweiser. InBev is an example of a private company that makes an attempt to fight against climate change. Part of the company's 2025 sustainability goals is to purchase 100% renewable electricity for its operations. They are developing a solar farm in Spain that will provide 250 gigawatt hours or per year in 2020, in order to brew their beers across Western Europe with renewable electricity (the equivalent of nearly 670,000 homes). Jason Warner said that “as a brewer, we rely on natural ingredients to make our beers, so we know that sustainability is our business. From recycling CO₂ released in the brewing process to eliminating plastic from our packaging, we are constantly looking to have a net positive environmental effect.”



Picture:

https://www.solarpowerportal.co.uk/news/lightsource_bp_confirms_uks_biggest_ever_subsidy_free_solar_deal_with_budwe?utm_source=rss-feeds&utm_medium=rss&utm_campaign=general

Boyan Slat



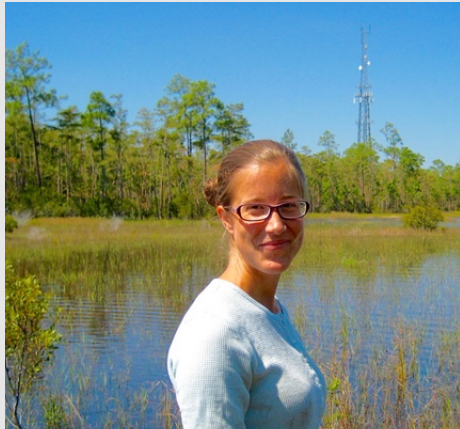
This 25-year-old Dutch entrepreneur has the ambitious goal of helping to eliminate millions of tons of plastic from our oceans. He wants to build a fixed barrier in the oceans which would allow the currents to pass, but which would capture plastic waste at the same time. The plastic concentrates in the center and can later be collected for recycling.

At 21, Boyan Slat founded *The Ocean Cleanup Project*. After a crowdfunding campaign with which he raised over 2 million dollars, his team built the first prototype in real scale.

By deploying a fleet of systems, The Ocean Cleanup estimates to be able to remove 50% of the Great Pacific Garbage Patch every five years.

The concentrated plastic will be brought back to shore for recycling and sold to B2C companies. The revenue gained will help fund the cleanup's expansion to the other four ocean gyres.

Picture: https://upload.wikimedia.org/wikipedia/commons/d/db/Boyan_Slat_%282018%29.jpg



Blanca Bernal

This Spanish scientist is a biogeochemistry analyst for ecosystem services and natural resources. She works at Winrock International where she applies scientific concepts and advances to practical strategies for sustainable development around the world in order to mitigate climate change.

In the winter of 2019-2020, she took part in a network of 100 international female scientists called the Homeward Bound Antarctic Program. Their objective was to fight climate change and to claim a role for women in science against gender inequality.

Blanca believes in the ability of communities to change society, and she hopes that Homeward Bound will inspire present and future generations to promote a more just, conscious, and sustainable world.

She is also one of the promoters of Ellas Lideran - a Spanish initiative committed to the empowerment and leadership of women to achieve a sustainable future.



Pictures: <https://chuffed.org/project/support-women-for-climate-change-action-and-gender-equality>

<https://www.winrock.org/women-and-climate-leadership/>

Werner Baumann



In 2018, Baumann, CEO of German company Bayer, led the acquisition of Monsanto - an American agrochemical and agricultural biotechnology corporation. Monsanto is the major producer of genetically engineered crops and one of the largest US corporations by revenues. The soybean, a key ingredient for feeding the world's cattle, pigs, chickens and fish, is modified to make it more resistant to insects and pests, and also more resistant to the herbicide glyphosate.

In 2019, the European Court of Justice dismissed an action brought by three German NGO's against the authorisation of genetically modified soy products. The NGO's argued that more research was necessary to determine the product's risks. In agreement with the NGO's, many environmental scientists say that it is possibly dangerous for people's health, for example by triggering allergic reactions (as they may contain genes from an allergen that it is not well studied), contributing to the development of cancer (as it can be dangerous to introduce new genes into the body) or that these crops could affect the ability of people to defend against illness by becoming resistant to antibiotics.

The resolution allowed Monsanto to continue selling genetically modified soybeans developed in South America (Argentina, Brazil, Paraguay and Uruguay).

The company argues that they provide solutions for a growing population. In its opinion, farms can slow the effects of climate change, as their crops require less water. These farms are more sustainable, with plants that are more adaptive and resilient and agriculture increases economic prosperity for all families and their communities.

Picture: <https://www.flickr.com/photos/palaciodoplanalto/48876250418>

Li Yongan



On Oct. 24th, 2008, Mr. Jiang Jufeng, Sichuan Provincial Governor and Mr. Li Yongan, General Manager of Three Gorges Corporation visited the construction site of Xiangjiaba Hydropower Plant.

Li Yongan, general manager of the Three Gorges Corporation, claims that the Three Gorges Dam is “the grandest project the Chinese people have undertaken in thousands of years.” At its peak, the construction team consisted of some 26,000 Chinese and foreign employees. The project is a symbol of China’s economic and technological progress, and generates renewable energy with

a capacity of 22.5 gigawatts. The project, proposed by President Sun Yat in 1918, was in controversy during decades due to its social and environmental impact.

The dam has brought a positive impact to the area and the whole country. The hydropower station generates 100 billion kilowatt hours, annually powering almost one third of China’s provinces. This reduces the emissions of carbon dioxide by 100 million tons, and substitutes the burning of more than 30 million tons of coal every year. At the same time, it has greatly improved navigation on the Yangtze River. The supporters also claim that the project has made devastating floods in the Yangtze Valley a thing of the past, and that it supplies water in the south during dry season, improving the quality of life of the resettled population. According to former President Jiang Zemin, the dam “embodies the great industrious spirit of the Chinese nation.”

However, on the other hand, the 600 km long reservoir displaced 1.3 million people when it began to store water in the 129 cities and towns, which are now under water. The environmental impact is also very high. Construction pollutants, pollutants from industry and agriculture, wildlife damage, alteration of the river’s chemical balance are all creating unusual weather conditions in the area. The Three Gorges Project has also created serious seismic and safety risks, and due to that, an additional 530,000 people had to be relocated by 2020.

Picture: <https://en.msdi.cn/en/profile/intro.php?m=24&m1=28&type=c> , picture n° 16

Skeena Rathor

Skeena Rathor co-leads the XR (Extinction Rebellion). She is the national spokesperson for XR, and she has appeared widely on TV and radio. Skeena, a mother of three, says that she is prepared to go to jail for her beliefs.



Extinction Rebellion is a global activist movement that seeks to push changes in climate policy. Founded in 2018, its first major demonstrations took place in Britain in November 2018, when hundreds of activists shut down bridges in central

London to spread its core message that climate change is not only threatening ecological collapse but human extinction. Since then, it has achieved remarkable success, and its demonstrators have staged spectacular acts of civil disobedience as part of their effort to persuade politicians to take action to reduce climate change. In Germany alone, there are 120 local XR groups with a total of about 20,000 members. It has now grown into an international movement with chapters all over the world, including the United States.

The group regularly causes civic disruption: members have thrown fake blood on pavements, vandalised buildings such as those owned by Shell Oil Co., they super-glued their bottoms to a window facing lawmakers in the House of Commons, blocked traffic and bridges across London, and occupied prominent sites in central London and the Parliament. Members of XR have said that “the situation is extreme, and we need to match that with extreme tactics. We actually don't think we are extreme enough.” Arrests are not an inconvenience for XR activists - they are part of the plan.

Not everyone regards the movement this way. Scotland Yard claimed that the protests are taking up more police resources than terrorism. In October 2019, during a coordinated series of demonstration in 60 cities around the globe, 1,832 people were arrested in London, and £21 million was spent on policing the protests, which caused widespread disruption and delays as streets were crowded and public transport was brought to a halt.

Picture source: <http://compassionatementalhealth.co.uk/wp-content/uploads/2019/05/SkeenaWEB.jpg>

Step 2, Part 3: Choosing the topic of the documentary

Students will choose the topic for their documentary, based on their own inspiration, the information from the news they will bring, the character cards, etc.

Introduction

During this part, students will choose the topic of the documentary they will create, taking ideas from the video clip, characters, news and the examples about climate change provided to them.

Objectives

- Students will organise themselves in groups of 4-6.
- Students will choose a topic for their research.

Preparation and materials

- Groups of 4-6 students.
- Information about climate change that students have to bring to class (newspaper, articles...)
- Handout with information about Change Makers to help students choosing their protagonist ([annex 1](#))

Planning grid

1) Introduction

- a) Tell students they will create the documentary in groups of 4-6. Make the groups or tell them to organise themselves into groups.

2) Choosing the topic

- a) Before they start choosing the topic, remind them that the issue of climate change is very complex.
 - Students can take ideas from the character cards and the news.
 - They can also read the Change Makers handout with different examples of personal choices and change makers to decide who they want to choose for their documentary (annex 1).

Be sure that each group has chosen the topic for the documentary by the end of this part, so that they can start doing research in the next step.

Annex 1 CHANGE MAKERS

Before you start off with the research for your documentary and watching the tutorials, we want you to take in consideration these two starting points:

1. A PERSONAL CHOICE

After getting all the background information and the different responses and initiatives on climate change, we want you to write down what **you** think would be the most urgent matter to change.

2. CHANGE MAKERS

For the documentary, try to connect your personal choice to a local change maker: someone who is trying to make a difference today or who has done so in the past. These are just some examples, if you look around you will find a lot of initiatives yourself:

- Cleaning up the beaches
In many countries there are initiatives where people unite to clean up plastics and other garbage from beaches, or forests. Who are they? And does their hard work make a change? Interview a cleaner, or the person who took up the initiative. Take into account the results as well as the problems. Film them in action while they clean together.
- More wind more sun
A local farmer who works on wind or solar energy.
- Cleaner industry
Do you live in the city? What climate change do you see? What problems do you have to cope with and what can be done? For instance, in Amsterdam we recently closed the Hemwegcentrale: a coal-fired power station, placed almost inside the city, that polluted the air heavily. Interview people who provide different perspectives: the neighbours, the workers from the coal-fired power station, someone from the municipality. Film at the factory.
- Working together

In many cities and villages, people create local initiatives in small communities to improve their circumstances and the local climate.

- No plastic/ no meat / veggie
Film a personal story of someone that tries to live without using plastics in any form, someone who stopped eating meat, or someone who became a vegan. Try to show both the upside and downside of their story.
- Green politics
What did your local politicians do, or what should they do? Get an interview with a member of the municipality and with locals in the neighbourhood that are either happy or angry.
- Green shops
No smart shops, but shops that embrace a new way of thinking and producing. For instance, a jeans label that rents out jeans instead of selling them. Less jeans will be made and less water and chemicals will be spilled in the production process.
- Pollution everywhere
Is your hometown the most polluted in Europe? Film it and tell us what you think can be done. Try to interview a local responsible.
- No one to be found
Is there no one to be found, and does it look like there is no initiative at all? Create your own research film. Pass by all the houses in your street and ask the people what they do to make a change. Film it all, take notes, put the best and/or the worst stories in your film. How is your street doing on a scale from 1 to 10: are they big polluters or change makers?

Step 3: Research and creation of the documentary

Part 1:

Research and creation of the documentary based on examples of local history

During this step students will learn how to create a historical documentary in groups, after researching the topic in their own environment.

Students will learn how to make a documentary, research the topic in their environment and create the historical documentary in groups of 4-6 students. This is the central step of the project as students will create the documentary on it.

Uploading

Once students have finished, teachers will upload their videos by following the steps in the uploading tutorial, then contact the partner school and share the links to students' videos. Share the link with VPRO as indicated in the tutorial.

[Tutorial for how to upload can be found online](#) →

and use the written manual (online) →

By following the tutorial uploading step by step, it will be easy for you to upload your films to the VPRO Youtube playlist. Here you can find all the films made by students from all over Europe that have participated in this project.

Once you have uploaded your films YouTube will give you a unique link for each video. Send these links to: ineuropeschools@vpro.nl

Before you start uploading the films do not forget to check if all footage used from third parties are free of rights and ready to use. You do not want to risk a claim.

And remember that this project is not a contest, all films made by your students are welcome in our Playlist.

NEW EXTRA @Home Tutorial

Due to the Covid19 measures students and teachers found it hard to finish their documentaries. It seemed impossible to make a short documentary if you cannot go to school or even leave your house.

The good news: It is possible and we will help you out!

The makers of VPRO television made an extra tutorial with all sorts of tips and tricks explaining how to interview, film and edit if you have to stay at home.

We hope this will inspire you.

The tutorial is an extra gesture on top of our tutorials on research, interviewing, filming and editing. We will refer to them so make sure your students saw those first before they start their assignments in step 3.

Take a look online →

copyright notice

The participating schools will ensure that any footage of third parties and/or music in the clip is cleared. This means that the participating schools must have permission of the original copyright owners and/or the participating schools will use footage and/or music that are free to use (like royalty free stock music). We strongly advise you not to use any copyrighted material without any permission of the copyright owner(s). This also applies to any material of the VPRO (like photos, logos, audio, video etc).

If the participating schools are using a copyrighted work (for example, music or archive footage) without permission, the participating schools may be infringing the owners' rights to that work. The participating schools are aware that they will be fully responsible for any claims in that regard. VPRO cannot be held accountable for any claims of third parties. For more information, see tutorials research, editing and uploading. Click here for more information about uploading and copyright on YouTube.

Introduction

During this step students will create a historical documentary in groups, after researching the topic in their own environment.

Lesson Objectives

- To learn how to create a documentary
- To make a documentary of 10 minutes in groups of 4 to 6 students after being assigned different roles

Preparation and materials

- Groups of 4-6 students
- Tutorials for documentary making
- Role cards (annex 1)
- Steps for each function (annex 2). The steps follow the information given in the tutorials and as they are connected to certain roles, the information is also linked in the role cards.
 - Researching
 - Interviewing
 - Filming
 - Editing
- Assessment grid for the documentary (annex 3)
- Statement of consent (annex 4)
- Specifications for filming on mobile phones (annex 5)
- Make copies of the roles and their functions. All the students will be researchers so make copies for each of them. The other functions will be assigned to one/two students in each group depending on the number of students.
- Give the assessment grid to the students before starting the creation of the documentary in case you want to use it as a frame for assessing the students.
- As the teacher, watch all the tutorials in advance so that you know what the students are going to be doing and understand how the various functions fit together. The tutorial **upload and refind** is specific for teachers to upload to the European server.

Planning grid

1) Introduction

- a) Tell students they will create the documentary in groups of 4-6 and that they will have different roles whilst creating it. There are four roles:
 - i) Researcher: done by the whole group.
 - ii) Interviewer: in charge of preparing the questions and doing the interview.
 - iii) Cameraman/woman: will record the interview and images needed.
 - iv) Editor: will edit the film with the help of his/her colleagues.

2) Organising roles and watching tutorials

- a) Divide the roles among the groups or let the students choose a role and give them their role cards. For groups of 6, some functions can be duplicated.
- b) Give each student his/her role card. Ask them to carefully read their role cards and watch the tutorials. As the research will be done by all the students, you can watch this tutorial as a class. The other tutorials can be watched individually as **homework**.

3) Researching

- a) Students will do the main part of the **research** on the topic in class. Before starting, remind them that they started finding a local example in Step 2 Part 2 in the conclusion of the lesson and their homework. Be sure all the groups have a topic/subtopic to start the research.
- b) It may be difficult for students to identify an appropriate person to interview in their own environment. Tell the students that this person does not have to be someone who has direct experience, but can also be someone who is an expert, or whose family experienced the topic students are researching. This increases the range of topics that can be addressed.
- c) Explain students that the videos have to be in English, because otherwise, your partner school will not be able to watch your videos in the last exchange lesson.

If the interview partner is not able (or willing) to do the interview in English, they can do the interview in any other language but then they would have to add English subtitles to their video for the interview parts. The tutorial upload explains how to add subtitles after editing.

- d) The last step of the research is to plan the creation of the movie. Let students do it themselves based on the information provided in their role/step's documents, but check the planning as they will do the following activities out of school.
- 4) Out of school activities
 - a) Students will do the interviewing/filming and editing out of school.
 - b) During the filming phase, organise an opportunity for the students to have contact with you for questions and support (mail contact, a walk-in consultation hour, etc.).
 - c) Remind students that, as it appears in the interview/filming tutorial, they have to ask for the written permission of the people they interview. In the case your students interview a person **under 18**, they have to ask for written permission from their parent via the quit claim (annex 4).
 - 5) Uploading
 - a) As a teacher, watch the tutorial **Upload and refind**. The tutorial will lead you through the uploading process step by step.
 - b) Make sure the uploading is done at least one day before the meeting with your partner class.
 - c) Allocate 10 minutes of uploading time for 1 video, depending on the speed of your internet. For a whole class with low speed internet this could take up to an hour and half.

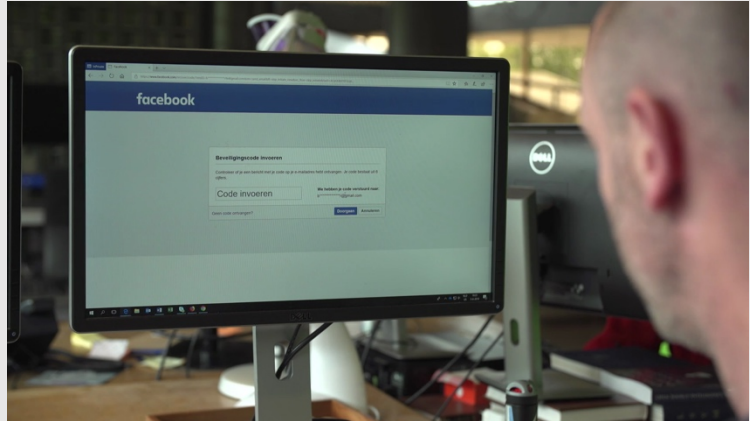
Annex 1: Role Cards

Annex 2: Steps for Each Functions

Researching (role for the whole group) 1/2.

Brainstorm and look for sources

- First, brainstorm together on how you would like to approach this question so that you can specifically search for the resources you need. What do you want to investigate? Who would answer this question best and where would you find stories about this question?
- Use different research methods and read different sources as recommended in the tutorial.
- Write down the sources you use and the information they provide.
- Make sure you check your sources. Ask yourself; are they reliable?



Mind map

- Create a profile of the person you would like to interview.
 - What are you actually looking for? What kind of profile does this person have and from what perspective do you want to highlight the theme? From what perspective do you want to tell your story?
- Compare your mind map with the sources and people you have found and make a choice.

Content summary and plan of action.

- Write a short summary of the research. Include checks and balances as explained in the tutorial.
- Write a plan of action as indicated in the tutorial
- Keep in close contact with the interviewer at this stage. He or she will formulate his or her questions based on your data.

Researching (role for the whole group) 2/2.

Personal contact (do this together with the interviewer)

- Get in contact with your main character(s).
- In order to determine whether your main character is really the right person for your film, personal contact is very important.
- Set a date for the interview
- Check the specific names and titles of your main characters.

Photos

- If you search for photos, make sure they are free of copyright restrictions as indicated in the tutorial.

Planning

- Meet with your group to plan out the time you have to make the movie.
 - How much time do you need to spend on research?
 - When will you conduct the interviews?
 - How long do you want to take to edit?
- Make appointments with your main characters and ask permission to film at certain locations.

Researcher

Your functions

are:

- To investigate the subject of the film on the basis of the central enquiry question.
- To search for stories, main persons, archive material (photographs and films that can be used freely) and historical background articles.
- To check whether the stories are really true. Collect the names and details of the main characters and make the first contact for an interview.



Responsibilities:

NB: in this project, the research is carried out by the entire group.

- Those who choose the position of researcher are specifically responsible for checking the sources and data (finding out the truth) and for making agreements with the guests/main persons.
- During the recording, the researcher provides content support to the interviewer.
- The researchers make a list of names and functions for the titles in the editing.

*Watch the research tutorial → with your group for more details and read through the steps for researching below

Steps for researching (role for the whole group)

Brainstorm and look for sources

- First, brainstorm together on how you would like to approach this question so that you can specifically search for the resources you need. What do you want to investigate? Who would answer this question best and where would you find stories about this question?
- Use different research methods and read different sources as recommended in the tutorial.
- Write down the sources you use and the information they provide.
- Make sure you check your sources. Ask yourself, are they reliable?

Mind map

- Create a profile of the person you would like to interview.
 - What are you actually looking for? What kind of profile does this person have and from what perspective do you want to highlight the theme? From what perspective do you want to tell your story?
- Compare your mind map with the sources and people you have found and make a choice.

Content summary and plan of action

- Write a short summary of the research. Include checks and balances as explained in the tutorial.
- Write a plan of action as indicated in the tutorial
- Keep in close contact with the interviewer at this stage. He or she will formulate his or her questions based on your data.

Personal contact (do this together with the interviewer)

- Get in contact with your main character(s).
- In order to determine whether your main character is really the right person for your film, personal contact is very important.
- Set a date for the interview.
- Check the specific names and titles of your main characters.

Photos

- If you search for photos, make sure they are free of copyright restrictions as indicated in the tutorial.

Planning

- Meet with your group to plan out the time you have to make the movie.
 - How much time do you need to spend on research?
 - When will you conduct the interviews?
 - How long do you want to take to edit?
- Make appointments with your main characters and ask permission to film at certain locations.

Interviewer

Your functions are:

- To ask the guest or main character the interview questions.
- To prepare the interview/questionnaire on the basis of the researcher's information.
- In consultation with the group, to choose a form of interview that suits the type of documentary chosen. (see tutorial).
- To maintain close contact with the cameraman/woman and the editor.
- To speak to the guest in advance and tell the camera and editor what the interview is about.



Responsibilities:

- Making a questionnaire that fits in with the research.
- Responsible for good contact with the guest.
- Responsible for good cooperation with the cameraman.
- After the editing, inform the guests about which parts of the interview are in the film.

*A good interviewer will watch the interviewing tutorial → and read the steps for interviewing → He/she will also share main findings with the group.

Steps for interviewing

Preparing the interview

Personal contact (do this together with the researcher)

- Get in contact with your main character(s). In order to determine whether your main character is really the right person for your film, personal contact is very important.
- Set a date for the interview.

Choose your way of interviewing

- Choose the style of interviewing as pointed out in the tutorial:
 - Are you going to be in it as our guide through the whole story or are you the invisible interviewer and will the story tell itself?
- Write down your questions based on the research.

Planning the filming with the cameraman/woman

- Where does the interview take place? Inform your cameraman/woman of the circumstances.
- What do you need to see in order to tell your whole story?
- Plan the scenes you need to complete your interview with the cameraman/woman.

Interview

- During the interview make sure to ask all the questions you need.
- Check with your cameraman/woman if both sound and video are appropriate. (annex 5 shows the form you can use)
- Ask for specific names and titles.
- Be polite / be specific / be complete / be kind.
- Get permission from your main character to show this interview on social media.
- Get permission from parents through a quit claim / statement of consent (see below or online) if your main character is under 18.

Cameraman/woman

Your functions are:

- To shoot all the footage for the film. Not only the interview, but also all the images needed to make a good film and build a logical story.
- To think about the locations for filming and the actions to be filmed.
- to consult with the interviewer beforehand so that she/he can determine what and where to film on the basis of the content of the questions.
- To keep in close contact with the editor to ensure that there are enough images for editing with enough variation.
- To make sure that there is enough light to play with, check that all scenes are properly captured in image and sound.
- If necessary, to ask a question again or redo a recording.



Responsibilities:

- Filming of all images for the film, both interview and environmental shots.
- Practise filming according to the tutorial if you need it.
- Provide the right phone with a charged battery and power bank for recording (possibly via your teacher)
- Responsible for light when filming indoors.
- Responsible for good sound.
- Responsible for good cooperation with the interviewer.
- Responsible for close cooperation with the editor.

* A good cameraman will watch the filming tutorial → and read the steps for filming → If time allows, also watch the editing tutorial →

Steps for filming

Preparing your materials

- Make sure you have a charged cell phone with a good camera/extra battery pack/sound.
- If you are filming in a house or building look for lights if you need them (see tutorial).

Preparing the filming

- Clarify your understanding:
 - Who is the main character?
 - What story are we going to tell and what do we need to see?
 - What actions by the main character will add to the story?
 - Where is the best place to tell this story? (her work, his house, their broken down flat, etc.)
 - Make a list of all the scenes you need.

Filming

- Film horizontally!
- **Reference the technical aspects on the sheet:** specifications for filming on mobile phone (annex 4)
- Use some MS, wide and close up angles during the interview. (see tutorial)
- Make extra shots of the interviewer listening for the editing.
- Make extra shots of the main character listening.
- Use extra tips from the tutorial in improving your filming.

Download your material

- Bring your material directly to the editor and download together

Specifications for filming on a mobile phone

Settings: Please set your phone to record at **1080p HD resolution** by following these instructions:

- **iPhone:** Please set your iPhone to said resolution via *Settings > Camera > Record Video*. Pick **1080p HD at 30fps**.
- **Android Samsung, Huawei, HTC, etc):** This differs per phone, but these settings can mostly be found via the *settings menu* inside the camera app or via the *general settings menu*. In this menu locate the *video size menu*. Best setting for filming is **1080p HD and 25fps**.
- If this option is not available on your phone, please make sure it is **not** a number **below** 1080p and/or 25fps or **above** 50fps.

Stability: Try to create a stable environment by using a tripod or a chair to lean on.

Sound: If possible, use an additional microphone. If you do not have one, avoid filming too far away from your sound object or person.

Extra sound and synchronisation: You could also use an extra phone to record the sound but then you have to synchronise both phones using a clap:

- Start the audio on one phone and the camera on the other. Now synchronise by clapping your hands slowly. Make sure you record and film the hands and sound.
- **Do not stop your phone after this point.** If you stop, you will have to sync again.
- When editing, you can synchronise the clap with the image of the clap and then the sound and image will run at the same speed.

And last but not least, watch the [filming tutorial](#) → before you start shooting.

Good luck!

Editor

Your functions are:

- To use the editing of the film to create a complete story. This is where research, interviewing and filming come together. In consultation with the team, scenes or questions can be left out to make the film stronger.
- To be bound to the truth. You are not allowed to transform what a guest/main character has said into another story.
- To look for suitable music or sounds for the film and make titles if necessary. The researchers will provide these and are responsible for correct spelling.



Responsibilities:

- Assembly of the complete film.
- Practice with the assembly tool if necessary.
- Getting the right laptop/computer for editing from your teacher.
- Providing music and audio for the entire film.
- Close consultation with the interviewer and cameraman/woman about choices to be made in the editing (what do you leave out, in what order do you tell your story).

* A good editor will watch the editing tutorial → and read the steps for editing → . If time allows, also watch the filming tutorial →

Steps for Editing

Preparation

- Get a computer or laptop.
- Download an edit program and test it out.
- Look at the instructions.
- Upload the film material together with the cameraman/woman with the following programs:

Choosing

- Go through all the material and choose the best parts (together with the interviewer/cameraman-woman).

First draft

- Make a first draft of your editing and do not hesitate to switch scenes to see if it improves your story.
- Adopt tips from the tutorial in your editing.
- Discuss your options with the team.
- Save!!!! Use your save button as much as you can or use an auto saver that will save your edit every 10 minutes.

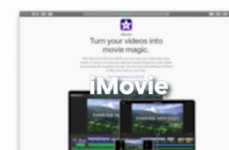
Final draft

- Finalise your editing.
- Choose music that is free of copyright restrictions as indicated in the tutorial. (links in tutorial)
- Add sound effects.
- Add titles.

Download as MP4

Download your film as an MP4 file and send it to your teacher via email or WeTransfer

You can edit with the following programs



- Avid Mediacomposer free
- IMovie
- DaVinci Resolve
- Blender

ANNEX 3: Assessment grid for the students' documentaries

1) Version for students while working on the documentary

The documentary made by the students	Yes	No
1. Is focused on the enquiry question		
2. Uses the camera angles, editing choices, voice-over and sounds in a purposeful way in accordance with the story told.		
3. Has the requested length and a clear structure (presentation, interview, conclusion, credits of the sources)		
4. Integrates the story with its historical context		
5. Uses primary sources (e.g. an oral history interview) that support the enquiry question		
6. Gives different, fair and balanced perspectives		
7. Shows difference(s) between past and present		
8. Gives different causes and/or explains consequences		
9. Distinguishes evidence-based facts from unsubstantiated opinion		
10. Is created in an attractive / original way that catches the viewer's attention and holds his interest		

ANNEX 4: Statement of Consent VPRO project ‘In Europe Schools’

Dear [participator] and dear parent of [participator],

[School] and the VPRO are very pleased that your child volunteered to make independent recordings in the context of the education project ‘In Europe Schools’. Your son or daughter will participate in a clip made by students from [School]. This clip will be part of a video to complement the education project.

On behalf of your child we would like to ask you to sign this statement to authorise the [School] to present and publish the recordings of your child in our classroom during the related lessons and on the YouTube channel ‘In Europe Schools’ hosted by VPRO/Euroclio. The content will be publicly available during the ‘In Europe Schools’ project for an unlimited period of time.

By signing this form, you and your child freely agree to participate in this video introduction and you declare to be familiar with and agree to the context, the purpose and the use of the project.

For more information about the broadcaster and the project we kindly refer to vpro.nl/ineuropa.

If you have any questions, do not hesitate to contact us. Thank you.

Best regards,

[name]
[School]
+ [phone number]

Place and date:

**Signature [School]
participator:**

Signature parent/legal representative

.....

.....

[name]

[name]

Name of participants:

Date of birth:

Address:

Country:

E-mail:

ANNEX 5: Specifications for filming on a mobile phone

VPRO In Europe Schools

Settings: Please set your phone to record at **1080p HD resolution** by following these instructions:

- iPhone: Please set your iPhone to said resolution via *Settings > Camera > Record Video*. Pick **1080p HD at 30fps**.
- Android Samsung, Huawei, HTC, etc): This differs per phone, but these settings can mostly be found via the *settings menu* inside the camera app or via the *general settings menu*. In this menu locate the *video size menu*. Best setting for filming is **1080p HD and 25fps**.
- If this option is not available on your phone, please make sure it is **not** a number **below** 1080p and/or 25fps or **above** 50fps.

Stability: Try to create a stable environment by using a tripod or a chair to lean on.

Sound: If possible, use an additional microphone. If you do not have one, avoid filming too far away from your sound object or person.

Extra sound and synchronisation:

You could also use an extra phone to record the sound but then you have to synchronise both phones using a clap:

- Start the audio on one phone and the camera on the other. Now synchronise by clapping your hands slowly. Make sure you record and film the hands and sound.
- **Do not stop your phone after this point.** If you stop, you will have to sync again.
- When editing, you can synchronise the clap with the image of the clap and then the sound and image will run at the same speed.

And last but not least, watch the **filming tutorial** before you start shooting.
Good luck!

Step 4: Part 1 Exchange and discussion

Introduction

This step is the most interesting and important part of the project, as students will watch others' videos and exchange their opinions about the topic.

Lesson Objective

- Students will compare and discuss their conclusions about the topic and enquiry question within the school and with the partner school after watching the documentaries they have all produced.

Preparation and materials

- The videos of your class correctly uploaded to the web
- The links to the videos made by the students of the partner school
- Assessment grid for co-assessing the videos (annex 1) if you haven't given them to students before.

- Agree on exchange and discussion with the teacher from the partner school (platform, timing, etc). This could be done in a synchronous (skype, hangout, etc.) or asynchronous way like by email or in a Q&A-forum as it is not always possible to arrange for two classes in two different schools to synchronise schedules.
- To prepare for this session, students could send questions to the other school to discuss during the screening of each other's documentaries. This would also help to structure the exchanges. If the students list their possible questions first, the teacher can select the ones that are most interesting.

Planning grid

- 1) Introduction
 - a) Explain to students that they will watch the documentaries they created along with those created by their European colleagues, and then afterwards, they will have a discussion session with the partner school.

- 2) Sharing and commenting activities

- a) Sharing and commenting on the videos within schools
 - i) Share the videos with the whole class.
 - ii) Organise a discussion and feedback session afterwards.
 - iii) Remind your students to:
 - (1) be respectful commenting
 - (2) appreciate the work done by the other students
 - (3) give constructive feedback
 - (4) compare the similarities and differences of the local/regional cases
 - (5) discuss the ethical dimension of different attitudes and behaviours in relation to "a difficult past".
 - iv) Students can fill in the assessment grid for co-assessing the videos of their colleagues, now or at the end of the project.

- b) Sharing of the videos between schools and preparing for discussion
 - i) Share and watch the videos from the partner class. Give background to the regional or national history reflected in the videos.
 - ii) Prepare the students for discussion with the partner class:
 - (1) What are you going to talk about?
 - (2) How will students organise themselves to participate?

- c) Discussion between schools
 - i) Understand, compare and discuss the videos with the other group via skype, chat, etc.
 - ii) Questions about the videos can relate to specific details, background or aspects the students may not be familiar with or fully understand.
 - iii) The idea would be to analyse the different perspectives shown through the videos (outcomes: differences/similarities) with questions like:
 - (1) Compare the case studies, what similarities can you find?

- (2) What are the differences? Do you think these differences are specific for this town/region/country or dependent on other factors?
- (3) Does the partner class have the same viewpoint on the issue?
- (4) Did they provide information or viewpoints that were previously unknown to you?

3) Conclusion

- a) If time allows, take a moment to draw conclusions from the discussion session in a whole class setting.

Annex 1: Assessment grid for the students' documentaries

2) Version for assessing the documentaries at the end of the project

The documentary made by the students	Yes	Partly yes	Partly no	No
1. Is focused on the enquiry question				
2. Uses the camera angles, editing choices, voice-over and sounds in a purposeful way in accordance with the story told.				
3. Has the requested length and a clear structure (presentation, interview, conclusion, credits of the sources)				
4. Integrates the story with its historical context				
5. Uses primary sources (e.g. an oral history interview) that support the enquiry question				
6. Gives different, fair and balanced perspectives				
7. Shows difference(s) between past and present				
8. Gives different causes and/or explains consequences				
9. Distinguishes evidence-based facts from unsubstantiated opinion				
10. Is created in an attractive / original way that catches the viewer's attention and holds his interest				

Step 4 part 2: Final Reflection and Assessment

Introduction

This lesson will close the project, providing opportunities for individual/group reflection and assessment focused on the topics covered throughout the lesson, the documentary-making process and the project as a whole.

Objective

- Students will reflect on the development of their opinions on the topic and self-assess/co-assess their documentaries, the projects and their experience of sharing their perspectives with other European students.

Preparation and materials

- The picture you took in the first step, where students provided their initial opinions on the research question. This will be a useful tool for contextualising the development of their ideas throughout the project.
- Examples/suggestions for individual/group reflection, including the European dimension
- Assessment grid for co-assessing the videos and assessment grid for the teacher to assess the documentary if it was not given to students previously (annex 1)

Planning Grid

- 1) Introduction
 - a) Explain to students that they will reflect on and assess the whole project.
- 2) Reflection activity
 - a) Discuss the research question by using the students' answers from the first lesson to incite discussion and to see if and how they changed their opinions on the question.
 - b) Write group/individual reflections on the topic and the enquiry question.
 - i) Reflection can focus on student feelings, reactions and drawing comparisons between the ideas they had at the

beginning of the lesson and the ones they developed after having learnt about the topic.

- ii) Points of discussion could include: the video and its context, global and local examples, knowledge of other students' opinions, etc.
- iii) You can also ask students to write down whether or not they have changed their mind/developed new thoughts and why.

(1) This can be first be done at an individual level, so that students reflect on their own development. Afterwards, reflection can be expanded to a whole class discussion. If you have a picture of their opinions from the beginning of the project, you can project it and let students make comparisons.

3) Assessment

a) Assessment has multiple parts:

- i) Assessing the topic and quality of the videos the students have created.

(1) This can be done as co-assessment and/or completed by the teacher, using the assessment grid.

- ii) Assessing the complete project.

(1) Prepare some questions to discuss individually/in small groups:

(a) How did you feel about group work? (roles, timing, responsibilities, etc.)

(b) Do you think it is important to research and discuss controversial topics like these?

(c) Did the exchange with other students help open your mind to new ideas about the topic?

(2) Have students write down two of the best aspects of the project and two things to improve.

4) Conclusion

a) Evaluate the project:

- i) What was it like making a film?
- ii) What was it like working with a class from another country?

- iii) For both questions: What was especially difficult? What would you/ what should we do differently if organising a similar project in the future?

*** Please fill in questionnaire with your class after you have closed the project – link can be found online**

Annex 1: Assessment grid for the students' documentaries

2) Version for assessing the documentaries at the end of the project

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2. Uses the camera angles, editing choices, voice-over and sounds in a purposeful way in accordance with the story told.				
3. Has the requested length and a clear structure (presentation, interview, conclusion, credits of the sources)				
4. Integrates the story with its historical context				
5. Uses primary sources (e.g. an oral history interview) that support the enquiry question				
6. Gives different, fair and balanced perspectives				
7. Shows difference(s) between past and present				
8. Gives different causes and/or explains consequences				
9. Distinguishes evidence-based facts from unsubstantiated opinion				
10. Is created in an attractive / original way that catches the viewer's attention and holds his interest				