

Effects of Climate Change on a Region on Earth



Name:

Date:

Scorching Summers: Netherlands' Heatwaves and Climate Change

In the sizzling summer of 2019, the Netherlands faced an unprecedented heatwave, with temperatures soaring above 40°C. This climatic anomaly was not just a record-breaker but a stark reminder of the looming impacts of climate change. The blistering heat affected thousands, with vulnerable populations suffering the most. Farms experienced crop failures, and urban areas struggled with increased energy demands for cooling.

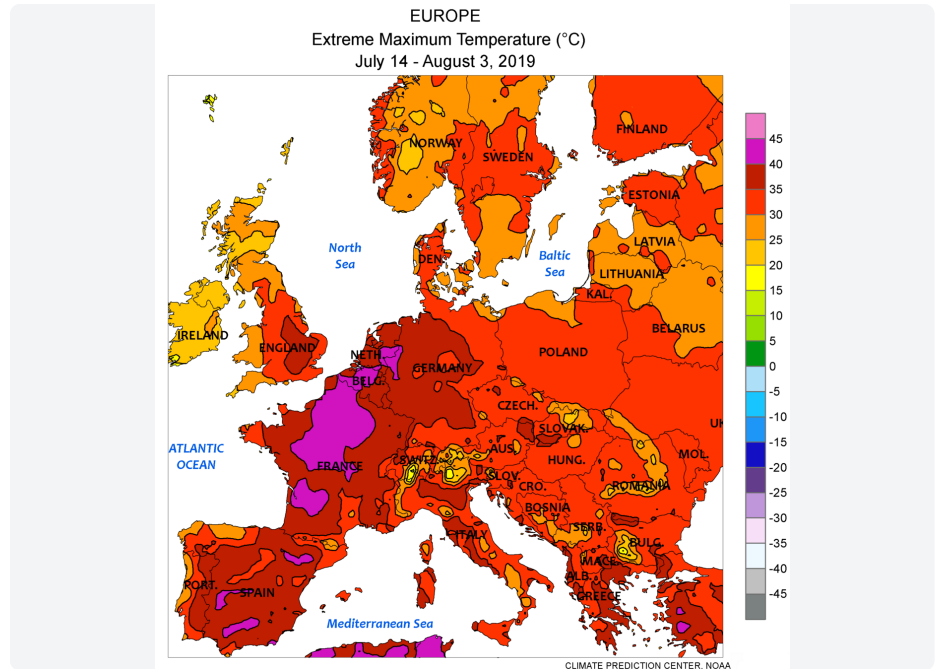


Image Source: NOAA / National Weather Service – National Centers for Environmental Prediction – Climate Prediction Center

The heatwave's social implications were profound. Public health services were overwhelmed, prompting the government to issue heat alerts and advisories. Economically, the impact was felt in the agricultural sector, as droughts threatened food security. Politically, the event catalyzed discussions on sustainable practices and climate policies, leading to stricter environmental regulations by 2021.

Looking forward, scientists warn that such heatwaves could become the norm if greenhouse gas emissions aren't curbed. The Netherlands has since intensified efforts in renewable energy and climate adaptation strategies, aiming for a 49% reduction in emissions by 2030. As the nation grapples with its ecological footprint, the 2019 heatwave serves as a pivotal moment in understanding the urgent need for climate action.

The event underscored the pressing necessity for international cooperation to combat climate change. With rising temperatures and erratic weather patterns, the Netherlands stands as a testament to the broader global challenges faced in this century. As students delve into these developments, the 2019 heatwave offers a critical lens through which the impacts of climate change can be studied.

Read the above newspaper article about environmental challenges in the Netherlands and take notes: Do such reports worry you? Why (or why not)? Then discuss in class.

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Netherlands 1800



In 1800, the Netherlands was characterized by its extensive lowlands, much of which had been reclaimed from the sea and were protected by dikes. The climate was mild and maritime, with cool summers and mild winters. Precipitation was evenly distributed throughout the year, and the landscape was dominated by fields and windmills. The country's natural resources included peat and arable land, useful for agriculture. The low elevation posed constant threats of flooding, necessitating a robust system of protection against the sea.

Landscape of the Netherlands in 1800, featuring fields, windmills, and dikes under an overcast sky.

Netherlands 1950



By 1950, the Netherlands had undergone significant urbanization, with cities expanding rapidly. Despite the urban growth, large portions of the country remained low-lying and vulnerable to flooding. The climate continued to be temperate maritime, with cool summers and mild winters, although industrial activities started to influence air quality. Precipitation patterns remained steady, but the environmental impact of urbanization was becoming apparent. The Dutch continued to rely on their intricate systems of dikes and levees to manage water levels and prevent flooding.

Urban and rural mix in the Netherlands in 1950, with canals, modern buildings, and windmills under a partly cloudy sky.

Netherlands Today



Today, the Netherlands is one of the most densely populated countries, with a highly urbanized environment. The climate is still maritime, but global warming has led to warmer summers and milder winters. Precipitation remains evenly distributed, although heavier rainfall events are more common. The landscape is marked by modern cities, wind turbines, and green spaces, reflecting efforts to balance urbanization with environmental sustainability. The country's extensive dike system continues to protect against flooding, which remains a significant concern due to rising sea levels.

Modern Netherlands with cities, wind turbines, dikes, and clear skies, illustrating the impact of climate change and urbanization.

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Changed Climate: A Region in Transition

Read through the reports above regarding the situation in the years 1800, 1950, and today. Then complete the tasks listed below.

Name one significant change in the climate of the Netherlands from 1800 to today.

Describe how urbanization has affected the landscape of the Netherlands over time.

Explain the challenges faced by the Netherlands in managing water levels and preventing flooding throughout its history.

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The future

Make predictions in class about how further developments might look. Will the effects of climate change continue to intensify? What could be done to counteract this?

