

NEWSLETTER FROM THE EXHAUSTION PROJECT DECEMBER 2021

# EXHAUSTION

The EU Horizon 2020 research project EXHAUSTION is working towards answering the question "**How will climate change affect heart and lung disease in Europe and what are the benefits of mitigation and adaptation?**"

[exhaustion.eu](https://exhaustion.eu)

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## NEWS



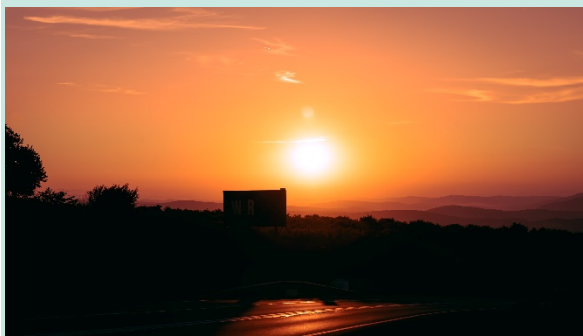
### How does air temperature affect the frequency of heart and lung diseases in Europe?

How does heat affect the European population? Researchers in EXHAUSTION have collected data at three levels to gather evidence on how ambient air temperature influences the occurrence of heart and lung diseases across Europe, and on how it affects different population groups. [Read more.](#)



## Heatwaves in Europe: Finland the summer of 2021

In Europe this summer hot extremes affected several countries. Researchers in Finland have looked at the excess number of deaths during the summer of 2021 in Finland. [Read more.](#)



Global warming already responsible for one in three



Severe impacts of heatwave in Athens

# heat-related deaths

Climate change is already happening and we already see the negative health effects. One third of heat-related deaths can be attributed to climate change, according to a study led by scientists that are EXHAUSTION partners. [Read more.](#)



At the end of July 2021, a major heatwave occurred in Athens which was characterized by a marked increase in temperature and by an unusually long duration (11 days). [Read more.](#)

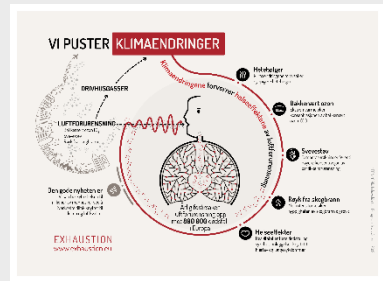
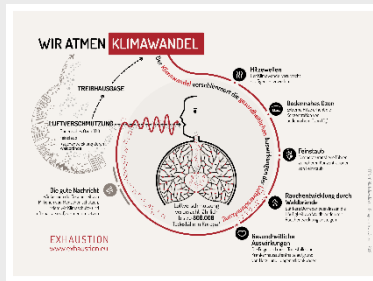
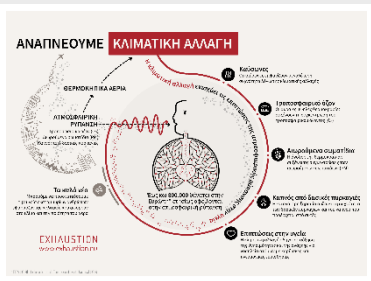
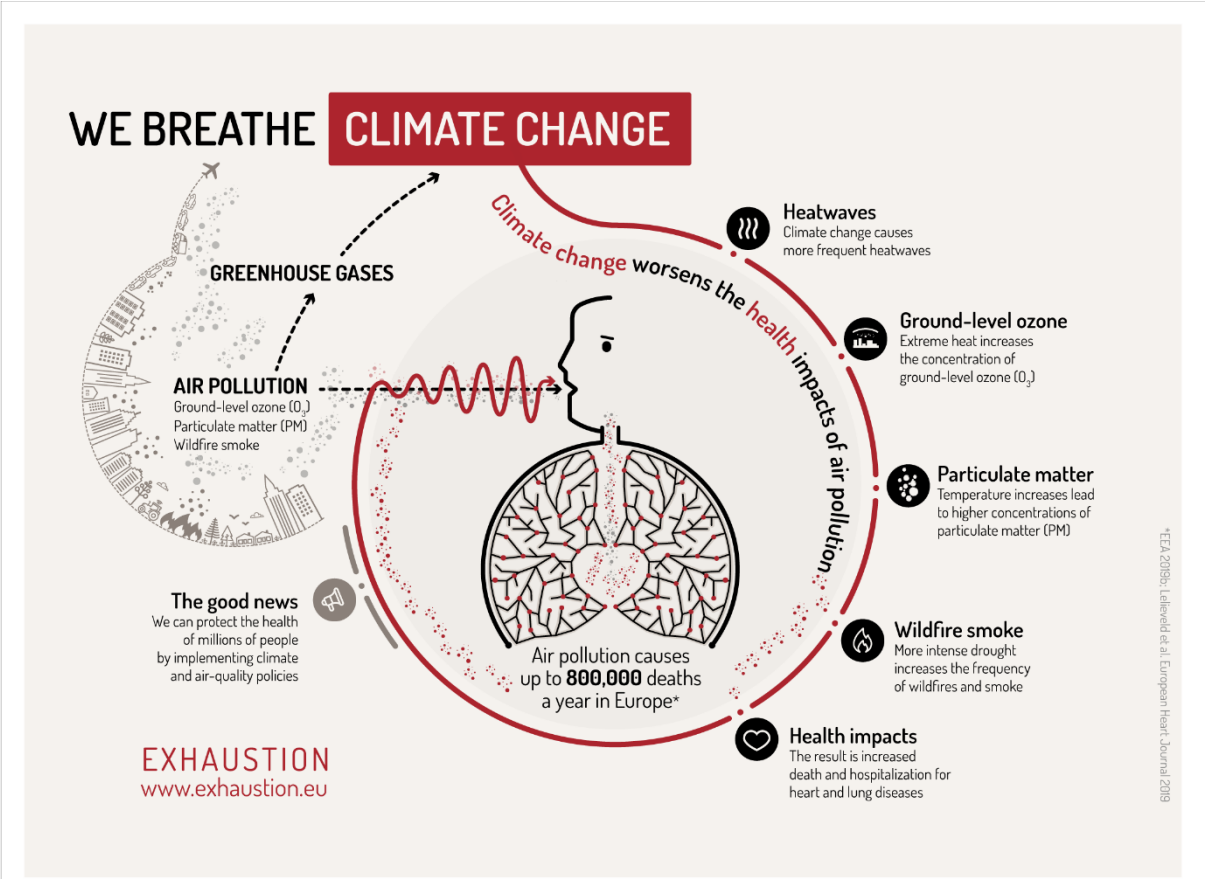


# Climate change makes new recommended air quality levels harder to reach

WHO this autumn released its new Global Air Quality Guidelines that identifies the levels of air quality necessary to protect people's health. But with global warming, the concentration of air pollution may increase, making it harder to reach the necessary levels without extensive mitigation efforts. [Read more.](#)

# Climate change and air pollution can interact to amplify risks to human health and crop production

Usually, climate change and air pollution are treated separately, although the combined effect increases the risks to human health and crop production. [Read more.](#)



Project partners in EXHAUSTION have worked together to develop a visualisation to illustrate the links between climate change, air pollution and health - it is now available for [download](#) in four different languages - German, Greek, Norwegian and English!



## A breath - slam poetry

What it means to breathe?

To live - yes

To surrender, let go - no

So we fight - we are the youth waiting to grow up - we also want to experience the light.

We want to dance,  
with our lungs filled with fresh air.

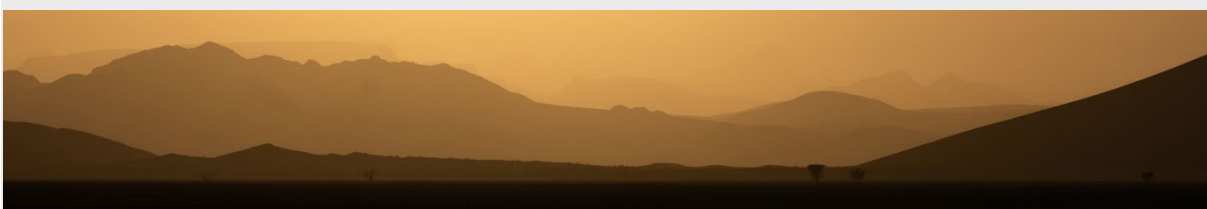
But we see our painted future - no clean air is left to breathe there.

So we fight

Watch the slam poetry by Oda Aunan and Godsun Soulmaster [here](#).

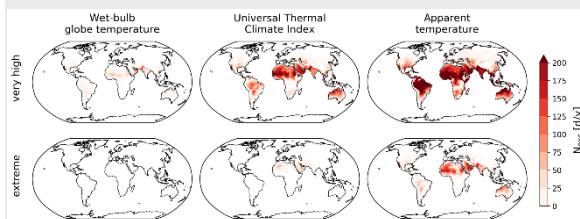
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## KEY SCIENTIFIC PUBLICATIONS



# Health effects of long-term exposure to temperature extremes

The health effects of acute exposure to temperature extremes are established; those of long-term exposure only recently received attention. We performed a systematic review to assess the associations of long-term (>3 months) exposure to higher or lower temperature on total and cardiopulmonary mortality and morbidity ([Sofia Zafeiratou, et.al. A systemic review of the associations between total and cardiopulmonary mortality/morbidity or cardiovascular risk factors with long-term exposure to increased or decreased ambient temperature, Science of The Total Environment, Volume 772, 2021](#))



## Heat stress indicators, trends and exceedances of impact-relevant thresholds

Global warming is leading to increased heat stress in many regions around the world. An extensive number of heat stress indicators (HSIs) has been developed to measure the associated impacts on human health ([Clemens Schwingshackl et. al. Heat Stress Indicators in CMIP6: Estimating Future Trends and Exceedances of Impact-Relevant Thresholds. Earth's Future, 9, 2021, e2020EF001885](#))

## Cardiovascular risks of climate change

Extreme heat events are now more frequent in many parts of the world as a result of climate change. The combined effects of heat, air pollution, individual age, and socioeconomic and health status need to be considered in order to prevent and treat cardiovascular diseases effectively ([Peters, A., Schneider, A. Cardiovascular risks of climate change. Nat Rev Cardiol 1-2N \(2021\)](#)).



**ENBEL**  
*Connecting*  
HEALTH &  
CLIMATE  
CHANGE

EXHAUSTION is part of the Horizon 2020 network project [ENBEL](#) that brings together international health and climate research projects under the Belmont Forum's Collaborative Research Action (CRA) on Climate, Environment and Health (CEH) and EU-funded projects. [Read more.](#)

## EVENTS



### EXHAUSTION at #COP26 in Glasgow

EXHAUSTION research was presented at several side events at the UN Climate Change Conference in Glasgow in November. See the recordings of the events [here](#).





Climate change and health in Europe: knowledge developments and sharing efforts. Side event at the EU Pavilion at COP26. [WATCH IT.](#)

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## CLIMATE CHANGE AND HEALTH - WHAT IS AT STAKE FOR EUROPE?

Climate change and health – what is at stake for Europe? Side event at the Bellona Pavilion at COP26. [WATCH IT.](#)

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World Health  
Organization

# COP26 Health Pavilion

Climate Action for Health, Health Action for Climate



Colliding Disasters: adapting to increasing climate and health risks. Side event at the WHO Health Pavilion at COP26. [WATCH IT.](#)

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