



Certificate of Achievement

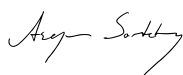
Matthias Giger

has completed the following course:

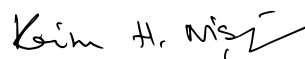
CAUSES OF CLIMATE CHANGE
UNIVERSITY OF BERGEN AND BJERKNES CENTRE FOR CLIMATE RESEARCH

This course explored the underlying physical processes governing climate variations in the past, present and future, and provided an in-depth understanding of the complexities of the climate system.

3 weeks, 4 hours per week




Asgeir Sorteberg
Professor of atmospheric dynamics
University of Bergen



Kerim Hestnes Nisancioglu
Professor of climate dynamics
Bjerknes Centre for Climate Research



UNIVERSITY OF BERGEN



The person named on this certificate has completed the activities in the attached transcript. For more information about Certificates of Achievement and the effort required to become eligible, visit futurelearn.com/proof-of-learning/certificate-of-achievement.

This learner has not verified their identity. The certificate and transcript do not imply the award of credit or the conferment of a qualification from University of Bergen and Bjerknes Centre for Climate Research.



Matthias Giger

has completed the following course:

CAUSES OF CLIMATE CHANGE UNIVERSITY OF BERGEN AND BJERKNES CENTRE FOR CLIMATE RESEARCH

87%
AVERAGE TEST
SCORE

The course focused on explaining the main external forcing mechanisms such as the sun, volcanoes, and changes in greenhouse gases and aerosols, which can contribute to changing the global energy budget. It explored the important role of internal feedback mechanisms and the energy transport in the atmosphere and ocean, in order to explain regional variations in climate. Providing in-depth understanding of the climate system, it also compared man-made climate changes to past natural changes.

STUDY REQUIREMENT

3 weeks, 4 hours per week

LEARNING OUTCOMES

- Reflect on the complexities of the climate system, and be able to put the recently observed, man-made changes in climate in the context of past natural changes.
- Explain the underlying physical processes governing climate variations in the past, present and future.
- Describe the role of atmosphere and ocean energy transport and their impact on regional variations in climate.
- Summarise the main feedback mechanisms in the climate system.
- Describe the role of ocean heat uptake for the timescales of response to changes in climate forcing.

SYLLABUS

- Radiative forcing
- Climate feedbacks and heat transport
- Past changes in climate and ocean heat uptake