

## Climate film > Climate Research

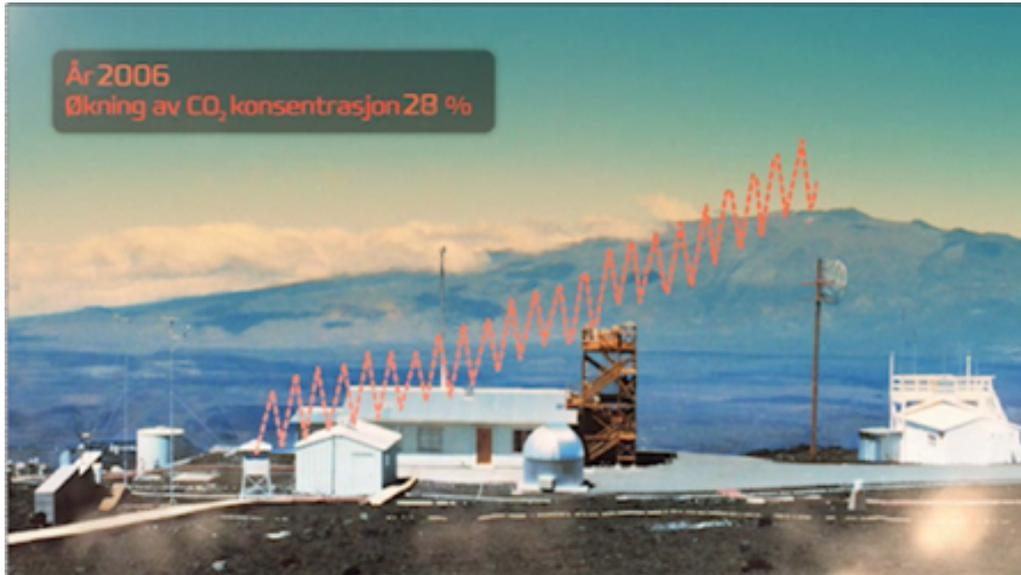
In climate research we employ knowledge from many specialized areas, for example knowledge about changes in CO<sub>2</sub> content in the atmosphere and the ability the sea has to absorb CO<sub>2</sub>. In order to gain a complete overview the UN Intergovernmental Panel on Climate Change – IPCC (UN climate panel) has compiled the knowledge into lengthy reports, so that the politicians have the basis on which to decide climate policy. In the task of calculating how climate changes will behave in a few centuries' time, climate researchers utilize climate models. However there are several tentative factors in climate models, including the size of future emissions. Therefore it is impossible to make totally accurate climate forecasts. How shall we deal with the uncertainty factor in climate research? Can we rely on the prognosis made by the researchers? Is the UN climate panel always right?

### Assignments to complete before you see the film

1. What do you know about the UN's climate panel?
2. How do you think researchers ensure quality assurance of their own and others' work?
3. Climate is widely debated in the media. What particular topic receives much attention?

### Assignments relating to the film

1. In the nineteen-fifties an American scientist, Charles David Keeling, placed an instrument for measuring CO<sub>2</sub> concentration in the atmosphere, on the slopes of Mt. Mauna Loa on Hawaii, far away from any sources of pollution. Why did he avoid sources of pollution, and what result did the measurements reveal?
2. The measurements show amongst other things that there are major seasonal variations in the concentration of CO<sub>2</sub> in the atmosphere. What do you think causes these seasonal variations?



3. Can the sea contribute toward reducing CO<sub>2</sub> content in the atmosphere?
4. How does the UN climate panel achieve quality assurance and how does it communicate about climate research externally?
5. The UN climate panel has developed a scenario that describes the way society might possibly develop. Why has the UN climate panel prepared several scenarios? Isn't one enough?
6. Why do we need a scenario?
7. What is a climate model?
8. Why is there always uncertainty linked to climate model calculations?
9. The report from the UN climate panel that was released in 2007, concluded that the greater part of global warming the last 50 years has most probably been caused by mankind. Why has this created such huge headlines and passionate debate?
10. The UN climate panel received criticism after the report's release in 2007. What was the basis of the criticism, and was it impartial?

### Intensified assignments

1. Why is argumentation, disagreement and publicizing important for climate research?
2. How can researchers work to reduce the uncertainty factor in climate models?
3. What does the term "tentative knowledge" mean? Use climate as an example.
4. Describe the international cooperation that is the basis for the UN's climate reports.