Royal Netherlands Meteorological Institute (KNMI) Climate Signal'21

The earth is getting warmer. Climate change is happening faster than previously thought. And we are increasingly feeling the effects, in our own country too. We are seeing more heat and extreme precipitation and fewer periods of severe frost.

2 meter

1,2 meter

The IPCC, the United Nations' panel on climate change, has determined that human activity is causing global warming.

The 2015 Paris Agreement aims to limit the global temperature increase to no more than 2°C, and preferably to 1.5°C. At the current rate of emissions, the atmosphere will likely contain such high levels of greenhouse gases in ten years' time that the limit of 1.5°C will be permanently exceeded.

What is the current state of the climate in the Netherlands?

Sea levels

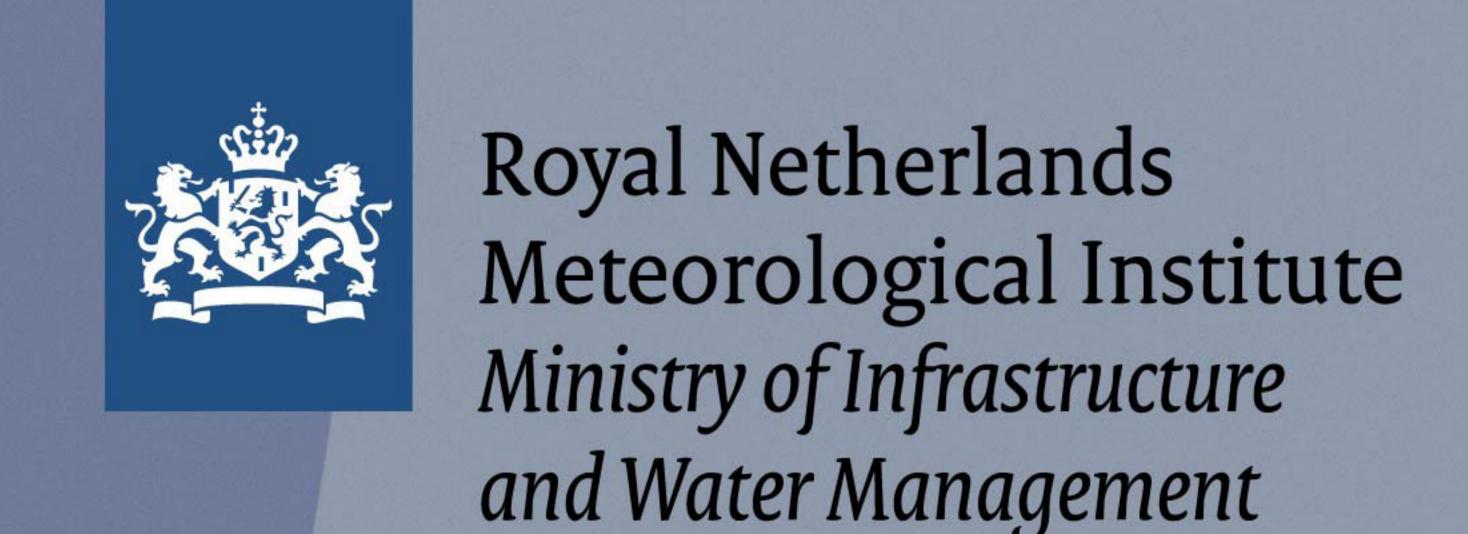
If we do not reduce greenhouse gas emissions, sea levels along the Dutch coast could rise by up to 1.2 metres by 2100 compared to the beginning of the century. If parts of the Antarctic ice sheet become unstable, sea levels may even rise as much as two metres.

Rivers

The likelihood of low river water levels will increase in summer, while in winter the likelihood of high river water levels will increase.

Drought

Higher temperatures and more sunlight will increase the rate of evaporation. This, in turn, will increase the likelihood of drought in both spring and summer.







The Arctic is warming faster than the tropics.
This may weaken the jet stream, possibly increasing the chance of persistent weather patterns such as prolonged periods of dry, wet, warm or cold weather.

Hurricanes in the Caribbean Netherlands

As the warmer climate raises sea temperatures, hurricanes near Bonaire, Sint Eustatius and Saba may become more intense.

Extreme precipitation

As warmer air can hold additional moisture, we will see more intense rainfall. The worst downpours may also create downbursts, which can be dangerous and cause great damage.

Heat and precipitation in cities

Cities are usually warmer than rural areas due to the urban heat island effect, and global warming is making cities warmer still. In addition, extreme rainfall as well as drought will increasingly result in ongoing challenges for cities.

©KNMI, 2021. www.knmi.nl