

The climate of the 20th and 21st century

Prof. Dr. Mojib Latif
Leibniz Institute of Marine Sciences, Kiel

Globally averaged surface air temperature has risen by about 0.8°C during the last hundred years. The major part of this global warming can be attributed to man's activities. In particular, the burning of fossil fuels (oil, natural gas, and coal) releases vast amounts of carbon dioxide (CO₂) into the atmosphere, which lead to a dramatic increase of the atmospheric CO₂ concentration relative to pre-industrial levels. Since carbon dioxide is a so called greenhouse gas, it contributes (like methane, CFCs, and nitrous dioxide) to global warming. Models predict an additional warming until 2100 of about 4°C, if global greenhouse gas emissions continue to increase. This will lead to a strong increase in the occurrence of extreme weather events and a sea level rise. In order avoid dangerous climate change, greenhouse gas emissions have to be cut globally by at least 80% by the year 2100.