

Climate of the 21st century – the knowledge basis
 Monday December 7, Holland Climate House (Hal C7)

Organized by: **Royal Netherlands Meteorological Institute (KNMI)**
 Energy Research Center of the Netherlands (ECN)

Time	Topic	Session contents
12.00	Lunch	
12.00 - 18.00	Knowledge base of the climate of the 21 st century	We will hold running presentations on climate modeling. Animated results of global (EC-EARTH) and regional (RACMO) earth system models will be shown and leading climate scientists will be interviewed about the state-of-the-art in climate science as well as future developments
18.00 – 20.30	The Holland Climate House warming party	Drinks and reception in an informal setting
20.30 – 21.30	Biomass for climate change - how to keep the balance right?	Sustainable biomass is an important renewable energy option for climate change abatement. An integrated approach is needed to keep the balance right, focusing on linking the different cycles, water, land use and other environmental impacts. Prof. Jan Willem Erisman (ECN) will present and discuss biomass options without carbon emissions.

Contents of the day

Our understanding of climate systems forms the scientific basis of expected climate change and sea level rise. Climate models that incorporate this knowledge are a major source of future climate information. They simulate our future climate while using different emission of greenhouse gasses and aerosols as input variables.

The Royal Netherlands Meteorological Institute (KNMI) leads a European consortium in an effort to develop a state-of-the-art global earth system model called EC-Earth. The model is derived from a weather prediction model of the European Centre for Medium-Range Weather Forecasts. Both weather prediction and climate change studies share the same physical principles.

However, global climate models are too coarse grained to give the relevant information needed for adaptation to climate change, which typically takes place at regional scales. Therefore, fine-mesh climate models of a specific region, such as the Dutch RACMO model, provide the required regional climate information.

Climate models give physically based and consistent pictures of a future climate. Together with data from climate monitoring networks they are the essential building blocks for climate services that guide strategies to cope with climate change, the main theme of the Copenhagen conference.