

Meeting on MATHEMATICS AND BIG DATA

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Title:

Ice sheets and climate: from hindcast to forecast

Abstract:

The Antarctic and Greenland ice sheets contain enough water to raise global mean sea level by more than 60 m, if completely melted. In order to forecast future melting rates of these enormous ice masses, first we must understand their behaviour in the recent past. For that we need a robust reconstruction of the weather back in time, the so-called hindcast. This presentation addresses the various techniques necessary to arrive at the data required to make reliable projections of future ice sheet melt.

Biosketch:

Michiel van den Broeke (Rotterdam, 1968) is professor of polar meteorology at Utrecht University. His research group studies the climate and mass balance of the great ice sheets of Antarctica and Greenland, using modelling and observational techniques. Fieldwork brought him to Antarctica, Greenland, Svalbard and Iceland. He is a member of the Royal Netherlands Academy of Arts and Sciences (KNAW) and was recipient of the 2015 Louis Agassiz Medal of the European Geosciences Union.