# Simulation of the last glacial cycle with a climate-system model

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## **The Model**

#### The climate-system model CLIMBER





The Model (continued)

#### The Sediment Mask





# The Model (continued)

#### **Atmopheric Dust**





# **The Glacial Cycle**

#### Impact of sediment





## **Glacial Inception**

Importance of Atmospheric Dust

Comparison with data





## **Glacial Inception (continued)**



Impact of the Ocean and the Terrestrial Vegetation



## **Glacial Inception (continued)**



AOVI



## **Heinrich Events**

#### Time Series at Hudson Bay





### **Heinrich Events (continued)**





# Conclusions

Important factors for the ice cover during the last glacial cycle

- Insolation
- Ocean
- Terrestrial vegetation
- Heinrich events
- Dust



## Outlook

- Model for the dust transport in the atmosphere
- Coupling the fresh water from the ice sheets with the ocean
- Including the ocean carbon cycle
- Milankovitch-only simulations

