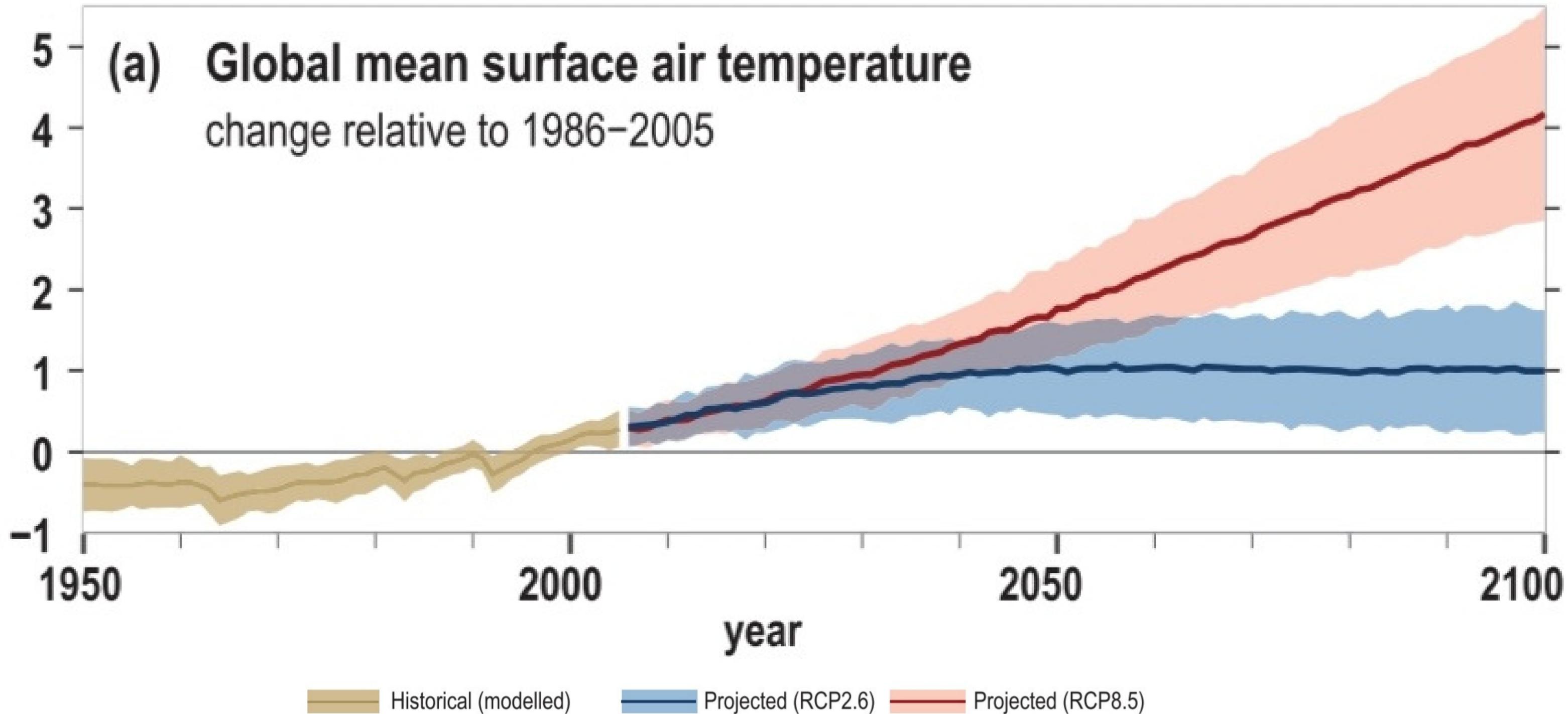


Air temperature increase





Until 2100, the temperature of the air at the surface of the Earth could be increased between 2.9°C and 5.5°C for the RCP8.5 (Representative Concentration Pathway). This rise of the temperature is going to speed up the melting of the ice caps.

Freshwater resources



Freshwater availability, cubic metres per person and per year, 2007.



Source: FAO, Nations unies, World Resources Institute (WRI).

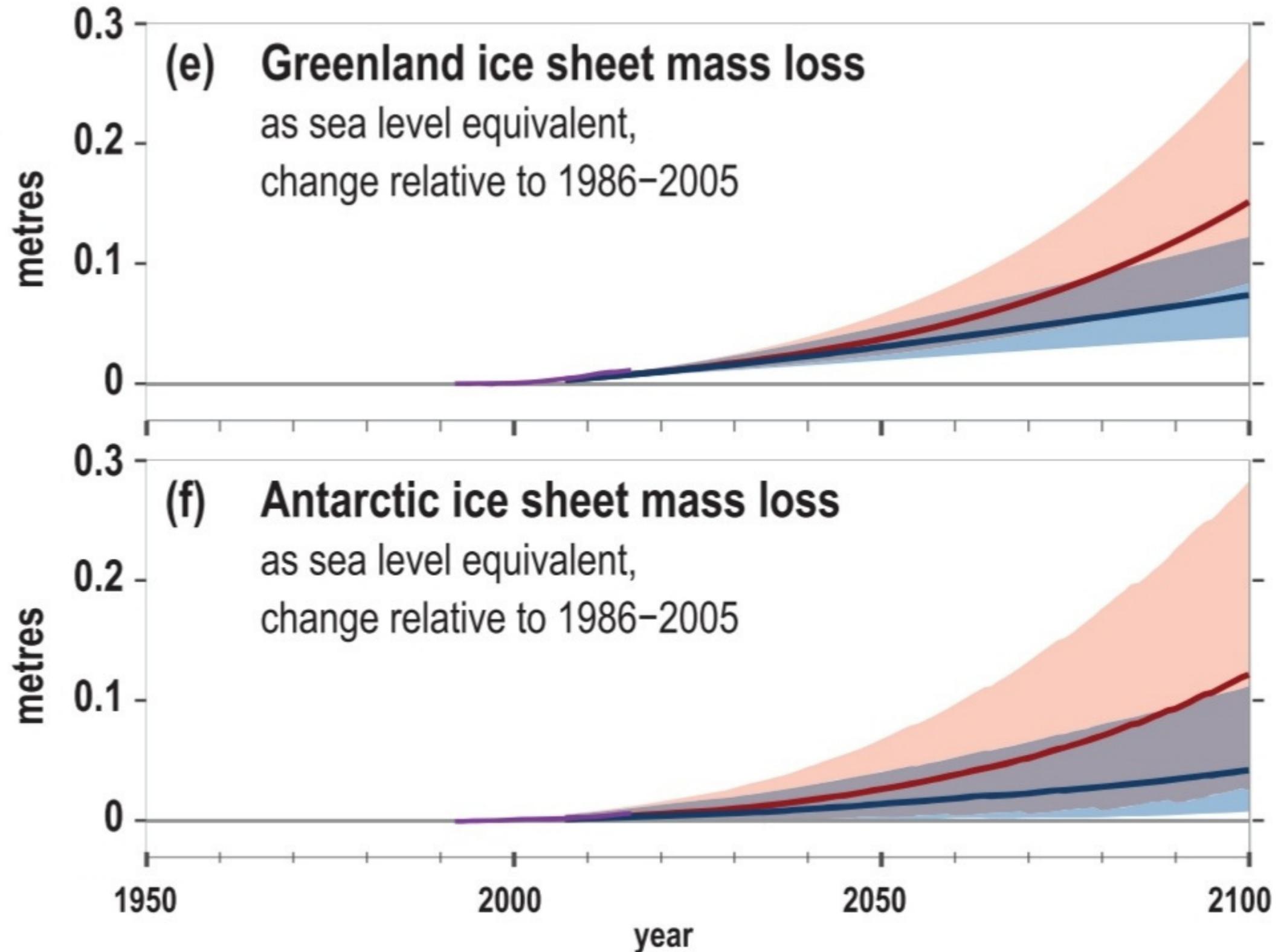
PHILIPPE REKACEWICZ
FEBRUARY 2008

Data non available



Although freshwater only represents 2,5% of the total amount of water on and in Earth, the majority of it, about 68,7%, is held in ice caps and glaciers.

Rise of sea level





The sea level due to the melting of the ice caps could be increased between 0.115m and 0.55m for the RCP8.5 (Representative Concentration Pathway) from now to 2100. For the RCP2.6 it could be between 0.05m and 0.23m.



Gulf stream

Greenland

Iceland

British Isles

Europe

Atlantic Ocean

Africa

North America

Gulf Stream

Bermuda

Gulf of Mexico

Bahamas

Tropic of Cancer

Cuba

West Indies

Central America

South America

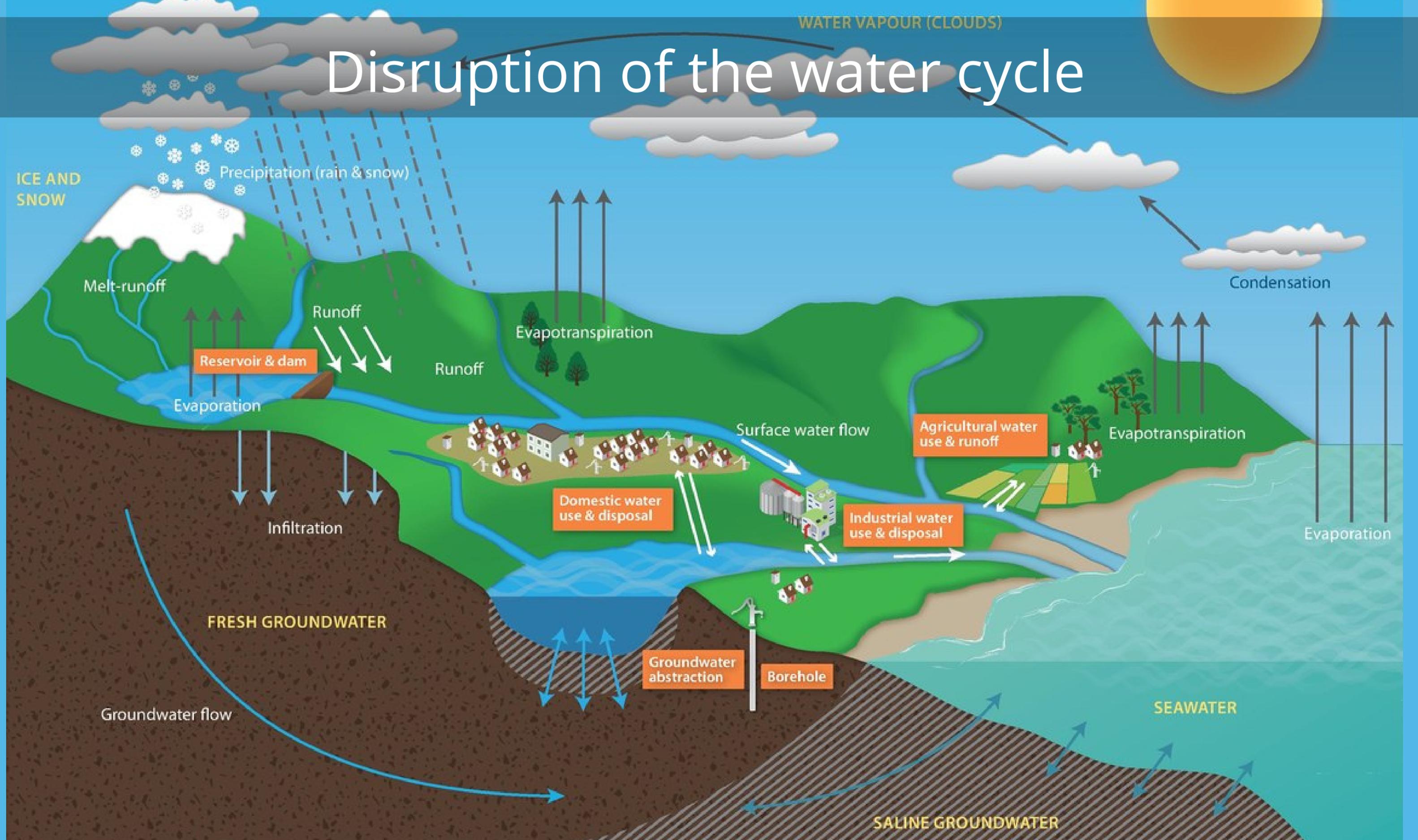
The Gulf stream is an ocean current which regulates the climate (mainly in the north hemisphere). The mixing of freshwater from melting of the ice caps with the water of the sea slows the Gulf stream down.

Supraglacial lakes



These lakes are created when the snow meltwater of the summer melt season accumulates on the ice surface in depressions and hollows. Locally, the ice cap albedo decreases which leads to an increasing surface melting.

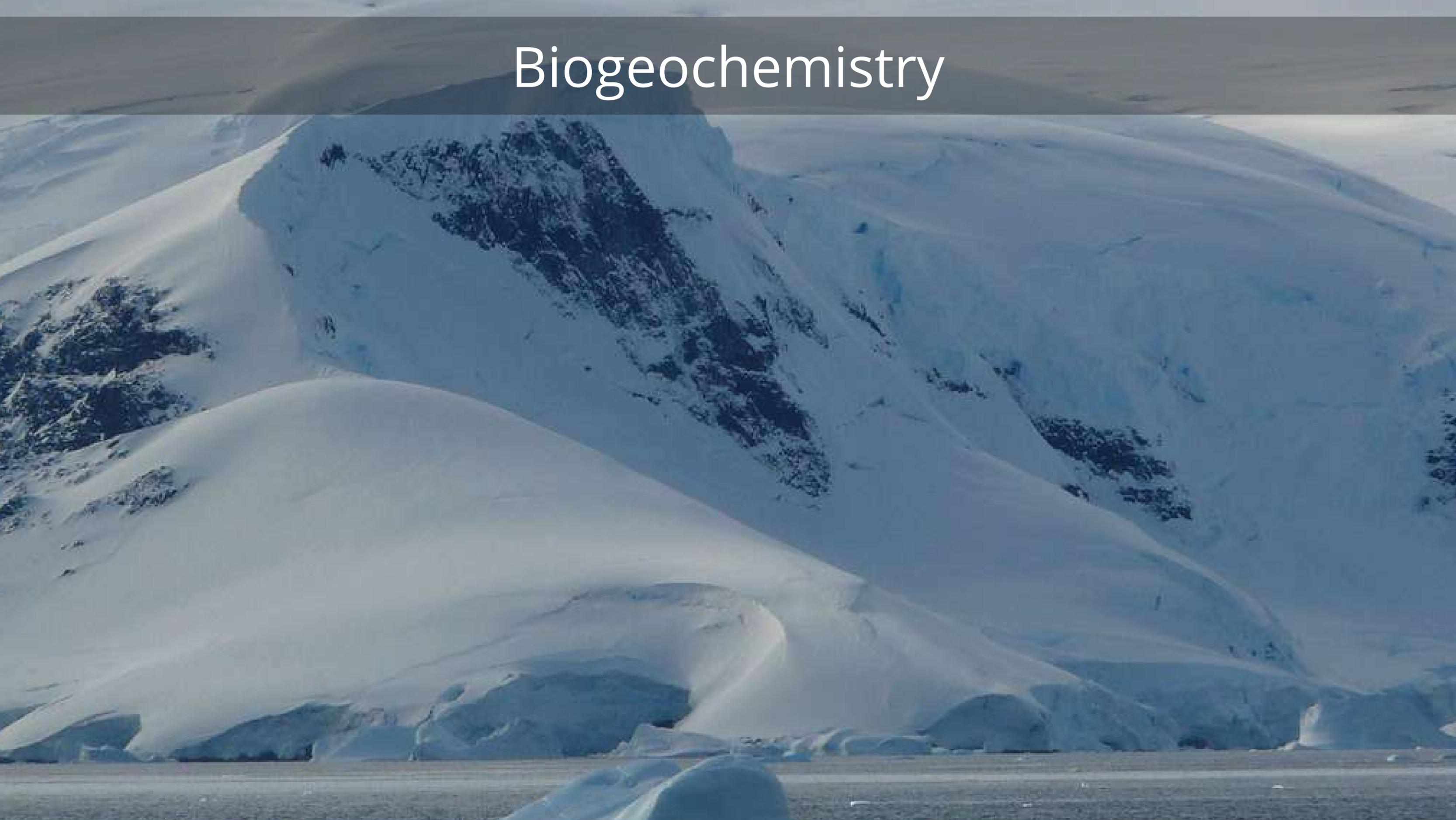
Disruption of the water cycle





The atmospheric rivers are responsible for the increase of the icecap's volume during winter but also of the important melting during summer.

Biogeochemistry





Due to the ice caps melting, different elements are released in the air and the water. Some of them are poisonous (mercury) for the living.

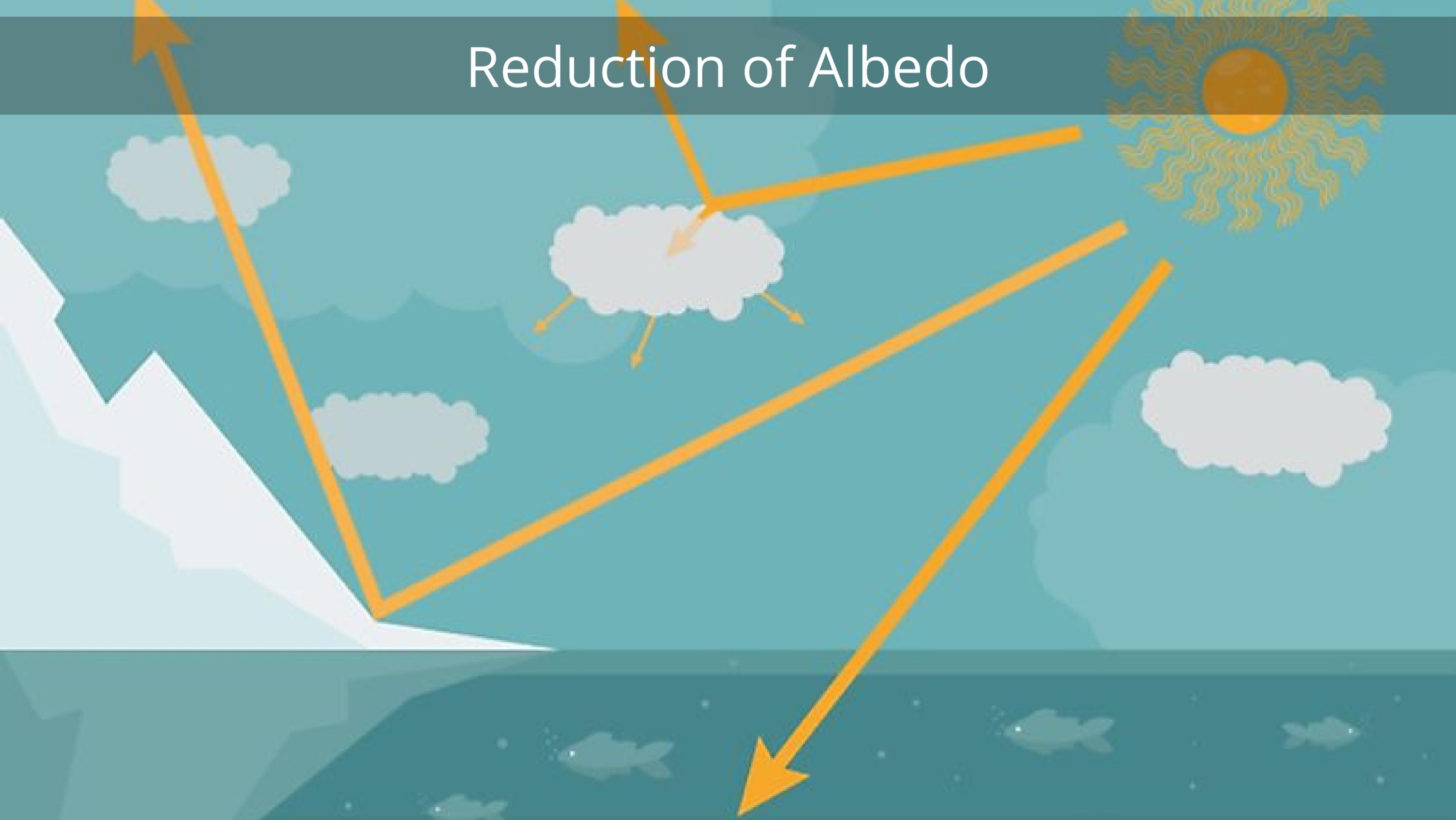
Migration of living species





As habitats change, animal species migrate to find a more suitable habitat. In particular, predatory species migrate and threaten native species already weakened by their change of habitat.

Reduction of Albedo





Albedo is the ability of a body to reflect light. The earth has an average albedo of 0.3.

The albedo of ice is about 0.6 and the albedo of snow is higher and can be as high as 0.9.

Water temperature increase





The ocean absorbs 93% of the energy that accumulates on the Earth.
As it warms, the water expands.