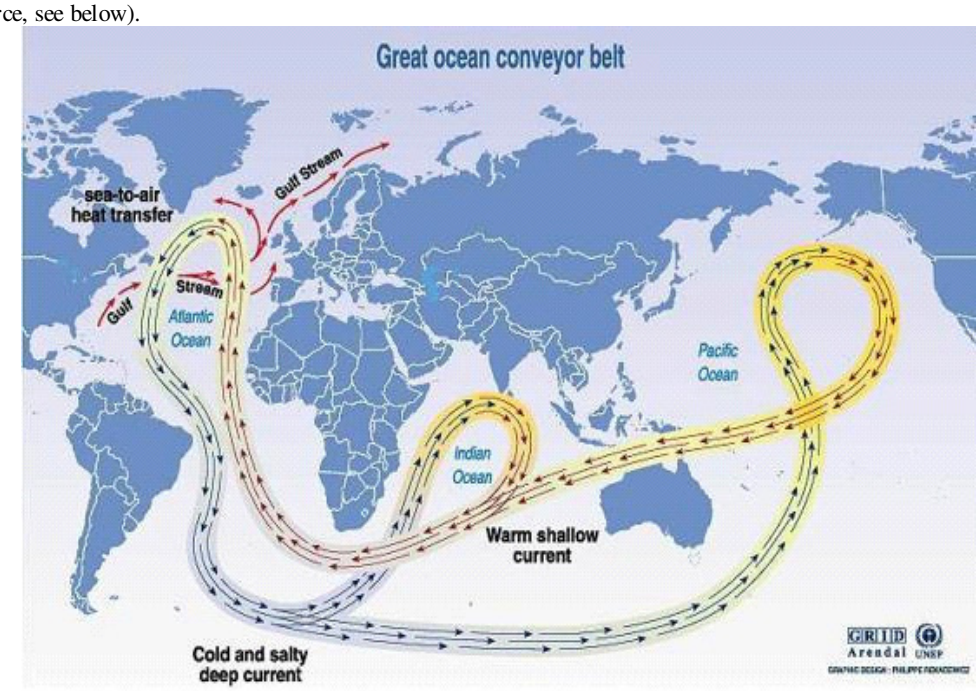
1995	UNEP/GRIDA: World ocean thermohaline circulation.

The global conveyor belt thermohaline circulation is driven primarily by the formation and sinking of deep water (from around 1500m to the Antarctic bottom water overlying the bottom of the ocean) in the Norwegian Sea. When the strength of the haline forcing increases due to excess precipitation, runoff, or ice melt the conveyor belt will weaken or even shut down. The variability in the strength of the conveyor belt will lead to climate change in Europe and it could also influence in other areas of the global ocean (Source, see below).



Source: Broecker, 1991, in Climate change 1995, Impacts, adaptations and mitigation of climate change: scientific-technical analyses, contribution of working group 2 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge press university, 1996.

Sources Climate change 1995, Impacts, adaptations and mitigation of climate change: scientific-technical analyses, contribution of working group 2 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge press university, 1996; http://www.grida.no/publications/vg/climate/page/3085.aspx
Designer Philippe Rekacewicz, UNEP/GRID-Arendal

REMARK

The map identifies only one region as "sea-to-air heat transfer", of which the text actually should be further to the East (close or north of Iceland), and the Gulf Steam symbols should pass Spitsbergen in the West. However, the warm water for the Arctic, from all oceans as far away as the North and South Pacific, is coming with the red line as West Spitsbergen Current to the Arctic gate. As this warm salty water reaches the Fram Strait in the West of Spitsbergen, it is able to release enormous heat into the atmosphere, by cooling down. These cool salty waters are now very dense compared to the surrounding waters, and sink to the bottom of the Arctic Ocean, or Nordic Sea. There is virtually no other place in the world where "heat release" and warming of an cold environment could be more effective. Even a water temperature of only one or two degrees are still able to heat the atmosphere. The end of the squeezing out is only reached when the sea water is freezing. Only this heating-spot seems capable to initiate and sustain an explosive temperature rise, and sustain it over a longer period of time.