

Permafrost

In the recent years the permafrost is thawing up in the Arctic. The changes are a huge challenge to the economy. The countermeasures are continuous renovation of buildings and roads.

The situation is not new. The thawing permafrost has caused planners and technicians problems for many generations: Houses cracks and must be abandoned. Roads are destroyed and can in a short time be so bumpy that ordinary traffic on the roads no longer is possible. Only the houses and the infrastructure that is built on bedrock, avoid being damaged when the permafrost disappears.

When the temperature rises one degree, experience shows that the permafrost pulls 20 to 25 centimetres deeper under-

ground. In the frozen ground ice can be up to eighty percent by volume, and when the layers thaw, it collapses. Also the houses and the roads above collapse. Simultaneously a muddy substance occurs. The substance feels like quicksand, if you step into it. It has no load-bearing capacity.

The airport for the traffic in and out of Greenland in Kangerlussuaq is a former US military base. For many decades, the runway had to be patched up. Today it is so damaged that the authorities expect that it may cost more than one billion Danish kroner to repair it. The aircrafts can no longer make use of three hundred meters of the runway, and the damage from the permafrost thawing has also made the outer edges of the field unfit for use.



Kangerlussuaq, July 2008