

## **Adaptation to Climate Change in the European Arctic**

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Climate change poses in general a threat for the well-being of the man-kind. Globally the largest concerns are related to food security, low-lying cities and areas as well as freshwater availability. On the other hand climate change may also offer opportunities for new activities in limited scale. Adaptation to climate change has become more important due to lack of global mitigation measures.

According to model calculations the mean temperatures are expected to rise 1.5-2.0 times the global average in the European Arctic with largest changes expected during the winter half of the year. The annual rainfall is also expected to rise with additional risk for flash-flooding. FMI with its partner organizations have produced alternative adaptation scenarios for Northern Europe. According to these the growing season for agriculture and forestry will be prolonged, availability of hydropower enhanced, need for heating capacity of buildings smaller and risks for forest fires larger during the latter part of the 21st century.

The melting of Arctic snow and ice-cover is taking place more rapidly than earlier estimated. This gives new opportunities for shipping, natural resource exploration and various economic activities. There is also a great need to improve the weather, marine and ice service infrastructure including observing and telecommunication systems as well as the service capabilities.