



A multi-satellite concept in support of high latitude permafrost modelling and monitoring - The ESA DUE Permafrost project

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A number of remotely sensed products have been developed in the past which provide information relevant to permafrost distribution on circumpolar scale. They comprise parameters such as land surface temperature, land cover, soil moisture, disturbances, snow and terrain. A monitoring system of high latitude permafrost requires regular and multiscale observation of all these parameters. Further on, the datasets need to meet requirements of permafrost models as well as support related research in geomorphology, botany and hydrology.

Such a comprehensive database is setup within the framework of the European Space Agency's (ESA) Data User Element (DUE) program. The ESA DUE Permafrost project establishes a monitoring system on local to pan-boreal/arctic scale based on satellite data. Within this project permafrost relevant remotely sensed products are assessed and eventually provided to users. The complexity of the phenomenon permafrost requires the close cooperation with the scientific community working in this field.

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