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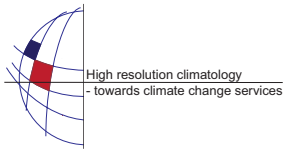

Assessment of climate vulnerability in the Norwegian built environment

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The main trends expected for the change of Norwegian climate for this century are increasing temperatures, precipitation and wind. This indicates a probable increase of climate related risks to the Norwegian built environment. Previous assessments of climate vulnerability of the built environment have been based on general terms and experiences. The report "Climate and vulnerability analysis for Norwegian built environment; Basis elucidation for the Official Norwegian Report (NOU) on climate adaptation (in Norwegian only)" has used previously defined indexes to quantify the future vulnerability and thus estimated the impact of future climate strain to the existing built environment.

The method used to do this assessment has been to create national geolocated maps of relevant climate indexes.

Climate indexes for this analysis are:
* Wood decay,
* Temperature and heating degree days,
* Snow load and wet winter precipitation,
* Precipitation, flood and extreme precipitation
* Wind and wind-driven rain
* Frost decay
* Frost amount
* Perma frost

Most of these indexes have been established both for the normal period 1961 - 1990 and projected climate of 2071 – 2100. To compensate for uncertainties in the projection, a set of three projections has been used. These indexes have been combined with geolocated information for Norway's 3.9 million buildings, by imposing GIS digitalized building information to the geolocated maps. The result of this combination is a synopsis of the number of buildings in Norway vulnerable to the displayed present climate parameters and to the projected changes.

Consequenses for the Norwegian buildings stock and actions to be taken by the government are also discussed.