

## Estimation of uncertainty of daily climate maps from cross-validation

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Daily maps of temperature and precipitation are produced for the whole of Norway within the scope of "seNorge.no". From 1957 until present, daily maps have been produced with 1 km horizontal resolution. However, until present no error estimates have been calculated.

A cross-validation of the methods is carried out on a daily basis. A distribution is fitted to the histogram of the errors and the confidence intervals are calculated. This is done on a monthly basis, revealing the largest errors for temperature estimates during winter and the smallest errors for temperature estimates during summer. Moreover, during winter error distributions are calculated for very cold events only, using different threshold values of measured temperature (e.g., -10, -20, 30°C, and so on). This allows for an error estimation of cold temperature events.

For precipitation, a distribution is fitted to the histogram of the differences between estimated and measured precipitation amounts. Errors and confidence intervals are computed on a monthly basis. Moreover, error distributions are calculated for moderate/heavy precipitation events only, using different threshold values of measured precipitation (e.g., 10, 20, 50, 100 mm, and so on). This allows for an error estimation of extreme precipitation events.