

From climate projections to guidelines on climate change allowances

I. B. Nilsen¹, Engeland, K.¹, Dyrørdal, A.V.², Hisdal, H.¹, Hanssen-Bauer, I.²,
Lawrence, D.¹, Wong, W.K.¹

¹*Norwegian Water Resources and Energy Directorate
P.O. Box 5091 Majorstua, N-0301 Oslo, Norway
Email: ibni@nve.no*

²*Norwegian Meteorological Institute
Henrik Mohns Plass 1, N-0371 Oslo, Norway*

ABSTRACT

For several years, climate change allowances (“klimapåslag”, in Norwegian) for heavy precipitation, floods, and storm surges have been communicated to a technical audience through climate factsheets (“klimaprofiler”, in Norwegian). According to the general guidelines issued by the Norwegian Centre for Climate Services (NCCS), a climate change allowance states how much the current design value should be increased to account for future climate change. The resulting climate-adjusted values are used as a tool in risk assessments and planning. Climate change allowances for heavy rainfall are issued for different durations and return values, whereas climate change allowances for floods distinguish between the flood-generating process. These climate change allowances are derived from projections for 2071–2100 relative to the reference period 1971–2000 and are therefore valid for the end of this century.

Based on evaluation from practitioners at different workshops, NCCS has been made aware that more guidance is needed to help users translate the knowledge base into action. Guidance on the use of climate change allowances is available on a national and regional basis but is also requested on local scales. Since the time periods used to calculate the climate change allowances are fixed, some users inquire about the use of climate change allowances for a shorter time frame. In special cases, the observed climate has already experienced marked increases to an order of magnitude that is similar to the climate change allowance. In this case, users have asked whether this could be accounted for by using a smaller climate change allowance. Practical examples on use are also requested.

During the coming years, NCCS will update the report *Climate in Norway 2100* and issue accompanying climate change allowances. This poster will outline recommendations on what new guidelines on climate change allowances should include, both in general and specifically for floods and heavy precipitation. Recommendations will be based on scientific developments on projected heavy rainfall and flood magnitudes, bridged with user needs stated at various stakeholder workshops organized by NCCS.

Keywords: Climate change adaptation; Climate change allowance