Too Much Water is Just as Problematic as Too Little Water

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SUMMARY

We are experiencing major climate change all over the world and storms, torrential rain, floods, etc. create challenges for local communities, food-producing areas and public health. In Norway, the consulting company Norconsult, in collaboration with the Geological Survey of Norway and the University of Oslo, has prepared a map analysis to look at the collapse of a glacial dam and how it affected the watercourse and landscape on the lower side of this dam. The findings have been published in the Journal and Hydrology. https://www.sciencedirect.com/science/article/pii/S2214581824002866

The article describes how this natural disaster about 10,400 years ago affected the whole of eastern southern Norway. By studying the effect of this event, it is possible to develop a model that can describe how similar flood disasters can affect a watercourse. The model can also be used to predict what may happen in the event of later minor natural disasters today, so that we can implement measures to limit the damage.

In August 2023, southern Norway was hit by storm "Hans" with a lot of precipitation in a short time that led to major destruction. The village of Nesbyen experienced a major flood when the Hallingdal river flooded parts of the municipal center. The storm in 2023 was classified as a 100-year flood and caused damage of about NOK 7.4 billion or approximately USD 733 million. The watercourse at Nesbyen is regulated for hydropower, and without such regulation, the damage would have been greater. On the basis of map analyses, work is now underway to flood-proof Nesbyen so that it can withstand a 1000-year flood with a climate impact. The protection work is carried out by establishing flood embankments around the village and in this way securing vital municipal city centre functions, life and property in the event of a new crisis situation. Flood-affected buildings outside the flood embankment will not be allowed to be rebuilt and

landowners must relinquish land in return for compensation. The landowners will also be able to benefit from their remaining areas being secured against later flood disasters. This will increase their property values and ensure that buildings can be rebuilt. This benefit can be deducted in the event of compensation. The municipality, the insurance companies, the landowners and the state through the Norwegian Water Resources and Energy Directorate have all contributed to securing Nesbyen village against future floods. The example from Nesbyen has given us a description of how to organize the protection of other local communities against similar natural disasters