

# Gudbrandsdalen

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## Site description

Gudbrandsdalen is one of the longest valleys in Norway: 230 km long and 15342 km<sup>2</sup>. 71 000 inhabitants live in the 12 municipalities in the valley. The river Gudbrandsdalslågen runs through the valley, and along the river, small communities, the railroad, roads and other infrastructure and agricultural land are localized. The area also encompasses side valleys with accompanying side rivers.



Gudbrandsdalen has been hit hard by several large floods, resulting in severe and costly damages. The largest and most infamous flood occurred in 1789, when the water rose to 7 meters above normal, destroying more than 3000 houses. More recently, several floods have occurred (1995, 2011, 2013), especially in the side rivers, due to extreme precipitation over a short period of time. Thus, flood prevention must be directed towards the side rivers as much as the main river.



The village Kvam and the river Veikleåa



The Valley of Gudbrandsdalen

## Relation to other WP

- Monitoring NBS performance: WP4, WP7.
- Planning strategies, governance: WP5.
- Share with stakeholders, communication, training, co-design NBS: WP3, WP6, WP8.
- Demonstrate the assessment and monitoring proposed solutions: WP2, WP7.



Flooding of agricultural land in Gudbrandsdalen

## NBS development to fill knowledge gaps

- Adjusted areal and landuse planning policy and change of best practices in planning
- Afforestation, forest densification/ enrichment and adapted forest management
- Restoring of degraded ecosystems, i.e. re-meandering and re-vegetation of riverbanks
- Measuring of social impact by interviews of inhabitants
- Economic, social and environmental comparison of traditional solutions and NBS
- Monitoring of long-term economic costs of restoration and repairs beyond project horizon
- Sharing of knowledge through multi-stakeholder engagement end-user workshops

## Stakeholders

Stakeholders have been active in both the compilation of the knowledge base, and in the choosing of the flood preventive actions. They will also be involved in the implementation and evaluation of the preventive measures.

- Land owners
- The municipalities
- The Norwegian Public Roads Administration
- Bane NOR (national railway infrastructure)
- The Norwegian Water Resources and Energy Directorate
- County Governor of Oppland
- Nature and outdoor life organizations

## Partners:

