



Acronym	BorealNet
Full Title	BorealNet- Norwegian growth monitoring network
Partner(s)	Norwegian University of Life Sciences, Faculty of Environmental Sciences and Natural Resource Management, Norway (<i>coordinator</i>) Norwegian Institute of Bioeconomy Research, Norway
Grant Theme	Pilots of long-term climate impact forest monitoring sites
Start Date	August 2024
Duration	18 months
Description	The boreal zone is warming twice as fast as the global average due to climate change, however, the ways in which these forest ecosystems are responding to the rapidly changing conditions are poorly understood. Forests cover about 38 percent of Norway's land area, or about 122 000 square kilometres, of which all are classified as part of the boreal forest biome. Declines in the growth and vitality of boreal trees will have profound impacts on forest ecosystems, reducing biodiversity, limiting the ability of trees to sequester carbon and risk the financial stability of the forestry industry. There is an urgent need to predict the impacts of the rapidly changing climate on boreal forest species to ensure the ongoing preservation and correct management of these areas. The aim of the BorealNet project is to facilitate the development of a spatially comprehensive and connected tree growth monitoring network across Norway. This is achieved by connecting long-term monitoring networks such as ICP Forests and ICOS forest sites with existing and newly developed growth monitoring projects across the country through standardised linking methods by the installation of autonomous high resolution dendrometers and microclimate sensors, facilitating the integration of the collected data from more than 60 individual forest plots into the European-wide FORWARDS nowcasting models. In addition, the project links tree growth with remotely sensed spectral indices of forest productivity and stress, and LiDAR derived structural information using drone-based assessments at the individual tree, as well as upscaling to forest and landscape level. BorealNet will fill critical knowledge gaps on the impact of climate extremes and climate-related disturbances on boreal forest ecosystems through co-ordinated, long-term, ecosystem-based research and monitoring efforts.



**Funded by
the European Union**