



Acronym	CsFagus
Full Title	Climate Smart Fagus sylvatica forests
Partner(s)	Institute of Lowland Forestry and Environment, Serbia
Grant Theme	Establishing Climate-Smart Forestry and forest restoration pilots in Europe
Start Date	May 2024
Duration	18 months
Description	European beech (<i>Fagus sylvatica</i> L.) is one of the keystone European tree species, covering an area of approximately 14 million hectares. However, climate change has been projected to negatively affect productivity and stability of beech forests. In addition to changing climate, past and current forest management practices may be an essential driver for defining climate-smart forest (CSF) management strategies of beech forests in the Balkans. This project addresses the effects of different environmental conditions and management practices on the structure and dynamics of beech ecosystems, as well as their potential to mitigate the adverse effects of climate change through carbon sequestration in forest biomass and forest soils. For this purpose, permanent pilot plots are established across beech stands representative for the Balkan Peninsula in Serbia, characterized by different management history: • managed high forests • coppice forests • unmanaged forests These plots complement the diversity of biogeographic regions and the forest ecosystems covered by the existing network of demo sites already determined within the FORWARDS project. Tree and stand-level measurements will be conducted to: • provide the data on forests productivity, health state and biodiversity (i.e. tree species composition and diversity of ground vegetation) • quantify nutrients (macro and micro elements) cycling in the ecosystems • estimate the aboveground, below ground biomass carbon and soil organic carbon stock • monitor forest dynamics and forest stress responses in real time, using Internet of Things (IoT) technology, based on sap flow sensors and automatic dendrometers.

