Why Forests Matter

Forests cover approximately 31% of the earth’s land surface and play an important role as ecosystems, carbon storage and renewable energy resources. For the investigation of adaptation processes and reactions of forest ecosystems to climate change, a permanent monitoring and recording of different forest structure parameters (e.g. tree species distribution, wood stock, dead wood distribution and renewable regeneration) in selected observation areas with high accuracy is required.

In particular, dead trees are of mandatory significance. For instance, around one-third of all animals and plants living in forests rely on dead wood. Furthermore, 11% of all greenhouse gas emissions are sequestered by the world’s forests, while 14% of total carbon stocks in forests are contained within dead wood.

Knowledge of dead wood and forest structures in general, is fundamental to understanding, protecting and preserving the biodiversity of our forests. As well as gaining a good understanding of ecological health, comprehensive environmental monitoring of our forests and the structures within, are also important in disaster management. From monitoring entire forests in the case of wildfires to tracking the spread of disease in single and dead trees – gaining accurate information on the status and distribution of these structures over various time scales are vital. This information is used by forest managers, researchers and governmental and inter-governmental institutions.