

## P R E F A C E

At the last IUFRO World Congress in 1976 in Oslo the decision was taken to establish a working group on "Physiological Aspects of Forest Ecology" in the framework of IUFRO Division 1, "Forest Environment and Silviculture". Two main goals were set for the working party:

1. the provision of basic physiological documentation for practical application in forestry;
2. the intensification of physiological and ecophysiological research in forest science.

With these goals in mind, the working group held an international symposium on "Radial Growth in Trees" in September 1980 in Innsbruck. The subject was chosen because of the significance of the physiology of wood increment for silviculture, for the study of forest yields, dendrochronology and dendroclimatology, and also because it was very relevant to the venue. That is because for some years now the Innsbruck office of the Federal Forest Research Station, Vienna, has been studying radial growth in various tree species on the timber line on Mt. Patscherkofel with the aim of analysing the influences of climate on radial change in tree trunks and correlating the gas exchange processes involved in the carbon and water balances of trees with radial growth. The interaction of climate and growth is particularly evident on the timber line because here, at the temperature limit of tree growth, even very minor variations in climate have marked physiological effects. In this zone, where the forest has a particularly important role to play in environmental protection, forestry authorities urgently require precise data on which to base their silvicultural policies and management decisions. Hence the symposium dealt in great detail with radial growth in mountain locations and on the timber line.

The symposium was attended by 48 participants from 14 countries, who presented 27 papers in 5 separate subject groups. Copies of these papers have now been submitted to

the organisers, who are pleased to have the opportunity to make them available in this form to a wider circle of interested persons. The papers provide a comprehensive review of the present state of research in this field. For the most part they are original reports deriving from current research projects throughout the world. It is hoped that they will provide forestry authorities and workers with a useful source of reference for the work being conducted at present in the field of radial growth. Also, the publication is intended as a stimulus to further research on the subject.

Finally, we should like to thank everyone who contributed to a successful symposium, especially the speakers and chairpersons, the contributors to the discussions, the interpreters Neyer and Lunacek and our colleagues in Innsbruck who helped organise the event. We also wish to thank the Federal Forest Research Station, Vienna, for their financial support for the conference and for the publication of the papers in their "Mitteilungen".

Walter Tranquillini

Chairman of the Working Party