

LONG- TERM FIELD RESEARCH STATIONS

Rájec-Němčice (the Dražanská vrchovina Upland)

Research is aimed at ecological aspects of the transformation of spruce monocultures and optimization of management procedures at the application of sustainable management in forests. Recently, IFE is aimed at possibilities of the adaptation of forest stands on effects of an expected climatic change.



Lednice na Moravě (southern Moravia)

The research area was established to study the floodplain forest ecosystem within MAB and IBP UNESCO international projects in 1969. At present, research is aimed at the evaluation of water regime in the alluvium, revitalization measures and the importance of floodplain forests in the protection of surface waters from eutrophication. Outputs of research are aimed at the support of sustainable management in floodplain forests and preserving the natural wealth in the landscape.



Bílý Kříž (Moravian-Silesian Beskids)

In the region of the Moravian-Silesian Beskids, the institute cooperates in the field of ecosystem research with the Institute of System Biology and Ecology of the Academy of Science of the CR. The research is aimed at monitoring deposition flows, carbon and nitrogen cycle in soil and mineral nutrition.



Cooperation in research

EFI cooperates with the University of Freiburg (Germany) in problems concerning the ecology of beech stands, with the Faculty of Forestry in Zagreb (Croatia) in the region of floodplain forests, with BOKU Vienna (Austria) in problems concerning the river landscape management. There are important long-term activities of IFE in the Institute of Forest Research Organisations (IUFRO) and in the European Forestry Institute (EFI). Partner cooperation is also developed with the Institute of System Biology and Ecology of the CR Academy of Science in Brno, with the Institute of Forest Ecology of the Slovak Academy of Science in Zvolen and with the Research Institute of Forestry and Game Management in Prague. The institute also provides important application outputs and consultancy for forestry, state administration and NGO.

Institute of Forest Ecology

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Institute of Forest Ecology IFE

Faculty of Forestry and Wood Ecology

MENDEL UNIVERSITY OF AGRICULTURE AND FORESTRY IN BRNO



Faculty of Forestry and Wood Technology

Mendel University of Agriculture and Forestry in Brno



Characteristics of the Institute

The institute was established at the end of 1969 in connection with dealing with the UNESCO - IBP Programme. At present, it serves as an educational-scientific workplace of the Faculty. It is engaged in the development of ecology and study of forest ecosystems aimed at energy and material flows and biogeochemical cycles. In particular applications, the Institute attention is focussed on scenarios of the forest development under changing environmental conditions, problems of protection and conservation and the preservation of biodiversity and adaptation mechanisms of forests on climatic changes. The main field of the research interest consists in analyses and evaluation of processes in a floodplain forest ecosystem and secondary spruce stands in upland and mountain regions. The Institute operates two ecosystem field long-term research stations in the region of Moravia (see below) and a number of long-term research areas within the whole CR. It also has its own chemical laboratory. The institute employs 14 permanent educational, research and technical workers and 8 workers engaged in research projects. Since 1999, the institute is a coordination workplace of the faculty institutional research MSM 434100005 "Sustainable forest and landscape management – from a conception to realization", MSM 6215648902 „Forest and wood – support of the functionally integrated forest management and the use of wood as a renewable raw material,,



Education

IFE ensures education in following subjects: Forest Ecology, Ecophysiology of Forest Trees, Meteorology and Climatology, Fundamentals of Ecology and Protection of the Atmosphere in bachelor and master study programmes. Moreover, the institute also ensures education in Forest Ecology for foreign students being a guarantee of a discipline Forest Ecology in a PhD study programme.



Research

Research programmes until 2000 (selection)

IBP and MAB UNESCO international programmes (1976-1990)

PHARE – Present and future role in nutrient removal from surface water by wetlands, floodplains and reservoirs, co-research (1995-1998).

GEF MŽP ČR – The Condition and Evolutionary Trends of Floodplain Forest in the Region of Pálava with Respect to their Biodiversity and Stability, co-research (1995-1997).

MŠMT VŠ 96077 – Identification of stress and its response in forest ecosystems, co-research (1996-2000).

Research projects after 2000 (selection)

FAIR 6 CT 98-4124 RECOGNITION – Relationships Between Recent Changes of Growth and Nutrition of Norway Spruce, Scots Pine, and European Beech Forests in Europe, EFI Joensuu, Finland, co-research (1999-2002).

COST E 25 ENFORS – European Network for a Long-term Forest Ecosystem and Landscape Research Programme, co-research (2001-2004)

CONFORST – The Question of Conversion of Pure Secondary Norway Spruce Forest on Sites Naturally Dominated by Broadleaves for Sustainable Fulfillment of Society's Needs, University Freiburg, EFI Joensuu, co-research (2000-2008).

QC 1273 Effects of the present nitrogen depositions on increasing the increment and the quality of nutrition of spruce stands, co-research (2001-2004).

6. FP EU – EFORWOOD - Tools for Sustainability Impact Assessment of The Forestry-Wood Chain, (2005-2009).

SP/2d1/93/07 CzechTerra – Adaptation of carbon "dumping sites" in the landscape in the context of a global change, co-research (2007-2011).

NAZV – „Small mammals: An important factor in the process of forest stand regeneration“, co-research (2007-2011).

COST EU-FP0703 „Expected Climate Change and Options for European Silviculture“ (ECHOES), co-research (2009-2011).

EU 6 RP - SYNTHESYS – „The European Union-funded Integrated Infrastructure Initiative grant“, co-research (2008).

SP-2e3-172-07 – Evaluation of negative effects of degradation factors on soil and the proposal of possibilities of their reduction – creation of data to fulfil requirements given by the proposal of an Instruction for soil protection in EU, co-research (2007-2009).

Important papers

Penka, M., Vyskot, M., Klimo, E., Vašíček, F. (eds). Floodplain Forest Ecosystem. 1. Before Water Management Measures. Academia/ Elsevier, Praha/Amsterdam, 1985, 466 pp.

Penka, M., Vyskot, M., Klimo, E., Vašíček, F. (eds). Floodplain Forest Ecosystem. 2. After Water Management Measures. Academia/ Elsevier, Praha/Amsterdam, 1991, 629 pp.

Klimo, E., Maršálek, J. (eds). Man-made Spruce Ecosystem (Structure, Function, Production, Processes). Report from Project Rájec. ÚEL VŠZ, Brno, 1992, 178 pp.

Klimo, E., Hager, H., Kulhavý, J. (eds). Spruce Monocultures in Central Europe. Problems and Prospects. EFI Proceedings No. 33, 2000, 208 pp.

Kulhavý, J., Hrib, M., Klimo, E. (eds). Management of Floodplain Forests in Southern Moravia. Proceeding of the International Conference, May 13-16, 2000, Židlochovice, CR, 2000, 319 pp.

Klimo, E., Hager, H. (eds). The Floodplain Forests in Europe. Brill, Leiden-Boston-Köln, 2001, 267 pp.

Spiecker, H., Hansen, J., Klimo, E., Skovsgaard, J.P., Sterba, H., von Teuffel, K. (eds). Norway spruce conversion - options and consequences. Brill, Leiden-Boston, 2004, 269 pp.

Klimo E., Hager H., Matić S., Anić I., Kulhavý J. (eds.). Floodplain forests of the temperate zone of Europe. Lesnická Práce, 2008, 623 pp.

A complete list of papers published in scientific journals and at conferences is given on www.mendelu.cz.

