

## Managed Forests in Future Landscapes

Report from the International Conference on Managed Forests in Future Landscapes by Michael Bredemeier, Forest Ecosystems Res. Ctr., Univ. of Göttingen, Germany; Coordinator of IUFRO 8.01.04  
<http://www.iufro.org/science/divisions/division-8/80000/80100/80104/>

Forests are equally important in the regulation of both water and carbon cycles, on any scale from tree and plot, over the landscape and region, up to the global scale. Climatic and other environmental changes and the forest management options influence forest growth and the concomitant water redistribution between tree, stand and atmosphere and the carbon allocation and distribution. The contributions at the conference gave a broad account of those complex mechanisms and their feedbacks. Notably the role of climatic changes, land abandonment and reclamation of degraded sites for risks and potentials of forestry were reflected in the keynotes and contributed papers.

### The conference

The International Conference “Managed Forests in Future Landscapes” was the final meeting of COST Action FP 0601 “Forest Management and the Water Cycle (FORMAN)”, and co-organized by IUFRO Working Party 8.01.04 “Water Supply and Quality”. It was held in Santiago de Compostela, a world heritage city (UNESCO), located in Galicia, NW Spain. Almost 250 people from 31 countries attended, not only from the EU and wider Europe, but also from overseas (USA, Mexico, Argentina, Chile) Russia, and China.

There were three invited plenary keynotes (Fernando Valladares, Spain; Jim Burger, USA; Irina Kurganova, Russia), a total of 37 invited oral presentations (mostly presented in two parallel running sessions) and 118 posters. The latter were presented in chaired and guided poster sessions.

### Changing environmental conditions and forest management strategies

The topic of the conference makes reference to the important parallel changes in environmental conditions and forest management strategies around the globe. In many parts of the world, including Europe, most forestry systems are managed more or less intensively in order to obtain products and services, and other direct and indirect benefits. Two of the most important environmental benefits of forestry systems are: a) the provision and regulation of water quality, and b) the contribution to the global carbon balance.

In certain areas, such as on mountains and hillsides, intervention is minimal, whilst in other areas forestry systems are managed in a way which is comparable to traditional single crop farming systems. Furthermore, as a consequence of the implementation of conservation measures, the area of forested land has increased significantly in Europe in recent years, and continues to do so, as a consequence of reforestation of agricultural land (often after abandonment), as well as the rehabilitation of degraded land, such as mines and quarries. New areas of exploitation such as biomass for energy generation are also important.



Photo (by M Bredemeier): Opening of the conference

Reforestation or rehabilitation of degraded land and its conversion to forestry systems usually lead to better hydrological regulation and improved water quality. There is also a parallel increase in the capacity of the system in terms of soil and biomass carbon sequestration.

Whilst contribution of forests to flood control and cleaning of air masses are undoubtedly important, forest research has become particularly relevant with regard to climate change, as forests can help to reduce excessive CO<sub>2</sub> fluxes into the atmosphere and ensure sustainable water quality.

The conference was concluded on its third day by an excursion through western Galicia. The region features exceptional examples of highly productive woodlands. In some cases these forests are growing on former marginal agricultural land, so that carbon capture is substantial. There were also excellent examples of forests planted on highly degraded land, such as mines, marshes, sand dune systems and land affected by wildfires.