

**Hydrology and Biodiversity:
A Crucial Link for a Sustainable Future**

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Abstract

The diversity of life on earth is essential for the functioning of the ecosystems which make possible the well being of human societies. This Biodiversity is intimately linked to the dynamics of the water cycle on earth, e.g., the hydrologic cycle. Among many other crucial factors, both the habitat capacity of different regions as well as the dispersal mechanisms of different species are linked to the dynamics of the water cycle and to geomorphoclimatic characteristics of the different ecosystems. Thus, the biodiversity of freshwater fish depends on the runoff characteristics existing on the different parts of a river basin as well as on the structure of the drainage network. Similarly, the diversity of forests is very much dependent on the rainfall regimes of the regions they occupy. Among the most important causes of biodiversity loss are the decrease of appropriate habitat (particularly from conversion to agriculture) and the impact of anthropogenic climate change. These two factors are studied in the possible reduction of tree diversity in the Mississippi-Missouri River System. The controlling role of hydrologic dynamics on fish diversity in that system as well as in the vegetation of wetlands as the Florida Everglades is also examined.