

## **RAINFOREST STRUCTURE AND DYNAMICS**

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### **Summary**

In this chapter we discuss some aspects of the structure and dynamics of rainforests. We start describing the physical structure of tropical rainforests, their macro and microclimatic environments and soils. Then we discuss the structural characteristics of rainforests, focusing on the distribution of major plant groups across the vertical profile of the vegetation and its implications for particular adaptation patterns of plants, effects of altitude on the distribution of plants, and fragmentation, currently a critical issue since human activities have caused extensive habitat losses in tropical rainforests. In the second part of the text we discuss the dynamics of tropical rainforests, focusing on gap and edge dynamics, and on the role of seed dispersal on the restoration of degraded rainforest sites.

### **1. Rainforest Structure and Dynamics**

In this chapter we discuss some aspects of the structure and dynamics of rainforests. The term rainforest sounds for many people as synonym for Amazon Forest. Indeed, Amazon is currently the most famous rainforest worldwide, since it represents the largest well-preserved forest ecosystem in the world, and is severely threatened by human exploitation. Nonetheless, it is very important for the reader to be aware that the rainforests also occur in other regions of the globe, like the equatorial western Africa, parts of Southeast Asia, and the Brazilian Atlantic Rainforest. Like Amazonian Forest, these other rainforests are also threatened by human occupation and exploitation, and deserve the world attention (Fig. 1). Also, there are also the high-altitude rainforests, not

as famous as the lowland rainforests, but equally amazing!

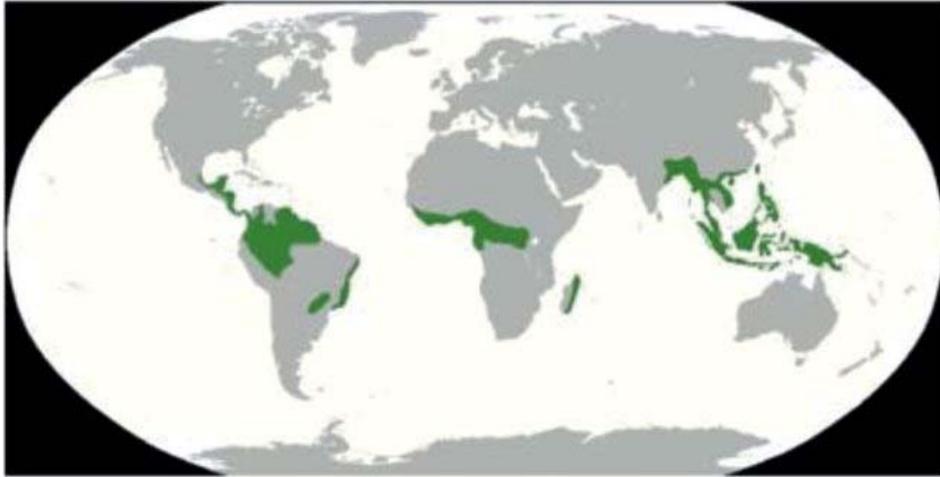


Figure 1. Distribution of tropical rainforests in the world (green area). Source: [http://en.wikipedia.org/wiki/Tropical\\_rainforest](http://en.wikipedia.org/wiki/Tropical_rainforest). Figure copyright released into public domain by the author.

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### **Biographical Sketches**

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