

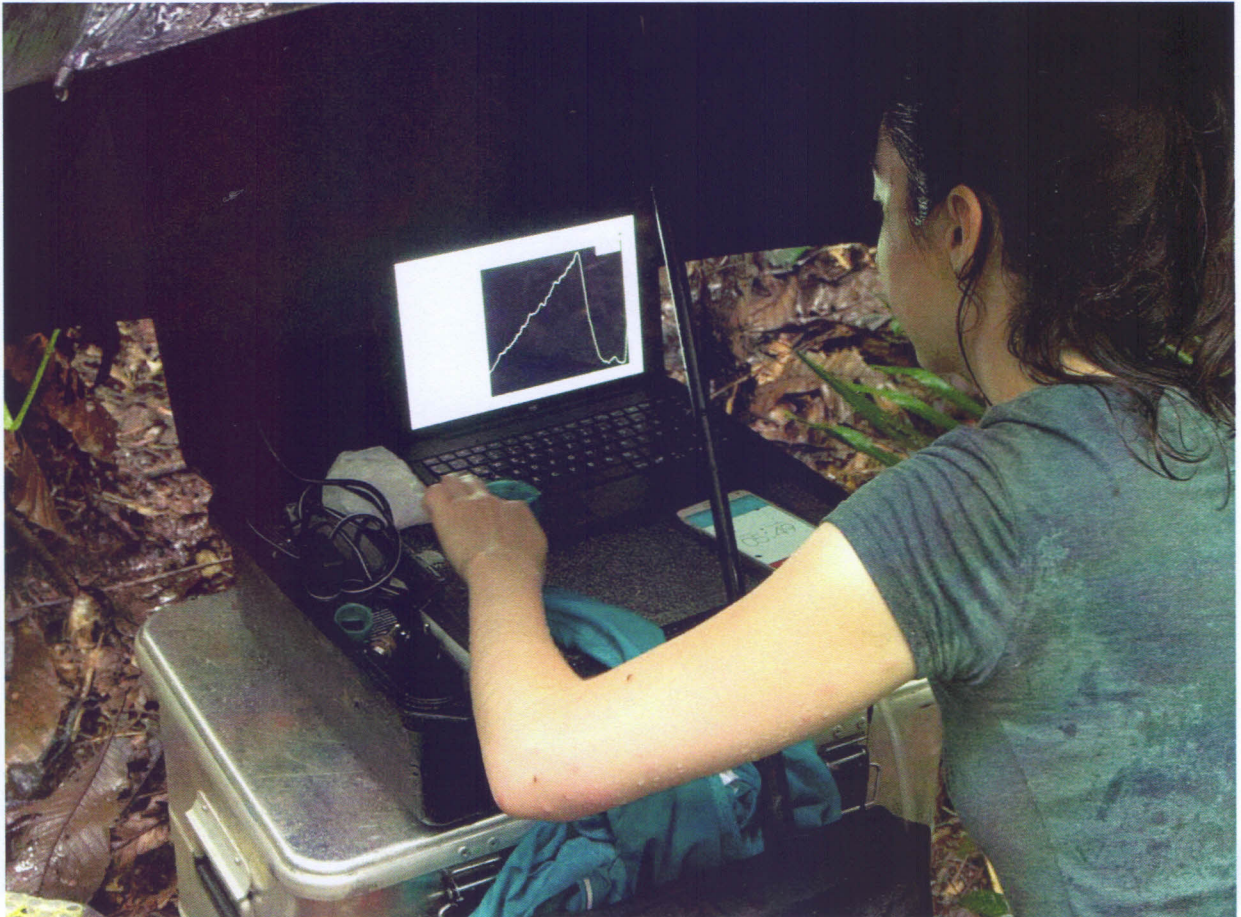
## Part II: Introduction: The EcoRespira-Amazon Project

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Very fast turnover times of organic matter in equatorial tropical rainforest environments (ca. 2.5 times per year) and the particular ecological role of the Amazon forest biome (water recycling, oxygen production, biodiversity hotspot, climate regulator, etc.) as well as obvious challenges related to land-use changes motivate this project beyond the known vulnerability of humid tropical forests. Ecosystem respiration can be used as proxy for ecosystem health and to elucidate ongoing processes of change. Recent European experience has shown that modelling does not yet deliver satisfactory answers, neither on element pool sizes nor on soil and ecosystem respiration. Remote sensing is not accurate enough to be able to deliver reliable data at the local resolution level needed to answer questions related to land use and land-use change.

In this joint project with Brazilian (Embrapa, IPAAM, UFAM; associated INMET, INPA) and German scientists (TUBAF; associated Göttingen, Heidelberg and Gießen universities), both topics are targeted and shall complement the longer-term commitment of the Brazilian team members. Selected field sites that serve partners' long-term observation tasks were sampled up to three times from February 2016 to March 2017. The Brazilian partners organize additional measurement series in between and thereafter to obtain an even more robust database and to broaden the experience.

This part yields two chapters, on the project philosophy (► 3) and on the applied methodologies and their quality control (► 4).



*Laura Medeiros Braga taking soil respiration readings at the forest site 1020, Lábrea; Phase 01*





*Sophie von Fromm musing about the secondary forest site 0120 (Itacoatiara) during soil respiration measurements; Phase 01*