

Project Update: October 2016

Once per month, our research team travels up the Mantiqueira mountain range, to monitor plant physiological performance. During the journey, we gaze at the gradual transition from the Atlantic Forest to the grasslands, and feel the remarkable temperature change, since at the mountain summit, temperatures can reach incredible -15°C . Our mission is to withstand freezing temperatures and to measure the pre-dawn leaf water potential, by using the so called Scholander chamber. A leaf is cut and inserted in the chamber, then nitrogen gas is used to generate increasing pressures, until we observe the water coming out of the plant. The greater the pressure used, the lower the degree of plant hydration. Those measurements are also performed during the midday, when plants suffer greater water stress. Following the variations in this variable across seasons in different species, we can identify which species are more vulnerable to drought.



Left: The Professor Bruno H. P. Rosado performing measurements of pre-dawn leaf water potential in grasslands species of the Itatiaia National park (Rio de Janeiro, Brazil). Right: View of the study area and of the equipment used to measure the midday leaf water potential in grassland species of the Itatiaia National park (Rio de Janeiro, Brazil).