Amazonian Dark Earths (ADE), also called *terra preta*, are black, carbon-rich, anthropogenic soils with chemical and physical characteristics strikingly different from the Oxisols and Ultisols that surround them in the Amazon region. They have attracted scientific attention in recent decades as their age, history, and capacities for sustainable crop production and long-term carbon storage have become better understood. Reinventing *terra preta* technology has the potential to increase terrestrial carbon sequestration and improve agricultural productivity of contemporary soils in the Amazon region, and in other locations.

Sites in the Amazon basin with ADE are strongly associated with locations of ancient settlements; in fact, archaeologists use ADE to locate settlements. Radiocarbon dates showing anthropogenically derived material in ADE to be >2000 yr old has led to a paradigm shift in Amazonian archaeology. Initially it was assumed that Amazonian peoples were necessarily itinerant due to the infertility of the soil. Now, with a better understanding of ADE, it is clear that sites must have been settled and sustainably worked for long periods of time.

The ADE occur in dispersed patches in a variety of climatic, geologic, and topographic situations and are known for their very black color and high concentrations of charcoal. Biochar, created when organic material is heated without oxygen, resists decay; thus, carbon added to soil in this form can be retained for centuries. In some places, ADE are more than 2 m deep. They have higher pH, higher levels of nutrients, higher organic matter, and higher water retention capacities than the more acidic, infertile soils that surround them. As a result, they are more productive and hold water longer during drought conditions. Differences in the properties of ADE within and among sites reflect differences in human management of the soil, pre-Columbian as well as recent, and differences in hydrological, geological, and biological characteristics of the site.

The late Dutch soil scientist, Wim Sombroek (1934–2003), led and inspired the study of ADE from the 1950s to the end of his life. This new volume, created as a tribute to Sombroek, provides an excellent reference and point of entry for readers seeking a substantive, multidisciplinary overview of the state of knowledge on ADE. Many of the international group of soil scientists, geographers, anthropologists, agronomists, biologists, carbon cycle specialists, agronomists, and gearchaeologists who wrote chapters for this tribute also contributed to two previous volumes on ADE (Lehmann et al., 2003; Glaser and Woods, 2004).