

Limnogeology & Paleoclimate Team Reports Section Overview and Introduction

Lake Tanganyika is the oldest and largest of the East African rift lakes, and therefore has the potential for recovery of temporally long paleoclimate records vital to our understanding of the climate history of the region. Such paleoclimatic studies will utilize lithologic and paleoecologic indicators to reconstruct Lake Tanganyika's water level, and thereby its water balance, which is a function of regional climate. Research by the Nyanza Project in 2005 focused on developing a more quantitative understanding of the relationship between various lithologic and paleoecologic indicators and lake level in the Kigoma Region. Student field research consisted of detailed acoustic facies and bathymetric mapping of the central bay of the Kigoma Region, "Tafiri Bay," and collection of numerous grab samples of surface sediments in Tafiri Bay, as well as from the Luiche River Platform to the south (Figures 1 and 2). Various lithologic and paleoecologic parameters were then compared to lake level indicators at both sites to test the validity of various proxies as lake-level indicators and to more fully understand the relationships between sedimentation, water level, and tectonics.

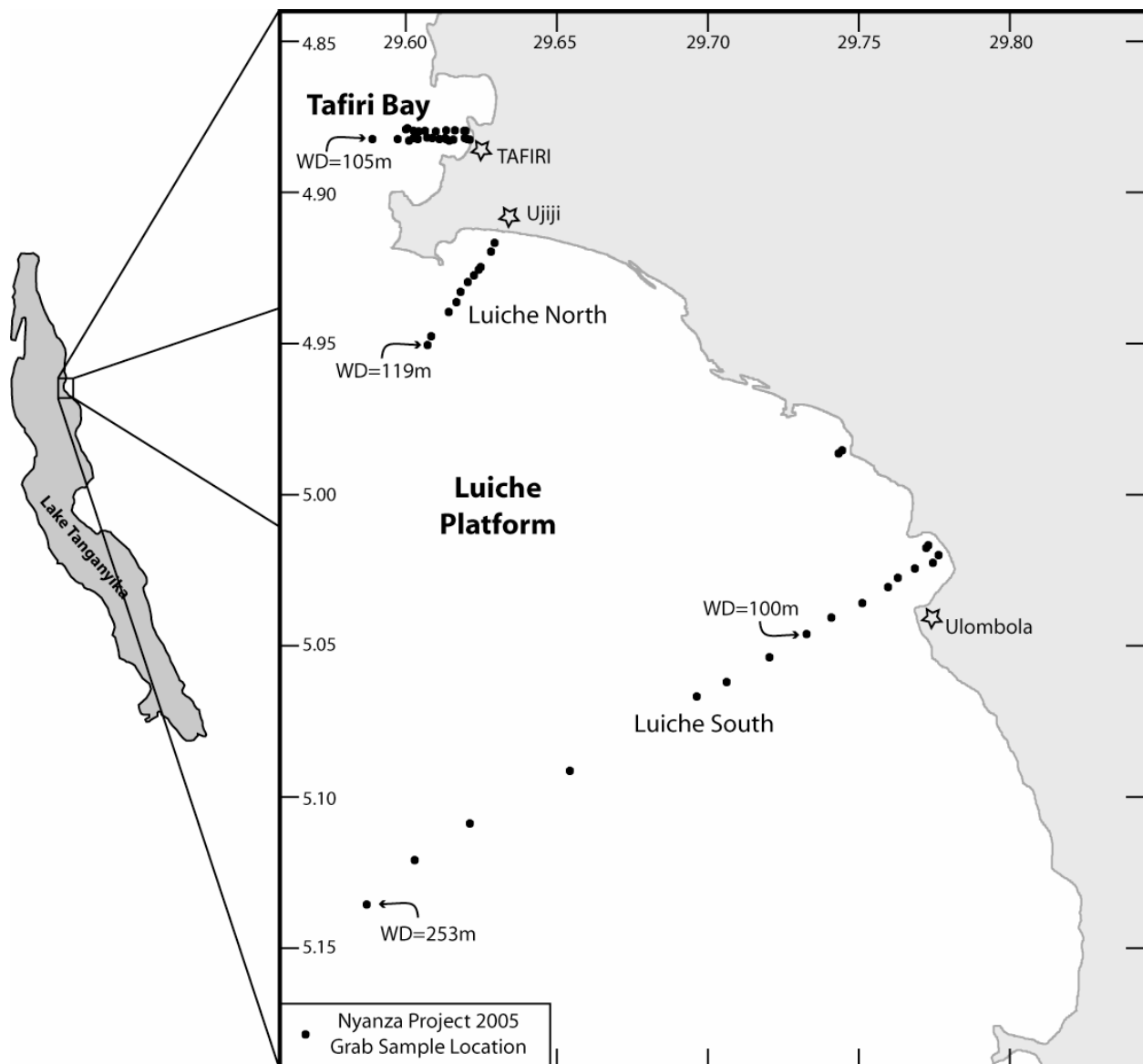


Figure 1. Location of Tafiri Bay and Luiche Platform grab sampling sites with water depths for the lowermost grab sample of each transect. Figure courtesy of C. Gans.

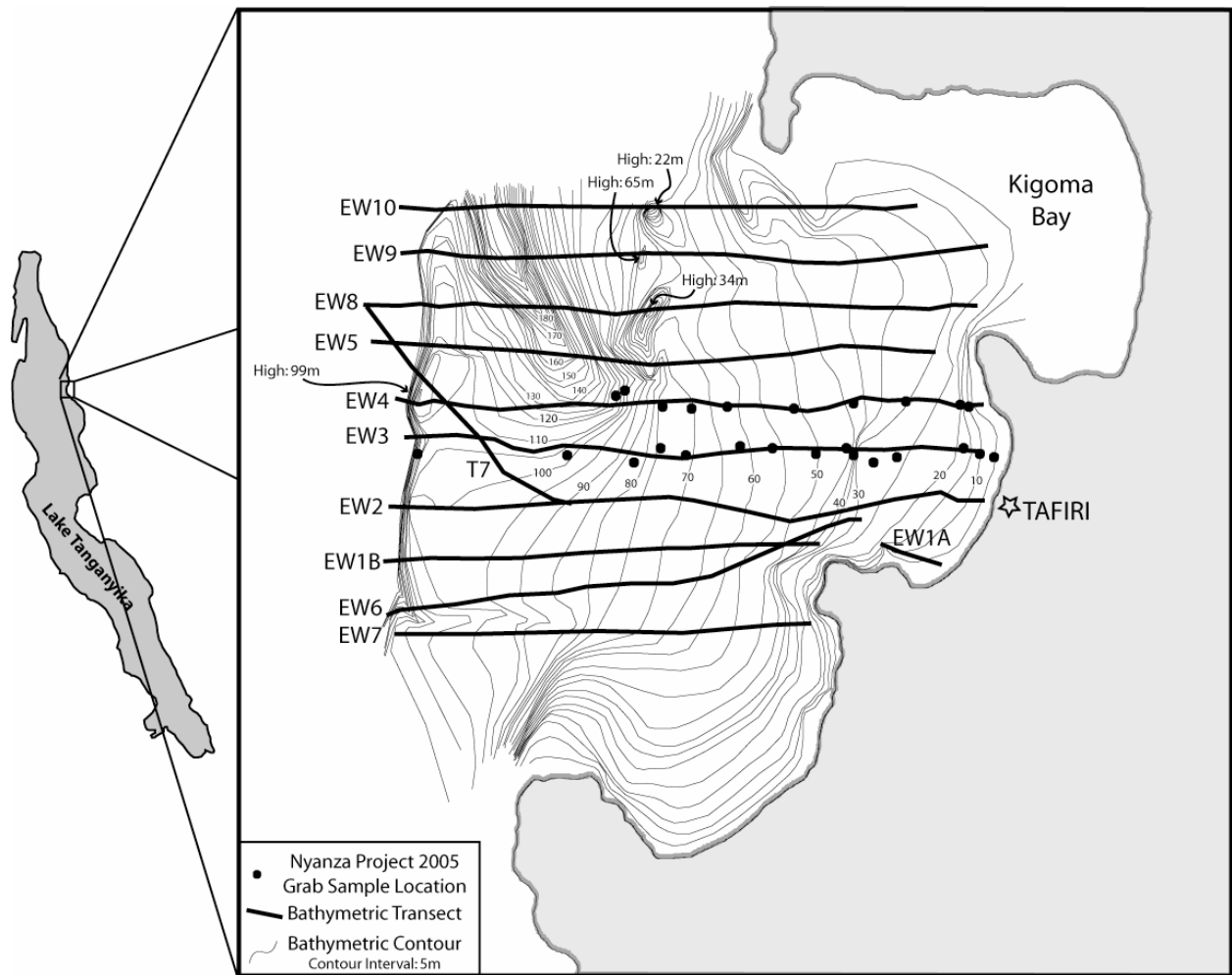


Figure 2. Location of grab samples and acoustic facies transects collected during Nyanza 2005 in Tafiri Bay. Data and figure are courtesy of Gwynneth Smith (see report this volume), modified by C. Gans.