The Holocene
African Humid Period

A different past. This tropical savanna with freshwater wetland in the Sahel is a possible analog for the "green Sahara."
Modern Climate

Ruddiman, 2001
African Biomes

FIG. 2. Modern biome distribution from Olson et al. (1983).
Taoudenni, central Sahara

Roberts, 1998
Paleo-Lake Radiocarbon Dates

Fig. 6 Histogram of 238 $^{14}$C dates from intertropical Africa which record high or intermediate lake levels. Lacustral phases before 21,000 yr B.P. are under-represented because of erosion and burial of their deposits.
African Biomes at 6000 yrs

Jolly et al., 1998

FIG. 3. Pollen and plant macrofossil-derived biomes at 6000 years.
More humid than today

More humid than today

Drier than today

Bradley, 1999
Deep Sea Core 658C

DeMenocal et al., 2000
Lake Yoa, northern Chad

Kröpelin et al., 2008
Evolution of Aquatic Ecosystem

Kröpelin et al., 2008
Fig. 1. Shown are the outlines of the Kibo (Kilimanjaro) ice fields in 1912, 1953, 1976, and 1989 (3) updated to 2000 using the OSU aerial photographs taken on 16 February 2000. The insert illustrates the nearly linear decrease in ice area from 1912 to 2000.
Fig. 4. (A to G) The 50-year averages of the Holocene $\delta^{18}O$ and dust histories from Kilimanjaro ice cores are compared with other proxy records as discussed in the text. The Huascaran dust and $\delta^{18}O$ plots are also 50-year averages, and all dust concentrations are for particles with diameters from 0.63 to 16.0 $\mu$m per ml sample. Vertical gray shading indicates the period of drought during the First Dark Age.