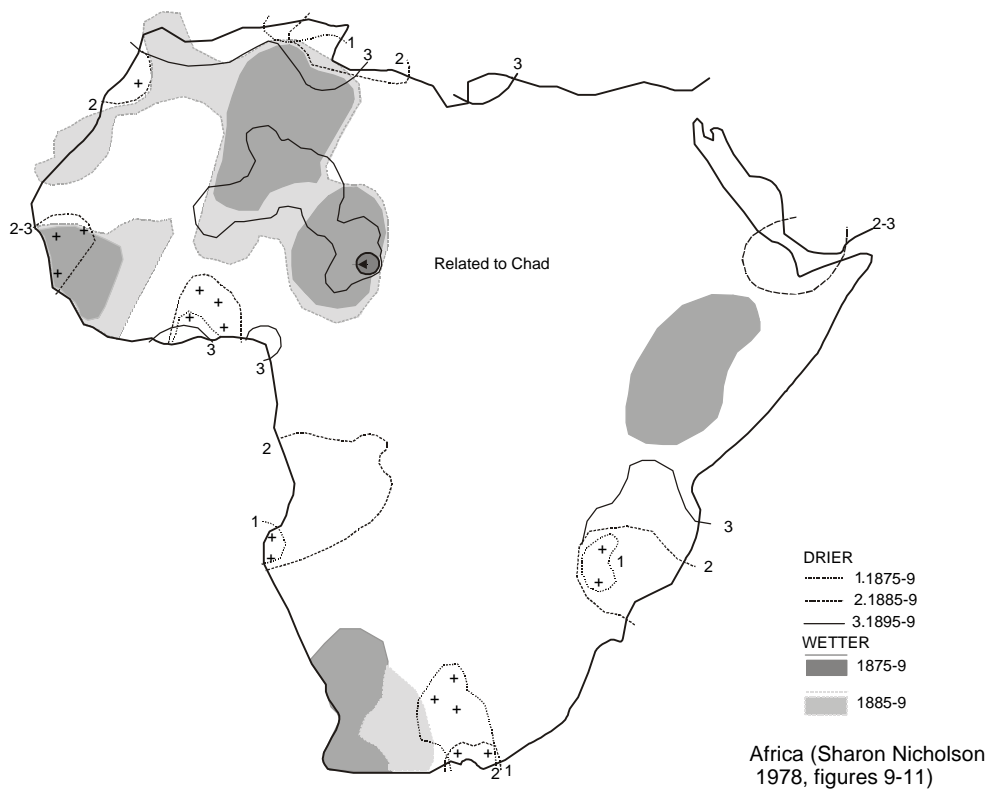


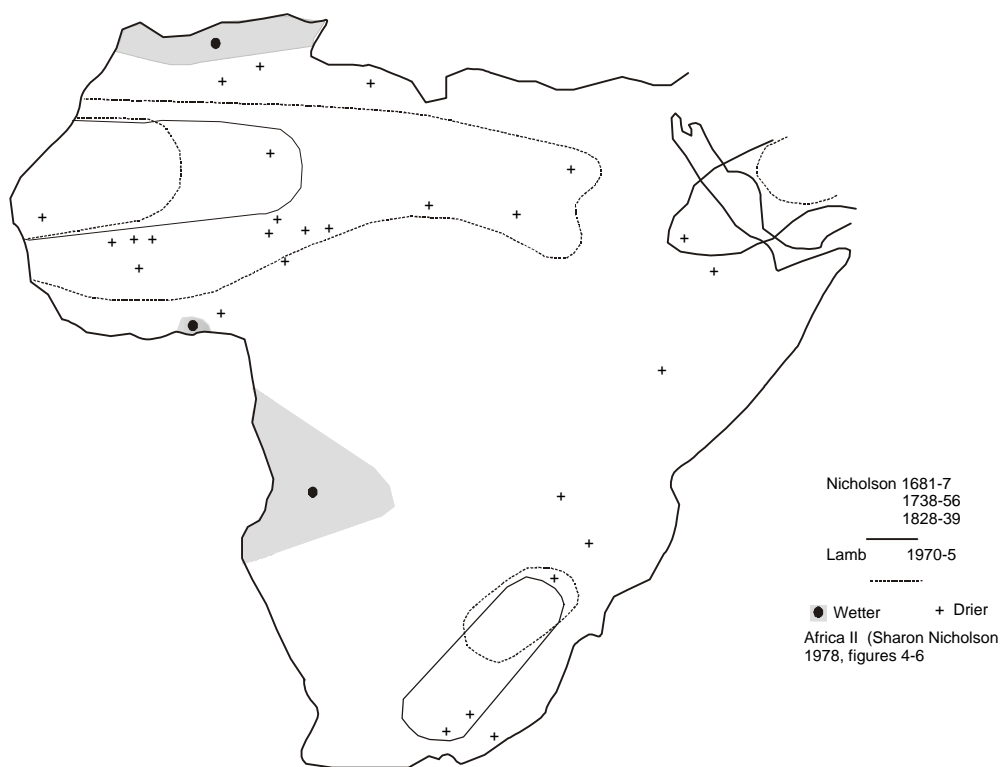
Map 9

Climatic Change, Africa 1875-1899
(Figure 4C, Relativity-levels 1-3)



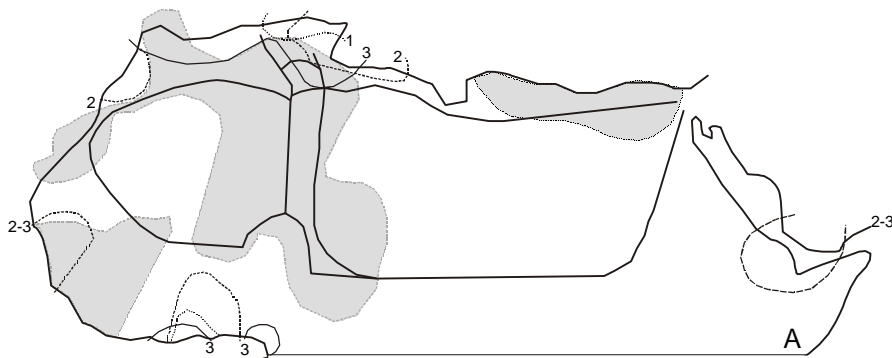
Map 10

Climatic Change, Africa 1681-1839
(Figure 4 C, Relativity-level 1)



Map 11

Climatic Change and Caravan Route
Alignment, ca.1600-1900

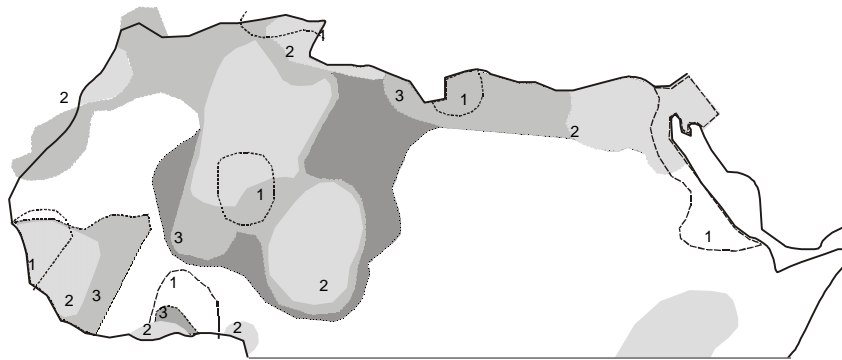


Map A. (Figure 4C, Map.11. Relativity Level 3, 1885-9)
1700-20, 1780-1800 and 1880-1900

Map B (Figure 4C, Map 11.-Relativity Level 2, 1895-9)
ca (1050, 1250),1450 and 1540

Map 12

Climatic Change, Africa
 (Figure 4C, Relativity-levels 1-4)



| Climatic Change- Relativity Levels 0-4 | | | | Caravan Routes | |
|--|-------------------------------------|-------|-----|----------------|---------|
| Figure 4B | Figure 4C | Map 9 | 11 | Map 12 | |
| 4. N d. | ca (1135-70) 1315-35, 1500-15 | | | *** | Map 13 |
| 3. | 1885-9 ca 1700-20, 1800-20, 1900-20 | *** | *** | *** | Map 11A |
| 2. | 1895-9 ca (1050,1250) 1450, 1550 | *** | *** | *** | Map 11B |
| 1. | 1875-9 ca 1680, 1740-60, 1840 | *** | *** | *** | |
| 0. | 1972 | | *** | | |

Map 13

Climatic Change and Caravan Route Alignment, ca 1100-1600

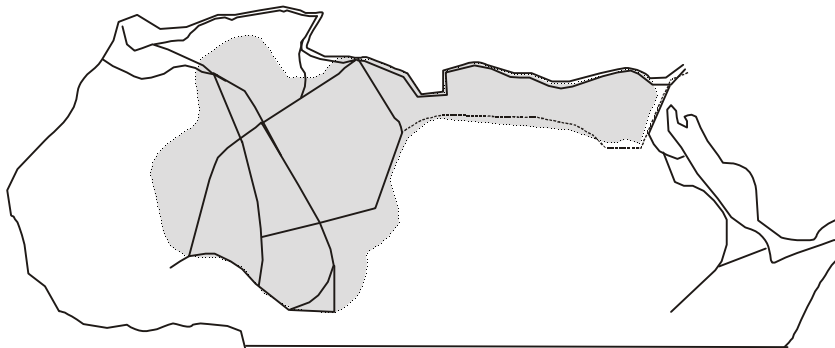


Figure 3.4C, Map12-Relativity Level 4, no equivalence 1850-1950
 ca (1135-70) 1315-35, 1500-20, 1600
 Al-Idrisi, al-Umari and Leo Africanus