This study highlights drought characteristics and the many responses to drought stresses employed by Turkana pastoralists of northwestern Kenya. Multiple data sources, including socioeconomic interviews with 302 households, focus group discussions, and informal interviews with pastoralists were used to capture various aspects of drought and drought adaptation and coping practices. Standardized precipitation index derived from long-term rainfall data obtained from the Kenya Meteorological Service was used to quantify different degrees of drought intensity between 1950 and 2012. Results revealed that extreme drought events were increasingly frequent, and have impacted negatively on pastoral livelihoods. In order to adapt to or cope with climatic anomalies, households are using a variety of strategies. In addition to the traditional short-term coping mechanisms, the long-term adaptation strategies used include diversification of livelihood sources; livestock mobility to track forage and water resources; diversification of herd composition to benefit from the varied drought and disease tolerance, as well as fecundity of diverse livestock species; and sending children to school for formal education as a long term investment expected to pay back through income from employment. Policies and development interventions that reduce risks, diminish livelihood constraints, and expand opportunities for increased household resilience to drought are critical complements to the existing pastoral strategies.