

Degradation of watersheds and diminishing water resources lead to unsustainable environmental and socio-economic development. The hydrological characteristics are desirable for sustainable water resource exploitation. Hydrological and water resources research were examined in three case watersheds in Kenya leading to the need for integrated water resources management, environmental conservation, and watershed management plans as a result of the major challenges of climate change and variability and uncoordinated watershed resource utilization. Well-managed hydro-meteorological networks at different scales of hydrological systems have been proposed to assess potential for optimal resource use and harmony involving all stakeholders for reduced water stress and future water conflicts. Updates of information and methodologies for watershed management that emphasize collaborative efforts and use of sustainable best practices would require input of various stakeholders including Water Resources Management Authority (WRMA), Basin Authorities, and National Environmental Management Authority (NEMA).