

We present a revised lithostratigraphy for the Voltaian Supergroup of Ghana, based on a review of existing literature, interpretations of remotely sensed data and reconnaissance field survey of the Volta Basin. These strata thicken eastwards, to a maximum of between 5 and 6 km adjacent to the Pan-African Dahomeyide orogen. They began to accumulate some time after about 1000 Ma, along the margin of an epicontinental sea. Initial sedimentation, comprising the age-equivalent Kwahu and Bombouaka Groups, shows a cyclical mode of deposition controlled by eustatic changes in sea-level that produced a range of nearshore marine, littoral and terrestrial environments. A major erosional interval was followed by deposition of the 3–4 km thick Oti-Pendjari Group. Basal tillites and associated sandy diamictites are correlated with the Marinoan (end-Cryogenian) glaciation, indicating a maximum depositional age of about 635 Ma. The overlying cap carbonates and tuffs were deposited within a shallow epeiric sea bordered by a volcanically active rift system. The main part of the group records the transition from a rifted passive margin to a fully developed foreland basin receiving marine flysch in the form of argillaceous strata interbedded with highly immature wacke-type sandstones and conglomerates. Maximum accommodation space was developed within a foredeep adjacent to the Dahomeyide belt. Towards the end of the orogenic phase, the foredeep succession became partially inverted and then was buried under coarse terrestrial, red-bed molasse of the Obosum Group