

PLIOCENE.

The opening of the Pliocene period found the greater portion of the Coastal Plain above sea level. The region to the north of the Hatteras axis throughout the northern Coastal Plain was evidently not depressed during this time. No marine deposits have been with certainty recognized in this region. The southeastern part of North Carolina was, however, submerged in conjunction with extensive areas to the southward. The transgression of the sea covered a considerable region in North Carolina, although far less extensive than in the preceding Miocene period. The deposits constituting the Waccamaw formation are to-day found in isolated areas, but may have been and probably were continuous when laid down. The sediments derived both from the adjacent land and the underlying formations gave rise to strata consisting of sand and clay, inclosed in which are numerous fossil shells, so numerous in certain places that layers composed almost exclusively of them are found. The strata occurring at Neill's Eddy Landing illustrate this character of deposition.

Before the close of the Pliocene the land had probably been extensively denuded and the resulting materials carried far to the eastward. With the slackening of the currents of the Piedmont streams and the reduction of their transporting power the crystalline rocks gradually decayed and a deep cover of disintegrated rock blanketed the eastern Piedmont belt. Toward the close of the Pliocene period or possibly not until the opening of the Pleistocene there was a tilting of the land mass eastward and southward, resulting in the submergence of the Coastal Plain to the eastern border of the Piedmont Plateau, with a corresponding elevation, although perhaps not as great, to the westward. This change in the attitude of the Atlantic border region was accompanied with a submergence of the lowlands and valleys far within the confines of the Piedmont, as remnants of gravel deposits of this epoch are found at different points along the Atlantic border overlying the crystalline rocks more than 50 miles to the west of the Coastal Plain. The tilting of the region elevated the headwaters of the streams and brought about a revival of erosion and transportation, the detritus from the decayed rocks being strewn over the sea floor for the most part adjacent to the coast, where wave action, together with undertow, aided in forming the terrace mantle which enwrapped the eastern Piedmont belt, following its inequalities and extending in places far up the stream channels. This revival of the streams, accompanied by rapid sedimentation, resulted in the accumulation of only partially sorted deposits, coarse and fine materials being intermingled, with frequent evidences of cross-bedding.