these deposits is found reaching quite to the border of the Piedmont Plateau throughout the region to the north of the Hatteras axis, extending as far south as the Neuse River and burying from view the older formations of the Coastal Plain. The transgression was evidently gradual, for the St. Marys deposits are found in Virginia and Maryland conformable to the earlier strata, and it is possible that these older beds exist beneath the St. Marys formation in North Carolina to the east of the area of outcrop.

Following the St. Marys epoch, deposition continued to the north of the Hatteras axis and was also inaugurated to the south of the same. A slight unconformity is found between the St. Marys and the later deposits known as the Yorktown formation, although the erosion interval, if such existed, was of short duration. To the south of the Hatteras axis the deposits of this epoch, known as the Duplin formation, rest everywhere unconformably on pre-Miocene deposits. Deposition was evidently widespread, although the deposits were extensively eroded prior to the Pleistocene.

The St. Marys deposits are mainly bluish-green argillaceous sands that are crowded with molluscan shells in places and in the marginal deposits contain many large pebbles derived from the underlying Cretaceous rocks and which were doubtless broken from them by the force of the advancing waves. During the St. Marys submergence the adjoining region must have been relatively low, for the streams from the land seem to have had little carrying power, since the sediments were mainly composed of small particles such as are carried by streams of moderate velocity.

The Yorktown and Duplin formations consist largely of fragmental molluscan shells in a matrix of medium fine quartz sand, although entire shells are numerous in many places. In some localities the fragmental character of the shells is especially noticeable and the beds resemble closely the shell deposits now accumulating in the vicinity of the beach in some of the coral islands of the West Indies. The waves were evidently responsible for the breaking of the shells which were deposited either on the shore or in shallow water in the vicinity of the land. The moderate thickness of the Yorktown and Duplin deposits would indicate a brief period of sedimentation. The submergence was terminated by an uplift which again brought the entire State above the level of the water. The uplift seems to have been sufficient to permit erosion to become active, the streams from the land soon removing in southern North Carolina the Duplin deposits over wide areas and leaving only those that were far from the streams or were protected by their position in depressions in the former land surface.