

Essentially the same classification was given in publications by the same author in 1811,² 1817,³ and 1818.⁴

An important contribution which marks a distinct advance in Coastal Plain knowledge was made by Lardner Vanuxem in 1827, through Dr. S. G. Morton.⁵ It is stated that the materials occurring in the region covered by the "Secondary," "Tertiary," and "Alluvial" formations of the Atlantic Coast have been previously referred to by most writers as the "Alluvial," and as constituting a single deposit; others have used the general term Tertiary. Vanuxem recognizes in the Coastal Plain deposits three major divisions, namely, the "Secondary," Tertiary, and "Alluvial" formations. For the youngest of these, the "Alluvial," he proposes the following subdivisions:

Modern alluvial	{ Vegetable mould.
	{ River alluvium.
Ancient alluvial	{ White siliceous sand.
	{ Red-earth.

The ancient alluvial is described as occupying the highest elevations above the "Secondary" and Tertiary classes, and consequently was not formed by existing rivers. The white-sand division is thought to have originated by the leaching out of the coloring matter of the underlying red-earth. This division is said not to occur north of North Carolina, but is abundant in all of the States south of it. The modern alluvial is well characterized in the Southern States and consists of the *débris* of the rivers which has been thrown up against the masses of the older formations. He thinks that beyond doubt all the bones of the mammoth and other mammaliferous terrane quadrupeds found in this region belong to the two alluvials.

About the same time, 1827 and 1828, Elisha Mitchell published several papers^{6 7} combatting the view, apparently prevalent at that time, that the "Low Country" was produced by the addition of materials along

²Jour. de phys., de chim, et d'hist. nat., vol. 72, Paris, 1811. With map; pp. 137-165.

³Observations on the geology of the United States of America, with some remarks on the effect produced on the nature and fertility of soils by the decomposition of the different classes of rocks. With two plates. 12mo. Phila., 1817.

⁴Observations on the geology of the United States of America, with some remarks on the probable effect that may be produced by the decomposition of the different classes of rocks on the nature and fertility of soils. Two plates. Republished in Trans. Amer. Phil. Soc., vol. 1, n. s., 1818, pp. 1-91. Leon. Zeit., I, 1826, pp. 124-138.

⁵Geological observations of the Secondary, Tertiary, and Alluvial formations of the Atlantic Coast of the United States of America. (Arranged from the notes of Lardner Vanuxem.) Acad. Nat. Sci., Phila., Jour., vol. 6, 1827, pp. 59-71.

⁶Report of the Geology of North Carolina, pt. 3, Raleigh, 1827.

⁷Amer. Jour. Sci., vol. 13, 1828, pp. 336-347.