
Clay Distributions in Recent Estuarine Sediments

James K. Edzwald* and Charles R. O'Melia

Department of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, North Carolina 27514, U.S.A.

* Present address: Department of Civil and Environmental Engineering, Clarkson College of Technology, Potsdam, New York 13676, U.S.A.

Abstract: The distribution of clay minerals in Recent sediments can be explained by the relative stability of the clays. The rates of particle aggregation for three clays were determined in the laboratory in synthetic estuarine solutions; from the kinetic studies stability values were calculated. The results indicate that illite is more stable than kaolinite which is more stable than montmorillonite. The distribution of the clays in the Pamlico River Estuary can be explained on the basis of relative clay stability where kaolinite which aggregates rapidly (relatively unstable clay) is found upstream of illite.

Clays and Clay Minerals; March 1975 v. 23; no. 1; p. 39-44; DOI: [10.1346/CCMN.1975.0230106](https://doi.org/10.1346/CCMN.1975.0230106)

© 1975, The Clay Minerals Society

Clay Minerals Society (www.clays.org)
