

REFERENCES

- Abdullah, M. I., and L. G. Royle, "A Study of the Dissolved and Particulate Trace Elements in the Bristol Channel," J. Mar. Biolo. Assoc., 54, 581, 1974.
- Aston, S. R., "Estuarine Chemistry," in Chemical Oceanography, (J. P. Riley, and R. Chester, eds.), 7, Academic Press, London, 508, 1978.
- Aston S. R., and R. Chester, "The Influence of Suspended Particles on the Precipitation of Iron in Natural Waters," Estuar. Coastal Mar.Sci., 1, 225, 1973.
- Bale, A. J., and A. W. Morris, "Laboratory Simulation of Chemical Processes Induced by Estuarine Mixing : The Behavior of Iron and Phosphate in Estuaries," Estuarine, Coastal and Shelf Science, 13, 1-10, 1981.
- Bella, D. A., and J. E. McCauley, "Environmental Considerations for Estuarine Dredging Operations," in Proc. World Dredging Conf., 454-482, 1972.
- Bewers, J. M., and P. A. Yeats, "Oceanic Residence Times of Trace Metals," Nature, 268, 595-598, 1977.
- Bewers, J. M., and P. A. Yeats. "Trace Metals in the Waters of a Partially Mixed Estuary," Estuar. Coastal Mar. Sci., 7, 147-162, 1978.
- Boyle, E. A., J. M. Edmond, and E. R. Sholkovitz, Geochim. Cosmochim. Acta, 41, 1313, 1977.
- Boyle, E. A., R. Collier, A. T. Dengler, J. M. Edmond, A. C. Ng, and R. F. Stallard, "On the Chemical Mass Balance in Estuaries," Geochim. Cosmochim. Acta, 38, 1719, 1974.
- Boyle, E. A., J. M. Edmond, and E. R. Sholkovitz, Geochim. Cosmochim. Acta 41, 1313, 1977.

- Burton, J. D., "Basic Properties and Processes in Estuarine Chemistry," in Estuarine Chemistry, (J. D. Burton, and P. S. Liss, eds.), 1-36, Academic Press, London, 1976.
- Burton, J. D., P. S. Liss, and U. K. Venugopalan, "The Behavior of Dissolved Silicon During Estuarine Mixing : I. Investigation in Southampton Water," J. Cons. Perm. Int. Explor. Mar., 33, 134-140, 1970.
- Carroll, D., and H. C. Starkey, "Effect of Seawater on Clay Minerals," in Clays and Clay Minerals, (Ingersen, E., eds.), 80-101, Earth Sci. Ser., Perg. Press, 1960.
- Carpenter, J. H., W. L. Bradford, and W. Grant, "Processes Affecting the Composition of Estuarine Waters (HCO_3 , Fe, Mn, Zn, Cu, Ni, Cr, Co and Cd)," in Estuarine Res., 1, (L. E. Cronin, ed.), 188-214, As. Press., U.S.A., 1975.
- Coonley, L. S., E. B. Baker, and H. D. Holland, "Iron in the Mullica River and in Great Bay, New Jersey," Chem. Geol., 7, 51-63, 1971.
- Duinker, J. C., "Suspended Matter in Estuaries : Adsorption and Desorption Processes," in Chemistry and Biogeochemistry of Estuaries, (E. Olausson, and I. Cata, eds.), 121-151, John Wiley & Son Ltd., England, 1980.
- Duinker, J. C., and R. F. Nolting, "Distribution Model for Particulate Trace Metals in the Rhine Estuary, Southern Bight and Dutch Wadden Sea," Neth. J. Sea Res., 10 (1), 71-102, 1976.
- _____. "Dissolved and Particulate Trace Metals in the Rhine Estuary and the Southern Bight," Mar. Pollut. Bull., 8 (3), 65-71, 1977.
- _____. "Mixing Removal and Mobilization of Trace Metals in the Rhine Estuary," Neth. J. Sea Res., 12 (2), 205-223, 1978.
- Duncan, D. W., and P. C. Trussell, "Advances in the Microbiological

- Leaching of Sulphide Ores," Can. Metall. Qtry., 3, 43-55, 1964.
- Eaton, A., "Observations on the Geochemistry of Soluble Cu, Fe, Ni, and Zn in the San Fransisco Bay Estuary," Environ. Sci. Technol., 13, 425-432, 1979.
- Eckert, J. M., and E. R. Sholkovitz, "The Flocculation of Iron, Aluminium, and Humates From River Water by Electrolytes," Geochim. Cosmochim. Acta, 40, 847-848, 1976.
- Eisma, O., "Dissolved Iron in the Rhine Estuary and Adjacent North Sea," Neth. J. Sea Res., 9, 222-230, 1975.
- Elderfield, H., and A. Hepworth, "Diagenesis, Metals and Pollution in Esstuarines," Mar. Pollut. Bull., 6, 85-87, 1975.
- Florence, T. M., and G. E. Batley, "Determination of the Chemical Forms of Trace Metals in Natural Waters, with Special Reference to Copper, Lead, Cadmium and Zinc," Talanta, 24, 151-158, 1977.
- Förstner, U., and G. T. W. Wittmann, "Metal Pollution in the Aquatic Environment," Springer-Verlag, Heidelbry, 197-270, 1981.
- Gibbs, R. J., "Amazon River : Environmental Factors that Control Its Dissolved and Suspended Load," Science, 156, 1734-1736, 1970.
- Gibbs, R. J., "Water Chemistry of the Amazon River," Geochim. Cosmochim. Acta, 36, 1061-1066, 1972.
- Goldberg, E. D., "Biogeochemistry of Estuarine Sediments," Proc. Workshop in Melreux/Belgium, Nov. 29- Dec. 3, UNESCO Press, Paris, 1978.
- Guy, R.D., and D. L. Chakrabassti, "Distribution of Metal Ions Between Soluble and Particulate Forms," Abstr. Int. Conf. Heavy Met. Environ., Toronto, 275-294, 1977.
- Hair, M. E., and C. R. Bassette, "Dissolved and Particulate Humic Acids in an East Coast Estuary," Est. Mar. Coast Sci., 1, 107-111, 1973.

- Hallberg, R. O., "The Microbiological C-N-S Cycles in Sediments and Their Effects on the Ecology of the Sediment-Water Interface," OIKOS Suppl., 15, 51-62, 1973.
- Hart, B. T., and S. H. R. David, "Trace Metal Speciation in the Freshwater and Estuarine Regions of the Yarra River, Victoria," The Estuarine, Coastal and Shelf Science, 12, 353-374, 1981.
- Head, P. C., "Observations on the Concentration of Iron in Seawater, with Particular Reference to Southampton Water," J. Mar. Biol. Assoc., U.K., 51, 981-1003, 1971.
- Holliday, L. M., and P. S. Liss, "The Behaviour of Dissolved Iron, Manganese and Zinc in the Beaulieu Estuary, S. England," Estuarine Coastal Mar. Sci., 4, 349-353, 1976.
- Huizenga, D. L., "The Cobalt-APDC Coprecipitation Technique for the Preconcentration of Trace Metal Samples," Graduate School of Oceanography, University of Rhode Island, Rhode Island, 1981.
- Hunter, K. A., and P. S. Liss, "The Surface Charge of Suspended Particles in Estuarine and Coastal Waters," Nature, 282, 823-825, 1979.
- Hunter, K. A., and P. S. Liss, "Organic-matter and the Surface-charge of Suspended Particles in Estuarine Waters," Limnol. Oceanogr., 27, 322-335, 1982.
- Jenne, E. A., "Trace Element Sorption by Sediments and Soils-Sites and Processes," in Symposium on Molybdenum, (Chappell, W., Peterson, K., eds.), 2, New York, Marcel Dekker, 425-553, 1976.
- Jonasson, I. R., "Geochemistry of Sediment/Water Interactions of Metals, Including Observation on Availability," in The Fluvial Transport of Sediment-Associated Nutrients and Contaminants, (Shear H. and A.E.P. Watson, eds.), IJC/PLUARG, Winson-Ont, 255-271, 1977.

- Kharkar, D. P., K. K. Turekian, and K. K. Bertine, "Stream Supply of Dissolved Ag, Mo, Sb, Se, Cr, Co, Rb and Cs to the Oceans," Geochim. Cosmochim. Acta, 32, 285-298, 1968.
- Klinkhamoner, G. P., and M. L. Bender, "Trace Metal Distribution in the Hudson River Estuary," The Science Journal, 13, 629-643, 1979.
- Kraufkopf, K. B., "Factors Controlling the Concentrations of Thirteen Rare Metals in Seawater," Geochim. Cosmochim. Acta, 9, 1-32B, 1956.
- Krom, M. D., and E. D. Sholkovitz, "Nature and Reactions of Dissolved Organic Matter in the Interstitial Waters of Marine Sediments," Geochim. Cosmochim. Acta, 41, 1565-1573, 1977.
- Lindberg, S. E., and R. C. Harris, "Mercury-Organic Matter Associations in Estuarine Sediments and Interstitial Water," Env. Sci. Technol., 8, 459-462, 1974.
- Liss, P. S., "Conservative and Non-conservative Behavior of Dissolved Constituents during estuarine mixing," in Estuarine Chemistry, (Burton, J. D., and P.S. Liss, eds.), pp. 93-129, Academic Press, U.K., 1976.
- Livingstone, D. A., "Chemical Composition of River and Lakes," in Data of Geochemistry, 6th ed., (Fleischer, M., ed.), U.S. Geol. Surv. Prof. Paper, 440-G, 64, 1963.
- Loder, T. C., and R. P. Richard, "The Dynamics of Conservative Mixing in Estuaries," Estuaries, 4, 64-69, 1981.
- Loeb, G. I., and R. A. Neihof, "Adsorption of an Organic Film at the Platinum-Seawater Interface," J. Mar. Res., 35, 283-295, 1977.
- Lu, J. C. S., and K. Y. Chen, "Migration of Trace Metals in Interface of Seawater and Polluted Surficial Sediments," Env. Sci. Technol., 11, 174-181, 1977.

- Mantoura, R. F. C., A. Dickson, and J. P. Riley, "The Complexation of Metals With Humic Materials in Natural Waters," Estuarine and Coastal Marine Science, 6, 387-408, 1978.
- Martin, J. M., V. Nijampurkar, and F. Salvadori, "Uranium and Thorium Isotopes Behavior in Estuarine Systems," in Biogeochemistry of Estuarine Sediments, UNESCO, 1978.
- Meeded, R. H., "Transport and Deposition of Sediments in Estuaries," Geol. Soc. Am. Mem., 133, 91-120, 1972.
- Millero, F. J., G. Macchi, and M. Pettine, "Speciation of Ion in Tiber River Estuary Waters," The Science Journal, 13, 517-534, 1981.
- Mook, W. G., and B. K. S. Koene, "Chemistry of Dissolved Inorganic Carbon in Estuarine and Coastal Brackish Waters," Estuarine Coastal Mar. Sci., 3, 325-336, 1975.
- Moore, R. M., J. D. Burton, P. J. L. Williams, and M. L. Young, "The Behavior of Dissolved Organic Material, Fe, and Mn in Estuarine Mixing," Geochim. Cosmochim. Acta, 43, 919-926, 1979.
- Morris, A. W., R. F. C. Mantuara, A. J. Bale, and R. J. M. Howland, "Very Low Salinity Regions of Estuaries : Important sites for Chemical and Biological Reactions," Nature, 274, 678-680, 1977.
- Neihof, R. A., and G. I. Loeb, "Surface Charge of Particulate Matter in Seawater," Limnol. Oceanogr., 17, 7-16, 1972.
- Nissenbaum, A., and D. J. Swaine, "Organic Matter-Metal Interactions in Recent Sediments : the Role of Humic Substances," Geochim. Cosmochim. Acta, 40, 809, 1976.
- Office of the National Environmental Board, "Report on Water Qualities of the Mae Klong River (1984-1985)," ONEB, Bangkok, 1986.
- Pellenbarg, R., "Trace Metal Partitioning in the Aqueous Surface Microlayer of a Salt Marsh," The Science Journal, 13, 113-117,

1980.

- Petr, T., "Bioturbation and Exchange of Chemicals at the Mud-Water Interface," in Interactions Between Sediments and Fresh Water, (Golterman, H. L., ed.), Center for Agricultural Publishing and documentation, Wageningen, 473, 1977.
- Picard, G. L., and G. T. Felbeck, "The complexation of Iron by Marine Humic Acid", Geochim. Cosmochim. Acta, 40, 1347-1350, 1976.
- Postma, H., "Marine Pollution and Sedimentology," in Pollution and Marine Ecology, (Olson, T. A., and F. J. Burgers, eds.), 225-234, 1967.
- Pravdic, V., J. J. Biscan, and M. Juracie, "Physico-chemical Parameters Describing the Role of Particulate Material in Estuarine Waters," in Proceeding on River Inputs to the Ocean Systems (Martin, J. M. et al, eds.), 188-196, Paris, 1981.
- Presley, B. J., Y. Kolodny, A. Nissenbaum, and J. R. Kaplan, "Early Diagenesis in a Reducing Fjord, Saanich Inlet, Br. Columbia, II. Trace Element Distribution in Interstitial Water and Sediment," Geochim. Cosmochim. Acta, 36, 1073-1090, 1972.
- Rachid, M. A., "Role of Humic Acids of Marine Origin and Their Different Molecular Weight fractions in Complexing Di- and Tri-valent Metals, " Soil Sci., 111, 298-305, 1971.
- Reeder, S. W., B. Hitchon, and A. A. Levinson, "Hydrogeochemistry of the Surface Waters of the Mackenzie River Drainage Basin, Canada. I. Factors Controlling Inorganic Composition," Geochim. Cosmochim. Acta, 36, 825-865, 1972.
- Salomons, W., "Adsorption Processes and Hydrodynamic Conditions in Estuaries," Environ. Technol. Lett., 1, 356-365, 1980.
- Salomons, W., and U. Forstner, Metals in the Hydrocycle, 212-257,

Springer-Verlag, Heidenberg, 1984.

Sheldon, R. W., T. P. T. Everly, and T. R. Parson, "On the Occurrence and Formation of Small Particles in Seawater," Limnol. Oceanogr., 12, 367-375, 1967.

Sholkovitz, E. R., "The Flocculation of Dissolved Fe, Mn, Al, Cu, Ni, Co, and Cd During Estuarine Mixing," Earth Plan. Sci. Lett., 41, 77-86, 1981.

_____. "Estuarine Chemistry as Inferred from Laboratory Experiments," in Proceeding on River Inputs to the Ocean Systems, (J. M. Martin, et al., eds.), 149-151, Paris, 1981.

_____. "Flocculation of Dissolved Organic and Inorganic Matters During the Mixing of River Water and Seawater," Geochim. Cosmochim. Acta, 40, 831-845, 1976.

Sholkovitz, E. R., E. A. Boyle, and N.B. Price, "The Removal of Dissolved Humic Acids and Iron During Estuarine Mixing," Earth Planet. Sci. Lett., 40, 130-136, 1978.

Sholkovitz, E. R., and D. Copland, "The Coagulation, Solubility and Adsorption Properties of Fe, Mn, Cu, Ni, Cd, Co and Humic Acids in a River Water," Geochim. Cosmochim. Acta, 45, 181-189, 1981.

Singer, P. C., "Influence of Dissolved Organics on the Distribution, Transport, and Fate of Heavy Metals in Aquatic Systems," in Fate of Pollutants in the Air and Water Envi. Part I, (I. H. Suffette, ed.), New York, 155-182, 1977.

Smith, J. D., and P. J. Milne, "The Behavior of Iron in Estuaries and Its Interaction with Other Components of the Waters," in River Inputs to Ocean Systems., (Martin, J. N., J. D. Burton, and D. Eisma, eds.), UNEP and UNESCO, 226-230, 1981.

Stallard, R. F., and J. M. Edmond, "Geochemistry of the Amazon. 2. The

- Influence of Geology and Weathering Environment on the Dissolved Load," J. Geophys. Res., 88, 9671-9688, 1983.
- Stumm, W., and J. J. Morgan, "An Introduction Emphasizing Chemical Equilibria in Natural Water," John Wiley & Sons, New York, 780, 1981.
- Thomas, D. J., and E. V. Grill, "The Effect of Exchange Reactions Between Fraser River Sediment and Seawater on Dissolved Cu and Zn Concentration in the Strait of Georgia," Coast. Mar. Sci., 5, 421-427, 1977.
- Turekian, K. K. and M. R. Scott, "Concentrations of Cr, Ag, Mo, Ni, Co and Mn in Suspended Material in Streams," Envi. Sci. Technol., 1, 940-942, 1967.
- Turekian, K. K., "Rivers, Tributaries and Estuaries," in Impingement of Man on the Oceans, (Hood, D. W., ed.), Wiley-Interscience, 9, 1971.
- Wakeman, T., "The Biological Ramifications of Dredging and Disposal Activities," in Proc. 7th World Conf. on Dredging : Env. Effects and Technol., 53-68, Sanfrancisco, 1976.
- Weijden, C. H. vander, M. J. H. L. Arnoldus, and C. J. Meurs, "Desorption of Metals from Suspended Material in the Rhine Estuary," Neth. J. Sea Res., 11, 130-145, 1977.
- Windom, H. L., K. O. Beck, and R. Smith, "Transport of Trace Metals to the Atlantic Ocean by Three Southeastern Rivers," Southeastern Geol., 12, 169-181, 1971.
- Windom, H. L., G. Wallace, R. Smith, N. Dudek, R. Dulmage, and F. Storti, "Behaviour of Cu in Southeastern U.S. estuaries," Mar. Chem., 12, 183-193, 1983.

Windom, H. L., K. C. Beck, and R. Smith, "Transport of Trace Elements to the Atlantic Ocean by Three Southeastern Rivers," Southeast. Geol., 12, 169-181, 1971.

Whitehouse, U. G., L. M. Jefferey, and J. D. Debbrecht, "Differential Settling Tendencies of Clay Minerals in Saline Waters," in Proc. 7th Conf. Clays and Clay Mins., 1-79, 1960.



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