



Tropical Estuaries and Mangroves

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Books:

- Chapman, V. J. 1976 Mangrove Vegetation. J. Cramer, Germany.
- Clough, B. F. 1982. Mangrove Ecosystems in Australia Australian National University Press, Canberra.
- Snedaker S.C. and J.G. Snedaker 1984. The Mangrove Ecosystem: Research Methods. UNESCO, United Kingdom.
- Tomlinson, P. B. 1986 The Botany of Mangroves. Cambridge University Press, New York.
- Furtado, J.I., W.B. Morgan, J.R. Pfafflin, and K. Ruddle. 1990. Tropical resources: Ecology and Development. Harwood Academic, London.
- Robertson, A. I. and Alongi, D. M. 1992. Tropical Mangrove Ecosystems, Vol. 41, pp. 225-249. American Geophysical Union, Washington D. C.
- Alongi, D.M. 1998. Coastal Ecosystem Processes. CRC Press. Boca Raton, Florida.
- Seeliger, U. and B.J. Kjerfve (eds), 2000. Estuaries of Latin America. Springer-Verlag.

Review Papers:

- Davis, J. H., Jr. 1940 The ecology and geologic role of mangroves in Florida. *The Bulletin of the American Association of Petroleum Geologists* 26, 307-425.
- Thom, B. 1967. Mangrove ecology and deltaic morphology: Tabasco, Mexico. *Journal of Ecology* 55:301 - 343.
- Walsh, G.E. 1967. An ecological study of a Hawaiian mangrove swamp, pp. 420-431. In: G.H. Lauff (ed.), *Estuaries*. American Association for the Advancement of Science 83. Washington, D.
- Macnae, W. 1968. A general account of the fauna and flora of mangrove swamps and forests in the Indo-West-Pacific region. *Advances in Marine Biology* 6:73-270.
- Lugo, A. E. and Snedaker, S. C. 1974 The ecology of mangroves. *Annual Review of Ecology and Systematics* 5, 39-64.
- Rodriguez, G. 1975. Some aspects of the ecology of tropical estuaries. Chapter 21: 313-334. *Tropical Ecological Systems: Trends in terrestrial and aquatic research*. New York, Springer-Verlag.
- Twilley, R.R. 1988. Coupling of mangroves to the productivity of estuarine and coastal waters, pp 155-180. In: B.O. Jansson (ed.), *Coastal-Offshore Ecosystem Interactions*. Springer-Verlag, Germany.
- Yáñez-Arancibia, A., Lara-Domínguez, A. L., Rojas-Galaviz, J. L., Sánchez-Gil, P., Day, J. W. and Madden, C. J. 1988 Seasonal biomass and diversity of estuarine fishes coupled with tropical habitat heterogeneity (southern Gulf of Mexico). *J. Fish. Biol.*, 33 (Suppl. A), 191-200.
- Hatcher, B.G., R. E. Johannes, A.I. Robertson. 1989. Review of research relevant to the conservation of shallow tropical marine ecosystems. *Oceanography Marine Biology Annual Review* 27: 337-414.

Odum, W.E. and C.C. McIvor. 1990. Mangroves, pp. 517-548. In R.L. Myers and J.J. Ewel (eds.), *Ecosystems of Florida*. University of Central Florida Press, Orlando, FL.

Robertson, A. I. and Duke, N. C. 1990. Mangrove fish-communities in tropical Queensland, Australia: spatial and temporal patterns in densities, biomass and community structure. *Marine Biology* 104, 369-379.

Saenger, P., and Snedaker, S.C. 1993. Pantropical trends in mangroves above-ground biomass and annual litterfall. *Oecologia* 96: 293-299.

Gilmore, R. G. and Snedaker, S. C. 1993. Mangrove forests. In: Martin, W. H., Boyce, S. and Echternacht, K. (Eds) *Biodiversity of the Southeastern United States: Lowland Terrestrial Communities*, p.165-198. John Wiley & Sons, New York.

Rützler, K. and C. Feller. 1996. Caribbean mangrove swamps. *Scientific American* 274:94-99.

Twilley, R. R., Snedaker, S. C., Yañez-Arancibia, A., Medina, E. 1996. Biodiversity and ecosystem processes in tropical estuaries: perspectives from mangrove ecosystems, pp. 327-370. In: Mooney, H., Cushman, H., Medina, E. *Biodiversity and ecosystem functions: a global perspective*. John Wiley and Sons, New York.

Twilley, R.R. 1997. Mangrove wetlands, pp. 445-473. In, M.Messina and W. Connor (eds.), *Southern Forested Wetlands: Ecology and Management*, CRC Press, Boca Raton, Florida.

Eyre, B. And Balls, P. 1999. A comparative study of nutrient behavior along the salinity gradient of tropical and temperate estuaries. *Estuaries* 22(2A): 313-326.

Downing, J.A., M. McClain, R. Twilley, J.M. Melack, J. Elser, N.N. Rabalais, W.M. Lewis, Jr., G. Turner, J. Corredor, D. Soto, A. Yanez-Arancibia, J.A. Kopaska and R.W. Howarth. 1999. The impact of accelerating land-use change on the N-cycle of tropical aquatic ecosystems: Current conditions and projected changes. *Biogeochemistry* 46:109-148.

Ecology Papers:

Chapman, V. J. 1970. Mangrove phytosociology. *Tropical Ecology* 11(1): 1-19.

Odum, W. E. and Heald, E. J. 1972 Trophic analysis of an estuarine mangrove community. *Bulletin Marine Science* 22, 671-738.

Macnae, W. 1974. Mangrove forests and fisheries. FAO/UNDP Indian Ocean Programme. IOFC/DEV/7434.

Cintrón, G., A. E. Lugo, Pool, D. J. Morris, G.. 1978. Mangroves of arid environments in Puerto Rico and adjacent islands. *Biotropica* 10(2): 110-121.

Rabinowitz, D. (1978) Early growth of mangrove seedlings in Panama, and an hypothesis concerning the relationship of dispersal and zonation. *Journal of Biogeography* 5, 113-133.

Lugo, A. E. 1980. Mangrove ecosystems: successional or steady state? *Tropical Succession* 12: 65-72.

Boto, K. G. and J. S. Bunt 1981. Tidal export of particulate organic matter from a northern Australian mangrove system. *Estuarine, Coastal and Shelf Science* 13: 247-255.

Bunt, J. S. and W. T. Williams 1981. Vegetational relationships in the mangroves tropical Australia. *Marine Ecology Progress Series* 4: 349-459.

Rodelli, M.R., J.N. Gearing, P.J. Gearing, N. Marshall, and A. Sasekumar. 1984. Stable isotope ratio as a tracer of mangrove carbon in Malaysian ecosystems. *Oecologia* 61: 326-333.

- Putz, F.E. and H.T. Chan. 1986. Tree growth, dynamics and productivity in a mature mangrove forest in Malaysia. *Forest Ecology and Management* 17:211-230.
- Day, J. W., W. H. Conner, et al. 1987. The productivity and composition of mangrove forests, Laguna de Terminos, Mexico. *Aquatic Botany* 27: 267-284.
- Ball, M. C. 1988. Ecophysiology of mangroves. *Trees* 2: 129-142.
- Smith, T.J., Chan, H-T., McIvor, C.C., and Robblee, M.B. 1989. Comparisons of seed predation in tropical, tidal forests on three continents. *Ecology* 70: 146-151.
- Dixon, J. A. 1989. Valuation of mangroves. *Tropical Coastal area management* 4(3): 2-6.
- Robertson, A. I. and Daniel, P. A. 1989. The influence of crabs on litter processing in high intertidal mangrove forests in tropical Australia. *Oecologia* 78: 191-198.
- Woodroffe, C. D. 1990. The impact of sea-level rise on mangrove shoreline. *Progress in Physical Geography* 14, 483-502.
- Farnsworth, E.J. and A.M. Ellison. 1993. Dynamics of herbivory in Belizean mangal. *Journal of Tropical Ecology* 9:435-453.
- McKee, K. L. 1993. Soil physicochemical patterns and mangrove species distribution - reciprocal effects? *Journal of Ecology* 81: 477-487.
- Feller, I.C. 1995. Effects of nutrient enrichment on growth and herbivory of dwarf red mangrove (*Rhizophora mangle*). *Ecological Monographs* 65:477-505.
- McKee, K. L. 1995. Seedling recruitment patterns in a Belizean mangrove forest: effects of establishment ability and physico-chemical factors. *Oecologia* 101: 448-460.
- Herrera-Silveira, J.A. And F. A. Comin. 1995. Nutrient fluxes in a tropical coastal lagoon. *Ophelia* 42:127
- Rivera-Monroy, V.H. and R.R. Twilley. 1996. The relative role of denitrification and immobilization on the fate of inorganic nitrogen in mangrove sediments of Terminos Lagoon, Mexico. *Limnology and Oceanography* 41:284-296.
- Twilley, R.R., M. Pozo, V.H. Garcia, V.H. Rivera-Monroy, R. Zambrano, and A. Bodero. 1997. Litter dynamics in riverine mangrove forests in the Guayas River estuary, Ecuador. *Oecologia* 111:109-122.
- Boyer, J.N. And J.W. Fourqurean and R. D. Jones. 1997. Spatial characterization of water quality in Florida Bay and Whitewater Bay by multivariate analyses: zones of similar influence. *Estuaries* 20:743-758.
- Eyre, B. 1998. Transport, retention and transformation of material in Australian Estuaries. *Estuaries* 21(4A): 540-551.
- Twilley, R.R., R. Gottfried, V.H. Rivera-Monroy, M. M. Armijos, A. Bodero. 1998. An approach and preliminary model of integrating ecological and economic constraints of environmental quality in the Guayas River estuary, Ecuador. *Environmental Science and Policy* 1:271-288.
- Twilley, R.R., Rivera-Monroy, V.H., Chen, R., Botero, L. 1999. Adapting an ecological mangrove model to simulate trajectories in restoration ecology. *Marine Pollution Bulletin* 37:404-419.