Mangroves importance and decline studied

February 27 2006

Scientists say mangroves, the backbone of tropical ocean coastlines, are far more important to the global ocean's biosphere than previously thought.

Florida State University researchers say the woody coastline-dwelling plants provide more than 10 percent of essential dissolved organic carbon supplied to the global ocean from land.

Thorsten Dittmar at FSU-Tallahassee says mangrove plants that protect coastal wetlands and provide important fish habitats cover less than 0.1 percent of the global land surface, yet account for 10 percent of the dissolved organic carbon that flows into the ocean.

Dittmar and colleagues at several German research institutions analyzed the carbon output from a large mangrove forest in Brazil and suggest the plants are one of the main sources of dissolved organic matter in the ocean -- important in the global carbon cycle that regulates atmospheric carbon dioxide and climate.

Mangrove foliage, however, has declined by nearly half during the past several decades because of increasing coastal development, The researchers speculate the rapid decline in mangrove extent threatens the delicate balance and may eventually shut off the important link between the land and ocean

The report appears in the Feb. 21 issue of the journal Global Biogeochemical Cycles.