



## HONDURAS DISSERTATION/THESIS PROJECT

### MA49 - Microhabitat analysis of mangrove forests in the Mahamavo watershed

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The mangrove forest is widespread and of critical importance along the north-western coast of Madagascar and is increasingly under threat of de-forestation as the logs are used in construction and more importantly in this region charcoal production. In the Mahamavo watershed there are eight species of mangroves that exhibit zonation from sea level to the highest tidal inundation. These trees are salt-tolerant evergreen trees from a number of taxonomic families. A microhabitat analysis both on foot and by boat will be conducted to determine which environmental characteristics are most important in determining zonation. A variety of environmental characteristics including salinity, soil oxygen and carbon dioxide, sulphide, nitrate and phosphorus levels will be measured where these trees occur to look at niche partitioning. A limited re-forestation effort over the past several years has indicated that trees in different locations are growing at different rates so it will also be determined if these differences in growth rates correlate with microhabitat composition as well. This analysis will also assist in optimising our efforts in replanting mangrove forests in this area as well.

#### Suggested reading

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Felisberto Macamo, Celia da Conceicao, et al. (2018), 'Spatial Dynamics and Structure of Human Disturbed Mangrove Forests in Contrasting Coastal Communities in Eastern Africa', *Wetlands*, 38 (3), 509-23.

Hamilton, Richard J, et al. (2017), 'Logging degrades nursery habitat for an iconic coral reef fish', *Biol. Conserv.*, 210 273-80.

Jones, Trevor G, et al. (2015), 'The Dynamics, Ecological Variability and Estimated Carbon Stocks of Mangroves in Mahajamba Bay, Madagascar', *J. Mar. Sci. Eng.*, 3 793-820.

Jones, Trevor Gareth, et al. (2016), 'The Mangroves of Ambanja and Ambaro Bays, Northwest Madagascar: Historical Dynamics, Current Status and Deforestation Mitigation Strategy', 67-85.

Scales, Ivan R, et al. (2018), 'Rural livelihoods and mangrove degradation in south-west Madagascar: lime production as an emerging threat', *Oryx*, 52 (4), 641-45.

Simard, Marc, et al. (2019), 'Mangrove canopy height globally related to precipitation, temperature and cyclone frequency', *Nat. Geosci.*, 12 (1), 40.

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