

MARINE SCIENCE RESEARCH AND TECHNOLOGY CONFERENCE

Speaker



22 - 23 MAY 2017
KUALA LUMPUR, MALAYSIA

Dr Mathiventhan
Eastern University, Sri Lanka

<https://www.clytoaccess.com/journal-marine-science-research-and-technology>

The effect of coastal soil salinity on permanent vegetation line

Abstract :

Permanent vegetation line (PVL) is considered as the first line of natural vegetation where plant forms are established. Soil salinity is one of the major factors that determine the distribution of the vegetation in the coast. A study was conducted to find out the changes of the PVL with the soil-salinity changes in the Eastern coast of Batticaloa, Sri Lanka. This study was conducted in randomly selected ten coastal sites. A 3 x 150 m belt-transect was laid from mean high tide mark (MHT), perpendicular to the sea.; three parallel replicates were taken at a distance of 50 m from each other. The belt transect was sub-divided into 3 x 3 m plots and sampling was done at each plot. Soil suspension was prepared from three depths (0, 10, 50 cm) and salinity was measured. The soil salinity was decreasing from sea to land,

at all soil depths. Soil salinity was reduced with the depth of the soil, which is not significant ($p > 0.05$). Fluctuation in soil salinity was noted between 5 and 18 ppt to a distance of 20 and 27 m from the MHT where no vegetation found. No notable change in soil salinity noted beyond 30 m from MHT. Vegetation was recorded at a mean distance of 50 m from MHT where the saline front with 0 ppt salinity. If the mean sea-level increased by 1 m, present PVL would be shifted by 30-45 m, according to Hugo et al. (2009). The coast also needs to be protected for the development of coastal vegetation over time. Given the proposed/predicted increase in sea level rise and climate change these would be of greater significance.

Bio :

Dr Mathiventhan is a senior lecturer in the Department of Botany since 2001. He is a NORAD Scholar and completed his MSc in Management of Natural Resources and Sustainable Agriculture, at the Norwegian University of Life Sciences, Norway. During the MSc, he obtained a certificate in Rural Development and Project Management at the Makerere University, Uganda. He did his PhD in Coastal Ecology at the Eastern University in 2013. He is an active researcher interested in environmental issues and plant Sciences. He is interested in the field of climate change, coastal resources, resilience and management, socio-ecology of mangroves. He published many research articles nationally and internationally. He has published articles in International Journal of Research Studies in Biosciences, International Journal of Marine Science, Tropical Plant Research- An International Journal, Journal of Medical and Bioengineering, IUCN publication, Journal of Science and Management, The Sri Lanka Forester, etc. He participated in many national and international conferences and symposiums. He has served on the editorial board of Journal of Science, Eastern University; International Journal of Research Studies in Biosciences; reviewer of national and international journal. He has research experiences in collaboration with national (Ministry of Mahaweli Development and Environment, NECCDEP, SLNF) and international (Land O' Lakes, IUCN, Swedish Cooperative Centre, USAID, UNEP) agencies.