



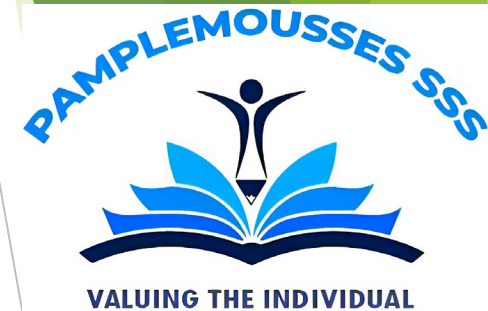
Observing variations in growth of mangroves at Roches Noires Lagoon

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30 Years of GLOBE: Understanding Data Past, Present, and Future.



Introduction - wetland ecosystem

Modified UNESCO Classification (MUC) Code 63: Level 1 - Wetland, Level 2 - Estuarine



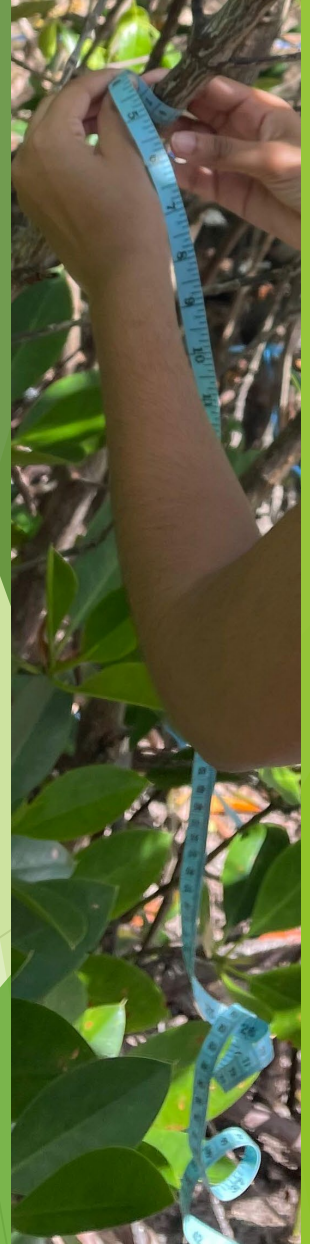
Objectives

1. To start to collect data in an investigation which includes
 - ▶ counting a number of organisms
 - ▶ measuring a physical distance or height
2. To record measurements through tabulation:
 - ▶ Length
 - ▶ Width
 - ▶ Height
 - ▶ Diameter
3. To quantitatively study biodiversity using a quadrat.

Materials

Global Positioning System (GPS)

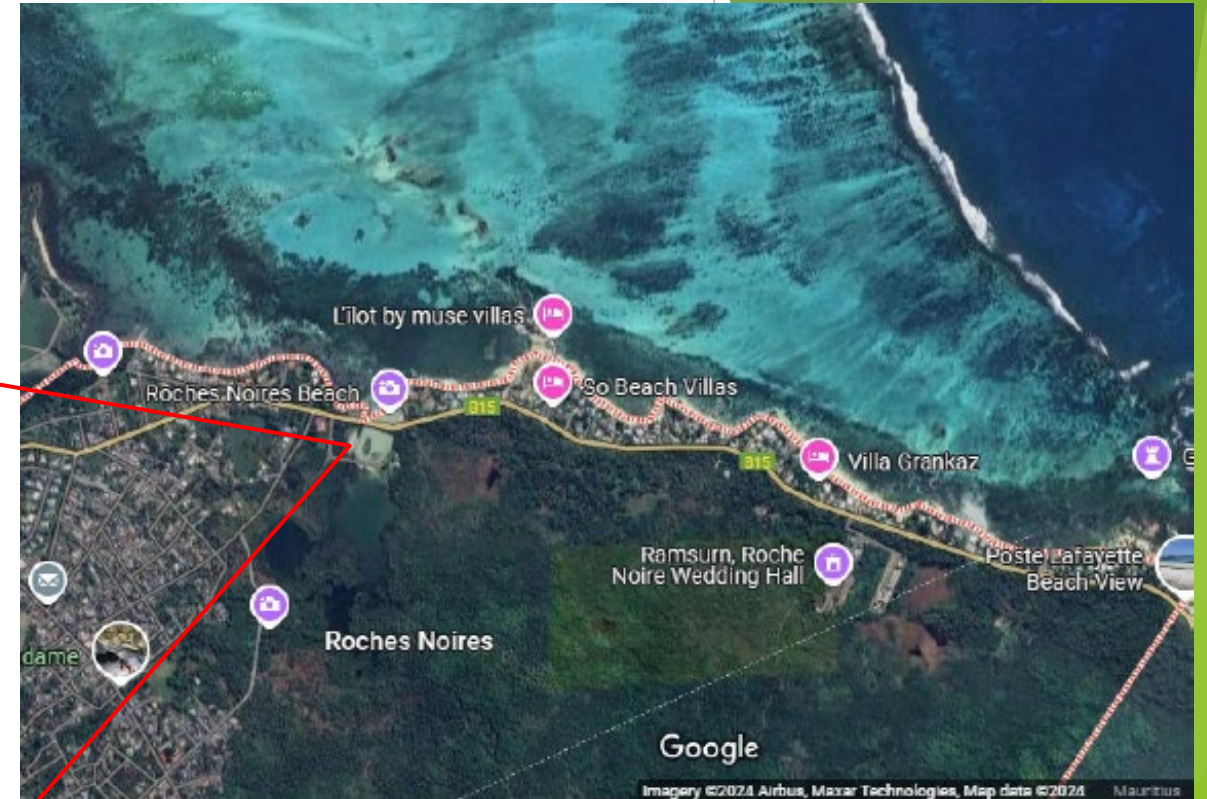
- ◀ Customized rod-like metre rule
- ▶ Measuring tape and Flexible tape
- ▼ Rafia threads



GLOBE protocol - Biometry protocol

- ▶ Identify vegetation species.
 - ▶ Red mangrove
- ▶ Choose three biometry measurements.
 - ▶ Measure tree circumference
 - ▶ Measure tree height
 - ▶ Record GPS coordinates
- ▶ Perform one biological sampling technique.
 - ▶ Quadrat sampling

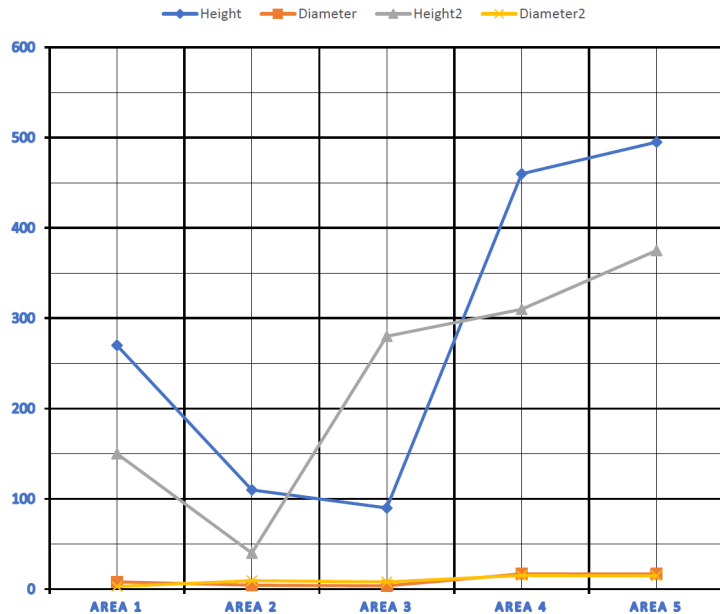
Excursion selection



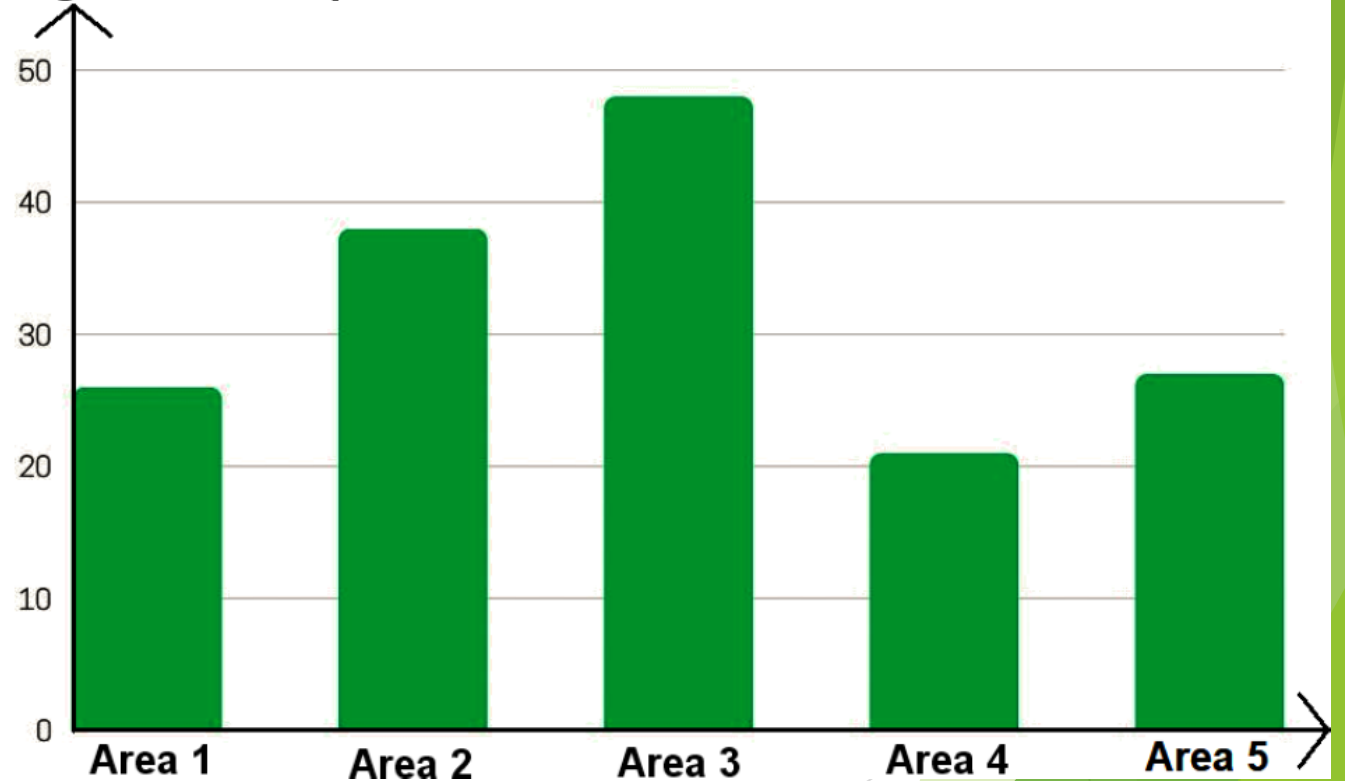
Steps

Analysis

- ▶ Use tabulated data
 - ▶ Construct a bar chart
 - ▶ Draw graphs



Average number of plants



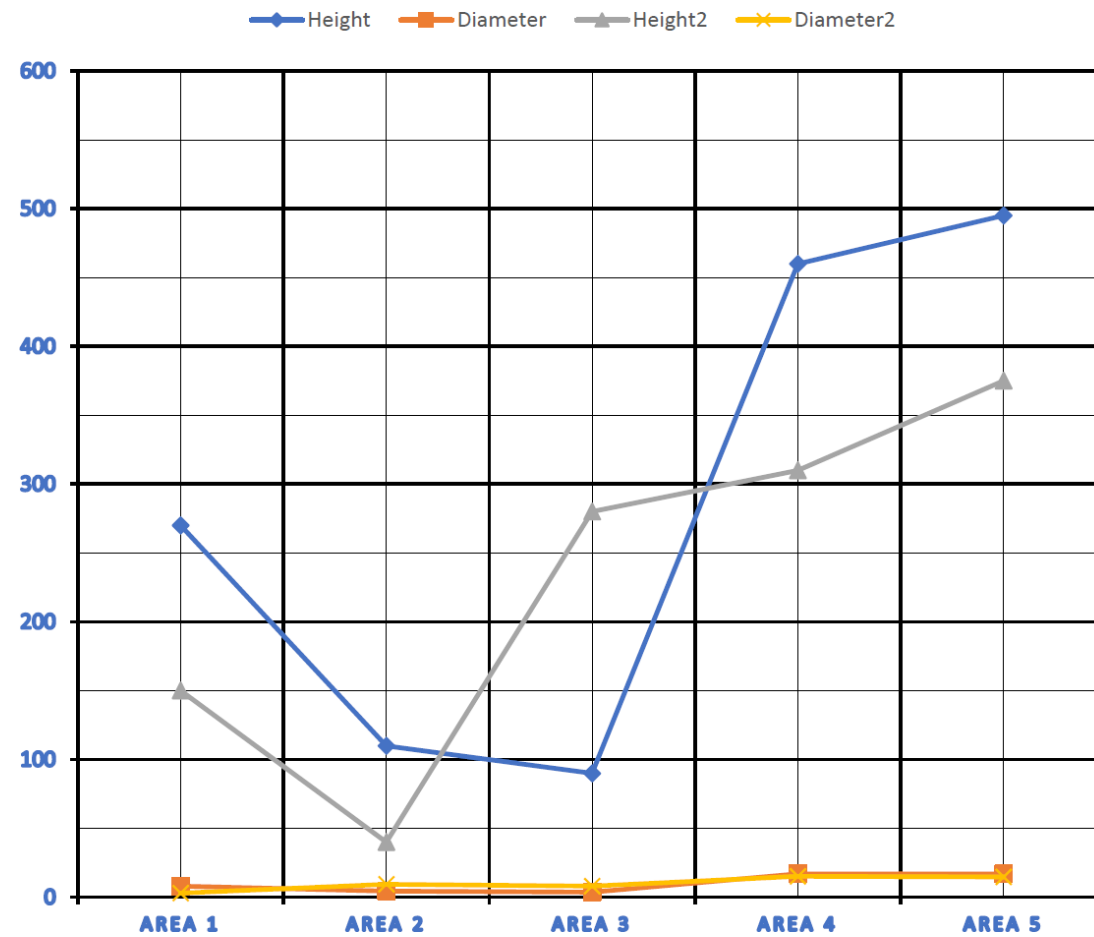
Results

► Part 1 : Plant density



Results

► Part 2 : Physical dimensions



Conclusion

Seaward side contains 13.5 plants/m² less than
landward side.

References

- ▶ Murday, M. (1990). Oil Spill Contingency Plan for Mauritius, Page 89.
- ▶ True mangrove *Rhizophora mucronata* assessed in 2008 retrieved from: <https://www.iucnredlist.org/species/178825/7618520>
- ▶ Implementation of the Strategic Action Programme for the protection of the Western Indian Ocean (WIOSAP) published in 2021 retrieved from: <https://mauritius.un.org/en/143489-implementation-strategic-action-programmeprotection-western-indian-ocean-wiosap>
- ▶ Triest, L. et al. (2021) Expansion of the mangrove species *Rhizophora mucronata* in the Western Indian Ocean launched contrasting genetic patterns. *Sci Rep* 11, 4987.
- ▶ Meeting the challenges to climate change adaptation: an NGO community-based successful projects in Mauritius by Anoradha Chacowry in *GeoJournal* (2023).
- ▶ Expert practical knowledge acquired in 2024 from Mr. Sooreadeo Khamun, Senior Technical Assistant, Marine Science department, University of Mauritius.
- ▶ Public Sector Investment Programme 2021/22 - 2025/26 retrieved from: https://www.mauritiusbudget.com/wp-content/uploads/2022/02/2021_22PSIP.pdf