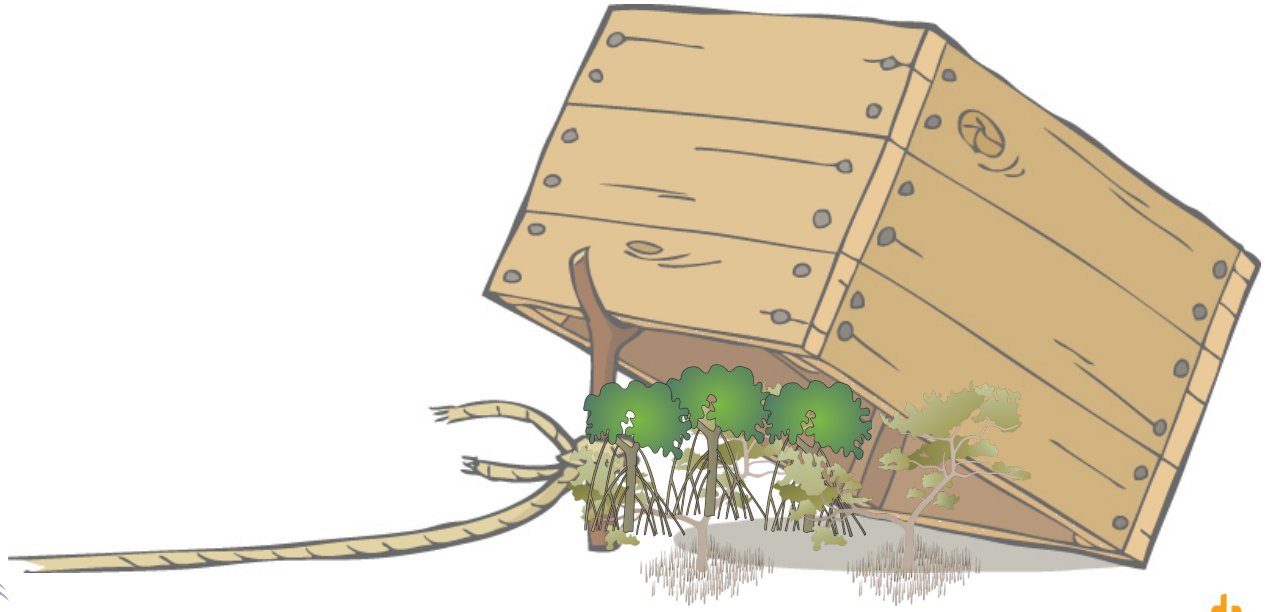
Mind the trap

Implications of the trapping efficiency of *Avicennia* and *Rhizophora* roots.

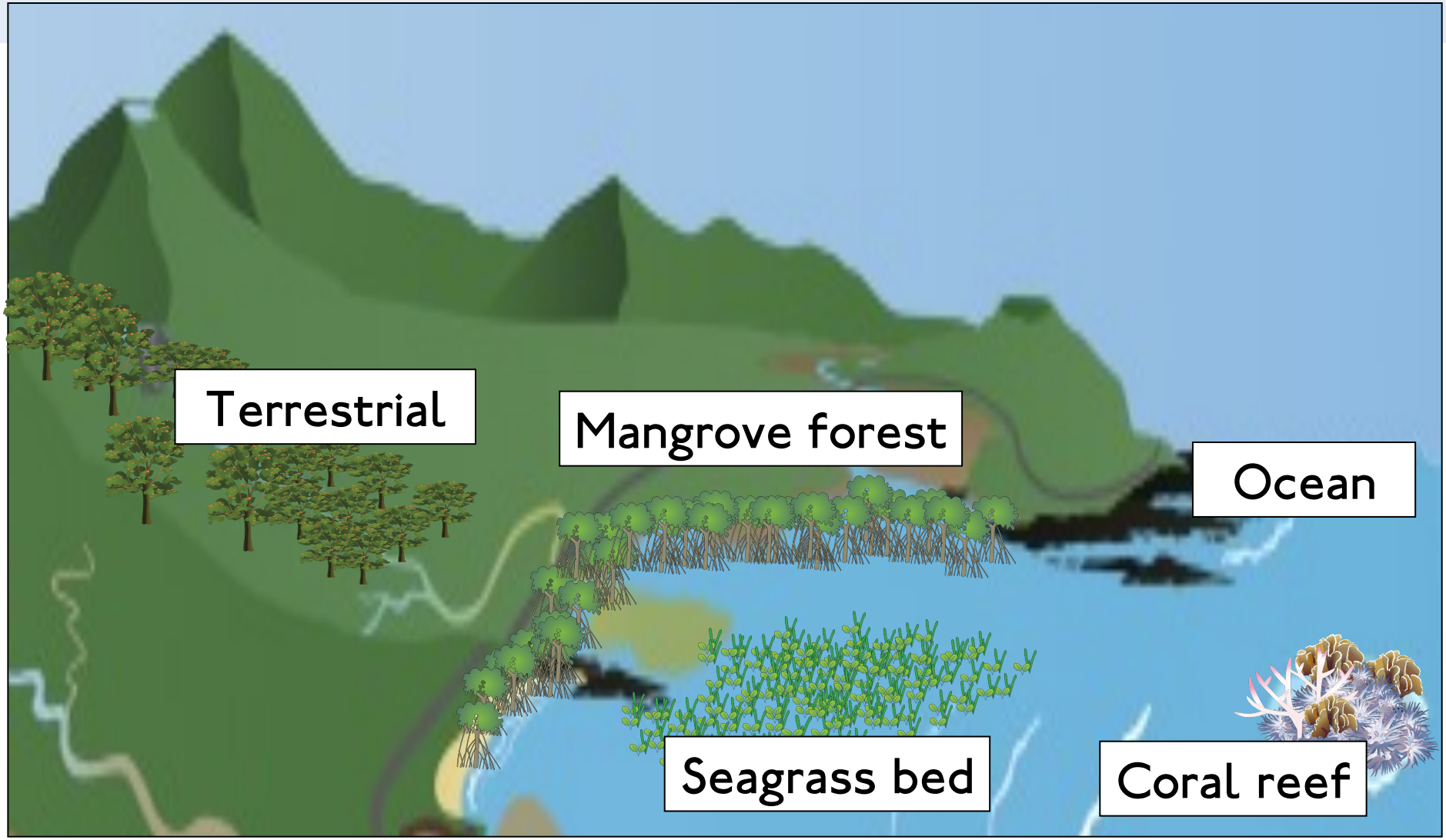


Lucy G Gillis, Martin Zimmer, Tjeerd Bouma

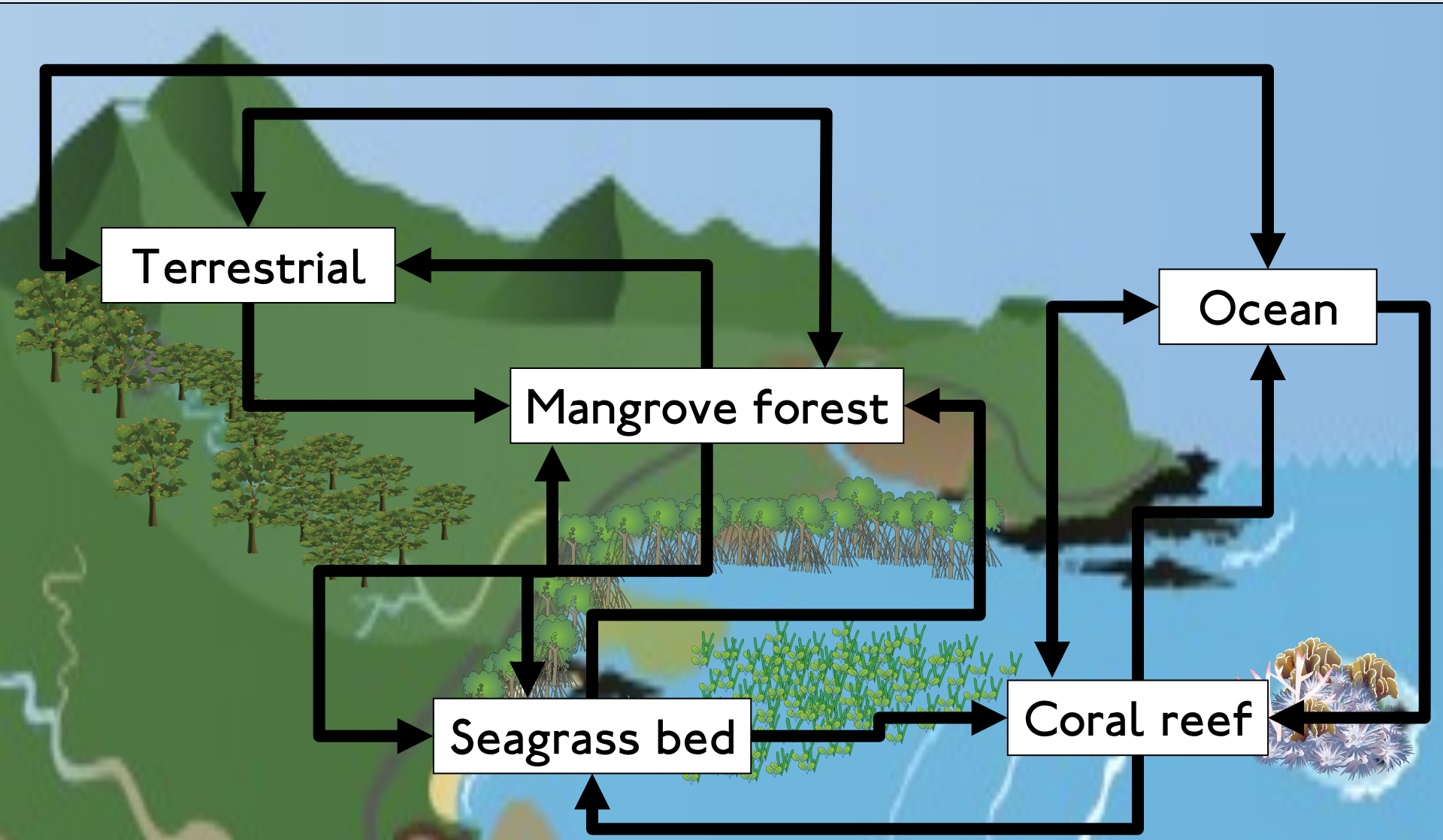
z m t bremen

NIOZ Royal Netherlands Institute for Sea Research

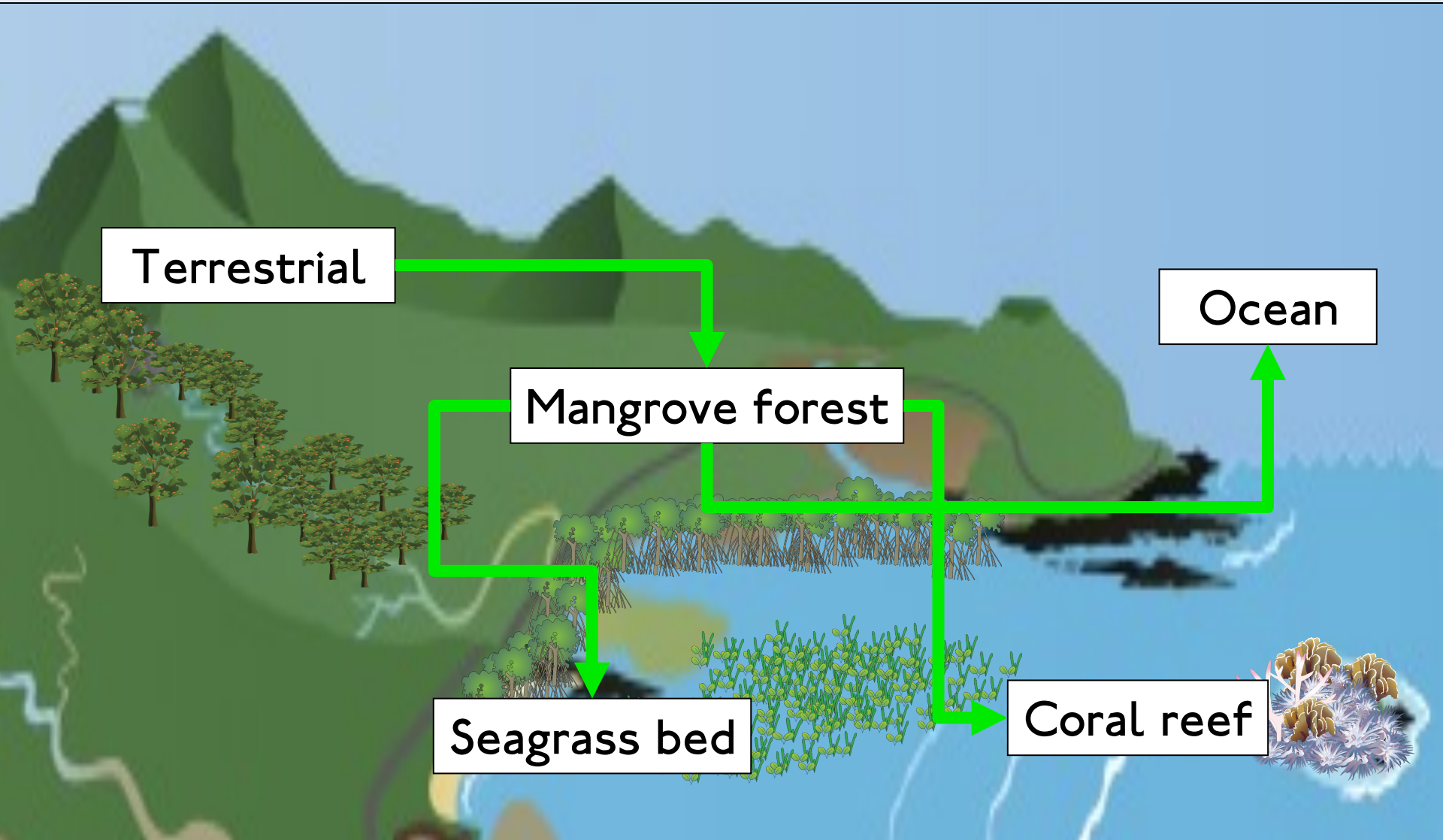
Tropical Seascape



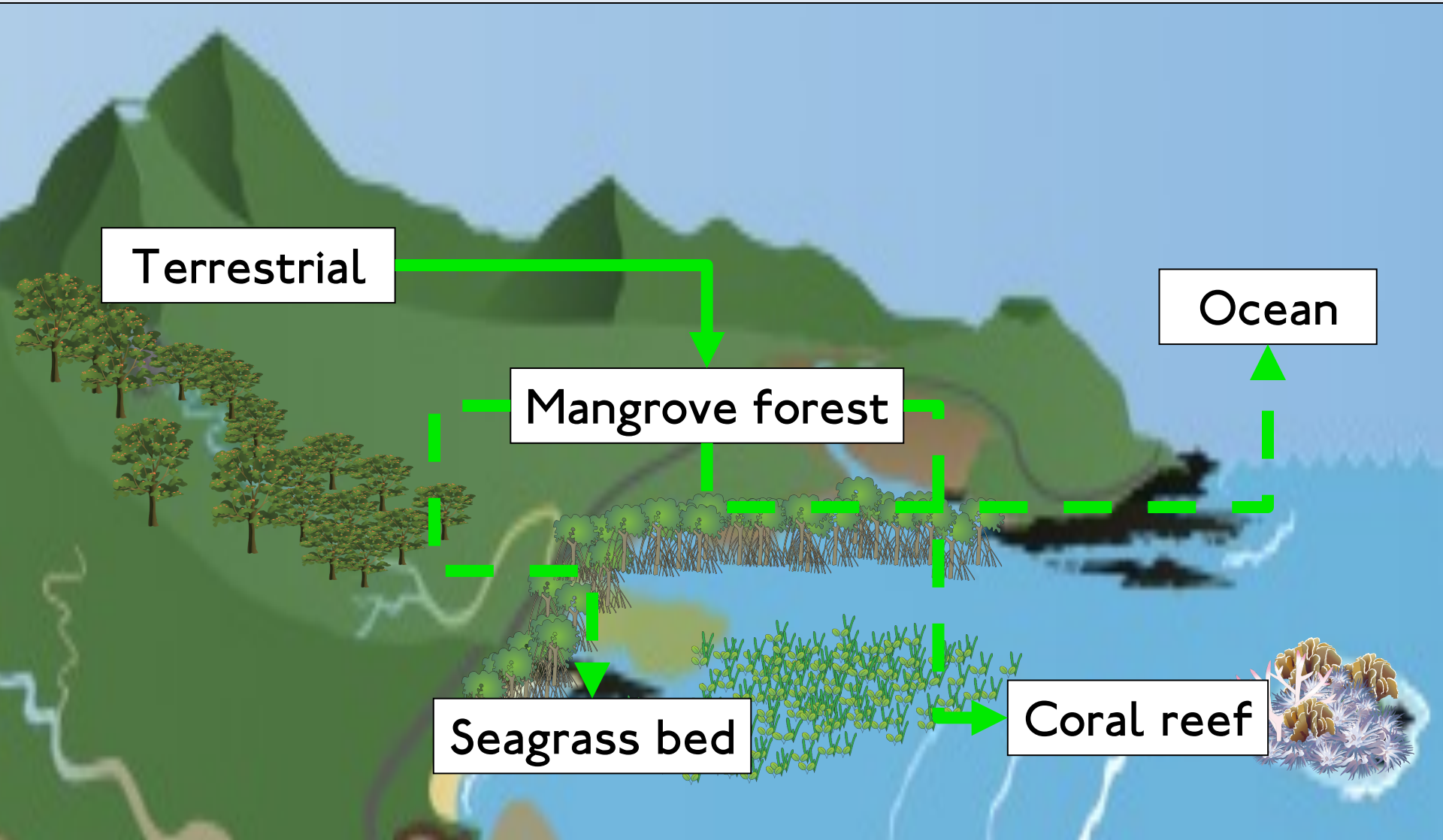
Connectivity



Nutrient connectivity



Nutrient connectivity



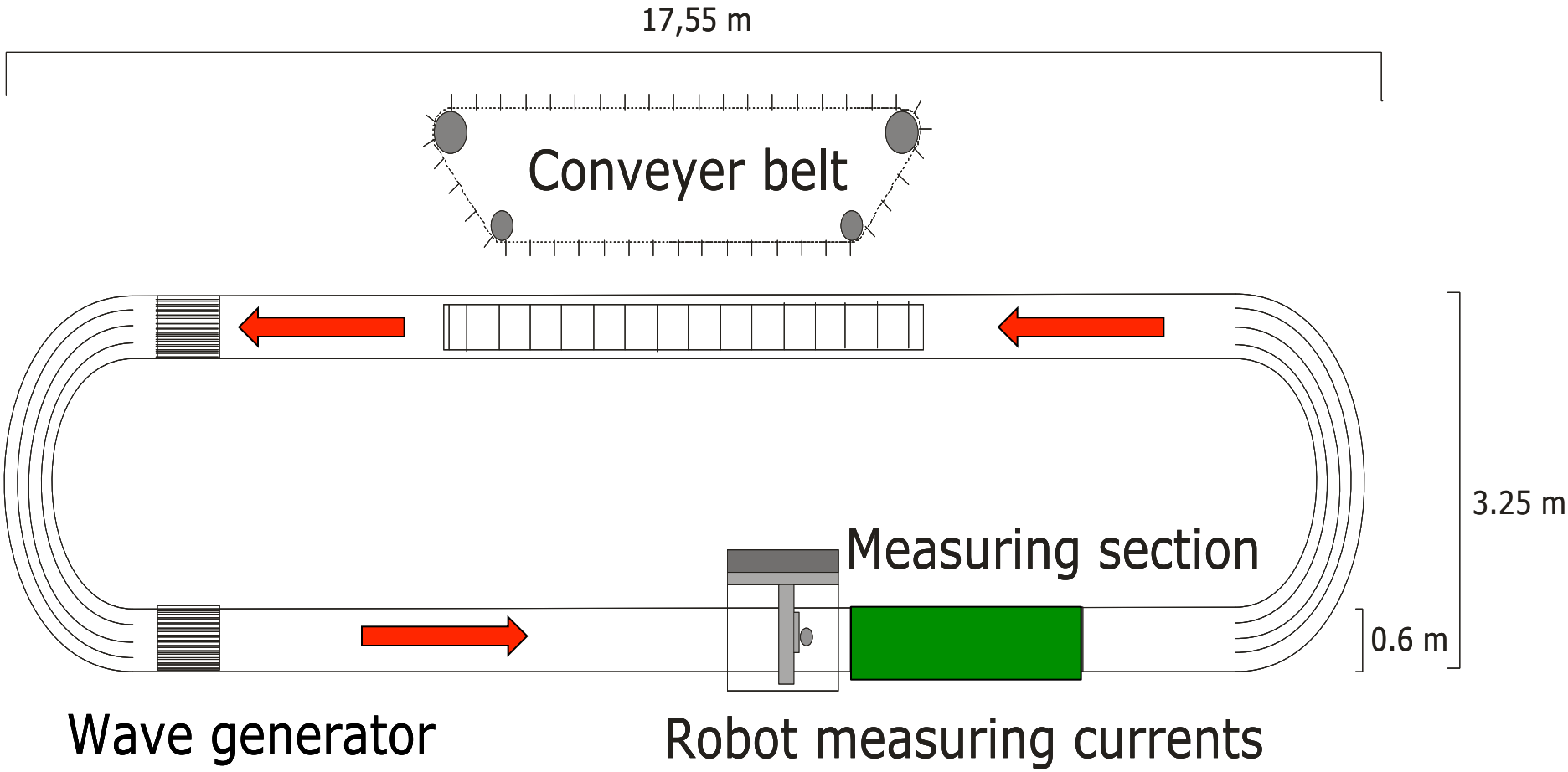
Gap: Root Type

Gap: Waves

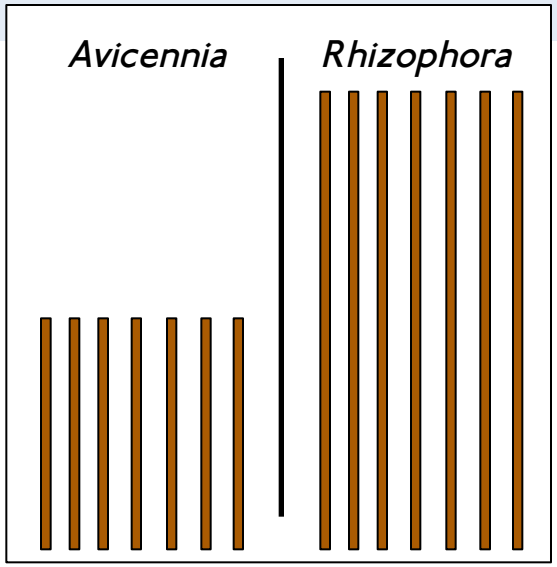
Gap: Leaf Type

Gap: Density

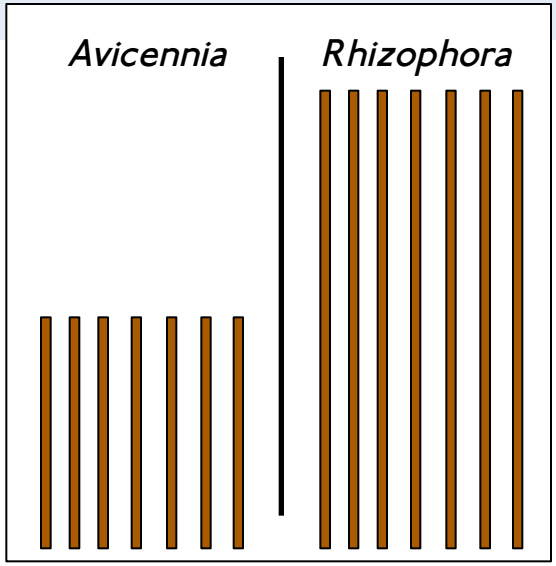
The Flume

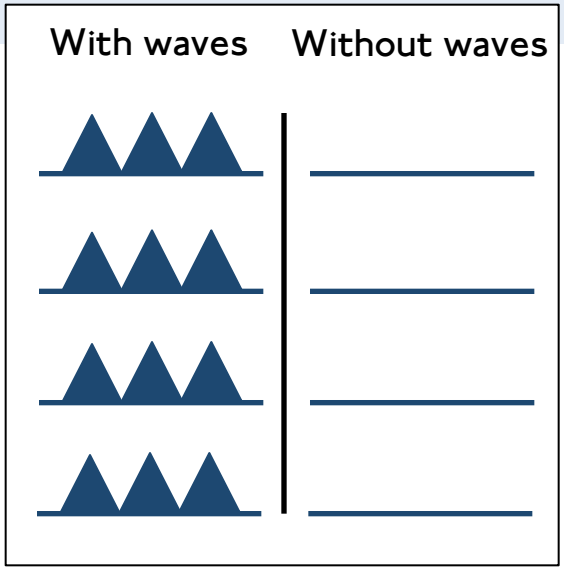

17,55 m
Conveyer belt
3.25 m
Measuring section
0.6 m
Wave generator
Robot measuring currents

What was tested?

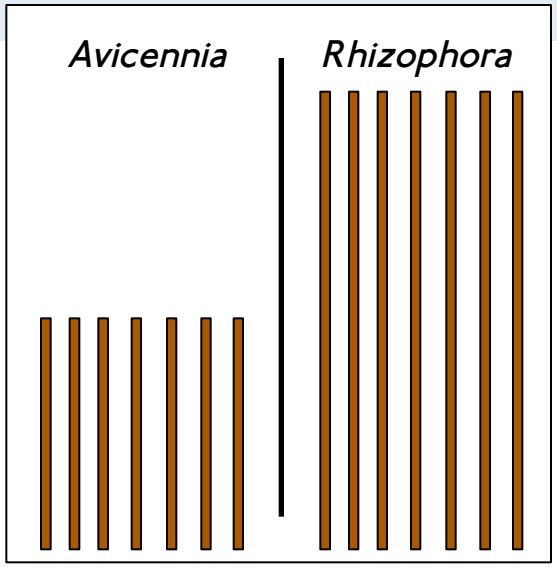


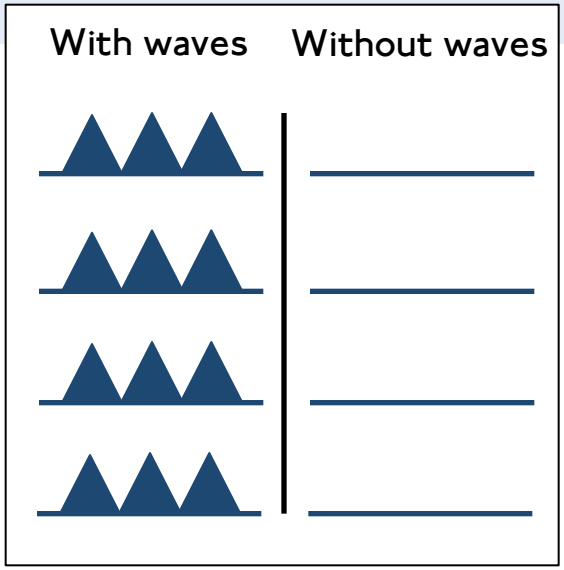
What was tested?

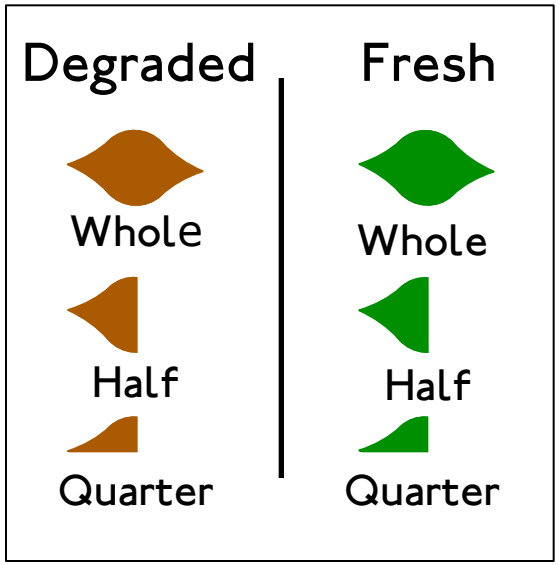




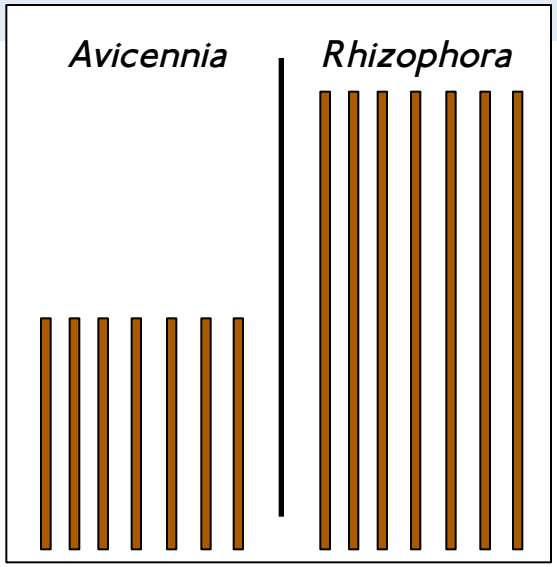
What was tested?

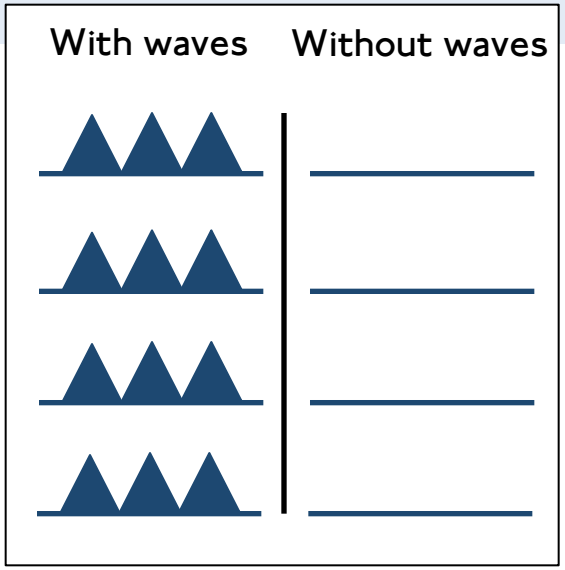


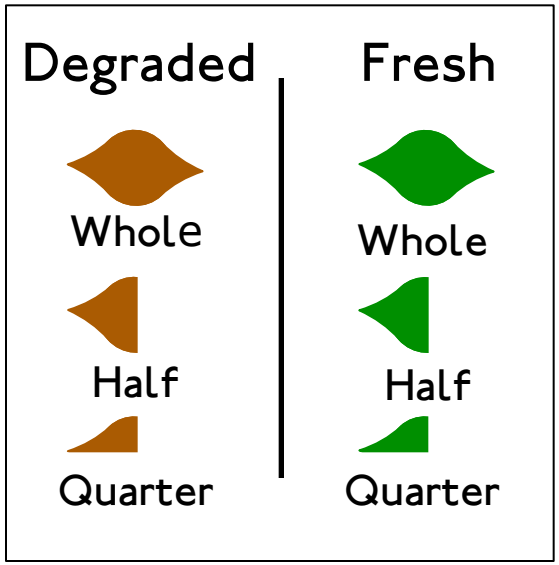


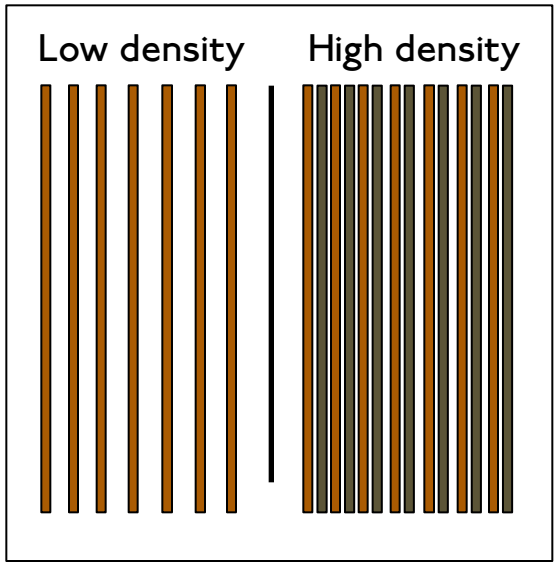


What was tested?

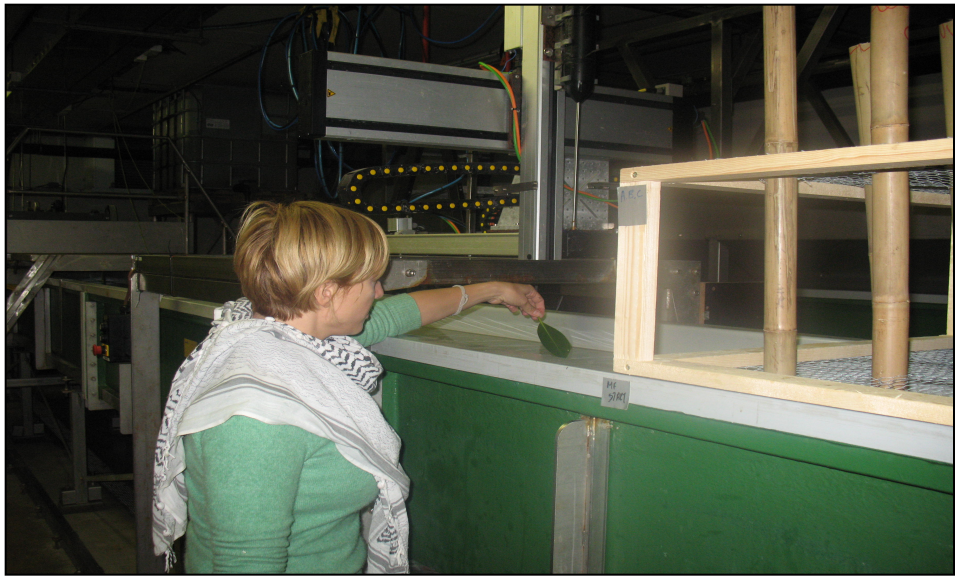








Mimic Avicennia and Rhizophora roots



What did we measure?

- Trapping (t>2minutes)

What did we measure?

- Trapping (t>2minutes)
- Total time of run (minutes)

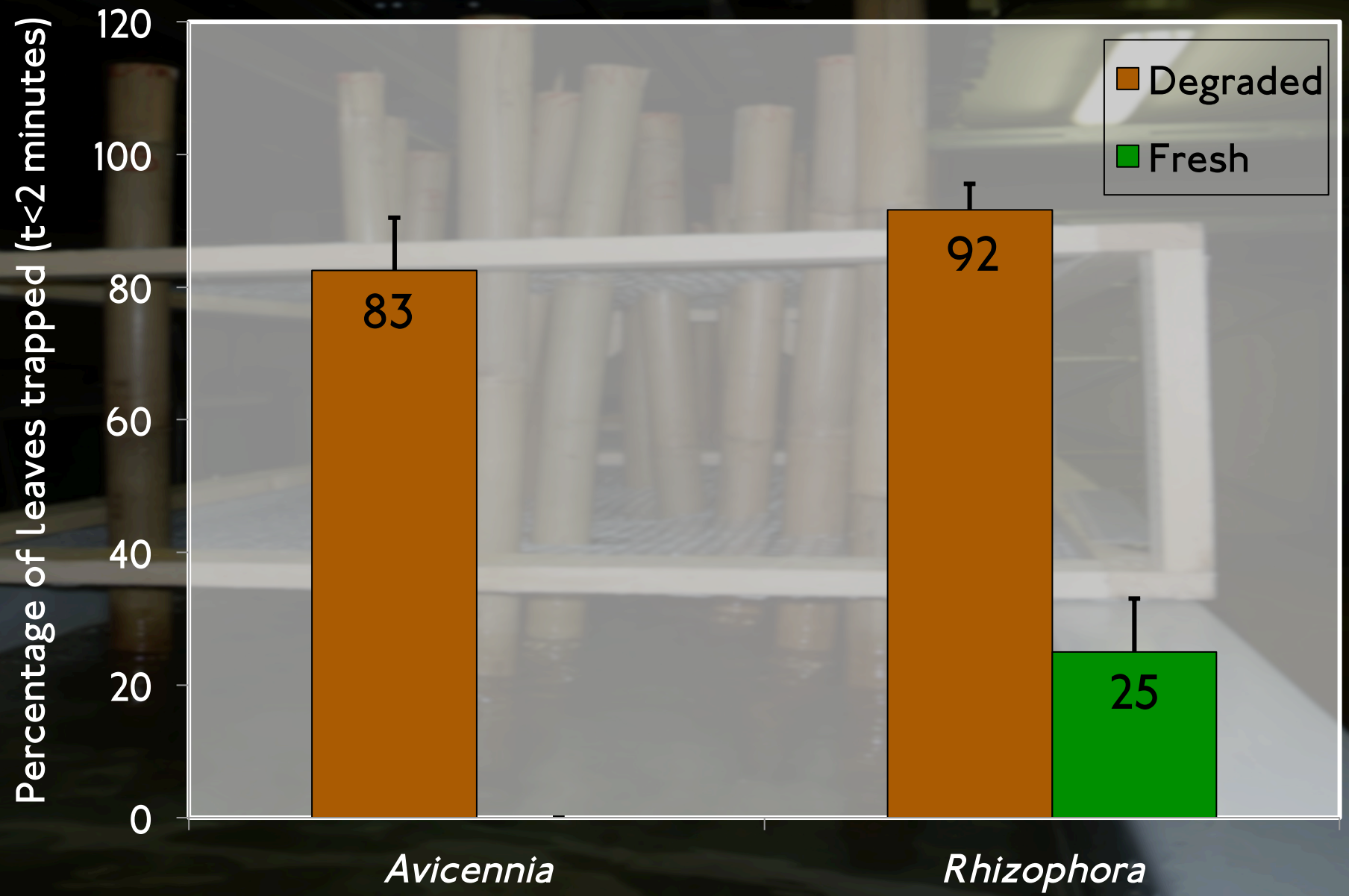
What did we measure?

- Trapping (t>2minutes)
- Total time of run (minutes)
- Average collision time (minutes)

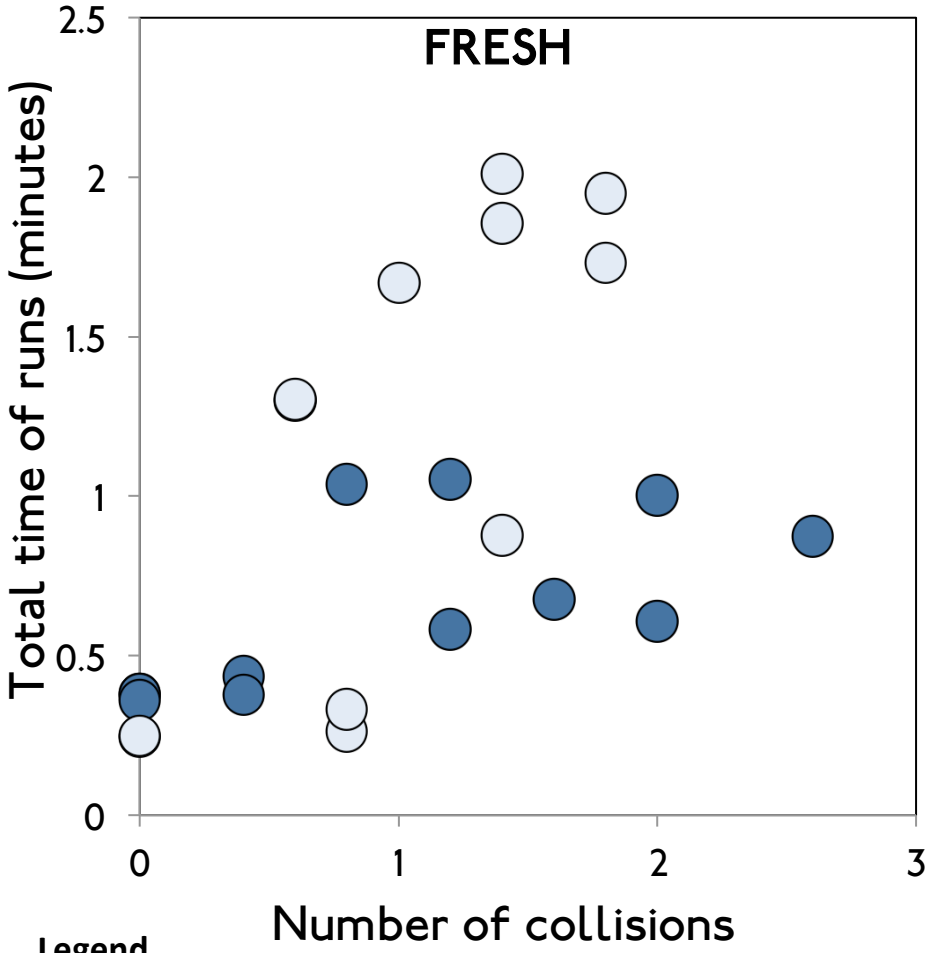
What did we measure?

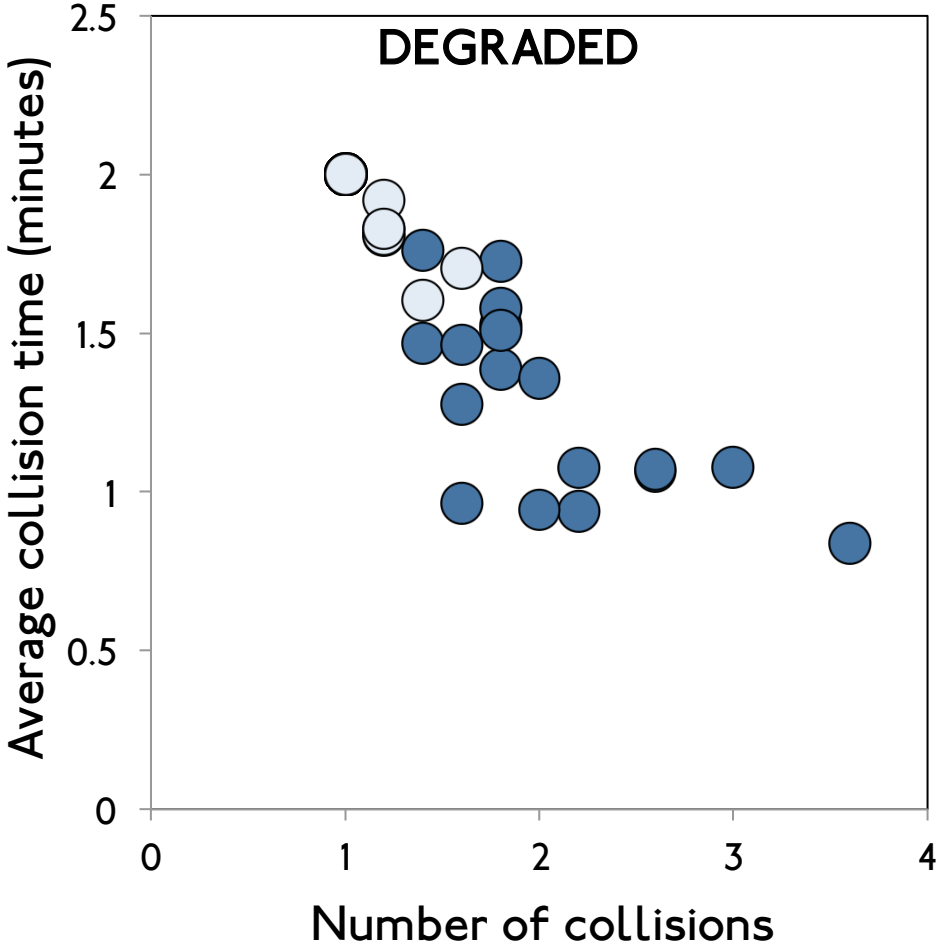
- Trapping (t>2minutes)
- Total time of run (minutes)
- Average collision time (minutes)
- Number of collisions

Trapping in Mangrove roots



Wave decreases time in roots

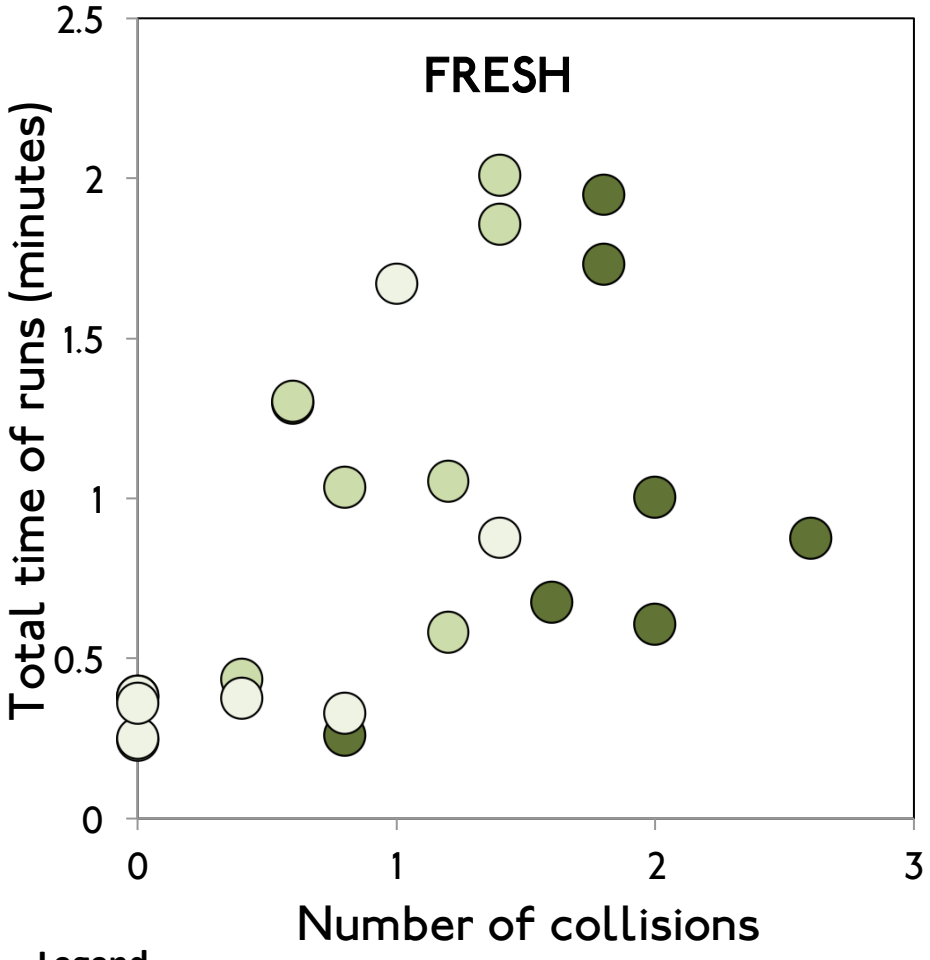


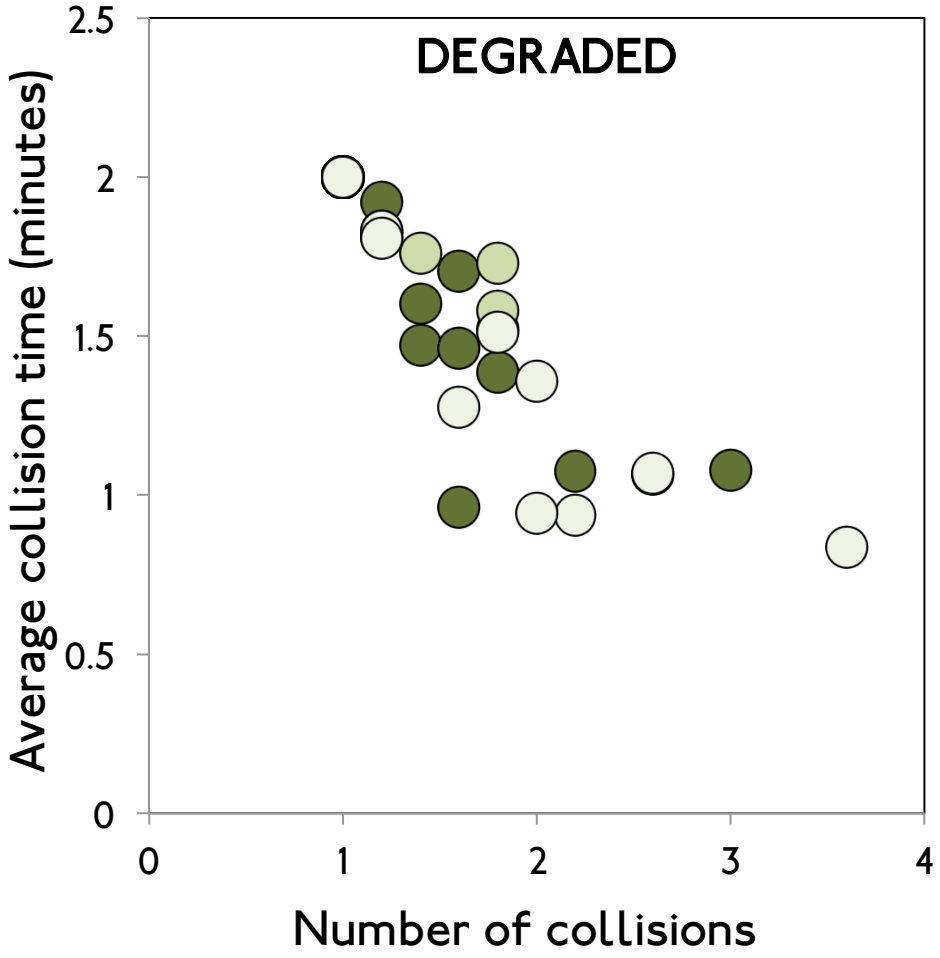


Legend

With wave Without wave

Leaf size increases time in roots

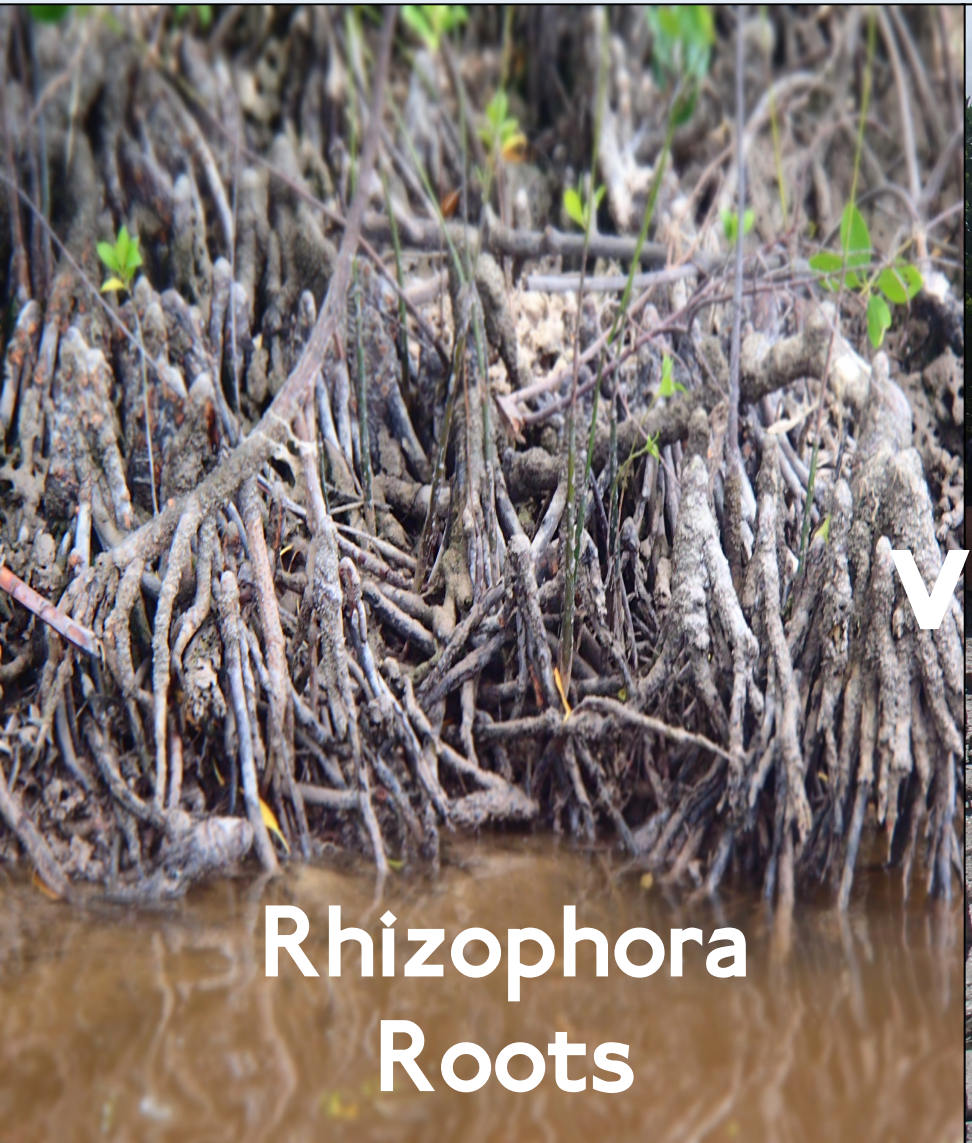




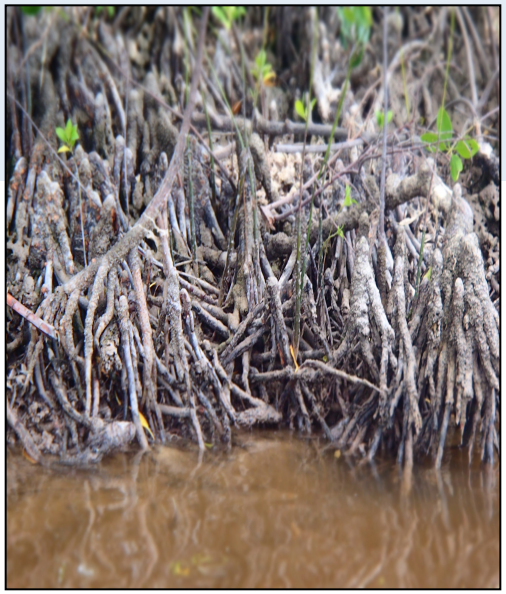
Legend

Whole leaf Half leaf Quarter leaf

Trapping efficiency…



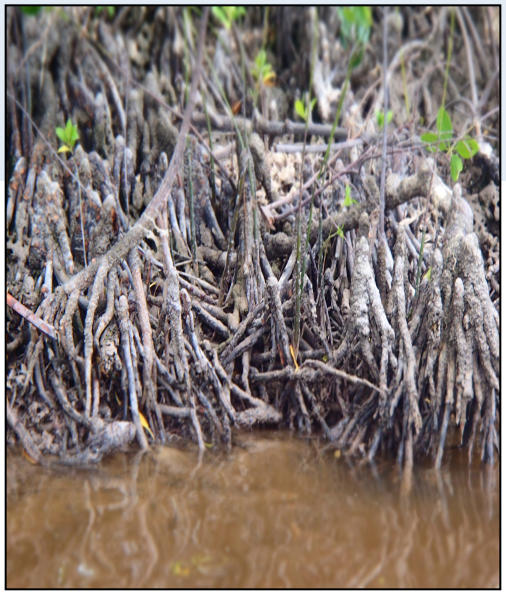
vs.



Most effective

Rhizophora Roots

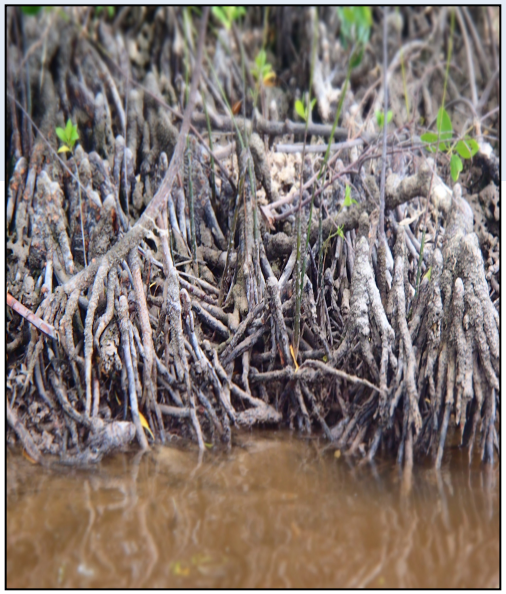
Most effective



Rhizophora Roots

BUT…other factors

Most effective



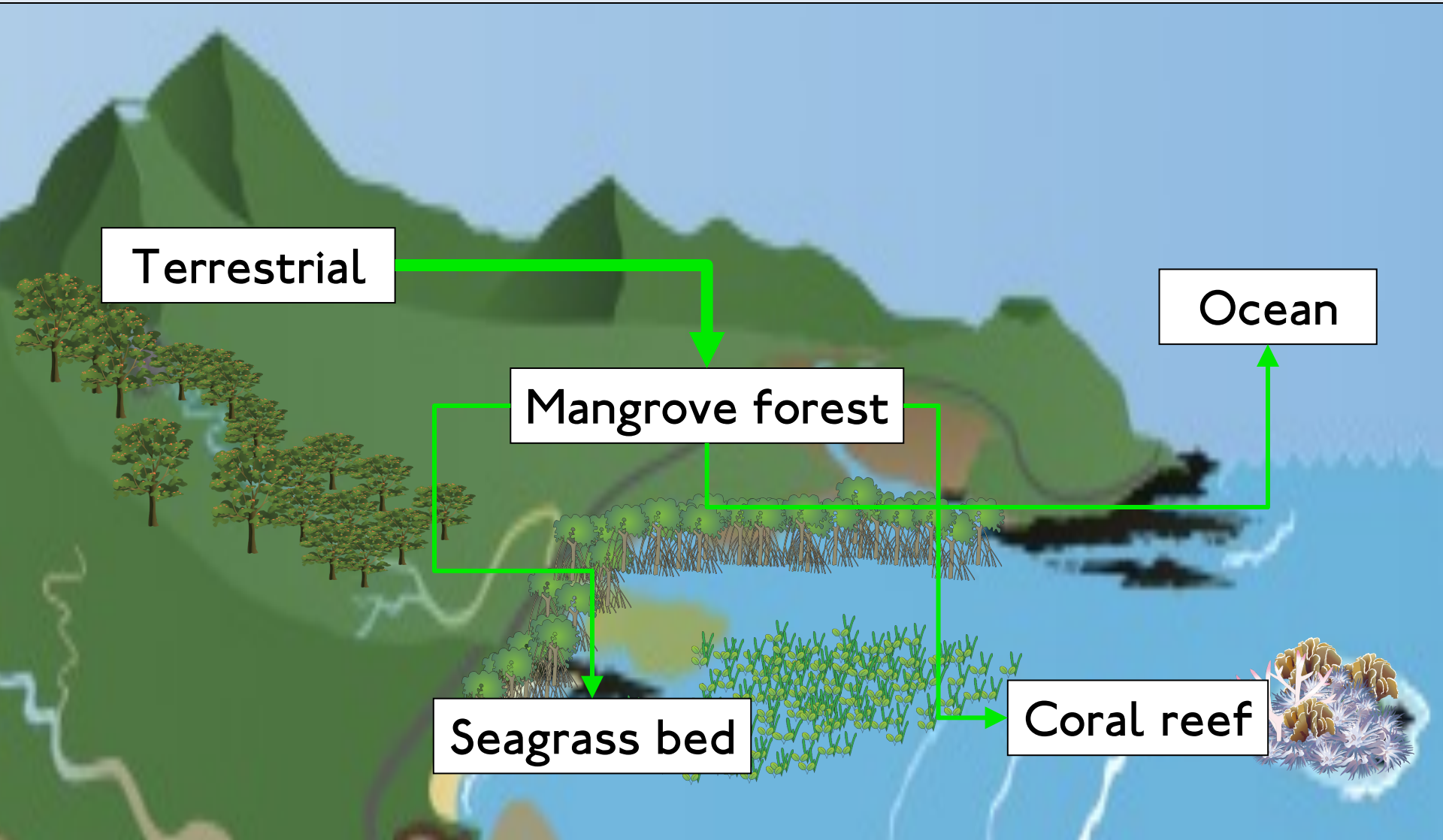
Rhizophora Roots

BUT…other factors

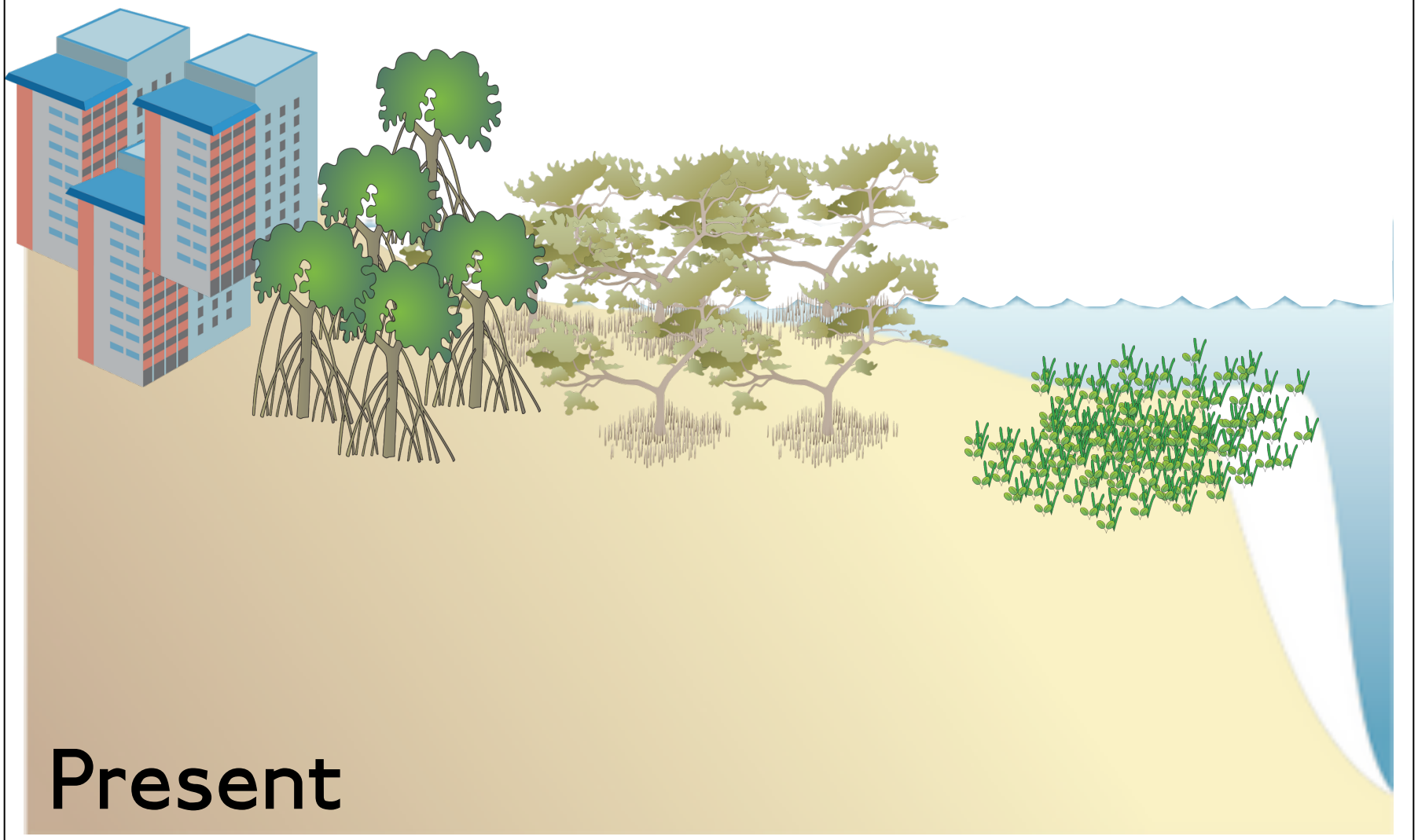
WAVES

LEAF TYPE

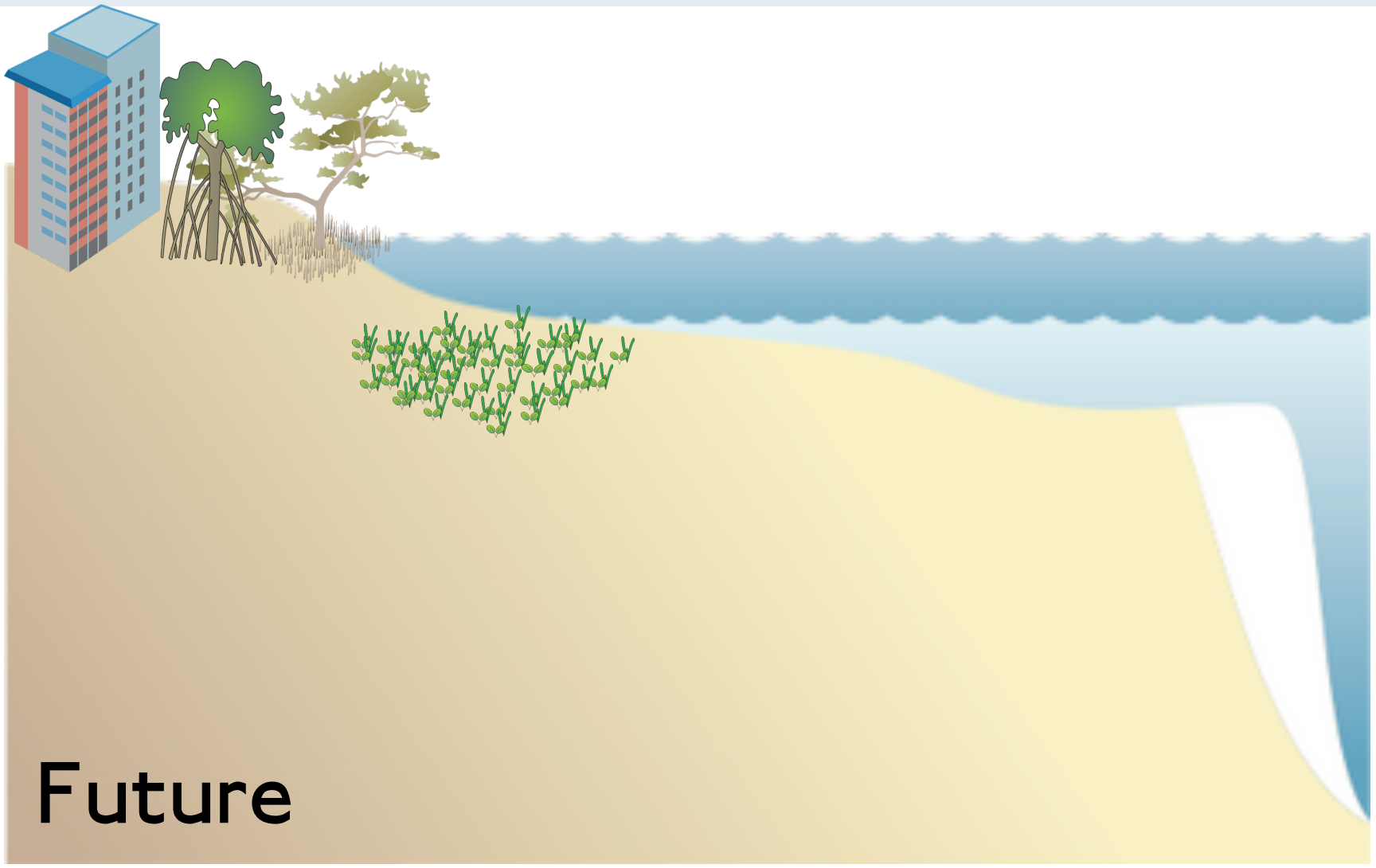
Implications for the tropical coastal seascape



Implications for climate change



Implications for climate change



Conservation and restoration

Thank you

z m t
bremen

NIOZ Royal Netherlands Institute for Sea Research