Potential alternatives to GAMs to estimate deterministic relationships

- Tools other than GAMs could be considered to estimate relationships between DO and relevant predictors

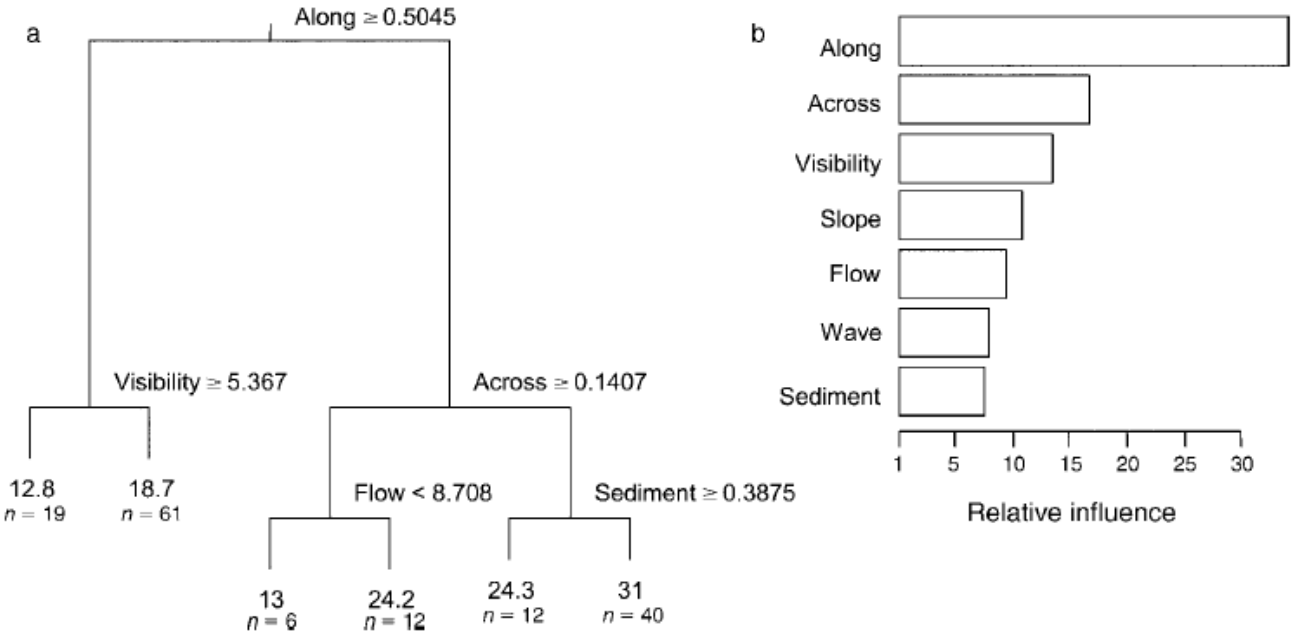
- Such tools should be able to capture complex, non-linear relationships and interactions among predictors while not being excessively prone to overfitting

- At this preliminary stage, we are open to explore different statistical tools, and **suggestions are most welcome**!

Example of potential alternative to GAMs: Boosted Regression Trees (BRTs)

Regression trees + Boosting

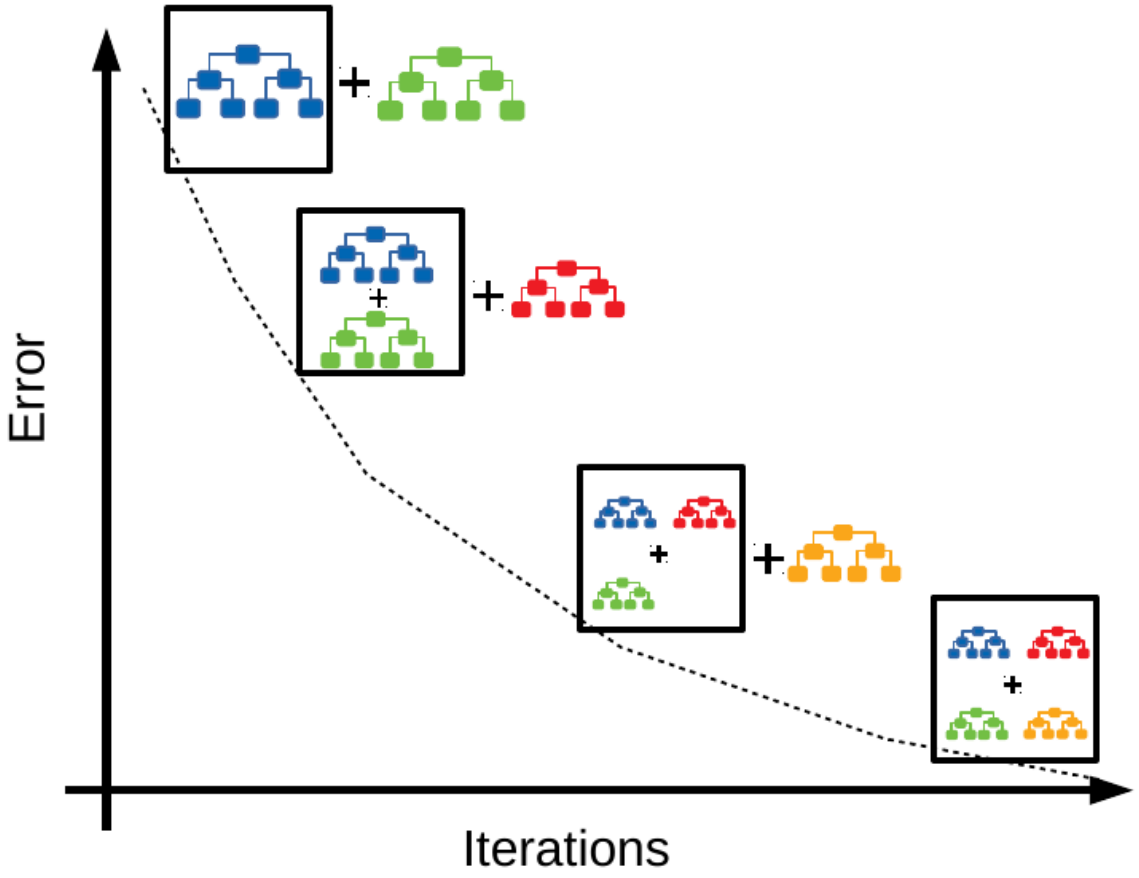
Relating coral species richness to physical predictors (sedimentation thickness, visibility, wave exposure, slope angle, and water flow rate) and spatial variables (relative distances across and along the coral reef)



D`eath, 2007

Example of potential alternative to GAMs: Boosted Regression Trees (BRTs)

Regression trees + **Boosting**



https://medium.com/swlh/

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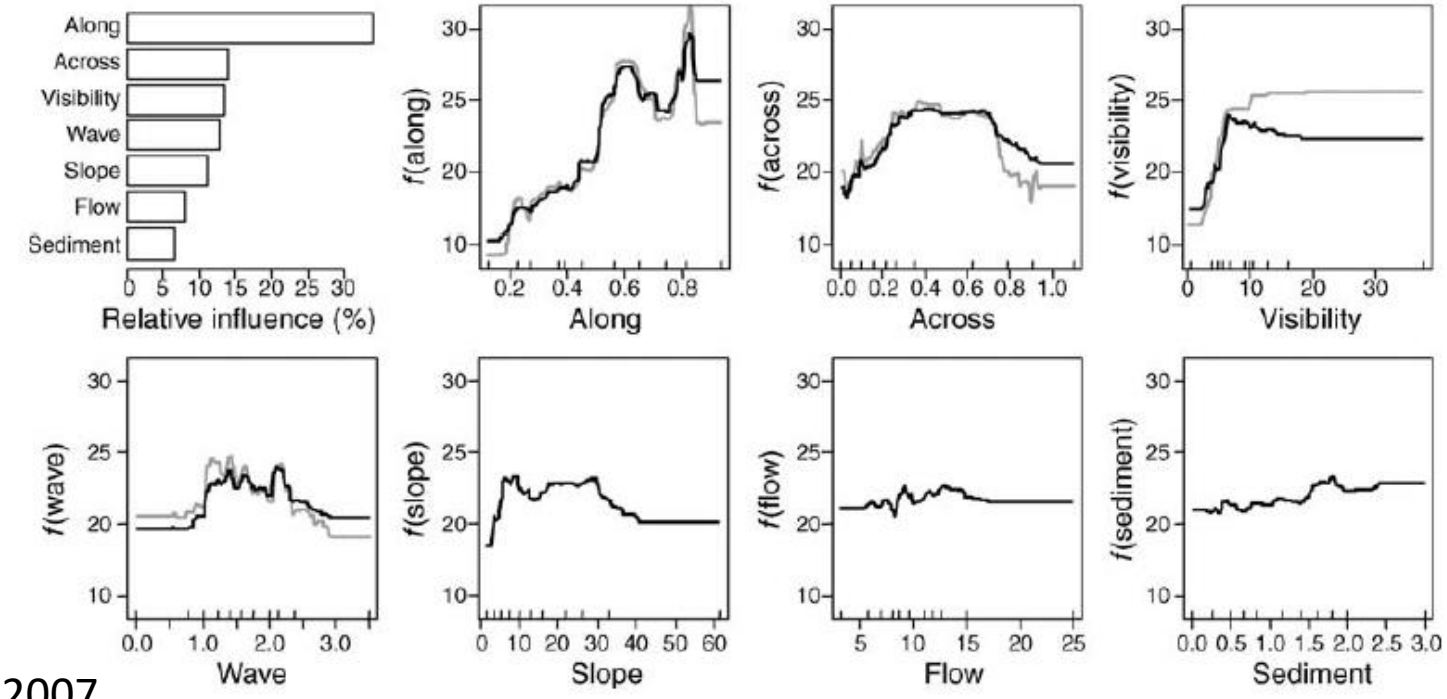

D`eath, 2007

Potential alternatives to GAMs to estimate deterministic relationships

- BRTs are just an example of a potential alternative to GAMs to estimate deterministic relationships
- BRTs or similar methods could also be used in combination with GAMs, e.g., to identify relevant predictors and functional forms to be then modeled within GAMs
- At this preliminary stage, we are open to explore different statistical tools, and **suggestions are most welcome**!