CART Trees and Random Forests - Jean-Michel POGGI
Master 2 Course in Statistics
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Guide for reading the paper:

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Bel, L., Allard, D., Laurent, J. M., Cheddadi, R., & Bar-Hen, A.
CART algorithm for spatial data: Application to environmental
and ecological data.
Computational Statistics & Data Analysis, 53(8), 3082-3093, 2009
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The idea is to produce a report (of 5 to 10 pages) presenting and discussing the paper given in reference. Please find below some suggestions.

1. The problem
1. Regression or classification?
2. Geostatistics or point processes approaches?

2. How to handle the spatial dependence to modify CART?
1. Drawbacks of the usual CART in this specific situation?
2. Summarize the two proposed approaches.
3. Discuss pros and cons.

3. CART variant implementations
1. Discuss the ways to implement the variants starting from a given implementation of CART
2. Compare the two methods on simulated dataset

4. Real data example
1. Problem presentation
2. Discuss the application of the different variants w.r.t. classical CART
3. Conclude from the ecological point of view

5. Discussion
1. Discuss the interest/contributions of this paper
2. Suggest some extensions to deal with spatial data from a different point of view (optional)