Preliminary assessment of spatial determinants of farmland abandonment in Rio de Janeiro State
Pedro de Castro, Rui Pedroso, Sven Lautenbach, Raúl Vicens

Definition
• Farmland abandonment refers to a widespread land use land cover change (LULCC) process whereby the farmland management is withdrawn (FAO, 2006).
• Particular relevance considering food security and environmental implications.
• Causes and local in different regions worldwide remain unclear.

Background

Methods
Logistic regression

\[
\log \left( \frac{P(Y=1)}{1-P(Y=1)} \right) = \beta_0 + \beta_1 Elevation + \beta_2 Distance_Roads + \beta_3 GeoEnvironmental + \beta_4 Average_Precipitation + \beta_5 Prec_Var,
\]

• Random sampling n=25,000 over the FA dataset.
• Variable in the model: hierarchical and best subsets method.
• Spatial autocorrelation analysis: Spatial Eigenvector Mapping (Doorman et al. 2007)
• The analysis was developed in the R environment.

Datasets

Conclusions
• Model explains very little (3%) of the variation on the outcome variable FA.
• A more robust definition of the variable farmland abandonment is being developed (paper in progress).
• The incorporation of other predictors is also part of the further analysis.

Acknowledgements
• The authors thank the DAAD and the Project CNRD for the 3 years of funding.