Landscape epidemiology in urban environments : the example of rodent-borne *Trypanosoma* in Niamey, Niger.

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Fig. S1. Location of the districts where rodents were sampled in Niamey. The map was created using the `R` package `Leaflet` (Cheng et al. 2017) (data : ©OpenStreetMap contributors). Reference : Joe Cheng, Bhaskar Karambelkar and Yihui Xie (2017). `leaflet` : Create Interactive Web Maps with the JavaScript `Leaflet` Library. R package version 1.1.0. `https://CRAN.R-project.org/package=leaflet`

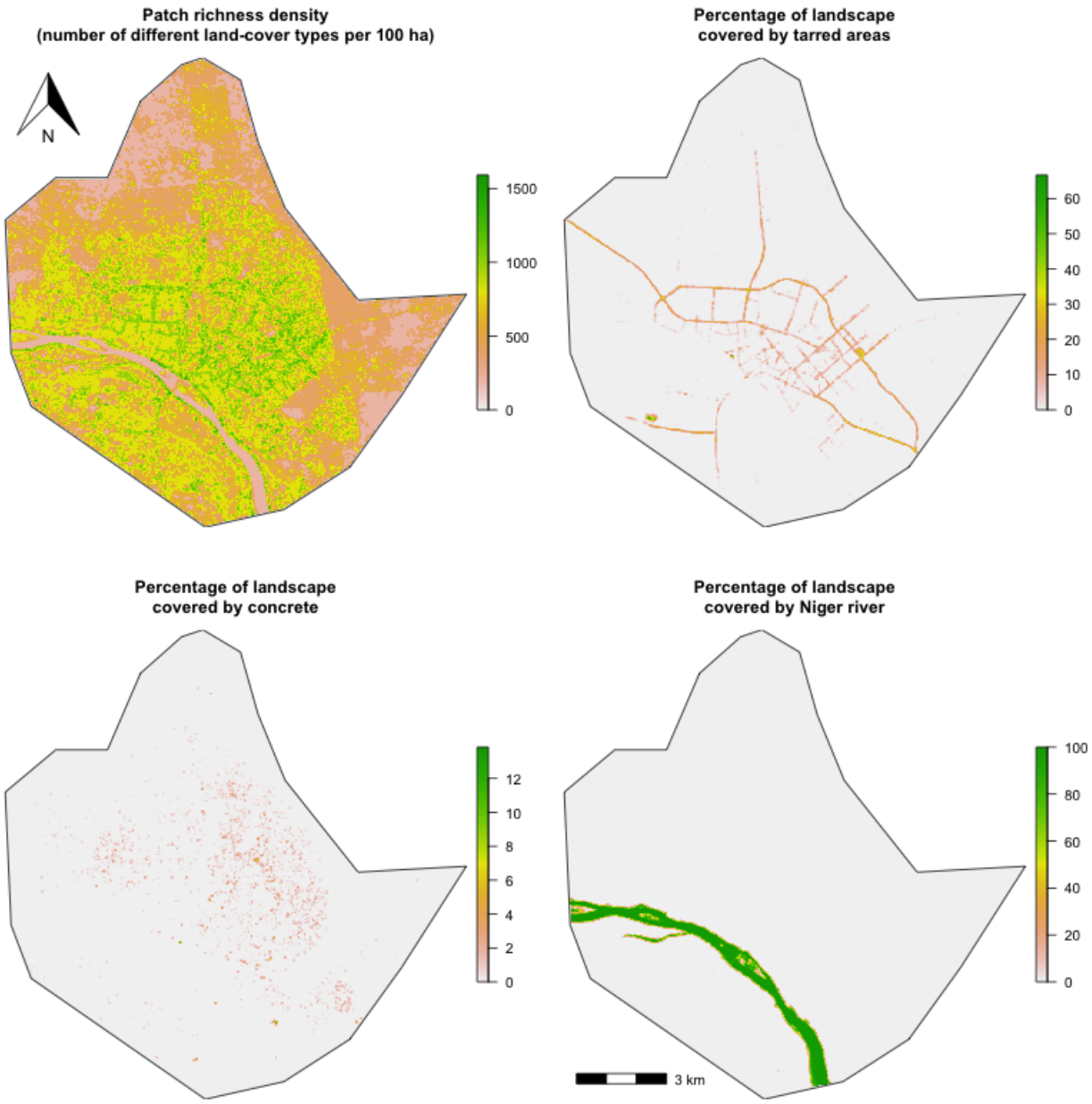

Fig. S2. Maps of 4 landscape metrics computed using a moving window strategy with a window corresponding to a circular buffer of 80 m radius. The patch richness density (PRD) measures the richness as the number of different land-cover types present in the window divided by the window area (m^2), multiplied by 10,000 and 100 to convert to 100 hectares. Unit : number of different land-cover types per 100 hectares. The percentage of landscape covered by tarred areas, concrete and the Niger River equals the sum of the areas (m^2) covered by these land-covers divided by the window area (m^2), multiplied by 100 to convert to a percentage. Unit : percent.

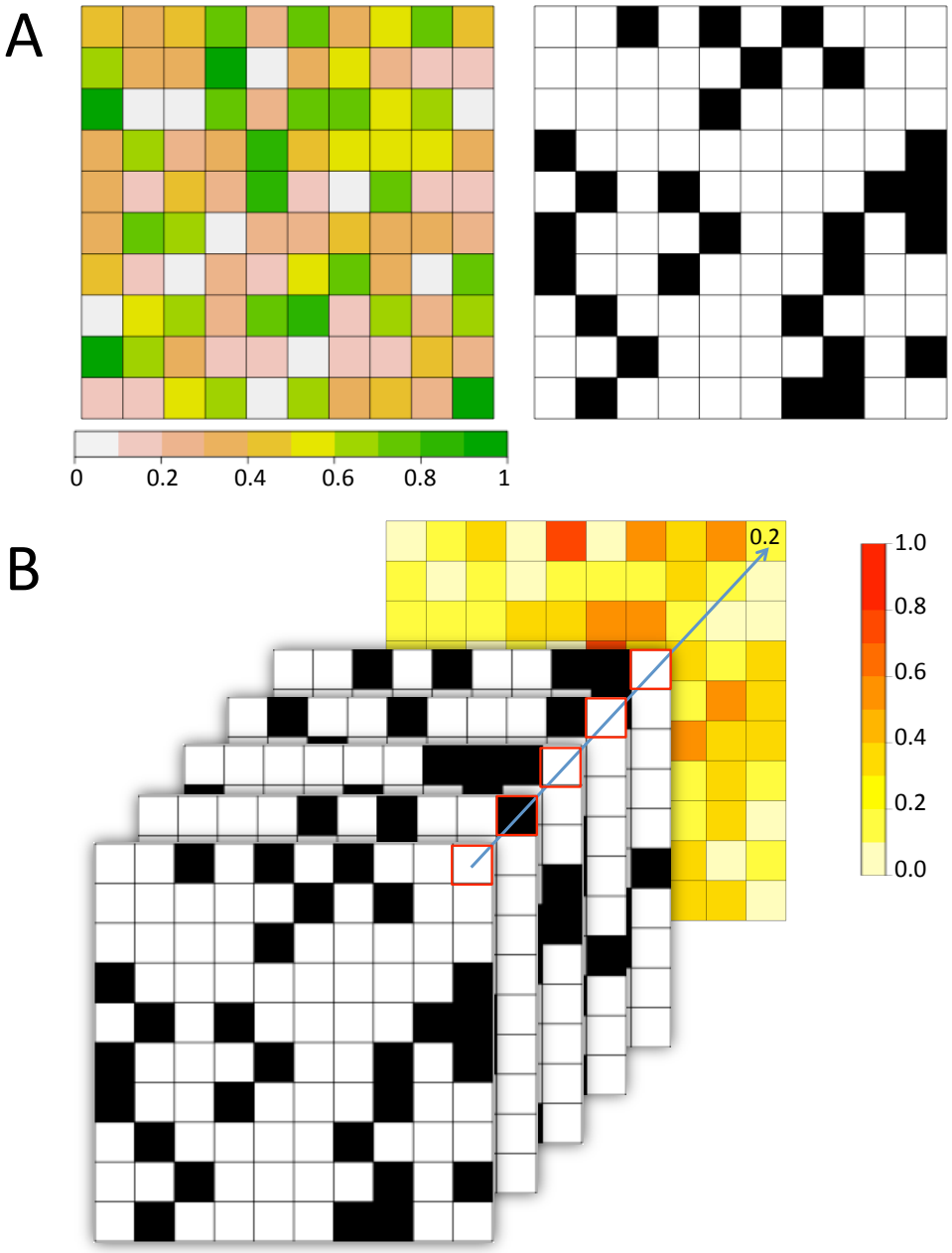

Fig. S3. Illustration of the procedure used to combine the logistic outputs of a set of N Maxent models. Each model is fitted using a random subset of 80% of the available data while the remaining 20% are used for evaluation. Repeating the procedure N times will lead to slightly different outputs because each dataset results from a random subset. When the available dataset is small, the discrepancy between models' output might increase and a statistical approach could be helpful to summarize the results. We illustrate here how we dealt with that question. A fictive logistic output of Maxent (A, left) is transformed into a presence/absence map on the basis of an arbitrary threshold of 0.75 (A, right). If we repeat the procedure $N = 5$ times we obtain 5 binary outputs (B). We summarize these maps by computing the frequency of presences for each pixels. For example, considering the pixels at the top right of the map, we have 4 binary maps predicting absence and one predicting presence leading to a frequency of 0.20. The resulting frequency map summarizes the outputs of the N models.

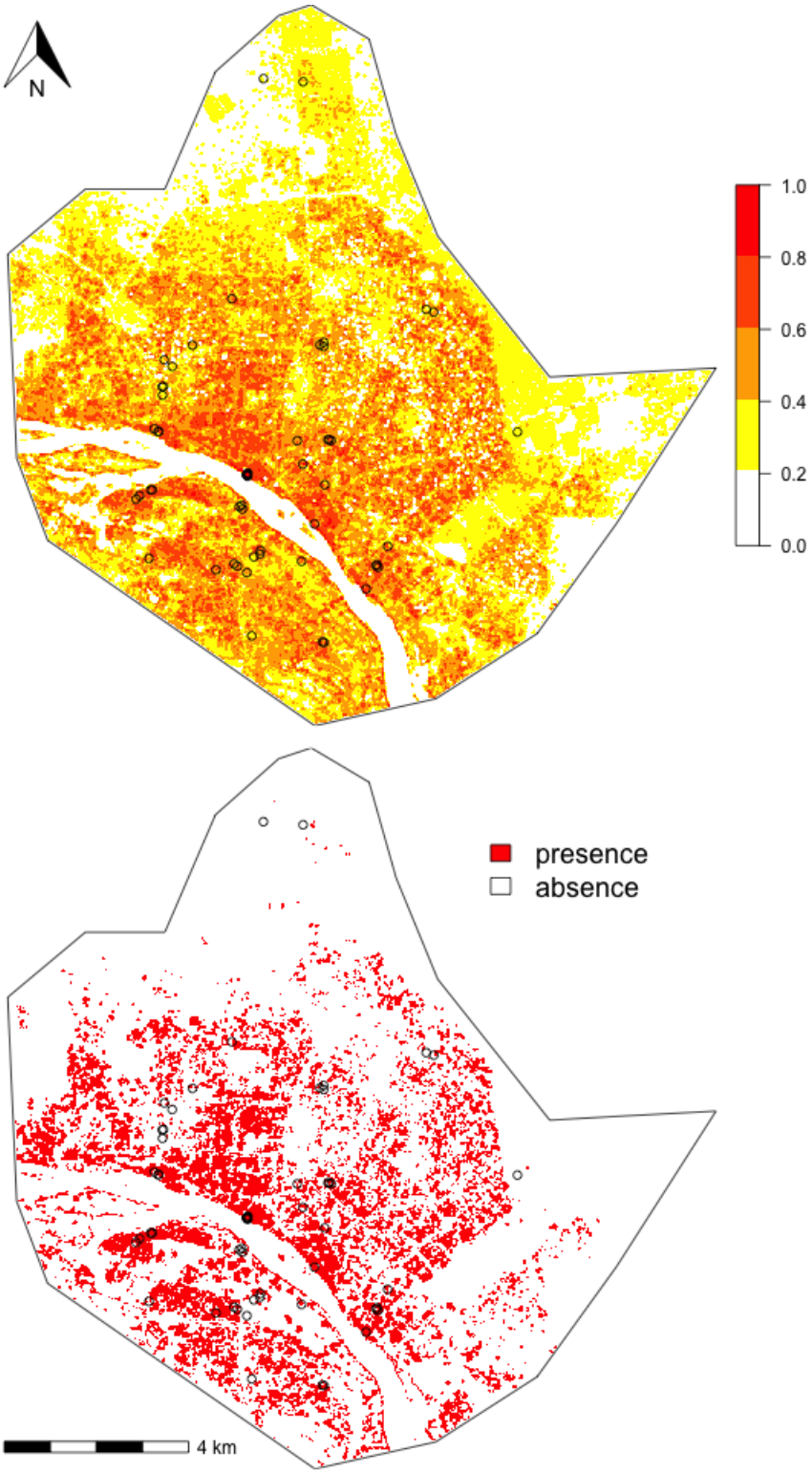

Fig. S4. An example of Maxent model linking local landscape metrics (measured over circular buffers of 80 m radius) and the occurrences of *Trypanosoma*-positive rodents in the city of Niamey (Niger). The AUC value is 0.83. Top : logistic output of Maxent depicting the citywide habitat suitability for *Trypanosoma*-positive rodents. Bottom : binary output derived from the threshold maximizing both specificity and sensitivity. Open circles indicate sampling locations where *Trypanosoma*-positive rodents were recorded.

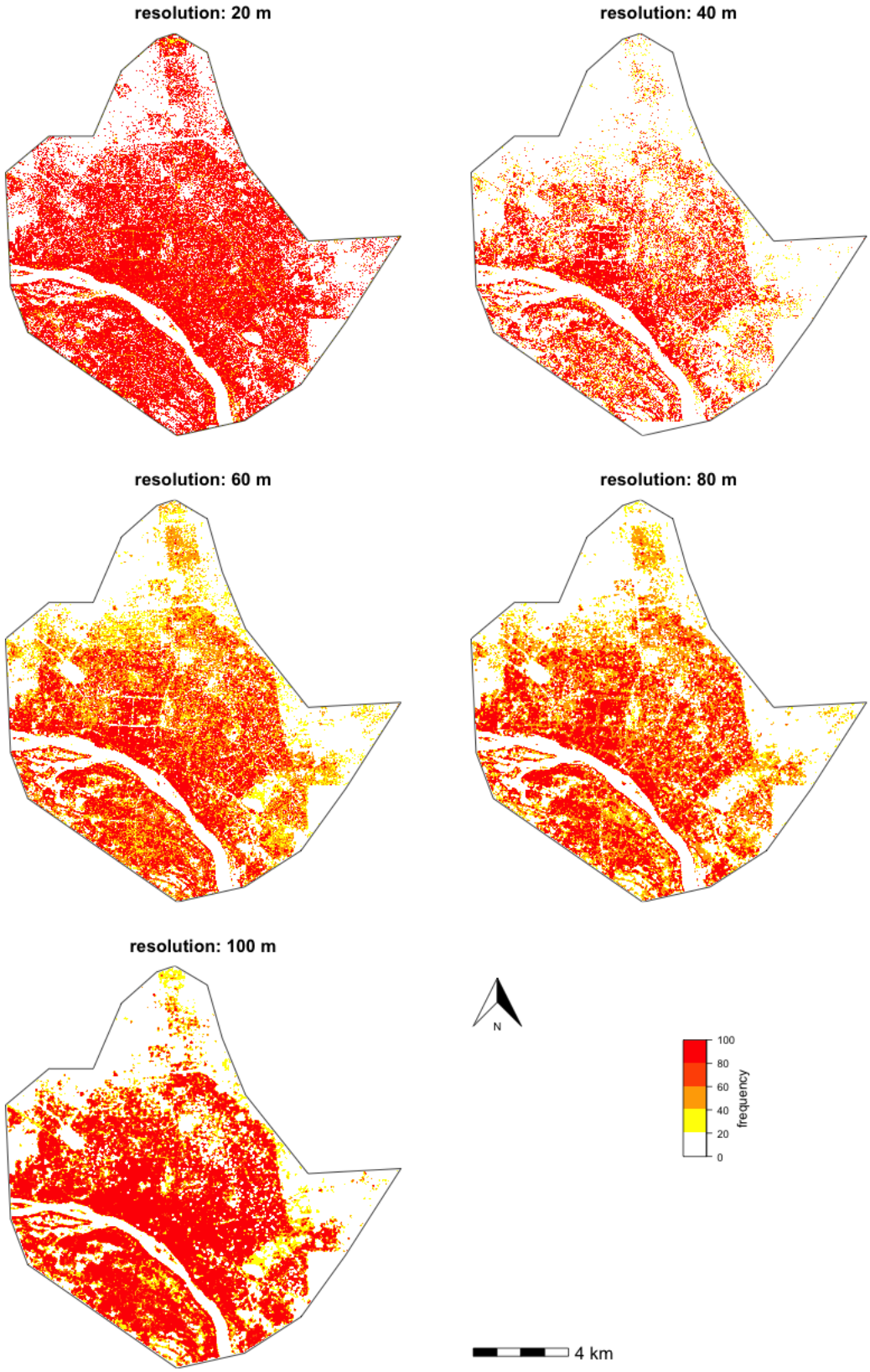

Fig. S5. Map of the frequency of Maxent models predicting a given pixel as suitable for the *Trypanosoma*-positive rodents according to a threshold maximizing both specificity and sensitivity (see Figure S3). Buffer sizes of 20, 40, 60, 80 and 100 m are considered.

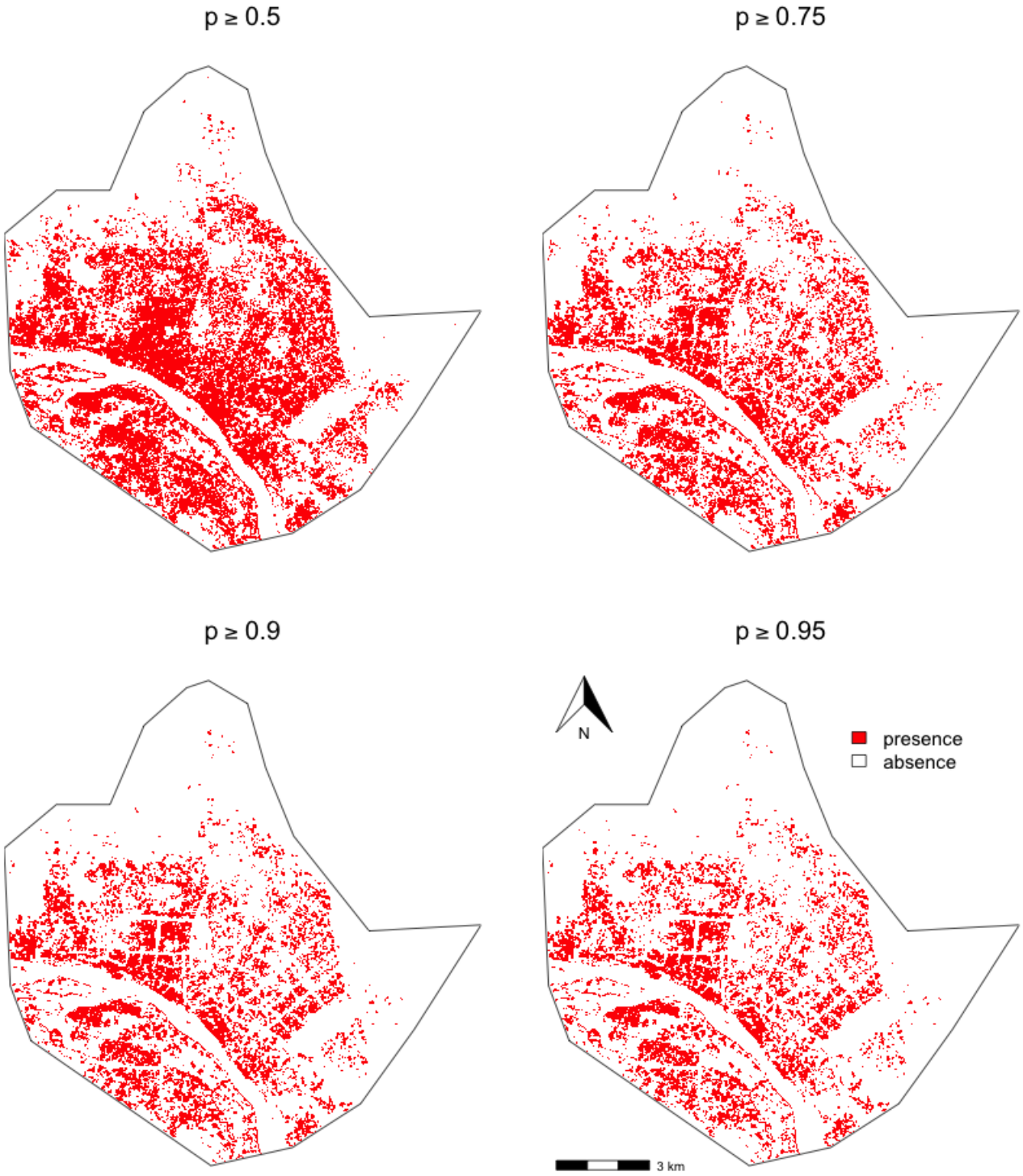

Fig. S6. Binary maps showing pixels (in red) predicted as suitable for the *Trypanosoma*-positive rodents in a proportion p of the 350 Maxent models linking the presence of the pathogen to a set of landscape metrics. Four values of p are considered : 0.5, 0.75, 0.90 and 0.95. The analysis is based on local landscapes corresponding to circular buffers of 80 m radius.