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2018
ISTANBUL

Presented at the FIG Congress 2018
May 6-11, 2018 in Istanbul, Turkey

XXVI FIG CONGRESS

8-11 May 2018, İstanbul

The Influence of Land Use Planning on Disaster Risk Due to Natural Hazards: Bogotá, Case of Study

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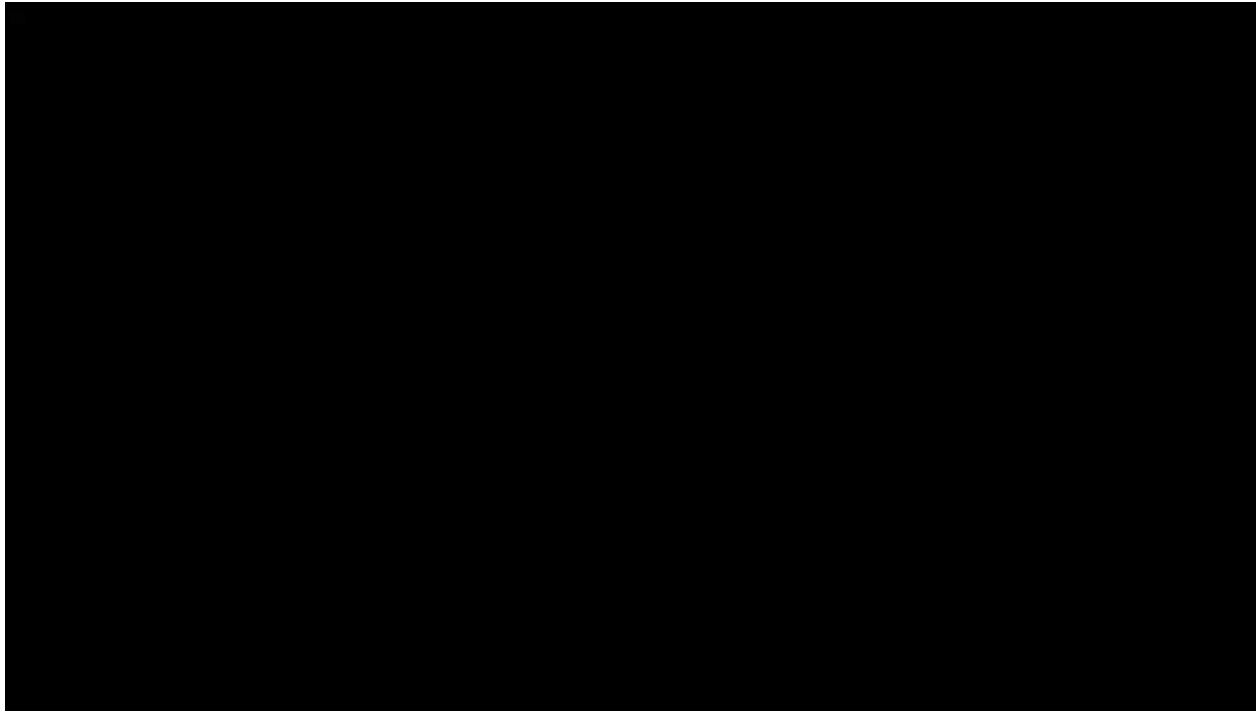


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CASE STUDY: BOGOTÁ

Bogotá is in constant growth both spatially and in term of its population, the question we must ask is: is it growing in a correct way?



- High population density
- High Mixture of Land Use
- 20% → Illegal origin
- 2004's "POT"

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METHODOLOGY AND PRACTICAL APPLICATION



Spatial Decision Support System
(SDSS) for urban and regional
planning applications

Inputs 2006's Land Uses

Aptitude

Zoning

Infrastructure

Accessibility

Neighborhood curves

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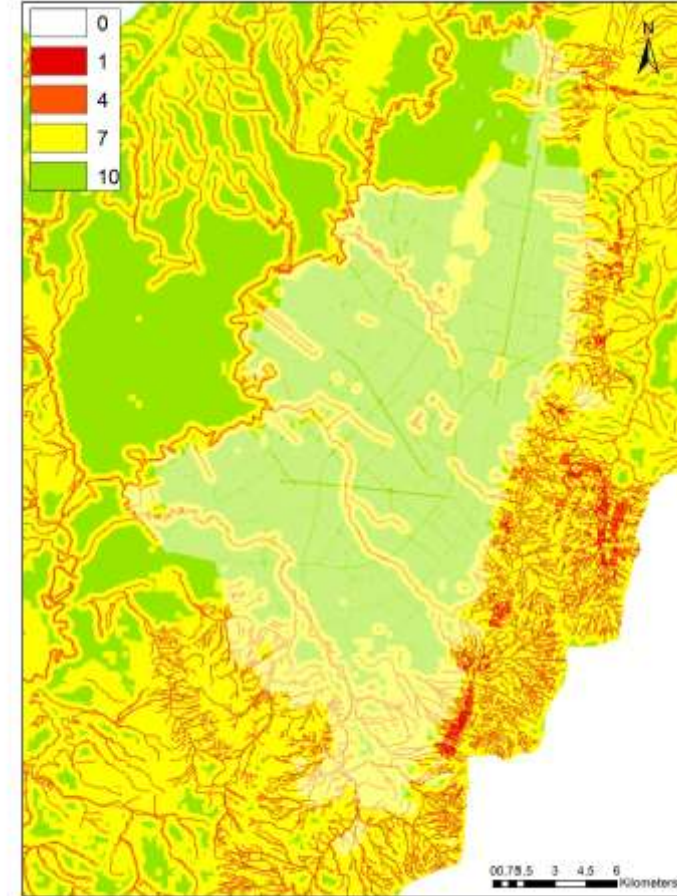
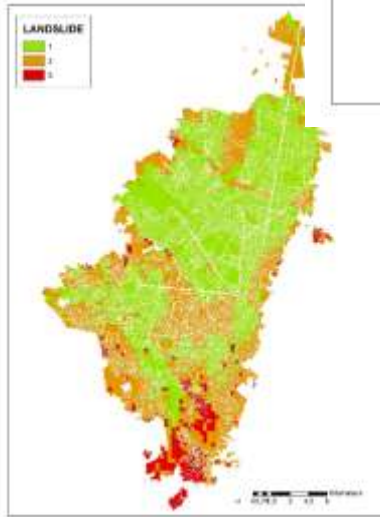
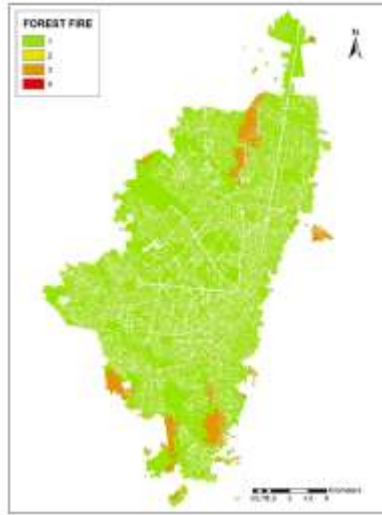
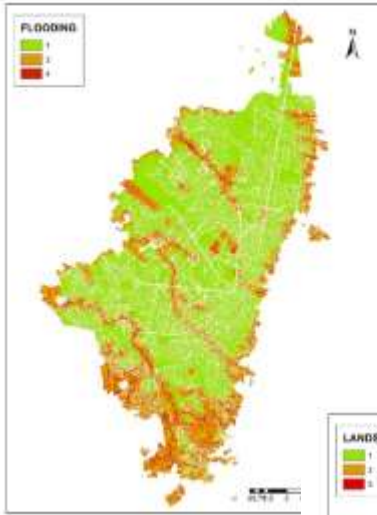
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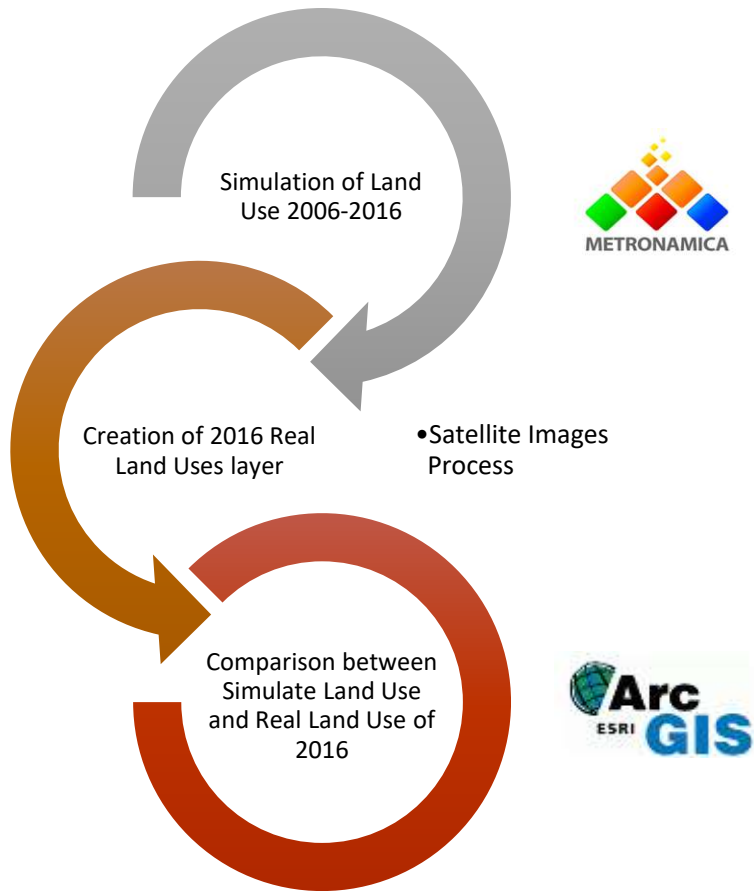
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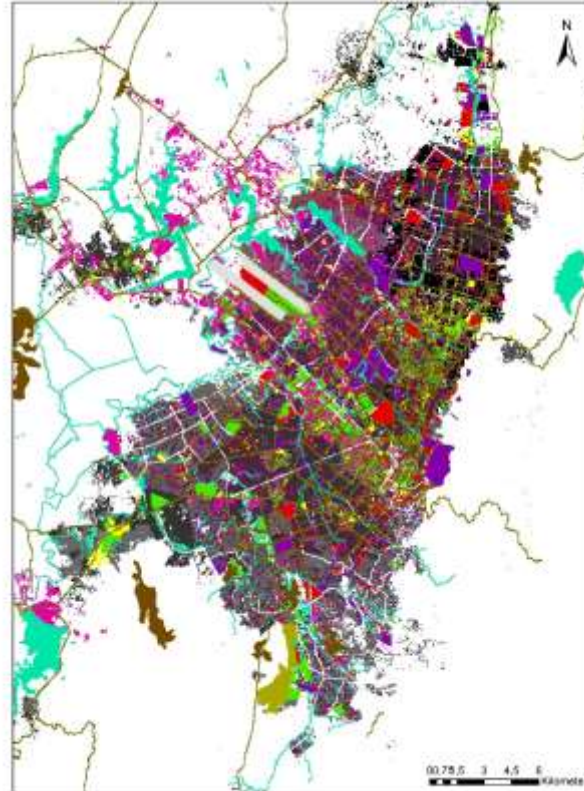
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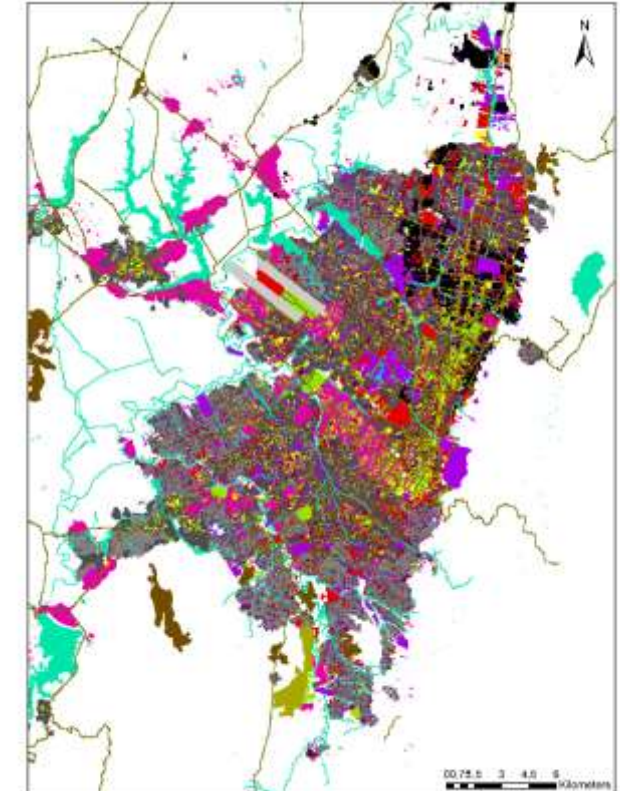
METHODOLOGY AND PRACTICAL APPLICATION



Real Land Use of 2016



Simulated Land Use of 2016



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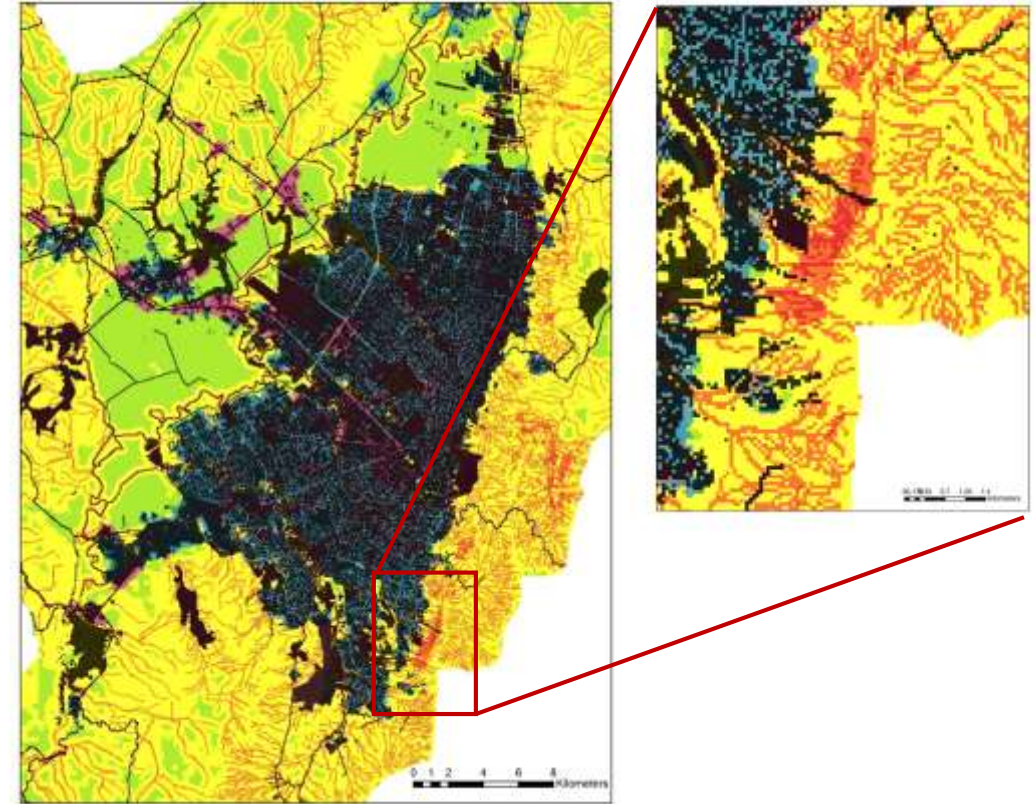
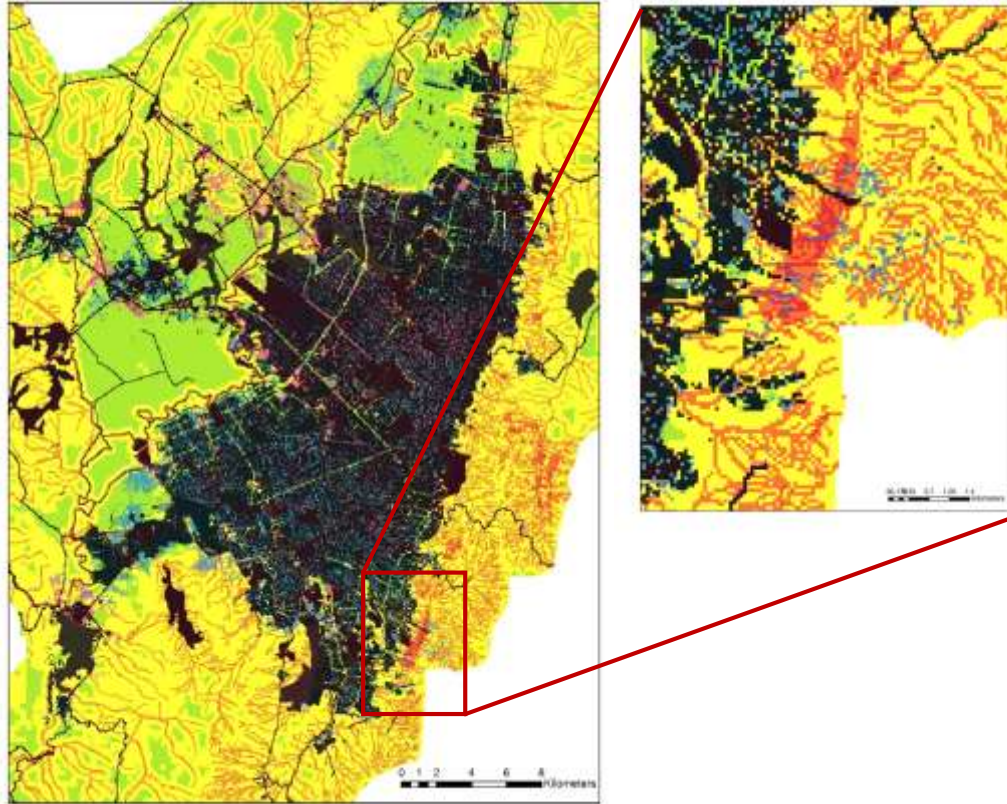
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ANALYSIS AND RESULTS

Real Land Use of 2016

Simulated Land Use of 2016



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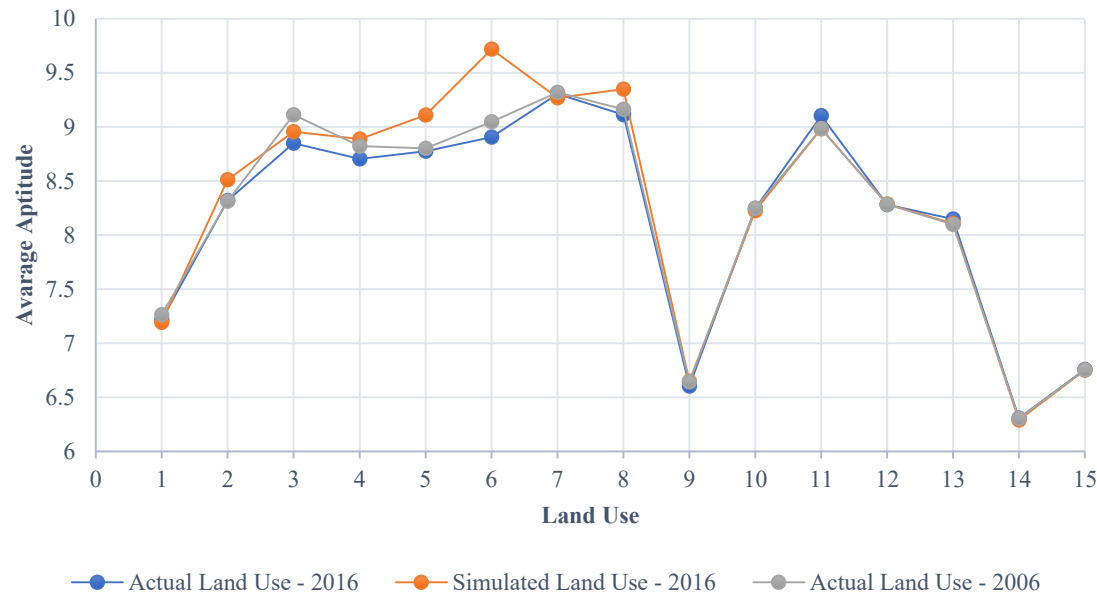


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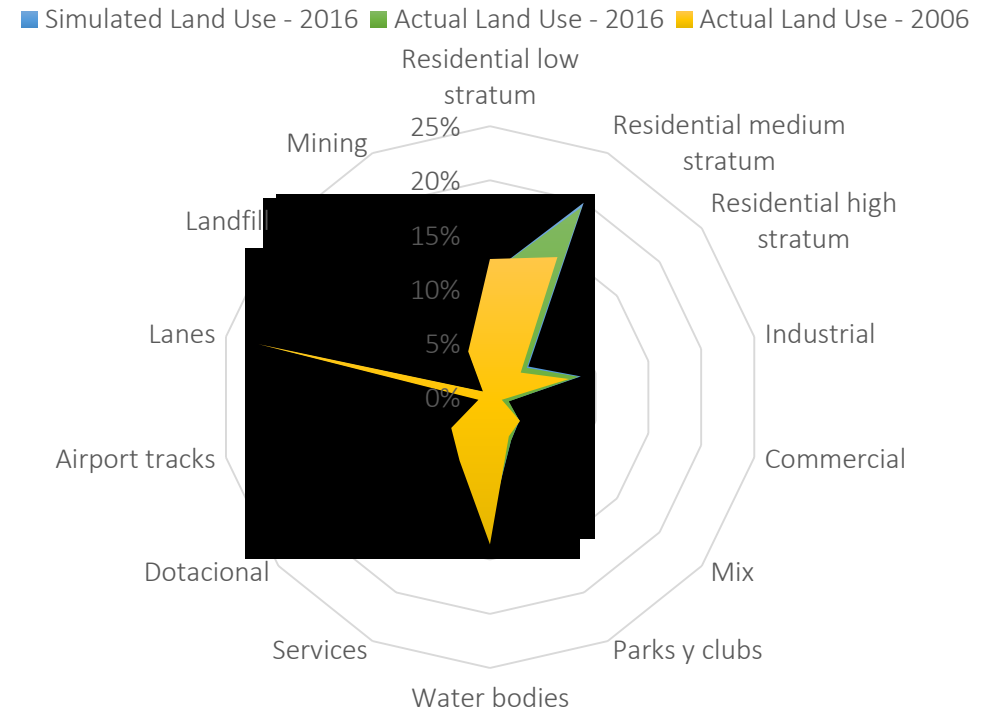
ANALYSIS AND RESULTS

Average Aptitude per Land Use



1	Available
2	Residential low stratum
3	Residential medium stratum
4	Residential high stratum
5	Industrial
6	Commercial
7	Mix
8	Parks y clubs
9	Water bodies
10	Services
11	Dotacional
12	Airport tracks
13	Lanes
14	Landfill
15	Mining

Occupied Area per Land Use



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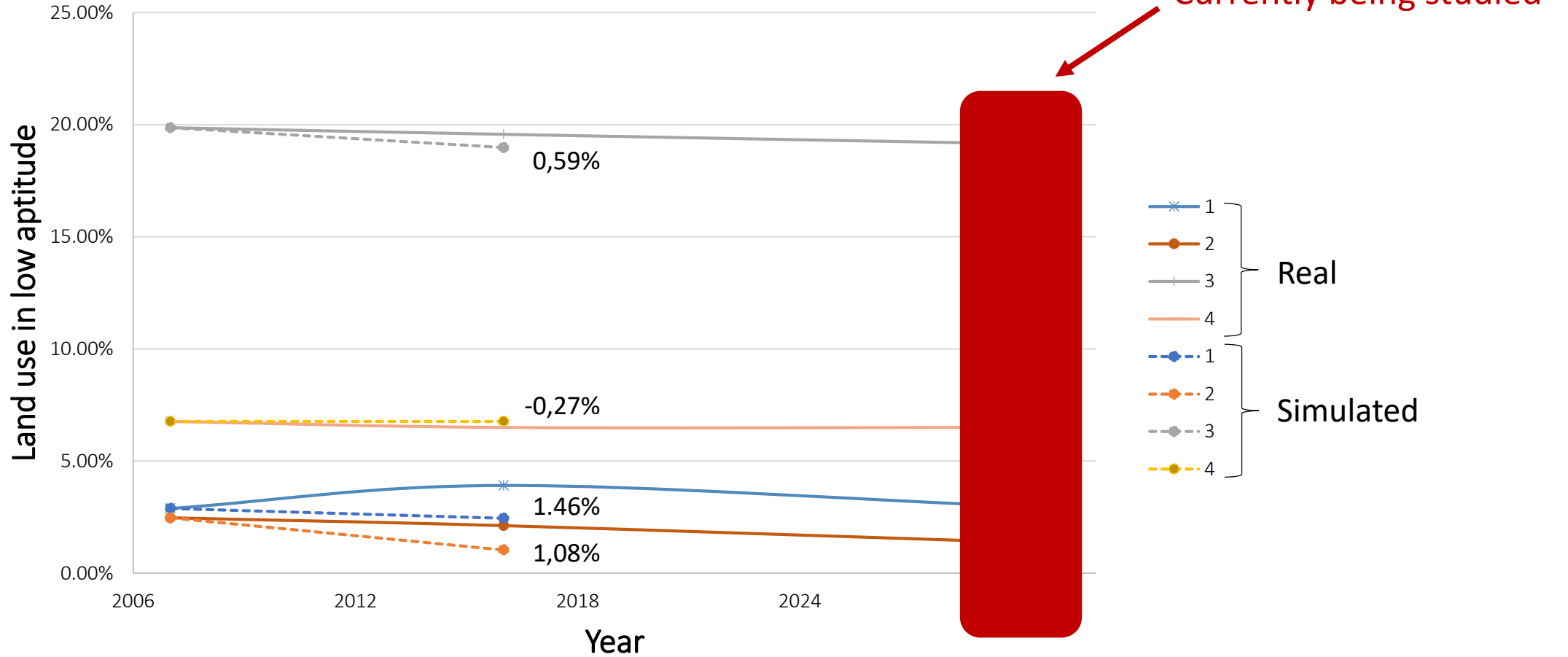


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PRELIMINARY FURTHER RESULTS

Aptitude (Exposure)



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CONCLUSIONS AND RECOMMENDATIONS

- Residential use area is increasing more than the other uses, and people is settling down into high hazard areas.
- It is expected that with the new version of the POT, the distribution of exposure decreases, or at least keeps at the same level trough time
- Tools like Metronamica and ArcGIS are fundamental for this kind of studies, since mapping both the information of hazard and exposition can support decision takers and policy makers on where and how to locate and distribute human settlements.
- Residential Land Use is poorly controlled and regulated. It is recommendable that more than one entity controls this, just as in the other uses.

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