User Forum for Sustainability Impact Assessment Tools
Land Use Policy: Risk, Transparency and Integration

Sustainability Impact Assessment of Land Use Changes in Mercosur Countries: SIAT Mercosur development

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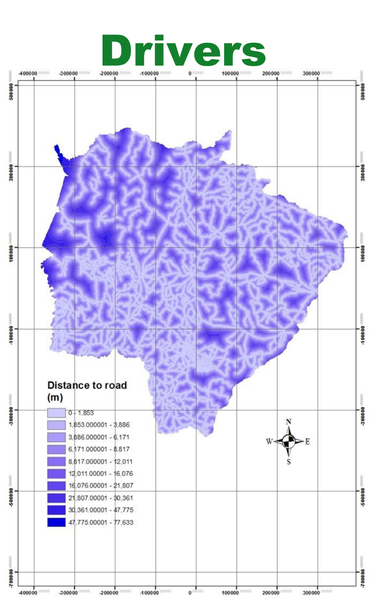
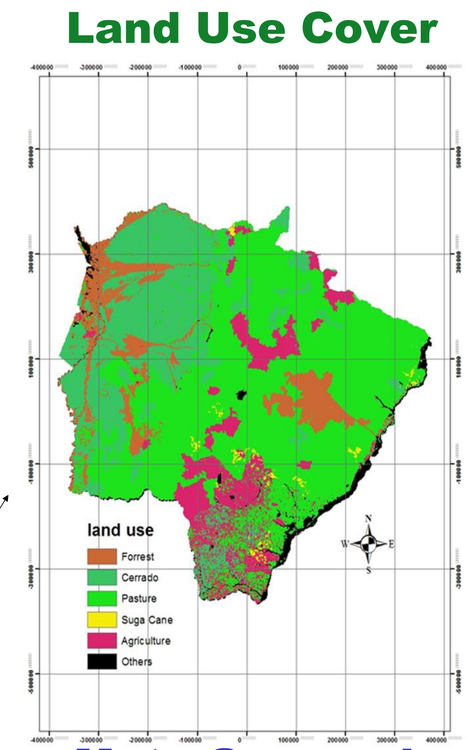
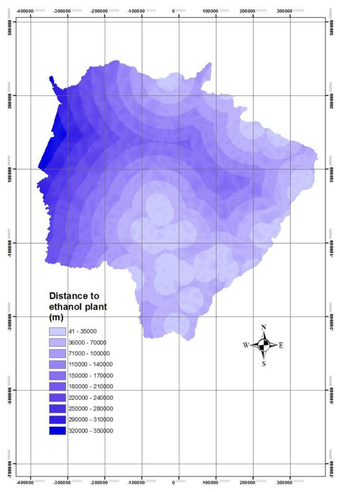
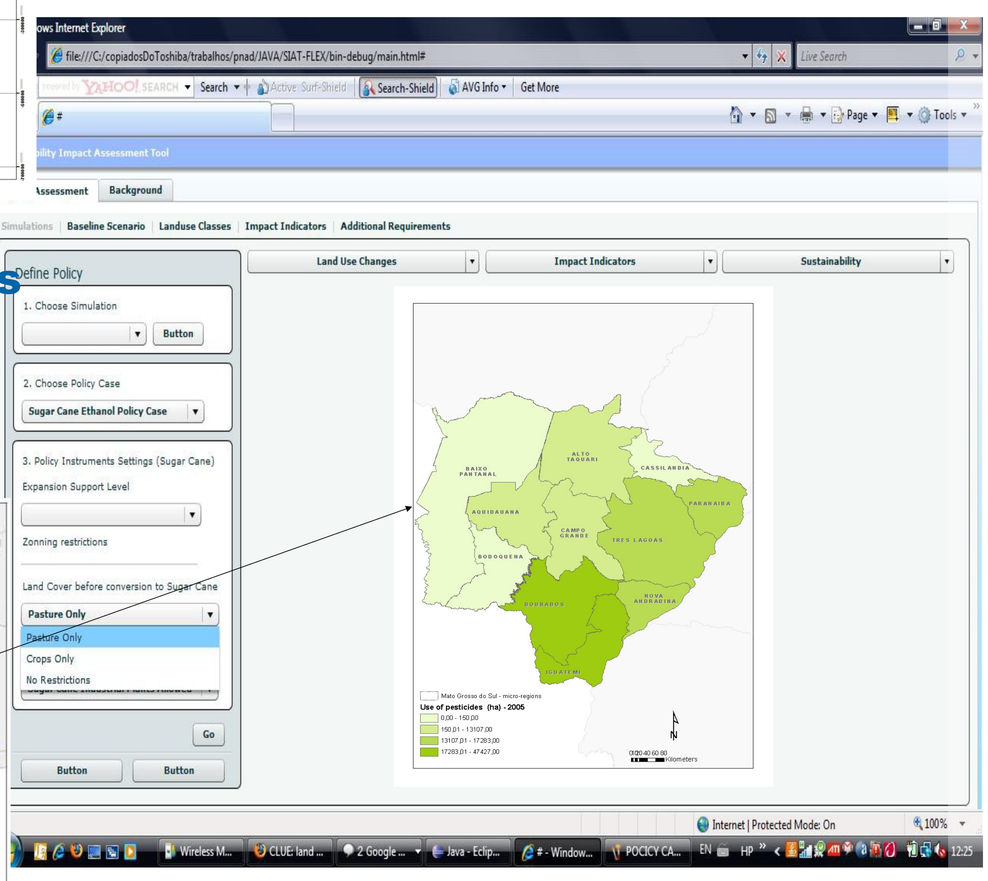


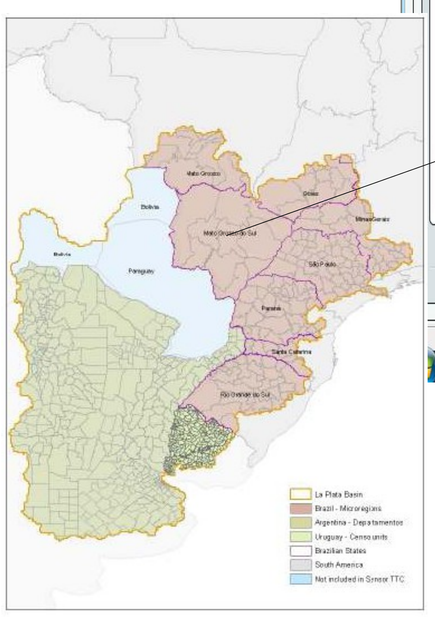




CLUE-S

SIAT MERCOSUR





Background and Objective

The La Plata River Basin, the second largest in South America, is contained in countries that, except for Bolivia, are members of the Mercosur, the South Common Market (Argentina, Brazil, Paraguay, and Uruguay). It was therefore considered the ideal case study to test the transferability of the Sensor approach. The Mercosur team selected two policy cases to be developed, "expansion of sugarcane crops in the State of Mato Grosso do Sul" and "expansion of afforestation in the La Plata River Basin (LPB)". The former was chosen for the development of the first prototype of Mercosur´s "Sustainability Impact Assessment Tool (SIAT)".

Main Results

- The SIAT Mercosur prototype was created, including an user interface, an intercative database, and a land use modelling system
- Policy option sugarcane:
  - expansion would be allowed in areas previously occupied by pastures and annual crops, or solely by the former.
  - expansion through the Paraguay River Basin would be allowed.
- Spatial modelling (CLUE-S) simulated land occupancy in 2018.
- A knowledge rule was created to simulate the indicator value ("pesticide use") associated with the resulting sugarcane land use claim in each micro-region.
- More indicators, along with their functions or knowledge rules, should be implemented into the SIAT Mercosur, so as to allow for an effective sustainability impact assessment.

References

- Martorano et al. (2008) Comparative report on the design of the SIAT-MERCOSUR including scenario assessments. Deliverable 8.4.1b. Sensor Project.
- Turetta et al. (2009) TTC input maps for SIAT-TTC providing indicator assessment results and thresholds making reference to Land Use Functions. Deliverable 8.3.3b. Sensor Project

Transferability constraints

- lack of sustainability impact indicators and regional models
- lack of common policies among Mercosur member states
- lack of tradition in performing SIA

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