

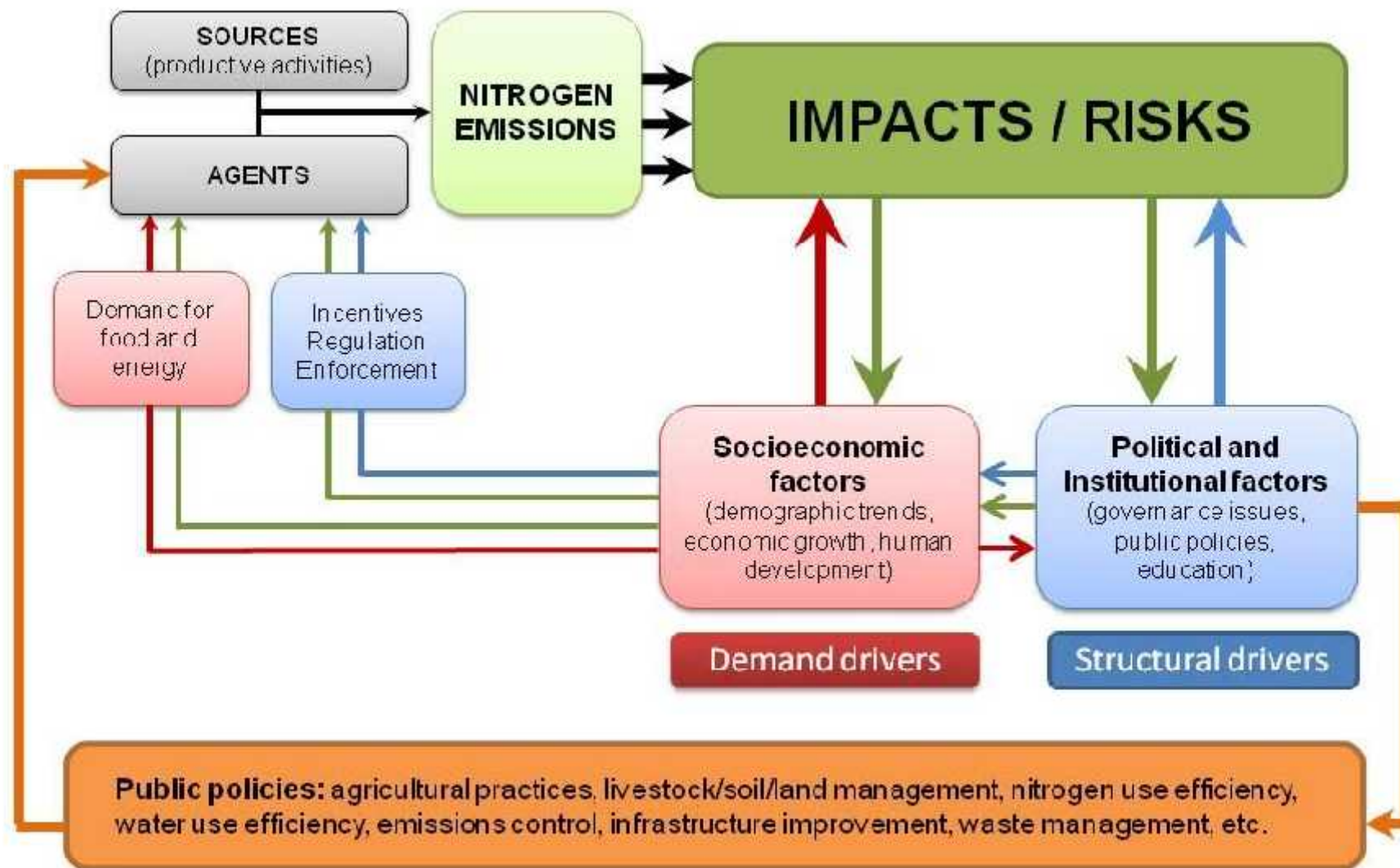
Towards  
**INMS**



# NITROGEN BUDGET IN SOUTH AMERICA: OBSERVATION AND MODELING

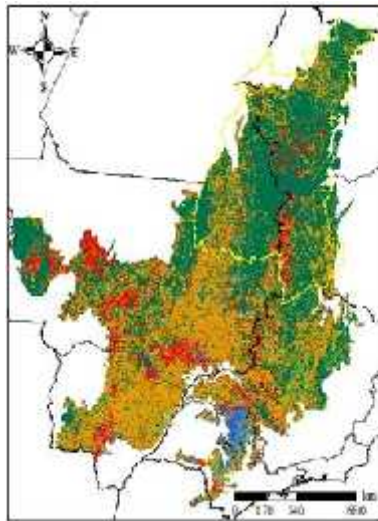
Jean Pierre Ometto  
Gisleine Cunha-Zeri,  
Nnet Project Team  
CCST/INPE





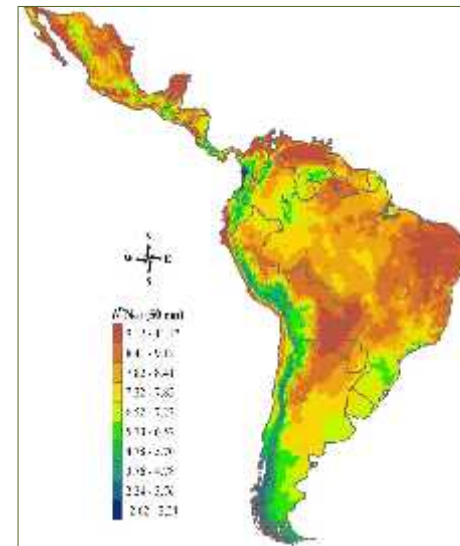
## Conceptual framework of nitrogen emissions drivers in Latin America

# Nitrogen... it goes way beyond the natural environment

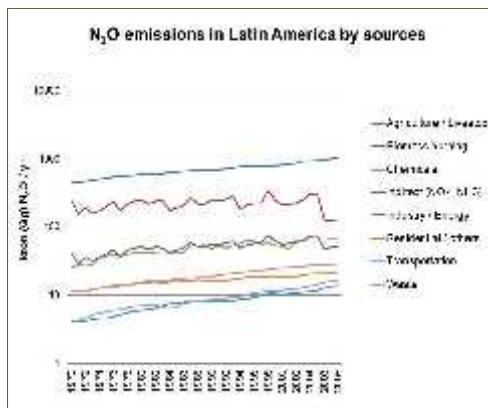


- MATOPBA
- Regions
- States Brazil
- Pasture
- Forestry
- Other
- Natural Vegetation
- Annual Crops
- Semi-Perennial Crops
- Perennial Crops

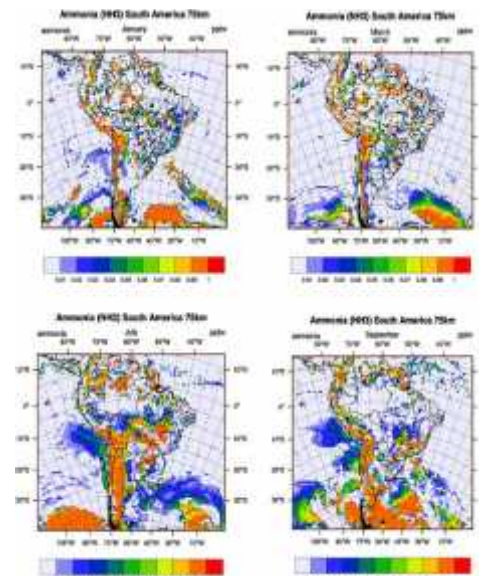
Results indicate nitrogen mining in pasture regions of the Brazilian Cerrado



$\Delta^{15}\text{N}_{\text{plant-soil}}$  isoscape interpolation, for the Latin America, showed important regional fluctuation N dynamic in the region



Agriculture and livestock dominate the  $\text{N}_2\text{O}$  emissions, followed by biomass burning from deforestation. Increasing importance of waste and industrial emissions are notable



EURAD-IM coarse grid (75 km) simulations of monthly average Ammonia concentrations in ppbv for January, March, July and September (2016) over South America

## Nitrogen... it goes way beyond the natural environment

- Integrated communication strategy on the best practices.
  - Participatory approach – collect local knowledge;
- Lack of a clear communication strategy bringing a close interaction among social, political and environmental scientists
- Low participation of social scientists in publications related to benefits/threats of nitrogen in Latin America.
- The literature indicates that science and nitrogen management approaches are still in the diagnostic phase of the problem, assessing and measuring the effects of human-induced changes in the nitrogen cycle.





# Nnet: Nitrogen budget in Latin America



International Nitrogen Initiative

