

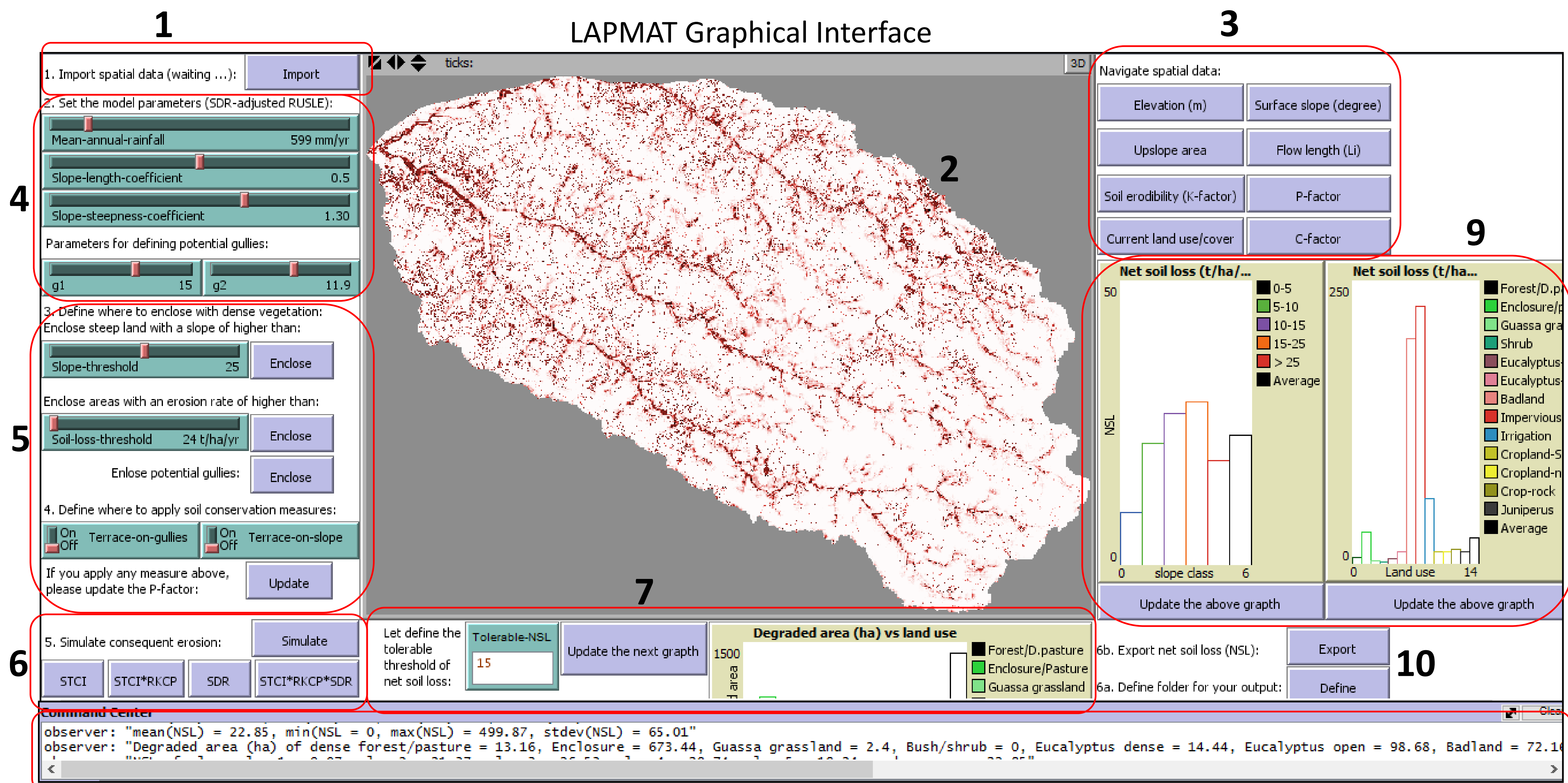
Towards developing a “landscape planning and management tool”

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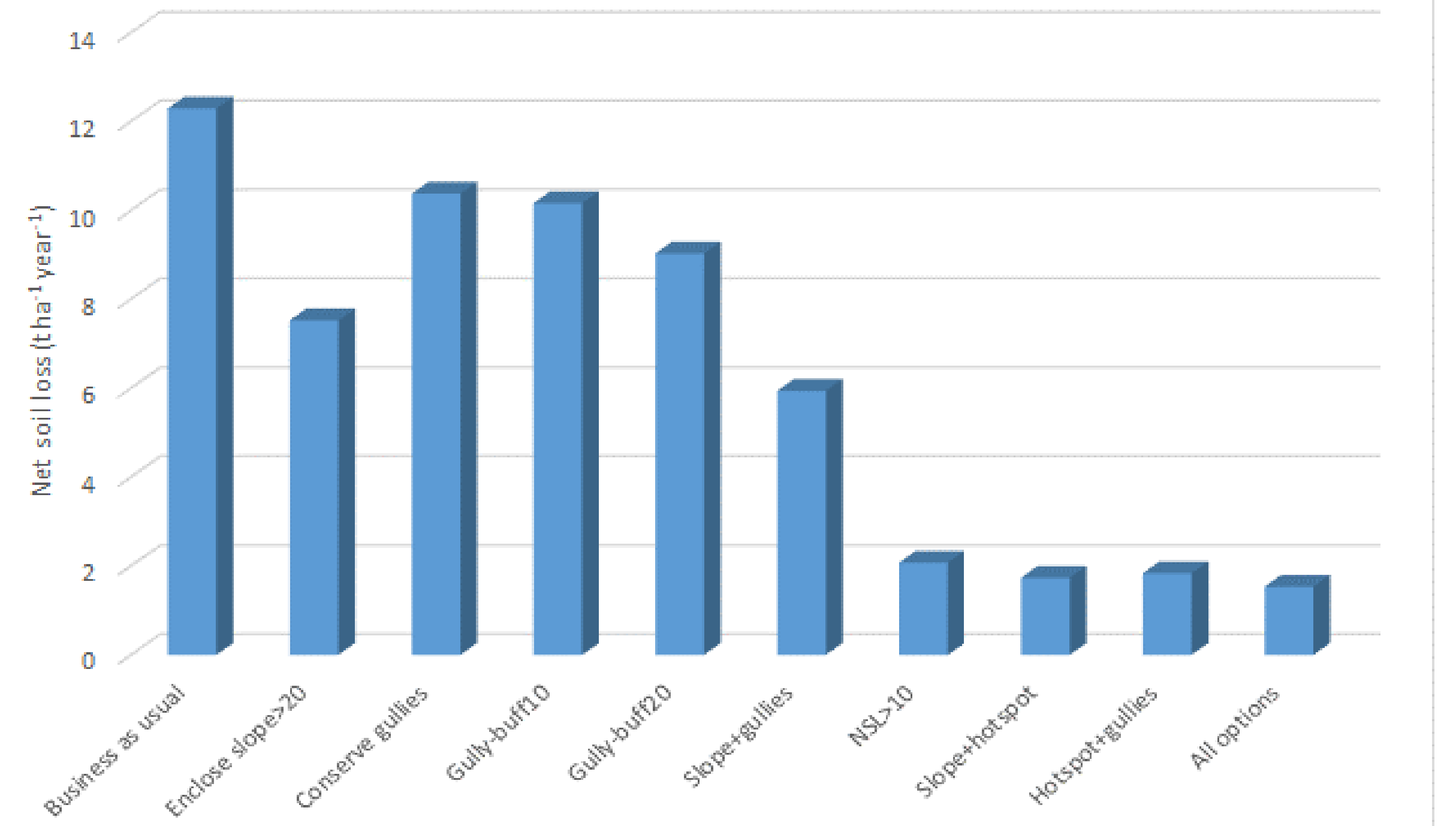
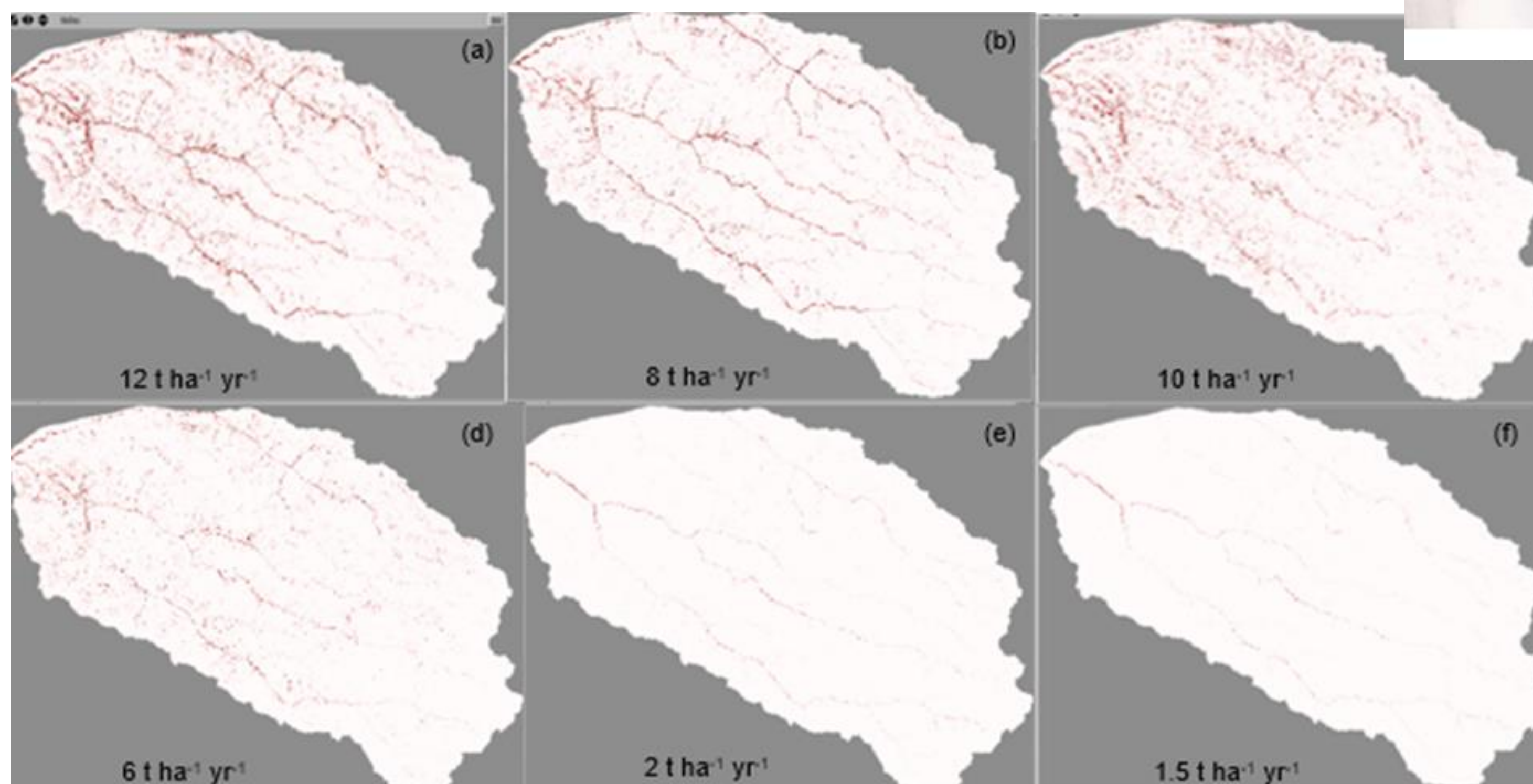
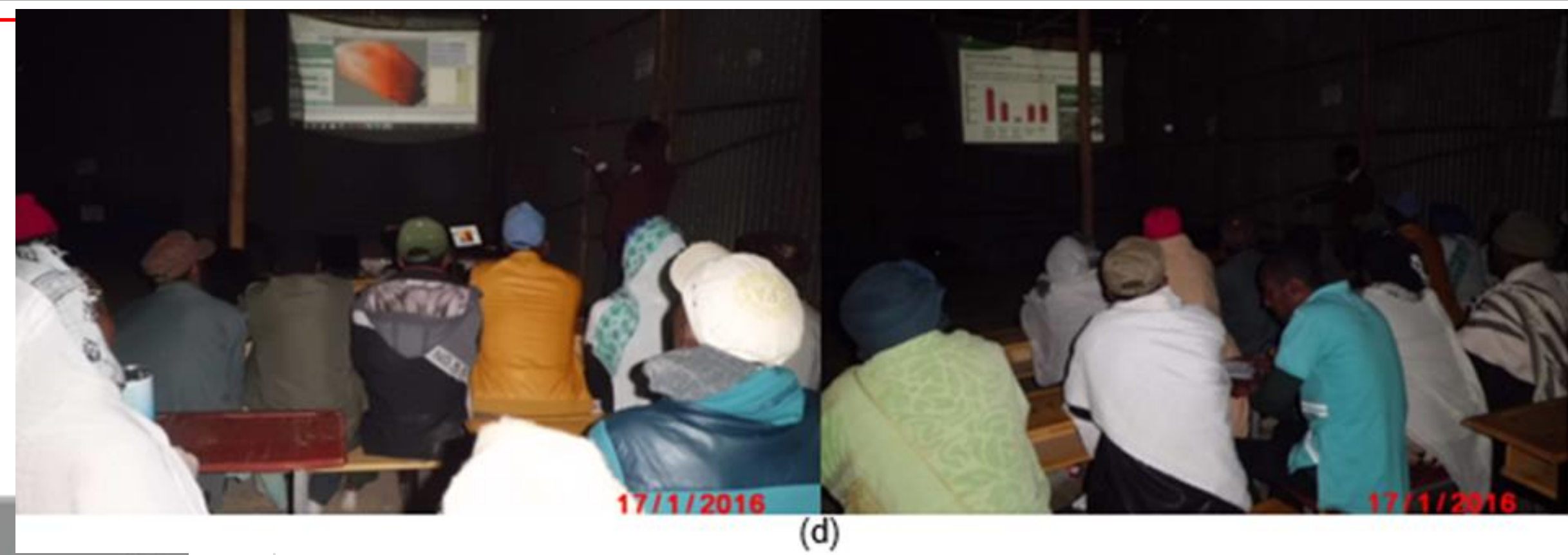
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Background

- ✓ Land degradation in general and soil erosion in particular is a serious threat to landscapes compromising their overall health.
- ✓ For planning and targeting, spatially distributed information about the magnitude of the problem and its drivers are necessary.
- Erosion is a complex processes governed by diverse drivers which operate at different scales and interact at different levels, making its predication difficult.
- Due to scarcity of data, accurate estimation of soil loss and modelling its spatial variability at landscape and regional scales is difficult in developing regions.
- Physical-based models require detailed understanding of hydrological and modelling processes thus less applicable in data scarce regions.
- ✓ User friendly tools can easily be applied by local stakeholders and their participatory engagement can facilitate technology adoption and scaling.
- ✓ A ‘landscape planning and management tool’ can help asses the spatial dynamics of soil loss and simulate potential impacts of management interventions.
- ✓ The tools can be designed to assess sensitivity of model inputs and also assess the potential impacts of different ‘coefficients’.
- ✓ Should provide results in different formats: quantitative rates, graphs and plots
- ✓ Stakeholders can interactively ‘view’ the results of different scenarios to make their own judgements.



Participatory assessment of model results at a community workshop in Ethiopia. Such community engagement can facilitate proactively evaluating impacts of interventions and assessing their potential tradeoffs.



The spatial distribution of net soil loss considering (a) ‘business as usual’ practice and based on simulation of soil loss with different management options such as (b) areas of slope >20 percent conserved, (c) gullies treated, (d) areas with slope > 20 percent and gullies conserved; (e) hotspot areas of soil loss more than > 10 t ha⁻¹ yr⁻¹ conserved, and (f) all options combined

Future work will include evaluating the ‘overall system health improvement’ as a results of SLM interventions and also conduct costs-benefit and trade-off analyses.



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