Regional multifunctional Forest Landscape Restoration planning

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Case Study Central Chile

Extent: 13.175 km²

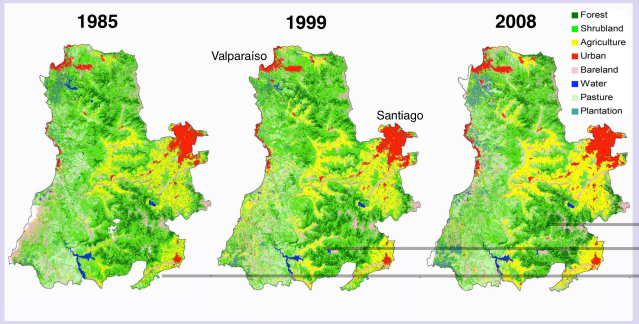
- about 30% of Chile's population
- important share of Chile's agricultural production: wine, fruits

  → High pressure on forests, about 42% forest loss since 1975
- International biodiversity hotspot

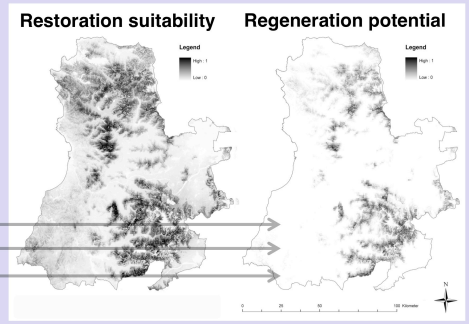
Shrubland clearing for fruit cultivation on degraded forest areas

Dry sclerophyllous forest on hillslopes and wine cultivation in flat areas

Where are suitable forest restoration areas and where is natural regeneration likely?

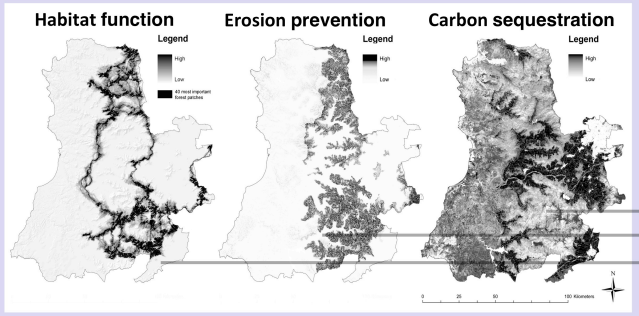


Landsat based land cover maps for the years 1985, 1999 & 2008 (Schulz et al. 2010)

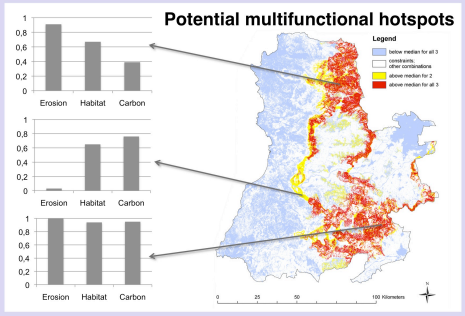


Predicted suitable forest restoration and regeneration areas

Where would forest restoration effectively enhance several functions simultaneously?

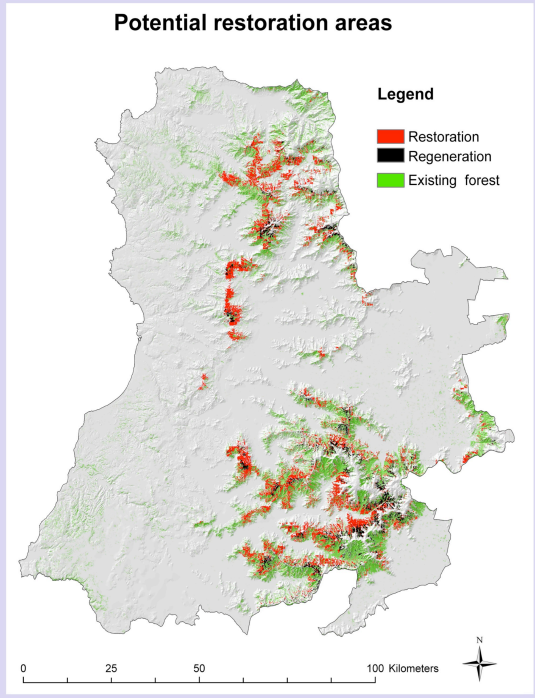


Modeled spatial distribution of potential forest functions



Exemplary share of multifunctional restoration benefits

Suitable multifunctional forest restoration and regeneration areas



Designated multifunctional restoration and regeneration areas

References & Acknowledgements

Schulz JJ, Cayuela, L, Echeverria C, Salas J & Rey Benayas JM (2010). Monitoring land cover change of the dryland forest landscape of Central Chile (1975-2008). *Applied Geography* 30: 436-447.

Schulz JJ & Schröder, B. (2017). Identifying suitable multifunctional restoration areas for Forest Landscape Restoration in Central Chile. *Ecosphere* 8(1): e01644.

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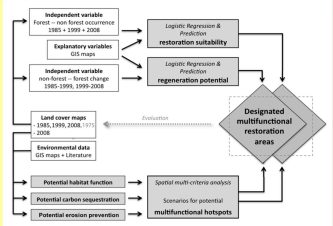
Take home messages:

- Transparent planning approach contributing to the **operationalization of the main goals of the Bonn Challenge**: a) Potential habitat function: Aichi Target 15, b) Potential carbon storage: UNFCCC REDD+, c) Potential erosion prevention: Rio+20 land degradation neutrality
- The method facilitates the identification of **spatial synergies for multifunctional benefits** on **suitable restoration** and **regeneration** areas
- It supports **an increase in efficiency** of restoration through guiding the placement of site-based multifunctional restoration within a regional context



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