

GIS-based infrastructure to assess species and provenance suitability

Ervin Rasztovits, László Nagy, Orsolya Szabó, Attila Borovics,
Tamás Fonyó



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Seeds without borders sustain forest diversity

- ❑ 8 project partners
- ❑ 6 central European countries
- ❑ 1.8 Mio € budget
- ❑ 3 years (08/2016 - 08/2019)
- ❑ 2 pilot actions



Climate change is not only a shift.



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Phenology

flushing (80 %)

Quality

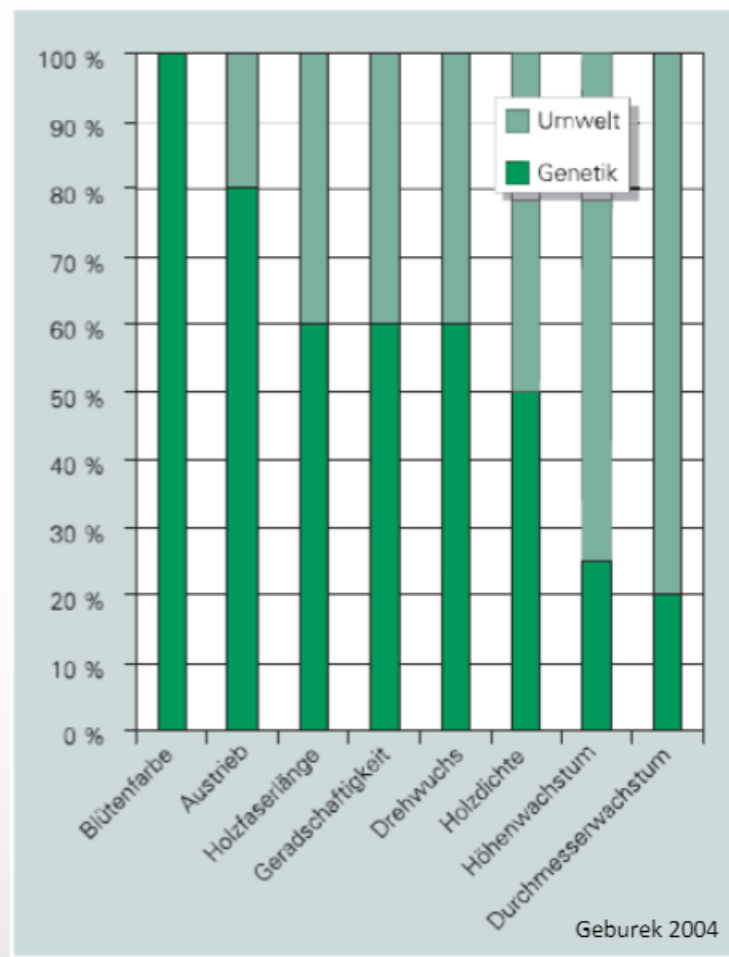
stem form (60 %)

Growth

height (25 %)

dbh (20 %)

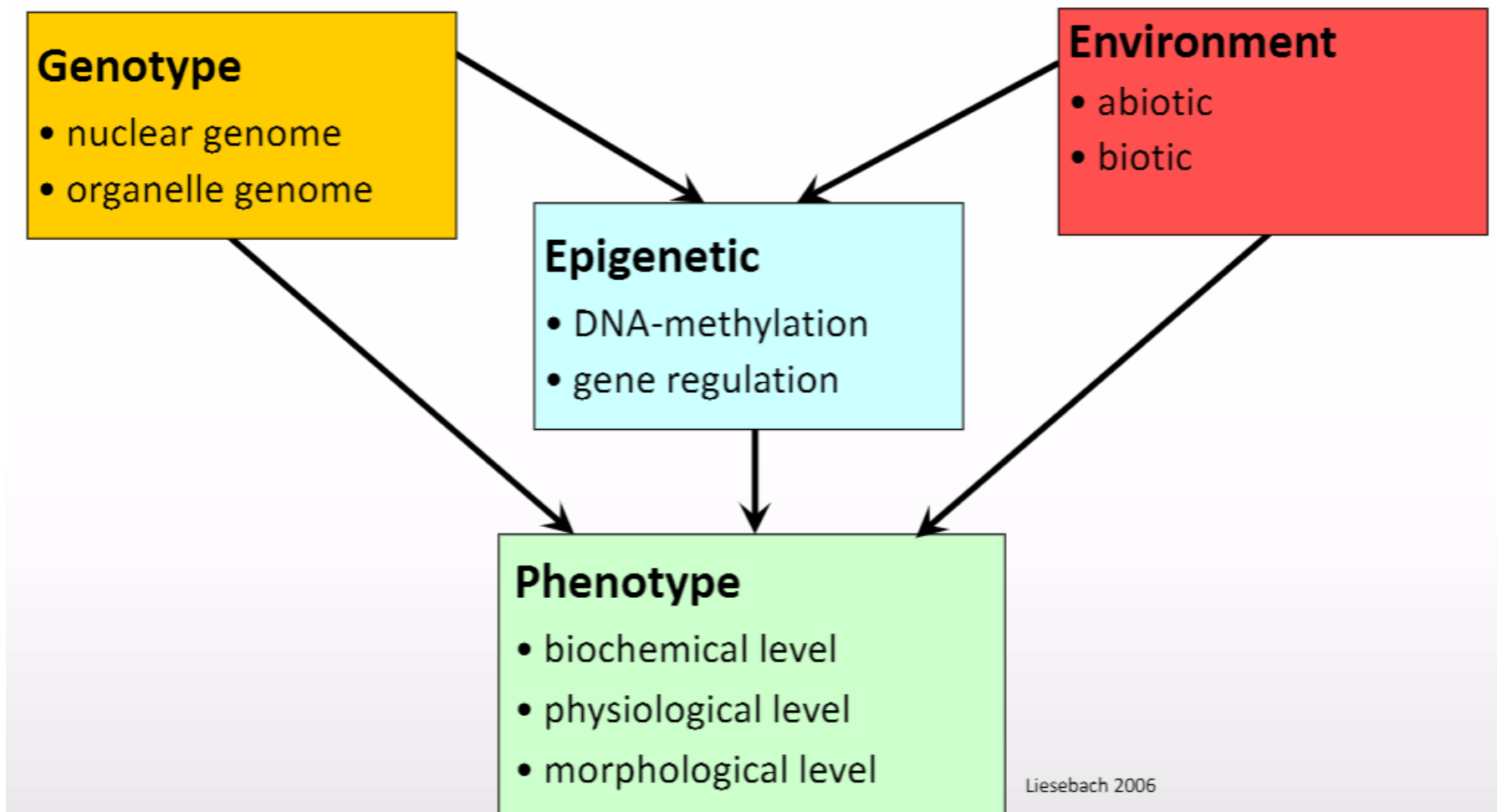
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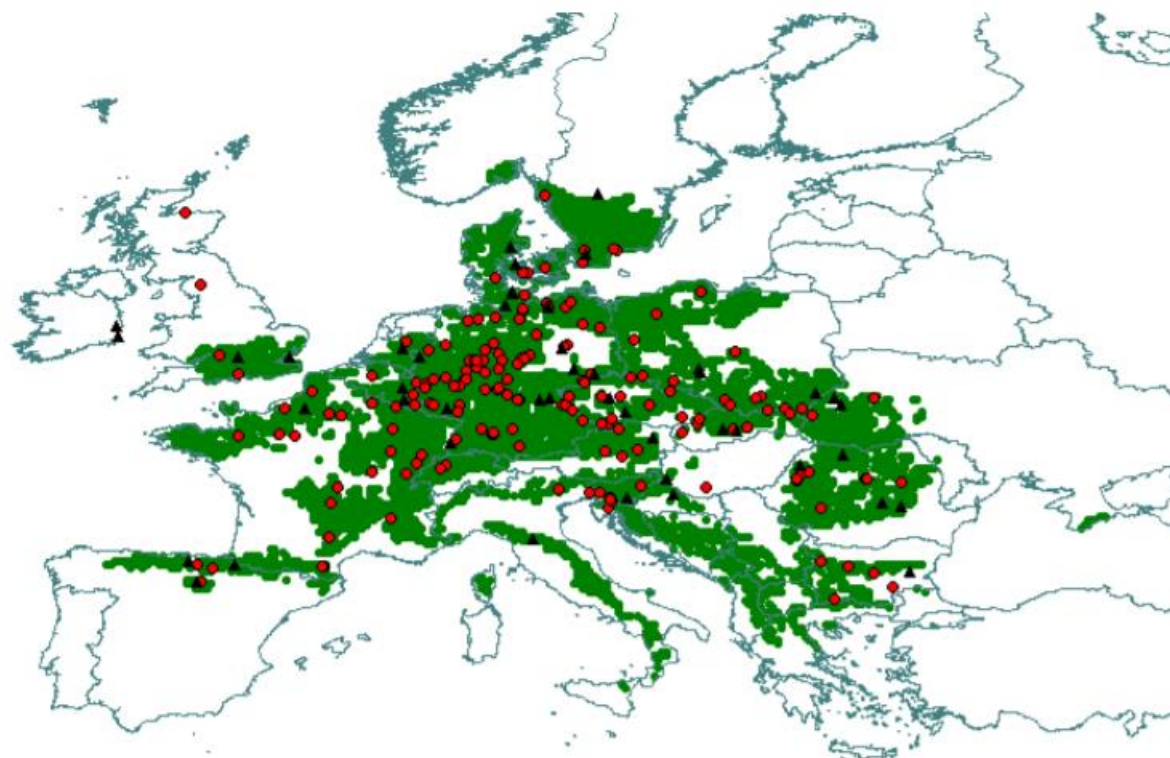




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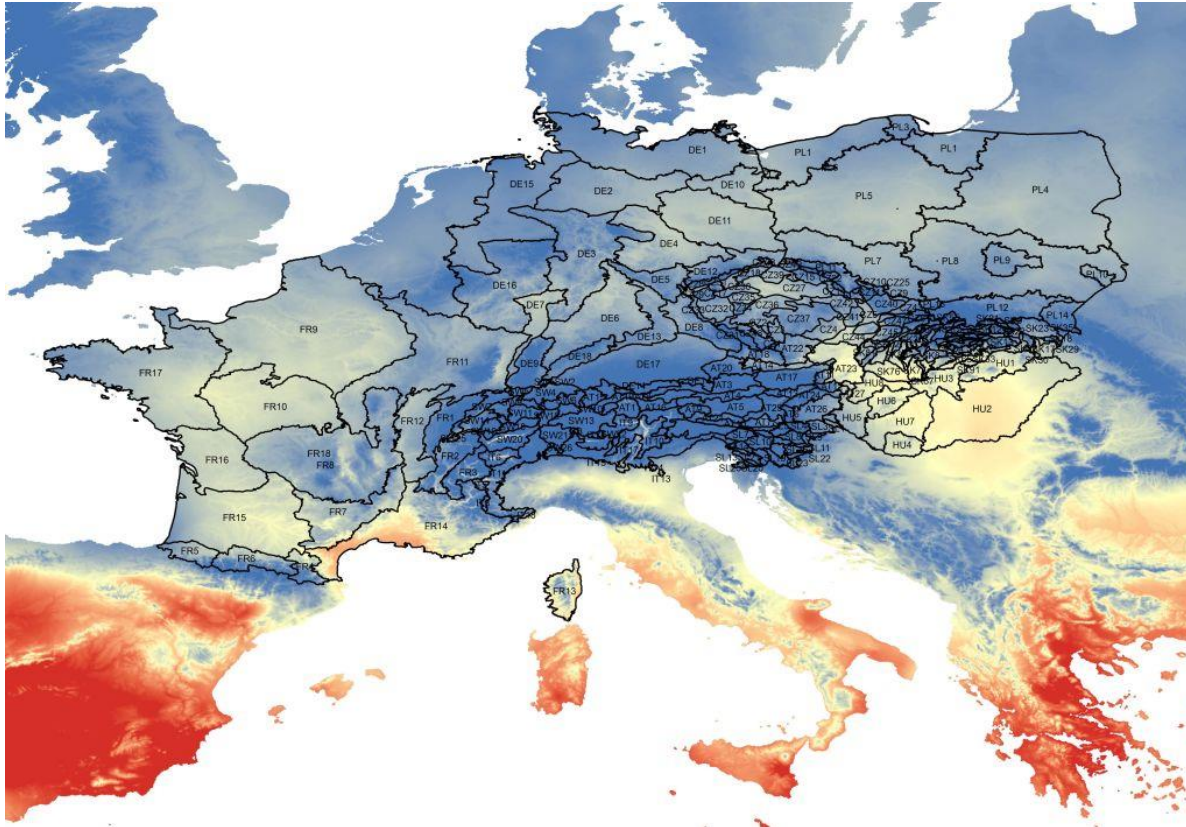
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Current situation:

- FRM zones are based on geographic constraints (ecology is only indirect)
- It is suggested to keep the FRM's within the zone of origin



Provenance zones for beech in Europe

Result: Dynamic changes (climate change) are not considered at all - > conservation of the current situation.

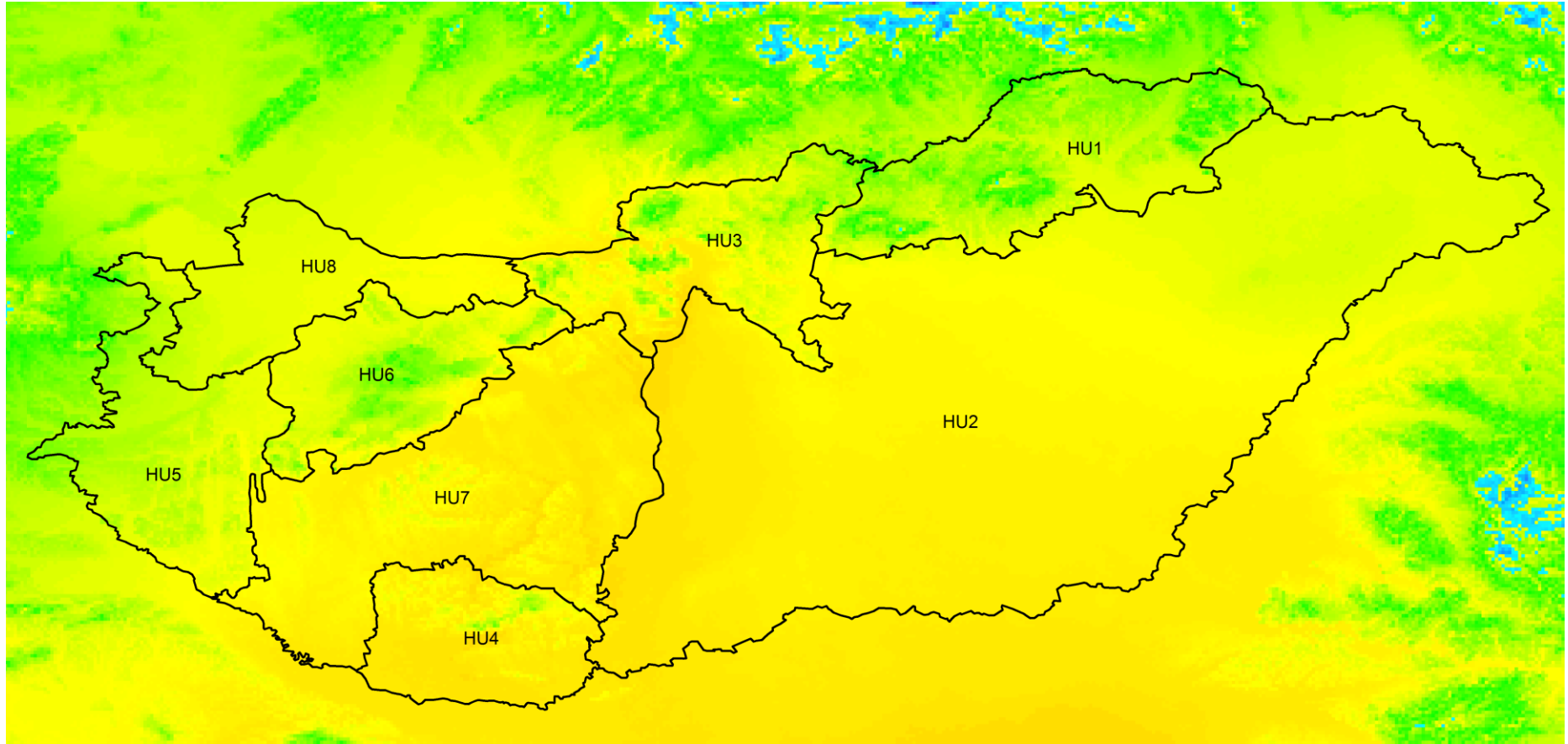


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Current situation:



Provenance zones for beech in
Hungary



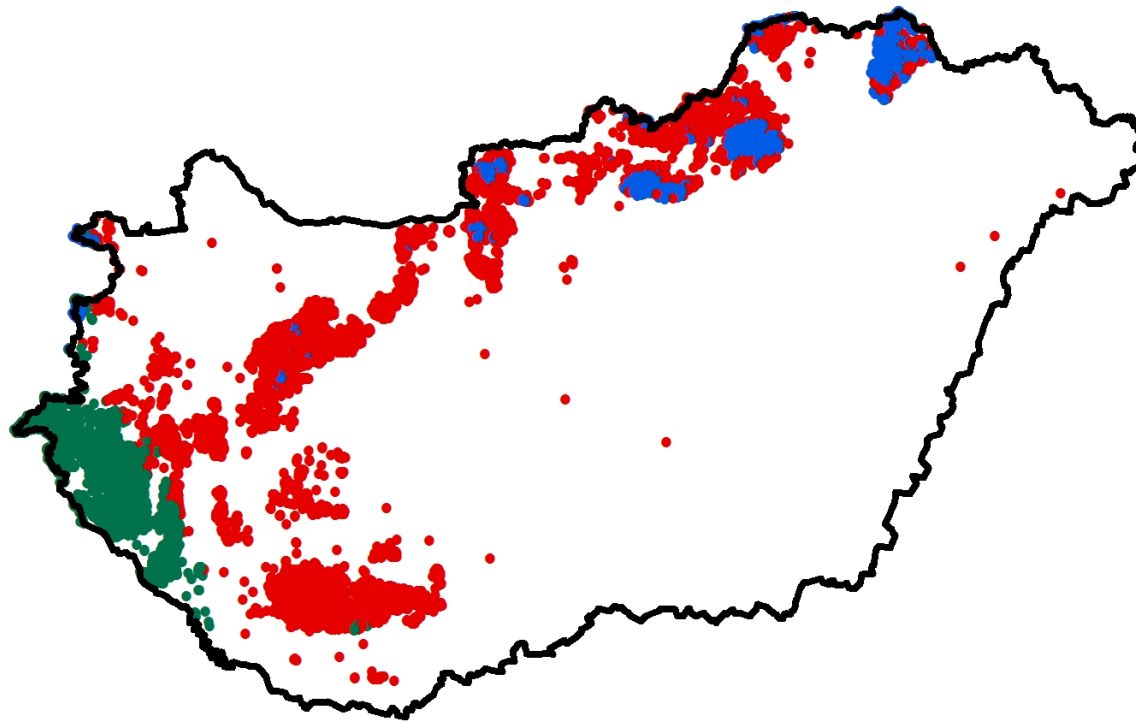
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New perspective:

- Classification of FRM zones are based exclusively on ecological parameters without geographic constraints.



Provenance zones for beech based on selected climatic parameters in Hungary.



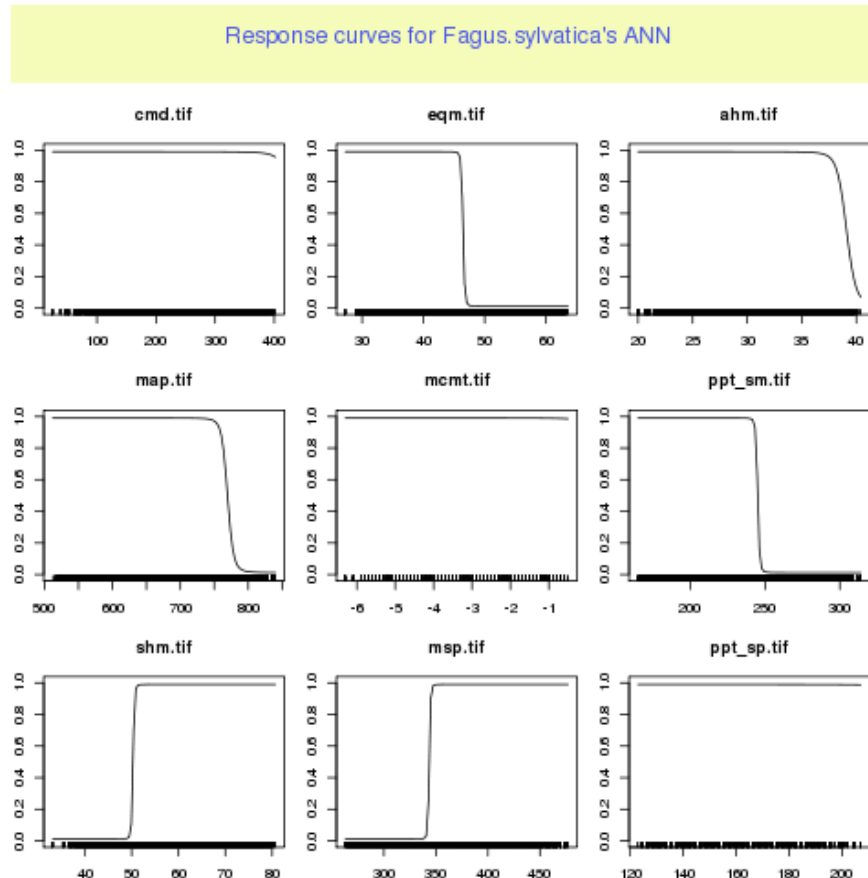
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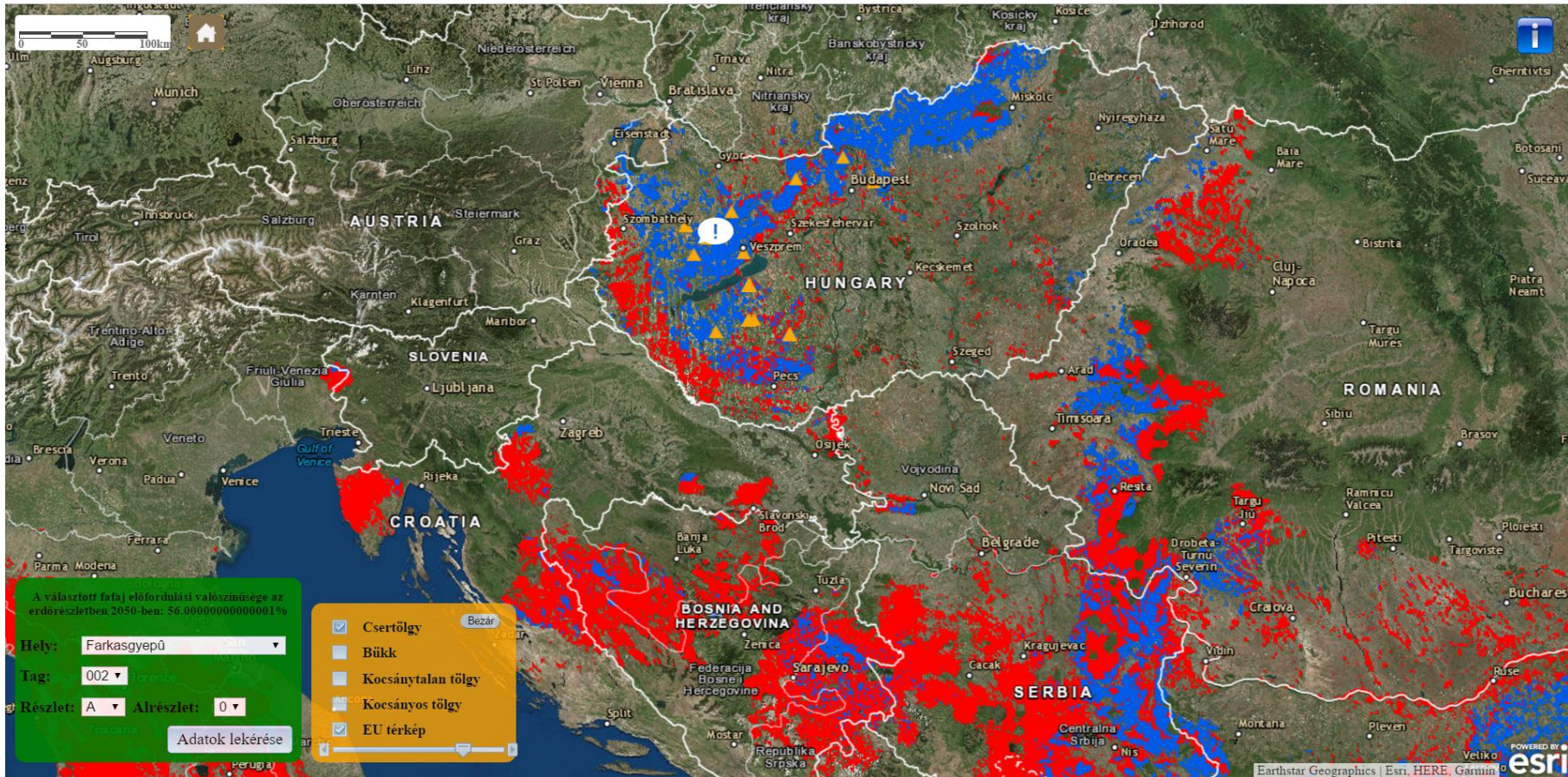
New perspective:

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Response curves for beech

Moving of the FRM is aimed to introduce pre-adapted populations to get prepared for the situations expected in 2050*! The web based app helps the managers to find sites with similar climatic conditions expected in 2050 at the subcompartment of the interest.

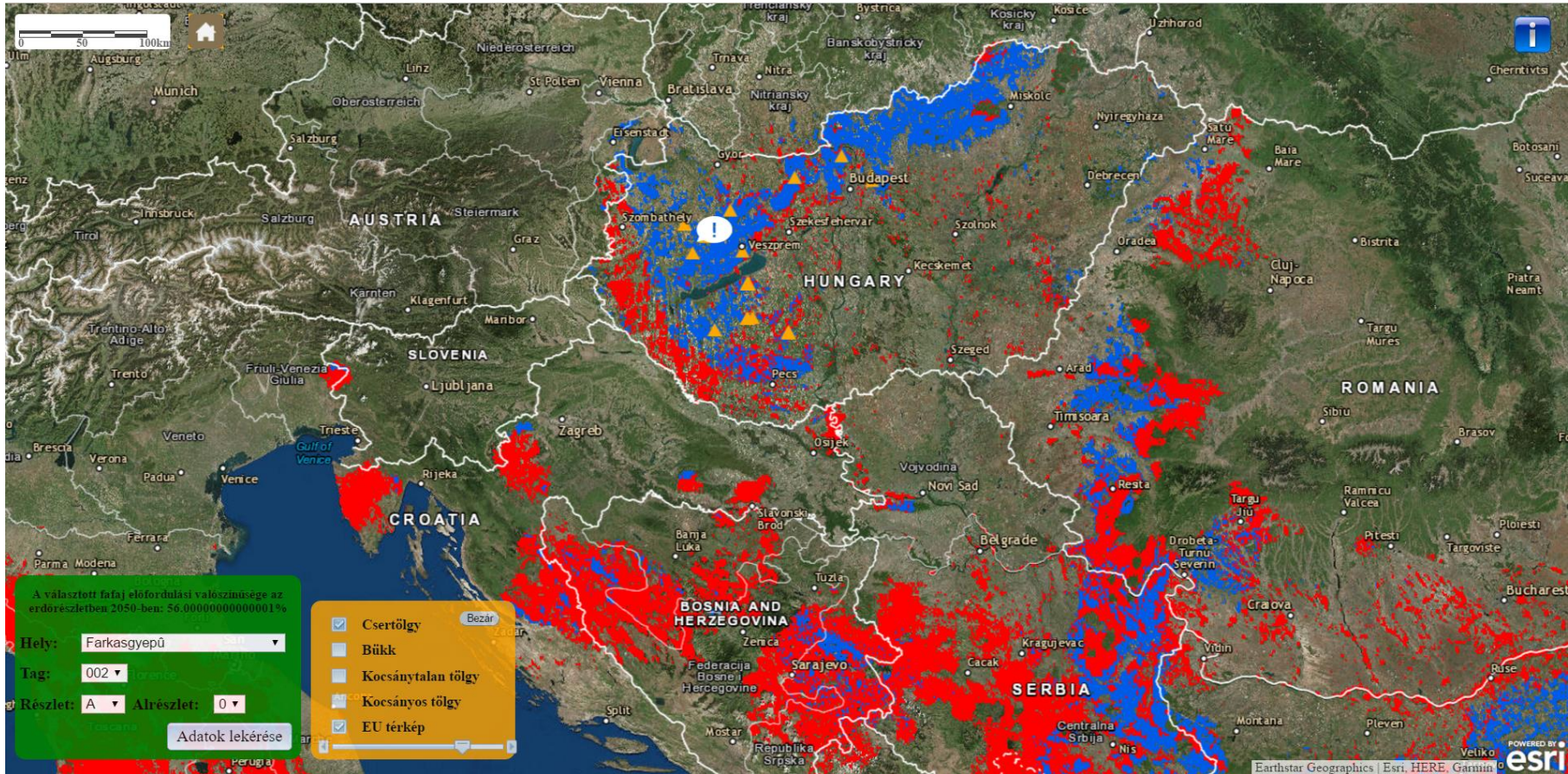


* Average projected global warming increase and likely range for RCP4.5: $+1.4^{\circ}\text{C}$ (± 0.5) by the 2050s.



This infrastructure can be used to investigate:

how to change species or provenance to better adapt to climate change
assess the impacts of climate change on the tree species portfolio



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