

When talking about trees

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Don't forget soil

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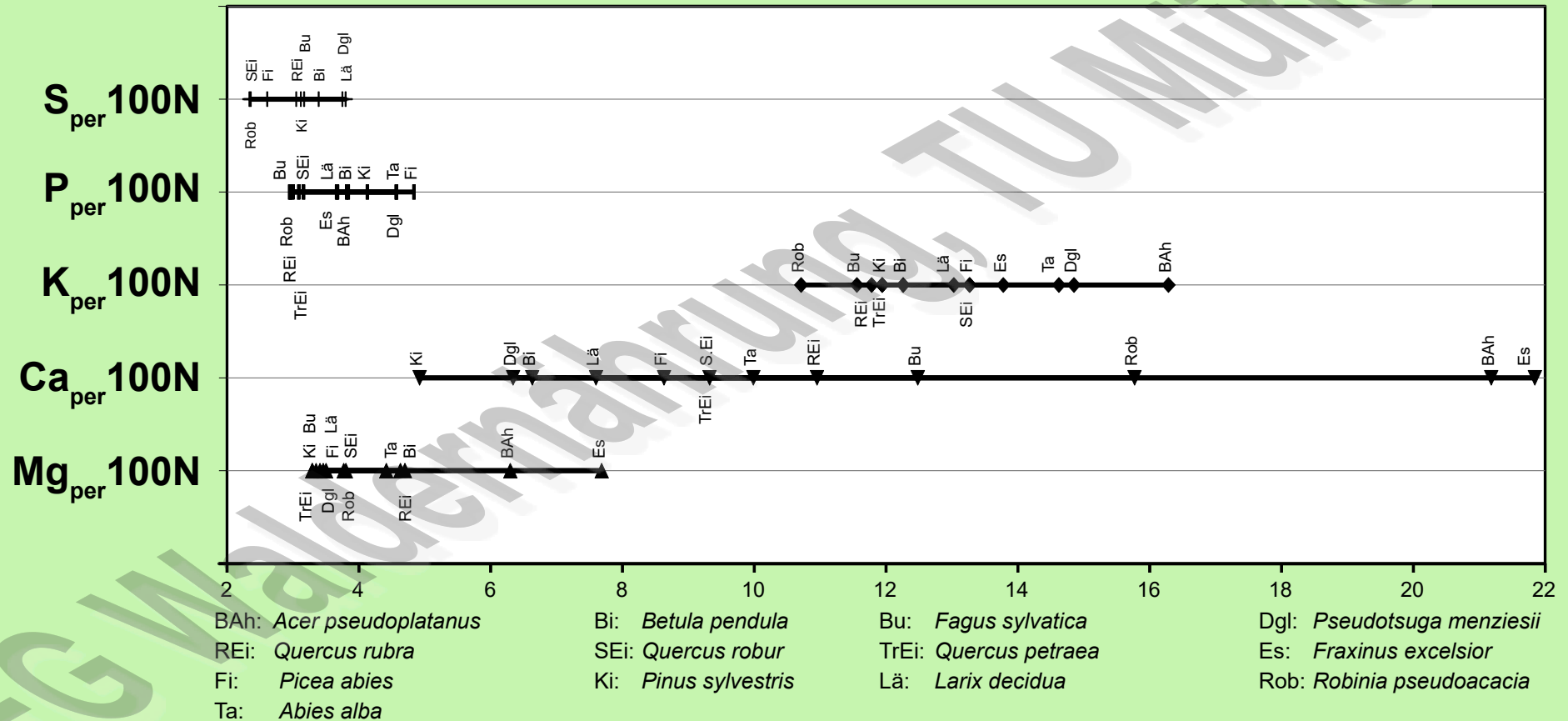
ZENTRUM WALD FORST HOLZ
WEIHENSTEPHAN



Talking about trees

Molar element-nitrogen-ratios

(values presented: lower threshold of optimal range)

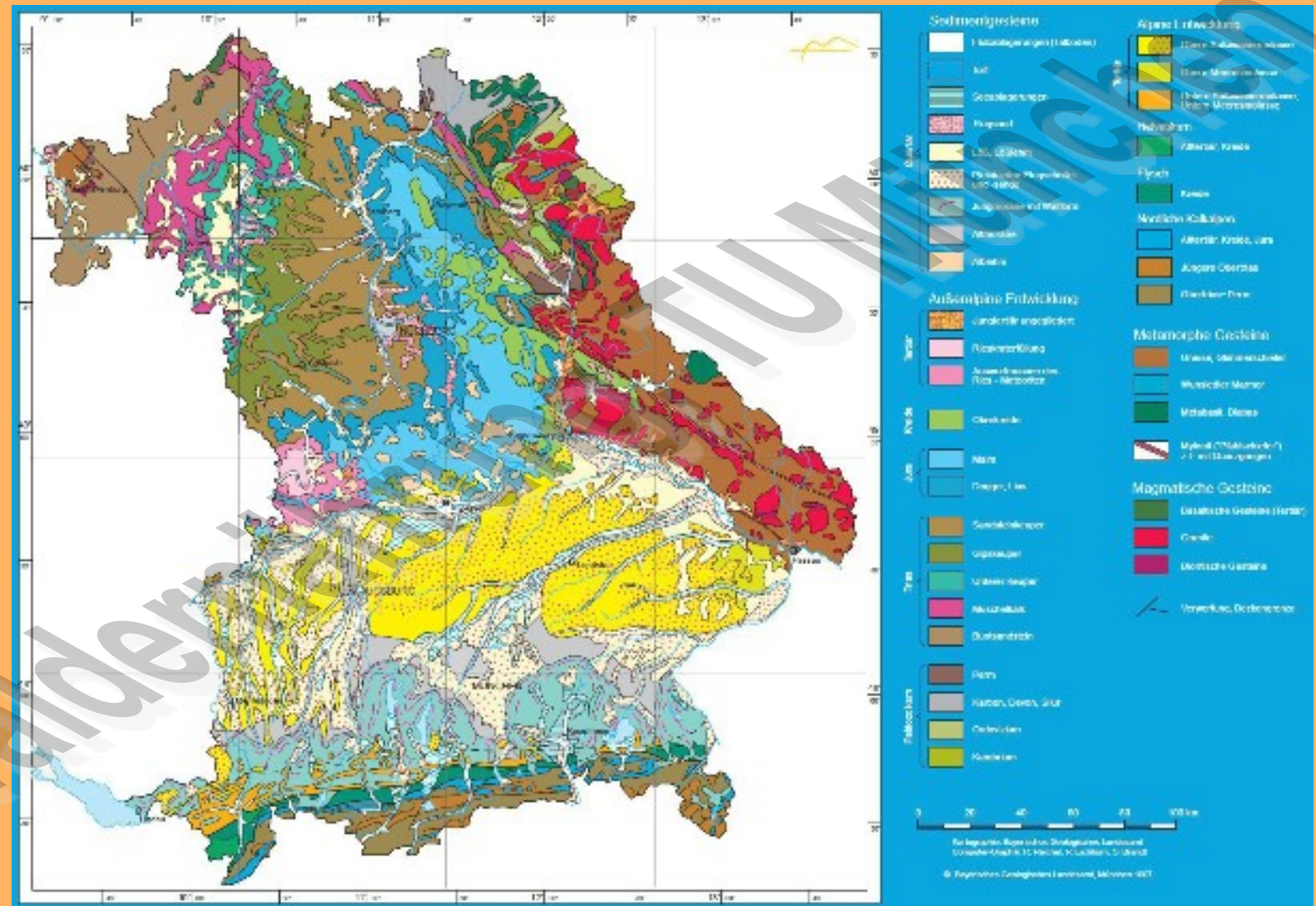


A black and white photograph showing a dense forest of tall, thin trees in the background. In the foreground, a large, deep, and wide gully has formed in the soil, likely due to erosion. The soil in the gully appears dark and textured, with some roots visible. The text "Talking about soil" is overlaid in red on the lower part of the image.

Talking about soil

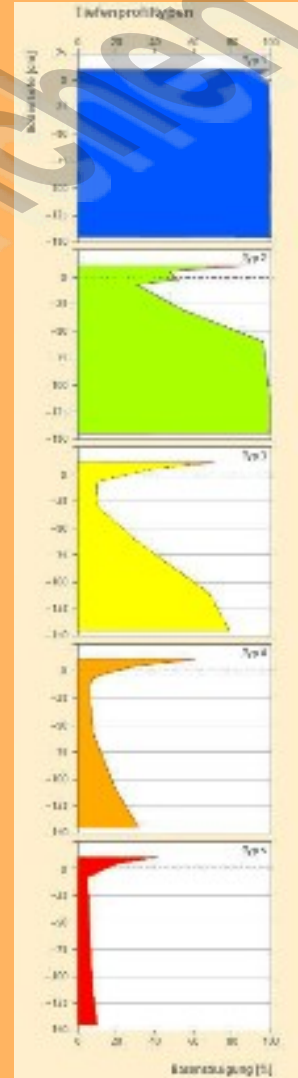
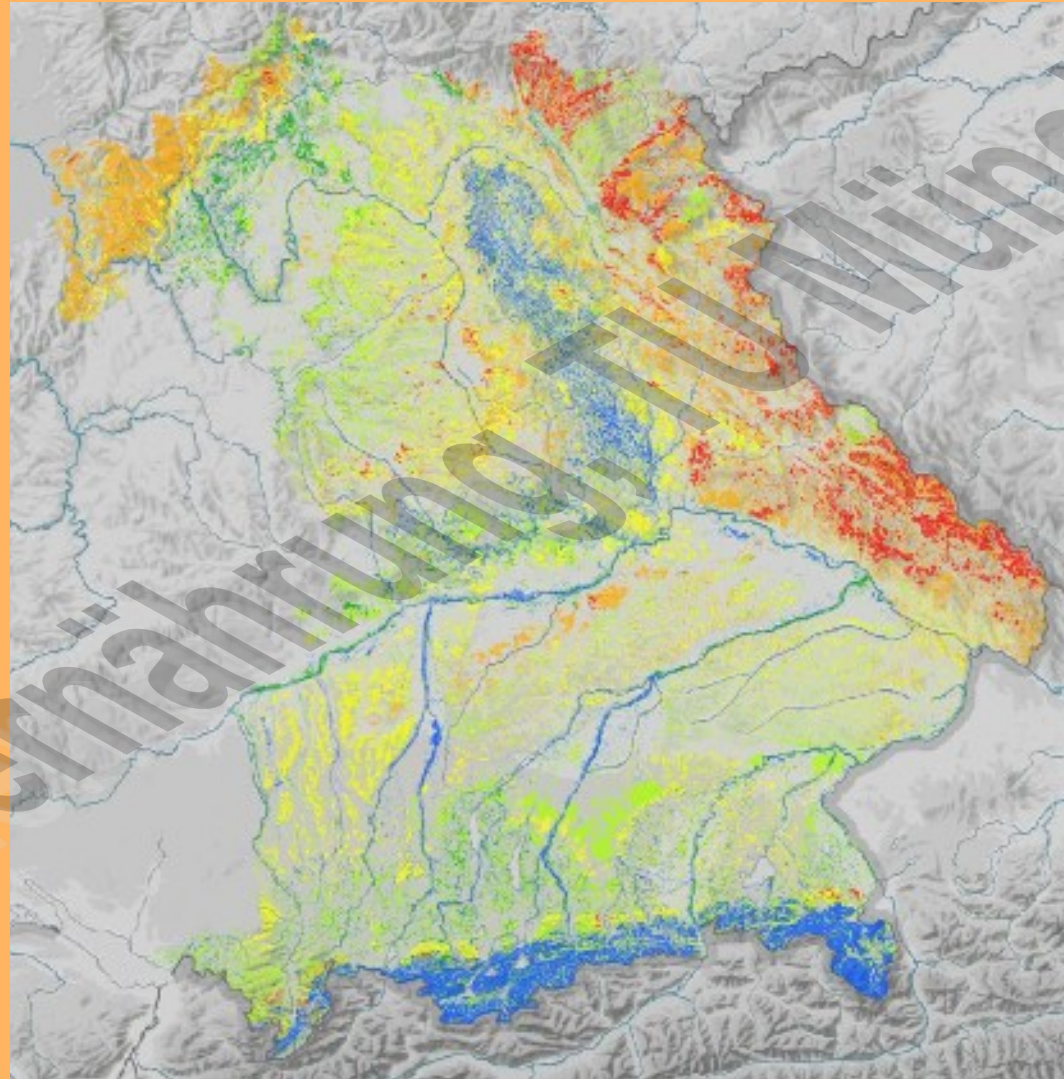
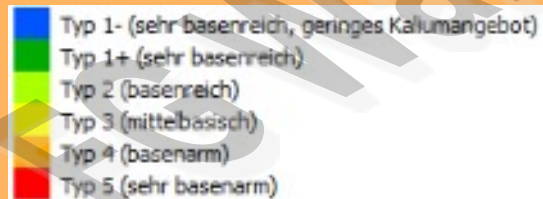
Geology of Bavaria

Landesamt f. Umwelt



Types of base saturation of Bavarian forest sites

Standortsinformationssystem StMELF



A black and white photograph showing a forest of tall, thin trees. In the foreground, there is a cleared, uneven area of ground, possibly a logging site or a natural clearing. The text "Talking about trees and soil" is overlaid in red on the image.

Talking about trees and soil

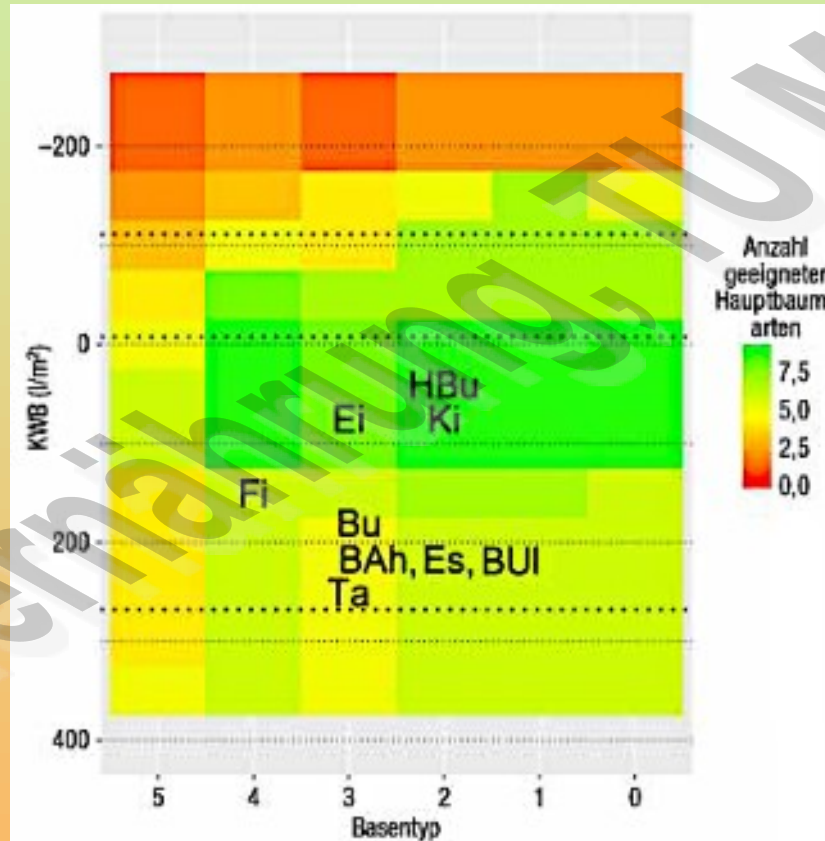
Main tree species in dependence on water availability and base saturation

Tree species abbreviation given at current distribution focus

type of base saturation:

5 deeply acidic

0 highly carbonatic



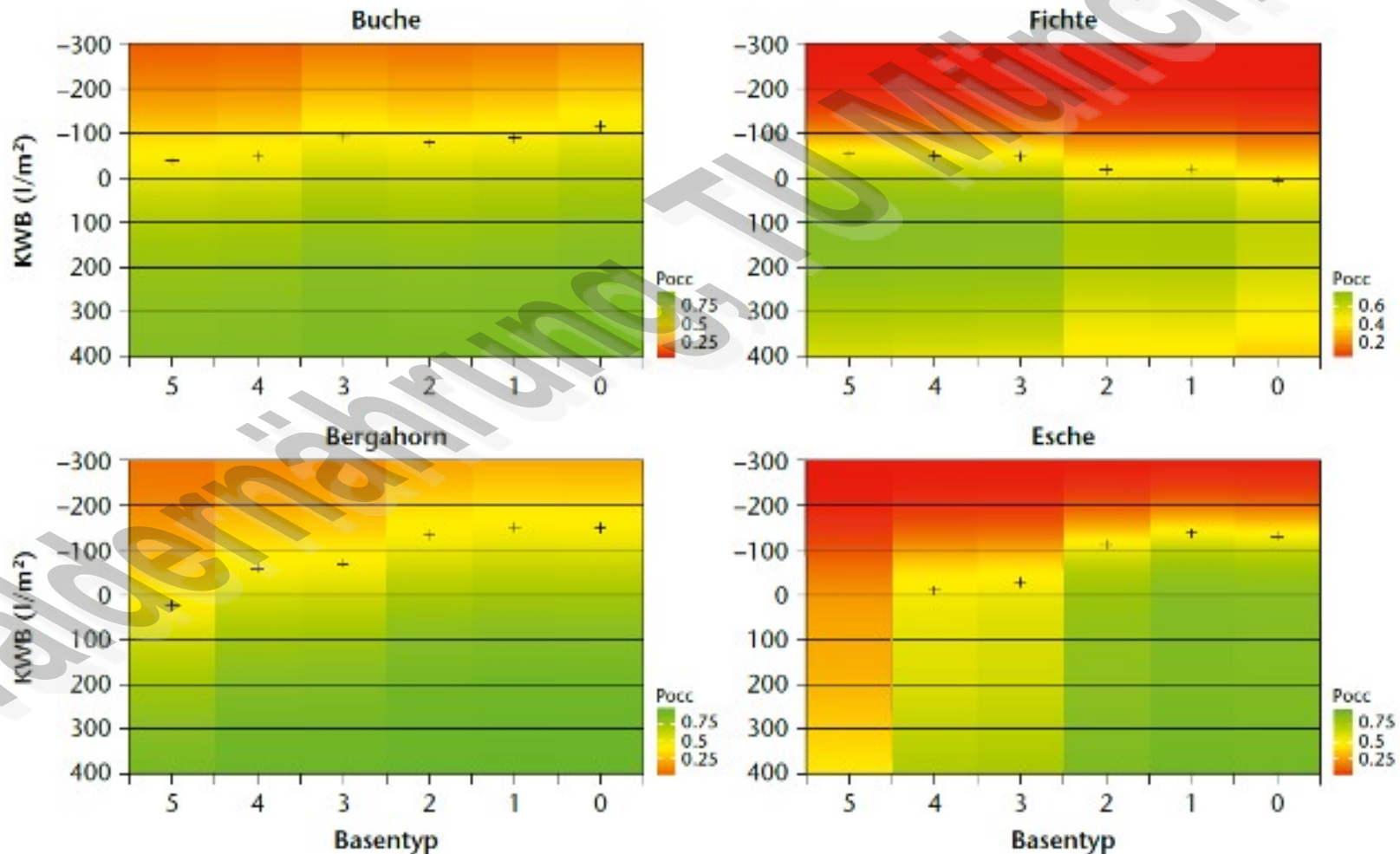
Main tree species in dependence on water availability and base saturation

KWB:
climatic water balance
in the vegetation
period

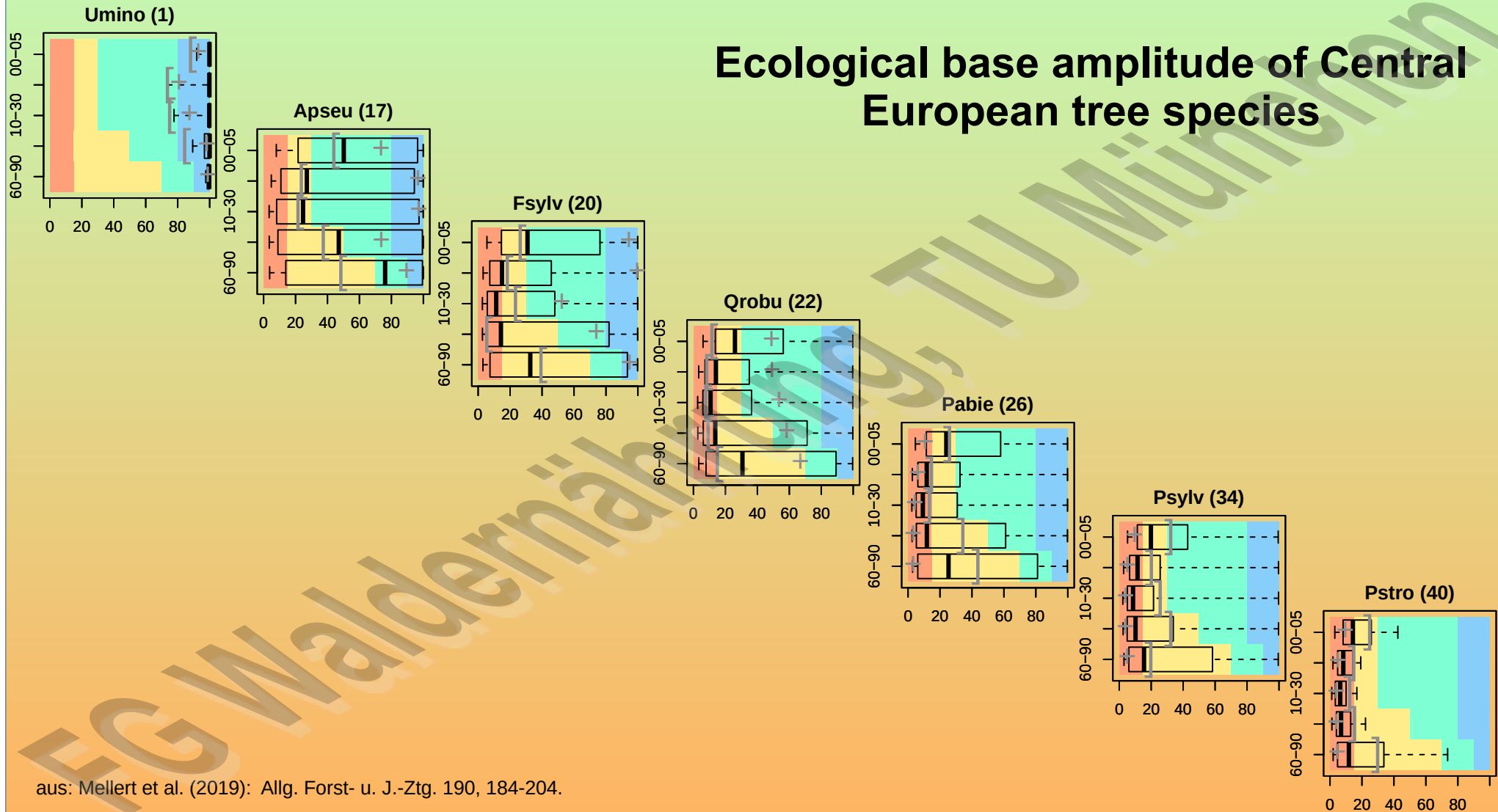
Pocc:
Probability of
occurrence

**type of base
saturation:**
5 deeply acidic
0 highly carbonatic

aus:
Mellert et al. (2018): Schweiz. Z.
Forstwes. 169, 323-331.

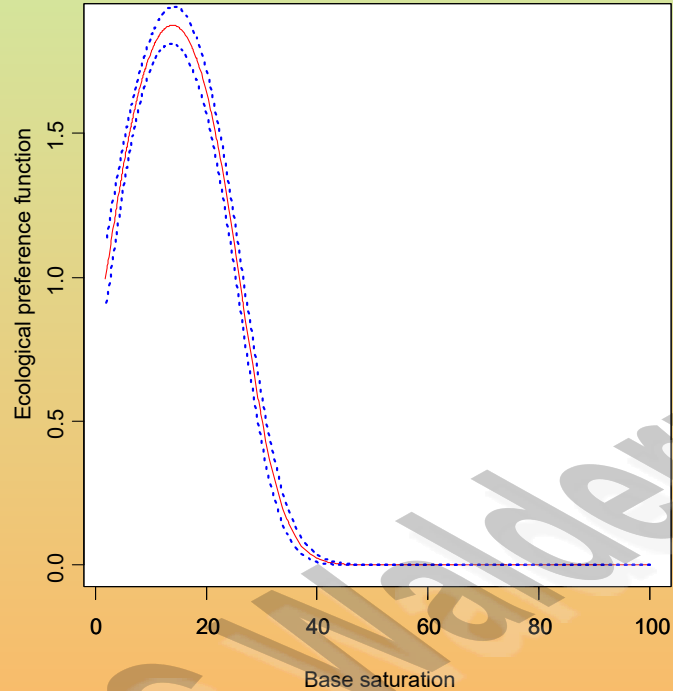


Ecological base amplitude of Central European tree species

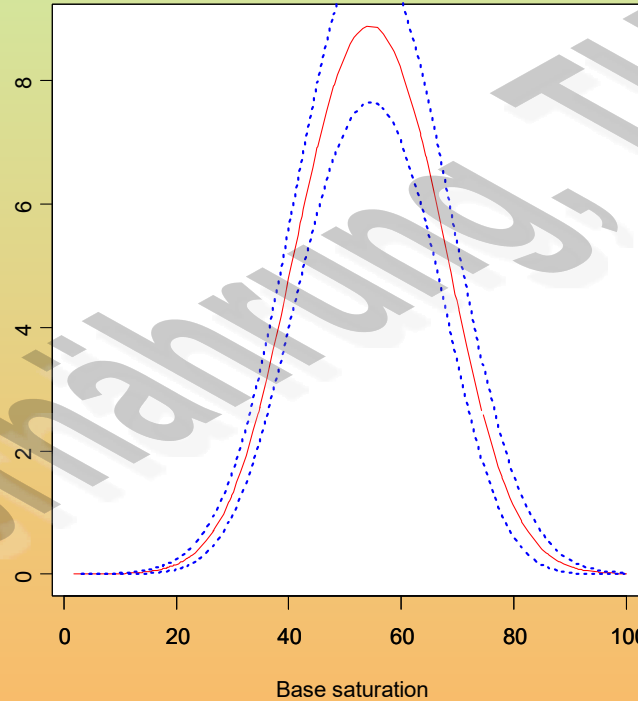


Ecological preferential function of beech forest communities of the colline altitudinal zone

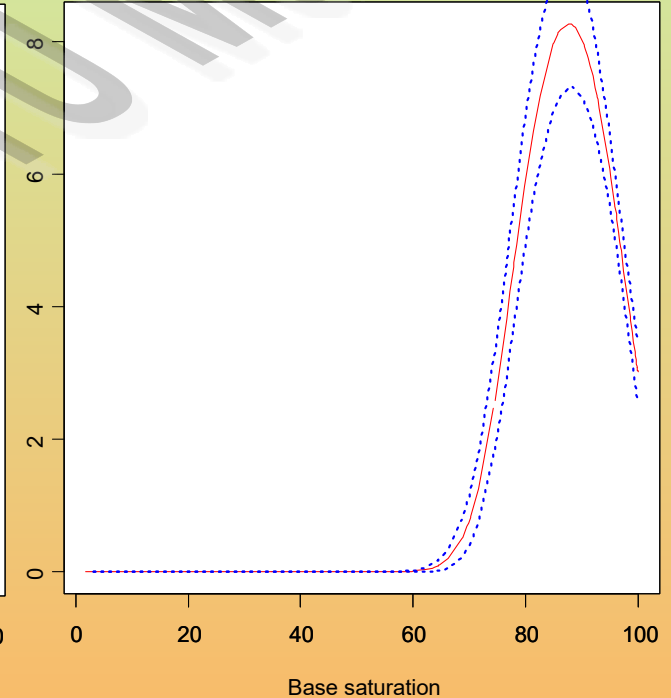
Luzulo-Fagetum



Galio odorati-Fagetum

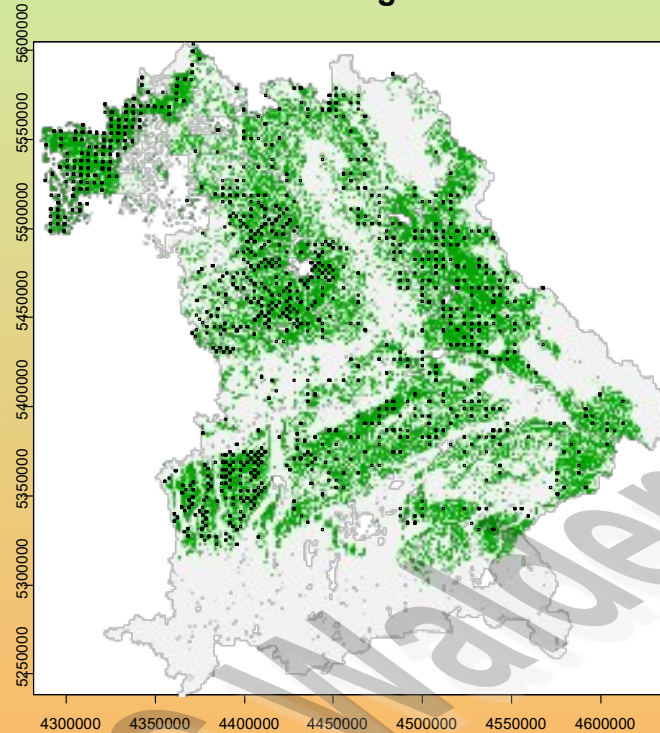


Hordelymo-Fagetum

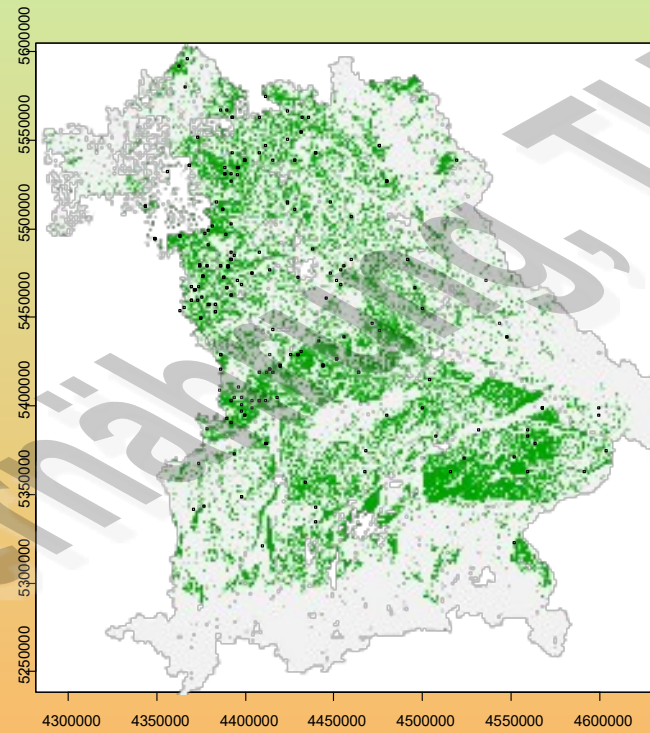


Distribution of beech forests of the colline altitudinal zone in Bavaria

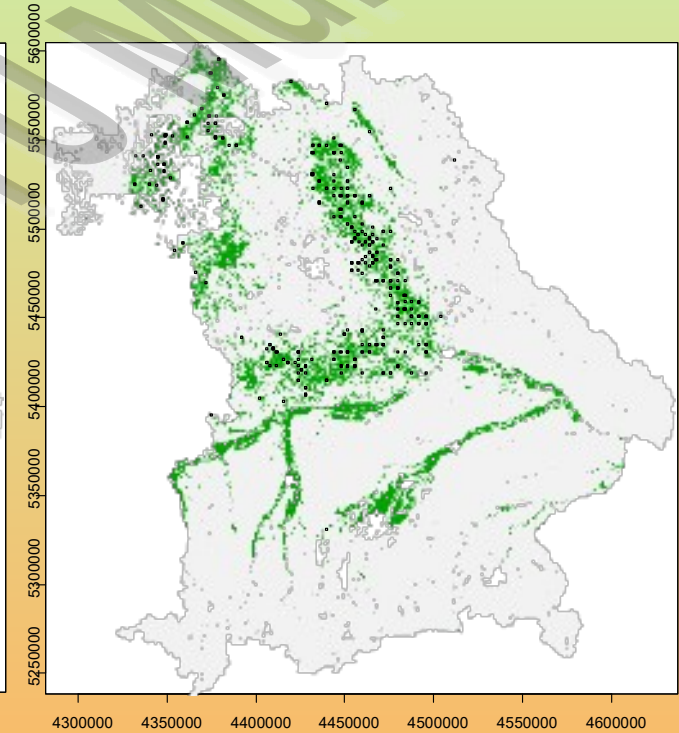
Luzulo-Fagetum



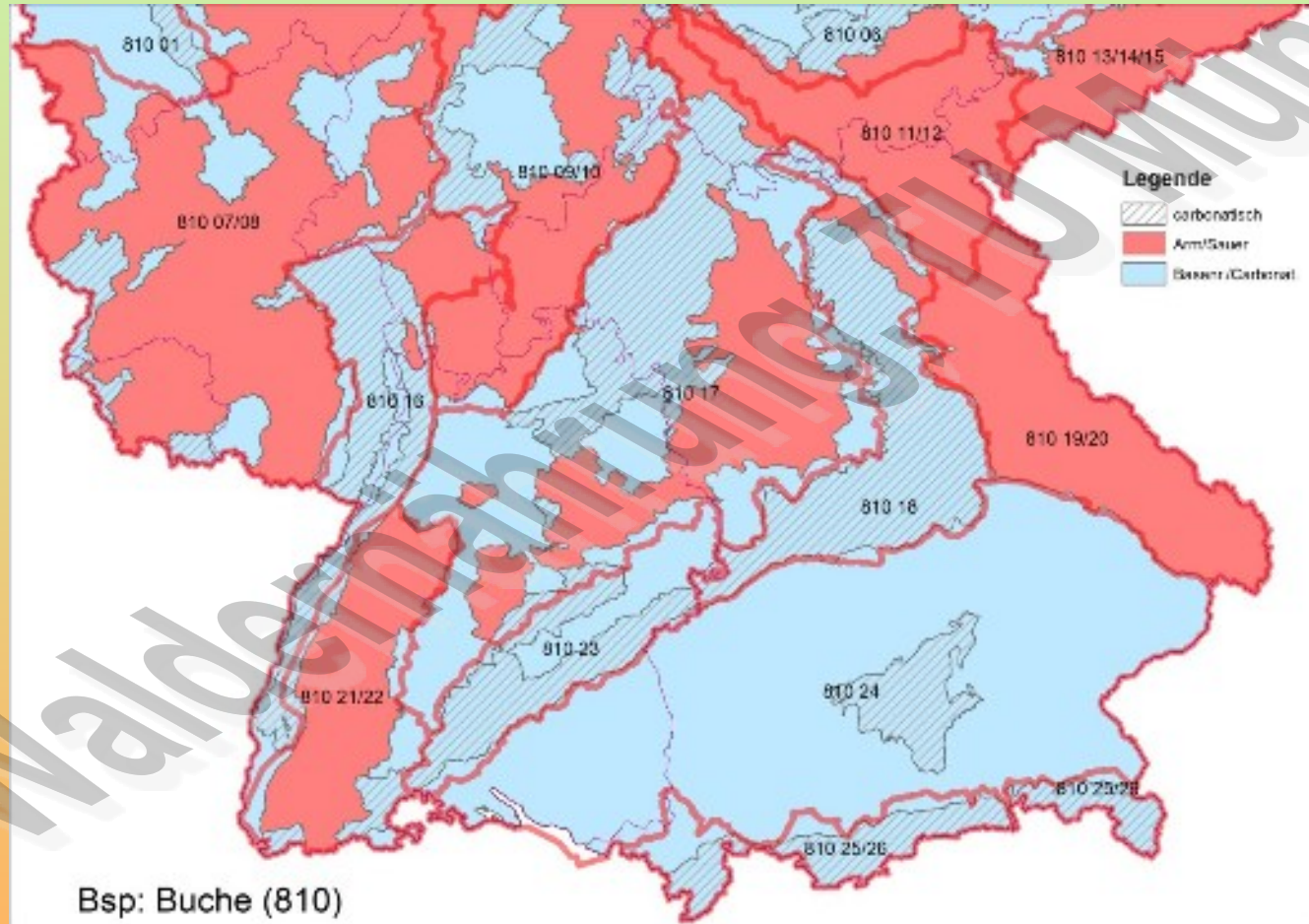
Galio odorati-Fagetum



Hordelymo-Fagetum



Provenance areas and soil properties in southern Germany



Conclusion

- tree species are very different with respect to their nutrient demand (especially Ca)
- soils are very different with respect to their nutrient supply (especially Ca)

When talking about trees – Don't forget soil

this is of special importance when looking for alternative provenances in times of climate change