



1. Motivation 2. Introduction 3. Reliability of towed measurements 4. Comparability field sites 5. Conclusion

Motivation

γ -ray data as part of mobile geophysical platforms for DSM

- fast and efficient data acquisition for large areas
- use for geophysical transfer function, also at landscape scale

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- Reliability of towed measurements (carbone) compared to point measurements
- Comparability of field measurements at different field sites and times

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carbone γ -ray measurements

Ap 30cm

- ^{40}K ; decay series of ^{238}U and ^{232}Th
- concentration [% , ppm]
- 90% of topmost 30 cm
- 5 s sampling interval

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carbone γ -ray measurements

γ - ray concentration for soil mapping

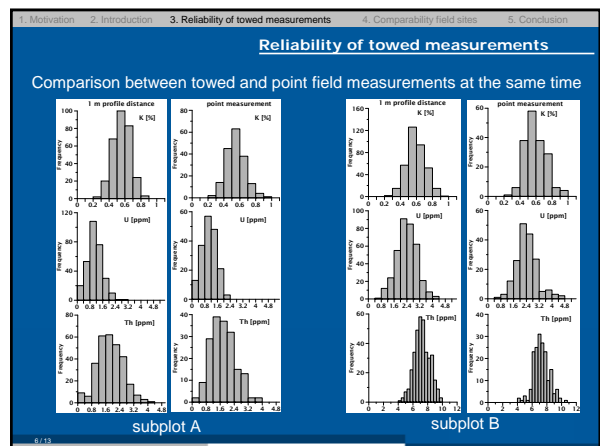
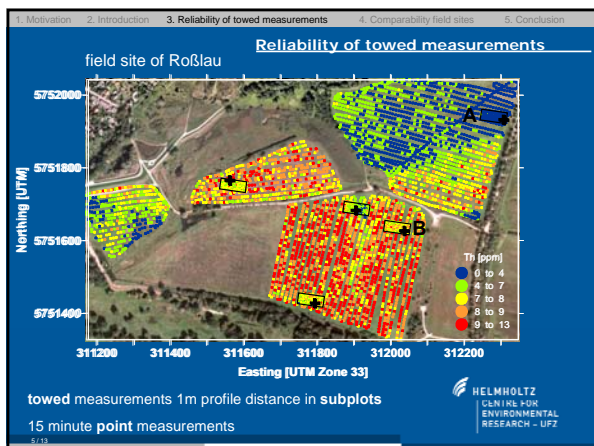
Soil properties

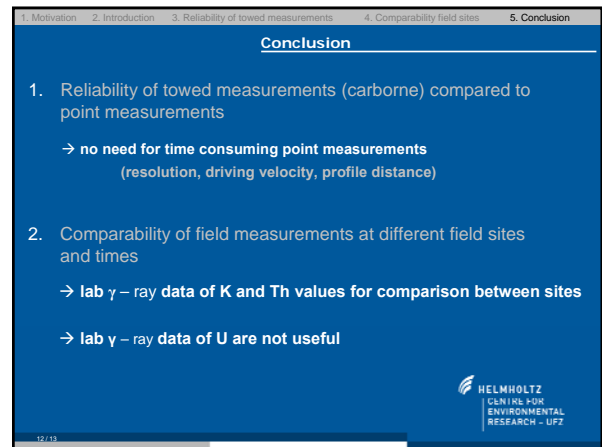
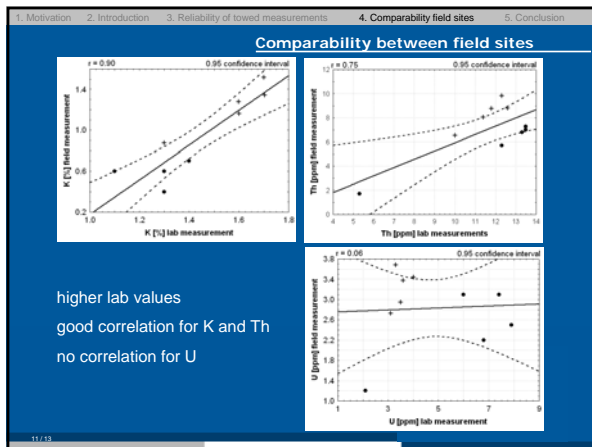
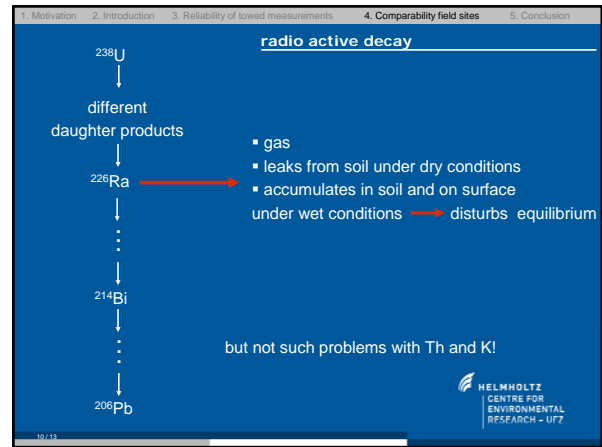
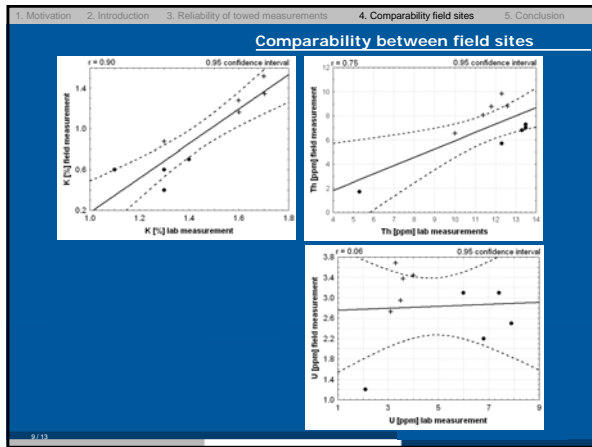
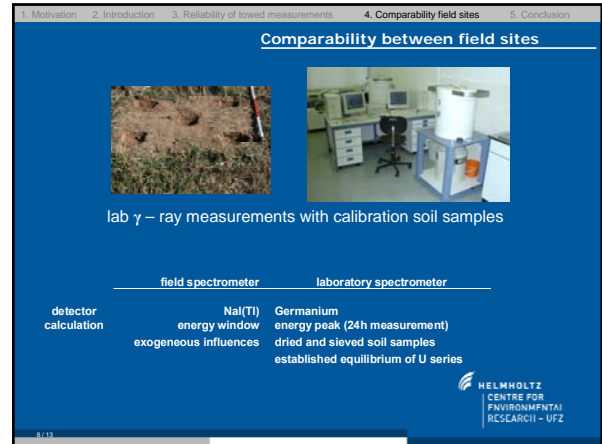
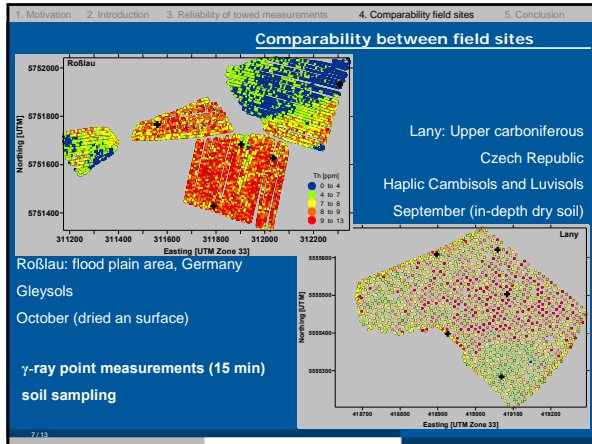
- Geological origin
- grain size (clay mineralogy)
- organic matter

Challenge

- soil moisture
- meteorological conditions
- fertilization

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Thank you for your attention!

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Sampling schemes

+ Digital Elevation Model, (Other additional Information)

Latin Hypercube Sampling

N
 5555600
 5555500
 5555400
 5555300
 E
 418700 418800 418900 419000 419100 419200
 height [m] 640 442 430 425 420 415
 * sampling points
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