



Investigations on sub-recent erosion and sedimentation rates within a braided sandur system in Erdalen (Nordfjord, western Norway)

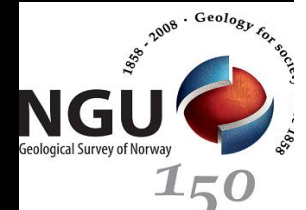
K. Laute⁽¹⁾, A.A. Beylich^(2, 3), L. Hansen⁽⁴⁾ & K.-H. Schmidt⁽¹⁾

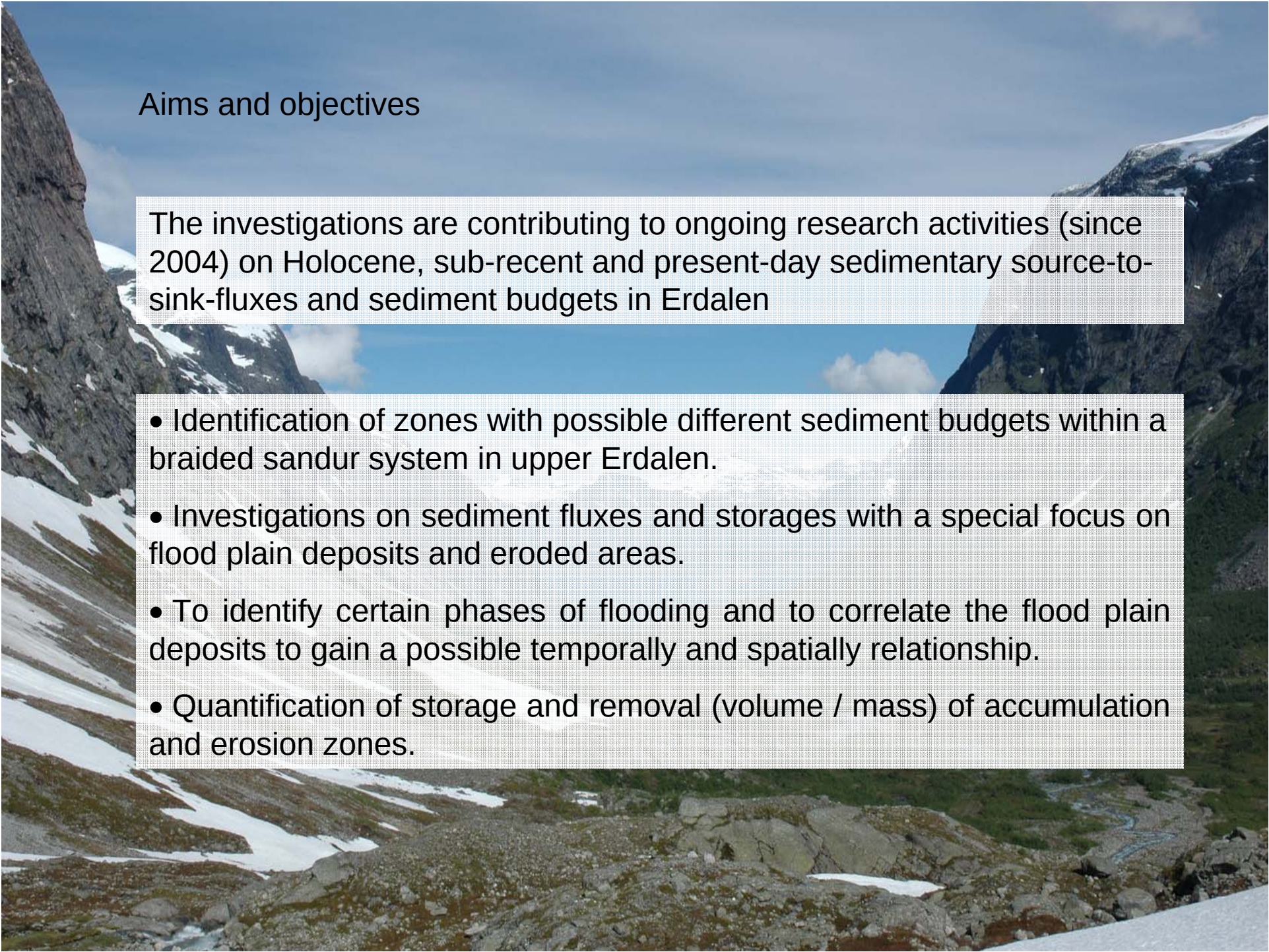
(1) Martin-Luther-University of Halle-Wittenberg, Institute of Geosciences, Halle/Saale, Germany

(2) Geological Survey of Norway, Quaternary Geology and Climate group, Trondheim, Norway

(3) Norwegian University of Science and Technology, Department of Geography, Trondheim, Norway

(4) Geological Survey of Norway, Geohazards group, Trondheim, Norway





Aims and objectives

The investigations are contributing to ongoing research activities (since 2004) on Holocene, sub-recent and present-day sedimentary source-to-sink-fluxes and sediment budgets in Erdalen

- Identification of zones with possible different sediment budgets within a braided sandur system in upper Erdalen.
- Investigations on sediment fluxes and storages with a special focus on flood plain deposits and eroded areas.
- To identify certain phases of flooding and to correlate the flood plain deposits to gain a possible temporally and spatially relationship.
- Quantification of storage and removal (volume / mass) of accumulation and erosion zones.

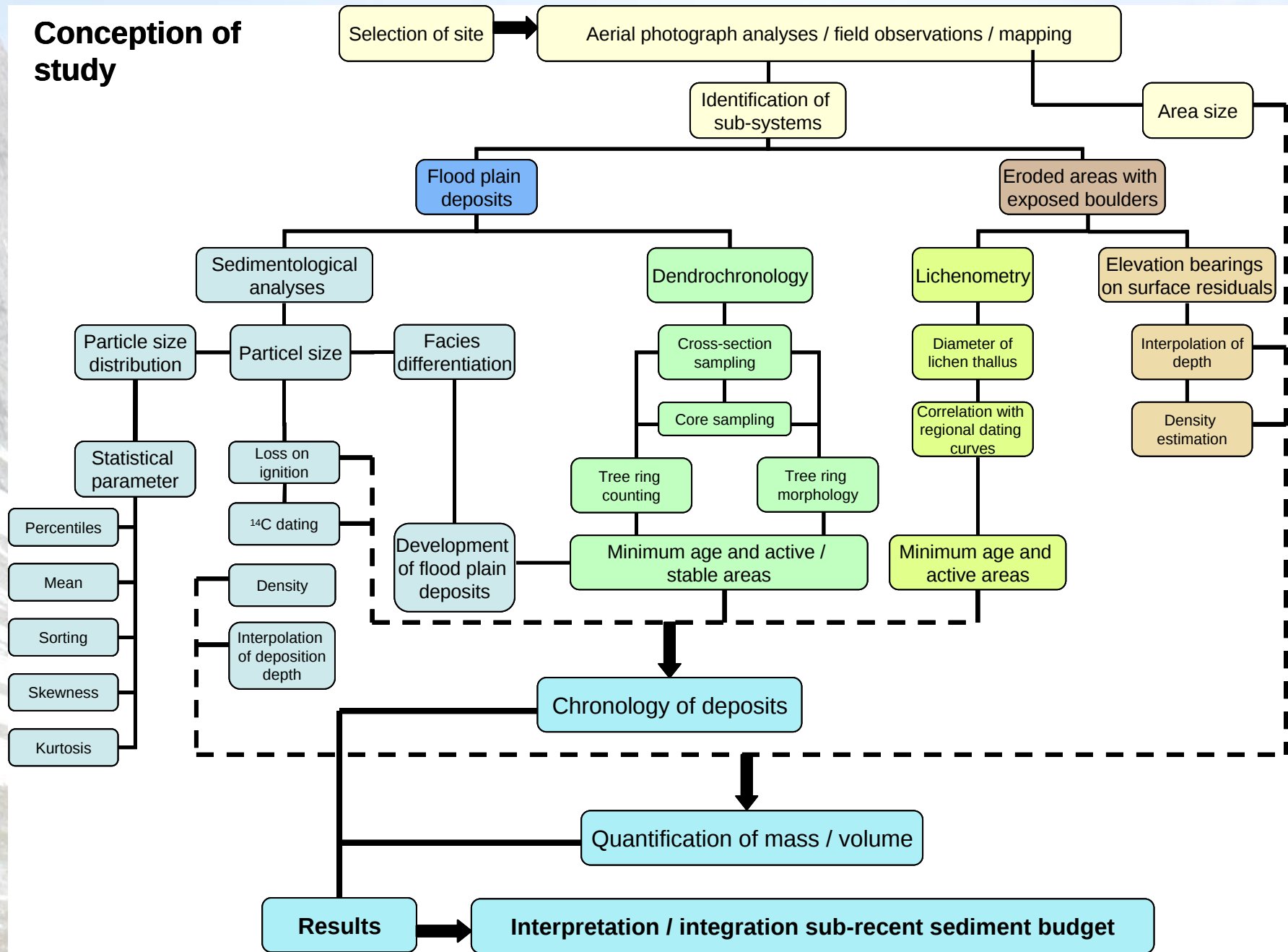
Study area



Fredin

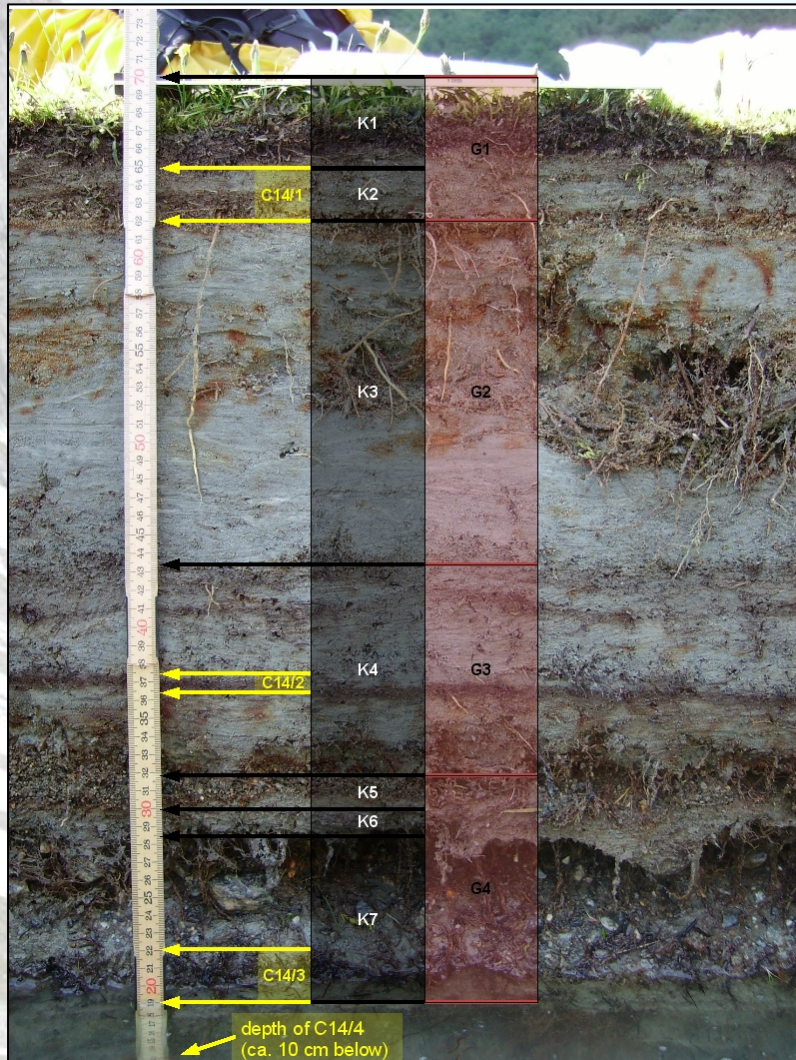
Photo: S. Liermann

Conception of study



Methods

combination of different methods:



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P5 & P

third cl
from th

74 cm,



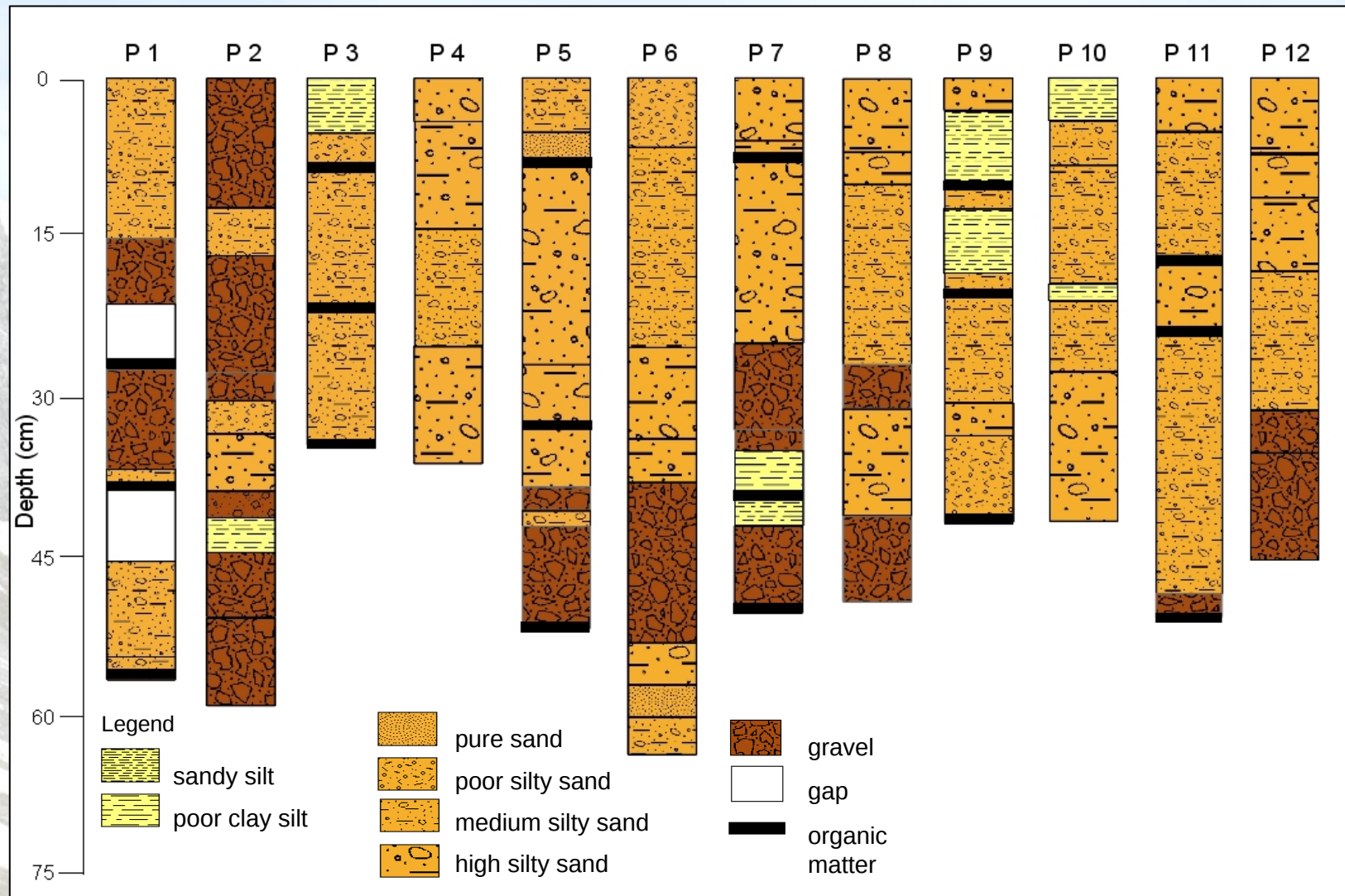
P11 & P12

main channel

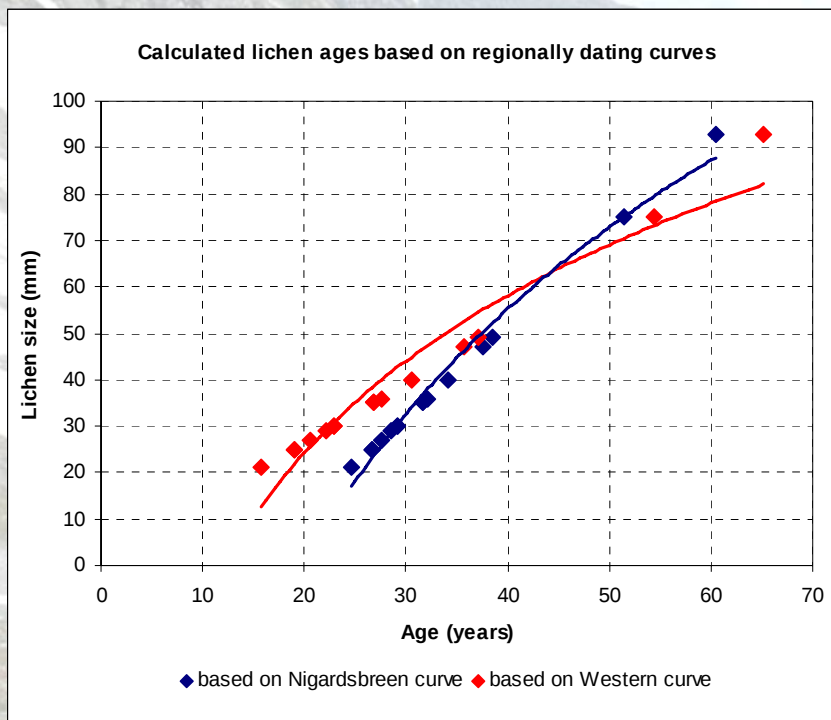
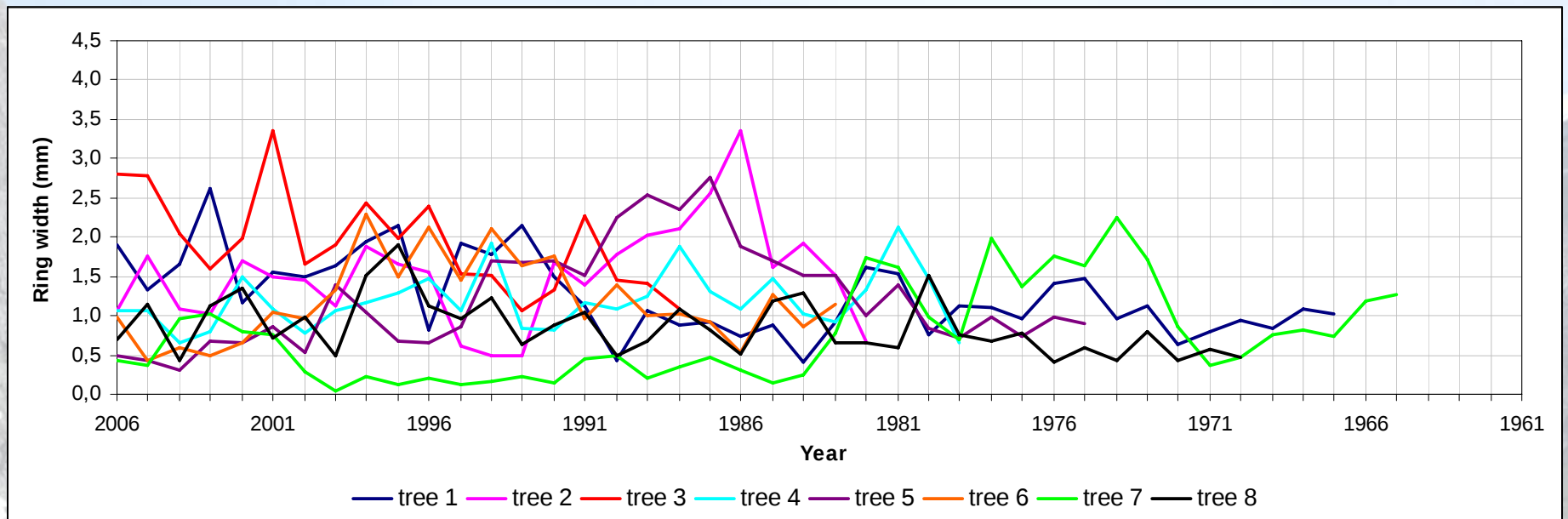
71 cm; 46 cm



Results



- spatially distributed pattern / different composition
- domination of fine-grained sediments in central area
- decrease of thickness of fine-grained layers towards the sides



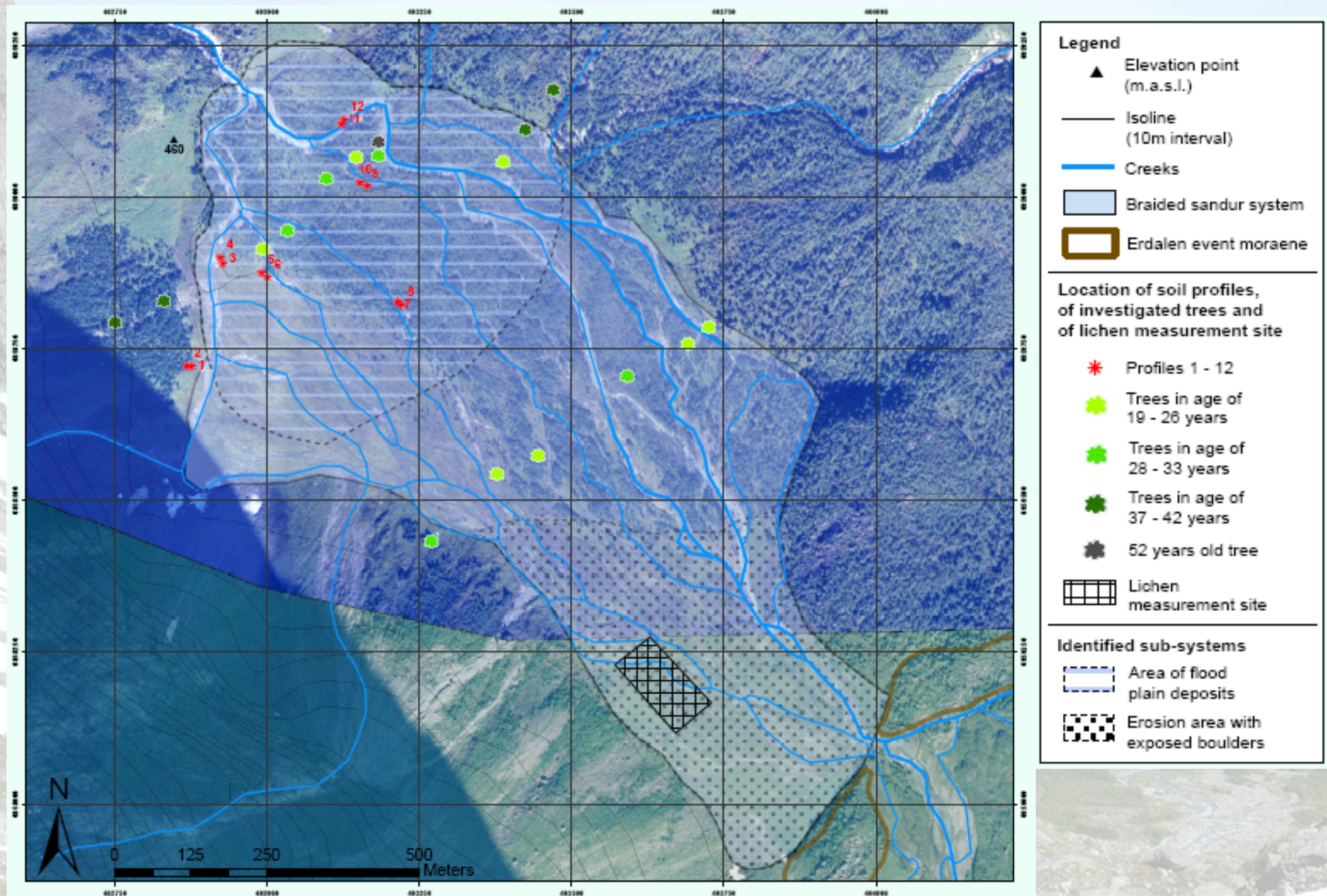
Tree ring widths:

- distinctive uneven growth
- rapid changes from large to narrow rings

Lichenometry:

- exposure of examined boulders definitely after end of „LIA“ period

Identification of sub-systems, tree ages, location of soil profiles and lichen measurement site

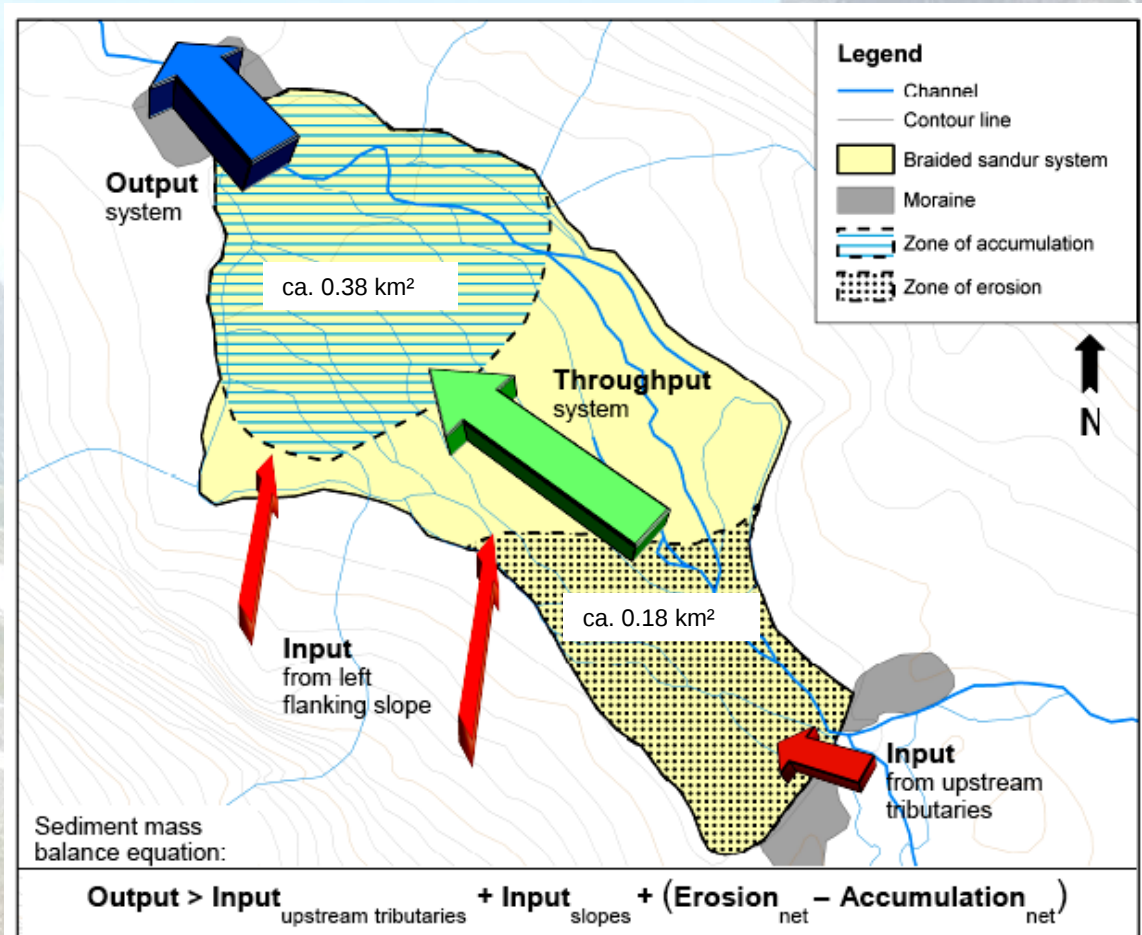


Conclusions

- Identification of different zones regarding sediment dynamics and budgets within the braided sandur system
- Net erosion is greater than net accumulation

➤ output of system is greater than input from upstream sources and the slopes plus net storage of the system

➤ sub-recent sediment budget of the braided sandur system appears to be slightly negative and supply-limited



Thank you!



Photo: J. Seguinot