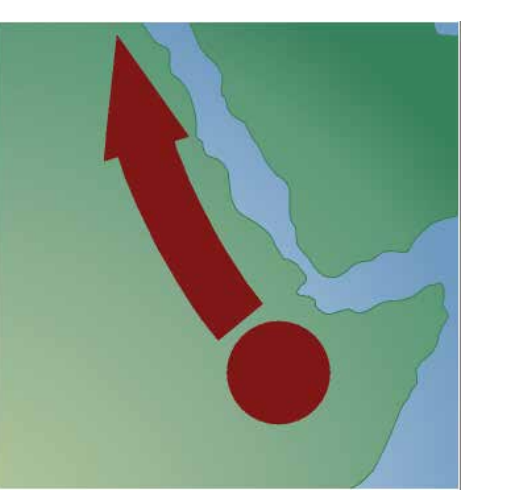


# Geomorphological processes and preservation of archaeological remains in the rockshelter Mochena Borago, Ethiopia

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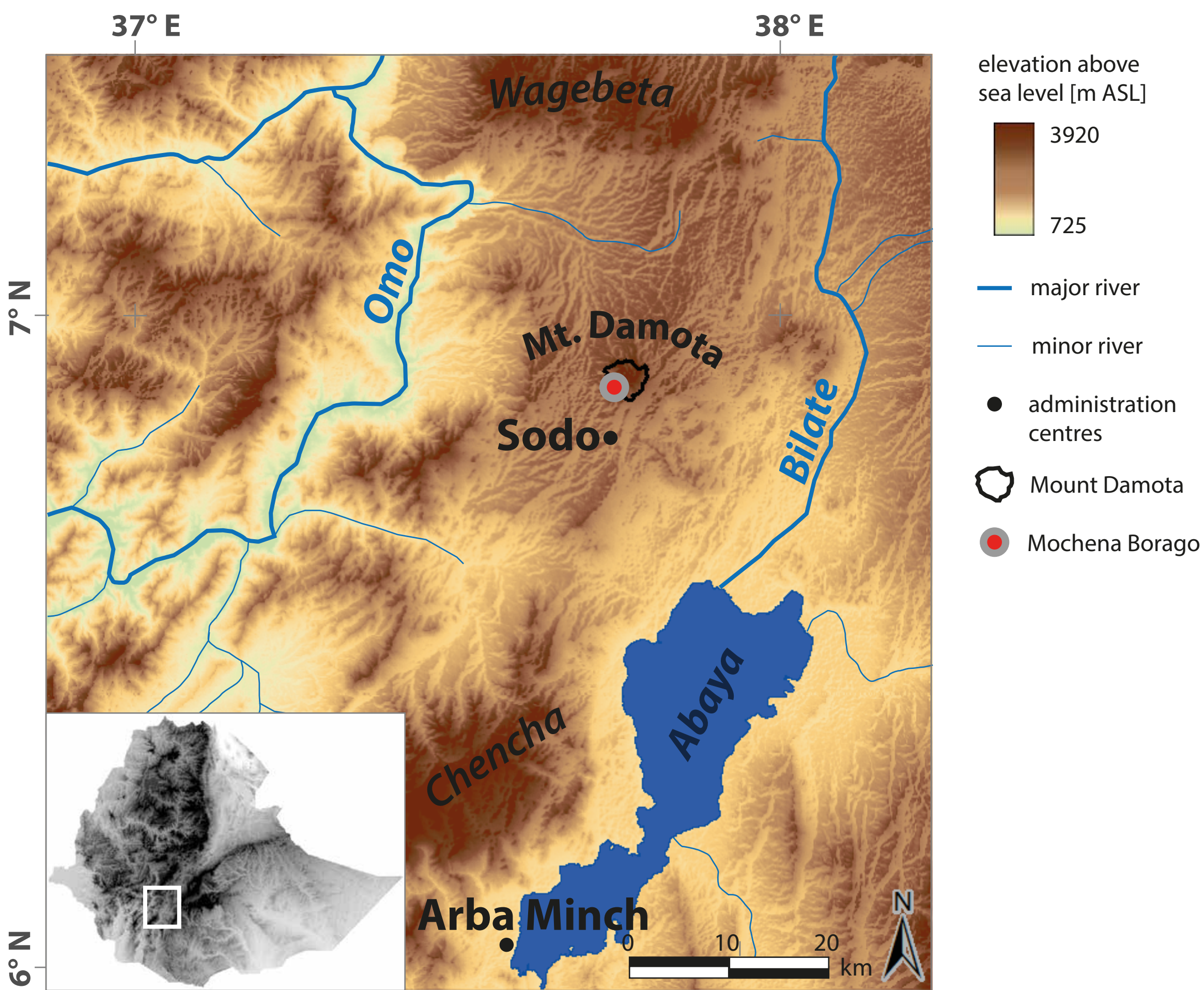
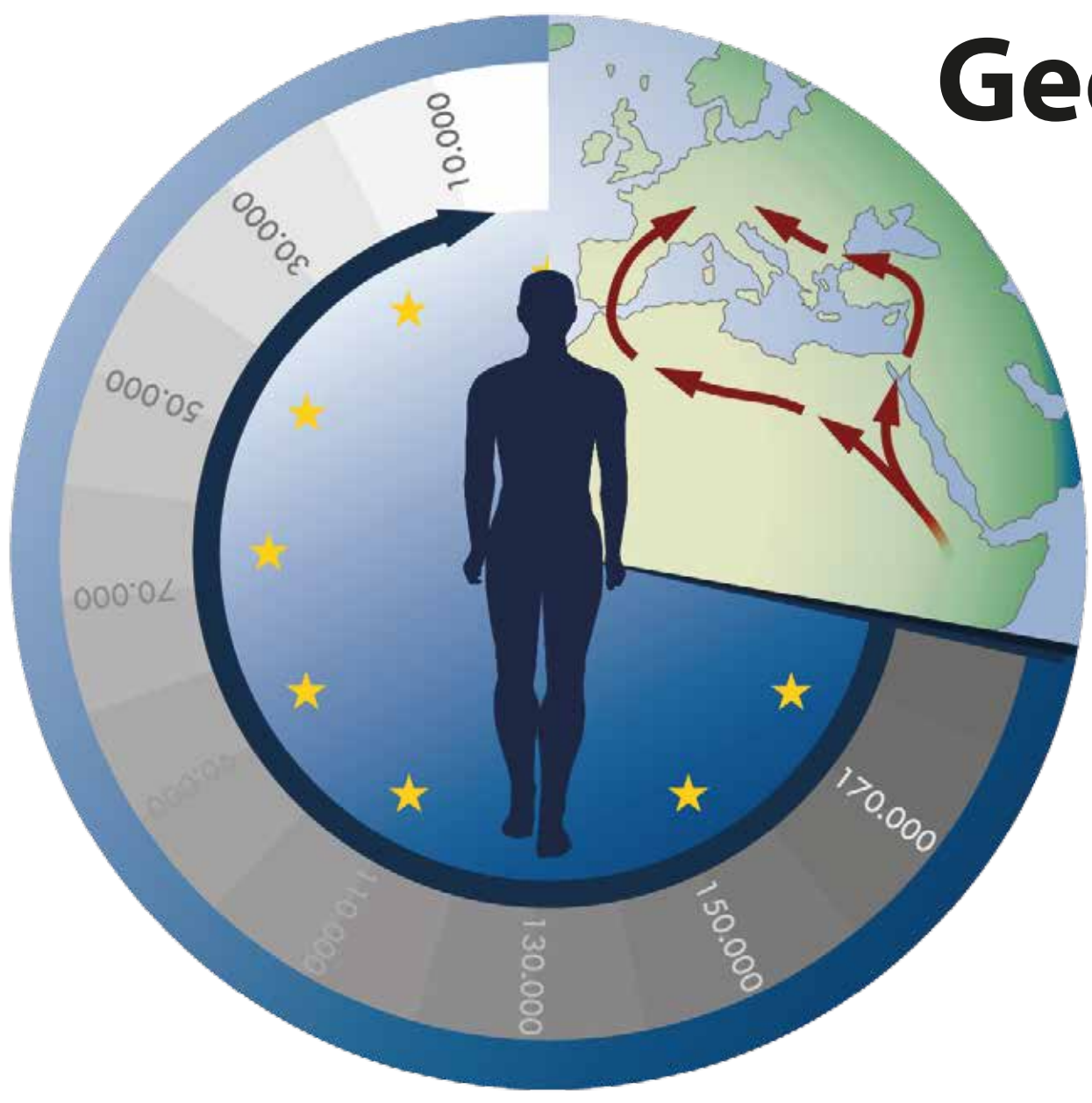


Fig. 1: Study area and location of Mochena Borago rockshelter at the western slope of Mount Damota in the southwestern Ethiopian Highlands.

## Introduction

The rockshelter Mochena Borago served as a retreat for hunters and gatherers in the southwestern Ethiopian Highlands during prehistoric times. During the last decade archaeological analyses helped to gain insight into the history of settlement of the rockshelter in the last 50 ka. The test pits show intercalated deposits of volcanic and clastic origin, which are supposed to be set in a stratigraphical context. Moreover the sedimentary origin as well as the geomorphological transport processes should provide conclusions to trends of environmental circumstances during relative time periods.



## Methods

The investigations at Mochena Borago rockshelter include archaeological excavations, geomorphological observations and thin section analyses of the sediments. We observe morphological indications in erosion features that represent morphological changes at the site. Beyond this, the micromorphological approach should lead to information about sedimentation processes. Type and nature of the cultural remains of *Homo sapiens* give hints for settlement periods at Mochena Borago.

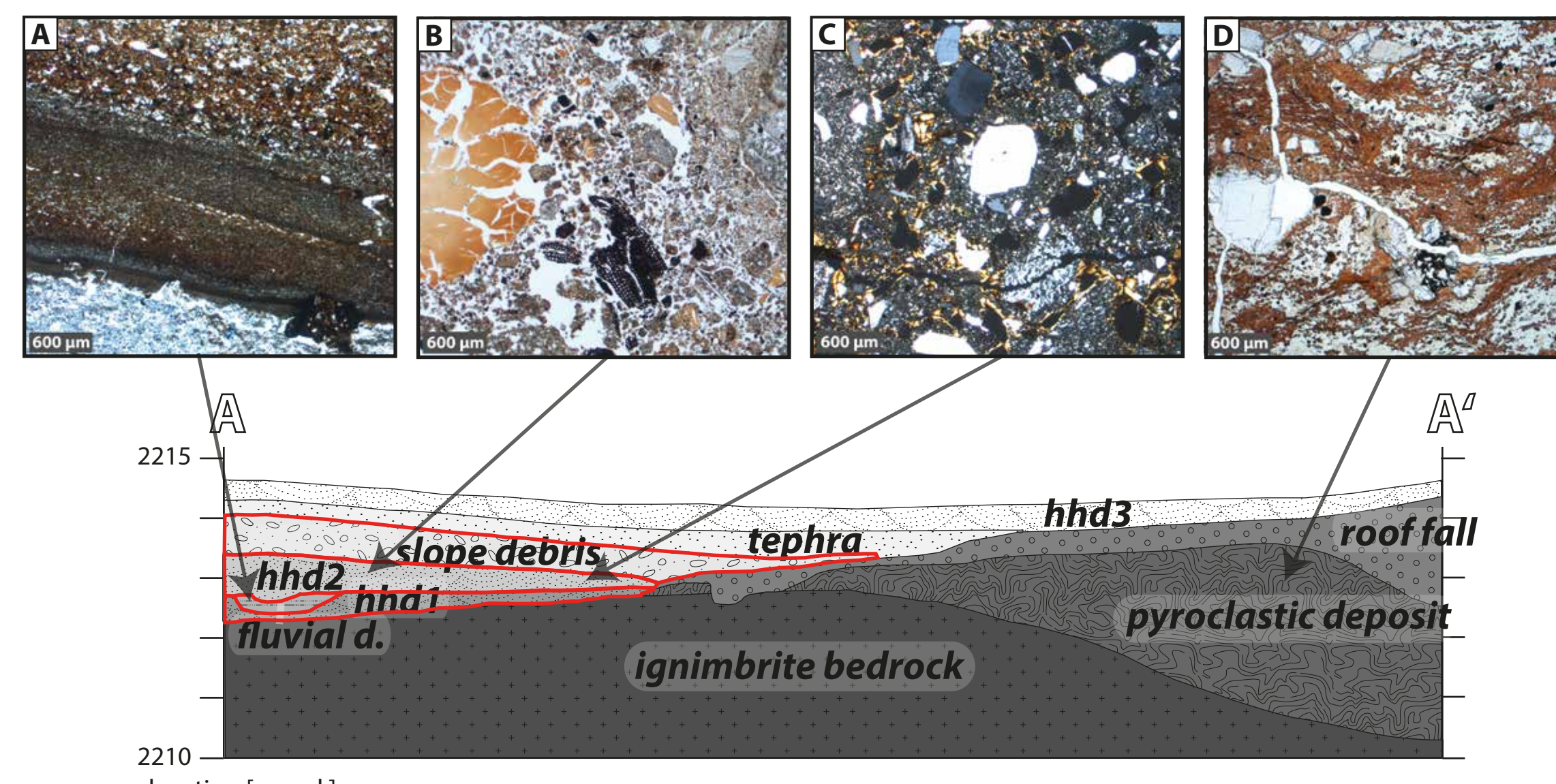
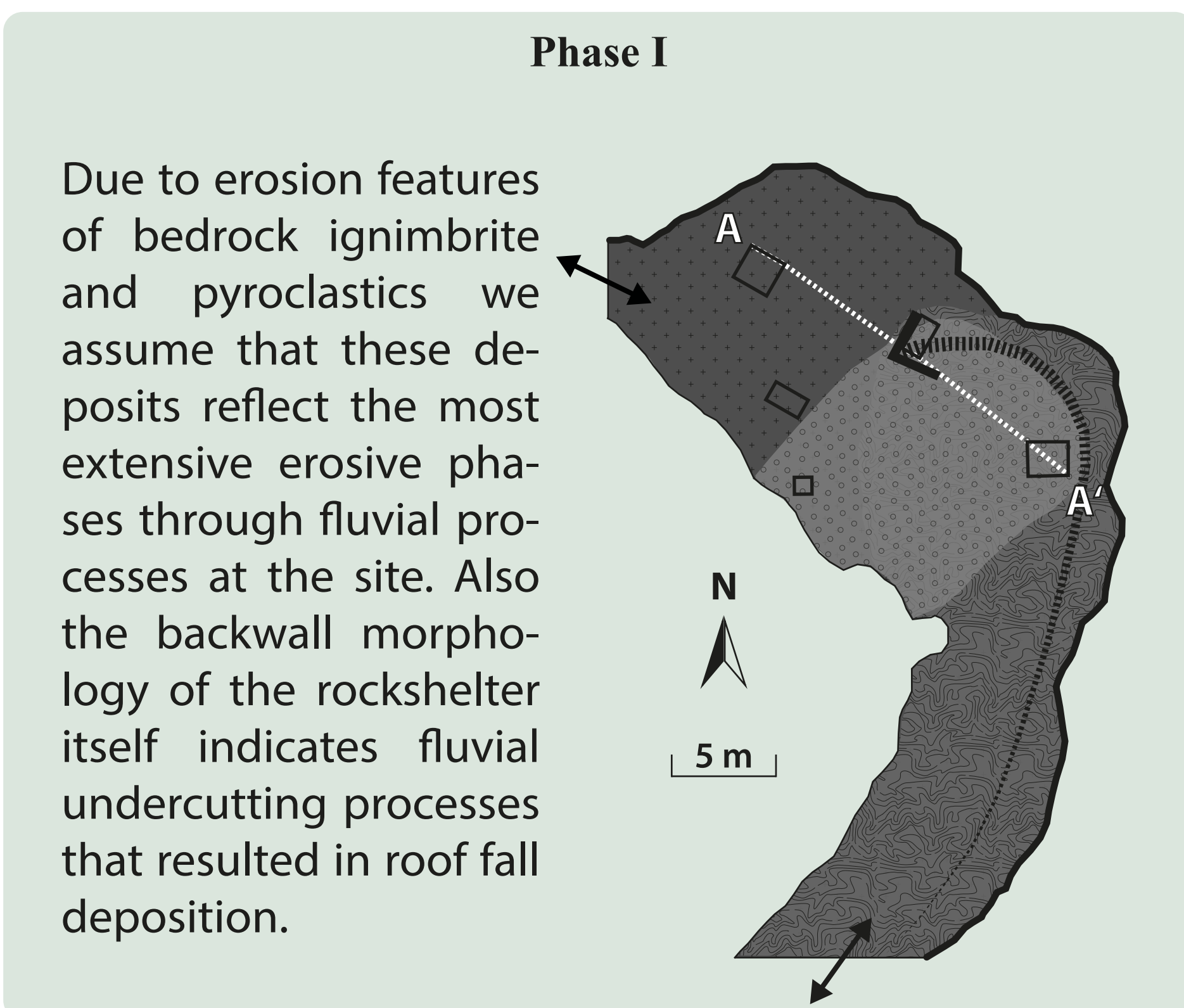


Fig. 4: Micromorphological features of thin sections from Mochena Borago: A lamination features (PPL) B burned bone fragments and charcoal pieces (PPL) C clay coatings within sediment (XPL) D pyroclastic deposit (PPL)

- |                                  |                               |
|----------------------------------|-------------------------------|
| <b>general</b>                   | <b>phases</b>                 |
| □ floor plan                     | I ignimbrite bedrock          |
| — back wall                      | ■ pyroclastic deposit         |
| □ test pit                       | ■ roof fall                   |
| → pathway                        | II human habitation debris 1  |
| <b>geomorphological features</b> | ■ fluvial deposit             |
| ← stream erosion                 | III human habitation debris 2 |
| ← sediment transport             | ■ slope debris                |
|                                  | IV tephra material            |
|                                  | ■ human habitation debris 3   |

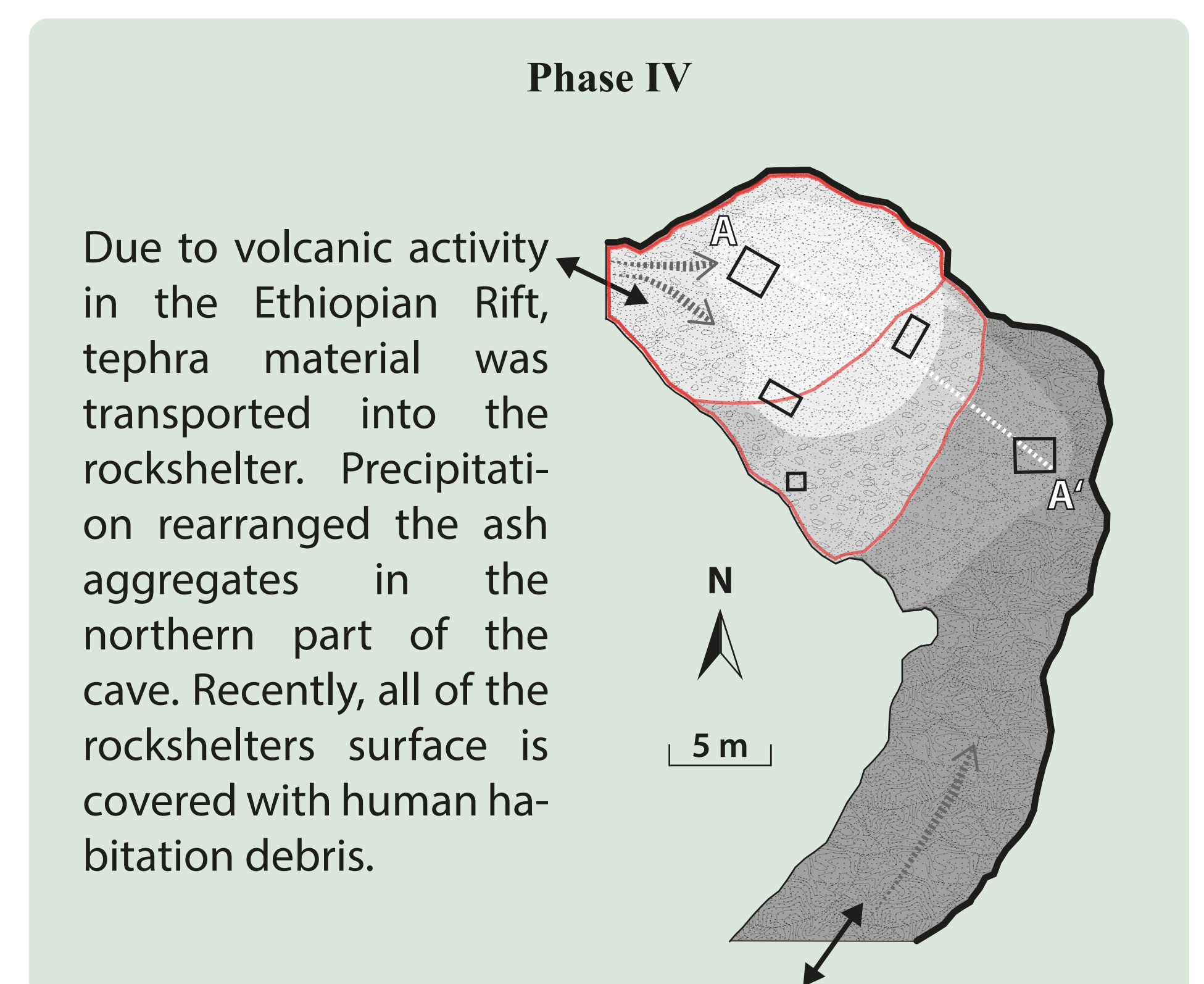
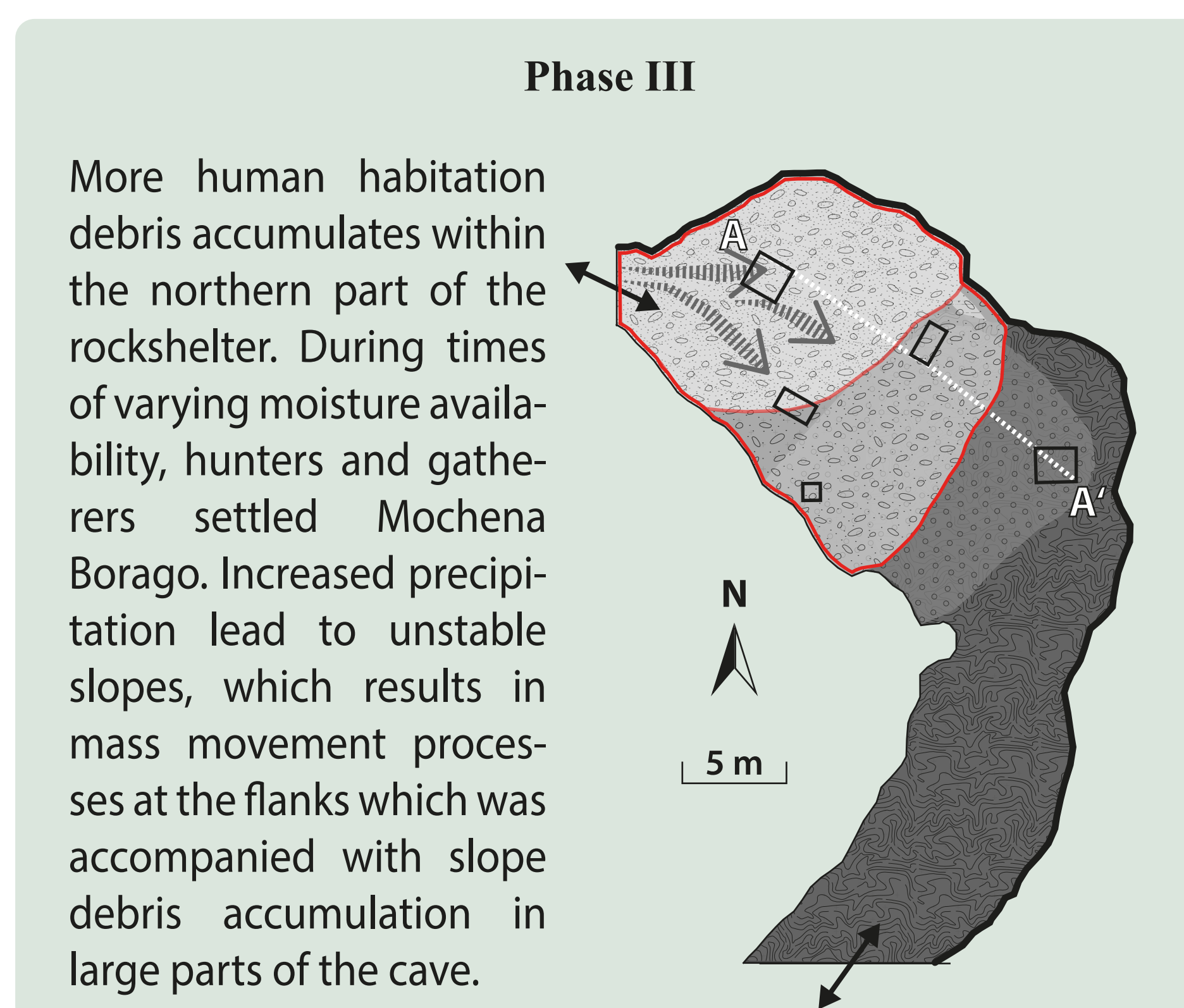
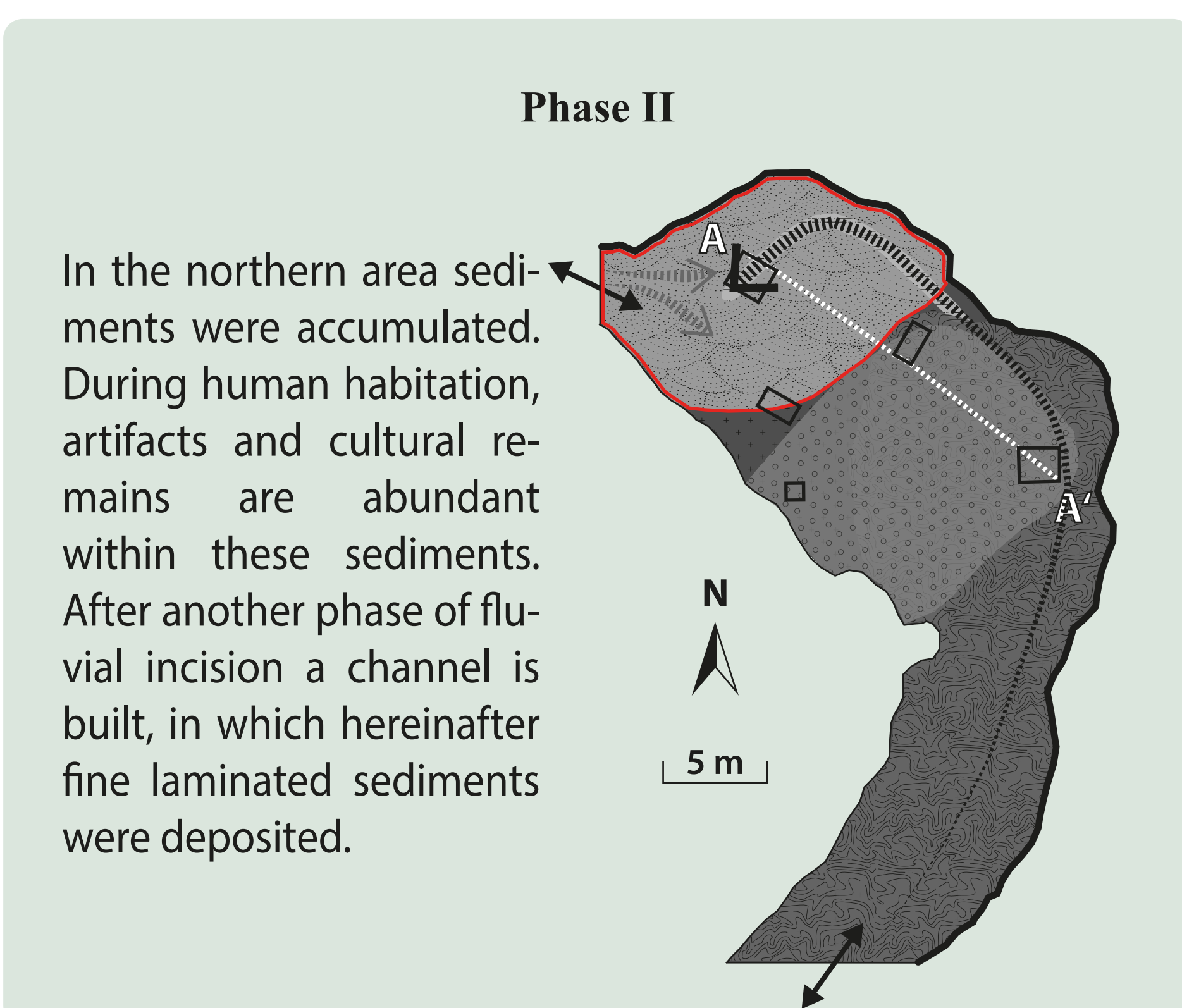


Fig. 5: Morphodynamic changes within Mochena Borago rockshelter

## Conclusion

Because erosion features in the southern part of the cave are present, it has to be taken into account that an earlier occupation at Mochena Borago than 50 ka BP is possible. The depositional history is still not fully understood and consequently more investigations are necessary at Mochena Borago, which constitutes a research site with urgent need for interdisciplinary work on early human local history. In the future, the regional connection between different paleoenvironments in southwestern Ethiopia has to be examined and more climatic archives in this region will be included.

## References

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