AGU PUBLICATIONS

Tectonics

Supporting Information for

Coseismic ground rupture of the October 15, 2013 Magnitude (*Mw*) 7.2 Bohol Earthquake, Bohol Island, Central Philippines

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Contents of this file

Introduction

This supporting information provides figures that show the basis for the scarp height measurements in section 3.2, trench photomosaics in sections 4.1-4.4; and C-14 calibration and recalibration data sheets in section 4.1.2.

Figure S1. Ground rupture photos in Sitio Centro, Barangay Napo, Inabanga. Scarp height measurement for each site shown in these photos are listed in Table S1.

Figure S2. Ground rupture photos in Sitio Centro and Sitio Luwak, Barangay Napo, Inabanga. Scarp height measurement for each site shown in these photos are listed in Table S1.

Figure S3. Ground rupture photos in Sitio Luwak, Barangay Napo and Sitio Tangob, Barangay. Liloan Norte, Inabanga. Scarp height measurement for each site shown in these photos are listed in Table S1.

Figure S4. Ground rupture photos in Sitio Tangob, Barangay Liloan Norte and Sitio Calubian, Barangay Anonang, Inabanga. Scarp height measurement for each site shown in these photos are listed in Table S1.

Figure S5. Ground rupture photos in Sitio Calubian, Barangay Anonang, Inabanga. Scarp height measurement for each site shown in these photos are listed in Table S1.

Figure S6. Ground rupture photos in Sitio Calubian and Sitio Cumayot, Barangay Anonang, Inabanga. Scarp height measurement for each site shown in these photos are listed in Table S1.

Figure S7. Ground rupture photos in Sitio Cumayot, Barangay Anonang, Inabanga. Scarp height measurement for each site shown in these photos are listed in Table S1.

Figure S8. Ground rupture photos in Sitio Cumayot, Barangay Anonang, Inabanga and Sitio Haligi, Barangay New Anonang, Buenavista. Scarp height measurement for each site shown in these photos are listed in Table S1.

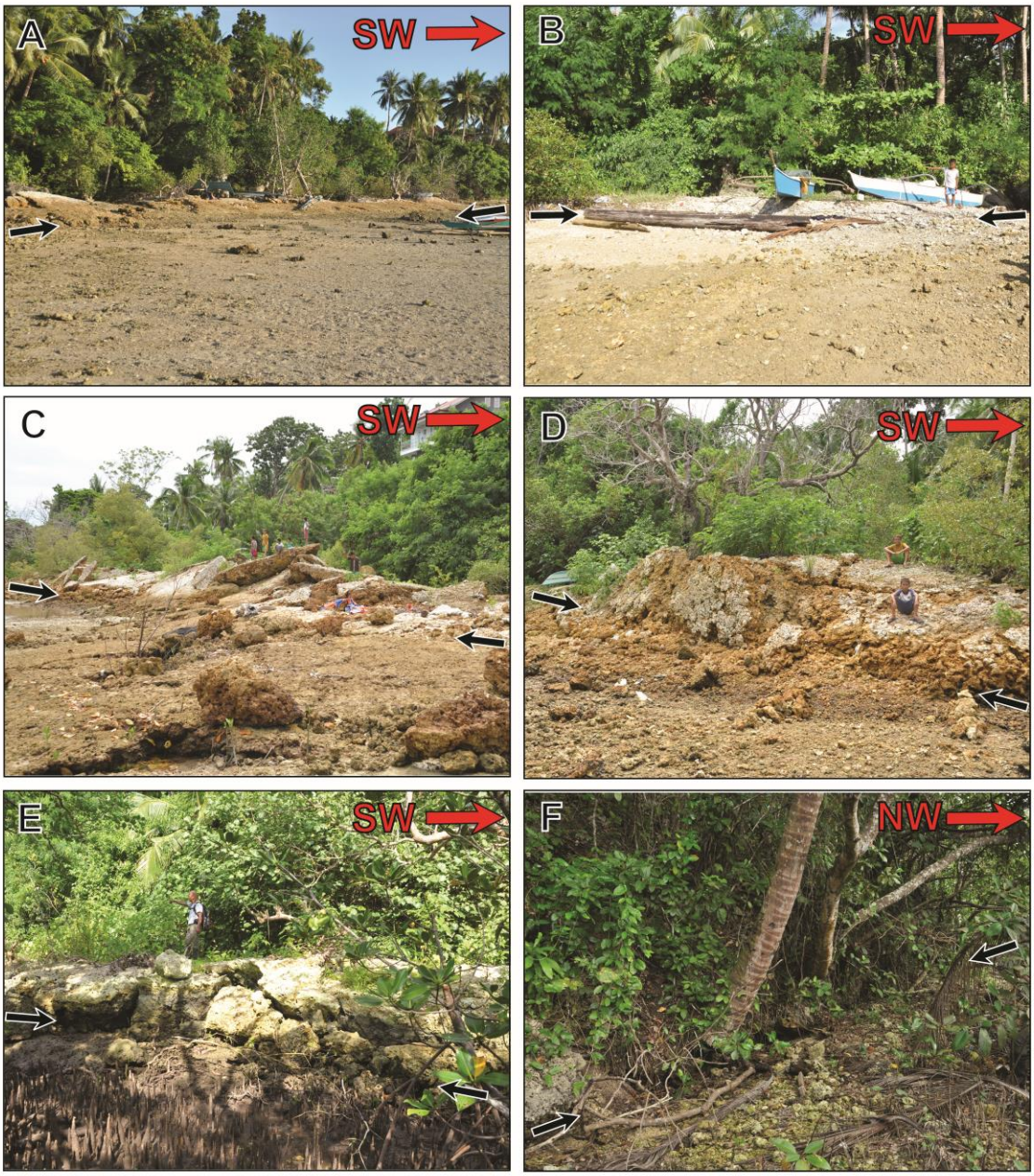


Figure S9. Ground rupture photos in Barangay Catagbacan Norte, Loon. Scarp height measurement for each site shown in these photos are listed in Table S1.

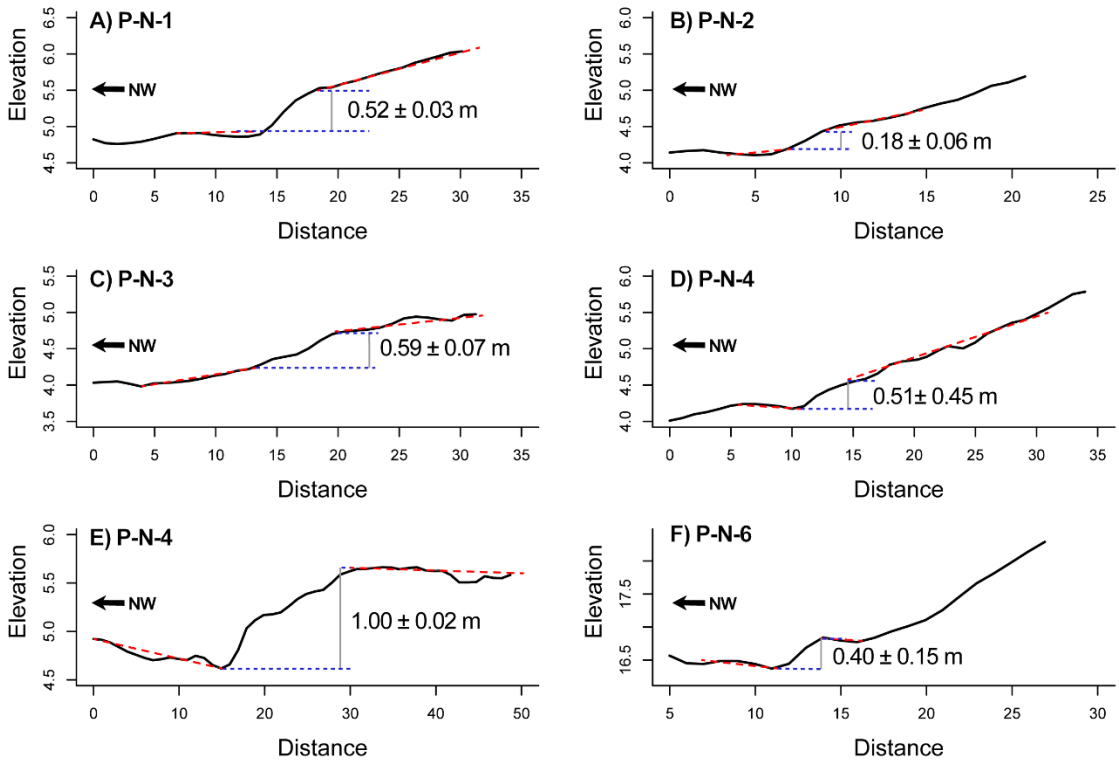


Figure S10. LiDAR-derived scarp profiles in Sitio Luwak, Barangay Napo, Barangay Anonang, Inabanga—Part 1. Scarp height measurements are summarized in Table S1. All units are in meters.

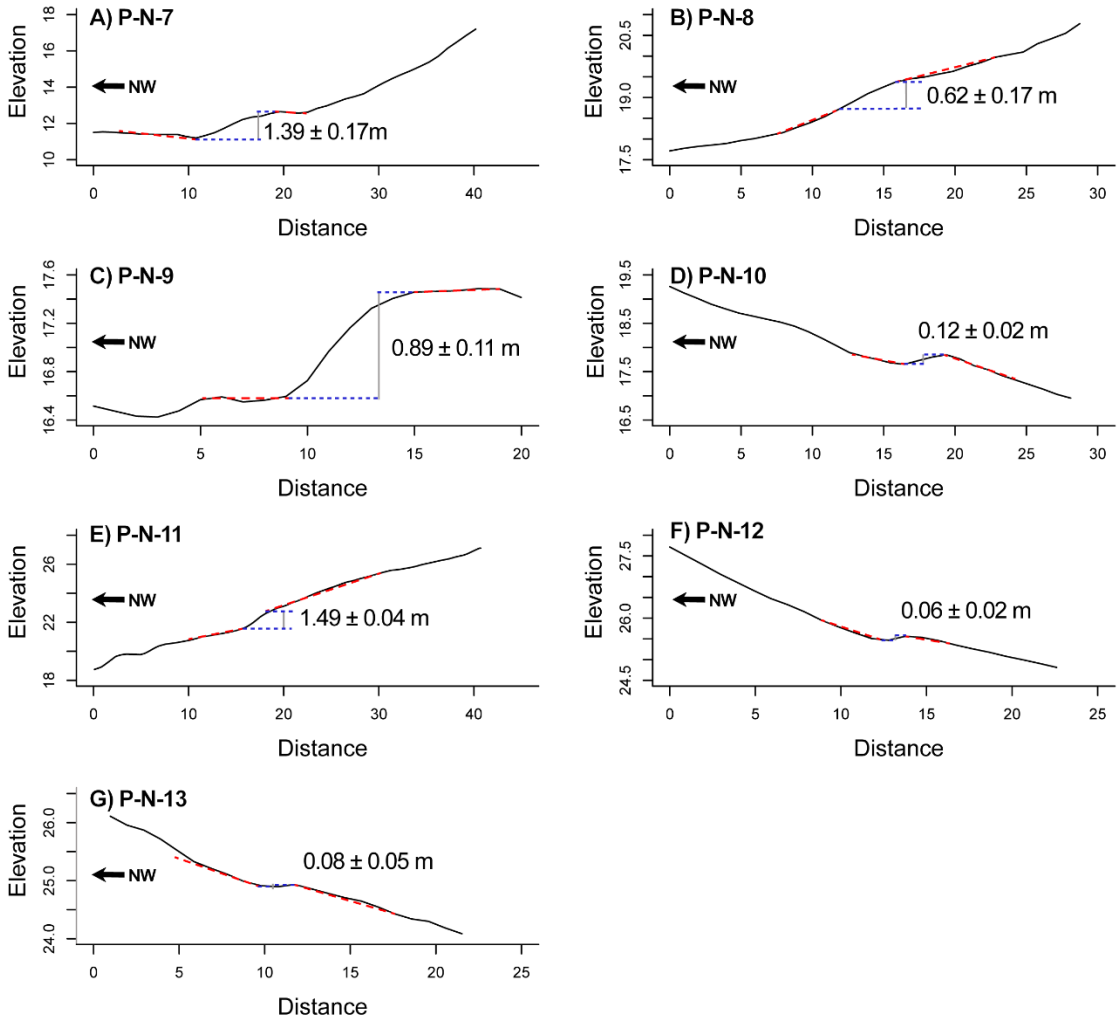


Figure S11. LiDAR-derived scarp profiles in Sitio Luwak, Barangay Napo, Barangay Anonang, Inabanga—Part 2. Scarp height measurements are summarized in Table S1. All units are in meters.

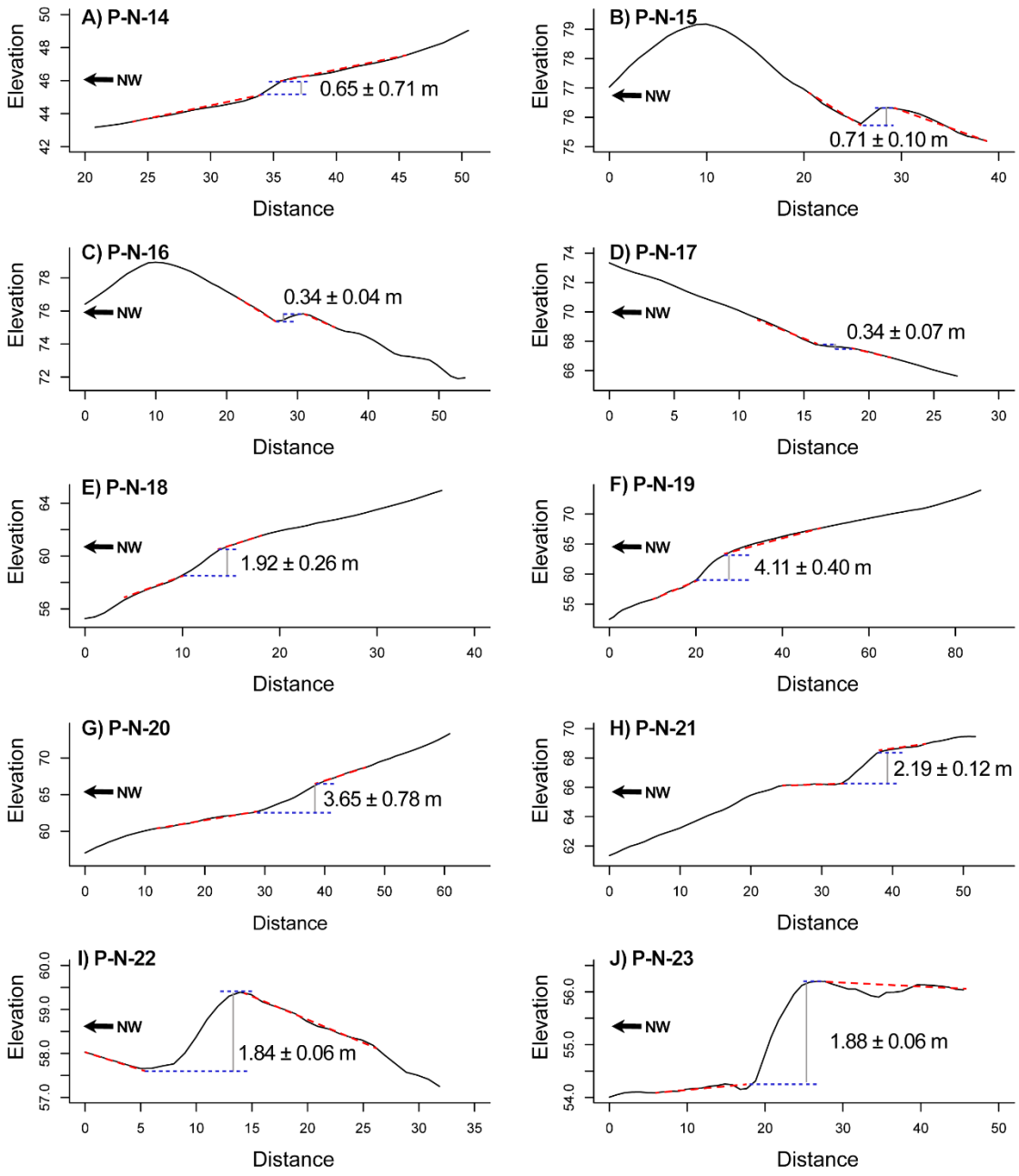


Figure S12. LiDAR-derived scarp profiles in Sitio Tangob, Barangay Liloan Norte, and Sitio Calubian, Barangay Anonang, Inabanga. Scarp height measurements are summarized in Table S1. All units are in meters.

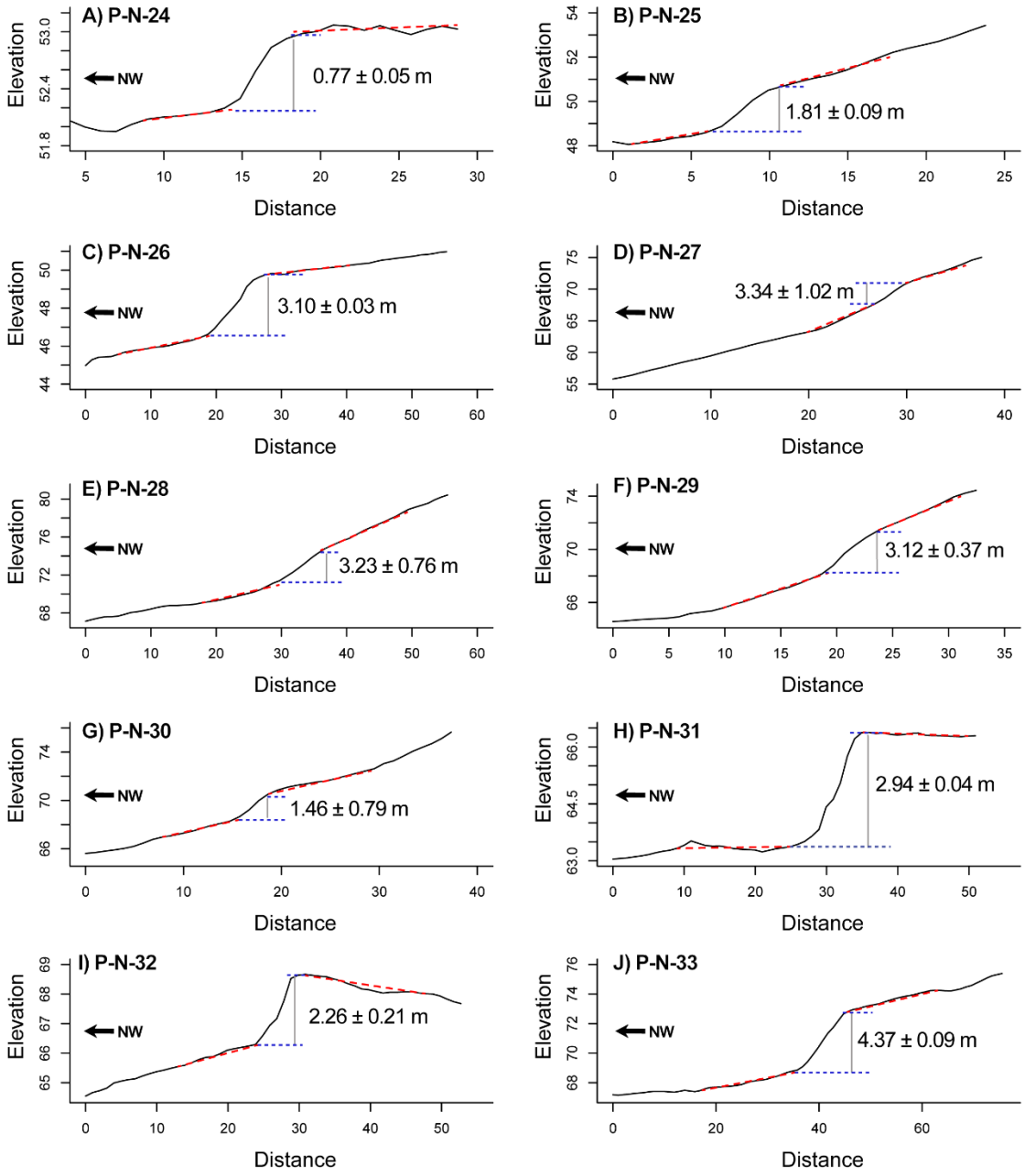


Figure S13. LiDAR-derived scarp profiles in Sitio Calubian and Sitio Cumayot, Barangay Anonang, Inabanga. Scarp height measurements are summarized in Table S1. All units are in meters.

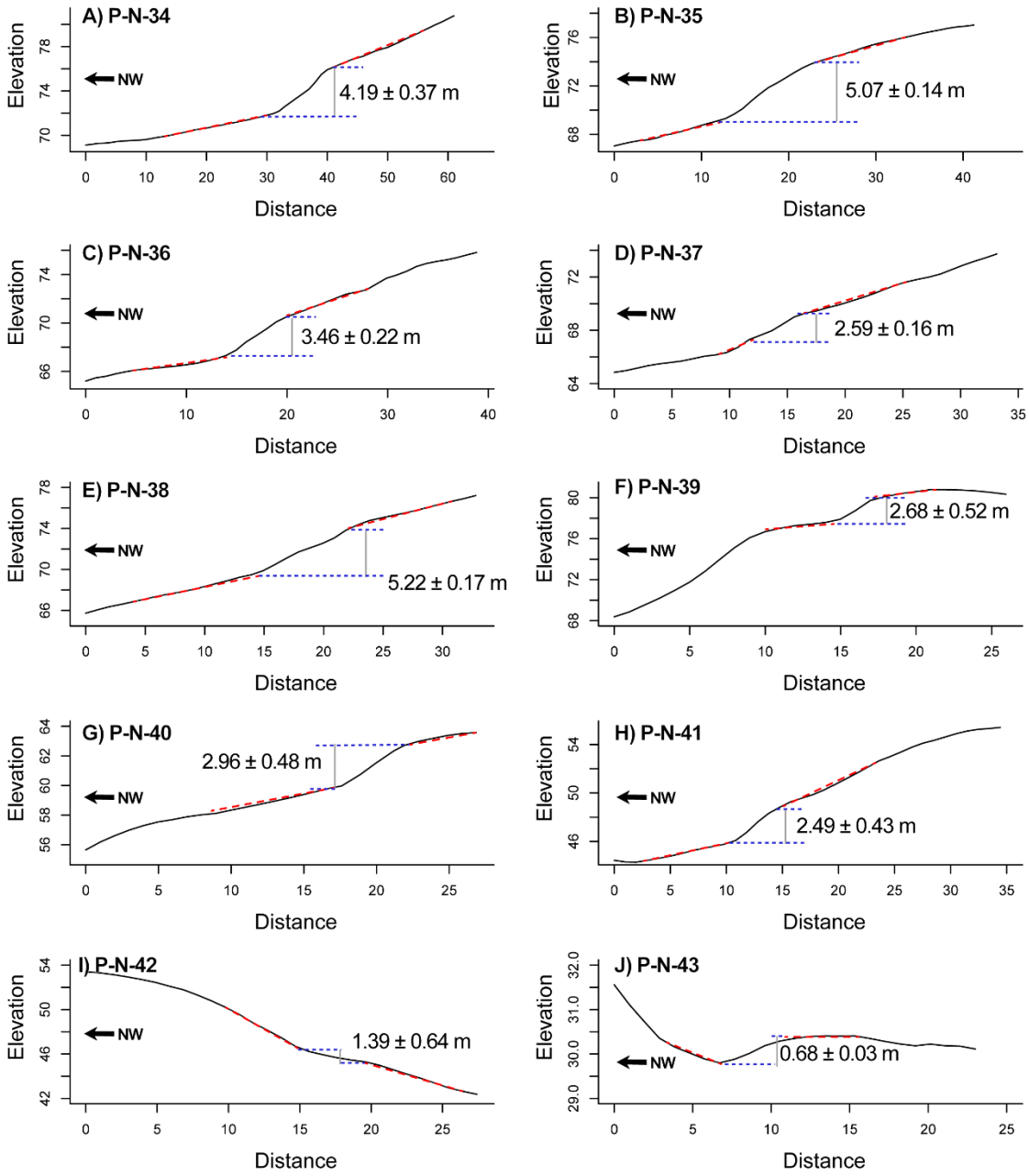


Figure S14. LiDAR-derived scarp profiles in Sitio Cumayot, Barangay Anonang, Inabanga and Sitio Haligi, Barangay New Anonang, Buenavista. Scarp height measurements are summarized in Table S1. All units are in meters.

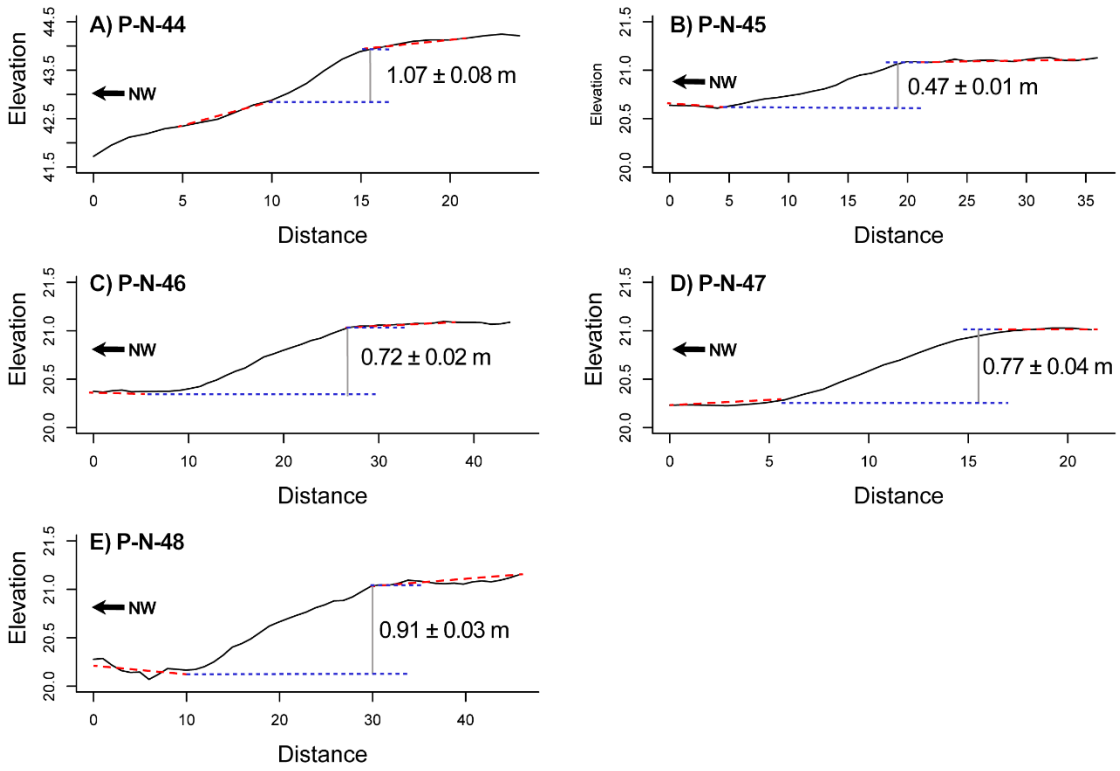


Figure S15. LiDAR-derived scarp profiles in Sitio Haligi, Barangay New Anonang, Buenavista. Scarp height measurements are summarized in Table S1. All units are in meters.

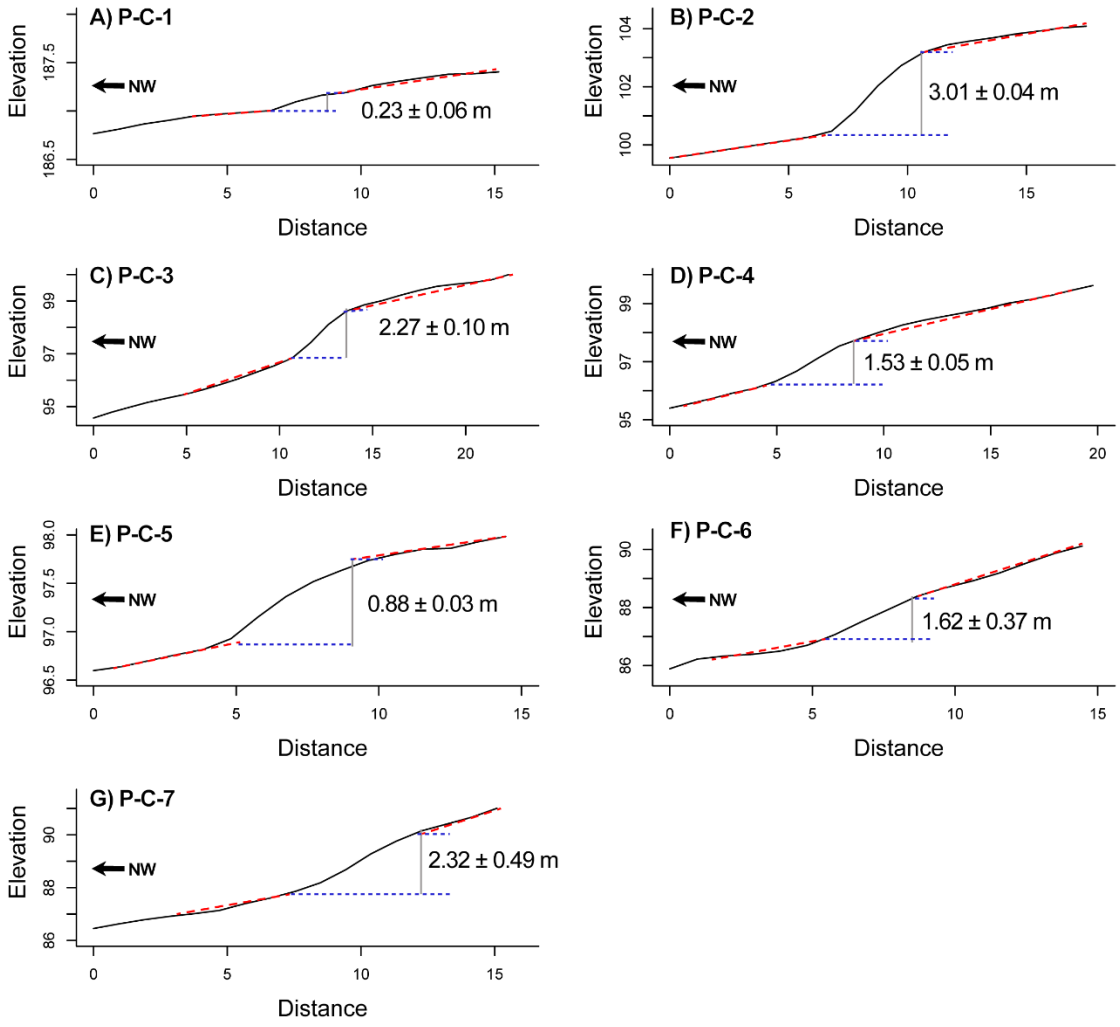


Figure S16. LiDAR-derived scarp profiles in Barangay Caluwasan and Barangay Tontunan, Clarin. Scarp height measurements are summarized in Table S1. All units are in meters.

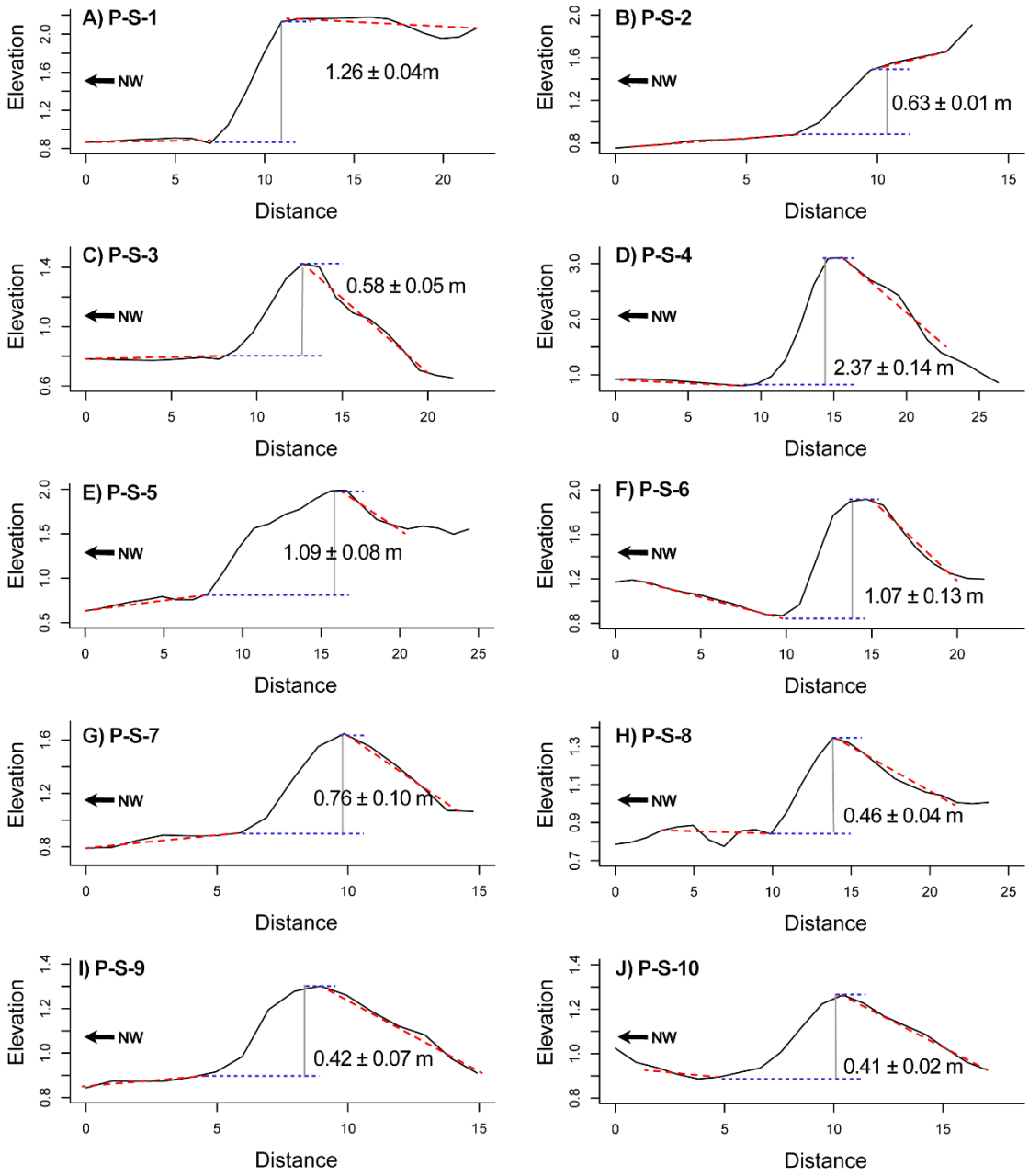


Figure S17. LiDAR-derived scarp profiles in Barangay Catagbacan Norte, Loon—Part 1. Scarp height measurements are summarized in Table S1. All units are in meters.

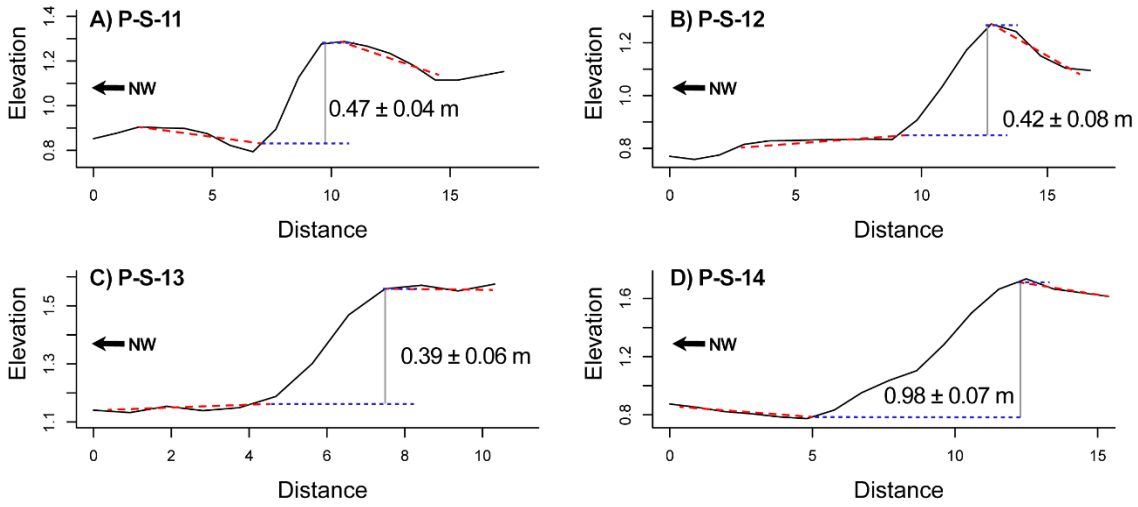


Figure S18. LiDAR-derived scarp profiles in Barangay Catagbacan Norte, Loon—Part 2. Scarp height measurements are summarized in Table S1. All units are in meters.

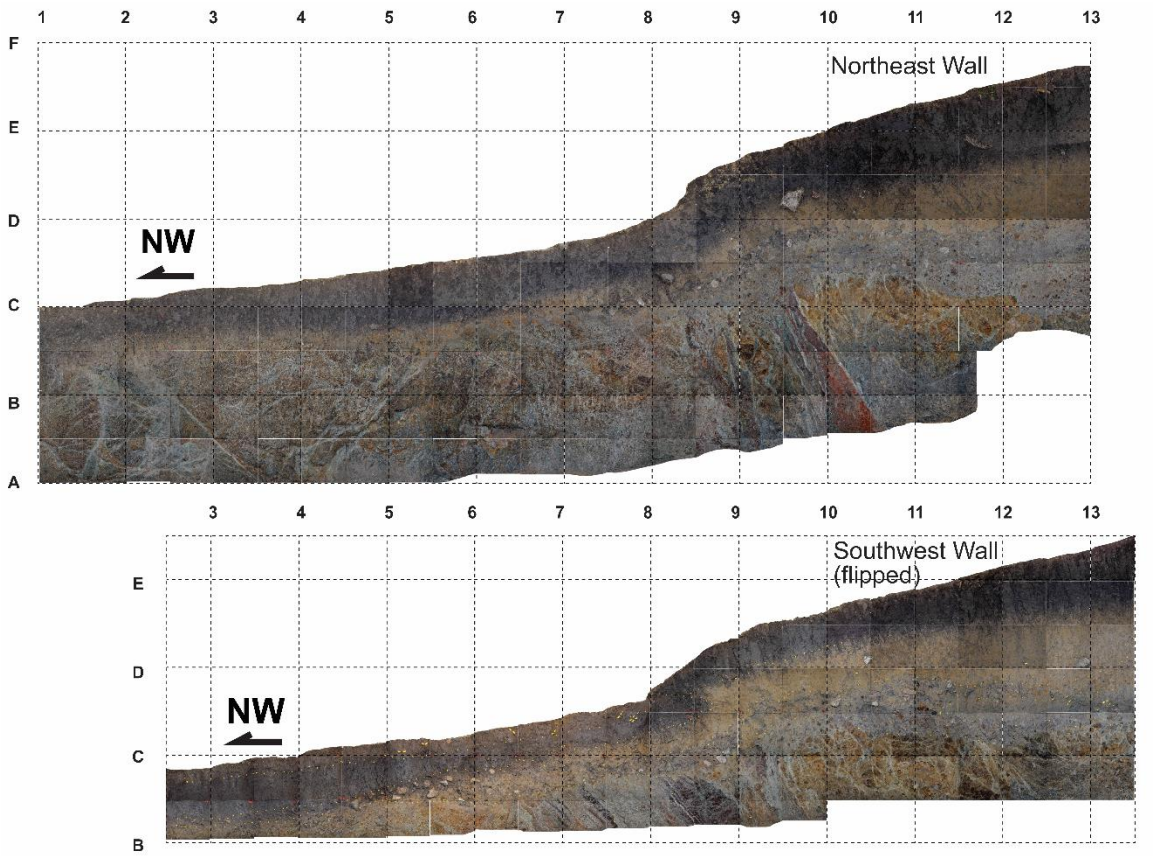


Figure S19. Luwak trench photomosaic. Grids are spaced one meter.

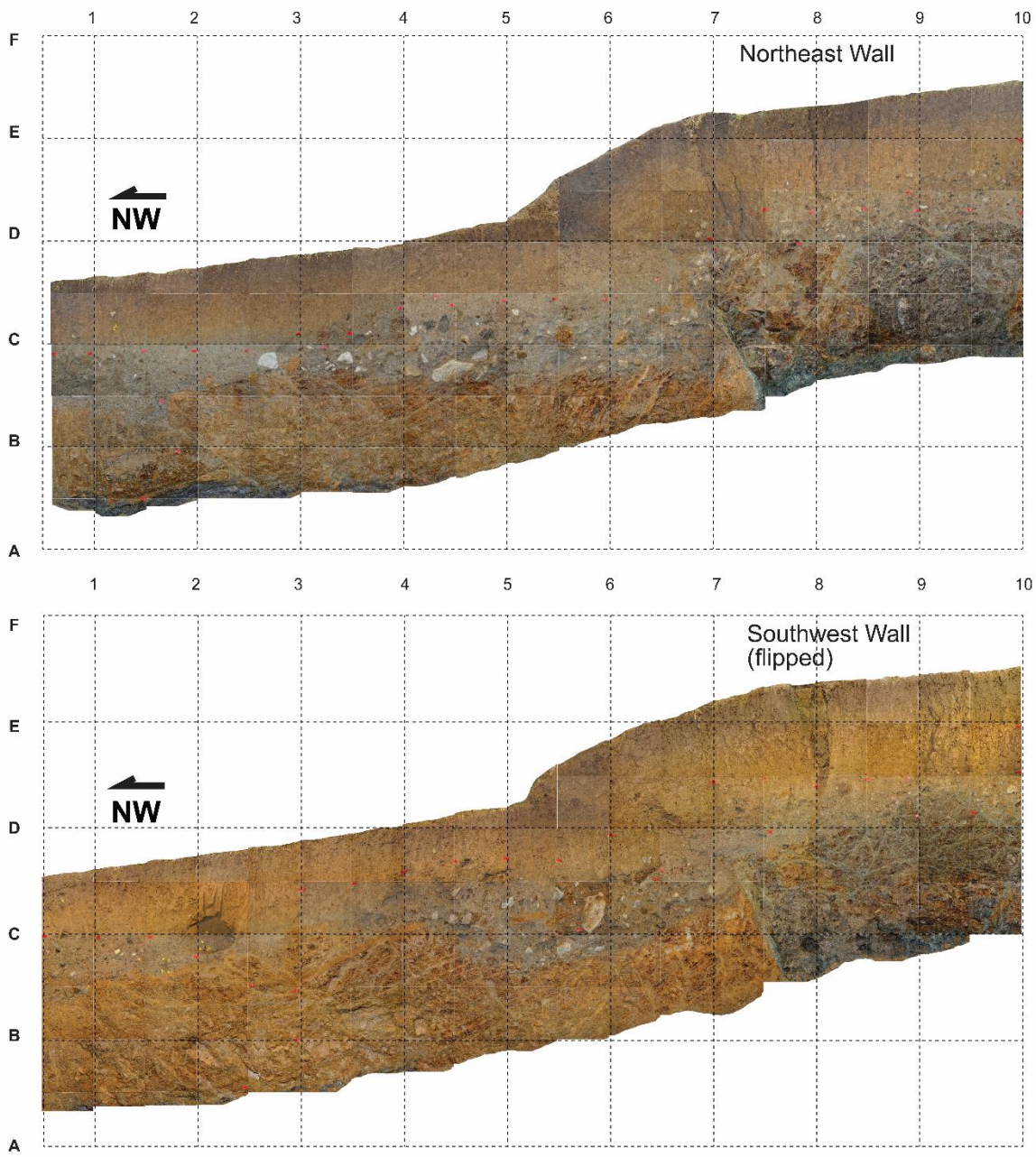


Figure S20. Tangob trench photomosaic. Grids are spaced one meter.

Figure S21. Calubian trench photomosaic. Grids are spaced one meter.

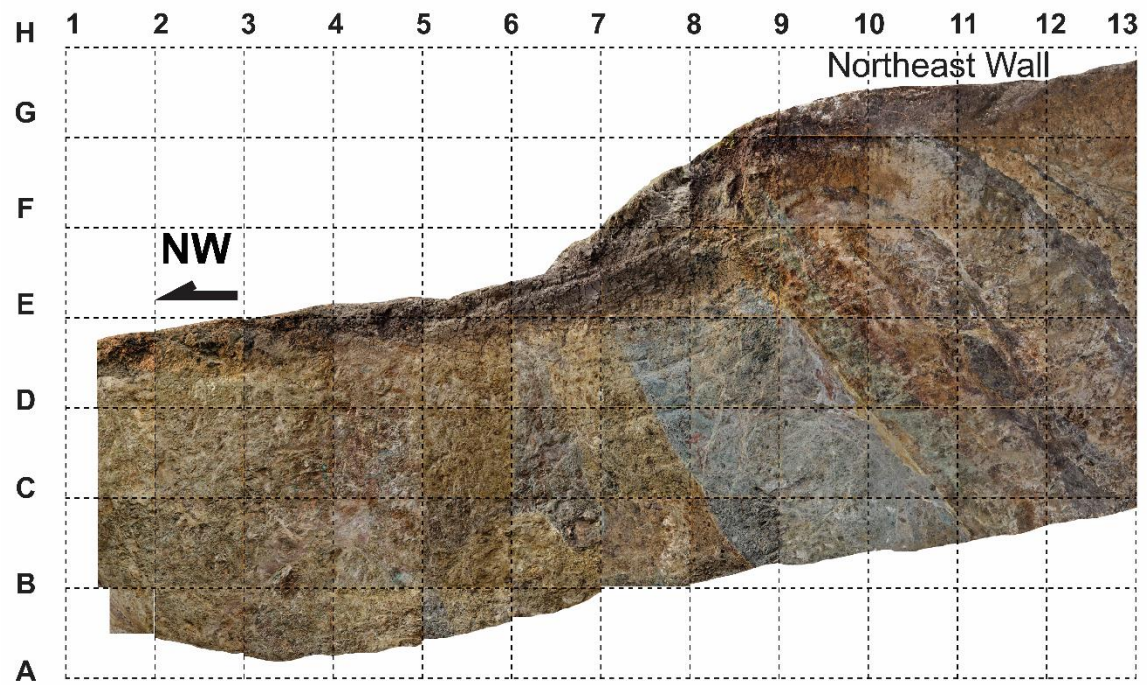
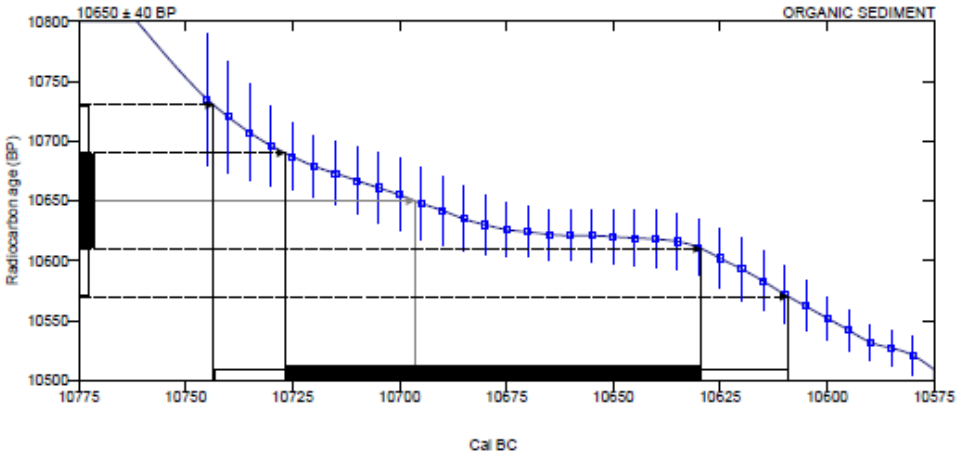


Figure S22. Cumayot trench photomosaic. Grids are spaced one meter.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -27.2 o/oo : lab. mult = 1)

Laboratory number	**Beta-383129**
Conventional radiocarbon age	**10650 ± 40 BP**
2 Sigma calibrated result 95% probability	**Cal BC 10745 to 10610 (Cal BP 12695 to 12560)**
Intercept of radiocarbon age with calibration curve	Cal BC 10695 (Cal BP 12645)
1 Sigma calibrated results 68% probability	Cal BC 10725 to 10630 (Cal BP 12675 to 12580)



Database used
INTCAL13

References

Mathematics used for calibration scenario
A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

References to INTCAL13 database
Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0– 50,000 years cal BP. Radiocarbon 55(4):1869– 1887.

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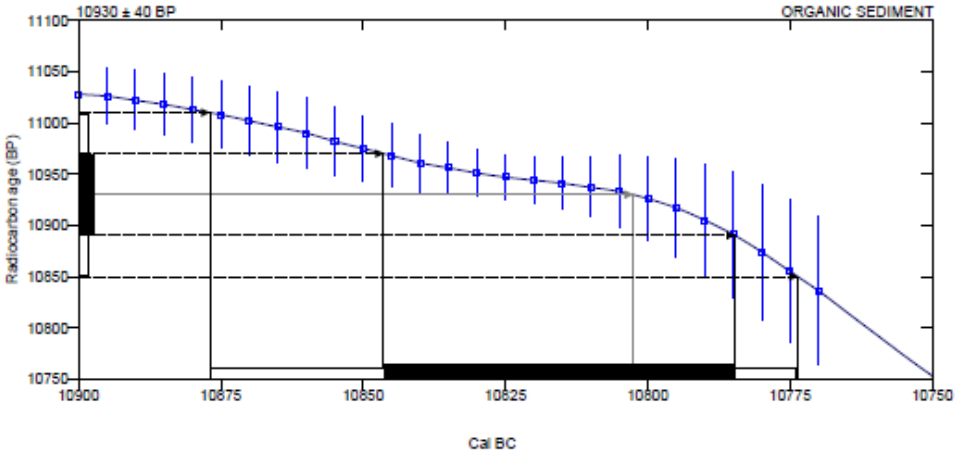
Figure S23. Calibration Data of SLN-1.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -28.4 o/oo : lab. mult = 1)

Laboratory number	**Beta-383130**
Conventional radiocarbon age	**10930 ± 40 BP**
2 Sigma calibrated result 95% probability	**Cal BC 10875 to 10775 (Cal BP 12825 to 12725)**
Intercept of radiocarbon age with calibration curve	Cal BC 10805 (Cal BP 12755)
1 Sigma calibrated results 68% probability	Cal BC 10845 to 10785 (Cal BP 12795 to 12735)



Database used
INTCAL13

References

Mathematics used for calibration scenario
A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

References to INTCAL13 database
Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0– 50,000 years cal BP. Radiocarbon 55(4):1869– 1887.

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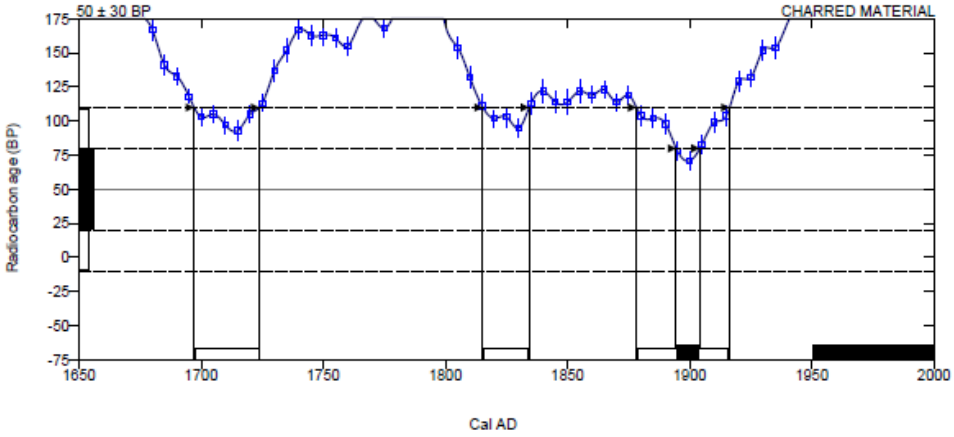
Figure S24. Calibration Data of Sample SLS-2.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -29.2 o/oo : lab. mult = 1)

Laboratory number	**Beta-382121**
Conventional radiocarbon age	**50 ± 30 BP**
2 Sigma calibrated result **95% probability**	**Cal AD 1695 to 1725 (Cal BP 255 to 225)** **Cal AD 1815 to 1835 (Cal BP 135 to 115)** **Cal AD 1880 to 1915 (Cal BP 70 to 35)** **Post AD 1950 (Post BP 0)**
Intercept of radiocarbon age with calibration curve	Post AD 1950 (Post BP 0)
1 Sigma calibrated results 68% probability	Cal AD 1895 to 1905 (Cal BP 55 to 45) Post AD 1950 (Post BP 0)



Database used

INTCAL13

References

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

References to INTCAL13 database

Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0– 50,000 years cal BP. Radiocarbon 55(4):1869– 1887.

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Figure S25. Calibration Data of SLS-3.

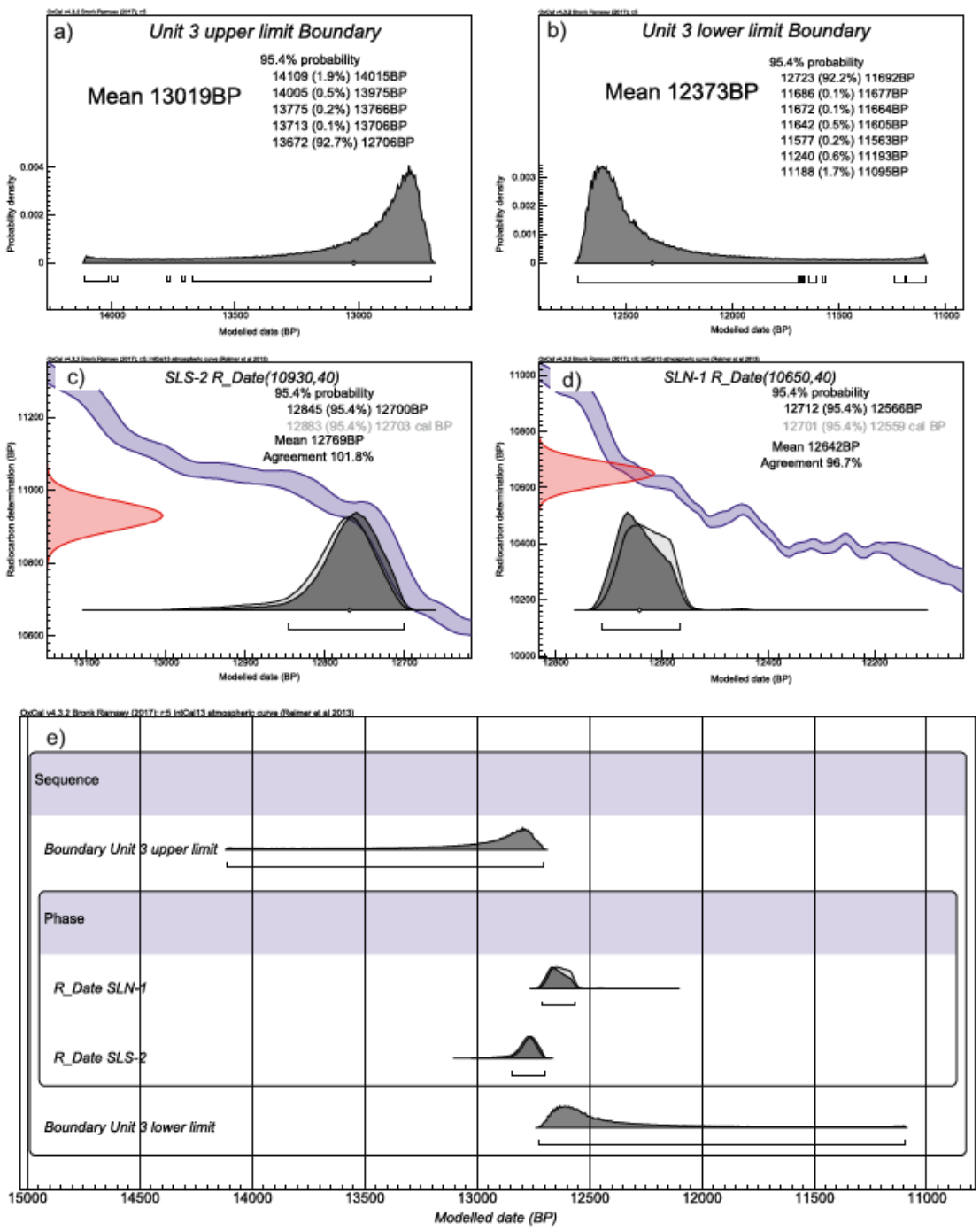

Figure S26. Model age distributions from the OxCal Bayesian analysis. a) Distribution of upper boundary age of Luwak unit 3. b) Distribution of lower boundary age of Luwak unit 3. c) SLS-2 recalibrated age distribution. d) SLN-1 recalibrated age distribution. e) Combined plot of the age distributions of a to d. Light gray curves are the calibrated age

distributions while dark gray curves are the model ages distributions from the OxCal Bayesian analysis.

Table S1. *Details of rupture scarp height measurements for all segments.*