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Supporting Information for

**The 2023 Pazarcık (Kahramanmaraş, Türkiye) Earthquake (Mw: 7.7):
Implications for surface rupture dynamics along the East Anatolian Fault Zone**

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Introduction

This information includes supplementary figures (Figures S1 – S10) detailing coseismic displacement along the Pazarcik Earthquake surface rupture.

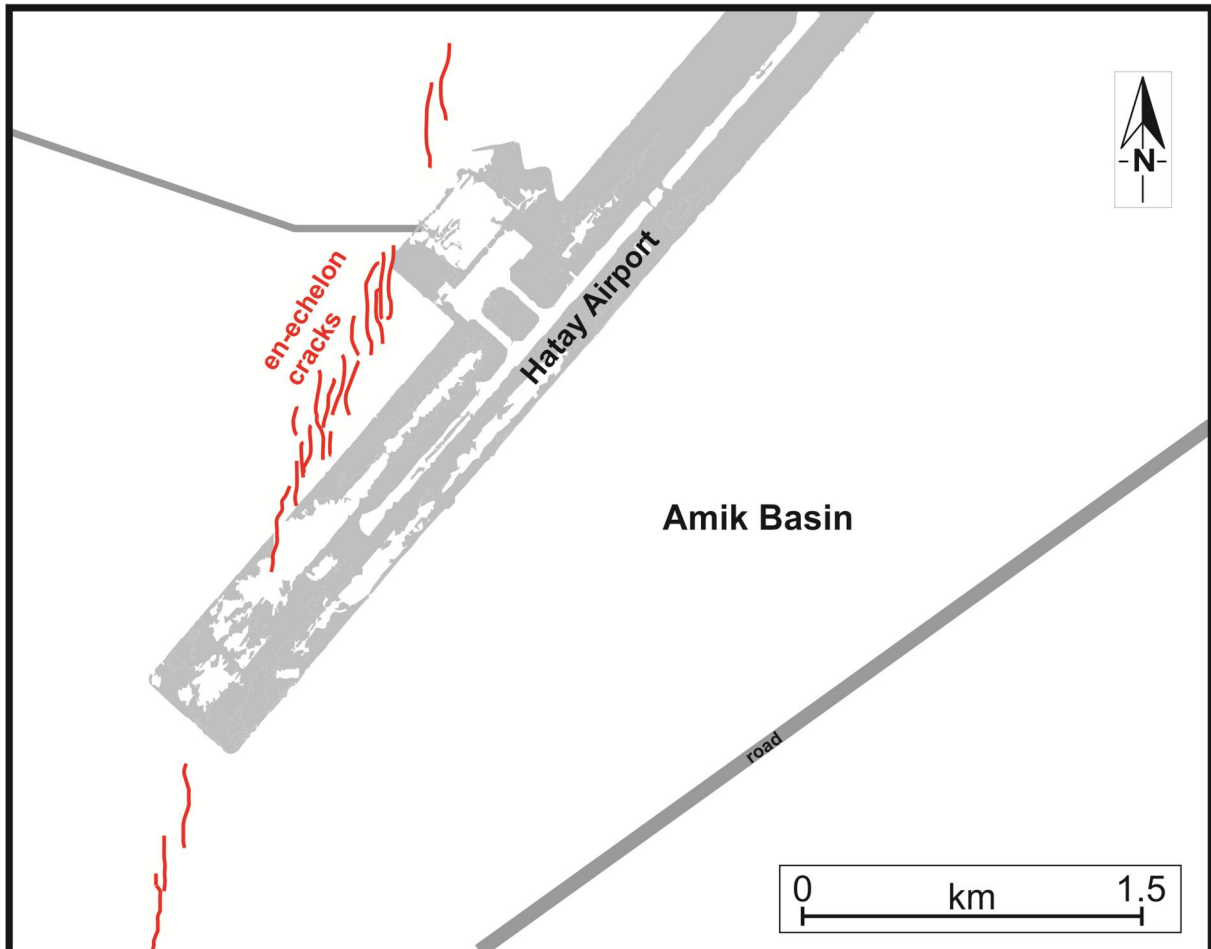


Figure S1. Rupture geometry in the Amik Basin. Note that series of en-échelon oblique – faults strike near the Hatay Airport with right-stepping geometry. For the location see Figure 2 in the main text. (high-resolution sketch illustration produced with orthophoto images from the General Directorate of Maps of Turkey).

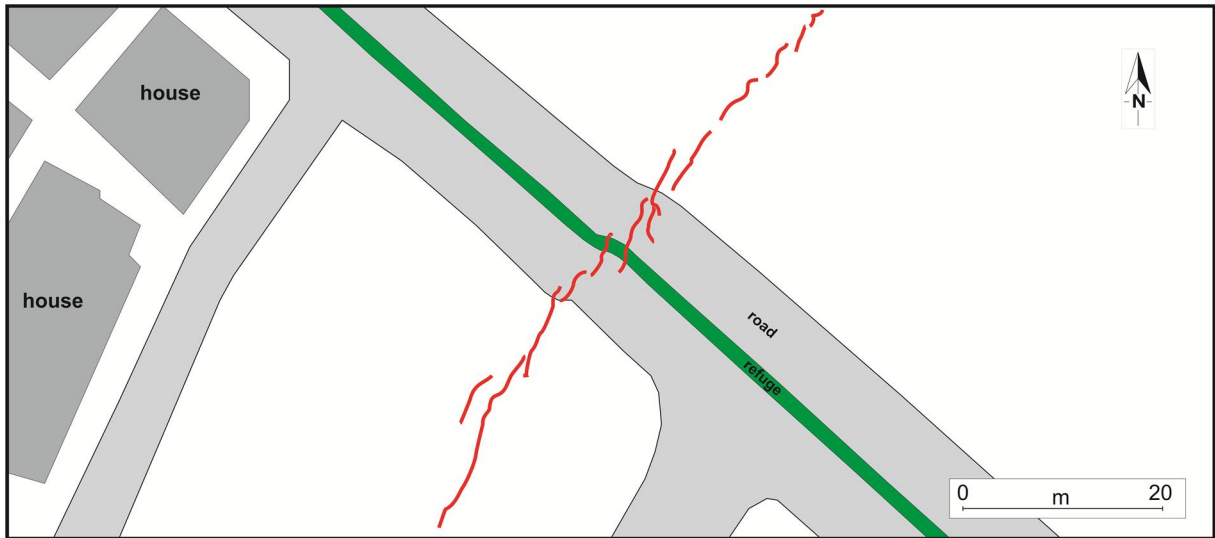


Figure S2. Left-lateral displacements on a road (location 1, Table 1 in the main text; high-resolution sketch illustration produced with orthophoto images from the General Directorate of Maps of Turkey).

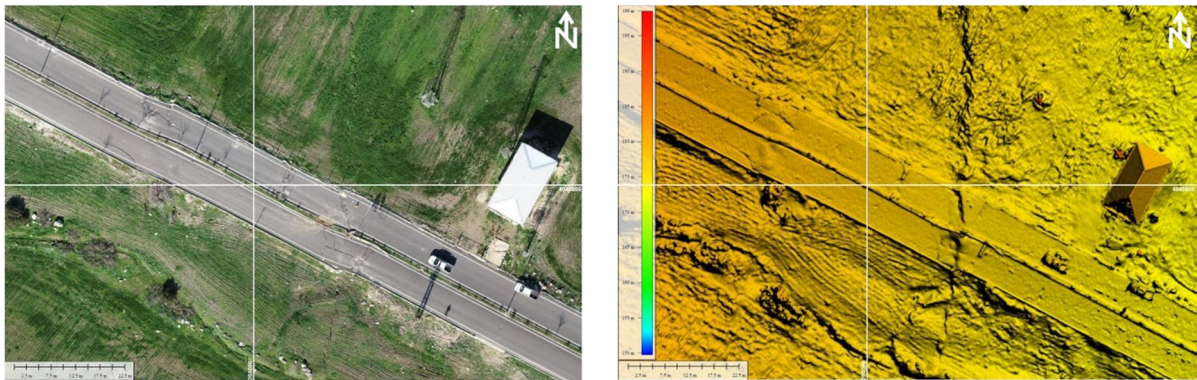


Figure S3. Left-lateral displacements on a road (location 3; high-resolution map produced with RTK-drone).

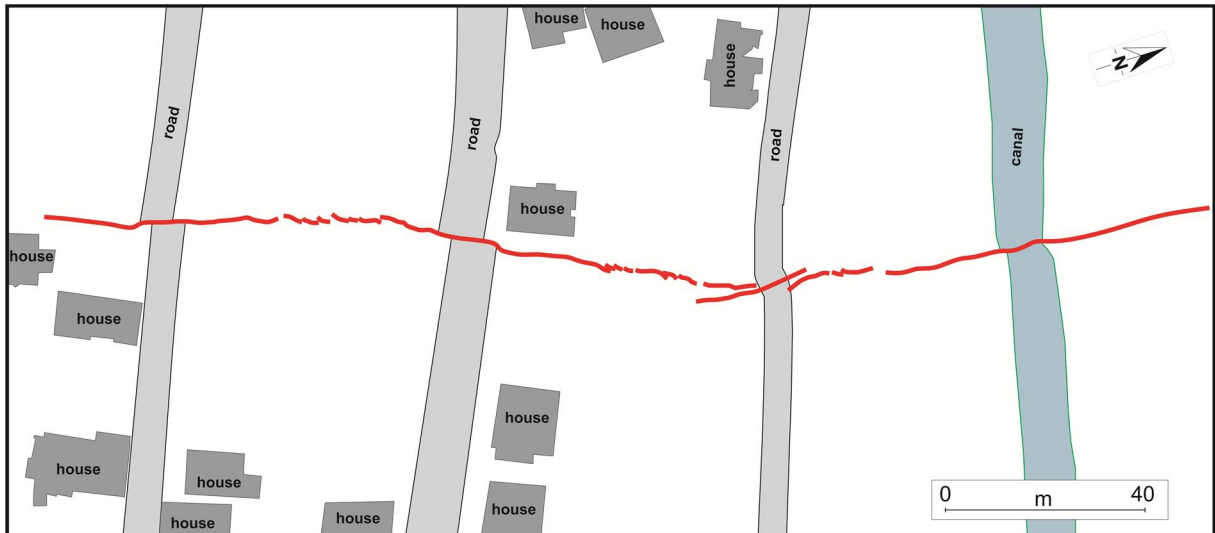


Figure S4. Left-lateral displacements on roads (location 6, Table1 in the main text; high-resolution sketch illustration produced with orthophoto images from the General Directorate of Maps of Turkey).

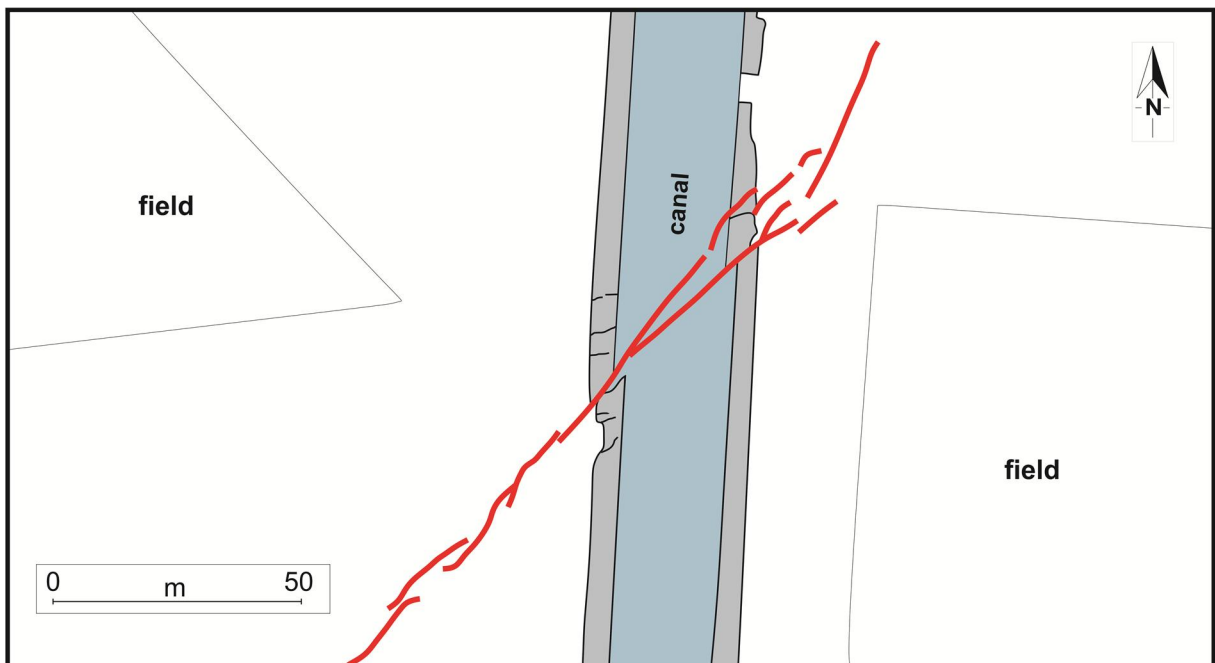


Figure S5. Left-lateral displacements on the field (location 28, Table1 in the main text; high-resolution sketch illustration produced with orthophoto images from the General Directorate of Maps of Turkey).

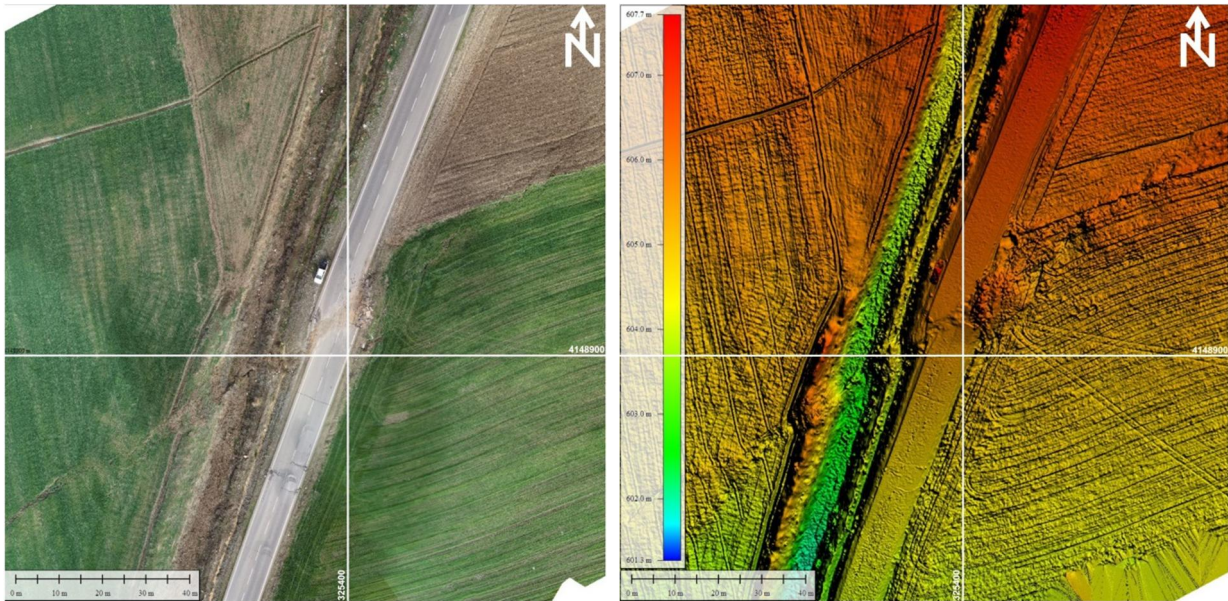


Figure S6. Left-lateral displacements on a road (location 32, Table1 in the main text; high-resolution map produced with RTK-drone).

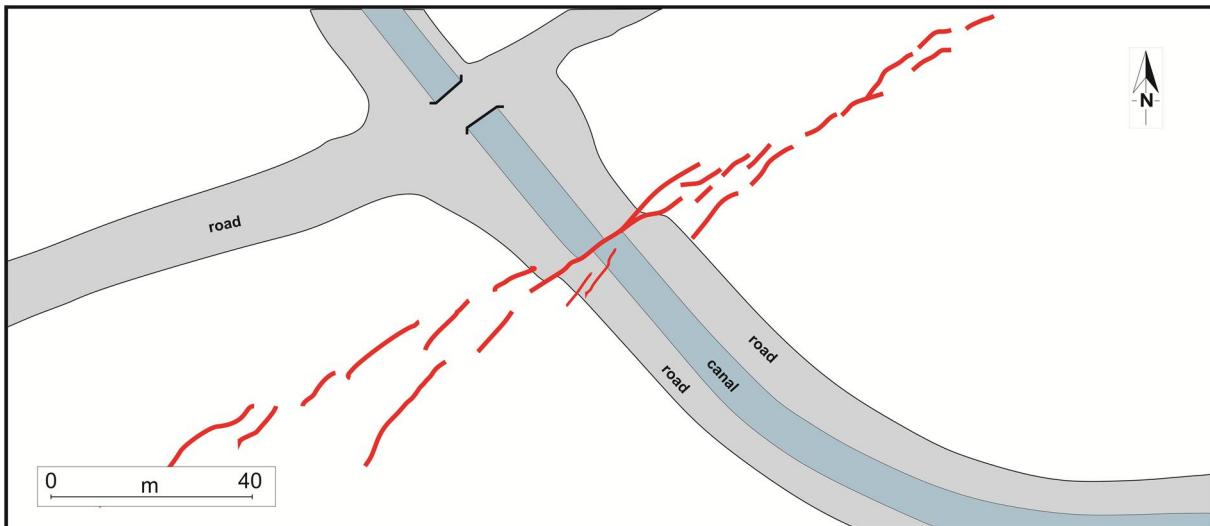


Figure S7. Left-lateral displacements on a canal (location 34, Table1 in the main text; high-resolution sketch illustration produced with orthophoto images from the General Directorate of Maps of Turkey).

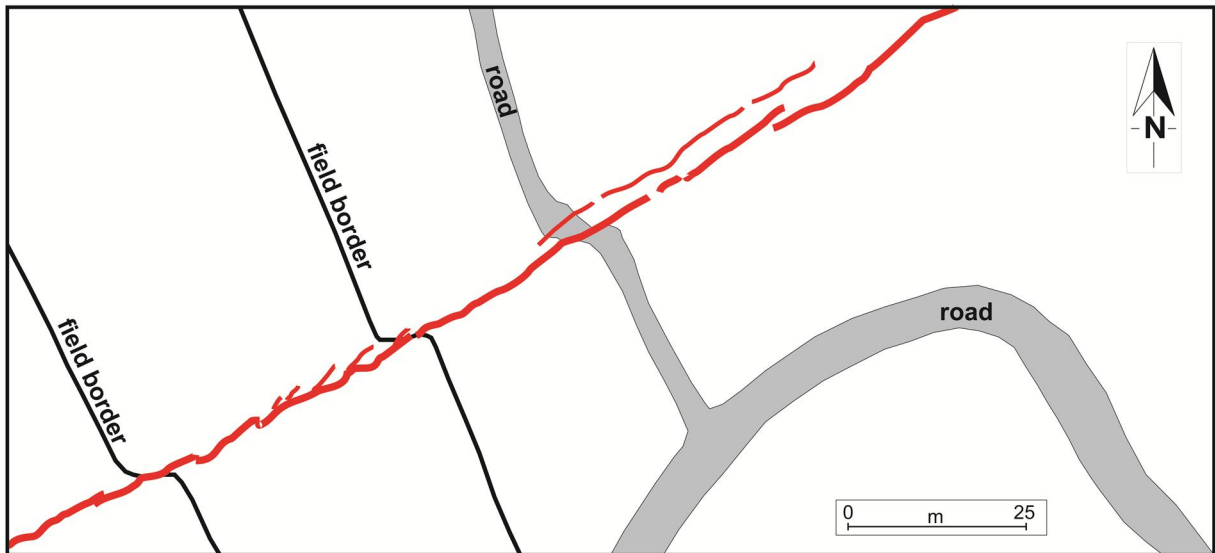


Figure S8. Left-lateral displacements on the field borders and a road (location 40, Table 1 in the main text; high-resolution sketch illustration produced with orthophoto images from the General Directorate of Maps of Turkey).

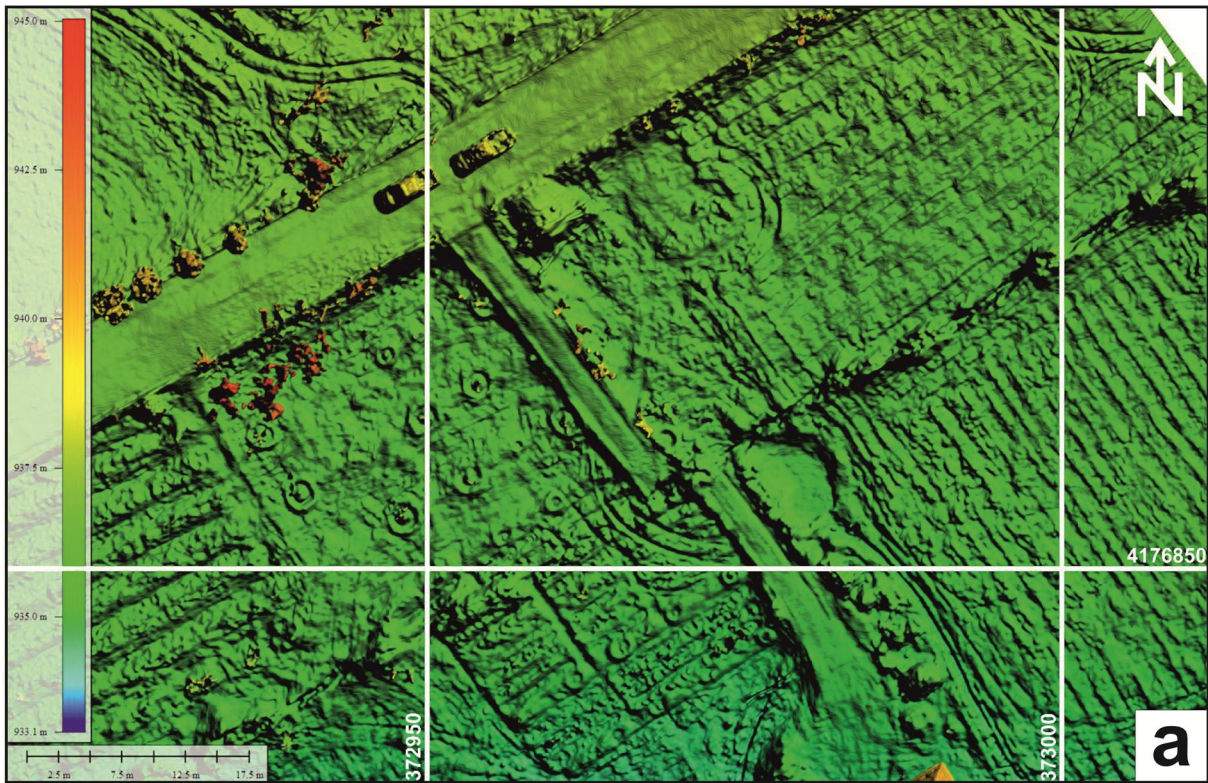


Figure S9. Left-lateral displacements on a road (location 51, Table1 in the main text; high-resolution map produced with RTK-drone).

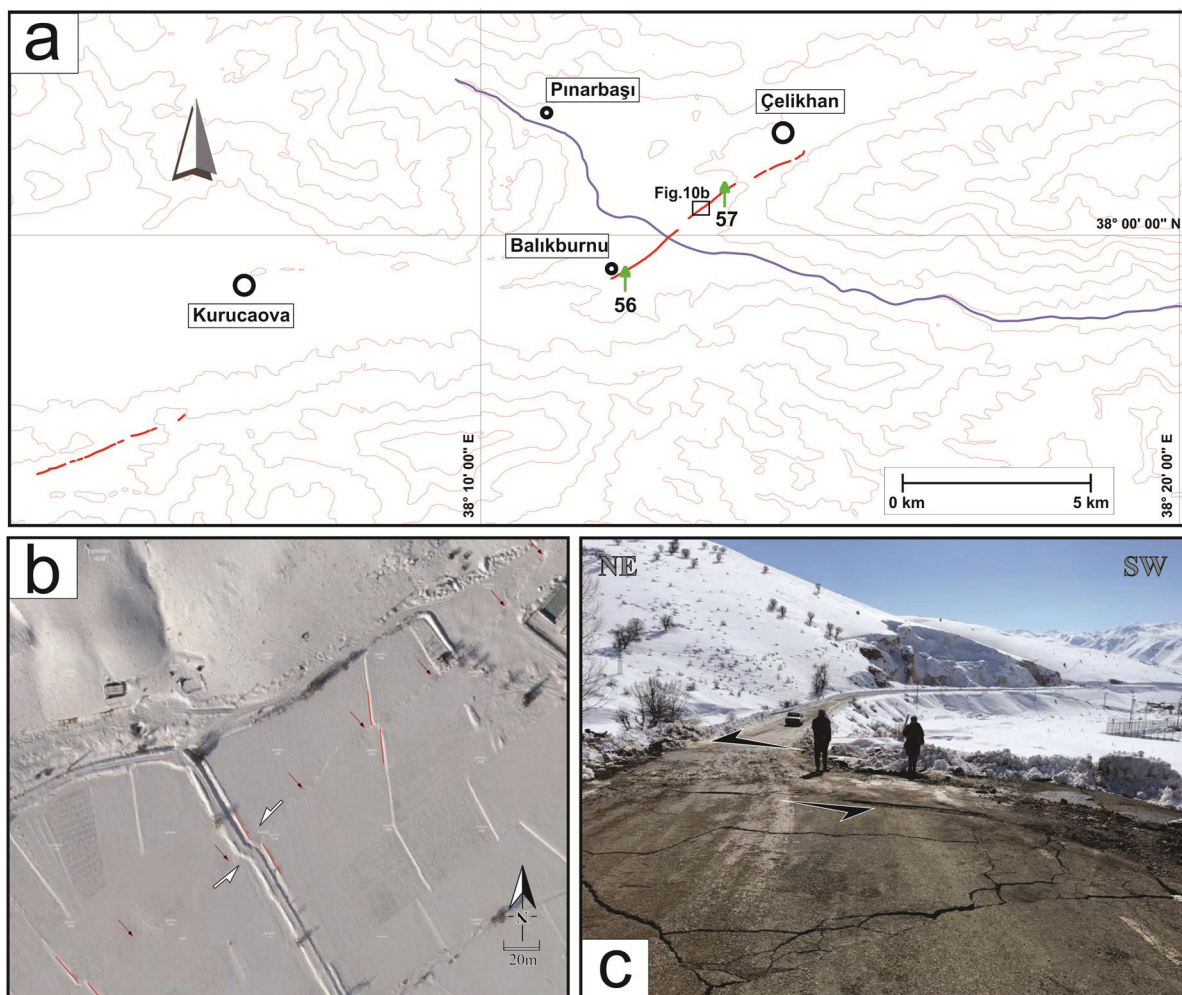


Figure S10. a. Rupture geometry of the Pazarcık (Kahramanmaraş) Earthquake along the Erkenek segment of the EAFZ and b-c. slip distribution locations (56 and 57). Base map was generated using AsterG-DEM V3 digital data.