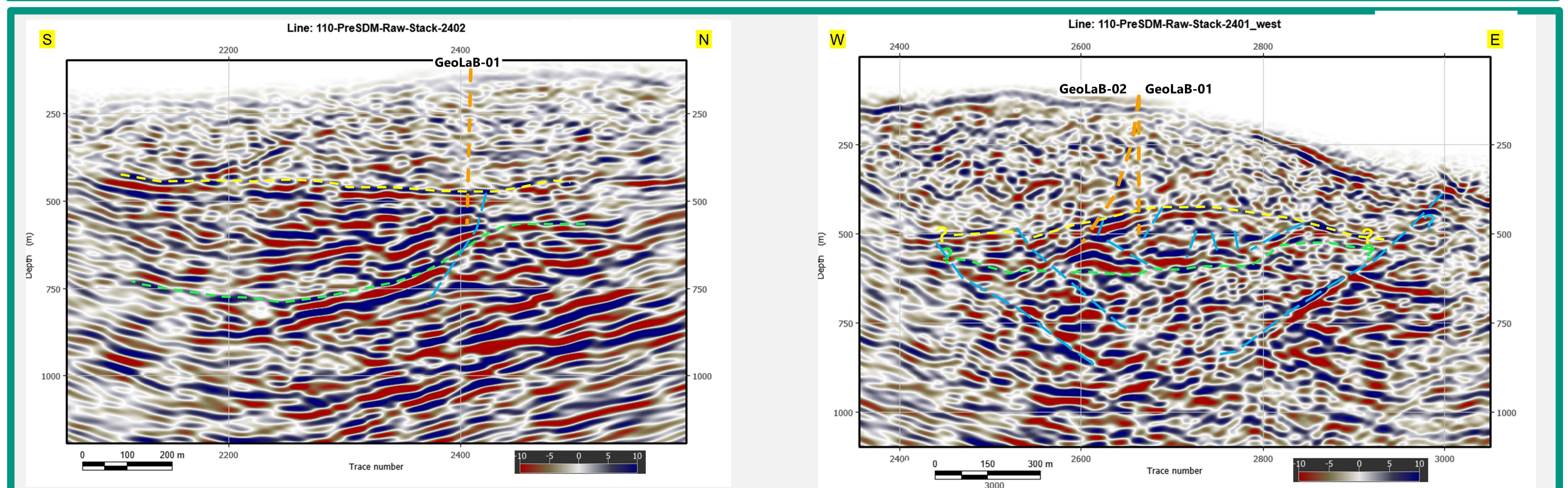
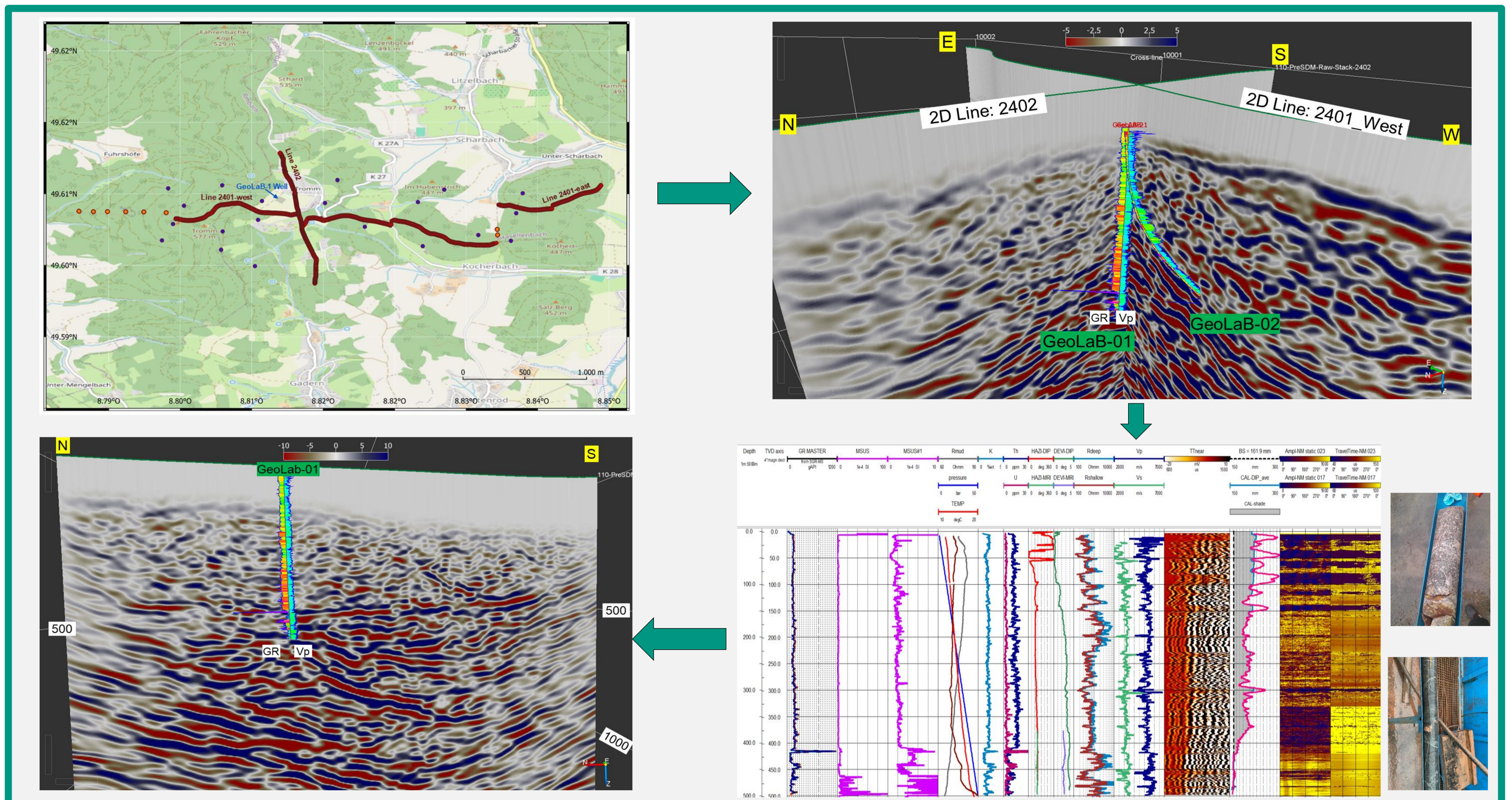


Imaging Granite–Metamorphic Unconformities and Structural Variability Using PSDM Seismic and Borehole Data: Implications from the Tromm Area, Germany

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- **Objective:** Construction of an initial geological model for the Tromm area using a multi-proxy approach.
- **Data Integration:** 1- Borehole Data: Wireline logs and core descriptions from wells GeoLaB-01 and GeoLaB-02.
2- Seismic Data: Two orthogonal 2D profiles (E–W and N–S) acquired in 2024.
- **Processing:** Seismic data imaged in both time and depth domains using Pre-stack Depth Migration (PSDM) to ensure high-resolution lithological delineation



Results & Discussion

- **Lithological Framework:** The model successfully maps the transition from granitic units to metamorphic units
- **Geometric Variations:** Interpretation reveals a thinning of the metamorphic unit in the north, with increasing thickness toward the southern region.
- **Structural Features:** Lack of detection on the N–S profile suggests a predominant N–S fault strike, making these features invisible on parallel seismic lines.
- **Future Investigation:** While the upper model is well-constrained, the deeper reflectors introduce uncertainty, highlighting a key target for future deep-drilling or enhanced geophysical imaging.

Acknowledgment

- The study is part of the Helmholtz portfolio project “GeoLaB”, which is gratefully acknowledged.