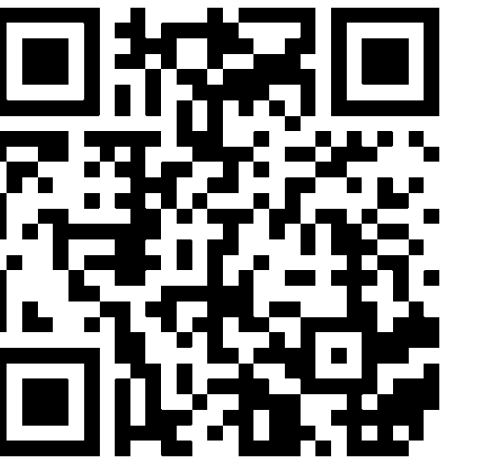


Hydrogeophysical monitoring of a controlled infiltration experiment at the Ploemeur Hydrological Observatory (Brittany, France)

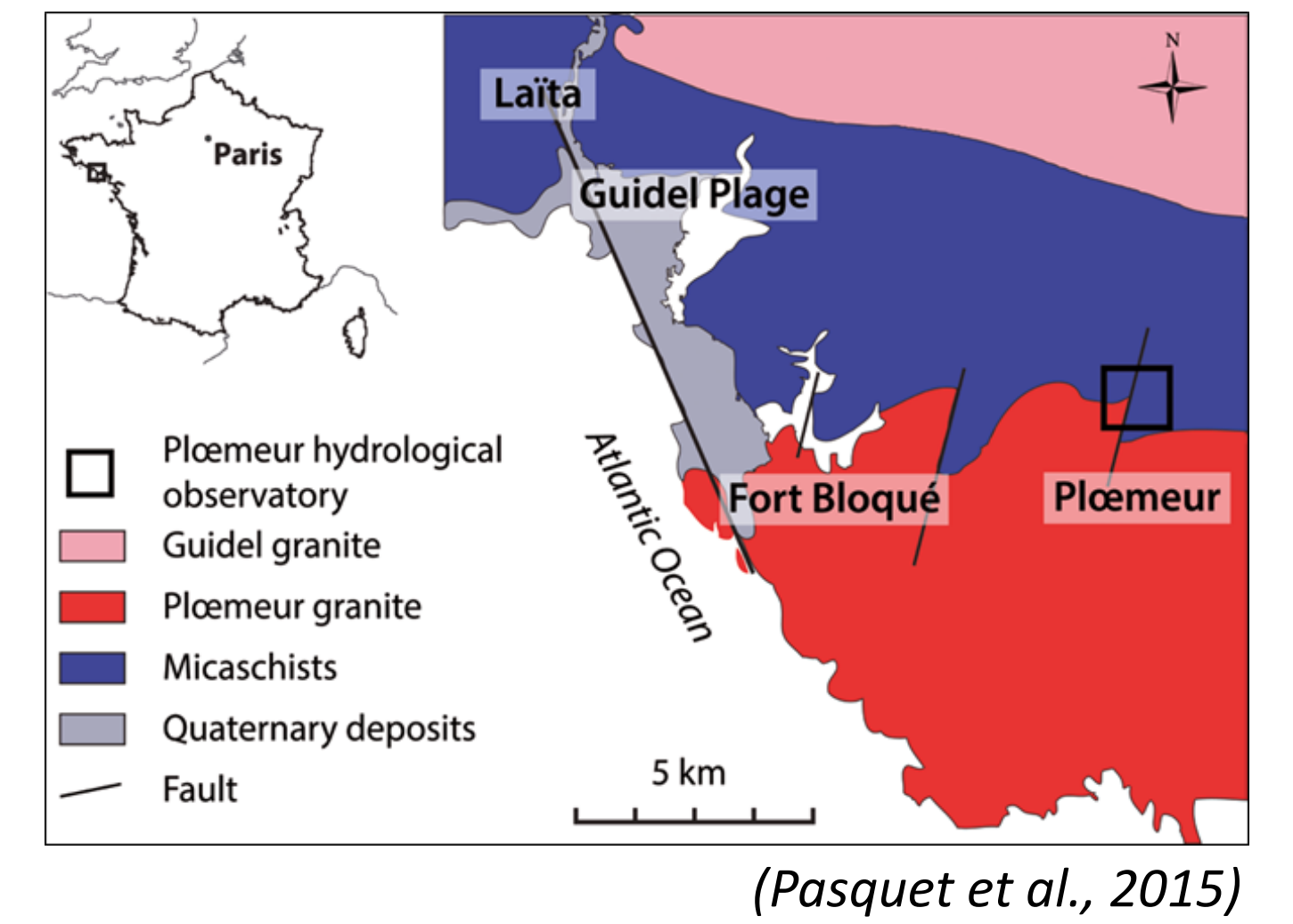
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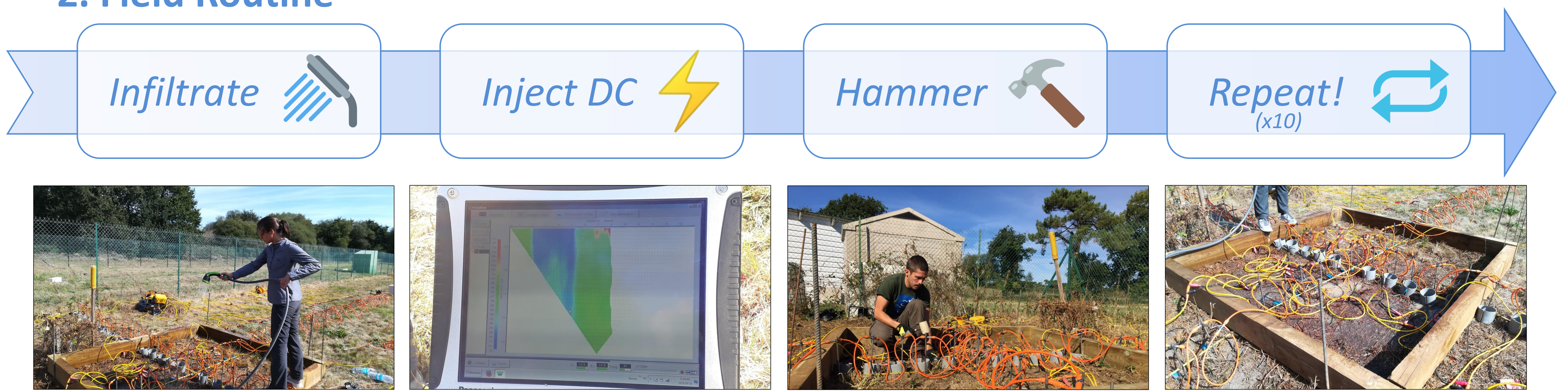


1. Background

- Site monitored by numerous wells given the outstanding productivity of the aquifer in the area (Touchard, 1999; Jiménez-Martínez et al., 2013).
- Interest in monitoring subsurface infiltration dynamics in a non-intrusive way.
- Infiltration of 3.3 m³ of water during 2 days. Geophysical monitoring by electrical resistivity and seismic acquisitions on 2 orthogonal lines.
- TDR probes in the subsurface providing real time water content throughout the experiment.

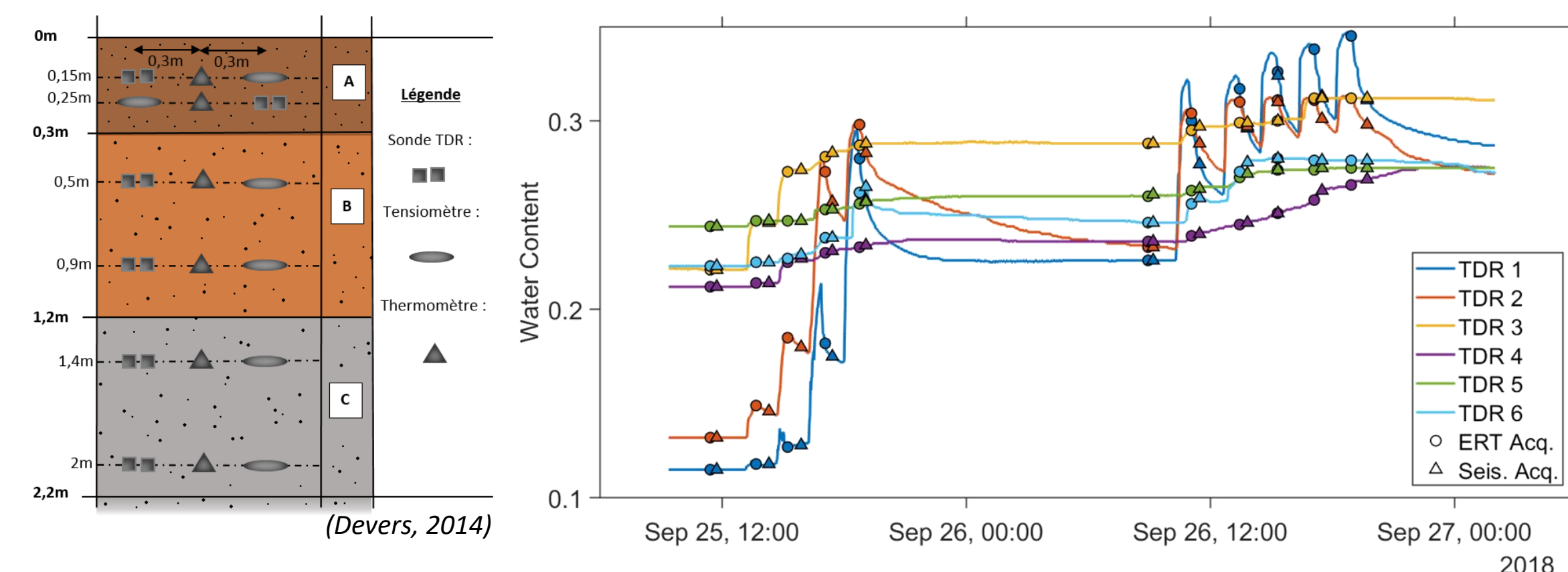


2. Field Routine

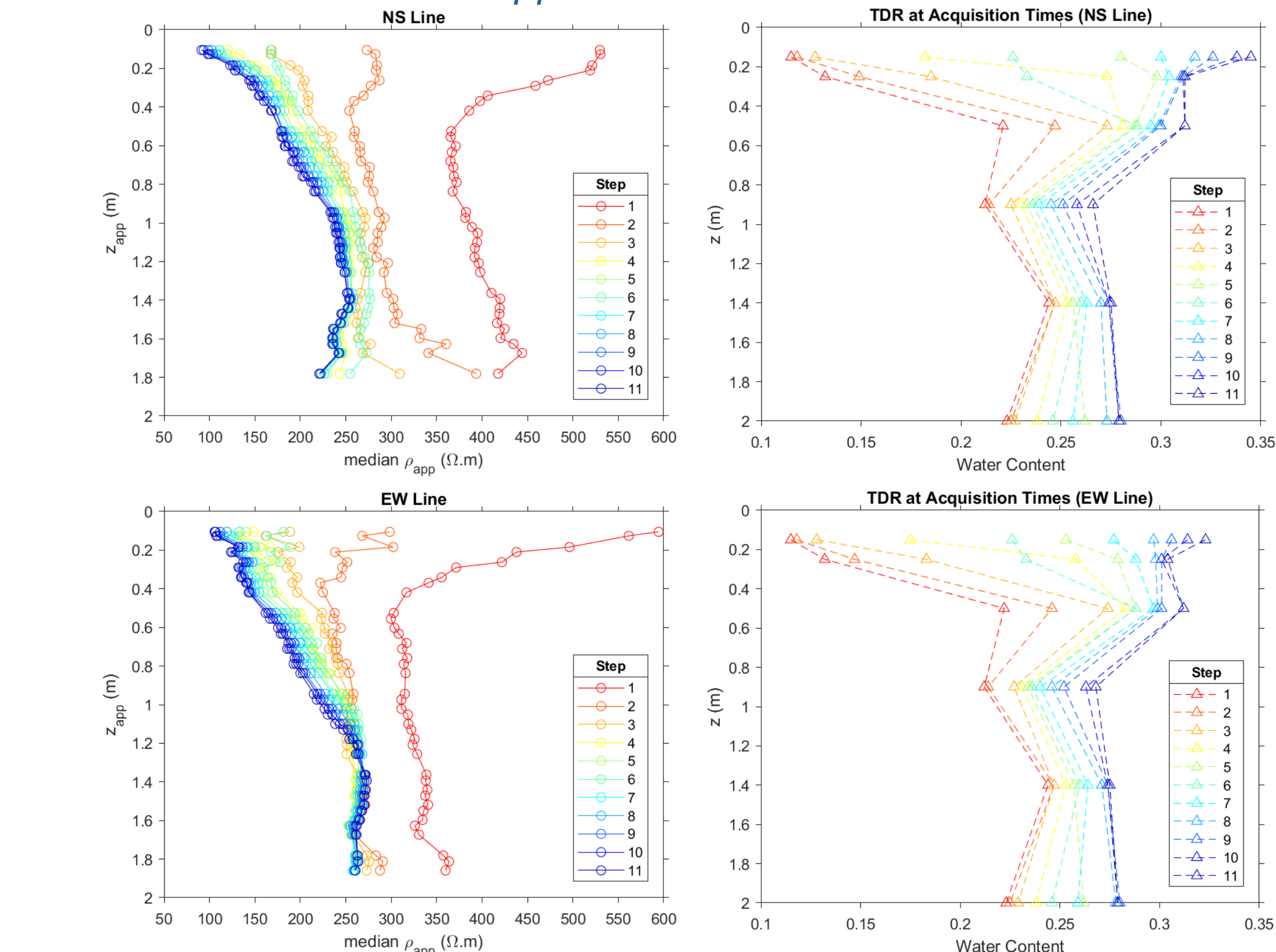


3. Data

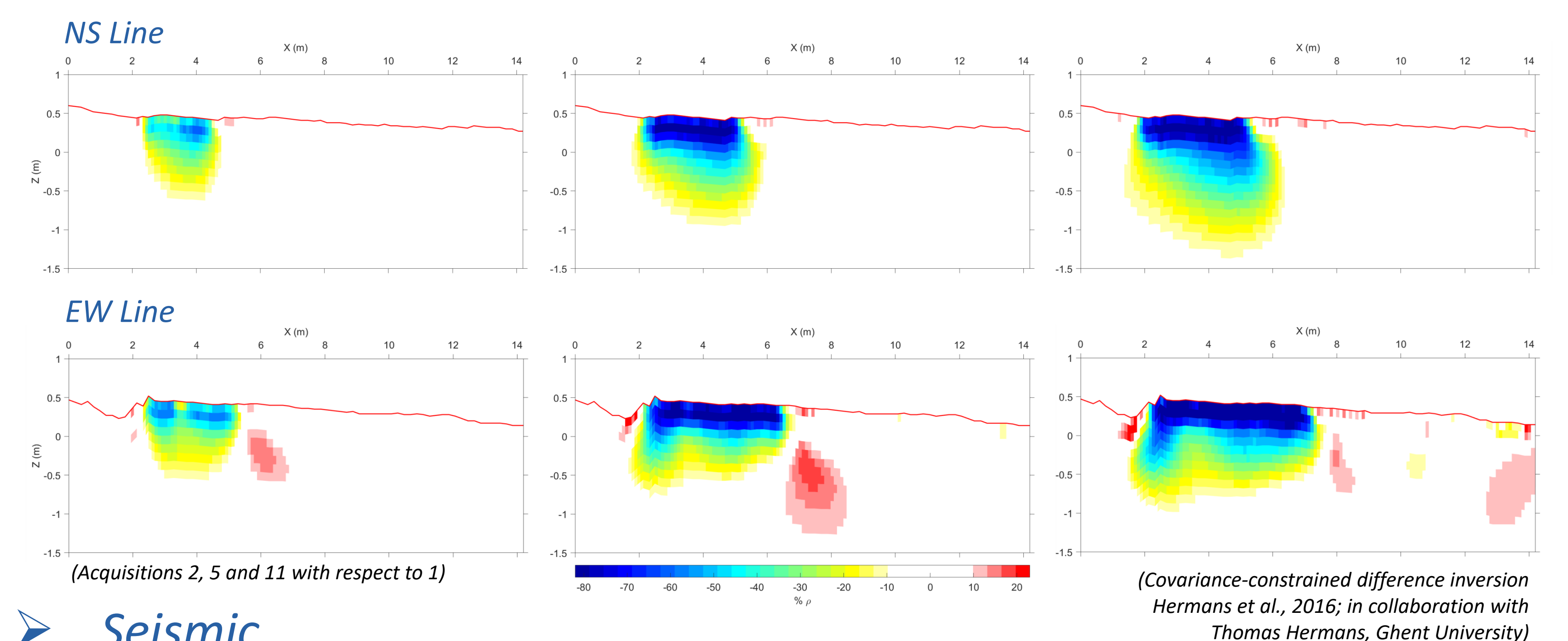
Time-domain reflectometry (TDR)



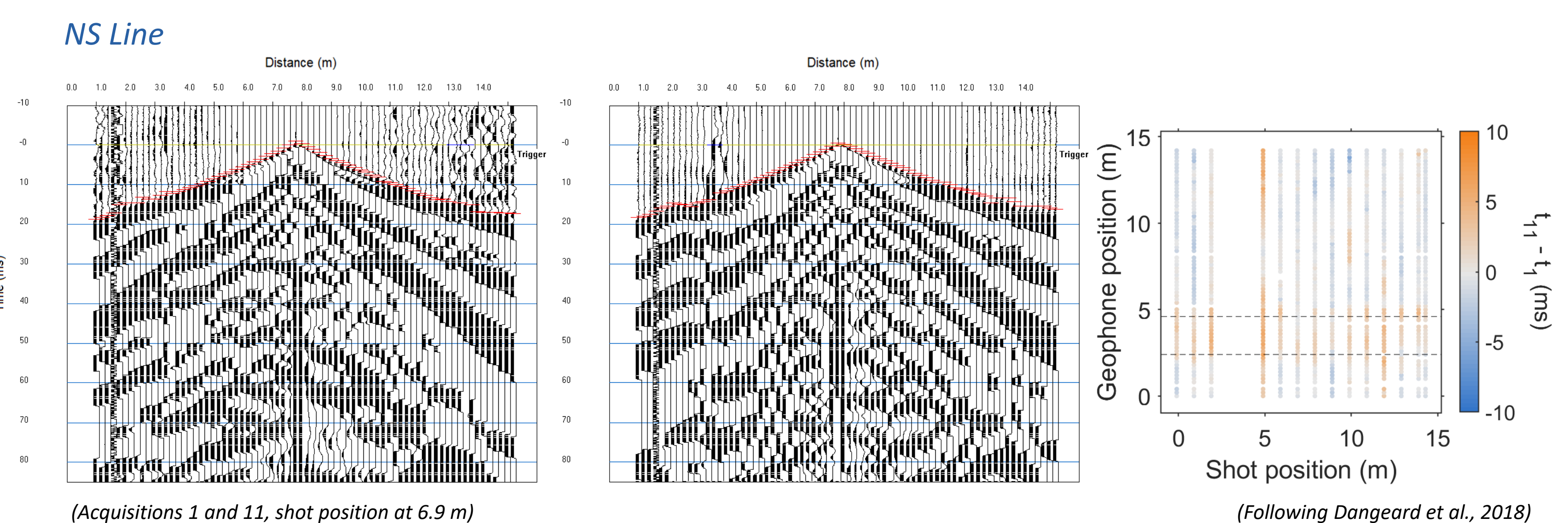
1D TDR and ρ_{app} at depth



Timelapse electrical resistivity tomography (ERT)



Seismic



4. Perspectives

- Obtain V_p and V_s profiles from the seismic data.
- Joint electric-seismic inversion.
- Petrophysics and rock physics models to quantify water saturation from the geophysical data.

5. References

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