

Lake-level fluctuations from Lake Iznik seismic stratigraphy (NW Turkey): Implications for past climate

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Session SSP3.2:

Limnogeology - reading the geological record of lakes

EGU 2022

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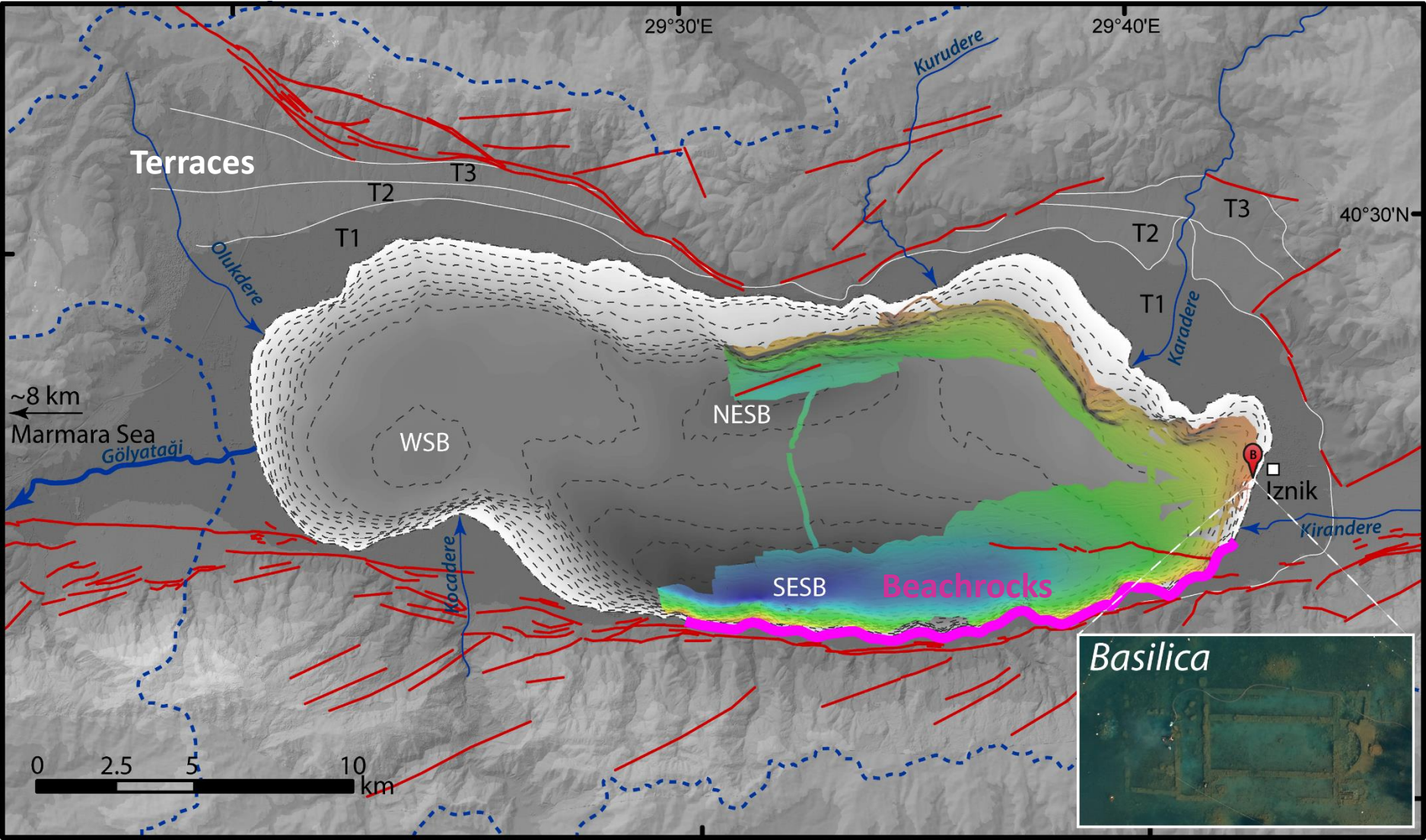


This presentation participates in **OSP**

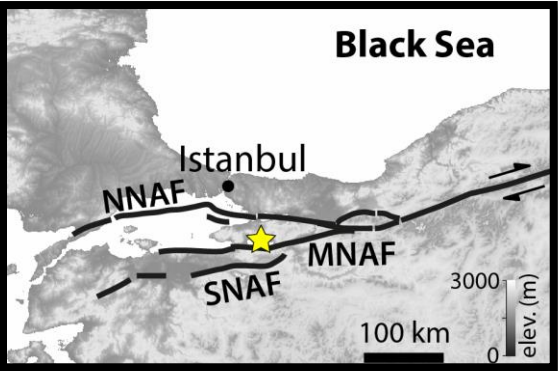


Outstanding Student & PhD
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I) Settings

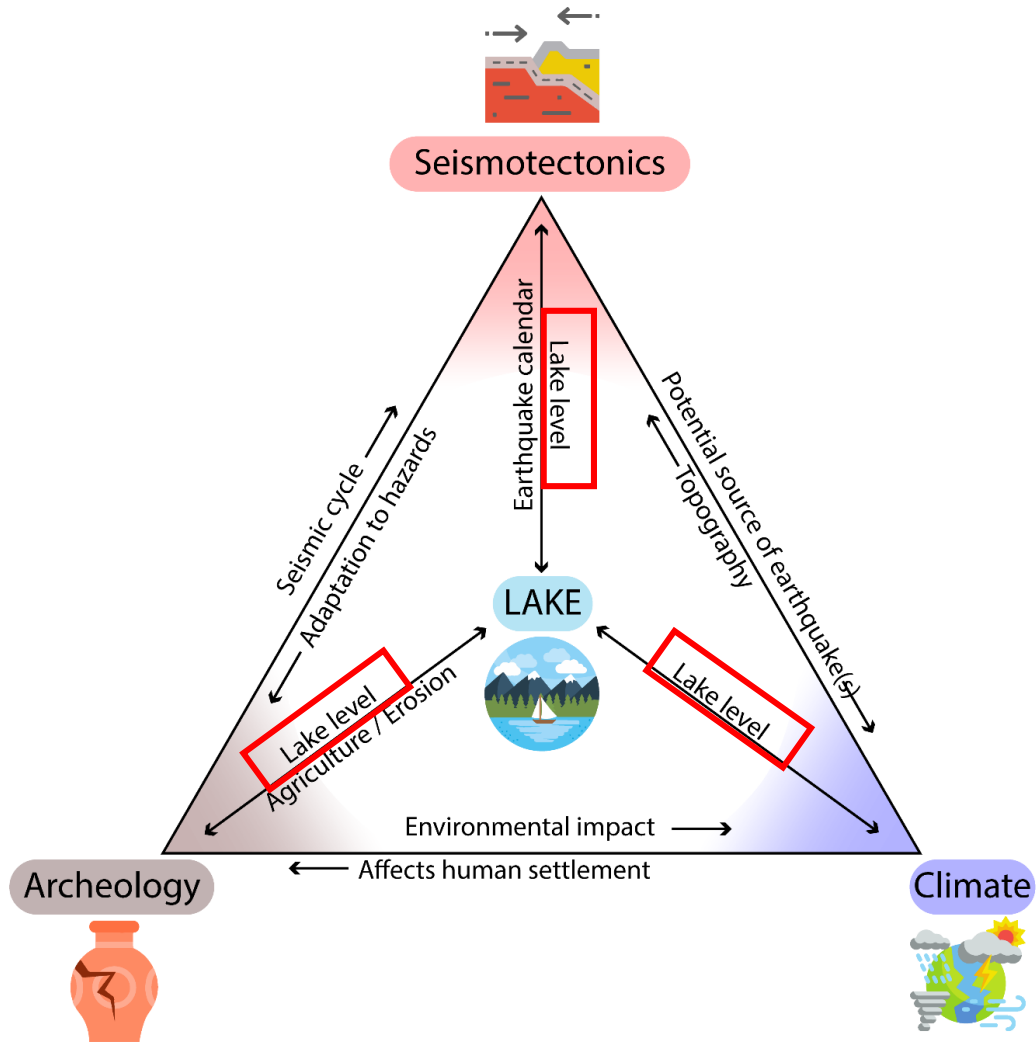


Turkey



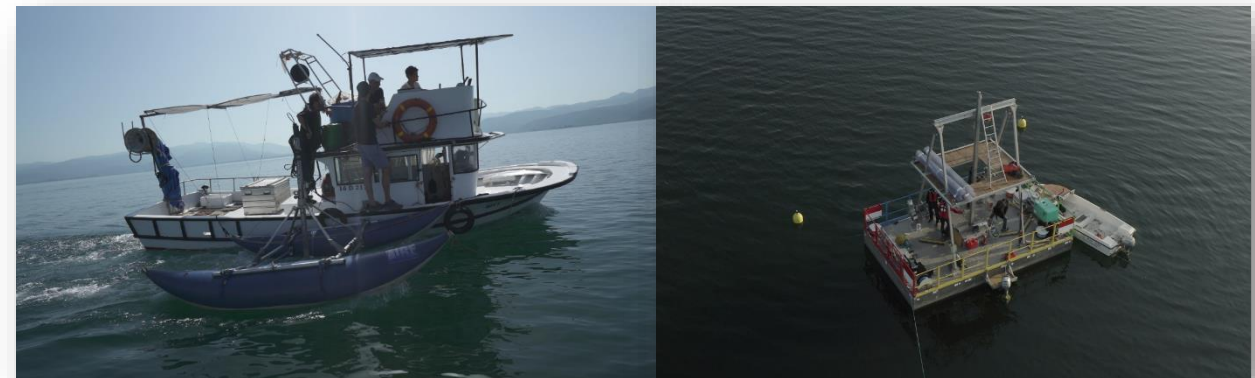
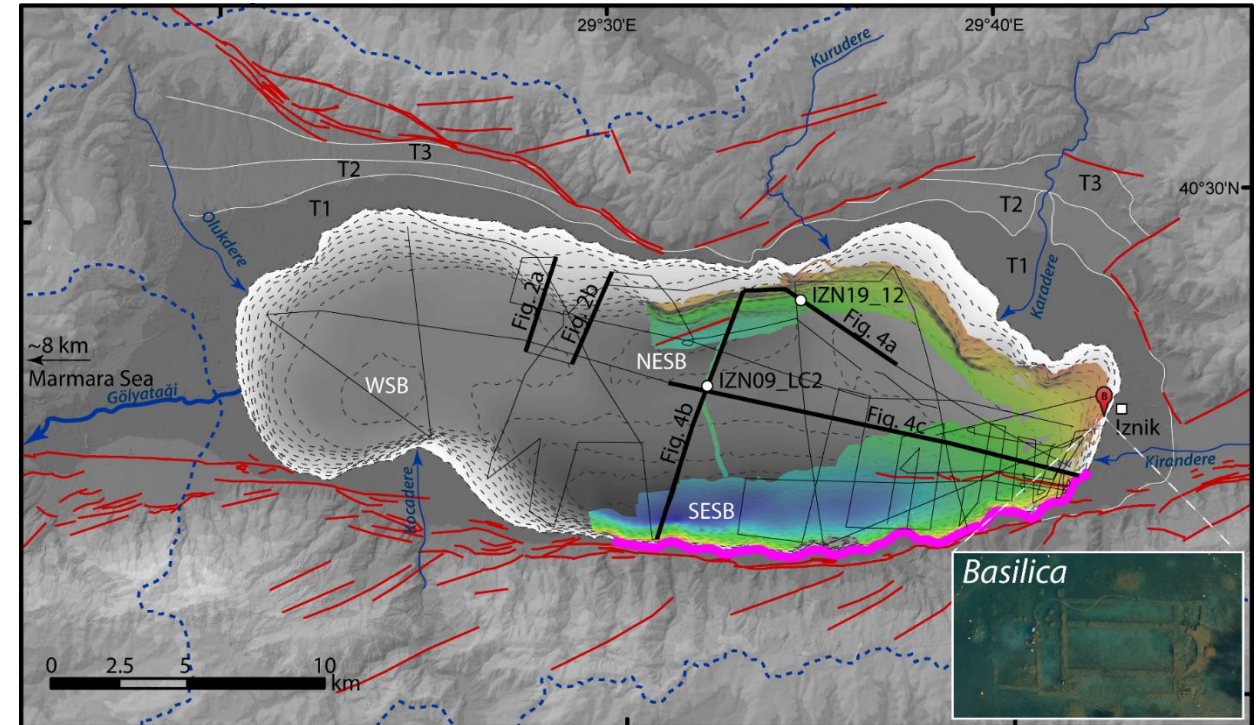
II) Scientific question

How has the lake level changed since the late Pleistocene?

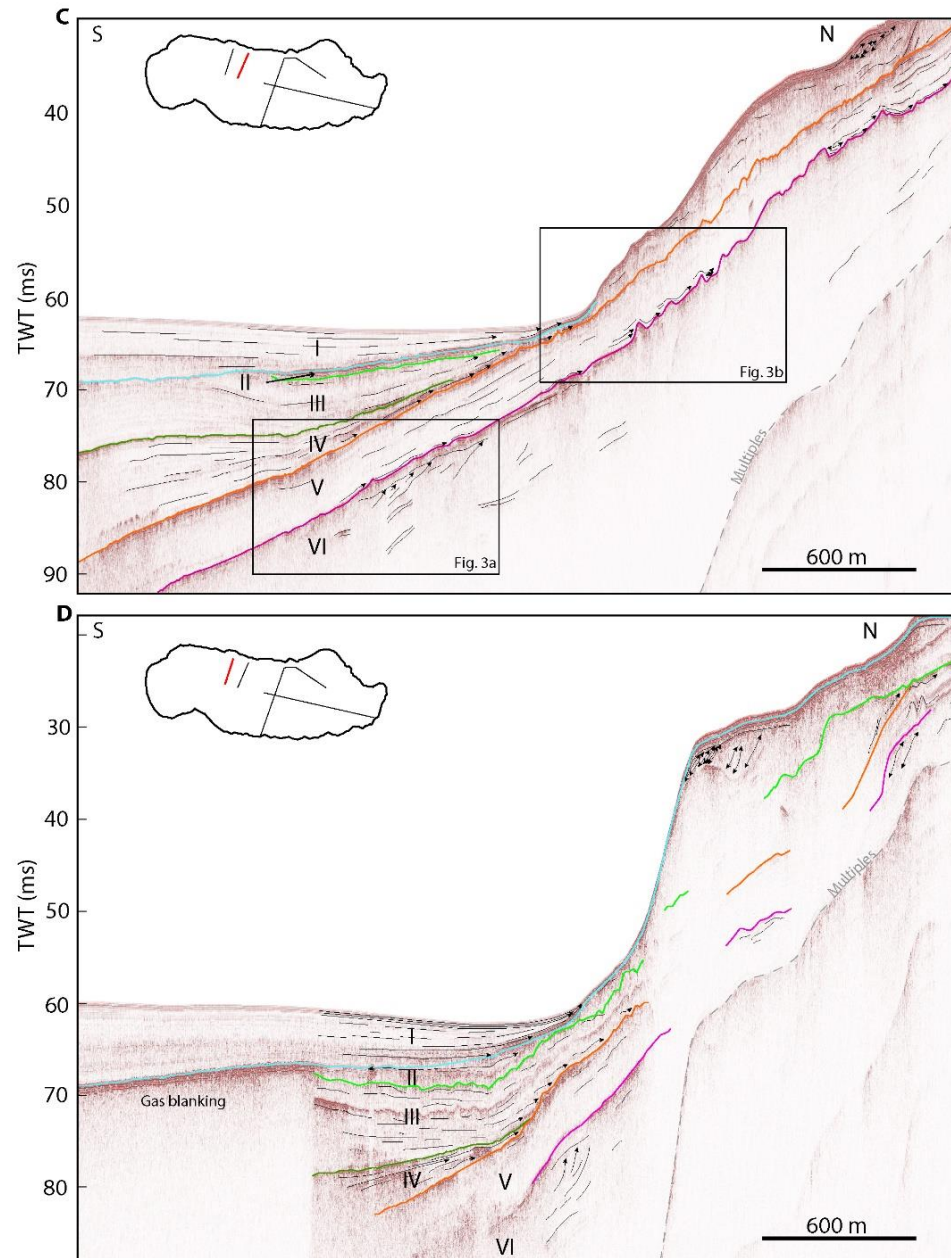


III) Dataset/Method

292 km of 3.5 kHz seismic reflection + a short core + a long core



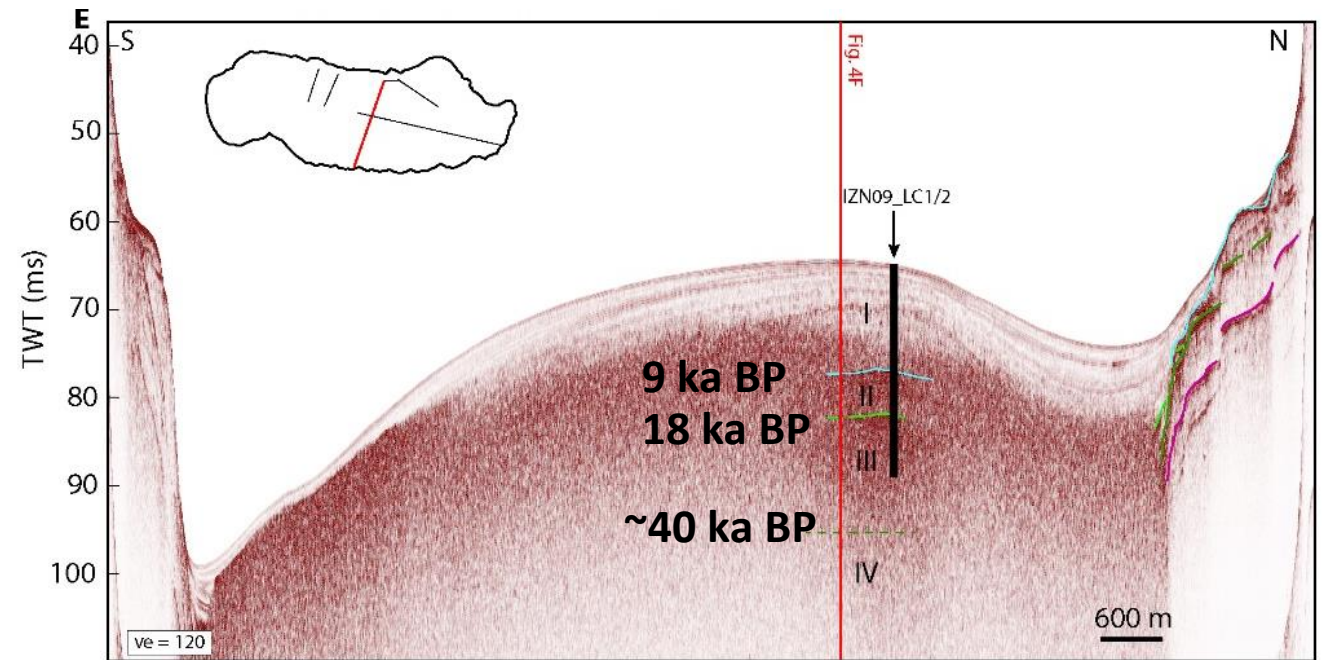
IV) Results - Seismic profiles – NW of the lake



Northern shore less impacted by tectonics

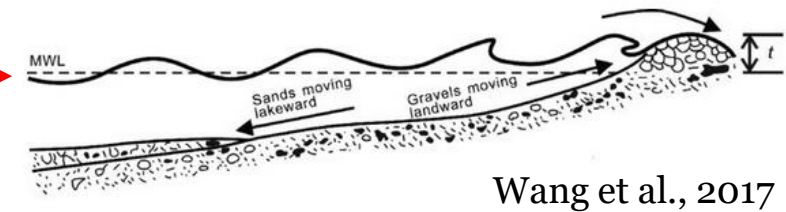
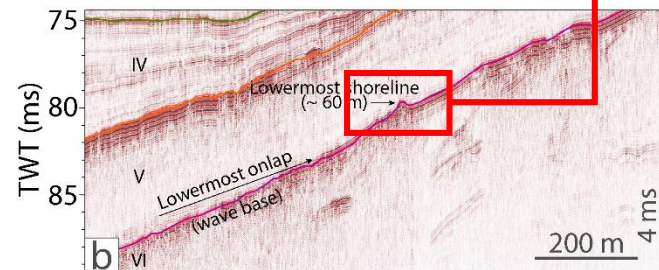
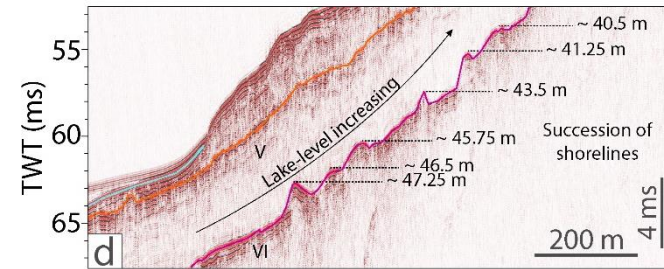
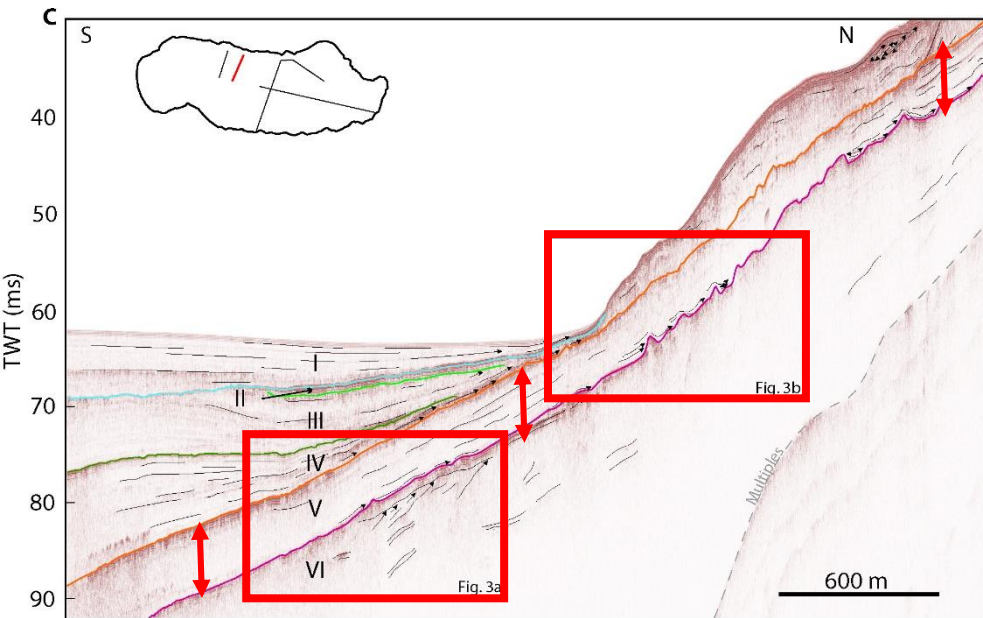
6 seismic sequences

Average penetration (ca. 30 ms TWT, ca. 23 m)

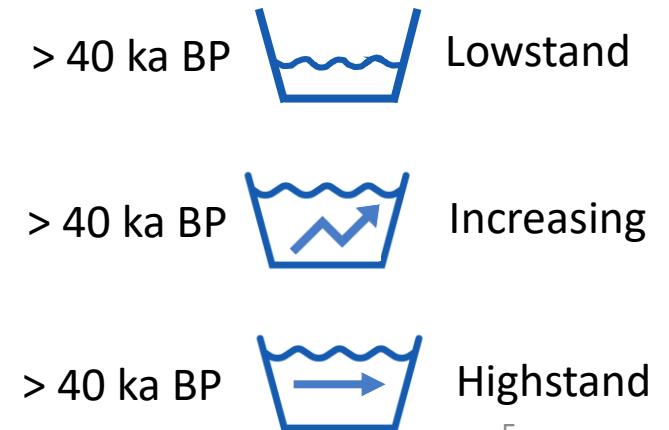


Nowadays, 2/6 sequences are dated

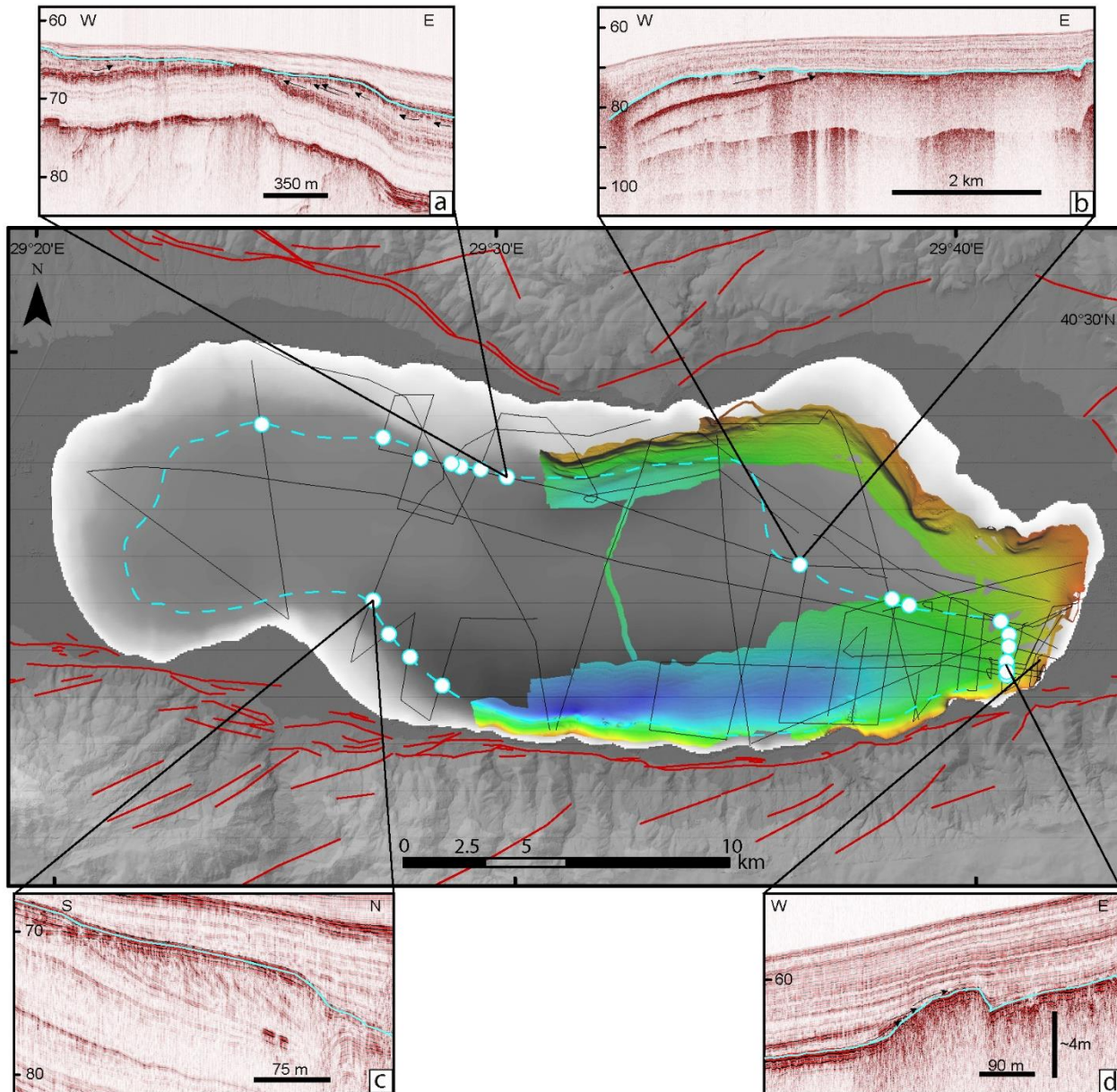
IV) Beach ridges – markers of paleo-transgression of the lake level



Time



IV) Important drop of the lake level at ca. 9 kyr. BP



A dry and cold phase ? “8.2 ka cold event” ?

9 ka BP

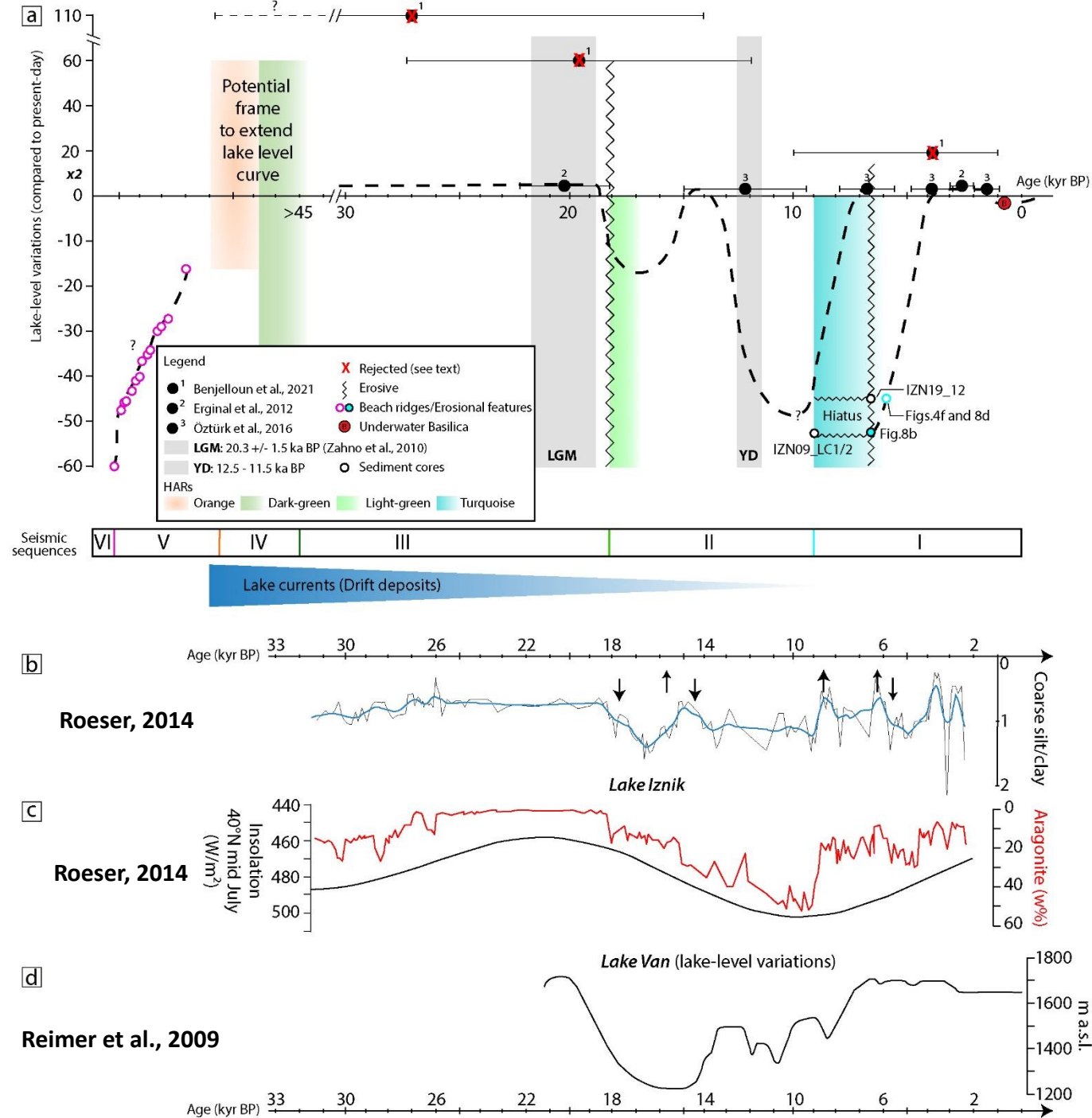


Lowstand

The lake level was 50 m below the modern one.

V) Summary

Link between lake level variations AND climate

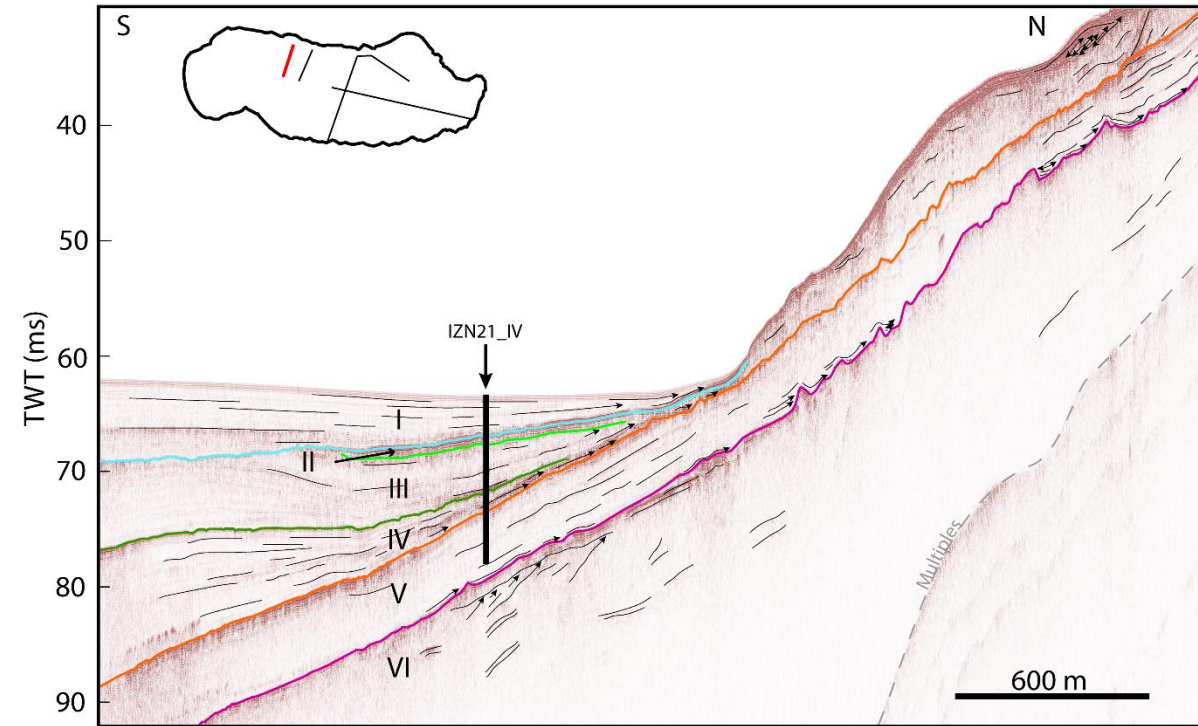
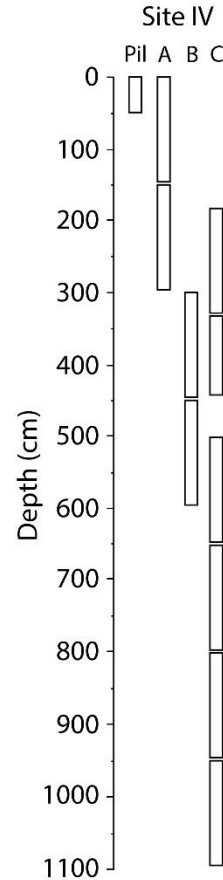


VI) Perspectives

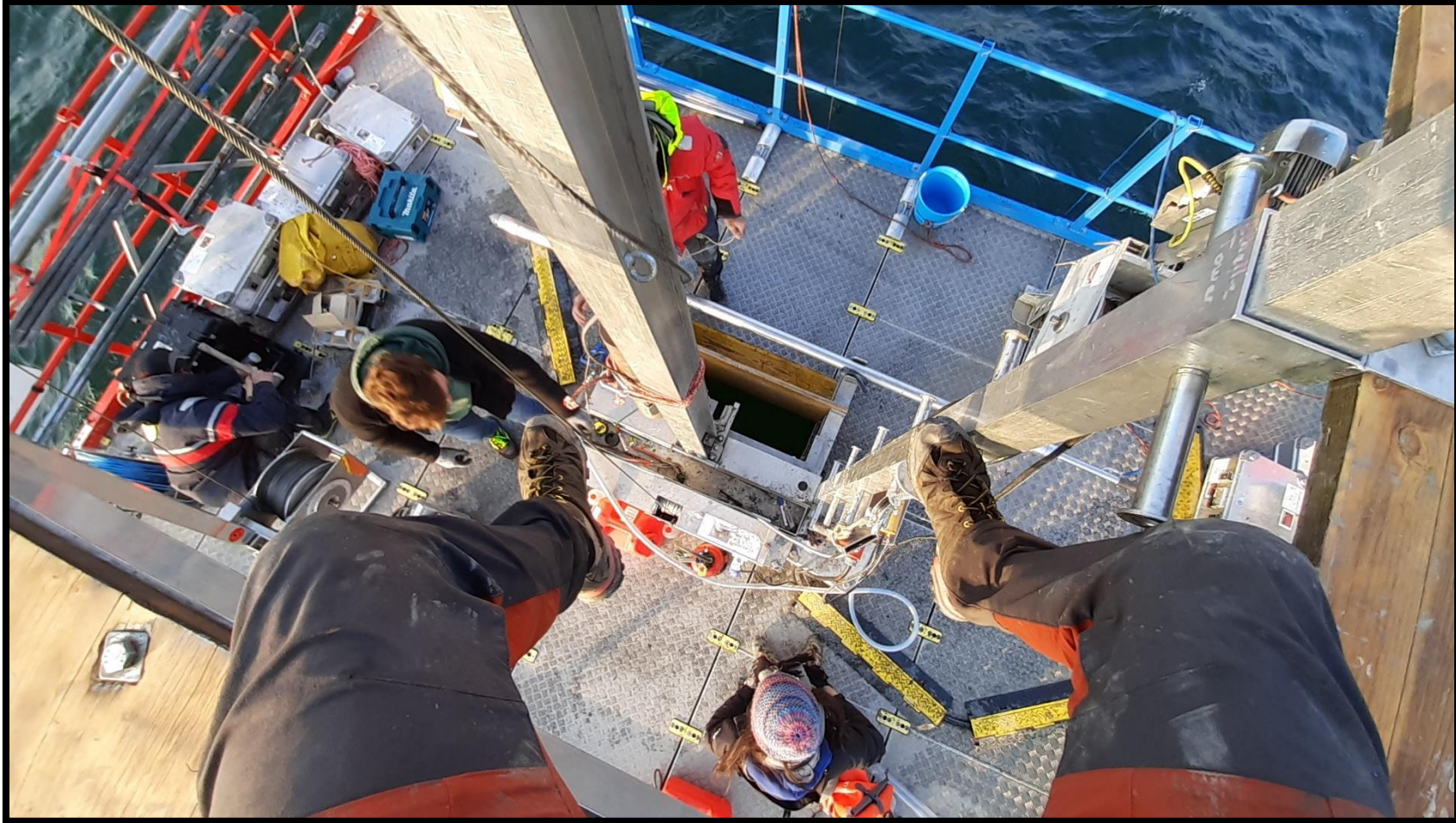
Link between lake level variations AND climate

Still some work to do

- I. What about tectonics forcing?
- II. Long cores to date the other sequences



TEŞEKKÜR EDERİM



Coring mission - Lake Iznik, Turkey - November, 2021

References:

- Rebesco, M. (2018)** Sedimentary Environments: Contourites. In: Reference Module in Earth Systems and Environmental Sciences, Elsevier
- Reimer, A., Landmann, G. and Kempe, S. (2009)** Lake Van, Eastern Anatolia, Hydrochemistry and History. *Aquat Geochem*, 15, 195–222.
- Roeser, P.A. (2014)** Paleolimnology of Lake Iznik (NW Turkey) during the past ~ 31 ka cal BP. Doctoral dissertation, Bonn