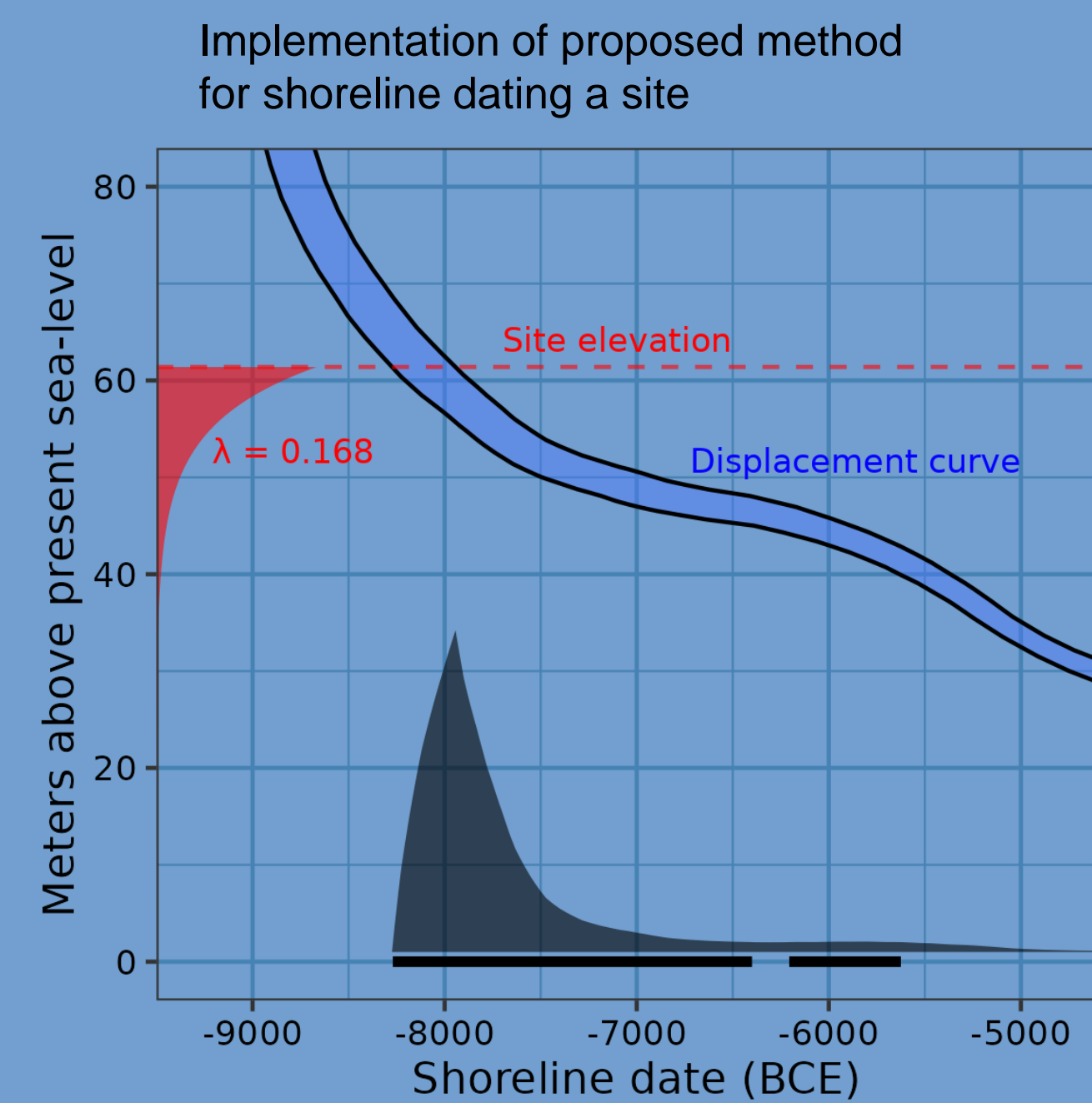
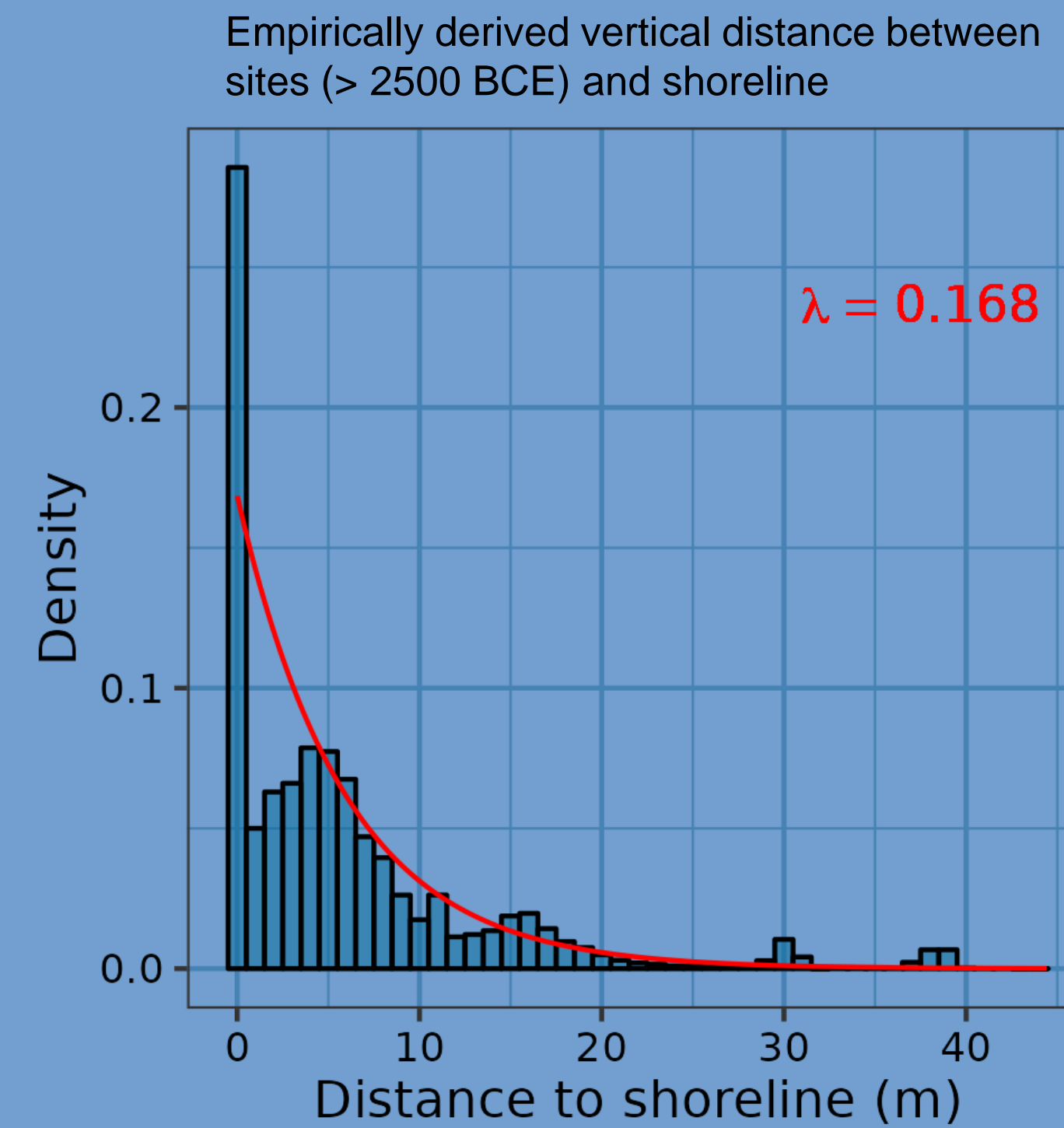


**Simulation study confirms that Stone Age sites on the Norwegian Skagerrak coast were located close to the prehistoric shoreline.**

The **quantification** of this relationship allows for the formulation of a method for **shoreline dating** based on the present-day altitude of a site, its likely elevation above the shoreline when it was in use, and the reconstruction of past **shoreline displacement**.

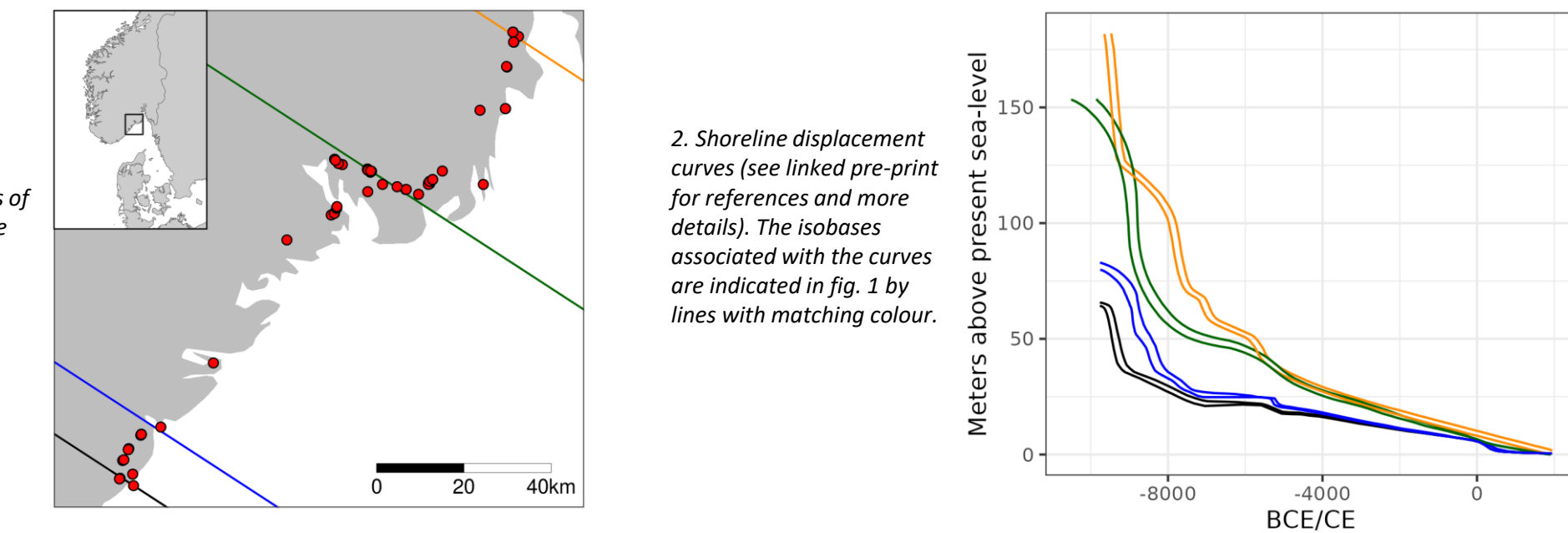


## Simulating the relation between Stone Age sites and relative sea-level change along the Norwegian Skagerrak coast

Isak Roalkvam – Institute of Archaeology, Conservation and History – University of Oslo

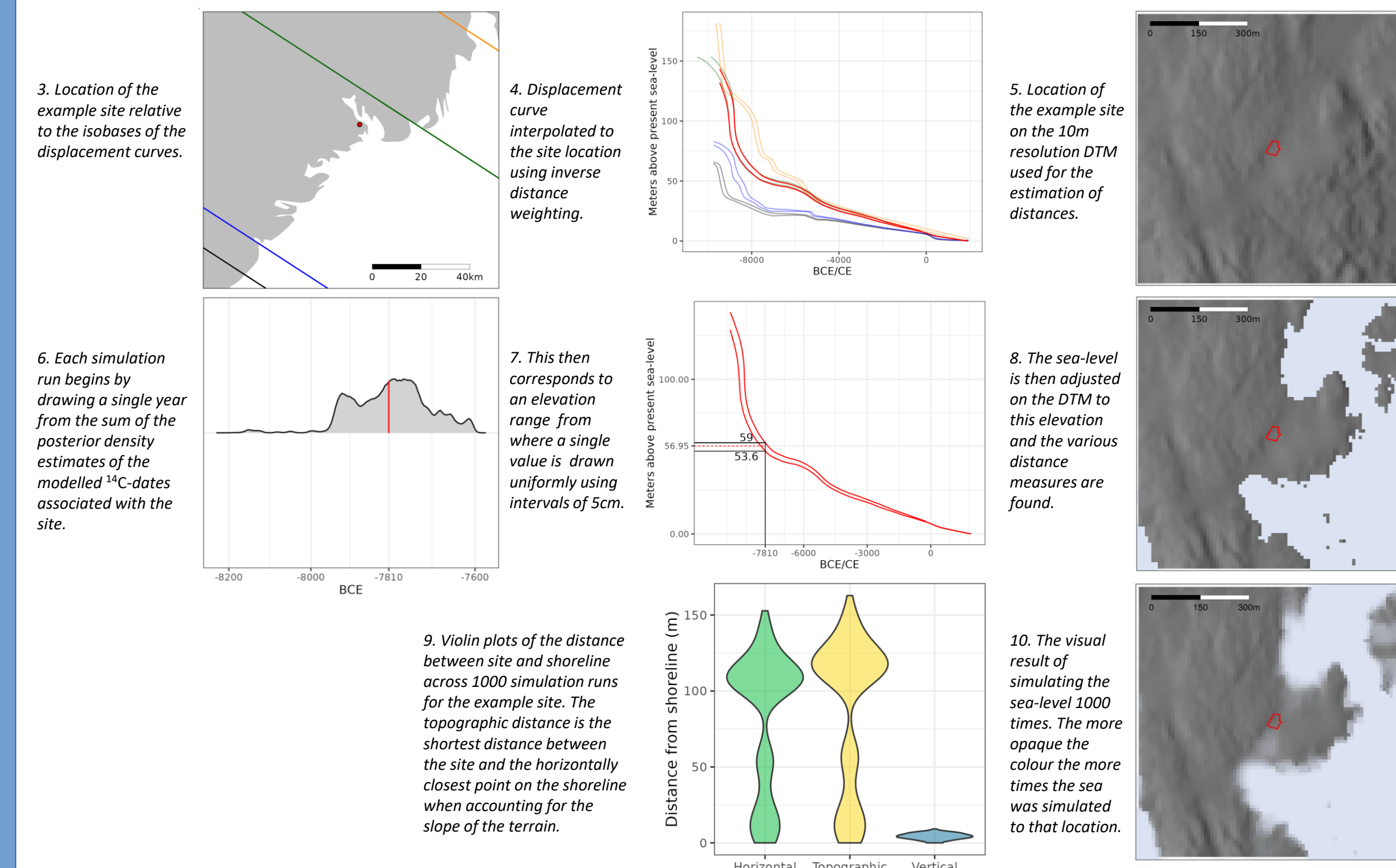
### Background

- Continuous and rapid relative sea-level fall in most areas of Norway throughout prehistory.
- Coastal foragers are believed to have predominantly settled on or close to the contemporaneous shoreline.
- Consequently, reconstructions of shoreline displacement is frequently drawn on to assign an approximate date to coastal Stone Age sites based on their present-day elevation – a method known as shoreline dating.
- This study aims at evaluating and quantifying the spatial relationship between sites and shoreline by drawing on independent temporal data on site-use in the form of  $^{14}\text{C}$ -dates and reconstructions of local shoreline displacement.



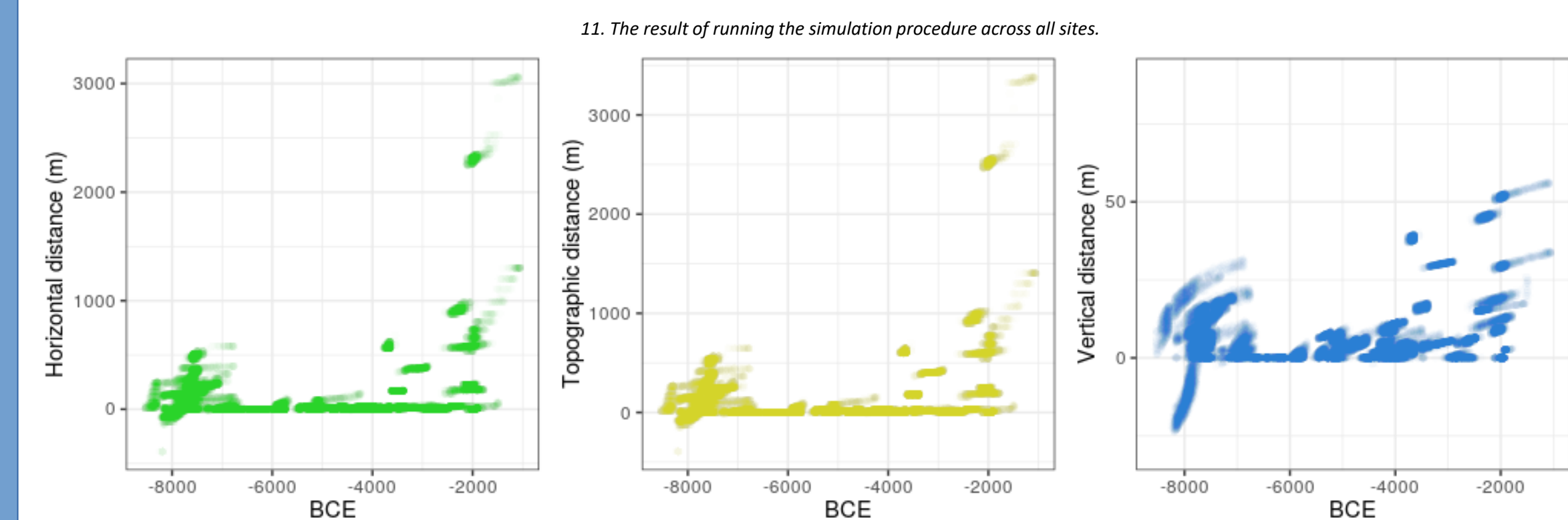
### Methods

- When estimating the distances between sites and shoreline, Monte Carlo simulation was employed to account for the uncertainties associated with both site-use as evidenced by  $^{14}\text{C}$ -dates and the corresponding reconstruction of the past sea-level. Example site:



### Simulation results

- The simulation results indicate that sites begin to be more withdrawn from the shoreline after 4000 BCE followed by a more decisive break c. 2500 BCE.



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QR code links to  
pre-print as well as  
underlying data and  
code at [osf.io/3x7ju](https://osf.io/3x7ju)