Tectonics

Supporting Information for

Controls of the Foreland Deformation Pattern in the Orogen-Foreland Shortening System: Constraints from High-Resolution Geodynamic Models

Sibiao Liu[1, 2, 3], Stephan V. Sobolev[2, 3], Andrey Y. Babeyko[2], Michael Pons[2, 3]

[1]GEOMAR Helmholtz Centre for Ocean Research Kiel, Kiel, Germany

[2]German Research Center for Geosciences GFZ, Potsdam, Germany

[3]Institute of Earth and Environmental Science, University of Potsdam, Potsdam, Germany

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Introduction

This document contains four supplementary figures. Figure S1 encapsulates a series of modeling experiments that we conducted and is a supplement to Table 2 in the main text. Figure S2 show model results of the full-size models M2 undergoing 178 km of shortening.

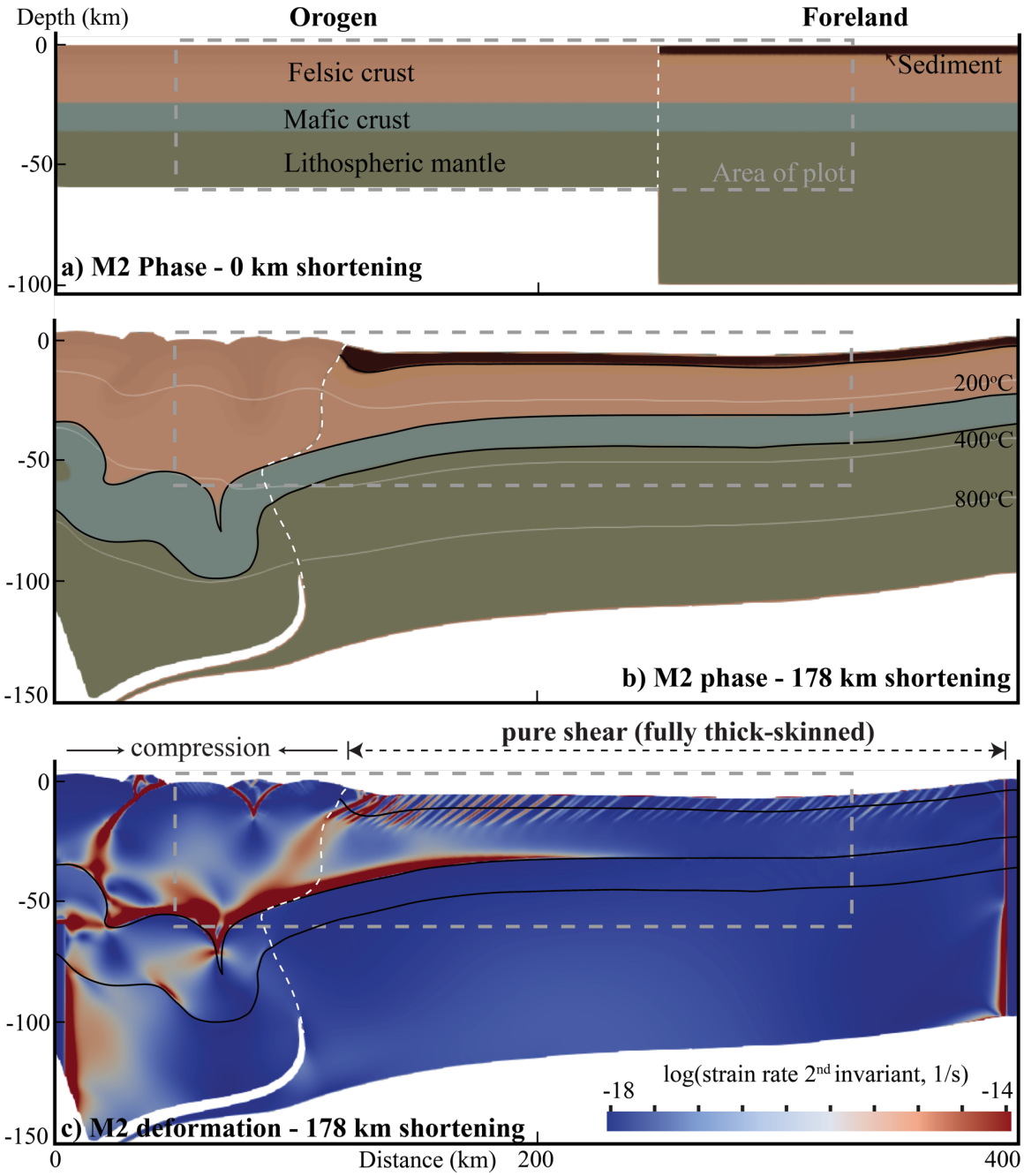

Figure S1. Results of Model M2 after 178 km of shortening. **a)** Initial model setup. **b)** and **c)** are model profiles of the phase and deformation structure, respectively.

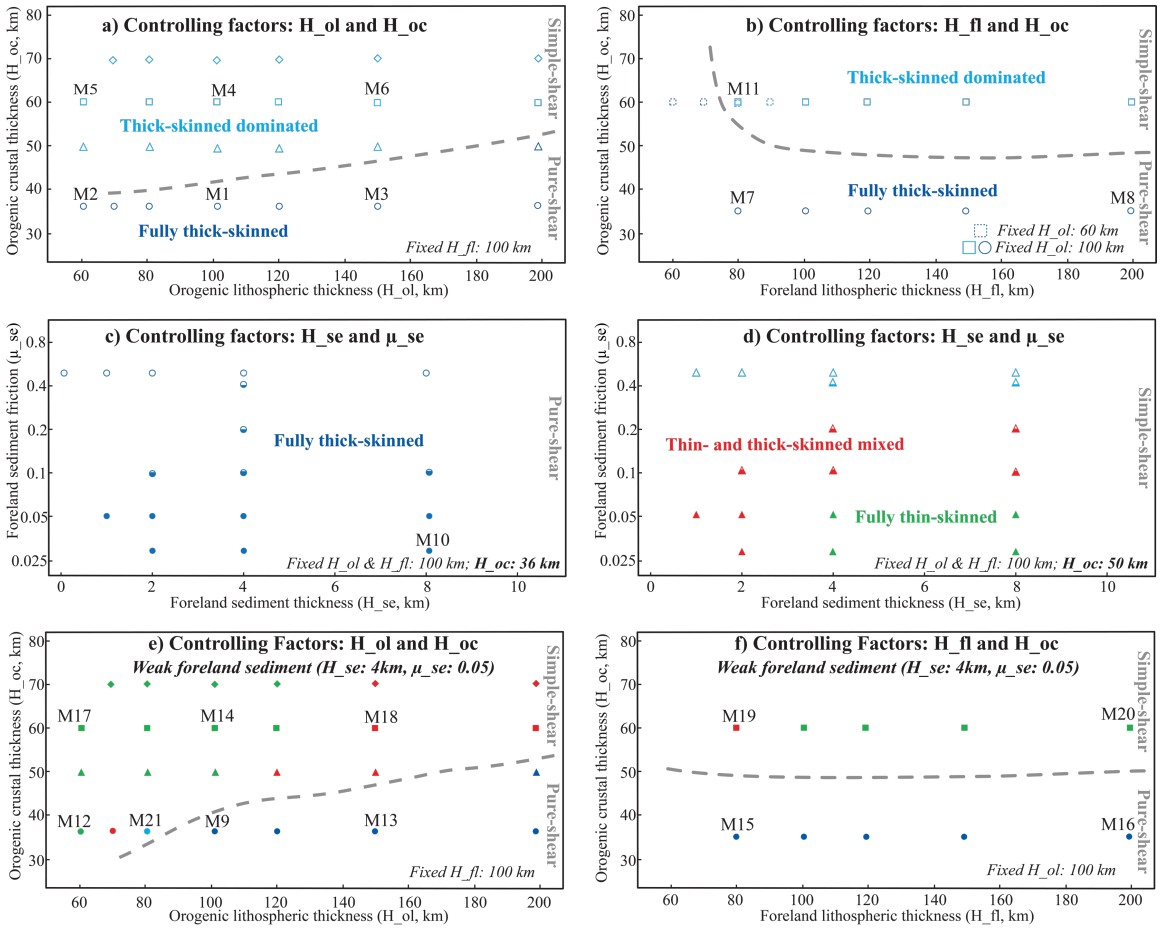

Figure S2. Model behaviors for variations in orogenic/foreland lithospheric thickness, orogenic crustal thickness, and foreland sedimentary thickness and friction coefficient. **a-b)** Models with controlling factors: thickness of the orogenic lithosphere (H_ol) and thickness of the orogenic crust (H_oc). Thickness of the foreland lithosphere (H_fl) is fixed. **c-d)** Models with controlling factors: thickness of the foreland sediment (H_se) and its friction coefficient (μ_se). H_oc and H_fl are fixed. H_oc are 36 km and 50 km in **c)** and **d)**, respectively. **e-f)** Models have the same factors as **a-b)** except an additional weak foreland sedimentary layer. The gray dashed curve shows the presumptive transition between two shortening modes.