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Supporting Information for

**Complicated lithospheric structure beneath the contiguous US revealed by
teleseismic S reflections**

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Figures S1 to S5

Introduction

This supplementary information contains Supplementary Figures 1–5 and their captions.

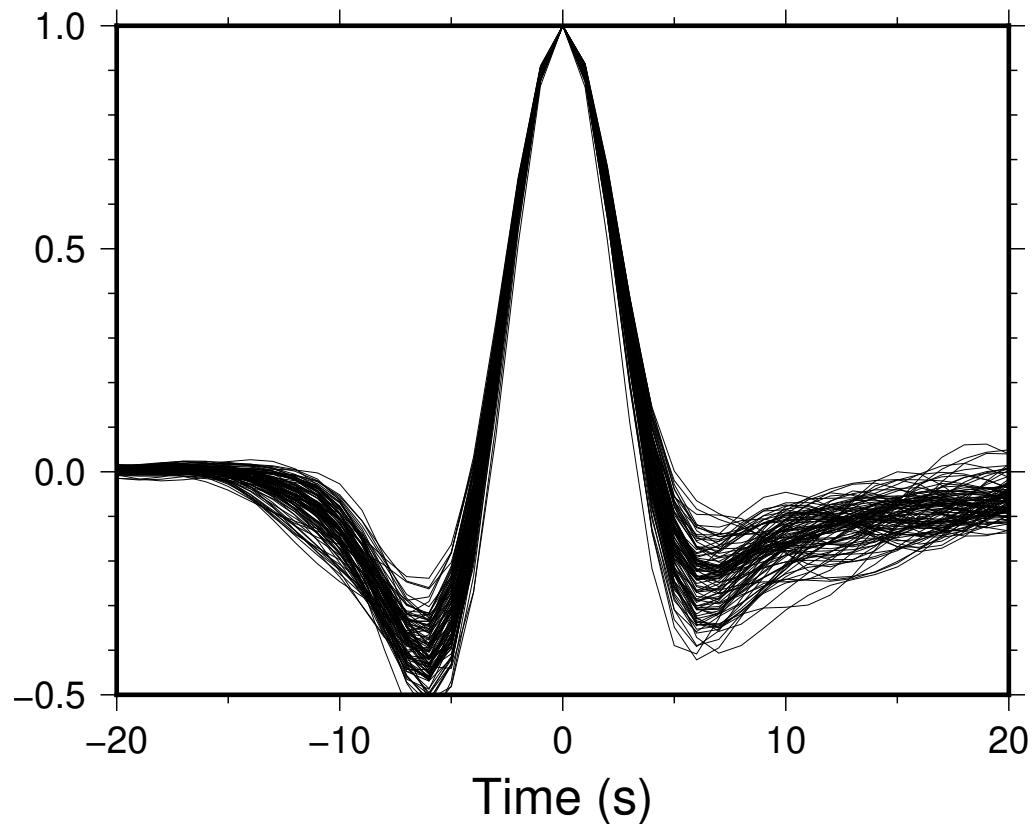


Figure S1. Stacked reference pulses of 100 randomly selected bins of our CRP image. All the stacks include more than 100 traces.

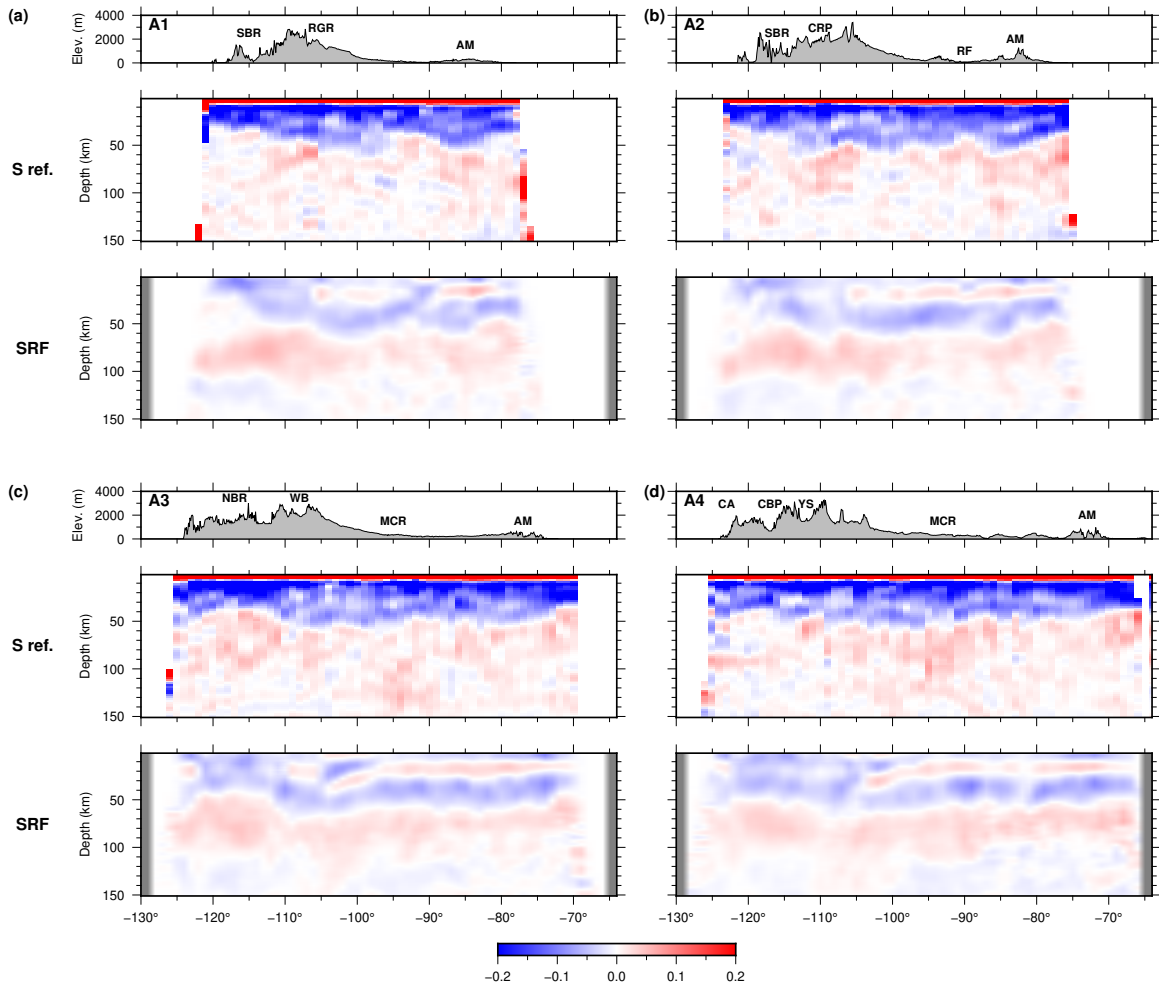


Figure S2. Comparison between our S-reflection CRP images with the SRF images from Hopper & Fischer (2018) along (a) Profile A1, (b) Profile A2, (c) Profile A3, and (d) Profile A4. See Fig. 5 for the location of the profiles and Fig. 5 for the acronyms of key tectonic features.

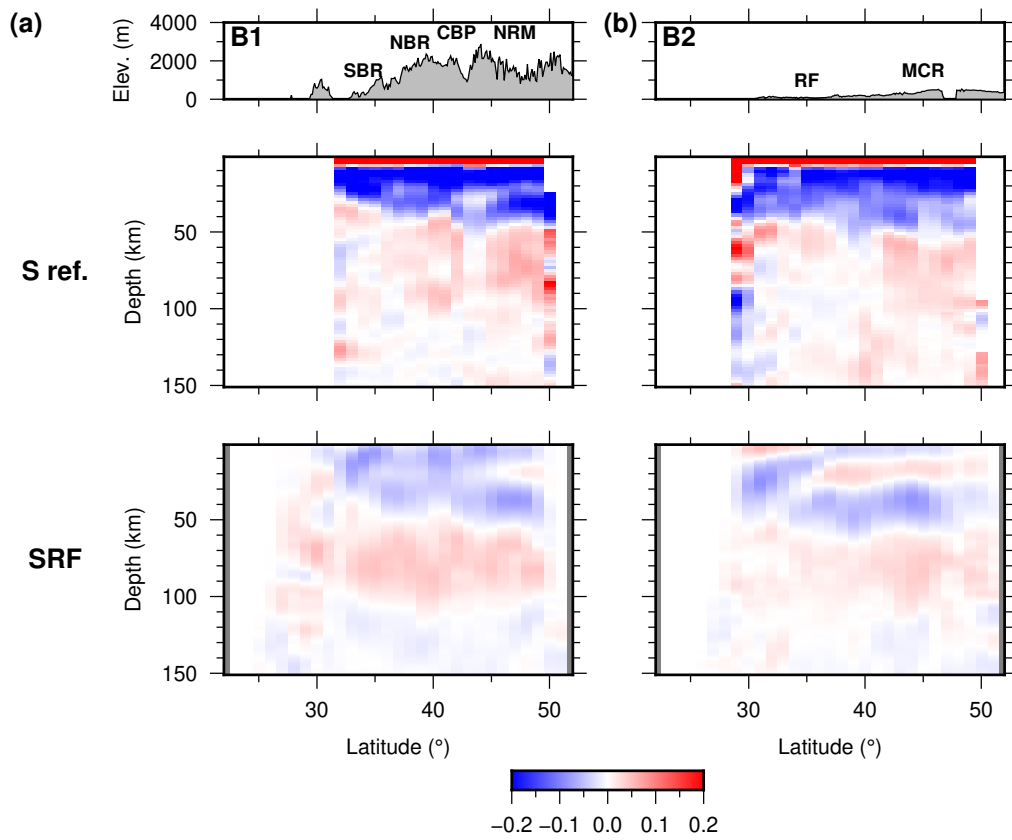


Figure S3. Comparison between our S-reflection CRP images with the SRF images from Hopper & Fischer (2018) along (a) Profile B1, (b) Profile B2. See Fig. 5 for the location of the profiles and Fig. 5 for the acronyms of key tectonic features.

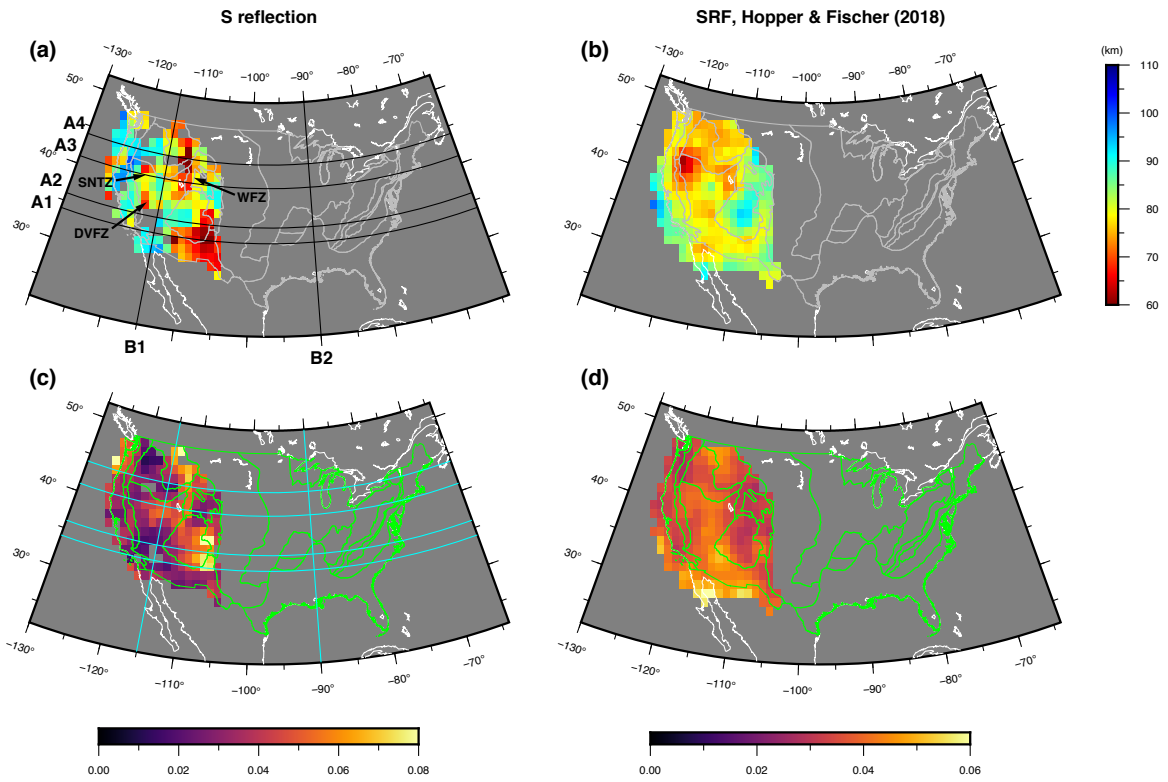


Figure S4. LAB depth and amplitude maps derived from (a) and (c) our S-reflection image and (b) and (d) the SRF image of Hopper & Fischer (2018).

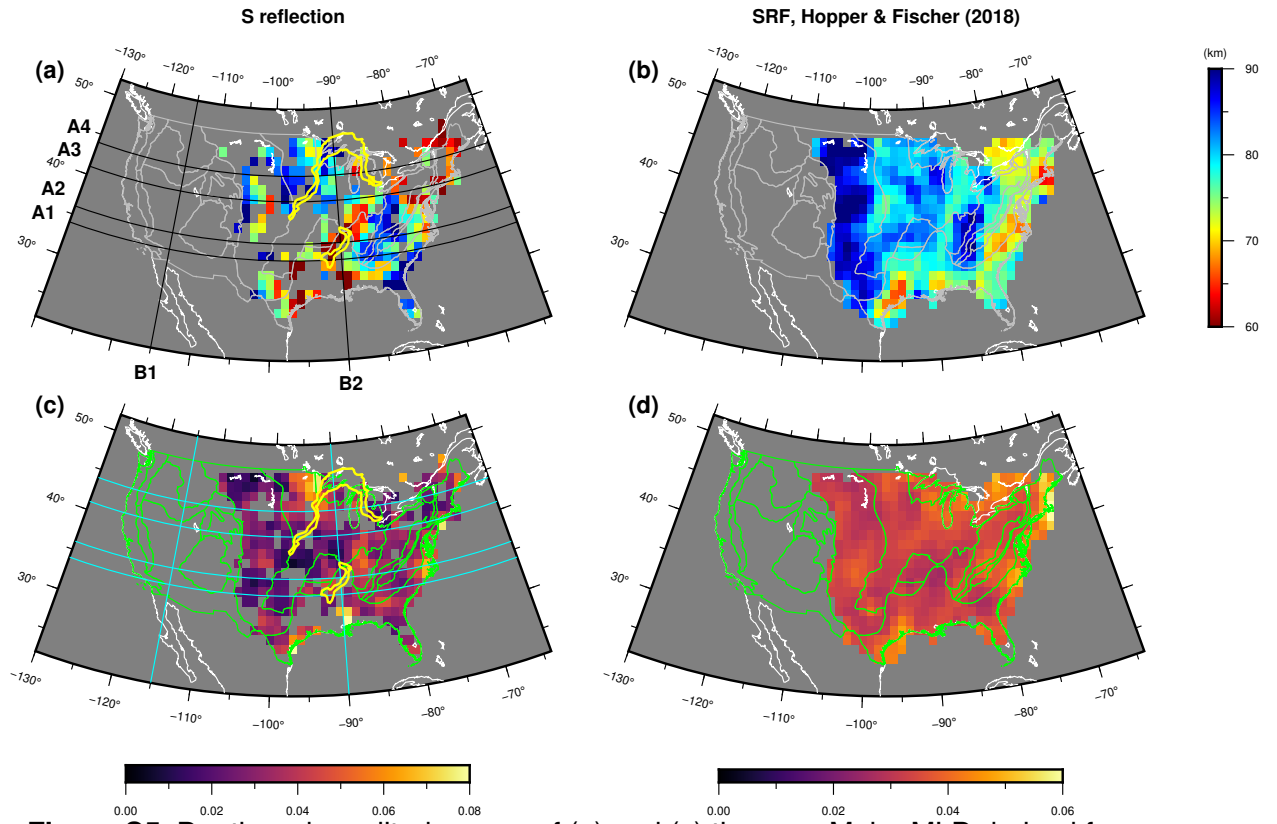


Figure S5. Depth and amplitude maps of (a) and (c) the near-Moho MLD derived from our S-reflection image and (b) and (d) the maximum negative velocity gradient derived from the SRF image of Hopper & Fischer (2018) in the CEUS.