

Supporting Information for ‘Continental Magmatism: The Surface Manifestation Of Dynamic Interactions Between Cratonic Lithosphere, Mantle Plumes And Edge-Driven Convection’

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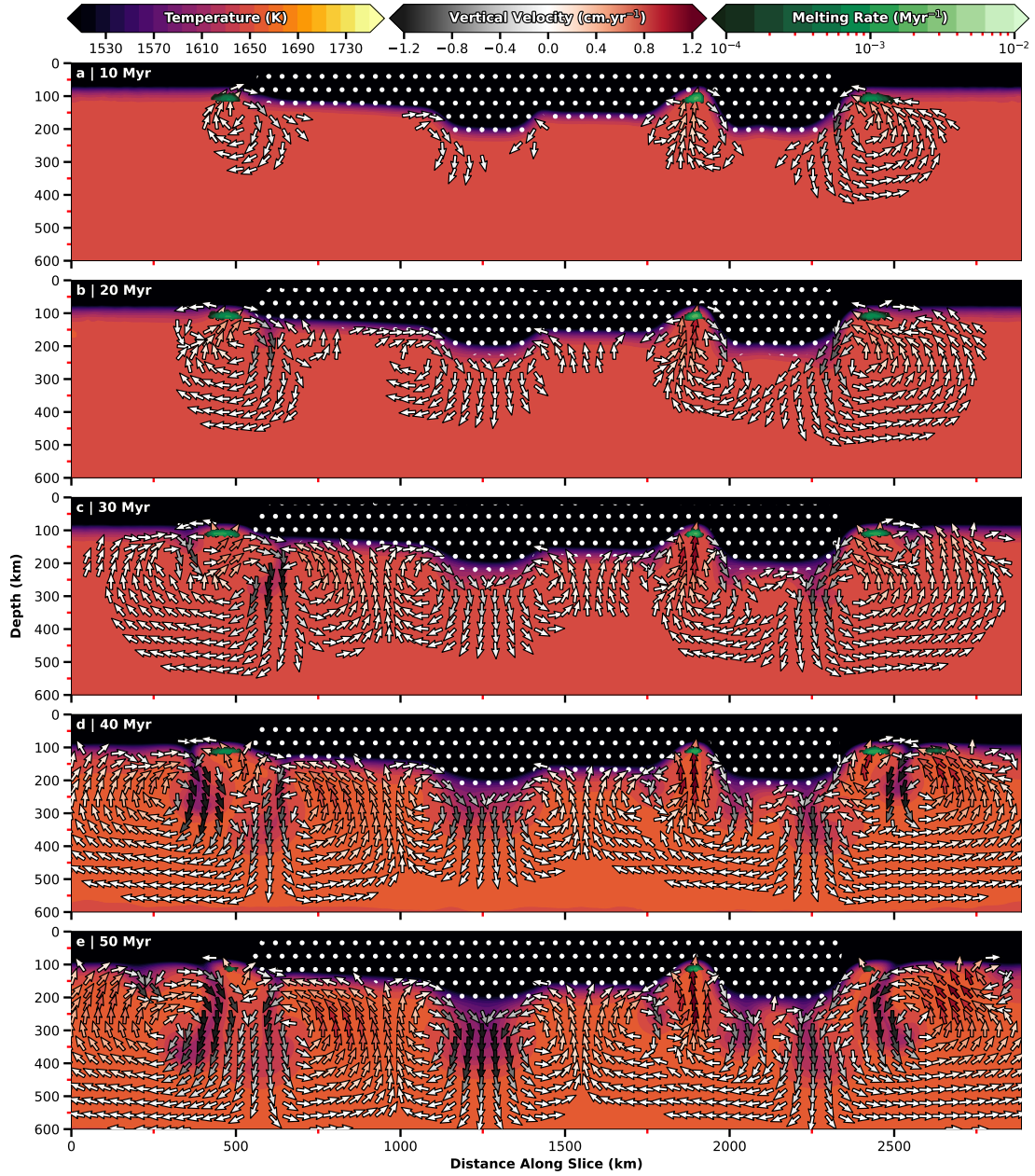


Figure S1. Instability development beneath and adjacent to the *Complex* continental geometry along a chosen vertical cross-section (refer to Figure 2b for the location of the cross-section). Background colours represent the temperature field, with superimposed green regions depicting areas of active melting according to their intensity. Arrow glyphs illustrate the velocity field projected onto the pictured cross-section. Glyphs are drawn where the magnitude of the projected field is greater than 0.5 mm yr^{-1} and are coloured by the intensity of the vertical velocity component. White circles highlight the location of continental material (crust excluded).

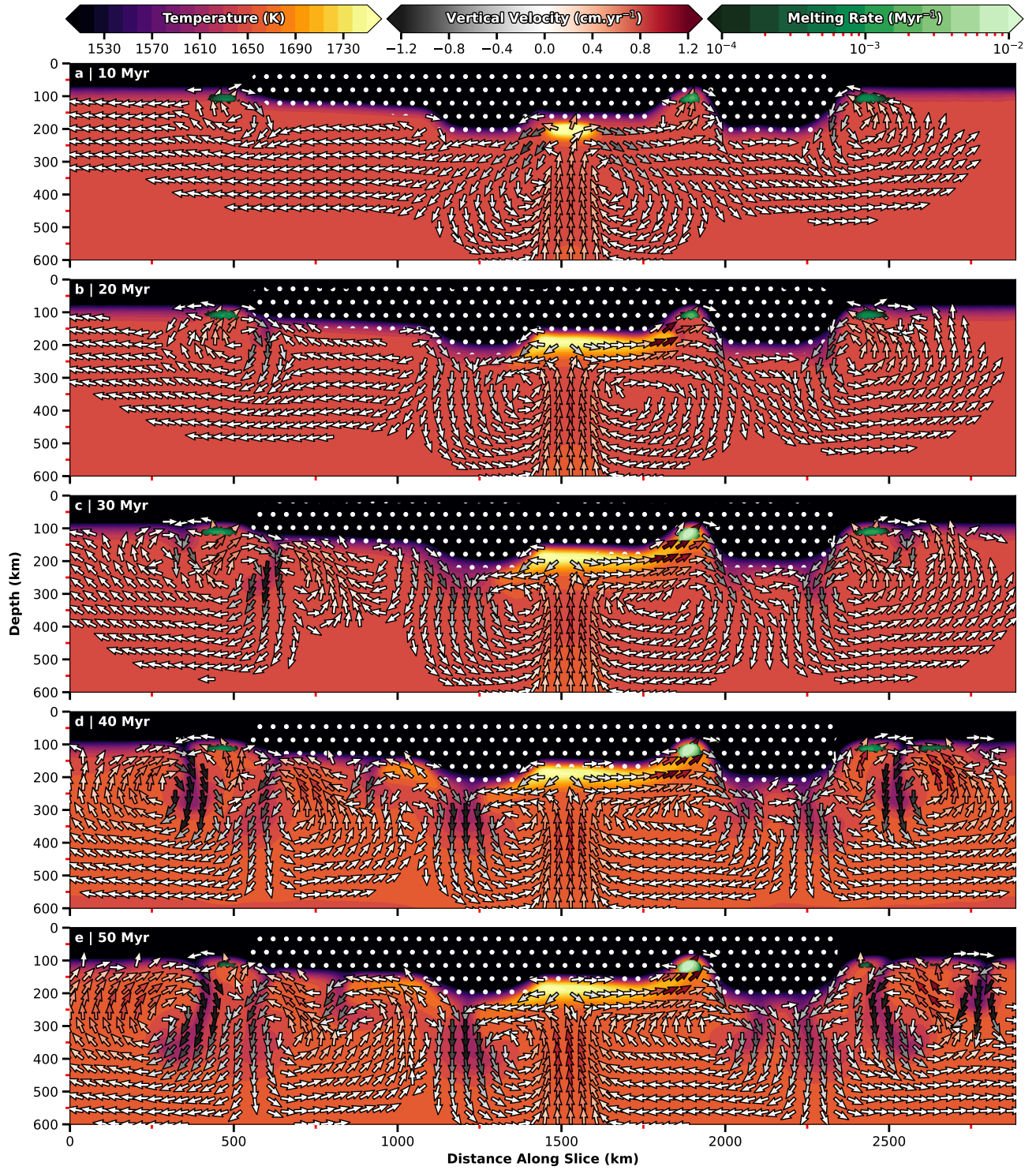


Figure S2. Instability development beneath and adjacent to the continental lithosphere of case *Complex_Cont_Centre* as the plume ascends through the upper mantle. Chosen cross-section and graphical illustration similar to Figure S1.

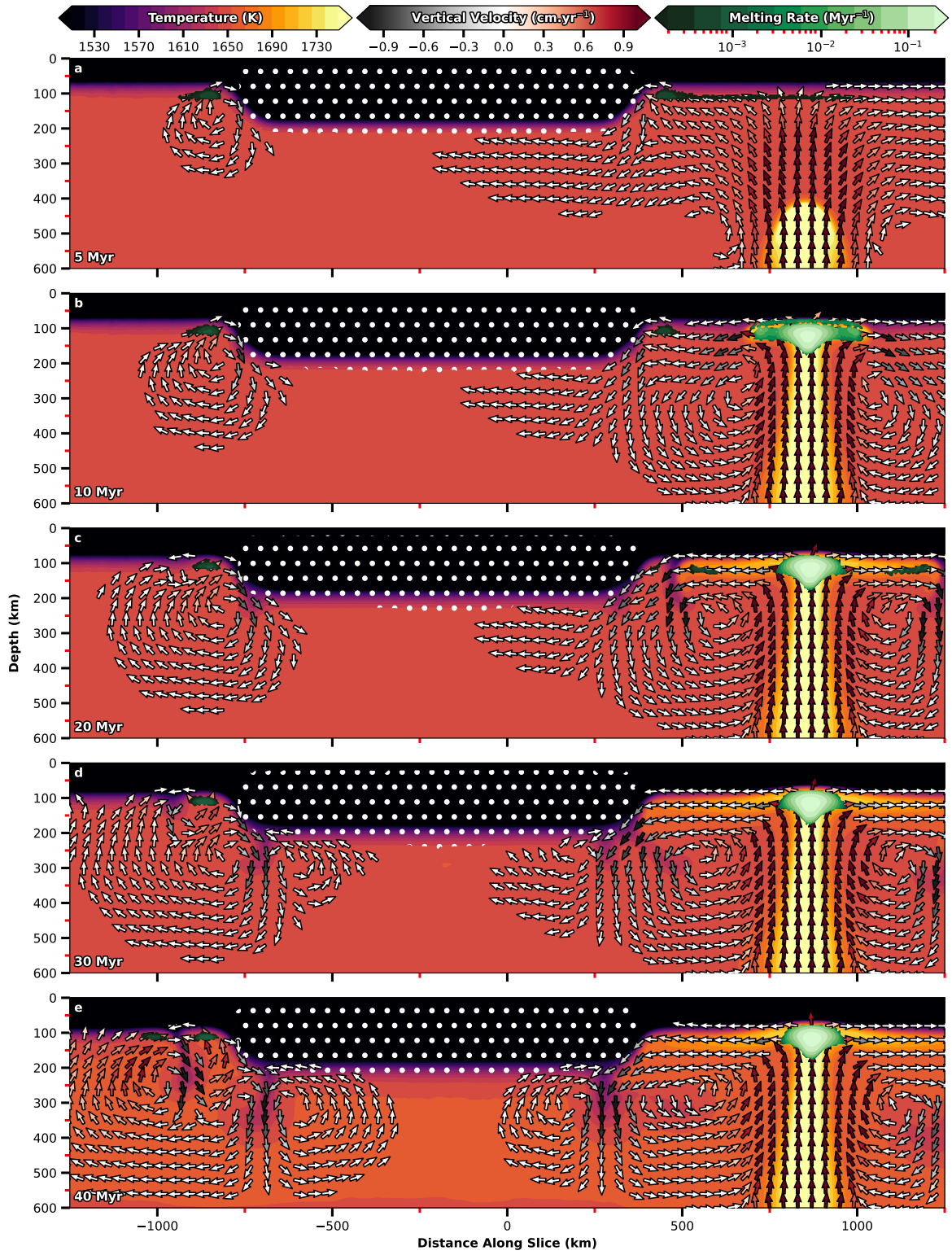


Figure S3. Instability development beneath and adjacent to the continental lithosphere of case *U400_Ocean_Offshore* as the plume ascends through the upper mantle. Displayed cross-section is located at $y = 2000$ km. Graphical illustration similar to Figure S1.