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Post-cratonization Deformation Processes and Tectonic Evolution of the North China Craton

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ABSTRACT

The timing of events during the tectonic evolution of the North China Craton (NCC) and the east China region is debated. Extension, compression, transpression, and shearing occurred throughout the NCC since ~320 Ma. These main structural stages and the temporal evolution of the structural framework and kinematics are summarized. We present here data from multiple structural and magmatic stages related to temporally varying kinematics and deformation mechanisms during the evolution of the post-cratonization of the NCC. The timing of each stage is constrained using isotopic dating, along with the timing of magmatic intrusion, dyke intrusion, and basin formation associated with tectonic transformation of the NCC. Age data indicate distinct structural and magmatic stages at ~1600–1500, 1300–1100, 445–315, 270–200, 170–155, 130-–110, 75–65, and 25–20 Ma, relating to basin formation and continental uplift or collapse. These stages define the tectonic evolution and structural