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Continental construction in Central Asia and actualistic comparisons with western Pacific: Preface

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1. Introduction

A huge territory of central and eastern Asia hosts the Central Asian Orogenic Belt (CAOB), the world largest accretionary orogenic belt, which evolved during more than 800 m.y. The CAOB has been a major target of Project #592 “Continental construction in the Central Asian Orogenic Belt (Altaids) compared with actualistic examples in the western Pacific” of the International Geoscience Correlation Program (IGCP) (<http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/international-geoscience-programme/igcp-projects/deep-earth/project-592/>; <http://igcp592.igm.nsc.ru/>), which is sponsored by UNESCO and International Union of Geological Sciences (IUGS). The Project started in 2012 and has been highly evaluated at the last four annual meetings of IGCP Scientific Board (2013-2016). The major scope of the Project is the understanding how continental crust forms, grows and evolves, which is a highly important issue in earth sciences. The formation of the continental crust was one of the most important events that ever happened in Earth’s history. As one of the largest orogenic collages in the world, the CAOB records a long-lived accretionary orogenesis and the largest Phanerozoic continental growth. Therefore, the CAOB has been regarded as an ideal laboratory to address the mechanism of continental growth. The crust of Asia formed through either one or a combination of the following four processes: by (1) crustal growth, (2) crustal formation, (3) continental growth, and (4) continental formation. These processes have not been systematically investigated and a lot of questions remained unanswered, including the following aspects: (i) proportions of juvenile and recycled continental crust in the CAOB; (ii) whether Pacific or Himalayan styles of orogeny were dominating during the formation of the CAOB; (iii) whether magmatic arcs or Gondwana-derived terranes with Precambrian basement were accreted

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