

## **TERRANE ACCRETION AND CRUSTAL GROWTH OF CENTRAL ASIA: CONSTRAINTS FROM MONGOLIA**

1WINDLEY, B.F., 2BADARCH, G. and 1CUNNINGHAM, W. D. 1Department of Geology, University of Leicester, Leicester, LE1 7RH; 2Institute of Geology, Mongolian Academy of Sciences, Ulaan Baatar, Mongolia

The Central Asian Orogenic Belt (CAOB) is one of the world's largest accretionary orogens which formed largely by the accretion of juvenile material from the Neoproterozoic through the Palaeozoic. It extends from the Pacific coast to the Urals and from Tibet to the Aldan Shield. Mongolia occupies a key central position within this tectonic collage. We have subdivided the geology of Mongolia into forty four terranes of island arcs, continental arcs, ophiolites, accretionary prisms, passive continental margins, microcontinents (cratons), and overlap basins. This preliminary subdivision allows much-needed, new, detailed studies of individual terranes and their boundaries. New data include: some ophiolites (Bayanhongur, NE Daribie, Khantaishir) were thrust northwards, but others (NW Daribie) southwards onto older crust, from which we infer a different sense of subduction polarity. Also the different polarity of thrusting of carbonate platforms onto cratons suggests variable directions of subduction and accretion from craton to craton. These relations point to a geometrically more complex tectonic assembly than the result of either a single or multiple, northward-dipping subduction zones, as in several recent models. However, we believe it is premature at this stage to create a comprehensive tectonic model, because of the unreliability of much of the primary geological information that has been synthesized, paucity of isotopic age control, uncertainty of kinematic criteria (thrust polarity, oblique accretion), and lack of geochemical information (proportion of juvenile to old crust). New data are required for a viable model.