

ACCRETION TECTONICS IN SABAH: KINABALU SUTURE AND EAST SABAH EXOTIC TERRANE

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The Kinabalu Suture zone consists of Mesozoic to Paleogene rocks, including ophiolite and turbidites, forming a band up to 80 km wide separating the NE-striking structures of West Sabah from East-trending structures of East Sabah. The suture zone extends in broad curves convex westward from Teluk Darvel-Semporna Peninsula across Telupid/Ranau to Teluk Marudu and Banggi Island. In many places the rock within the suture are intensely deformed and at least in the Ranau area cross-sections display typical fan-shaped structures verging away from the suture zone in both directions. The Early Miocene slump deposits of East Sabah are considered to represent the final stages of the closing of an oceanic basin that contained the ophiolite and turbidites. The Early Miocene rocks of East Sabah also contain pyroclastics and probably developed in an island arc setting. Consistent with the spreading history of the South China Basin and its stratigraphy, East Sabah is considered an exotic terrane composed of island arc material that became welded along the Kinabalu Suture to Borneo in mid-Miocene time. The East Sabah terrane most probably originated off the southeast coast of China and together with the North Palawan and Mindoro blocks drifted towards their present positions between 32 and 17 M.y. The large chert-spillite-ultramafic complexes outside the Kinabalu Suture zone (in the Dent Peninsula, e.g.) are probably megaclasts in the Ayer and Labang formations which, therefore, can be classified as olistostromes. During the Late Miocene-Pliocene felsic plutons, like the Kinabalu adamellite, intruded into the suture zone.