

Caribbean Basin Geodinamics: A Comparison with an Urals – Kazakhstan – Western Siberia Ensemble

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Tectonics of above-mentioned territories is considered by conception of convection-diapir geodinamics. It is governed by interaction of mantle linear swells and oval mantle diapirs. Representatives of the first group there are under south margin of North America and under Urals, of the second group - under Columbian and Venezuelan fossas of Caribbean Sea, under Kazakhstan and Western Siberia.

Swell rising forms rift which is transformed into linear basin with ocean earth crust. Oval diapir rising leads to lithosphere extension and subduction rift earth crust under oval diapir in form of lying synclinal overfold. Besides flow of overdiapir mass aside leads to its penetration to foundation of crust of linear basin. It creates obduction effect. As a result S-similar subduction-obduction zone is formed. Further more deep mass of diapir blocks and extracts it up (by exhumation) in form of metamorphic ophiolite association. Result of exhumation of subduction-obduction zone is observed at Eastern Cuba (overfolded middle limb of zone is composed of large ultramafic masses and volcanic formation of Sierra Purial and Santo Domingo).

Deep obduction and exhumation cause displaced mass from rises towards linear basin. It forms unvolcanic external island arc (North Cuba arc after K_2 , Sakmara-Irendic arc after D_2 ef) and the following displacement of nappes on neighbouring platforms.