

CARIBBEAN PLATE TECTONICS: A NEW VERSION OF AN OLD MODEL

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The Caribbean region is an excellent area to test the versatility of plate tectonics as is proven by the many different approaches that have been taken in order to explain the region's origin and evolution. A review of the models published only since 1990 demonstrates that very different concepts are in the game.

These models have their own implications and produce quite distinct results.

The review also demonstrates that the inherent problems and solutions of particular models are often related to the limiting factor of the personal expertise (field and laboratory) of the authors.

Joining in this melee, we present an animated tectonic model of the Caribbean (200-000 my), which takes into consideration the following concepts: 1. The original Caribbean crust was created between 200 and 140 m.y. ago. 2. The arc magmatism in the area was not a continuous event from 140 m.y. to the present. 3. At least 5 generations of arc magmatism can be defined for the Caribbean realm, representing distinct pulses separated by short periods of relative volcanic quiescence. 4. Extensive underthrusting and deformations not associated with volcanic activity are identifiable in the Caribbean. 5. Polarity reversals as well as modifications of the trend of the volcanism is recorded in some arcs.