

6th International Conference on

Marine Science, Coastal Dynamics and Management

&

6th International Conference on

Oceanography, Ocean Technology and Marine Biology

September 21-22, 2018 | Dallas, USA

Earth's expansion and its relation to continental drifting and ocean formation

Subhasis Sen

Council of Scientific and Industrial Research, India

Formation of continental fragments and oceans, together with mid-oceanic ridges have been explained in the paper with the help of an expansion-based global tectonics termed "Unified Global Tectonics" which based on Hilgenberg's Earth expansion theory considers that the planet Earth was originally considerably small and devoid of ocean basins. It has been pointed out by the author that since such an Earth would be ocean-less, the ocean-forming water must have, therefore, been initially associated with the mantle, thereby turning that geosphere considerably fluid or semi-fluid exceedingly suitable for expansion and continental drifting. Expansion of the planet was manifested chiefly by expanding the semi-fluid mantle bringing forth a number of major changes on Earth. It was owing to upward bulging of the mantle—caused by gravitational attraction of a planetary body, probably the moon, the solid sialic covering or the crust of the small planet was fragmented forming a number of separate continental blocks. Through the expansion cracks, a large quantum of basic lava disgorged which deposited on its both sides forming rudimentary basins. On the continued process of expansion, associated with the upliftment of continental fragments, the small basins gradually turned into large ocean basins. Associated with the expulsion of lava, a large amount of volatiles chiefly composed of moisture also came out from the mantle which on condensation deposited as ocean water continuously filling up the ocean basins. The expansion cracks which were formed owing to planetary expansion, initiating the process of ocean formation, in due course turned into mid-oceanic ridges. The processes of expansion, continental displacements, and ocean formation continued till the mantle was sufficiently fluid. However, due to drying up of the mantle owing to the emission of moisture-rich volatiles, the mantle rock eventually turned into a solid and rigid geosphere when ocean enlargement and all associated processes were stopped.

ssennagpur82@yahoo.com