

Geological society of america

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Geological Society of America Geological Society of America The theory of tectonic plates has been a major topic of discussion in the past years. This view is in relation to the formation of continents and island arcs. There has been a lot of debates and paper-writing on how the continents formed and whether there was movement of land masses. Moreover, whatever caused the continental drift has been a basis of an argument ever since the idea of moving continental plates was brought up.

With intensive research and data collection, it has been noted and proved that the earth is indeed mobile. This mobility is caused by the movement of tectonic plates that can go unnoticed at times and appear extremely active in other occasions. The presence of these plates can be confirmed by the appearance of oceanic trenches when these plates sink beneath one another. These trenches can run for hundreds of miles. Another evidence of their existence and activity is the formation of ridges where these plates pull apart. Transform faults also form where the tectonic plates slide to opposite sides of each other (Eckel, 1982).

The movement of plates was used to settle the debate on how the island arcs, both continental and oceanic, form. Island arcs form where oceanic and continental, oceanic or transitional plates sink beneath each other. The past decades saw the geoscience community reject research and theories on the formation of island arcs based on the tectonic plates. To add to this conflict, there was conflicting continent formation theories based on tectonic plates. One considered seafloor-spreading while the other was in favor of pieces of continents afloat dense oceanic materials.

The earth's lithosphere is in motion. This movement has many effects on the

earth's surface, some which are physically manifested in continents and others under oceans.

References

Eckel, E. (1982). *The Geological Society of America: Life history of a learned society*. Boulder, Colo.: Geological Society of America.