

## Volume of volcanic materials and crustal growth of the Izu-Bonin Arc

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The Quaternary volcanic volume of the Izu-Bonin Arc was estimated from the bathymetric map by the Gaussian function. The maximum volcanic volume is on the volcanic front decreasing toward backarc side. We also calculated spacing of volcanoes on the volcanic front. The spacing of the southern segments shows a regular interval, 60km and double spacing, 20km and 50 km in the northern segment but has no regular interval in the central segment.

We estimated total crustal volume from the seismic cross sections of the Izu-Bonin Arc and Palau-Kyushu remnant arc. The crustal growth rate of the arc was high during 48-34 Ma and the Quaternary. We conclude that the arc was build during 10 m.y. and the difference between northern and southern segments are due to the duration of the subduction resultant formation of the magmatic activity.