Collaborative Research: Magma Generation in the Early Mariana Arc System Revisited

NSF Org OCE

Latest Amendment Date August 31, 2000

Award Number 0001824

Award Instrument Standard Grant

Program Manager Bilal U. Haq
OCE DIVISION OF OCEAN SCIENCES
GEO DIRECTORATE FOR GEOSCIENCES

Start Date January 1, 2001

Expires December 31, 2004 (Estimated)

Expected Total Amount $124857 (Estimated)

Investigator Barry B. Hanan (Principal Investigator current)

Sponsor San Diego State Univ Fdn
5250 Campanile Drive
San Diego, CA 921821931
619/594-5731

NSF Program 1620 MARINE GEOLOGY AND GEOPHYSICS

Field Application 0204000 Oceanography

Program Reference Code 0000,OTHR,
Abstract

Recommended project is for a comprehensive geochemical and geochronological examination of Eocene to Miocene volcanism in the southern arc and backarc of the Izu-Bonin-Marianas (IBM) arc system, tracing its older development with time. In doing so, the recommended research will also re-examine well-characterized samples that have been previously investigated using older, obsolescent analytical techniques. This study will examine the changing nature of volcanism in the IBM system, as it transformed from "boninitic" volcanism associated with subduction initiation to the more "normal" tholeitic and calc-alkaline arc volcanism also seen today in the modern volcanic arc and backarc. This study also will examine the changing nature of the mantle sources during this transformation, as well as the implications they carry for tectonic processes during the arc system evolution. Previously sampled lavas and other volcanic rocks will be supplemented by collection of new samples during field work on Guam; all of these samples will be analyzed for major and trace elemental composition, isotopic composition, and geochronological (40 Ar - 39 Ar) dating using the latest analytical techniques.

You may also retrieve a text version of this abstract.

Please report errors in award information by writing to: award-abstracts-info@nsf.gov.

Please use the browser back button to return to the previous screen.