AWSFL008-DS3

NSF Award Abstract - #9905540

Lithium Isotope Compositions of Volcanic Arc Lavas: A Study of Processes and Fluxes in Subduction Zones

NSF Org OCE
Latest Amendment Date July 25, 2003
Award Number 9905540
Award Instrument Standard Grant

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OCE DIVISION OF OCEAN SCIENCES
GEO DIRECTORATE FOR GEOSCIENCES

Start Date September 1, 1999
Expires August 31, 2004 (Estimated)
Expected Total Amount $177869 (Estimated)

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NSF Program 1620 MARINE GEOLOGY AND GEOPHYSICS
Field Application 0204000 Oceanography

Program Reference Code 0000,OTHR,

Abstract

Funds that are provided will extend the use of the Lithium proxy to the arc systems. The objectives are to determine the isotopic variaion of Lithium in lavas as a funciton of the nature of subarc mantle, the extent of modification by subduction components, the mass transfer processes and the physical conditions of the subduction environment. In addition, sediment flux carried by the down-going plate will also be estimated to assess lithium recycling at the convergent margins. Samples from the Cascadia, Aleutian and Tonga-Kermadec Arcs will be analyzed.
