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NSF Award Abstract
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**Collaborative Research: Hf-Nd Isotopic and
Trace-Element Geochemistry of
Globally Subducting Sediments**

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NSF Program 1620 MARINE GEOLOGY AND
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Abstract

Metalliferous clays and Mn nodules and crusts contain highly radiogenic Hf isotopes and if subducted, the Hf isotopes could be used as a tracer for their presence in arc lavas. The purpose of this proposed study is to analyze Hf and Nd isotopes in marine sediments from outboard 12 subduction systems to determine how prevalent this signature might be. The origin of this unusual Hf isotopic fractionation is also uncertain, and these new data will help to constrain its cause. Finally, the new data will be helpful for constraining the terrestrial mass balance of Hf and Nd isotopic systems. The samples will mostly be ODP-drilled sediments obtained from arcs with potentially high variations of Hf isotopes and systems with very high sediment flux.

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