

Letter of Interest for proposal for NSF August 15 deadline.

Title: VEST: VENT ENTRAINMENT, SEDIMENTATION, AND TRANSPORT MODEL

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This main objective of this proposal is to develop a numerical model of plume behavior (entrainment, sedimentation, and transport), which uses information extracted from 3D acoustic images (e.g., centerlines, particle distributions) and other direct observations of the Grotto Vent plume at Endeavour Main Field. The model will predict the path of the plume, the dispersion rate of plume material, and the rate and pattern of the sedimentation of organic and inorganic particulates. The focus will be on predicting and matching the large scale features and short term mean changes in plume behavior as these are most critical in determining the best sampling strategy for the cabled observatory. A secondary objective is to develop visualization tools to facilitate this modeling and the inclusion of the 3D acoustic data in GeoMapApp.