

Primary Investigator: Charles Wheat

Institution: University of Alaska Fairbanks

Project: Collaborative Research: Completing single- and cross-hole hydrogeologic and microbial experiments: Juan de Fuca Flank

NSF Division: OCE **Solicitation Info:** NSF OCE ODP 05-5720 **Submission Date:** 08/15/2012

Overview: At the center of these studies are the cross-hole tracer experiments (begun on IODP Expedition 327 in 2010), and the long-term, multi-dimensional, cross-hole flow experiment (begun on AT18-07 in Summer 2011). Completing the tracer experiment requires recovery of downhole sampling and measurement systems so that we can quantify the presence of dissolved gas, ions, and particle tracers in the years following tracer injection.

Data description: digital pressure, temperature and flow rate.

Chemical - major, minor, and trace ions, dissolved SF₆, and microspheres

Data analysis summary: The digital data (temperature, pressure, and flow rate) will be corrected for instrument drift. Pressure data will be de-tided. All chemical data will be based on appropriate standards

Includes field work? Yes

Description of field work: We are requesting a 14 day ROV expedition to the eastern flank of the Juan de Fuca CORKS (instrumented boreholes)

Expected data product #1

Data type: Observational, Analytical

Responsible investigator: Wheat

Product description: major, minor and trace elements in seawater

Intended repository: VentDB

Timeline for data release: Two Years from acquisition/analysis

Expected data product #2

Data type: Observational, Analytical

Responsible investigator: Fisher

Product description: flow meter data

Intended repository: NGDC

Timeline for data release: Two Years from acquisition/analysis

Expected data product #3

Data type: Observational, Analytical

Responsible investigator: Cowen

Product description: microspheres

Intended repository: VentDB

Timeline for data release: Two Years from acquisition/analysis

Expected data product #4

Data type: Observational, Analytical
Responsible investigator: Clark
Product description: dissolved SF6
Intended repository: VentDB
Timeline for data release: Two Years from acquisition/analysis

Expected data product #5

Data type: Observational, Analytical
Responsible investigator: Becker
Product description: pressure and temperature data
Intended repository: NGDC
Timeline for data release: Two Years from acquisition/analysis

Expected data product #6

Data type: Observational, Analytical
Responsible investigator: Edwards
Product description: microbiological
Intended repository: GenBank
Timeline for data release: Two Years from acquisition/analysis