

## GG711 - Deep Active Submarine Volcanism Spring 2011

Instructor: Ken Rubin      Day, Time: Tu-Th mornings, 1030-1145a POST 613  
Office: POST 606E Phone: x68973      email: krubin@hawaii.edu

**Course Content:** We will explore various aspects of active volcanism in the deep ocean and its effect on the surrounding environment, focusing on recent eruptions.

**Course Format:** This is an informal class where we will read and discuss papers and talk about the latest research. The plan is to meet once per week for an introductory lecture/discussion and then to meet again on Thursday to discuss the paper(s) for the week. Initially I will lead the paper discussions but by mid-semester I'm hoping the course enrollees will lead the discussions. I would like to keep things as informal as possible and encourage people to ask lots of questions during class. Grading will be based on class participation and student-led discussions.

**Topics:** We will discuss all of the following (not necessarily in this exact order):

I. Volcanic products.

1. Volcano types, magma types, relationship to tectonic settings
2. Forms of deep sea volcanic products, eruption and emplacement mechanisms
3. Lava flow mapping, morphology and geology
4. Lava petrology and magma chamber processes
5. Compositional variations within eruptions

II. Eruptions and Related effects

1. Eruption detection and response
2. Eruption chronologies
3. Event plumes, microbial blooms and other water column effects.
4. eruption effects on hydrothermal activity and sea floor ecology

IV. Some Specific eruptions

1. N East Pacific Rise 1991-1992 and 2005-2006
2. West Mata 2008 to present
3. Loihi 1997
4. NW Rota 2004 to present
5. Axial Smt 1998 and 2011
6. others time permitting

**IMPORTANT NOTE:** this course won't meet the first week of the semester because i will be away on travel. The first meeting in Tue, 30 aug.