UNIVERSITY of HAWAI'I MĀNOA

Department of Atmospheric Sciences Seminar Announcement

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SCHOOL OF OCEAN AND EARTH SCIENCE AND TECHNOLOGY

The Impact of Volcanoes on Climate and Air Quality

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Date: **Thursday, June 8, 2017**
Refreshments: **Free Cookies, Coffee & Tea Provided (Please Bring Your Own Cup)**
Seminar Time: **10:00am**
Location: **IPRC Conference Room, POST 414**

Abstract:

Volcanoes have big effects on climate when they go 'boom' and emit sulfur into the stratosphere. But volcanoes can also affect climate when they don't boom, but burble. Effusive (non-explosive) volcanoes emit sulfur dioxide (SO2). In addition to smelling like rotten eggs, this is the same stuff that irritates lung and causes acid rain in large quantities. In small quantities SO2 makes more and brighter cloud drops. Human sulfur emissions do the same thing: and represent the largest uncertainty in the current forcing of global climate. We describe the impact of some recent volcanoes, and focus on a steady volcano that is the subject of a proposed field project: One of the largest continuous sources of SO2 occurs in an otherwise relatively clean oceanic cloud environment, Mt. Kilauea on the big island of Hawaii, which has surprisingly consistently high emissions of SO2 during intra-eruptive periods and is located in the middle of a very important cloud regime in the Pacific: A perfect natural laboratory to answer critical questions about climate and regional air quality. Coauthors include Jennifer Small-Griswold (UHM), Mike Mills (NCAR), and Jeff Stith (NCAR).