

SEMINAR

The Impact of Volcanoes on Climate and Air Quality

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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.

Monday, June 5, 2017, 3:30 p.m.

Refreshments 3:15 p.m.

NCAR Foothills Laboratory

3450 Mitchell Lane, Boulder, CO 80301

FL2-1022, Large Auditorium

Live webcast: <http://ucarconnect.ucar.edu/live>

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The National Center for Atmospheric Research is operated by the University Corporation for Atmospheric Research under the sponsorship of the National Science Foundation.