

Wintersemester / Winter Term 2015/2016

BayCEER Kolloquium

Vortragsreihe Ökologie und Umweltforschung
*Lecture series in Ecology and Environmental Research***Donnerstag 29.10.2015, 12:00 Uhr, H6**

Anschließend Postkolloquium mit Mittagsimbiss im Foyer H6

Dr. Sergio Calabrese

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Environmental impact of volcanic emissions

Volcanic emissions are considered one of the major natural sources of several trace metals (e.g. As, Cd, Cu, Pb, and Zn) to the atmosphere, and the geochemical cycles of these elements have to be considered strongly influenced by volcanic input. Explosive eruptions and volcanic passive degassing inject large quantities of gas and particles into the atmosphere that are ultimately deposited to the Earth's surface through wet or dry deposition processes, affecting the hydrosphere and the biosphere. Volcanic emissions (including trace metals) can be taken up by plants and soils, inducing both harmful and beneficial effects. Volcanic emissions may have important consequences also on human health.

The accurate estimation of the global volcanic emissions of volatile trace metals into the atmosphere is still affected by a high level of uncertainty. The latter depends on the large variability in the emission of the different volcanoes and on their changing stage of activity. Moreover, only few of the potential sources in the world have been directly measured. From a literature review, we have recognized the scarcity of investigation on trace element deposition in the surroundings of active volcanoes. Although active volcanoes are widely distributed in the world only Hawaiian, Japanese, Italian and a few central American volcanoes have been studied.

The talk will be focused on the main sampling techniques in volcanic environment, including different matrices such as gas and particulate, atmospheric deposition, vegetation (active and passive biomonitoring). Examples of the obtained results and possible applications will be shown.

Do. / Thu. 12 st
Gebäude/Building
GEO
Hörsaal/Lecture hall
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