

## **Climate modulation by active volcanoes: The case of Volcán de Colima, Mexico during the activity of 1997-2000**

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The atmospheric environment around active volcanoes is dominated by its behavior. Two time-scales are clearly exhibited: A day-to-day scale manifested by the emission through the fumaroles of particulate matter and gases which permeates the surrounding atmosphere, soils and water bodies defining mainly a characteristic spatial and temporal distribution of silicates and sulfur dioxide. The second time-scale is not cyclical but mainly manifested by eruptions which overload the neighboring atmosphere with ash clouds and sulfur dioxide well above daily concentration thresholds. The eruptions may be explosive and/or effusive and can have profound effects on the surrounding environment. An illustration of the above arguments is presented using a time series of real-time AVHRR multispectral data together with surface meteorological and chemical data for the Colima volcano during the 1997-2000 activity.