Coda Q as a monitoring tool of the activity of Nevado del Ruiz Volcano, Colombia.

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The coda Q (1/Q) has been calculated for Nevado del Ruiz Volcano (NRV) from 1985 to 1996. It was found that 1/Q decreased with time.

We suggest the following phenomenological model for the temporal changes in coda Q at NRV: 1)1/Q increased before volcanic crises due to changes in stress/strain conditions (high attenuation). 2)During the crises (eruption, ash emission, earthquake swarms, etc) 1/Q started to decrease, that is, the medium became less attenuated due to the releasing of different material such as gas, water, magma, etc. 3)After the crises, 1/Q became more stable but less in value (less attenuated) due to increasing of rigidity of the medium (such as a crystallization process).

The coda Q (1/Q) has been calculated for Nevado del Ruiz Volcano (NRV) from 1985 to 1996 by using a single scattering model. It was found that 1/Q decreased with time.

Before and after the most important volcanic crises, 1/Q showed important changes. Before crises 1/Q seemed to increase and after the volcanic crises 1/Q tended to decrease. Until now is unknown the real level of change of 1/Q before and after volcanic crises, but it seems that is remarkable.

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Although now we can not predict a volcanic crisis using only the coda Q parameter, we think that Coda Q seems a good monitoring tool at NRV. Unfortunately, after 1996 no major volcanic crises have occurred in order to test our results.