



Ongoing Seismological Investigations in Central America

N. Dinc-Akdogan(1), Y. Dzierma(1), M. Thorwart(1), W. Rabbel(1), I. Arroyo(1), J. Gossler(1), E. Flüh(1), G. Alvarado(2) and M. Mora(3)

(1) SFB 574, Christian-Albrechts-Universität zu Kiel, Kiel, Germany, (2) ICE, San Jose, Costa Rica, (3) UCR, San Jose, Costa Rica

As part of the collaborative research center SFB574, the Central America subduction zone is being investigated by a seismological research subproject conducted by Costa Rican and German partners. The general goal of SFB574 is to study the origin and influence of volatiles and fluids in subduction zones. The seismological subproject constitutes the structural and seismotectonical framework of these investigations. Under this framework, several seismological network installations had already been accomplished.

The amphibious networks for local seismicity JACO and QUEPOS were deployed on- and offshore Pacific coast of Costa Rica between 2002 and 2003, comprising 23 ocean bottom and 15 land stations. For the extension of the study area, TOMO network, consisting of 20 ocean bottom and 30 land stations was installed in November 2005 for seven months observation period, on- and offshore South Nicaragua and North Costa Rica. In addition to the local seismicity, a transect of 19 broadband stations crossing the Talamanca mountain range in the South of Costa Rica and an array of six bore-hole stations are still running from April 2005 in Nicoya Peninsula, North Costa Rica.

The data, collected by these networks, will serve for local earthquake tomography studies, coda Q, receiver function and non-volcanic tremor analysis. The overview of the project and the preliminary results of coda Q and receiver function analysis are going to be presented. Consequently, the final results of these studies will yield further insights into the composition and physical state of the lithosphere and the dynamics of the subduction zone.

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