



*This project  
is supported by:*

**The NATO Science for Peace  
and Security Programme**

## **Seismic Hazard and Risk Assessment for Southern Caucasus-Eastern Turkey Energy Corridor**

(ref. 983038)

Starting in December 2008, investigators from Turkey, Georgia and Azerbaijan have cooperated in assessing the seismic hazard and possible consequences in the Southern Caucasus-Eastern Turkey Corridor. The Southern Caucasus- Eastern Turkey energy corridors are formed by several critical pipelines carrying crude oil and natural gas from Azerbaijan, via Georgia, to Turkey and world markets. The two most important of these pipelines are the Baku-Tbilisi-Ceyhan (BTC) Crude Oil Pipeline and the Baku-Tbilisi-Erzurum (BTE) Natural Gas Pipeline. The major objective of the project is to identify the vulnerable, to earthquakes, segments of BTC Crude Oil Pipeline and the BTE Natural Gas Pipeline, and provide mitigation strategies by performing a comprehensive seismic hazard and risk study for the pipelines.

Since the beginning of the project, great progress has been made in compiling geological, geotechnical and seismic maps, together with structural characteristics of the pipelines. A very important delivery is the probabilistic seismic hazard maps for each country showing peak ground accelerations, velocities, displacements and spectral accelerations. In the coming months the seismic hazard maps will be completed, and vulnerability curves will be determined based on available relationships. In implementing the results of the study, contacts with state and local authorities including the Ministry of Emergency Situations (Azerbaijan), the Ministry of Ecology and Natural Sources (Azerbaijan), the Ministry of Environmental Protection and Natural Resources (Georgia) and the BOTAS Petroleum Pipeline Corporation (Turkey) have been fruitful.

### **Project Co-Directors:**

- Prof. Erdal Safak, Kandili Observatory and Earthquake Research Institute, Istanbul, Turkey (NPD)
- Prof. Tamaz Chelidze, M. Nodia Institute of Geophysics, Tbilisi, Georgia (PPD)
- Dr. Arif Akhundov, Co-Director, Ministry of Emergency Situations, Baku, Azerbaijan

**Approval Date:** 15/07/2008

**Effective Start Date:** 01/12/2008

**Duration:** 3 years; expected completion by December 2011

**Web site:** <http://www.koeri.boun.edu.tr/depremmuh/nato/project/index.html>