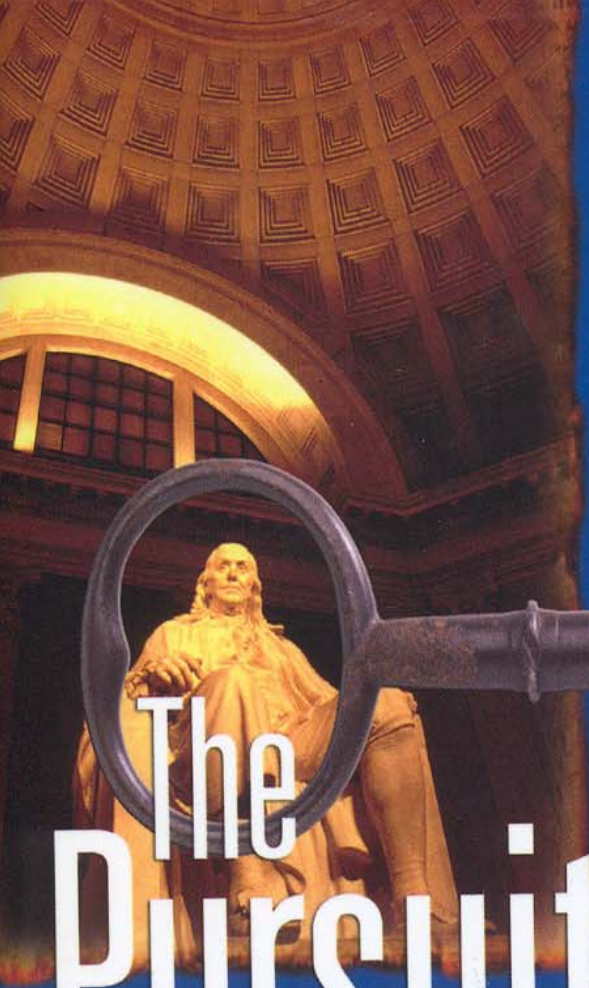

THE GEOLOGICAL SOCIETY OF AMERICA

*GSA Annual Meeting & Exposition*

# The Pursuit of Science

## *Building on a Foundation of Discovery*

Program



*22–25 October 2006 • Philadelphia, Pennsylvania*

2006 Philadelphia Annual Meeting (22–25 October 2006)

**Paper No. 229-4**

**Presentation Time:** 1:30 PM-5:30 PM

# EXTENSIONAL NEOTECTONIC STRUCTURES ADJACENT AND SUB-PARALLEL TO THE HELLENIC TRENCH

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We describe neotectonic structures caused by extension within the upper plate of the Hellenic arc and in a direction almost parallel to the arc. This fault system is located in westernmost mainland of Greece, slightly north of the latitude of the Corinth rift. The system consists of at least two elongate extensional basins (Amvrakikos Gulf and Trichonida Lake basins). These pull-apart basins, ~30-50 km in length and trending approximately WNW are connected to each other by a linear zone of active faulting that trends NNW and is ~50 km in length. Focal mechanisms from the region around the fault system are consistent with ~NS extension and left-slip on steep faults with approximately NW trends. We interpret this deformational system to be kinematically similar to that of pull-apart basins linked by sinistral strike-slip. The elongate extensional basins are en echelon with and trend approximately parallel to the actively extending Corinth rift. In our interpretation, these basins are probably connected to the Corinth rift by faults with a left-slip sense of displacement, but these have yet to be studied. The western end of the northern basin (Amvrakikos Gulf) appears to end against the northeastern end of the Kefalonia Transform, which extends southwestward to merge with the northern end of the rapidly moving Hellenic Trench. Thus is seems likely that the fault system described here forms a part of the active deformational connection between the Corinth rift and the northern end of the Hellenic Trench.

2006 Philadelphia Annual Meeting (22–25 October 2006)
General Information for this Meeting

Session No. 229--Booth# 28
Neotectonics/Paleoseismology (Posters)
Pennsylvania Convention Center: Exhibit Hall C
1:30 PM-5:30 PM, Wednesday, 25 October 2006

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