



AWSFL008-DS3

NSF Award Abstract
- #0305480

**Geodetic Constraints on the Kinematics and
Dynamics of Active Rifting of the
Northern and Central Red Sea**

NSF Org EAR

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Abstract

This project uses the Global Positioning System (GPS) to measure active deformation along the rift margins of the Red Sea. The project is being undertaken in cooperation with partner institutions in Egypt, Saudi Arabia, Eritrea, and Sudan. The ultimate objective of this research is to understand better the dynamics of continental rifting. The approach includes both continuously recording GPS stations installed along the rift and survey GPS observations to determine variations in deformation style along and normal to the rift system. The GPS results are providing new constraints on the mechanics of continental rifting thereby adding to our understanding of the basic forces driving continental deformation and the rheological character of the continental lithosphere. In addition, this project is helping to transfer GPS technology to the host-country partners and is providing quantitative information on plate motions and rates of strain accumulation that are directly useful for evaluating and mitigating earthquake hazards.

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