

## CONTENTS

Summary of talks, discussions, field trip, and outstanding issues.....	1
Subsidence interest group conference agenda .....	3
Extended abstracts:	
Case studies-National:	
Mudboils in the Tully Valley, Onondaga County, New York .....	7
William M. Kappel	
Incidents and causes of land subsidence in the karst of Florida .....	12
Craig B. Hutchinson	
Monitoring aquifer compaction and land subsidence due to ground-water withdrawal in the El Paso, Texas-Juarez, Chihuahua, area .....	14
Charles E. Heywood	
Land subsidence and earth-fissure hazards near Luke Air Force Base, Arizona .....	18
Herbert H. Schumann	
Simulation of transient ground-water flow and land subsidence in the Picacho Basin, central Arizona .....	22
Donald R. Pool	
Deformation in the Casa Diablo geothermal well field, Long Valley Caldera, eastern California .....	25
Christopher D. Farrar, Michael L. Sorey, Grant A. Marshall, James F. Howle, and Marti E. Ikehara	
Subsidence and ground fissures in the San Jacinto Basin Area, southern California .....	29
Douglas M. Morton	
Land Subsidence in the Oxnard Plain of the Santa Clara-Calleguas Basin, Ventura County, California .....	32
Randall T. Hanson	
Geologic setting of East Antelope Basin, with emphasis on fissuring on Rogers Lake, Edwards Air Force Base, Mojave Desert, California .....	35
A. Wesley Ward, Gary L. Dixon, and Robert C. Jachens	
Case studies-Antelope Valley, California:	
Hydrogeology and land subsidence, Antelope Valley, California .....	38
Clark J. Londquist	
Land subsidence and problems affecting land use at Edwards Air Force Base and vicinity, California, 1990 .....	40
James C. Blodgett	
Land subsidence as a resource management objective in Antelope Valley, California.....	44
Steven R. Phillips	
Monitoring and measurement techniques:	
Description of Global Positioning System networks surveyed in California, 1992.....	46
Marti E. Ikehara	
Static Global Positioning System survey design and sources of error in subsidence investigations .....	50
Marti E. Ikehara	
Kinematic Global Positioning System surveys in southern Arizona .....	53
Donald R. Pool	

U.S. Geological Survey Open-File Report 94-532

Monitoring and measurement techniques--Continued:	
Deformation across and near earth fissures: measurement techniques and results .....	55
Michael C. Carpenter	
Tilt and aquifer hydraulic-head changes near an earth fissure in the subsiding Mimbres Basin, New Mexico .....	59
William C. Haneberg and Robert L. Friesen	
Analytical techniques:	
Continuum solutions for draping and differential compaction of compressible elastic layers-implications for the origin and growth of earth fissures .....	63
William C. Haneberg	
Hydraulic forces that play a role in generating fissures at depth .....	66
Donald C. Helm	
Simulation of three-dimensional granular displacement in unconsolidated aquifers .....	71
Thomas J. Burbey	
Status of computer programs for simulating land subsidence with the modular finite-difference ground-water flow model .....	74
Stanley A. Leake	
The frequency dependence of aquifer-system elastic storage coefficients: implications for estimates of aquifer hydraulic properties and aquifer-system compaction .....	77
Devin L. Galloway	
Acknowledgments .....	81
References cited .....	81