You are cordially invited to attend a public symposium.

J. David Rogers, Ph.D., P.E., R.G., C.E.G., C.HG

Karl F. Hasselmann Missouri Chair in Geological Engineering
University of Missouri-Rolla
and
Member, National Levee Investigation Team

Unraveling the Levee Failures in New Orleans During Hurricane Katrina – What We All Should Know

Historic records indicate that 172 hurricanes have struck southern Louisiana since 1559. Detailed examination of the swamp deposits suggest that recent hurricanes periodically inundated the swamps with saline and/or brackish water, which causes die-off of swamp vegetation and flocculation of suspended clays, due to the sudden increase in salinity. This combination causes discontinuous clay seams to be deposited beneath layers of organics, which are then covered by fresh water swamp deposits. This sequence is repeated, like a series of tree rings, throughout the swamp deposits. Although generally planar, these swamp deposits dip in areas subjected to historic surcharging (by levee embankments) or along old sloughs bordering Lake Pontchartrain. The cypress swamp deposits presented engineering challenges to development in the Greater New Orleans area. Hurricane Katrina (August 2005) struck Greater New Orleans and revealed significant deficiencies in the Hurricane (levee) Protection System, resulting in the failure of various components of the Levee System.

A careful program of subsurface sampling was employed to characterize the geologic conditions beneath failed levees along drainage canals and the Inner Harbor Navigation Channel in New Orleans, Louisiana. This work was conducted as part of the Independent Levee Investigation Team funded by the National Science Foundation. This presentation examines a number of the failures, failure modes and mechanisms, and provides an explanation of the causes as well as constructive measures that can be taken to avoid a repeat of this catastrophe.

Wednesday, April 18, 2007
7:00 PM
at the
Rainey Auditorium
University of Pennsylvania Museum of Archaeology and Anthropology
3260 South Street – Kress Entrance (East side)

Sponsored by: The University of Pennsylvania Department of Earth & Environmental Science and the Applied Geoscience Program

This program is made possible through the generosity of
Craig Calabria, GeoSystems Consultants, Inc.