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LOMA PRIETA, CALIFORNIA EARTHQUAKE, 1989 SPURS DEVELOPMENT OF A GIS BASED EMERGENCY RESPONSE SYSTEM

ABSTRACT: In the aftermath of the 1989 Loma Prieta,California Earthquake, the U.S. Army Corps of Engineers (CE) was designated by the Federal Emergency Management Agency (FEMA) as a central agency for implementing cleanup and restoration operations. Given the wide extent of the damage from Oakland in the north, to Santa Cruz and Watsonville in the South, it was assessed that CE's resources for tracking such extensive operations were highly deficient. Substantial concern that this 7.1 temblor was not the "big quake" spurred urgency to improve this situation. This paper describes the operation and benefits of a PC / GIS-based Emergency Response Management System (ERMS) developed using the lessons learned from the current disaster to be better prepared next time. Key features include:

- Large file management system
- Supporting graphic database
- Supporting nongraphic database
- Library of "intelligent" symbols
- Simple user interface
- Polygon overlay capability

INTRODUCTION

In the aftermath of the 1989 Loma Prieta, California Earthquake, the U.S. Army Corps of Engineers (CE) was designated by the Federal Emergency Management Agency (FEMA) as a central agency to help with administering federally funded cleanup and restoration operations. The work required repeated inspections of many damage sites, contracting for widely-varied repairs and appropriate control of rapid Federal spending. The major technical problem facing the CE was the lack of an effective computer system to handle the data generated by the emergency response effort. Given the wide extent of the damage from San Francisco and Oakland in the