

AN INTEGRATION OF REMOTE SENSING, GIS, AND INFORMATION DISTRIBUTION FOR WILDFIRE DETECTION AND MANAGEMENT

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ABSTRACT

A disaster mitigation feasibility study, entitled "WILDFIRE" was initiated in 1997. Project WILDFIRE demonstrated the feasibility of integrating defense intelligence, civil and commercial communications, and information technology to provide operational resources to firefighters attacking large wildland fires. The demonstration of various technologies occurred during an actual "controlled" burn in a wildland environment in Northern California. Real-time data transfer of thermal line scanner data from an airborne platform via a cellular data phone transmission was accomplished, and near-real-time map integration and development was demonstrated using portable uplink / downlink systems to "move" data and asset information to a fire camp and a disaster control center. Asset information and tracking were accomplished with GPS systems and uplinks to satellites in order to track both fire equipment and field personnel in real-time. We focus on the utility and melding of these "off-the-shelf" and emerging technologies in the context of disaster research, mitigation and response.