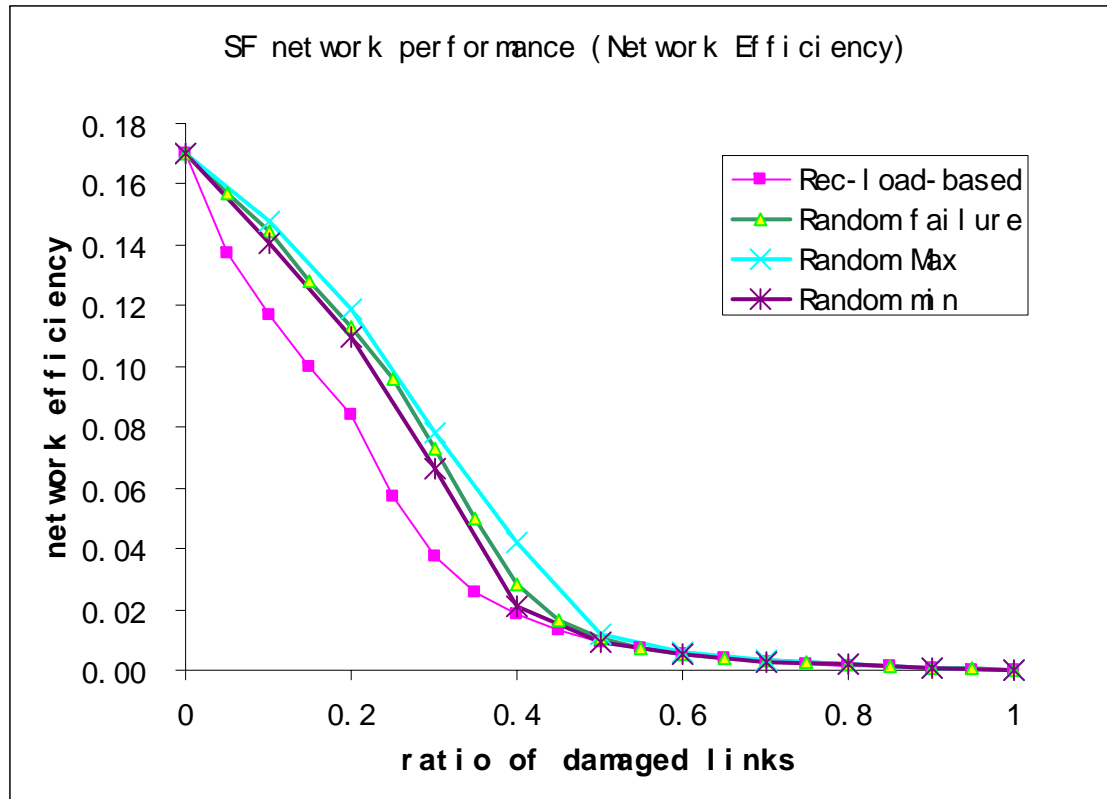


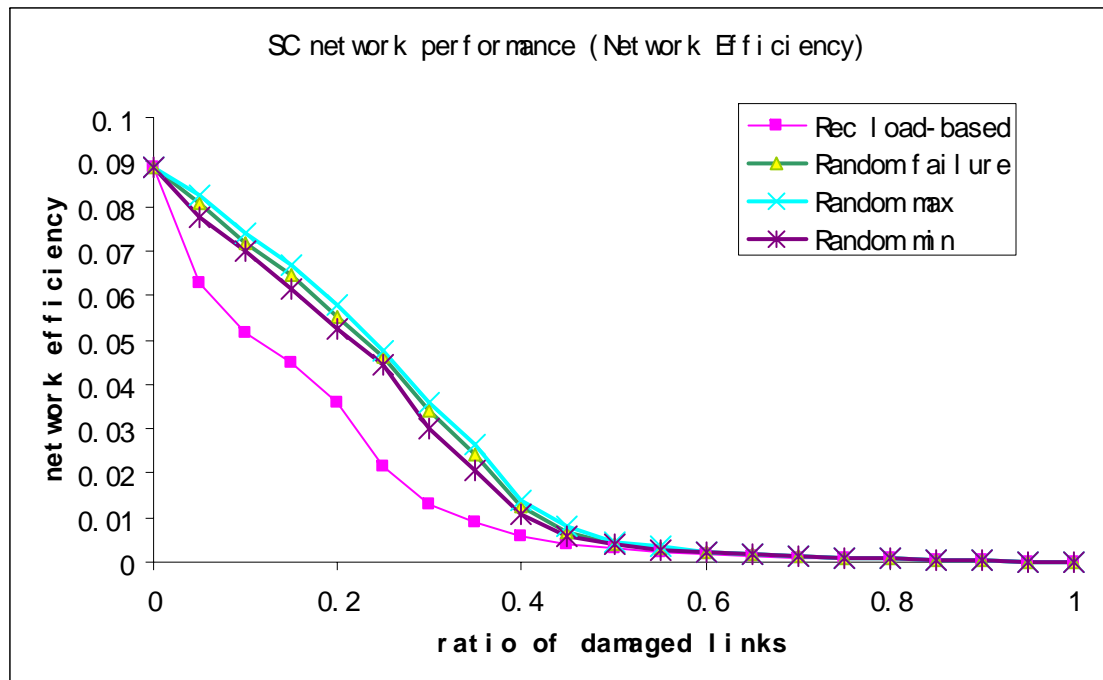
Decision Support System for Disaster Mitigation and Response

- Key question: How do we allocate limited resource to alternative disaster mitigation activities to minimize the loss and societal disruption caused by disasters?
 - Predisaster retrofit (Jim Moore, USC)
 - Network reliability assessment, and postdisaster emergency response (Yueyue Fan, UC Davis)
 - Postdisaster system recovery

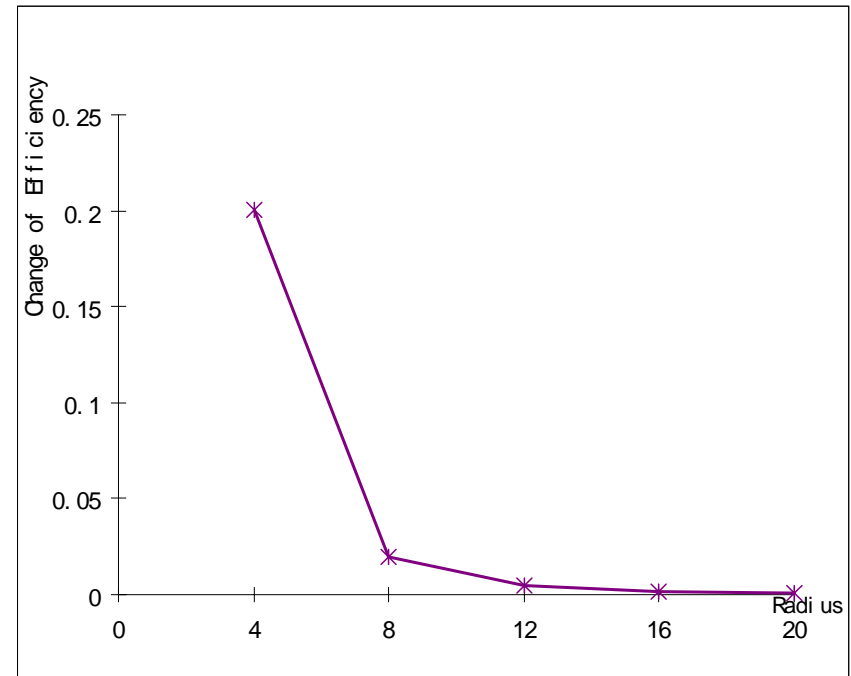
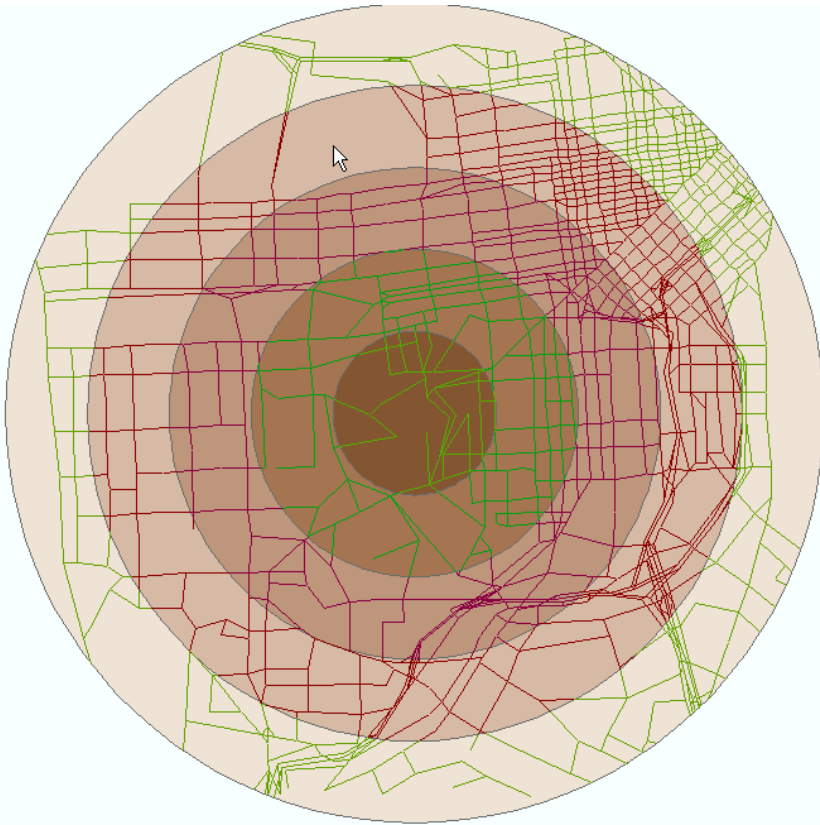
Effect of Link Damage to Network Performance



Effect of Link Damage to Network Performance

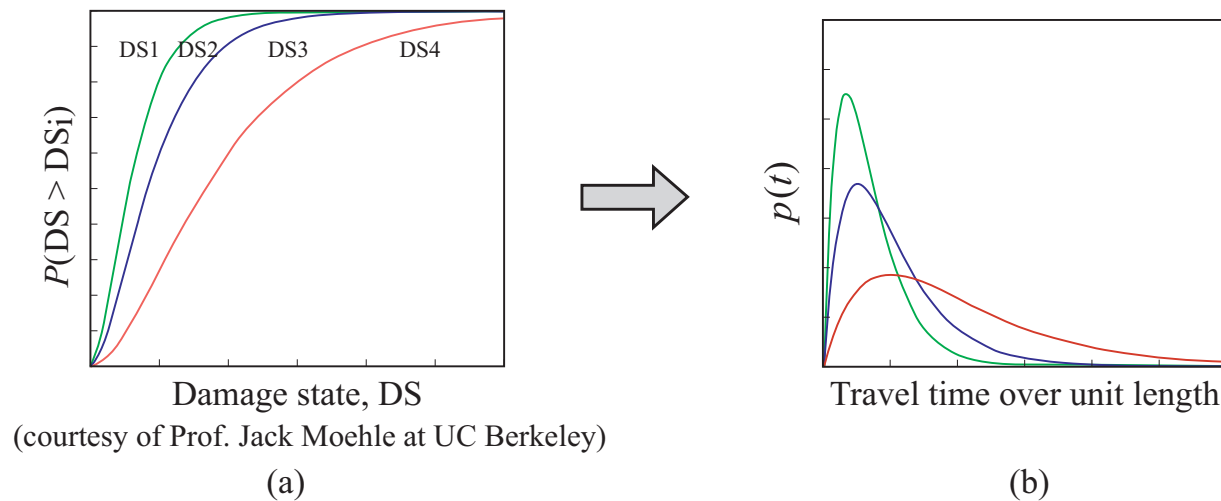


Propogation of Damage



On-going Work

- Plan reliable routes for emergency personnel in given disaster scenarios.
 - Information required from other PEER researchers: Facility damage status (deterministic or stochastic)
 - Model outputs: Optimal routing strategies (least expected cost, maximum reliability, desired value at risk, minimum penalty, etc.); general network reliability assessment.



Future Work

- How to sequentially repair a damaged network?
 - Required data: repairing cost and time for each damaged bridge of different category (deterministic or stochastic)
 - Model outputs: the critical ratio of available links; the recommended repairing priority

