

عنوان مقاله:

A hybrid approach to solve allocation and scheduling of the rescue teams problem considering deprivation time

محل انتشار:

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خلاصه مقاله:

Natural disasters like earthquakes, floods, and tsunamis are caused enormous casualties and economic losses each year. Thus, design an efficient decision support model to deal with the incidents can help to reduce the losses. The literature shows that a majority of studies considered objective functions related to time. However, the social aspect of disaster management must be incorporated into decision-making processes. The lack of timely relief implies a loss in people's welfare which leads to social costs called deprivation cost or deprivation time. This study proposed a multi-objective mixed-integer programming model to allocate and schedule the rescue teams considering different capabilities for rescuers, fatigue effect and deprivation time. Due to the NP-Hardness of the proposed model, a hybrid approach based on the LP-metric method and metaheuristic algorithms are applied to solve the research problem.

کلمات کلیدی:

Disaster management, Deprivation time, Fatigue effect, LP-metric, Genetic algorithm, Particle swarm optimization

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