

Comparison of Network Planning Techniques in Coastal Projects

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Abstract

The construction of Babakale fishery harbor is analyzed by using a stochastic network planning (Optimum Port Construction Planning Model) developed by Balas (1998). Babakale is a fishery village on the Turkish coast of Aegean Sea near the city of Canakkale. The fishery harbor construction project was carried out by the General Directorate of Railways, Seaports and Airfields Construction Department.

The Optimum Port Construction Planning Model (OPCPM) and the administrative approach are compared with the real progress of the construction. The construction is optimized by using a time-cost-manpower trade off model. The best physical allocation of resources within their limits are determined by employing a resource levelling sub-model. The project time and cost are evaluated by the activity crashing sub-model considering the construction period, risk and budget constraints imposed by the administration. The damage risk of the main breakwater is determined by using the extreme annual significant wave height distribution of Babakale, which is obtained from the analyses of the wave hindcasting calculations carried out by using the wind data obtained from Canakkale Meteorological Station and the synoptic weather maps (Ergin and Özhan, 1986).