

A Descriptive Study of Turkish Straits System on Dynamics of Environmental Factors Causing Maritime Accidents

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Abstract : Turkish Straits System which consists of Istanbul Strait (Bosphorus), Canakkale Strait (Dardanelles) and the Marmara Sea has a strategical location on international maritime as it is a unique waterway between the Mediterranean Sea, Black Sea and the Aegean Sea. Thus, this area has great importance since it is the only waterway between Black Sea countries and the rest of the World. Turkish Straits System has dangerous environmental factors hosts more vessel every day through developing World trade and this situation results in expanding accident risks day by day. Today, a lot of precautions have been taken to ensure safe navigation and to prevent maritime accidents, and international standards are followed to avoid maritime accidents. Despite this, the environmental factors that affect this area, trigger the maritime accidents and threaten the vessels with new accidents risks in different months with different hazards. This descriptive study consists of temporal and spatial analyses of environmental factors causing maritime accidents. This study also aims at contributing to safety navigation including monthly and regionally characteristics of variables. In this context, two different data sets are created consisting of environmental factors and accidents. This descriptive study on the accidents between 2001 and 2017 the mentioned region also studies the months and places of the accidents with environmental factor variables. Environmental factor variables are categorized as dynamic and static factors. Dynamic factors are appointed as meteorological and oceanographical while static factors are appointed as geological factors that threaten safety navigation with geometrical restricts. The variables that form dynamic factors are approached meteorological as wind direction, wind speed, wave altitude and visibility. The circulations and properties of the water mass on the system are studied as oceanographical properties. At the end of the study, the efficient meteorological and oceanographical parameters on the region are presented monthly and regionally. By this way, we acquired the monthly, seasonal and regional distributions of the accidents. Upon the analyses that are done; The Turkish Straits System that connects the Black Sea countries with the other countries and which is one of the most important parts of the world trade; is analyzed on temporal and spatial dimensions on the reasons of the accidents and have been presented as environmental factor dynamics causing maritime accidents.

Keywords : descriptive study, environmental factors, maritime accidents, statistics

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